[redacted]

tradintek

UAB „Tradintek“
J.Jasinskio g. 9, LT-01111 Vilnius, tel. nr. (8 5) 2685427, fakso nr. (8 5) 2496084, registro tvarkytojas VĮ Registrų Centras, įmonės kodas 124942182, PVM mokėtojo kodas LT249421811

Lietuvos sveikatos mokslų universiteto ligoninei Kauno klinikoms,

PASIŪLYMAS

DĖL MEDICININĖS ĮRANGOS PIRKIMO

2025-01-27 Nr.TRAD250127-01
Vilnius

1 lentelė

TIEKĖJO REKVIZITAI

Tiekėjo pavadinimas */Jeigu dalyvauja ūkio subjektų grupė, surašomi visi dalyvių pavadinimai/*	UAB „Tradintek“
Tiekėjo adresas */Jeigu dalyvauja ūkio subjektų grupė, surašomi visi dalyvių adresai/*	J.Jasinskio g. 9, Vilnius
Įmonės kodas, PVM mokėtojo kodas	Į.k. 124942182 PVM mokėtojo kodas LT249421811
Atsiskaitomosios sąskaitos numeris, bankas, banko kodas	[redacted]
Įmonės vadovo pareigos, vardas, pavardė	Direktorius Tomas Mickūnaitis
Už pasiūlymą atsakingo asmens vardas, pavardė	[redacted]
Už sutarties vykdymą atsakingo asmense. pašto adresas, telefono numeris, el. pašto adresas	[redacted]
Telefono numeris	+37052685427
Fakso numeris	+37052496084
El. pašto adresas	Info@tradintek.com

Šiuo pasiūlymu pažymime, kad sutinkame su visomis pirkimo sąlygomis, nustatytomis:

1) atviro konkurso skelbime, paskelbtame Viešųjų pirkimų įstatymo nustatyta tvarka;
2) kituose pirkimo dokumentuose (jų paaiškinimuose, papildymuose).

Pasirašydamas CVP IS priemonėmis pateiktą pasiūlymą saugiu elektroniniu parašu, patvirtinu, kad dokumentų skaitmeninės kopijos ir elektroninėmis priemonėmis pateikti duomenys yra tikri.

2 lentelė

SUBTIEKĖJO REKVIZITAI

Eil. Nr.	**Subtiekėjo (-ų) pavadinimas (-ai), adresas (-ai)**
-	-

**Pastaba: pildoma, jei tiekėjas ketina pasitelkti subtiekėją (-us)*

3 lentelė

PASIŪLYMO KAINA

Kainų pasiūlymą užpildyti pirkimo dokumentų 6 priede „Kainų pasiūlymo lentelė“ (dokumentas turi būti pateikiamas redaguojamu formatu)

4 lentelė

Pirkimo dalies Nr.	Pavadinimas	Modelis/katalogo numeris, gamintojo pavadinimas	Mato vnt.	Kiekis	Vieneto kaina Eur (be PVM)	Kaina viso Eur (be PVM)	Kaina viso Eur (su PVM)
1	Stacionarus kraujagyslinis echoskopas su pilviniu ir linijiniu davikliais	Logiq Totus, GE HealthCare	Vnt.	2	49350	98700	119427

PATEIKIAMŲ DOKUMENTŲ SĄRAŠAS

Eil.Nr.	Pateiktų dokumentų pavadinimas	Dokumento puslapių skaičius	Failo, kuriame yra dokumentas, pavadinimas
1.	Dokumentas patvirtinantis, kad tiekėjas yra oficialus atstovas prekybai bei garantiniam aptarnavimui	2	Dokumentas patvirtinantis, kad tiekėjas yra oficialus atstovas prekybai bei garantiniam aptarnavimui
2.	Įgaliojimas	1	IG AV 2025
3.	Europos bendrasis viešųjų pirkimų dokumentas	14	espd-response
4.	Atitikties deklaracija	6	Logiq Totus atitikties deklaracija
5.	Registrų centro pažyma	3	Nuorasas_Uždaroji akcinė bendrovė TRADINTEK
6.	Patvirtinimas dėl atsarginių dalių tiekimo	1	Patvirtinimas
7.	Techninė specifikacija	4	TECHNINĖ SPECIFIKACIJA
8.	Techninis aprašas	54	Techninis aprasas konfidencialu
9.	Tiekėjo deklaracija dėl atsakingų asmenų	1	Tiekejo deklaracija del atsakingu asmenu
10.	Tiekėjo deklaracija dėl tarybos reglamente (ES) 2022/576 nustatytų sąlygų nebuvimo	1	Tiekejo deklaracija
11.	Kainų lentelė	-	6_6 priedas KAINŲ LENTELĖ

Pastaba. Perkančioji organizacija atmes tiekėjo pasiūlymą, kaip neatitinkantį pirkimo dokumentuose nustatytų reikalavimų, **jeigu kartu su pasiūlymu nebus pateikti pirkimo sąlygų 5.11.2, 5.11.9, 5.11.11** punktuose nurodyti dokumentai.

Pasiūlymas galioja iki termino, nustatyto pirkimo dokumentuose.

Primintina, kad pasiūlyme nurodytos **kainos bei įkainiai,** taip pat **nuolaidos dydis ar įkainio bazė,** tiekėjo **siūlomų prekių gamintojai, pavadinimai, modeliai,** tiekėjo **siūlomų prekių techninės specifikacijos,** nurodomos užpildant perkančiosios organizacijos pateiktas lenteles, **gaminio naudotojo instrukcija**, tiekėjo **siūlomų prekių atitiktį techninės specifikacijos reikalavimams įrodantys dokumentai - brošiūros, aprašymai, instrukcijos - nėra konfidenciali informacija** (plačiau skaityti[1]).

Pasiūlymo konfidencialią informaciją sudaro: (tiekėjai turi nurodyti, kokia pasiūlyme pateikta informacija yra konfidenciali. Jei pasiūlyme nėra konfidencialios informacijos, tiekėjas turi nurodyti, kad konfidencialios informacijos pasiūlyme nėra.):

Įgaliojimas, registrų centro pažyma.

[1] https://vpt.lrv.lt/uploads/vpt/documents/files/mp/konfidenciali_informacija.pdf

[redacted]		[redacted]
(Tiekėjo arba jo įgalioto asmens pareigų pavadinimas)	(Parašas)	Vardas, pavardė

Tiekėjo pavadinimas (nurodyti): UAB Tradintek

Pirkimo dalies Nr.	Pavadinimas	Modelis/katalogo numeris, gamintojo pavadinimas	Mato vnt.	Kiekis	Vieneto kaina Eur (be PVM)	Kaina viso Eur (be PVM)	Kaina viso Eur (su PVM)
1	Stacionarus kraujagyslinis echoskopas su pilviniu ir linijiniu davikliais	Logiq Totus, GE HealthCare	Vnt.	2	49350	98700	119427
2	Kraujotakos tyrimo aparatas kraujagyslių chirurgų poliklinikai	-	Vnt.	1	-	-	-

Medicininės įrangos techninė specifikacija

1 pirkimo dalis. Stacionarus kraujagyslinis echoskopas su pilviniu ir linijiniu davikliais, kiekis 2 vnt.

Eil. Nr.	Parametrai (specifikacija)	Reikalaujamos parametrų reikšmės	Siūlomos parametrų reikšmės
1.	Sistemos struktūra	1. Pilnai skaitmeninė sistema; 2. Aktyvių daviklių jungtys ≥ 4; 3. Apdorojimo kanalų ≥ 8,5 mln.; 4. Palaikomas dažnių diapazonas ne siauresnis nei (1,0 – 21,0) MHz; 5. Bendras sistemos dinaminis diapozonas ≥ 330 dB 6. Linijų tankumas ≥ 512; 7. Fiksuojami ratukai ≥ 4 arba centrinis stabdis.	1. Pilnai skaitmeninė sistema (cSound); Techninis aprasas konfidencialu Psl. 6, 25 2. Aktyvių daviklių jungtys 4; Techninis aprasas konfidencialu Psl. 1 3. Apdorojimo kanalų begalybė (beribis); Techninis aprasas konfidencialu Psl. 6 4. Palaikomas dažnių diapazonas 1,0 – 24,0 MHz; Techninis aprasas konfidencialu Psl. 16, 17 5. Bendras sistemos dinaminis diapozonas-begalybė (beribis); Techninis aprasas konfidencialu Psl. 6 6. Linijų tankumo skaičius beribis; Techninis aprasas konfidencialu Psl. 27, 53 7. Fiksuojami ratukai 4 Techninis aprasas konfidencialu Psl. 35
2.	Tyrimų tipai	1. Kraujotakos tyrimai; 2. Pilviniai tyrimai; 3. Smulkių dalių tyrimai.	1. Kraujotakos tyrimai; Techninis aprasas konfidencialu Psl. 2 2. Pilviniai tyrimai; Techninis aprasas konfidencialu Psl. 1 3. Smulkių dalių tyrimai. Techninis aprasas konfidencialu Psl. 2
3.	Aparato monitorius	1. Skiriamoji geba ≥ (1920×1080) taškų; 2. Ekrano įstrižainė ≥ 54 cm (≥ 21,5"); 3. Transportavimo padėtyje nulenkiamas į priekį ≥ 90°; 4. Fiksuojamas monitorių laikantis rėmas.	1. Skiriamoji geba 1920×1080 taškų; Techninis aprasas konfidencialu Psl. 1 2. Ekrano įstrižainė 60,45 cm (23,8"); Techninis aprasas konfidencialu Psl. 2 3. Transportavimo padėtyje nulenkiamas į priekį 100°/110°; Techninis aprasas konfidencialu Psl. 54 4. Fiksuojamas monitorių laikantis rėmas. Techninis aprasas konfidencialu Psl. 36
4.	Sistemos valdymas	1. Valdymo pulto pasukimo kampu ir aukščio reguliavimo funkcija; 2. Sukiojama į abu šonus po ≥ 45°; 3. Stiprinimo kompensavimo (*angl.* TGC) valdymas ≥ 8 lygių; 4. Integruoto jutiklinio ekrano įstrižainė ≥ 30 cm; 5. Skaitinė – raidinė klaviatūra.	1. Valdymo pulto pasukimo kampu ir aukščio reguliavimo funkcija; Techninis aprasas konfidencialu Psl. 1 2. Sukiojama į abu šonus po 45°; Techninis aprasas konfidencialu Psl. 54 3. Stiprinimo kompensavimo (*angl.* TGC) valdymas 8 lygių; Techninis aprasas konfidencialu Psl. 5 4. Integruoto jutiklinio ekrano įstrižainė 35.56 cm; Techninis aprasas konfidencialu Psl. 1 5. Skaitinė – raidinė klaviatūra. Techninis aprasas konfidencialu Psl. 37
5.	Vaizdavimo režimai	1. 2D režimas su harmonikų vaizdavimu; 2. Spalvinis Dopleris; 3. Galios Dopleris; 4. Nuolatinės bangos Dopleris; 5. Aukšto impulsų pasikartojimo dažnio (HPRF) pulsinės bangos Dopleris.	1. 2D režimas su harmonikų vaizdavimu; Techninis aprasas konfidencialu Psl. 2, 9 2. Spalvinis Dopleris; Techninis aprasas konfidencialu Psl. 2 3. Galios Dopleris; Techninis aprasas konfidencialu Psl. 2 4. Nuolatinės bangos Dopleris;

			Techninis aprasas konfidencialu Psl. 2 5. Aukšto impulsų pasikartojimo dažnio (HPRF) pulsinės bangos Dopleris. Techninis aprasas konfidencialu Psl. 38
6.	2D vaizdavimo režimas	1. Maksimalus skenavimo gylis ≥ 40 cm; 2. Kadrų dažnis ≥ 2100 kadrų/sek.; 3. Stiprinimo diapazonas ne siauresnis nei (0 – +20) dB; 4. Nepertaukiama regėjimo lauko vaizdo optimizavimo funkcija, automatiškai keičianti dvimačio vaizdo stiprinimo kompensaciją ir stiprinimą arba vaizdo optimizavimo funkcija vieno mygtuko paspaudimu; 5. Technologija, naudojanti doplerio srautą triukšmų pašalinimui ir artefaktų sumažinimui, padidinanti audinių ir kraujagyslių sienelių ryškumą.	1. Maksimalus skenavimo gylis 100 cm; Techninis aprasas konfidencialu Psl. 6 2. Kadrų dažnis 2468 kadrų/sek.; Techninis aprasas konfidencialu Psl. 6 3. Stiprinimo diapazonas (0 – +90) dB; Techninis aprasas konfidencialu Psl.7 4. Nepertaukiama regėjimo lauko vaizdo optimizavimo funkcija, automatiškai keičianti dvimačio vaizdo stiprinimo kompensaciją ir stiprinimą **ir** vaizdo optimizavimo funkcija vieno mygtuko paspaudimu; Techninis aprasas konfidencialu Psl. 8 5. Technologija, naudojanti doplerio srautą triukšmų pašalinimui ir artefaktų sumažinimui, padidinanti audinių ir kraujagyslių sienelių ryškumą. (B-Flow) Techninis aprasas konfidencialu Psl. 3, 48, 49
7.	Spalvinio Doplerio vaizdavimo režimas	1. Stiprinimo diapazonas ne siauresnis nei (-20 – +20) dB 2. Optimizavimas pagal pasirinktą tėkmės būseną; 3. PRF diapozonas ne siauresnis nei (100 – 17900) Hz	1. Stiprinimo diapazonas (-20 – +30) dB Techninis aprasas konfidencialu Psl. 8 2. Optimizavimas pagal pasirinktą tėkmės būseną; Techninis aprasas konfidencialu Psl. 51, 52 3. PRF diapozonas 100 – 17900 Hz Techninis aprasas konfidencialu Psl. 53
8.	Spektrinio Doplerio vaizdavimo režimas	1. Stiprinimo diapazonas ne siauresnis nei (0 – +30) dB; 2. PRF diapozonas ne siauresnis nei (400 – 35500) Hz 3. Tripleksas; 4. Doplerio vartelių dydžio diapozonas ne siauresnis nei (0,5 – 20,0) mm; 5. Kampo korekcijos diapazonas ne siauresnis nei 0°- 85°; 6. Spektrinio doplerio automatizacija vieno mygtuko paspaudimu.	1. Stiprinimo diapazonas (0 – +85) dB; Techninis aprasas konfidencialu Psl. 7 2. PRF diapozonas (400 – 35500) Hz Techninis aprasas konfidencialu Psl. 6 3. Tripleksas; Techninis aprasas konfidencialu Psl. 4 4. Doplerio vartelių dydžio diapozonas (0,5 – 20,0) mm; Techninis aprasas konfidencialu Psl. 7 5. Kampo korekcijos diapazonas -90° +90°; Techninis aprasas konfidencialu Psl. 7 6. Spektrinio doplerio automatizacija vieno mygtuko paspaudimu. Techninis aprasas konfidencialu Psl. 8
9.	Panoraminis vaizdavimas	Maksimalus vaizdo ilgis ≥ 160 cm.	Maksimalus vaizdo ilgis 160 cm. Techninis aprasas konfidencialu Psl. 9
10.	Komplektuojami davikliai:		
10.1.	Konveksinis daviklis (kiekis 1 vnt.)	1. Darbinis dažnių diapazonas ne siauresnis nei (1,0 – 5,5) MHz; 2. Vienalyčio kristalo gamybos technologija; 3. Apžvalgos laukas ≥ 70^{o}; 4. Darbinis elementų skaičius ≥ 180.	1. Darbinis dažnių diapazonas (1,0 – 6,0) MHz; Techninis aprasas konfidencialu Psl. 16 2. Vienalyčio kristalo gamybos technologija; Techninis aprasas konfidencialu Psl. 16, 33 3. Apžvalgos laukas 80^{o}; Techninis aprasas konfidencialu Psl. 16 4. Darbinis elementų skaičius 192. Techninis aprasas konfidencialu Psl. 16

10.2.	Linijinis daviklis (kiekis 1 vnt.)	1. Dažnių diapazonas ne siauresnis nei (5,0 - 13,5) MHz; 2. Apžvalgos laukas ≥ 35 mm; 3. Darbinis elementų skaičius ≥ 380.	1. Dažnių diapazonas (4,0 – 16,0) MHz; Techninis aprasas konfidencialu Psl. 17 2. Apžvalgos laukas 50,4 mm; Techninis aprasas konfidencialu Psl. 18 3. Darbinis elementų skaičius 1008 Techninis aprasas konfidencialu Psl. 17
11.	Tyrimo duomenų išsaugojimas ir perdavimas DICOM formatu	Palaikomos DICOM standarto funkcijos: 1. DICOM Storage (alternatyvūs pavadinimai – DICOM Store arba DICOM Send); 2. DICOM Print; 3. DICOM Modality Worklist; 4. DICOM Exchange Media.	Palaikomos DICOM standarto funkcijos: 1.DICOM Store; Techninis aprasas konfidencialu Psl. 6 2. DICOM Print; Techninis aprasas konfidencialu Psl. 6 3. DICOM Modality Worklist; Techninis aprasas konfidencialu Psl. 6 4. DICOM Media Exchange. Techninis aprasas konfidencialu Psl. 6
12.	Sistemos atmintis	1. Vidinė atmintis ≥ 500 GB SSD diske; 2. Išsaugoti išorinėse laikmenose: USB; 3. Maksimali vaizdo įrašų trukmė ≥ 300 sek.	1. Vidinė atmintis 1 TB SSD diskas; Techninis aprasas konfidencialu Psl. 1 2. Išsaugoti išorinėse laikmenose: USB; Techninis aprasas konfidencialu Psl. 5 3. Maksimali vaizdo įrašų trukmė 9224 sek. Techninis aprasas konfidencialu Psl. 5
13.	Sistemos sandara	1. Šildomas gelio laikiklis; 2. Nespalvotas vaizdo spausdintuvas; 3. Bevielio ryšio modulis; 4. Galimybė ateityje įdiegti elastografinių tyrimų modulį; 5. Galimybė ateityje įdiegti kontrastinių tyrimų modulį; 6. Galimybė ateityje įdiegti 3D/4D vaizdavimo modulį.	1. Šildomas gelio laikiklis; Techninis aprasas konfidencialu Psl. 1 2. Nespalvotas vaizdo spausdintuvas; Techninis aprasas konfidencialu Psl. 3 3. Bevielio ryšio modulis; Techninis aprasas konfidencialu Psl. 3 4. Galimybė ateityje įdiegti elastografinių tyrimų modulį; Techninis aprasas konfidencialu Psl. 3 5. Galimybė ateityje įdiegti kontrastinių tyrimų modulį; Techninis aprasas konfidencialu Psl. 3 6. Galimybė ateityje įdiegti 3D/4D vaizdavimo modulį. Techninis aprasas konfidencialu Psl. 2
14.	Aparato maitinimas	230V, 50Hz elektros tinklas	230V, 50Hz elektros tinklas Techninis aprasas konfidencialu Psl. 1
15.	Žymėjimas CE ženklu	Būtina (kartu su pasiūlymu privaloma pateikti žymėjimą CE ženklu liudijančio galiojančio dokumento (CE sertifikato arba EB atitikties deklaracijos) kopiją)	Pateikiama EB atitikties deklaracija. Logiq Totus atitikties deklaracija
16.	Įrangos pristatymas ir instaliavimas	Įrangos pristatymo, iškrovimo, pervežimo į instaliavimo vietą, instaliavimo, po instaliavimo likusių įpakavimo medžiagų išvežimo (utilizavimo) išlaidos įskaičiuotos į pasiūlymo kainą.	Įrangos pristatymo, iškrovimo, pervežimo į instaliavimo vietą, instaliavimo, po instaliavimo likusių įpakavimo medžiagų išvežimo (utilizavimo) išlaidos įskaičiuotos į pasiūlymo kainą.
17.	Vartotojų apmokymas	Vartotojų apmokymas naudoti įrangą įskaičiuotas į pasiūlymo kainą.	Vartotojų apmokymas naudoti įrangą įskaičiuotas į pasiūlymo kainą.
18.	Techninio personalo apmokymas	LSMU ligoninės Kauno klinikų Medicininės technikos tarnybos inžinierių apmokymas atlikti įrangos pogarantinę techninę priežiūrą įskaičiuotas į pasiūlymo kainą.	LSMU ligoninės Kauno klinikų Medicininės technikos tarnybos inžinierių apmokymas atlikti įrangos pogarantinę techninę priežiūrą įskaičiuotas į pasiūlymo kainą.
19.	Kartu su įranga pateikiama dokumentacija:	1. Naudojimo instrukcija lietuvių ir anglų kalba;	1. Naudojimo instrukcija lietuvių ir anglų kalba;

		2. Serviso dokumentacija lietuvių arba anglų kalba: a) Struktūrinė schema ir/arba atskirų blokų funkcijų aprašymas; b) Instaliavimo instrukcijos; c) Funkcionalumo patikrinimo instrukcijos; d) Aptarnavimo instrukcijos; e) Gedimų nustatymo instrukcijos; f) Išardymo-surinkimo instrukcijos; g) Atsarginių dalių katalogas; h) Periodinio techninės būklės tikrinimo instrukcijos; i) Derinimo/kalibravimo instrukcijos (taikoma, jei šios procedūros yra numatytos siūlomos įrangos gamintojo); j) Programinė įranga, serviso slaptažodžiai bei aparatūriniai „raktai“ b), c), d), e), h) ir i) punktuose nurodytiems darbams atlikti (taikoma, jei šios priemonės yra numatytos siūlomos įrangos gamintojo).	2. Serviso dokumentacija lietuvių arba anglų kalba: a) Struktūrinė schema; b) Instaliavimo instrukcijos; c) Funkcionalumo patikrinimo instrukcijos; d) Aptarnavimo instrukcijos; e) Gedimų nustatymo instrukcijos; f) Išardymo-surinkimo instrukcijos; g) Atsarginių dalių katalogas; h) Periodinio techninės būklės tikrinimo instrukcijos; i) Derinimo/kalibravimo instrukcijos nėra numatytos gamintojo; j) programinė įranga, serviso slaptažodžiai bei aparatūriniai „raktai“ b), c), d), e), h) ir i) punktuose nurodytiems darbams atlikti, šios priemonės nėra taikomos ir nenumatytos gamintojo.
20.	Garantinis terminas	≥ 36 mėnesiai. Garantinio aptarnavimo laikotarpio metu garantuojamas nemokamas siūlomos prekės remontas, įskaitant, bet neapsiribojant remontui atlikti reikalingas detales bei medžiagas, techninę apžiūrą bei techninės būklės patikrinimą (gamintojo rekomenduojamu periodiškumu), įskaitant techninei priežiūrai atlikti reikalingas detales ir medžiagas.	36 mėnesiai. Garantinio aptarnavimo laikotarpio metu garantuojamas nemokamas siūlomos prekės remontas, įskaitant, bet neapsiribojant remontui atlikti reikalingas detales bei medžiagas, techninę apžiūrą bei techninės būklės patikrinimą (gamintojo rekomenduojamu periodiškumu), įskaitant techninei priežiūrai atlikti reikalingas detales ir medžiagas.
21.	Galimybė įsigyti originalias (arba joms lygiavertes) atsargines dalis	Tiekėjas turi užtikrinti galimybę įsigyti siūlomos prekės originalias (arba joms lygiavertes) atsargines dalis (jų tiekimą rinkai) ne trumpiau kaip 5 metus (prašome nurodyti konkrečią trukmę) nuo prekės garantinio laikotarpio pabaigos, išskyrus atvejus, kai siūlomos prekės originalios (arba joms lygiavertės) atsarginės dalys dėl objektyvių priežasčių negali būti tiekiamos Lietuvos Respublikos rinkai (būtinas tiekėjo ir/arba gamintojo atitinkamas patvirtinimas). Pastaba: Reikalavimas taikomas vadovaujantis Lietuvos Respublikos aplinkos ministro 2022 m. gruodžio 13 d. įsakymu Nr. D1-401 patvirtinto aplinkos apsaugos kriterijų taikymo, vykdant žaliuosius pirkimus, tvarkos aprašo II skyriaus 4.4.4.4 punktu.	Užtikriname galimybę įsigyti siūlomos prekės originalias (arba joms lygiavertes) atsargines dalis (jų tiekimą rinkai) 5 metus nuo prekės garantinio laikotarpio pabaigos, išskyrus atvejus, kai siūlomos prekės originalios (arba joms lygiavertės) atsarginės dalys dėl objektyvių priežasčių negali būti tiekiamos Lietuvos Respublikos rinkai. Patvirtinimas

Europos bendrasis viešųjų pirkimų dokumentas (EBVPD)

I dalis. Informacija apie pirkimo procedūrą ir perkančiąją organizaciją ar perkantįjį subjektą

Informacija apie paskelbimą

Skelbimo numeris OL S (tik tarptautiniams pirkimams):

-

Skelbimo numeris CVP IS (kur rasti?)

-

Perkančiosios organizacijos / Perkančiojo subjekto tapatybė

Oficialus pavadinimas:

LSMUL KAUNO KLINIKOS

Šalis:

Lietuva

Informacija apie pirkimo procedūrą

Procedūros tipas

Atvira

Pavadinimas:

MEDICININĖ ĮRANGA

Trumpas aprašymas:

MEDICININĖ ĮRANGA

Perkančiosios organizacijos ar perkančiojo subjekto (jei taikoma) priskirtas dokumento numeris:

-

II dalis. Informacija apie ekonominės veiklos vykdytoją

A. Informacija apie ekonominės veiklos vykdytoją

Tiekėjo pavadinimas arba vardas ir pavardė (jei fizinis asmuo):

UAB Tradintek

Gatvė ir namo numeris:

J. Jasinskio g. 9

Pašto kodas:
01112
Miestas:
Vilnius
Šalis:
Lietuva
Interneto adresas (jei yra):
-
E. paštas:
info@tradintek.com
Telefonas:
[redacted]
Asmuo ar asmenys ryšiams:
[redacted]
PVM mokėtojo kodas, jei yra:
LT249421811
Jei PVM mokėtojo kodo nėra, nurodykite kitą nacionalinį identifikacinį numerį (Lietuvoje - įmonės kodą)
-
Ar ekonominės veiklos vykdytojas yra labai maža, mažoji ar vidutinė įmonė?
●Taip
○Ne
Tik tuo atveju, kai pirkimas rezervuotas: ar ekonominės veiklos vykdytojas yra globojama darbo grupė (neįgaliųjų socialinė įmonė), socialinė įmonė? Ar jis vykdys sutartį pagal globojamų darbo grupių (neįgaliųjų socialinių įmonių) užimtumo programas?
○Taip
●Ne

Jei taikoma, ar ekonominės veiklos vykdytojas įtrauktas į oficialų patvirtintų ekonominės veiklos vykdytojų sąrašą arba ar jis turi lygiavertį sertifikatą (pvz., pagal nacionalinę (išankstinę) kvalifikacijos vertinimo sistemą)? Lietuvos tiekėjai renkasi „ne“
○Taip
●Ne

- Be to, užpildykite trūkstamą informaciją IV dalies A, B, C arba D skirsniuose, atsižvelgdami į konkretų atvejį TIK jei to reikalaujama atitinkamame skelbime arba pirkimo dokumentuose:

e) Ar ekonominės veiklos vykdytojas galės pateikti sertifikatą dėl socialinio draudimo įmokų ir mokesčių mokėjimo arba pateikti informaciją, kuri leistų perkančiajai organizacijai ar perkančiajam subjektui jį gauti tiesiogiai naudojantis prieiga prie bet kurios iš valstybių narių nemokamos nacionalinės duomenų bazės?

●Taip

○Ne

Jei atitinkami dokumentai prieinami elektroniniu būdu, nurodykite:

http://www.sodra.lt/

Ar ekonominės veiklos vykdytojas pirkimo procedūroje dalyvauja kartu su kitais? Žymima TAIP, jei pasiūlymą teikia ūkio subjektų grupė (konsorciumas) pagal jungtinės veiklos sutartį

○Taip

●Ne

Jei pirkimas padalintas į dalis, nuoroda į pirkimo dalį (-is), dėl kurios (-ių) ekonominės veiklos vykdytojas nori dalyvauti konkurse:

1 Pirkimo dalis

B. Informacija apie ekonominės veiklos vykdytojo teisinius atstovus #1

- Šis skirsnis pildomas, jeigu tiekėjo vadovas įgalioja kitą asmenį pasirašyti pasiūlymą, bendrauti su pirkimo vykdytoju, įgalioja atstovauti ir pasirašyti EBVPD, bendrauti su pirkimo vykdytoju dėl EBVPD pateiktos informacijos, teikiamų kvalifikaciją ir pašalinimo pagrindų nebuvimą pagrindžiančių dokumentų, dėl pasiūlymo ir pan.

  Jei taikytina, nurodykite asmens (-ų), įgalioto (-ų) atstovauti ekonominės veiklos vykdytojui šios pirkimo procedūros tikslais, vardą ir pavardę ir adresą:

Vardas

[redacted]

Pavardė

[redacted]

Gimimo data

-

Gimimo vieta

-

Gatvė ir namo numeris:

-

Pašto kodas:

-

Miestas:

-

Šalis:

Lietuva

E. paštas:

info@tradintek.com

Telefonas:

[redacted]

Pareigos arba statusas:

[redacted]

Prireikus pateikite išsamią informaciją apie atstovavimą (formą, aprėptį, paskirtį ir t. t.):

Įgaliotas atstovauti įmonę pirkimo procedūrose pagal įgaliojimą

C. Informacija apie rėmimąsi kitų subjektų pajėgumais

Ar siekdamas patenkinti IV dalyje nurodytus atrankos kriterijus ir V dalyje nurodytus kriterijus bei taisykles (jei tokių yra) ekonominės veiklos vykdytojas remiasi kitų subjektų pajėgumais?

❍Taip

●Ne

D. Informacija apie subrangovus, kurių pajėgumais ekonominės veiklos vykdytojas nesiremia

- (Skirsnį reikia pildyti, tik jei šios informacijos aiškiai reikalauja perkančioji organizacija ar perkantysis subjektas.)

Ar ekonominės veiklos vykdytojas ketina kurias nors sutarties dalis subrangos sutartimi pavesti atlikti trečiosioms šalims?

❍Taip
●Ne

- Jei perkančioji organizacija ar perkantysis subjektas aiškiai prašo šios informacijos, šalia informacijos pagal šį skirsnį, pateikite pagal šios dalies A ir B skirsnius ir III dalį reikalaujamą informaciją apie kiekvieną susijusį subrangovą (subrangovų kategorijas).

III dalis. Pašalinimo pagrindai

A. Su baudžiamaisiais nuosprendžiais susiję pagrindai

Direktyvos 2014/24/ES 57 straipsnio 1 dalyje nustatyti šie pašalinimo pagrindai

A1. Dalyvavimas nusikalstamos organizacijos veikloje (VPĮ 46 str. 1 d. 1 p.)

Ar pats ekonominės veiklos vykdytojas ar bet kuris asmuo, kuris yra jo administracijos, valdymo ar priežiūros organo narys arba turi atstovavimo, sprendimo ar kontrolės įgaliojimus to ekonominės veiklos vykdytojo atžvilgiu, buvo nuteistas galutiniu teismo sprendimu už dalyvavimą nusikalstamos organizacijos veikloje, o nuosprendis priimtas prieš ne daugiau kaip penkerius metus arba kai nuosprendyje aiškiai nustatytas pašalinimo laikotarpis tebesitęsia? Kaip apibrėžta 2008 m. spalio 24 d. Tarybos pamatinio sprendimo 2008/841/TVR dėl kovos su organizuotu nusikalstamumu 2 straipsnyje (OL L 300, 2008 11 11, p. 42).

Jūsų atsakymas

❍Taip
●Ne

Ar ši informacija ES valstybės narės duomenų bazėje nemokamai prieinama valdžios institucijoms?

❍Taip
●Ne

A2. Korupcija (VPĮ 46 str. 1 d. 2 p.)

Ar pats ekonominės veiklos vykdytojas ar bet kuris asmuo, kuris yra jo administracijos, valdymo ar priežiūros organo narys arba turi atstovavimo, sprendimo ar kontrolės įgaliojimus to ekonominės veiklos vykdytojo atžvilgiu, buvo nuteistas galutiniu teismo sprendimu už korupciją, o nuosprendis priimtas prieš ne daugiau kaip penkerius metus arba kai nuosprendyje aiškiai nustatytas pašalinimo

laikotarpis tebesitęsia? Kaip apibrėžta Konvencijos dėl kovos su korupcija, susijusia su Europos Bendrijų pareigūnais ar Europos Sąjungos valstybių narių pareigūnais, 3 straipsnyje (OL C 195, 1997 6 25, p. 1) ir 2003 m. liepos 22 d. Tarybos pamatinio sprendimo 2003/568/TVR dėl kovos su korupcija privačiame sektoriuje 2 straipsnio 1 dalyje (OL L 192, 2003 7 31, p. 54). Į pašalinimo pagrindus taip pat įtraukta korupcija, kaip apibrėžta perkančiosios organizacijos (perkančiojo subjekto) arba ekonominės veiklos vykdytojo nacionalinėje teisėje.

Jūsų atsakymas

❍Taip

●Ne

Ar ši informacija ES valstybės narės duomenų bazėje nemokamai prieinama valdžios institucijoms?

❍Taip

●Ne

A3. Sukčiavimas (VPĮ 46 str. 1 d. 3 p.)

Ar pats ekonominės veiklos vykdytojas ar bet kuris asmuo, kuris yra jo administracijos, valdymo ar priežiūros organo narys arba turi atstovavimo, sprendimo ar kontrolės įgaliojimus to ekonominės veiklos vykdytojo atžvilgiu, buvo nuteistas galutiniu teismo sprendimu už sukčiavimą, o nuosprendis priimtas prieš ne daugiau kaip penkerius metus arba kai nuosprendyje aiškiai nustatytas pašalinimo laikotarpis tebesitęsia? Pagal Europos Bendrijų finansinių interesų apsaugos konvencijos 1 straipsnį (OL C 316, 1995 11 27, p. 48).

Jūsų atsakymas

❍Taip

●Ne

Ar ši informacija ES valstybės narės duomenų bazėje nemokamai prieinama valdžios institucijoms?

❍Taip

●Ne

A4. Teroristiniai nusikaltimai arba su teroristine veikla susiję nusikaltimai (VPĮ 46 str. 1 d. 5 p.)

Ar pats ekonominės veiklos vykdytojas ar bet kuris asmuo, kuris yra jo administracijos, valdymo ar priežiūros organo narys arba turi atstovavimo, sprendimo ar kontrolės įgaliojimus to ekonominės veiklos vykdytojo atžvilgiu, buvo nuteistas galutiniu teismo sprendimu už teroristinius nusikaltimus arba

su teroristine veikla susijusius nusikaltimus, o nuosprendis priimtas prieš ne daugiau kaip penkerius metus arba kai nuosprendyje aiškiai nustatytas pašalinimo laikotarpis tebesitęsia? Kaip apibrėžta 2002 m. birželio 13 d. Tarybos pamatinio sprendimo dėl kovos su terorizmu 1 ir 3 straipsniuose (OL L 164, 2002 6 22, p. 3). Į pašalinimo pagrindus taip pat įtrauktas nusikalstamos veikos kurstymas, pagalba ar bendrininkavimas ją vykdant arba kėsinimasis ją įvykdyti, kaip nurodyta to pamatinio sprendimo 4 straipsnyje.

Jūsų atsakymas

❍Taip

●Ne

Ar ši informacija ES valstybės narės duomenų bazėje nemokamai prieinama valdžios institucijoms?

❍Taip

●Ne

A5. Pinigų plovimas arba teroristų finansavimas (VPĮ 46 str. 1 d. 6 p.)

Ar pats ekonominės veiklos vykdytojas ar bet kuris asmuo, kuris yra jo administracijos, valdymo ar priežiūros organo narys arba turi atstovavimo, sprendimo ar kontrolės įgaliojimus to ekonominės veiklos vykdytojo atžvilgiu, buvo nuteistas galutiniu teismo sprendimu už pinigų plovimą arba teroristų finansavimą, o nuosprendis priimtas prieš ne daugiau kaip penkerius metus arba kai nuosprendyje aiškiai nustatytas pašalinimo laikotarpis tebesitęsia? Kaip apibrėžta 2005 m. spalio 26 d. Europos Parlamento ir Tarybos direktyvos 2005/60/EB dėl finansų sistemos apsaugos nuo jos panaudojimo pinigų plovimui ir teroristų finansavimui 1 straipsnyje (OL L 309, 2005 11 25, p. 15).

Jūsų atsakymas

❍Taip

●Ne

Ar ši informacija ES valstybės narės duomenų bazėje nemokamai prieinama valdžios institucijoms?

❍Taip

●Ne

A6. Vaikų darbas ir kitos prekybos žmonėmis formos (VPĮ 46 str. 1 d. 7 p.)

Ar pats ekonominės veiklos vykdytojas ar bet kuris asmuo, kuris yra jo administracijos, valdymo ar priežiūros organo narys arba turi atstovavimo,

sprendimo ar kontrolės įgaliojimus to ekonominės veiklos vykdytojo atžvilgiu, buvo nuteistas galutiniu teismo sprendimu už vaikų darbą arba kitas prekybos žmonėmis formas, o nuosprendis priimtas prieš ne daugiau kaip penkerius metus arba kai nuosprendyje aiškiai nustatytas pašalinimo laikotarpis tebesitęsia?
Kaip apibrėžta 2011 m. balandžio 5 d. Europos Parlamento ir Tarybos direktyvos 2011/36/ES dėl prekybos žmonėmis prevencijos, kovos su ja ir aukų apsaugos, pakeičiančios Tarybos pamatinį sprendimą 2002/629/TVR, 2 straipsnyje (OL L 101, 2011 4 15, p. 1).

Jūsų atsakymas

❍Taip

●Ne

Ar ši informacija ES valstybės narės duomenų bazėje nemokamai prieinama valdžios institucijoms?

❍Taip

●Ne

B. Su mokesčių ar socialinio draudimo įmokų mokėjimu susiję pagrindai

Direktyvos 2014/24/ES 57 straipsnio 2 dalyje nustatytos šios pašalinimo priežastys

B1. Mokesčių mokėjimas VPĮ 46 str. 3 d.

Ar ekonominės veiklos vykdytojas pažeidė savo pareigas, susijusias su mokesčių mokėjimu, tiek šalyje, kurioje yra įsisteigęs, tiek perkančiosios organizacijos ar perkančiojo subjekto valstybėje narėje, jei tai nėra jo įsisteigimo šalis?

Jūsų atsakymas

❍Taip

●Ne

Ar ši informacija ES valstybės narės duomenų bazėje nemokamai prieinama valdžios institucijoms?

❍Taip

●Ne

B2. Socialinio draudimo įmokų mokėjimas VPĮ 46 str. 3 d.

Ar ekonominės veiklos vykdytojas pažeidė savo pareigas, susijusias su socialinio draudimo įmokų mokėjimu, tiek šalyje, kurioje yra įsisteigęs, tiek perkančiosios organizacijos ar perkančiojo subjekto valstybėje narėje, jei tai nėra jo įsisteigimo šalis?

Jūsų atsakymas

❍Taip

●Ne

Ar ši informacija ES valstybės narės duomenų bazėje nemokamai prieinama valdžios institucijoms?

❍Taip

●Ne

C. Su nemokumu, interesų konfliktu ar profesiniais nusižengimais susiję pagrindai

Direktyvos 2014/24/ES 57 straipsnio 4 dalyje nustatyti šie pašalinimo pagrindai

C10. Su kitais ekonominės veiklos vykdytojais sudaryti susitarimai, kuriais siekta iškreipti konkurenciją (VPĮ 46 str. 4 d. 1 p.)

Ar ekonominės veiklos vykdytojas su kitais ekonominės veiklos vykdytojais yra sudaręs susitarimų, kuriais siekta iškreipti konkurenciją atliekamame pirkime?

Jūsų atsakymas

❍Taip

●Ne

C11. Rimti profesiniai pažeidimai VPĮ 46 str. 4 d. 7 p., VPĮ 46 str. 6 d. 3 p.

Pirkimams pradėtiems nuo 2022-01-01: Ar ekonominės veiklos vykdytojas yra padaręs rimtą profesinį pažeidimą, kaip nurodyta žemiau?:

a) yra padaręs finansinės atskaitomybės ir audito teisės aktų pažeidimą ir nuo jo padarymo dienos praėjo mažiau kaip vieni metai;**Nuo 2022-08-12 pildydamas EBVPD tiekėjas yra informuotas ir supranta, kad finansinės atskaitomybės ir audito teisės aktų pažeidimu taip pat gali būti laikomi atvejai, kai tiekėjas nepateikia privalomų finansinės atskaitomybės dokumentų Registrų centrui. Išsamiau: https://vpt.lrv.lt/lt/naujienos/finansiniu-ataskaitu-nepateikimas-gali-tapti-kliutimi-dalyvauti-viesuosiuose-pirkimuose**

b) neatitinka minimalių patikimo mokesčių mokėtojo kriterijų, nustatytų Lietuvos Respublikos mokesčių administravimo įstatymo 40^1 straipsnio 1 dalyje. Taikant šį tiekėjo pašalinimo iš pirkimo procedūros pagrindą, vadovaujamasi Lietuvos Respublikos mokesčių administravimo įstatymo 40^1 straipsnio 1 dalyje nustatytais terminais, juos skaičiuojant nuo Mokesčių administravimo įstatymo 40^1 straipsnio

1 dalyje nurodytų pažeidimų padarymo dienos, tačiau visais atvejais šie terminai negali būti ilgesni negu 3 metai;
c) yra padaręs draudimo sudaryti draudžiamus susitarimus, įtvirtinto Lietuvos Respublikos konkurencijos įstatyme ar panašaus pobūdžio kitos valstybės teisės akte, pažeidimą ir nuo jo padarymo dienos praėjo mažiau kaip 3 metai;
d) yra padaręs bet kokį kitą rimtą profesinį pažeidimą, nenurodytą aukščiau, nuo kurio padarymo dienos praėjo mažiau kaip vieni metai?

Pirkimams pradėtiems iki 2022-01-01: Ar ekonominės veiklos vykdytojas yra pripažintas kaltu dėl sunkaus profesinio nusižengimo kaip nurodyta žemiau?

I. ar ekonominės veiklos vykdytojas yra padaręs profesinį pažeidimą, kai už finansinės atskaitomybės ir audito teisės aktų pažeidimus ekonominės veiklos vykdytojui ar jo vadovui paskirta administracinė nuobauda ar ekonominė sankcija, nustatytos Lietuvos Respublikos įstatymuose ar kitų valstybių teisės aktuose, ir nuo sprendimo, kuriuo buvo paskirta ši sankcija, įsiteisėjimo dienos arba nuo dienos, kai asmuo įvykdė administracinį nurodymą, praėjo mažiau kaip vieni metai?

II. Ar ekonominės veiklos vykdytojas yra padaręs kurį nors vieną iš žemiau nurodytų rimtų profesinių pažeidimų(taikoma tik tada kai, ir tik tiek, kiek apibrėžta kituose pirkimo dokumentuose):

a) profesinės etikos pažeidimas, kai nuo ekonominės veiklos vykdytojo pripažinimo nesilaikančiu profesinės etikos normų momento praėjo mažiau kaip vieni metai;
b) konkurencijos, darbuotojų saugos ir sveikatos, informacijos apsaugos, intelektinės nuosavybės apsaugos pažeidimas, už kurį ekonominės veiklos vykdytojui ar jo vadovui yra paskirta administracinė nuobauda ar ekonominė sankcija, nustatytos Lietuvos Respublikos ar kitų valstybių įstatymuose, kai nuo sprendimo, kuriuo buvo paskirta ši sankcija, arba nuo dienos, kai asmuo įvykdė administracinį nurodymą, įsiteisėjimo dienos praėjo mažiau kaip vieni metai;
c) draudimo sudaryti draudžiamus susitarimus, įtvirtinto Lietuvos Respublikos konkurencijos įstatyme ar panašaus pobūdžio kitos valstybės teisės akte, pažeidimas, kai nuo sprendimo paskirti Konkurencijos įstatyme ar kitos valstybės teisės akte nustatytą ekonominę sankciją įsiteisėjimo dienos praėjo mažiau kaip 3 metai;
d) ekonominės veiklos vykdytojas, kuris yra fizinis asmuo, arba ekonominės veiklos vykdytojo, kuris yra juridinis asmuo, kita organizacija ar jos padalinys, vadovas, kitas valdymo ar priežiūros organo narys ar kitas asmuo, turintis (turintys) teisę atstovauti ekonominės veiklos vykdytojui ar jį kontroliuoti, jo vardu priimti sprendimą, sudaryti sandorį, arba dalyvis, turintis balsų daugumą juridinio asmens dalyvių susirinkime, yra pripažintas kaltu dėl tyčinio bankroto, kaip jis apibrėžtas Lietuvos Respublikos įmonių bankroto įstatyme ar panašaus pobūdžio kitų valstybių teisės aktuose, kai nuo teismo sprendimo įsiteisėjimo dienos praėjo mažiau kaip 3 metai?

Jūsų atsakymas

❍Taip

●Ne

C12. Interesų konfliktas dėl dalyvavimo pirkimo procedūroje (VPĮ 46 str. 4 d. 2 p.)

Ar ekonominės veiklos vykdytojas žino apie kokius nors interesų konfliktus, kaip nurodyta nacionalinėje teisėje, atitinkamame skelbime ar pirkimo dokumentuose, kylančius dėl jo dalyvavimo pirkimo procedūroje?

Jūsų atsakymas

❍Taip

●Ne

C13. Tiesioginis arba netiesioginis dalyvavimas rengiant šią pirkimo procedūrą (46 str. 4 d. 3 p.)

Ar ekonominės veiklos vykdytojas arba su juo susijusi įmonė konsultavo perkančiąją organizaciją ar perkantįjį subjektą arba kitaip dalyvavo rengiant pirkimo procedūrą?

Jūsų atsakymas

❍Taip

●Ne

C14. Sutarties nutraukimas anksčiau laiko, žala ar kitos panašios sankcijos (VPĮ 46 str. 4 d. 6 p.)

Ar ekonominės veiklos vykdytojas turėjo tokios patirties: ankstesnė viešoji sutartis, ankstesnė sutartis su perkančiuoju subjektu arba ankstesnė koncesijos sutartis buvo nutraukta anksčiau laiko; arba buvo pareikalauta atlyginti su ankstesne sutartimi susijusią žalą ar skirtos kitos panašios sankcijos?

Lietuvoje (be kita ko) - ar ekonominės veiklos vykdytojas yra įtrauktas į nepatikimų tiekėjų sąrašą ?

Jūsų atsakymas

❍Taip

●Ne

C15. Pripažinimas kaltu dėl faktų iškraipymo, informacijos nuslėpimo, negalėjimas pateikti reikalaujamų dokumentų ir su šia procedūra susijusios konfidencialios informacijos gavimas (46 str. 4 d. 4 p. ir 46 str. 4 d. 5 p.)

Ar ekonominės veiklos vykdytojas yra susijęs su vienu iš šių atvejų, kai jis :

a) buvo labai iškreipęs faktus pateikdamas informaciją (**pateikęs melagingą informaciją**), reikalingą patikrinti, ar nėra pagrindų pašalinti, arba patikrinti atitiktį atrankos kriterijams;

b) slėpė tokią informaciją;
c) delsė pateikti patvirtinamuosius dokumentus, kurių reikalavo perkančioji organizacija ar perkantysis subjektas,
d) siekė daryti neteisėtą įtaką perkančiosios organizacijos ar perkančiojo subjekto sprendimų priėmimo procesui, kad gautų konfidencialios informacijos, dėl kurios per pirkimo procedūrą įgytų nepagrįstą pranašumą, arba tyčia teikti klaidinančios informacijos, kuri gali turėti esminės įtakos sprendimams dėl pašalinimo, atrankos ar sutarties skyrimo?

Jūsų atsakymas

❍Taip

●Ne

D. Išimtinai nacionaliniai pašalinimo pagrindai

Išimtinai nacionaliniai pašalinimo pagrindai, nurodyti atitinkamame skelbime ar pirkimo dokumentuose.

D1. Išimtinai nacionaliniai pašalinimo pagrindai (VPĮ 46 str. 1 d. 4 p.)

Pirkimams pradėtiems nuo 2022-01-01:

pats ekonominės veiklos vykdytojas ar bet kuris asmuo, kuris yra jo administracijos, valdymo ar priežiūros organo narys arba turi atstovavimo, sprendimo ar kontrolės įgaliojimus to ekonominės veiklos vykdytojo atžvilgiu, buvo **nuteistas galutiniu teismo sprendimu už nusikalstamą bankrotą**, o nuosprendis priimtas prieš ne daugiau kaip penkerius metus arba kai nuosprendyje aiškiai nustatytas pašalinimo laikotarpis tebesitęsia?

Pirkimams pradėtiems iki 2022-01-01:

Ar ekonominės veiklos vykdytojas yra susijęs su vienu iš šių atvejų, kai:

a) jis **neatitinka minimalių patikimo mokesčių mokėtojo kriterijų,** nustatytų Lietuvos Respublikos mokesčių administravimo įstatymo 40^1 straipsnio 1 dalyje ir dėl to laikomas padariusiu šiurkštų profesinį pažeidimą.

b) pats ekonominės veiklos vykdytojas ar bet kuris asmuo, kuris yra jo administracijos, valdymo ar priežiūros organo narys arba turi atstovavimo, sprendimo ar kontrolės įgaliojimus to ekonominės veiklos vykdytojo atžvilgiu, buvo **nuteistas galutiniu teismo sprendimu už nusikalstamą bankrotą**, o nuosprendis priimtas prieš ne daugiau kaip penkerius metus arba kai nuosprendyje aiškiai nustatytas pašalinimo laikotarpis tebesitęsia?

Jūsų atsakymas

❍Taip

●Ne

Ar ši informacija ES valstybės narės duomenų bazėje nemokamai prieinama valdžios institucijoms?

❍Taip

●Ne

IV dalis. Atrankos kriterijai

α. Visų atrankos kriterijų bendra nuoroda

Dėl atrankos kriterijų ekonominės veiklos vykdytojas pareiškia, kad Jis atitinka visus reikalaujamus atrankos kriterijus

Jūsų atsakymas

●Taip

❍Ne

Baigti

IV dalis. Baigiamieji pareiškimai

Ekonominės veiklos vykdytojai oficialiai pareiškia, kad II–V dalyse pateikta informacija yra tiksli ir teisinga ir kad ji pateikta visiškai suvokiant didelio faktų iškreipimo padarinius.

Ekonominės veiklos vykdytojai oficialiai pareiškia, kad pareikalavus gali nedelsdami pateikti nurodytus sertifikatus ir kitų formų įrodomuosius dokumentus, išskyrus tuos atvejus, kai:

a) perkančioji organizacija ar perkantysis subjektas turi galimybę atitinkamus patvirtinamuosius dokumentus tiesiogiai gauti naudodamiesi prieiga prie bet kurios iš valstybių narių nemokamos nacionalinės duomenų bazės (su sąlyga, kad ekonominės veiklos vykdytojas pateikė reikalingą informaciją (interneto adresą, išduodančiąją instituciją ar įstaigą, tikslias dokumentų nuorodas), kuri perkančiajai organizacijai ar perkančiajam subjektui leidžia tai padaryti (pareikalavus dėl tokios prieigos turi būti pridėtas atitinkamas sutikimas), arba

b) perkančioji organizacija ar perkantysis subjektas yra gavusi ir turi aktualius susijusius dokumentus iš ankstesnių (kitų) pirkimo procedūrų.

Ekonominės veiklos vykdytojai oficialiai sutinka perkančiąjai organizacijai ar perkančiajam subjektui, nurodytam I dalyje, leisti susipažinti su dokumentais, kuriais patvirtinama informacija, pateikta šio Europos bendrojo viešųjų pirkimų dokumento III ir IV dalyse, kiek tai susiję su pirkimu, nurodytu I dalyje.

Data, vieta ir, jei reikia ar būtina, parašas (-ai):

Data
28-01-2025
Vieta
Vilnius
Parašas

Elektroninio dokumento nuorašas

VALSTYBĖS ĮMONĖ REGISTRŲ CENTRAS

Studentų g. 39, 08106 Vilnius, tel. +370 5 268 8262, el. p. info@registrucentras.lt

KOMPETENTINGŲ INSTITUCIJŲ TVARKOMŲ JUNGTINIŲ DUOMENŲ APIE VIEŠŲJŲ PIRKIMŲ PROCEDŪROJE DALYVAUJANTĮ TIEKĖJĄ (JURIDINĮ ASMENĮ) PAŽYMA

2025-04-16 Nr. 764342

Tiekėjo pavadinimas	**Uždaroji akcinė bendrovė "TRADINTEK"**
Tiekėjo kontaktinė informacija:	
mobilusis telefonas	**+37069833383**
elektroninio pašto adresas	**info@tradintek.com**
Buhalterio (buhalterių) ar kito (kitų) asmens (asmenų), turinčio (turinčių) teisę surašyti ir pasirašyti tiekėjo apskaitos dokumentus, vardas, pavardė	[redacted]
Juridinių asmenų registras:	
kodas	**124942182**
teisinė forma	**Uždaroji akcinė bendrovė**
teisinis statusas	**Teisinis statusas neįregistruotas**
buveinė (adresas)	**Vilnius, Biržiškų g. 125, LT-11112**
Vadovo, kito valdymo ar priežiūros organo nario ar kito asmens, turinčio (turinčių) teisę atstovauti tiekėjui ar jį kontroliuoti, jo vardu priimti sprendimą, sudaryti sandorį, vardas, pavardė	**TOMAS MICKŪNAITIS**
įregistravimo data	**1999-07-15**
Valstybinė mokesčių inspekcija prie Lietuvos Respublikos finansų ministerijos:	
duomenys apie tiekėjo atsiskaitymą su valstybės, savivaldybių biudžetais ir valstybės pinigų fondais	**Atsiskaitęs**
Duomenų suformavimo data	**2025-04-15**
Valstybinio socialinio draudimo fondo valdyba prie Socialinės apsaugos ir darbo ministerijos:	
duomenys apie tiekėjo atsiskaitymą su Valstybinio socialinio draudimo fondu	**Neįsiskolinęs**
Duomenų suformavimo data	**2025-04-15**
Įtariamųjų, kaltinamųjų ir nuteistųjų registras:	
duomenys apie tiekėją	**Dėl uždarosios akcinės bendrovės "TRADINTEK", kodas 124942182, per pastaruosius 5 metus nėra priimtas ir įsiteisėjęs apkaltinamasis teismo nuosprendis už nusikalstamas veikas, nurodytas Lietuvos Respublikos viešųjų pirkimų įstatymo 46 straipsnio 1 dalyje ir 3 dalyje. Nėra paskirta baudžiamojo poveikio priemonė - uždraudimas juridiniam asmeniui dalyvauti viešuosiuose pirkimuose pagal Viešųjų pirkimų įstatymo 46 straipsnio 2-1 dalį.**
duomenys apie tiekėjo vadovą, kitą valdymo ar priežiūros organo narį ar kitą (kitus) asmenį (asmenis), turintį (turinčius) teisę atstovauti	**Tomui Mickūnaičiui,** [redacted] **per pastaruosius 5 metus nėra priimtas ir įsiteisėjęs apkaltinamasis teismo nuosprendis ir jis neturi neišnykusio ar nepanaikinto teistumo už**

tiekėjui ar jį kontroliuoti, jo vardu priimti sprendimą, sudaryti sandorį	**nusikalstamas veikas, nurodytas Lietuvos Respublikos viešųjų pirkimų įstatymo 46 straipsnio 1 dalyje.**
duomenys apie tiekėjo buhalterį (buhalterius) ar kitą (kitus) asmenį (asmenis), turintį (turinčius) teisę surašyti ir pasirašyti tiekėjo apskaitos dokumentus	[redacted]**per pastaruosius 5 metus nėra priimtas ir įsiteisėjęs apkaltinamasis teismo nuosprendis ir jis neturi neišnykusio ar nepanaikinto teistumo už nusikalstamas veikas, nurodytas Lietuvos Respublikos viešųjų pirkimų įstatymo 46 straipsnio 1 dalyje.**
Duomenų suformavimo data	**2025-04-16**

Pažymą išspausdino:

Asmenų registravimo centro Juridinių asmenų registro Vilniaus skyriaus Vilniaus 2 Juridinių asmenų registro duomenų tvarkymo grupės Registratorė [redacted]

A. V.

DETALŪS METADUOMENYS	
Dokumento sudarytojas (-ai)	Valstybės įmonė Registrų centras
Dokumento pavadinimas (antraštė)	Jungtinė pažyma
Dokumento registracijos data ir numeris	2025-04-16 Nr. SP-74968 (4.55 Mr)
Dokumento gavimo data ir dokumento gavimo registracijos numeris	-
Dokumento adresatas (-ai)	Kiti
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	[redacted]
Parašo sukūrimo data ir laikas	2025-04-16 14:23
Parašo formatas	Trumpalaikio galiojimo (XAdES-T)
Laiko žymoje nurodytas laikas	2025-04-16 14:23
Informacija apie sertifikavimo paslaugų teikėją	RCSC IssuingCA-2
Sertifikato galiojimo laikas	2024-10-15 14:07 - 2026-10-15 14:07
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	-
Pagrindinio dokumento priedų skaičius	0
Pagrindinio dokumento pridedamų dokumentų skaičius	0
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	Elpako v.20250403.1
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Tikrinant dokumentą nenustatyta jokių klaidų (2025-04-16)
Elektroninio dokumento nuorašo atspausdinimo data ir ją atspausdinęs darbuotojas	2025-04-16 nuorašą suformavo Dokumentų valdymo sistema RC E.SD (5)
Paieškos nuoroda	-
Papildomi metaduomenys	-

GE HealthCare

GE Medical Systems Polska Sp. z o.o.
ul. Wołoska 9
02-583 Warszawa

T +48 22 330 83 18
F +48 22 330 83 83

Letter of Authorization

We, **GE Medical Systems Polska Sp. z o.o.**, a company duly organized and existing under the laws of Poland, having our registered office and principal place of business at ul. Woloska 9, 02-583 Warsaw, Poland, registered under KRS No. 0000040213, doing business as "GE HealthCare", who together with our affiliates are established and reputable manufacturers respectively suppliers of Ultrasound products and services

- General Imaging
- Women's Health
- Cardiovascular Ultrasound
- Point of Care
- Primary Care
- Ultrasound IT – ViewPoint
- Invenia ABUS
- Pre-Owned Equipment
- U/S Service
- Ultrasound IT – Services

(individually a "Product" and collectively the "Products")

do hereby confirm that **Tradintek UAB**, having its registered office and principal place of business at Jasinskio 9, 01111 Vilnius, Lithuania, is our authorized distributor for the sales and service of the Products in Lithuania and is authorized to import, market, sell, commission and service the a.m. Products and to participate in public and private tenders in its own name and on its sole behalf and to subsequently negotiate and sign the corresponding contracts.

The terms and conditions of the distribution relationship are governed by the International Distribution Agreement Ref. No. AR-063968-1.

This Letter of Confirmation is valid from date of signature until March 31, 2026, unless terminated earlier by giving 1 (one) month's prior written notice.

For and on behalf of
GE Medical Systems Polska Sp. z o.o.

[redacted]

Name: [redacted]
Title:
Date: April 17, 2023

GE Medical Systems Polska Sp. z o.o.
Gatvė Woloska 9
02-583 Varšuva
T. +48 22 330 83 18
F. +48 22 330 83 83

Įgaliojimas

Mes, GE Medical Systems Polska Sp. z o.o. , tinkamai organizuota ir pagal Lenkijos įstatymus veikianti įmonė, kurios registro buveinė ir pagrindinė verslo vieta yra Woloska g. 9, 02-583, Varšuva, Lenkija, registracijos KRS Nr. 0000040213, vykdanti veiklą „GE HealthCare“ vardu, kuri kartu su mūsų filialais yra įgijusi patikimo gamintojo vardą ir atitinkamai tiekia Diagnostinius produktus ir paslaugas:

- Bendroji radiologija
- Moters sveikata
- Širdies ir kraujagyslių
- Skubios pagalbos
- Priežiūros
- Ultragarso IS- ViewPoint
- Inevia ABUS
- Naudota įranga
- Ultragarso servisas
- Ultragarso IS servisas

(atskirai vadinama „Produktu“ ir kartu „Produktais“)

Šiuo patvirtiname, kad UAB TRADINTEK, turinti savo registruotą buveinę ir pagrindinę verslo vietą J. Jasinskio g. 9, LT-01111, Vilnius, Lietuva, yra mūsų įgaliotas platintojas parduodant ir aptarnaujant produktus Lietuvos teritorijoje ir yra įgaliotas importuoti, reklamuoti, pardavinėti, įgalioti ir vykdyti servisą a.p. produktų ir dalyvauti viešuose ir privačiuose konkursuose, savo vardu ir jo vieninteliu vardu ir vėliau derėtis ir pasirašyti atitinkamus kontraktus

Platinimo santykių terminai ir sąlygos reglamentuojami Tarptautinėje platinimo sutartyje Nuor. Nr. AR-063968-1
Šis įgaliojimas galioja nuo pasirašymo datos iki 2026 m. Kovo 31, nebent būtų nutrauktas anksčiau, įteikiant išankstinį raštišką pranešimą prieš mėnesį.

[redacted]

EU DECLARATION OF CONFORMITY

Following the provisions of the medical devices regulation 2017/745, directive 2011/65/EU and directive 2014/53/EU.

We:

Manufacturer	EU Authorized Representative
GE Ultrasound Korea, Ltd.	**GE Medical Systems SCS**
9, Sunhwan-ro 214beon-gil,	**283 rue de la Minière**
Jungwon-gu, Seongnam-si,	**78530 BUC, France**
GYEONGGI-DO 13204, Republic of Korea	
Single Registration Number (SRN): KR-MF-000001860	**SRN: FR-AR-000000344**

Declare under our sole responsibility that the device:

LOGIQ Totus

Basic UDI-DI: **8406821BUG00347HM**

Identification number:

Product Name	Part number/Reference number	UDI-DI(GTIN)
LOGIQ Totus	**5926013 / LOGIQ Totus**	**00195278664600**
LOGIQ Totus	**5943511 / LOGIQ Totus HDU**	**00195278724342**

Intended Purpose: The **LOGIQ Totus** is a general-purpose diagnostic ultrasound system intended for use by qualified and trained healthcare professionals for ultrasound imaging, measurement, display and analysis of the human body fluid.

GMDN Code: **40761**

GMDN Description: **General-Purpose ultrasound imaging system**

EMDN Code: **Z110401**

EMDN Description: **Ultrasound Scanner**

Class: **IIa**

Classification rule (Annex VIII): **Rule 10**

To which this declaration relates is in conformity with the requirements of the medical devices regulation 2017/745 that apply to it and with the requirements of the directive 2011/65/EU of the European Parliament and of the council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) and the directive 2014/53/EU on the Radio Equipment (RED).

This conformity is based on the following elements:

- Technical Documentation reference: DOC2799036, of the product to which this declaration relates.
- EU certificate No. **HZ2004702-01**:
  - Conformity assessment procedure followed: Annex IX of the medical device regulation 2017/745
  - Delivered by TUV Rheinland LGA Products GmbH (Notified Body N° 0197)

[redacted]
GE Ultrasound Korea, Ltd.
16-Feb-2024

This EU Declaration of conformity supersedes the previous declaration dated 2023-Dec-08.

SIGNATURE:

Date of issue:	2024-Feb-16
Place of issue:	Seongnam-si
Name:	[redacted]
Function:	[redacted]
Signature:	[redacted]

GE HealthCare

ADDENDUM TO THE DECLARATION OF CONFORMITY DOC2827601
LOGIQ Totus – Accessories and Components

Product Description	Catalog Number(Hcat#)[2]
Base systems	
LOGIQ Totus	H46202LA
LOGIQ Totus(ref. LOGIQ Totus HDU[1])	H46222LT
Probes	
M5Sc-D	H44901AE
6S-D	H45021RR
12S-D	H45021RT
ML6-15-D	H40452LG
L3-12-D	H48062AA
L6-24-D	H4920HF
9L-D	H40442LM
C1-6-D	H40472LT
C1-6VN-D	H40472LW
C3-10-D	H40482LB
C2-7-D	H46422LM
C2-7VN-D	H46422LN
IC5-9-D	H40422LK
RAB6-D	H48681MG
RIC5-9-D	H48651MS
P2D	H4830JE
P6D	H4830JG
Software Options	
Adv. Security	H46003BW
Coded Contrast	H46003BY
Cardiac AFI (=Cardiac Strain)	H46162LK
Report Writer	H46003BZ
TVI	H43942LZ
Auto EF	H43952LA
Stress Echo	H46004BA
Trice	H46004BB
LOGIQ Apps	H46004BC
Scan Assistant	H46004BD
AUTO IMT	H46004BE
B Steer+	H46004BF
B-FLOW	H46004BG
FLOW QA (=Color Quantification, Q-Analysis)	H46004BH
Measure Assist Breast	H46004BJ
Measure Assist OB	H46004BK
ELASTOGRAPHY (=Strain Elastography)	H46004BL
ELASTO QA (=Elasto Quantification Analysis)	H46004BM
Shear Wave Elastography	H46004BN
UGAP	H46004BP
Hepatic Assistant - SWE-UGAP	H46004BR
Omni View	H46004BS
HDlive	H43952LB
STIC	H46004BT
TUI	H46004BW
VCI-Static	H46004BY
VOCAL II	H46004BZ
SonoNT SonoIT	H46005BA
Compare Assistant	H46005BB

[redacted]

DESTINATION SET ISRAEL	H46712LR
DESTINATION SET SWISS	H46712LS
DESTINATION SET DENMARK	H46712LT
DESTINATION SET ITALY	H46722LD
Power Cord 220V for EU	H46342LZ
PWR CORD DK STD C13 GRY	H46692LK
PWR SPLY CRD EUROPE KOREA	H48502AW
PWR SPLY CRD UK IRELAND	H48512AF
PWR SPLY CRD SWITZERLAND	H48512AJ
PWR SPLY CRD DENMARK HOSPITAL GRADE	H48532AY
VNAV related option	
Volume Navigation	H46002BW
VNav Stand (Offboard)	H4908NS
VNav Probe sensors	H4913PS
VNav NEEDLE TRACKING	H4910NT
VNav VirtuTRAX Starter Kit	H4910NY
VNav Virtual Tracker sensor(=OmniTrax Sensor)	H4911NG
VNav Needle Tracking storage insert	H4913NS
VNav Needle Tracking Kit - 18/20g or less	H4913NT
VNav ETRAX 12 14G ST KT	H4913NU
VNav ETRAX 14 16G ST KT	H4913NV
VNav Active Tracker kit	H4913AT
VNav MR Active Tracker	H4915MT
Vscan Air CL Option	
Vscan Air CL C1 Kit (most Europe)	H45611ZM
Vscan Air CL G1 Kit (UK, Hongkong)	H45611ZN
Vscan Air Holder & Charger	H46003BK
Biopsy Options [3]	
C3-10 VNav Holder Starter Kit	H40482LF
IC5-9 V NAV BRACKET	H4908NF
9L Vol Navigation Bracket	H4908NB
M5S V NAV BRACKET	H4908NM
ML6-15 M_BPSY_TRU3D_SKIT	H40432LK
M5Sc-D Biopsy Bracket	H45561FC
L3-12-D Biopsy Kit	H48302AA
ML6-15 Biopsy Starter Kit	H40432LJ
9L BIO GUIDE STARTER KIT	H4906BK
C2-7 Biopsy Kit	H40482LK
C2-7 Biopsy Kit Stainless	H40482LL
C1-6-D Verza Biopsy Starter Kit	H4917VB
C1-6-D Biopsy Starter Kit	H4913BB
C1-6-D UP2 Biopsy Kit Software Option	H4921UB
IC5-9-D Needle guide	E8385MJ
IC5-9-D Reusable Biopsy Guide	H40412LN
E8C E721 E8C-RS IC5-9H MTZ Biopsy Kit	E8013AT
RAB6-D BIOPSY STARTER KIT	H48681ML
RAB BIOPSY STARTER KIT	H46701AE
RIC5-9-D Biopsy Guide	H46721R
RIC STERILE NEEDLE GUIDE	H48681GF

Notes:

[1] The only difference between LOGIQ Totus and LOGIQ Totus HDU is monitor. LOGIQ Totus is LCD monitor and LOGIQ Totus HDU is HDU monitor.

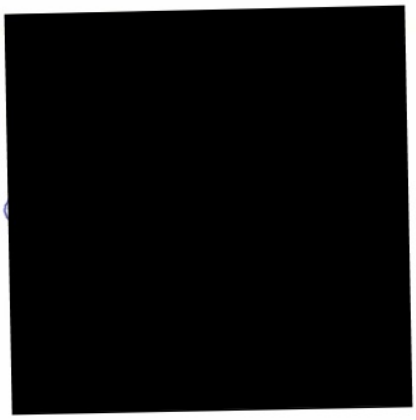
[2] Catalog number identifies the device(s) in the manufacturer's catalog and is usually included on commercial documents like sales contract, order processing documents and shipping documents.

Thyroid Productivity	H46005BC
Breast Productivity	H46005BD
Probe check	H46005BE
Auto Preset Assistant	H46162LR
Auto Abdominal Color Assistant	H46162LW
Voice Control	H46162LS
Software DVR	H46162LY
LOGIQ SRI HD Type 2	H46162LZ
LOGIQ KOIOS 2.x INSTALL	H4919KI
Koios Breast Activation for LOGIQ	H4922BA
KOIOS 3.x INSTALL	H4921KY
Koios Thyroid Activation for LOGIQ	H4922TA
DICOM	H46003BT
Data Streaming(Data Share)	H46162LM
e-Delivery	H43952ED
Hardware Options	
Gel Warmer	H46003BB
CW Doppler	H46003BA
CW Pencil Probe Connector	H46002BZ
Real-Time 4D	H46003BP
Battery Pack	H46003BR
Battery Pack extended	H46003BS
Internal Universal Video Converter	H46003BN
ECG options	
ECG Option	H46002BY
ECG CABLE - AHA STYLE	H4910EC
FC389, ECG CABLE SET	H45521AL
ECG Cables IEC Style	H4911JC
Pwr supply noise filter	H46162LH
Peripherals	
Printers	
SONY UP-D25MD Color PRINTER	H4911JT
SONY UP-D25MD Color PRINTER Set	H4911JW
SONY UPD898DC BW Printer Kit(H46002BB + H43272LC)	H46102LS
BW Printer Install Kit	H46002BB
BW Printer, UP-D898DC	H43272LC
Accessories	
WLAN-Bluetooth Combi Dongle	H46003BL
WLAN Module	H46003BM
USB FOOTSWITCH 3 BUTTON	H46732LF
TVTR Probe Holder	H43352LE
Small Probe Holder	H46302LB
PROBE CABLE HANGER	H44412LA
Upper Rear Storage Tray	H46002BT
Rear Basket	H46002BC
Rear Handle Cable Hook	H46002BA
Side Drawer	H46002BS
Ultrasound Probe Rack	E8363JF
Ethernet Protection Cable	H43272LJ
Powervar144k120v MG UPS	H4913UP
Powervar144k 230V MG UPS	H4921UP
UPS Document kit	H46512LJ
Ocean shipment packing material 2	H40252LY
Power Cords and Destination Sets Options	
DESTINATION SET UK	H46712LM
DESTINATION SET S AFRICA	H46712LN

[redacted]

[3] Probes and accessories may carry the CE-mark and when applicable, the Notified Body number corresponding to the EC Declaration under which the products are CE-marked by their manufacturer. GE Ultrasound Korea Ltd. has verified the mutual compatibility of the devices in combination with LOGIQ Totus and included relevant information to users with the LOGIQ Totus instructions for use.

End of Document



Lietuvos sveikatos mokslų universiteto ligoninei Kauno klinikoms

2025-01-27
Vilnius

PAŽYMA

1. Užtikriname galimybę įsigyti siūlomos prekės originalias (arba joms lygiavertes) atsargines dalis (jų tiekimą rinkai) 5 metus nuo prekės garantinio laikotarpio pabaigos, išskyrus atvejus, kai siūlomos prekės originalios (arba joms lygiavertės) atsarginės dalys dėl objektyvių priežasčių negali būti tiekiamos Lietuvos Respublikos rinkai.

[redacted]

TRADINTEK UAB
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UAB Tradintek
2025-04-14

VšĮ Lietuvos Sveikatos mokslų universiteto Kauno klinikoms,

Dėl konkurso „Medicininė įranga“ (pirkimo numeris 584147) pirkimo daliai Nr. 1 paaiškinimo

1. Reikalaujamas techninės specifikacijos 12.3 punktas “Sistemos atmintis: Maksimali vaizdo įrašų trukmė ≥ 300 sek.”

Dokumente „Techninis aprasas konfidencialu“ 5 puslapyje yra nurodoma GE HealthCare gamintojo siūloma Logiq Totus ultragarso sistema ir aprašomos jos vaizdų išsaugojimo galimybės. Maksimali vaizdų įrašymo trukmė CF režime (spalvinio doplerio vaizdavimo režime) yra 9224 sekundės. Šis skaičius ir yra maksimali vaizdo įrašymo trukmė. Pridedame pataisytus priedus: Techninis aprasas konfidencialu Revizija 2025-04-14 ir TECHNINĖ SPECIFIKACIJA Revizija 2025-04-14.

246	**Image Storage**	
247	On-board database of patient information from past exams	
248	Storage formats: DICOM	• Compressed/uncompressed • Single/multi-frame • Enhanced (3D/4D) • With/without raw data
249	Exportable DICOM viewer	
250	Export BMP, JPEG, JPEG 2000, PNG, AVI, MP4, WMV formats	
251	Storage devices:	• USB memory stick: 64 MB to 64 GB (for exporting individual images/clips) 12.2 • Hard drive image storage: ~760 GB
252	Compare previous exam images with current exam	
253	Reload of archived date sets	
254	B-mode image storage: 6781 sec maximum	
255	M-mode image storage: 6781 sec maximum	
256	Color-mode image storage: 9224 sec maximum 12.3	
257	3D/4D imaging: 142 volume per sec maximum	

[redacted]

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GE HealthCare

LOGIQ Totus R4.5.x HDU

Product Specification Sheet

Last updated on: 2024-08-27

1	**General Specifications**	
2	**Dimensions and Weight** **(Dimensions given with floating keyboard stowed and display tilted for transport)**	
3	Height	1460 – 1860 mm, 57.5 – 73.2"
4	Width	490 mm, 19.3" (Caster), 565 mm, 22.2" (Monitor)
5	Depth	835 mm (32.9")
6	Weight	73 kg (160.9 lbs)
7	**Electrical Power**	
8	Voltage: 100 – 240 Vac 14	
9	Frequency: 50/60 Hz	
10	Power consumption maximum of 0.9 kVA with peripherals	
11	**Console Design**	
12	4 active physical probe ports 1.2	
13	Wireless probe connection, capable of connecting Vscan Air wireless and linear probes	
14	Integrated SSD (1 TB) 12.1	
15	On-board storage of thermal printer	
16	Integrated speaker	
17	Integrated locking mechanism that provides rolling lock and caster swivel lock	
18	Integrated cable management	
19	Front and rear handles	
20	Easily removable air filters	
21	Windows 10 IoT Enterprise 2019 LTSC	
22	**User Interface**	
23	**Operator Keyboard**	
24	Full-sized, backlit alphanumeric keyboard	
25	Operating keyboard adjustable in height and rotation 4.1	
26	Ergonomic hard key layout	
27	Interactive back-lighting	
28	Integrated recording keys for remote control of up to 4 peripheral devices or DICOM® devices	
29	Integrated gel warmer 13.1	
30	**Touch Screen**	
31	14" High-resolution, color, touch, display screen 4.4	
32	Interactive dynamic software menu	
33	User-configurable layout	
34	Haptic function	
35	**Monitor**	
36	23.8" Wide screen high-resolution HDU display 3.2	
37	Display translation (independent of console)	
38	350 mm, (13.7 in) horizontal (both directions)	
39	150 mm, (5.9 in) vertical	
40	90° swivel (both directions)	
41	Fold-down and lock mechanism for transportation	
42	Resolution: 1920 X 1080 3.1	
43	Anti-glare	
44	Viewing angle 89/89/89/89°	
45	Contrast Ratio: >200,000:1	
46	**System Overview**	
47	**Applications**	
48	Abdominal 2.2	
49	Obstetrical	
50	Gynecological	

51	Breast
52	Small Parts 2.3
53	Peripheral Vascular 2.1
54	Transcranial (adult and neonatal)
55	Pediatric and neonatal
56	Musculoskeletal (general and superficial)
57	Urological
58	Cardiac (adult and pediatric)
59	Pleural
60	**Operating Modes**
61	B-Mode 5.1
62	M-Mode
63	Color Flow Mode (CFM) and Microvascular Imaging (MVI) 5.2
66	Power Doppler Imaging (PDI) 5.3
65	B-Flow (Option)
66	Extended Field of View (LOGIQView)
67	PW Doppler
68	CW Doppler (Option) 5.4
69	Volume Modes (3D/4D) (Option) 13.6
70	Anatomical M-Mode
71	Contrast Imaging (Option)
72	B-Steer+ (Option)
73	Strain elastography (Option)
74	Shear wave elastography (Option)
75	UGAP (Option) - Ultrasound Guided Attenuation Parameter Imaging
76	**Scanning Methods**
77	Electronic sector
78	Electronic convex
79	Electronic linear
80	Mechanical volume sweep
81	**Probe Types**
82	Sector/Phased array
83	Curved Linear array
84	Microcurved linear array
85	Linear array
86	Matrix array (Linear)
87	Volume probes (4D)
88	Split crystal
89	**System Standard Features**
90	Advanced user interface with high-resolution 14" display touch panel
91	Automatic optimization
92	CrossXBeam™ compounding
93	Speckle Reduction Imaging (SRI-HD, Advanced SRI Type 1)
94	Fine angle steer
95	Coded harmonic imaging 5.1
96	Virtual convex
97	Patient information database
98	Voice Control
99	Image archive on hard drive and removable USB
100	Advanced 3D
101	Real-time automatic Doppler calculations
102	OB calculations
103	Fetal trending
104	Multi gestational calculations
105	Hip dysplasia calculations
106	Gynecological calculations
107	Vascular calculations
108	Urological calculations
109	Renal calculations
110	Cardiac calculations
111	InSite™ capability
112	On-board electronic documentation
113	Auto Doppler Assist
114	Privacy and security, including user and rights management

115	LOGIQView	
116	External USB printer connection	
117	Network printer support	
118	HDMI output (available for compatible devices)	
119	App Launchpad	
120	**System Options**	
121	DICOM	
122	B-Flow 6.5	
123	Compare Assistant	
124	Auto IMT	
125	Scan Assistant	
126	Breast productivity package	
127	Thyroid productivity package	
128	OB measure assistant	
129	Quantificative Flow Analysis available with Color Flow/PDI	
130	Breast Measure Assistant	
131	B Steer+ (Option)	
132	Strain elastography 13.4	
133	Elastography Quantification	
134	Advanced privacy and security (vulnerability scan)	
135	Battery Pack	
136	Battery Pack extended	
137	Storage bins	
138	Shear wave Elastography	
139	Volume Navigation	
140	UGAP	
141	Hepatic Assistant	
142	Coded Contrast Imaging 13.5	
143	Stress echo	
144	Cardiac Strain (Automatic Function Imaging)	
145	On-board reporting	
146	TVI	
147	Wireless LAN 13.3	
148	CW	
149	DVR	
150	Tablet tools	
151	Breast Assistant, Powered by Koios DS™	
152	Thyroid Assistant, Powered by Koios DS™	
153	SonoNT SonoIT	
154	Advanced SRI Type 2	
155	RF Data Capture	
156	Auto Preset Assistant	
157	Auto Abdominal Color Assistant	
158	Raw Data Streaming	
159	**Peripheral Options**	
160	Integrated Digital B&W thermal Printer 13.2	
161	Digital color thermal printer	
162	Digital A6 color thermal printer	
163	Foot switch, with programmable functionality	
164	CRF-200U card reader support (Japan Only)	
165	USBee1000A barcode reader (for Japan)	
166	LOGIQ smart device apps	• Photo Assistant • Remote Control
167	Vscan Air™ On-System Charger	
168	**Display Modes**	
169	Live and stored display format	• Full size and split screen – both w/ thumbnails. For still and CINE
170	Review image format	• 4x4, and thumbnails. For still and CINE
171	Time line display	• Independent Dual B or CrossXBeam/PW Display • CW • Display formats top/bottom selectable format • Side/side selectable format
172	Virtual convex	
173	**Simultaneous capability**	
174	B or CrossXBeam/PW	

175	B or CrossXBeam/CW (Option)	
176	B or CrossXBeam/CFM or PDI	
177	B/M	
178	B/CrossXBeam	
179	B-Flow/PW	
180	Real-time Triplex Mode - B or CrossXBeam + CFM or PDI/PW 8.3	
181	**Selectable alternating modes**	
182	B or CrossXBeam/PW	
183	B or CrossXBeam + CFM (PDI)/PW	
184	B/CW (Option)	
185	**Multi-image (split/quad screen)**	
186	Live and/or frozen	
187	B or CrossXBeam + B or CrossXBeam/CFM or PDI or B-Flow (Option)	
188	PW/M	
189	Independent Cine playback	
190	**Display Annotation**	
191	Patient name: first, last and middle	
192	Patient ID	
193	Alternate patient ID	
194	Age, sex and date of birth	
195	Hospital name	
196	Date format: three types selectable	• MM/DD/YY • DD/MM/YY • YY/MM/DD
197	Time format: 2 types selectable	• 24 hours • 12 hours
198	Gestational age from	• LMP • GA • EDD • BBT
199	Probe name	
200	Map names	
201	Probe orientation	
202	Depth scale marker	
203	Lateral scale marker	
204	Focal zone markers	
205	Image depth	
206	Zoom depth	
207	B-Mode	• Gain • Dynamic range • Imaging frequency • Frame averaging • Gray map • SRI
208	M-Mode	• Gain • Dynamic range • Time scale
209	Doppler Mode	• Gain • Angle • Sample volume depth and width • Wall filter • Velocity and/or frequency scale • Spectrum inversion • Time scale • PRF • Doppler frequency

210	Color Flow Doppler Mode	• Line density • Frame averaging • Color scale, 3 types: Power, directional PDI and symmetrical velocity imaging • Color velocity range and baseline • Color threshold marker • Color gain • PDI • Spectrum inversion • Doppler frequency
211	Digital TGC with 8 independent controls 4.3	
212	Acoustic frame rate	
213	CINE gauge, image number/frame number	
214	Body pattern: multiple human and animal types	
215	Application name	
216	Measurement results	
217	Operator message	
218	Displayed acoustic output	• TIS: Thermal Index Soft Tissue • TIC: Thermal Index Cranial (Bone) • TIB: Thermal Index Bone • MI: Mechanical Index
219	% of maximum power output	
220	Biopsy guide line and zone	
221	Heart rate	
222	**General System Parameters**	
223	**System Setup**	
224	Pre-programmable categories	
225	User programmable preset capability	
226	Factory default preset data	
227	Languages: English, French, German, Spanish, Italian, Portuguese, Russian, Greek, Swedish, Danish, Dutch, Finnish, Norwegian	
228	OB Report Formats including Tokyo Univ., Osaka Univ., USA, Europe and ASUM and WHO	
229	User defined annotations	
230	Body patterns	
231	Customized comment home position	
232	EZ Imaging: Simplified user interface for high volume workflow	
233	**Complete user manual available on board through Help (F1)**	
234	User manual and service manual are included in USB stick with each system. A printed manual is available upon request.	
235	**CINE Memory/Image Memory**	
236	1 GB of CINE memory	
237	Selectable CINE sequence for CINE review	
238	Prospective CINE mark	
239	Measurements/calculations and annotations on CINE playback	
240	Scrolling timeline memory	
241	Dual Image CINE display	
242	Quad Image CINE display	
243	CINE gauge and CINE image number display	
244	CINE review loop	
245	CINE review speed	
246	**Image Storage**	
247	On-board database of patient information from past exams	
248	Storage formats: DICOM	• Compressed/uncompressed • Single/multi-frame • Enhanced (3D/4D) • With/without raw data
249	Exportable DICOM viewer	
250	Export BMP, JPEG, JPEG 2000, PNG, AVI, MP4, WMV formats	
251	Storage devices:	• USB memory stick: 64 MB to 64 GB 12.2 (for exporting individual images/clips) • Hard drive image storage: ~760 GB
252	Compare previous exam images with current exam	
253	Reload of archived date sets	
254	B-mode image storage: 6781 sec maximum	
255	M-mode image storage: 6781 sec maximum	
256	Color-mode image storage: 9224 sec maximum 12.3	
257	3D/4D imaging: 142 volume per sec maximum	

258	**Connectivity**	
259	Ethernet network connection	
260	Wireless LAN 802.11ac/a/b/g/n (Option)	
261	DICOM 3.0	• Verify • Print 11.2 • Store 11.1 • Modality worklist 11.3 • Storage commitment • Modality performed procedure step (MPPS) • Media exchange 11.4 • Off network/mobile storage queue • Query/retrieve
262	Public SR template	
263	Structured Reporting – compatible with vascular and OB, cardiac and breast standard	
264	InSite capability	
265	Advanced privacy and security (Option)	
266	**Physiological input panel (Option)**	
267	Physiological input	• ECG, 1 channel • Dual R-Trigger • Pre-settable ECG R delay time • Pre-settable ECG position • Adjustable ECG gain control
268	Automatic heart rate display	
269	**Report writer (Option)**	
270	On-board reporting package automates report writing	
271	Formats various exam results into a report suitable for printing or reviewing on a standard PC	
272	Exam results include patient info, exam info, measurements, calculations, images, and comments Standard templates provided	
273	Customizable templates	
274	**Scanning Parameters** 1.1	
275	cSound™ Imageformer: Infinite number of effective channels 1.3	
276	Maximum Frame Rate: 2,468 Hz maximum 6.2	
277	Displayed imaging depth: 0 – 100 cm	
278	Minimum depth of field: 0 – 2 cm (zoom) (probe dependent)	
279	Maximum depth of field: 0 – 100 cm (probe dependent) 6.1	
280	Continuous dynamic receive focus	
281	Continuous dynamic receive aperture	
282	Adjustable dynamic range, infinite upper level 1.5	
283	Composite dynamic range	
284	Adjustable field of view (FOV)	
285	System Frequency Range: 0.7-24 MHz, Unrelated with probe bandwidth, only pure system bandwidth is ranging in 1 - 25 MHz	
286	Image reverse: right/left	
287	Image rotation of 0°, 90°, 180°, 270°	
288	PW PRF: 0.4-35.5 KHz 8.2	
289	Doppler Velocity: 2,870 cm/s maximum	
290	8 bits stored per color	
291	256 shades of gray	
292	256 color tones	
293	M-Mode simultaneous: 1958 Hz maximum	
294	Color Doppler Frame Rate: 640 Hz Maximum	
295	B Flow Frame Rate: 1033Hz Maximum	
296	CW PRF: 57.5 KHz Maximum	
297	**Digital B-Mode**	

298	Adjustable	• Acoustic power: 2-100% • Gain: 0-90 dB, 1 dB/step 6.3 • Dynamic range: 36 - 96 dB / 16 steps • Frame averaging: 8 steps • Gray scale map: 11 types • Frequency: up to 7 selectable depending on the probe • Speed of sound (application dependent) • Framerate: 2,468 Hz (Max) • Scanning size (FOV or Angle) – Depending on the probe, see probe specifications • CrossXBeam: up to 9 angles selectable • B colorization • Rejection: 6 steps • Suppression: 6 steps • SRI: up to 6 selections
299	**Digital M-Mode**	
300	Adjustable	• Acoustic power: 20-100% • Gain: -60 - 30 dB • Dynamic range • Gray scale map: 9 types • Frequency • Sweep speed: 0-7, 8 steps • M colorization: 9 types • M display format: 6 types • Rejection: 6 steps
301	**Anatomical M-Mode**	
302	M-mode cursor adjustable at any plane	
303	Can be activated from a CINE loop from a live or stored image	
304	M & A capability	
305	Available with Color Flow Mode	
306	**Digital Spectral Doppler Mode**	
307	Adjustable	• Acoustic power: 1-100% • Gain: 0 - 85 dB, 1 dB/ step 8.1 • Dynamic range: • Gray scale map: 8 types • Transmit frequency: up to 8 selectable depending on the probe • Wall filter: 5.5 - 5000 Hz/ 27 steps • PW colorization: 6 types • Velocity scale range: 10 - 558 cm/s/ 24 steps • Sweep speed: 0 - 7 / 8 steps • Sample volume length: 0.5 - 20 mm depending on the probe 8.4 • Angle correction: -90 to 90 degrees, 1 degree/ step 8.5 • Steered linear: -20 - 20/ 7 steps • Spectrum inversion: on/off • Trace method: 3 steps • Baseline shift: 5-95 %/ 11 steps • Doppler auto trace: 3 steps • Time resolution • Compression: 0.5 - 2.4 dB / 9 steps • Trace direction: 3 steps • Trace sensitivity: 21 steps • Max frame rate in Duplex: 1050 Hz • PRFs: 35.5 kHz
308	**Digital Color Flow Mode**	

309	Adjustable	• Acoustic power: 5-100% • Color maps, including velocity-variance maps: 23 types depending on the probe and preset • Gain: -20 to 30 dB / 101 steps 7.1 • Velocity scale range: 2 - 150 cm/s/ 21 steps depending on the probe and preset • Wall filter: 0 - 3 / 4 steps • Packet size: 5, 6, 7, 8, 10, 12, 14, 16, 20, 24 / 10 steps • Line density: 5 steps • Spatial filter: 6 steps • Steering angle: -20, -15, -10, 0, 10, 15, 20 degree • Baseline shift: 0 - 100 % / 11 steps • Frame average: 0 - 10 / 11 steps • Threshold: 0 - 100 % / 11 steps • Max. Frame Rate: 640 Hz • Max Frame Rate in Triplex: 139 Hz • PRFs: 17.9 kHz 7.3 • Auto ROI placement and steering on linear • Accumulation mode: 8 steps • Flash suppression: 5 steps • Shortcuts
310	**Digital Power Doppler Imaging**	
311	Adjustable	• Acoustic power: 5-100% • Color maps: 17 types • Gain: -20 to 30 dB / 101 steps • Velocity scale range: 2 - 150 cm/s/ 21 steps • Wall filter: 0 - 3 / 4 steps • Packet size: 5, 6, 7, 8, 10, 12, 14, 16, 20, 24 / 10 steps depending on the probe and preset • Max. Frame Rate: 640Hz • PRFs: 17.9 kHz • Line density: 5 steps • Spatial filter: 6 steps • Steering angle: -20, -15, -10, 0, 10, 15, 20 degree • Frame average: 0 - 10 / 11 steps • Threshold: 0 - 100 % / 11 steps • Accumulation mode: 8 steps • Flash suppression: 5 steps • Shortcuts
312	**Continuous Wave Doppler (Option)**	
313	Available on M5Sc-D, 6S-D, P2D, P6D and 12S-D probes	
314	Steerable CW mode included	
315	Adjustable	• Acoustic power: 1-100% • Gain: 0-85dB, 1dB/step • Dynamic range • Gray scale map: 8 types • Transmit frequency up to 3 selectable depending on the probe • Wall filter: 5.5-5000 Hz/ 27 steps, depending on the probe • CW colorization: 6 types • Velocity scale range: 10-558 cm/s/ 24 steps, depending on the probe • Max velocity: 2120 cm/s • PRFs: 17.9 kHz • Sweep speed: 8 steps • Angle correction: ± 90 degrees, 1 degree / step • Spectrum inversion: On/Off • Trace method • Baseline shift: 5-95%/ 11 steps • Doppler auto trace • Compression: 0.5-2.4 dB/ 9 steps • Trace direction: 3 steps • Trace sensitivity: 21 steps
316	**Automatic Optimization**	
317	Optimize B-Mode image to help improve contrast resolution with one button press 6.4	
318	Selectable amount of contrast resolution improvement (low, medium, high)	
319	CTO (Continuous Tissue Optimization) – continuously adjusts B-Mode axial and lateral gain uniformity and overall gain level suppressing the noise 6.4	
320	Auto-spectral optimize – adjusts baseline, invert, PRF (on live image), and angle correction with one button press 8.6	

321	Auto CF and PW positioning – adjusts ROI position, sample volume position and steering with one button press	
322	**Coded Harmonic Imaging**	
323	Available on all 2D and 4D probes 5.1	
324	**B-Flow (Option)**	
325	Available on the following probes: C1-6-D, C1-6VN-D, C2-7-D, C2-7VN-D, C3-10-D, IC5-9-D, L3-12-D, M5Sc-D, ML6-15-D, RAB6-D, RIC5-9-D, 9L-D	
326	Background: 4 steps	
327	Sensitivity/PRI: 1-40/ 19 steps	
328	Acoustic power	
329	Frequency: up to 5 selectable	
330	Line density: 5 steps	
331	Frame average: 7 steps	
332	Gray scale map: 9 types	
333	Tint map: 9 types	
334	Dynamic range: 36-96 dB/ 16 steps	
335	Rejection: 5 steps	
336	Gain: 0-90 dB, 1 dB/ step	
337	Suppression	
338	SRI: 0-4/ 5 steps	
339	Accumulation: 8 steps	
340	Visualization	
341	**Radiant*flow*™**	
342	Easy, fast visualization of tiny vessels, displaying as a 3D effect	
343	Available in Color Doppler, Power Doppler and MVI	
344	**B Steer+ (Option)**	
345	Available on the following probes: C1-6-D, L3-12-D, ML6-15-D, L6-24-D and 9L-D	
346	**Coded contrast imaging (Option)**	
347	2 contrast timers	
348	Timed updates: 0.05 – 10 seconds	
349	Accumulation mode, seven levels	
350	Maximum enhance mode	
351	Flash	
352	Time intensity curve (TIC) analysis	
353	Parametric imaging	
354	Ability to save still image during clip acquisition	
355	The LOGIQ Totus is designed for compatibility with most commercially available ultrasound contrast agents. Because the availability of these agents is subject to government regulation and approval, product features intended for use with these agents may not be commercially marketed nor made available before the contrast agent is cleared for use. Contrast related product features are enabled only on systems for delivery to an authorized country or region of use.	
356	**LOGIQView**	
357	Extended field of view Imaging	
358	Up to 160 cm (63") scan length 9	
359	Available on all 2D imaging probes	
360	For use in B-Mode	
361	CrossXBeam is available on linear probes	
362	Auto detection of scan direction	
363	Pre-or post-process zoom	
364	Rotation	
365	Auto best fit on monitor	
366	Measurements in B-Mode	
367	**3D**	
368	Allows unlimited rotation and planar translation	
369	3D reconstruction from CINE sweep	
370	Easy 3D available on all probes	
371	**Advanced 3D**	
372	Acquisition of color data	
373	Automatic rendering	
374	3D landscape technology	
375	3D movie	
376	**Real-time 4D (Option)**	
377	Acquisition modes	• Real Time 4D • Spatio-Temporal Image Correlation (Option) • Static 3D

378	Visualization modes	• 3D rendering (diverse surface and intensity projection modes) • Sectional planes (3 section planes perpendicular to each other) • Omniview • Volume contrast imaging – Static • Volume contrast imaging – Omniview • Tomographic ultrasound imaging • Volume Analyses – VOCAL: semi-auto/manual segmentation tool (segmentation using touch screen), – 3D Static only – Threshold Volume: measure volume below and above a threshold
379	Render mode	• Surface texture, surface smooth, max-, min- and X-ray (average intensity projection), mix mode of two render modes • HD*live* ™
380	SonoRender*live*	
381	Curved 3 point Render start	
382	3D Movie	
383	Scalpel: 3D cut tool	
384	Display format:	• Quad: A-/B-/C-Plane/3D • Dual: A-Plane/3D • Single: 3D or A- or B- or C-Plane
385	Automated Volume Calculation – VOCAL II	
386	Betaview	
387	Maximum Volume Rate (3D/4D): 142 volume per sec maximum	
388	**Volume navigation (Option)**	
389	Available on the following probes: C1-6VN-D, C2-7VN-D, C3-10-D, ML6-15-D, IC5-9-D, M5Sc-D, 9L-D	
390	Sensor-based acquisition	
391	Position markers	
392	Needle tip tracking	
393	Virtual tracking	
394	Auto image registration	
395	Tru3D feature includes	
396	Render modes: gray surface, texture, min-, max-, average-intensity	
397	Measurements: distance, angle, area, volume	
398	3D Movie	
399	**Scan assistant (Option)**	
400	Factory programs	
401	User-defined programs	
402	Steps include image annotations, mode transitions, basic imaging controls and measurement initiation	
403	**Compare Assistant (Option)**	
404	Allows side-by-side comparison of previous ultrasound and other modality exams during live scanning	
405	**Breast productivity package**	
406	Auto measurement	
407	Worksheet summary includes measurements and locations for lesions and lymph nodes	
408	Feature assessment	
409	BI-RADS™ assessment	
410	User editable	
411	**Thyroid productivity package (Option)**	
412	Auto measurement	
413	Worksheet summary includes measurements and locations for nodule, parathyroid and lymph nodes	
414	Feature assessment	
415	TI-RADS™ assessment	
416	User editable	
417	**Start Assistant**	
418	Automatically select category, probe, preset, or scan assistant from worklist exam description	
419	Learn the category, probe, preset, and scan assistant based on exam description	
420	**Shear Wave Elastography (Option)**	
421	Available on the following probes: C1-6-D, C1-6VN-D, IC5-9-D, L3-12D, ML6-15-D, L6-24-D and 9L-D	
422	User programmable measurement display in kPa and meters per second • Measurement range in m/s (Min. – Max.): 0 – 15 m/s • Measurement range in kPa (Min. – Max.): 0 – 675 kPa	
423	Single and dual view display	
424	Applications: Abdominal, Breast, Musculoskeletal, Small Parts, Prostate	

425	**Strain elastography (Option)**	
426	Relative analysis tool • E index: 9 maximum • E ratio: 8 maximum	
427	Applications: Abdominal, Breast, Musculoskeletal, Small Parts, Prostate, Thyroid	
428	**UGAP (Option)**	
429	Available on the following probes: C1-6-D, C1-6VN-D	
430	Measures liver attenuation* (attenuation coefficient [dB/cm/MHz]) by auto measure algorithm with reference B-mode • 0.1 db/cm/MHz to 2.0 db/cm/MHz	
431	Simple and 2D color map (attenuation color map and Measurement Position Indicator Map)	
432	**Quantitative flow analysis (Option)**	
433	Available in color and power Doppler	
434	**TVI (Option)**	
435	Available on the following probes: M5Sc-D, 6S-D, 12S-D probes	
436	Myocardial Doppler imaging with color overlay on tissue image	
437	Tissue color overlay can be removed to show just the 2D image, still retaining the tissue velocity information	
438	Curved anatomical M-Mode: free (curved) drawing of M-Mode generated from the cursor independent from the axial plane	
439	Q-Analysis: multiple time-motion trace display from selected points in the myocardium	
440	**Stress echo (Option)**	
441	Advanced and flexible stress echo examination capabilities	
442	Provides exercise and pharmacological protocol templates	
443	6 default templates	
444	Template editor for user configuration of existing templates or creation of new templates	
445	Reference scan display during acquisition for stress level comparison (dual screen)	
446	Baseline level/previous level selectable	
447	Raw data continuous capture	
448	Over 100 sec. available	
449	Wall motion scoring (bulls-eye and segmental)	
450	Smart stress: Automatically set up various scanning parameters (e.g. geometry, frequency, gain) according to same projection on previous level	
451	**Auto EF (Option)**	
452	Allows semi-automatic measurement of the global EF (Ejection Fraction)	
453	User editable	
454	**Cardiac AFI (Option)**	
455	Allows assessment of the complete left ventricle with all segments at a glance by combining three longitudinal views into one comprehensive bulls-eye view	
456	2D strain based data moves into clinical practice	
457	**App Launchpad**	
458	The App Launchpad is a tab available on the Utilities+ screen – when selected, various applications (“Apps”) can be launched. This is hidden if no apps are installed.	
459	Only validated and released Apps are supported	
460	3rd-party Apps can be purchased through an AppStore on a GE Healthcare (GEHC) website	
461	Consult with a GE Healthcare (GEHC) representative for more details	
462	**Raw Data Streaming (Option)**	
463	Provides streaming of raw data out to 3rd-party devices designed to process this data	
464	**Virtual Convex**	
465	Provides a convex field of view	
466	Compatible with CrossXBeam	
467	Available on all linear and sector probes	
468	**SRI-HD and Advanced SRI**	
469	Speckle reduction imaging	
470	Provides multiple levels of speckle reduction	
471	Compatible with side-by-side DualView display	
472	Advanced SRI: two types selectable	• Type 1 – Compatible with all linear, convex and sector probes • Type 2 (Option) – Compatible with OB/GYN application
473	**CrossXBeam**	
474	Provides variable angle spatial compounding	
475	Live side-by-side DualView display	
476	Compatible with	• Color mode • PW • SRI • Coded harmonic imaging • Virtual convex
477	Available on all curved and linear probes	

478	**Controls available while “live”**	
479	Magnification Zoom: Magnifies the entire image on the screen without zoom ROI, 20x maximum zoom factor	
480	Pan Zoom: Magnifies the display of the data within the ROI	
481	HD Zoom: Magnifies the image within the zoom ROI, with higher spatial resolution than original images	
482	B/M/CrossXBeam-Mode	• Gain • TGC • Dynamic range • Acoustic output • Framerate control • Sweep speed for M-Mode • CrossXBeam angle
483	PW-Mode	• Gain • Dynamic range • Acoustic output • Transmission frequency • PRF • Wall filter • Spectral averaging • Sample volume gate: length, depth • Velocity scale
484	Color Flow-Mode	• CFM gain • CFM velocity range • Acoustic output • Wall echo filter • Packet size • Frame rate control • CFM spatial filter • CFM frame averaging • CFM line resolution • Frequency/velocity baseline shift
485	**Controls available on “freeze” or recall**	
486	Automatic optimization	
487	SRI	
488	CrossXBeam – display non-compounded and compounded image simultaneously in split screen	
489	3D reconstruction from a stored CINE loop	
490	B/M/CrossXBeam-Mode	• Gray map optimization • TGC • Colorized B and M • Frame average (loops only) • Dynamic range
491	Anatomical M-Mode	
492	Magnification zoom	
493	Pan zoom	
494	Maximum read zoom to 8x	
495	Baseline shift	
496	Sweep speed	
497	PW mode	• Gray map • Post gain • Baseline shift • Sweep speed • Invert spectral wave form • Compression • Rejection • Colorized spectrum • Display format • Doppler audio • Angle correct • Quick angle correct • Auto angle correct
498	Color flow	• Overall gain (loops and stills) • Color map • Transparency map • Frame averaging (loops only) • Flash suppression • CFM display threshold • Spectral invert for color/Doppler

499	Anatomical M-Mode on cine loop	
500	4D	• Gray map, colorize • Post gain • Change display – single, dual, quad sectional or rendered
501	**Measurements/Calculations**	
502	**General B-Mode**	
503	Depth and distance	
504	Circumference (ellipse/trace)	
505	Area (ellipse/trace)	
506	Volume (ellipsoid)	
507	% Stenosis (area or diameter)	
508	Angle between two lines	
509	Dual B-mode capability	
510	**General M-Mode**	
511	M-Depth	
512	Distance	
513	Time	
514	Slope	
515	Heart rate	
516	**General Doppler measurements/calculations**	
517	Velocity	
518	Time	
519	A/B ratio (velocities/frequency ratio)	
520	PS (Peak Systole)	
521	ED (End Diastole)	
522	PS/ED (PS/ED Ratio)	
523	ED/PS (ED/PS Ratio)	
524	AT (Acceleration Time)	
525	ACCEL (Acceleration)	
526	TAMAX (Time Averaged Maximum Velocity)	
527	Volume flow (TAMEAN and vessel area)	
528	Heart rate	
529	PI (Pulsatility Index)	
530	RI (Resistivity Index)	
531	**Real-time Doppler Auto Measurements/Calculations**	
532	PS (Peak Systole)	
533	ED (End Diastole)	
534	MD (Minimum Diastole)	
535	PI (Pulsatility Index)	
536	RI (Resistivity Index)	
537	AT (Acceleration Time)	
538	ACC (Acceleration)	
539	PS/ED (PS/ED Ratio)	
540	ED/PS (ED/PS Ratio)	
541	HR (Heart Rate)	
542	TAMAX (Time Averaged Maximum velocity)	
543	PVAL (Peak Velocity value)	
544	Volume flow (TAMEAN and vessel area)	
545	**Abdominal measurements/calculations**	
546	Shear Elasto velocity	
547	Shear Elasto stiffness	
548	Attenuation rate	
549	Attenuation coefficient	
550	Summary reports	
551	**Small Parts measurements/calculations**	
552	Breast Lesion	
553	Thyroid	
554	Parathyroid	
555	Lymph Node	
556	Nodule	
557	Isthmus AP	
558	Shear Elasto velocity	
559	Shear Elasto stiffness	
560	Summary reports	

561	**OB measurements/calculations**	
562	Gestational age by	• GS (Gestational Sac) • CRL (Crown Rump Length) • FL (Femur Length) • BPD (Biparietal Diameter) • AC (Abdominal Circumference) • HC (Head Circumference) • APTD x TTD (Anterior/Posterior Trunk Diameter by Transverse Trunk Diameter) • FTA (Fetal Trunk Cross-sectional Area) • HL (Humerus Length) • BD (Binocular Distance) • FT (Foot Length) • OFD (Occipital Frontal Diameter) • TAD (Transverse Abdominal Diameter) • TCD (Transverse Cerebellum Diameter) • THD (Thorax Transverse Diameter) • TIB (Tibia Length) • ULNA (Ulna Length) • OOD (Outer Orbital Diameter) • IOD (Inner Orbital Diameter) • FIB (Fibula length) • Radius (Radius length) • LV (Lateral Ventricle width) (= SL)
563	Estimated Fetal Weight (EFW) by:	• AC, BPD • AC, BPD, FL • AC, BPD, FL, HC • AC, FL • AC, FL, HC • AC, HC • BPD, APTD, TTD, FL • BPD, APTD, TTD, SL
564	Fetal graphical trending	
565	Growth percentiles	
566	Multi-gestational calculations (4)	
567	Fetal qualitative description (anatomical survey)	
568	Fetal environmental description (biophysical profile)	
569	Programmable OB tables	
570	Over 20 selectable OB calculations	
571	Expanded worksheets	
572	Summary Reports	
573	**OB Calculations and ratios**	
574	FL/BPD	
575	FL/AC	
576	FL/HC	
577	HC/AC	
578	CI (Cephalic Index)	
579	AFI (Amniotic Fluid Index)	
580	CTAR (Cardio-Thoracic Area Ratio)	
581	Measurements/calculations by: Alexander, ASUM, ASUM 2001, Bahlmann, Baschat, Berkowitz, Bertagnoli, Brenner, Campbell, CFEF, Chervenak, Chitty, Doubilet, Ebing, Eik-Nes Goldstein, Hadlock, Hansmann, Hellman, Hill, Hohler, Jeanty, JSUM, Kramer, Kurmanavicius, Kurtz, Mari, Mayden, Mercer, Merz, Moore, Nelson, Osaka University, Paris, Pexsters, Rempen, Robinson, Shepard, Shepard/Warsoff, Sonek, Tokyo University, Tokyo/Shinozuka, WHO, Williams, Yarkoni	
582	**OB measure assistant**	
583	Allows automatic measurement of BPD, HC, FL and AC	
584	User editable	
585	**SonoNT and SonoIT**	
586	SonoNT measures the contour detection of the NT border	
587	SonoIT is a system supported measurement for Intracranial Translucency	
588	**GYN measurements/calculations**	
589	Right ovary length, width, height	
590	Left ovary length, width, height	
591	Uterus length, width, height	
592	Cervix length, trace	
593	Ovarian volume	

594	ENDO (Endometrial thickness)	
595	Ovarian RI	
596	Uterine RI	
597	Follicular measurements	
598	Fibroid measurements	
599	Qualitative description (anatomical survey)	
600	Mean Uterine Artery (Gomez) Doppler Measurement	
601	Summary reports	
602	**Vascular measurements/calculations**	
603	SYS DCCA (Systolic Distal Common Carotid Artery)	
604	DIAS DCCA (Diastolic Distal Common Carotid Artery)	
605	SYS MCCA (Systolic Mid Common Carotid Artery)	
606	DIAS MCCA (Diastolic Mid Common Carotid Artery)	
607	SYS PCCA (Systolic Proximal Common Carotid Artery)	
608	DIAS PCCA (Diastolic Proximal Common Carotid Artery)	
609	SYS DICA (Systolic Distal Internal Carotid Artery)	
610	DIAS DICA (Systolic Distal Internal Carotid Artery)	
611	SYS MICA (Systolic Mid Internal Carotid Artery)	
612	DIAS MICA (Diastolic Mid Internal Carotid Artery)	
613	SYS PICA (Systolic Proximal Internal Carotid Artery)	
614	DIAS PICA (Diastolic Proximal Internal Carotid Artery)	
615	SYS DECA (Systolic Distal External Carotid Artery)	
616	DIAS DECA (Diastolic Distal External Carotid Artery)	
617	SYS PECA (Systolic Proximal External Carotid Artery)	
618	DIAS PECA (Diastolic Proximal External Carotid Artery)	
619	VERT (Systolic Vertebral Velocity)	
620	SUBCLAV (Systolic Subclavian Velocity)	
621	Auto IMT (Option)	
622	Summary reports	
623	**Urological measurements/calculations**	
624	Bladder volume	
625	Prostate volume	
626	Left/right renal volume	
627	Generic volume	
628	Post-void bladder volume	
629	Pelvic floor measurements	
630	Summary reports	
631	**TCD measurements/calculations**	
632	MCA, ACA, PCA, ICA	
633	AComA, PCom A	
634	Vert	
635	Basilar	
636	MCA/ICA Ratio	
637	Summary reports	
638	**Pediatric and Neonatal measurements/calculations**	
639	Hip angle	
640	Hip orientation	
641	Summary reports	
642	**Probes (All Options)**	
643	**6S-D, sector probe**	
644	Applications	Pediatric cardiac, pediatric abdomen
645	Bandwidth	2.0 – 8.0 MHz
646	Number of elements	96
647	Field of view (max.)	115°
648	Physical foot print	15 x 9 mm
649	B-Mode frequency	4.0, 4.2, 5.0, 5.5, 6.5 MHz
650	Harmonic frequency	4.7, 4.9, 5.3, 5.7, 6.1, 6.3 MHz
651	PW Doppler frequency	2.8, 3.1, 3.6, 4.2 MHz
652	Color Doppler frequency	2.7, 3.1, 4.2, 5.0 MHz
653	**12S-D, sector probe**	
654	Applications	Pediatrics, pediatric cardiac, neonatal cardiac
655	Bandwidth	4.0 – 12.0 MHz
656	Number of elements	96
657	Field of view (max.)	90°
658	Physical foot print	9.3 x 5.5 mm

659	B-Mode frequency	6.0, 7.0, 8.0, 9.0 MHz
660	Harmonic frequency	6.0, 7.0, 8.0, 9.0 MHz
661	PW Doppler frequency	5.0, 6.3, 8.3 MHz
662	Color Doppler frequency	4.9, 5.4, 6.3, 7.3 MHz
663	**C1-6-D, XDclear convex probe** 10.1.2	
664	Applications	Abdomen, OB/GYN, pediatric, peripheral vascular, general musculoskeletal
665	Biopsy guide	Multi-angle, disposable with a reusable bracket (H4917VB)
666	Bandwidth 1.4	1.0 – 6.0 MHz 10.1.1
667	Number of elements	192 10.1.4
668	Field of view (max.)	80° 10.1.3
669	Physical foot print	67 x 11 mm
670	B-Mode frequency	2.0, 2.5, 3.0, 4.0 MHz
671	Harmonic frequency	1.5, 2.5, 3.0, 4.5, 6.0, 6.5 MHz
672	PW Doppler frequency	1.7, 2.1, 2.5, 3.6 MHz
673	Color Doppler frequency	1.8, 2.1, 2.5, 2.8, 3.0 MHz
674	**C1-6VN-D, VNav inside XDclear convex probe**	
675	VNav sensor inside probe for Volume Navigation tracking without sensor cables	
676	Applications	Abdomen, OB/GYN, pediatric, peripheral vascular, general musculoskeletal
677	Biopsy guide	Multi-angle, disposable with a reusable bracket (H4917VB)
678	Bandwidth	1.0 – 6.0 MHz
679	Number of elements	192
680	Field of view (max.)	80°
681	Physical foot print	67 x 11 mm
682	B-Mode frequency	2.0, 2.5, 3.0, 4.0 MHz
683	Harmonic frequency	1.5, 2.5, 3.0, 4.5, 6.0, 6.5 MHz
684	PW Doppler frequency	1.7, 2.1, 2.5, 3.6 MHz
685	Color Doppler frequency	1.8, 2.1, 2.5, 2.8, 3.0 MHz
686	**C2-7-D, micro convex biopsy probe**	
687	Applications	Abdomen, pediatric
688	Biopsy guide	Multi-angle, disposable with a reusable bracket (H40482LK), Multi-Angle, reusable stainless bracket (H40482LL)
689	Bandwidth	1.0 – 6.0 MHz
690	Number of elements	144
691	Field of view (max.)	110°
692	Physical foot print	31 x 10 mm
693	B-Mode frequency	2.5, 4.0, 6.0 MHz
694	Harmonic frequency	3.0, 4.0, 5.0, 6.0 MHz
695	PW Doppler frequency	1.8, 2.1, 2.5, 3.1 MHz
696	Color Doppler frequency	2.1, 2.4, 3.1, 3.7 MHz
697	**C2-7VN-D, VNav inside micro convex biopsy probe**	
698	VNav sensor inside probe for Volume Navigation tracking without sensor cables	
699	Applications	Abdomen, pediatric
700	Biopsy guide	Multi-angle, disposable with a reusable bracket (H40482LK), Multi-Angle, reusable stainless bracket (H40482LL)
701	Bandwidth	1.0 – 6.0 MHz
702	Number of elements	144
703	Field of view (max.)	110°
704	Physical foot print	31 x 10 mm
705	B-Mode frequency	2.5, 4.0, 6.0 MHz
706	Harmonic frequency	3.0, 4.0, 5.0, 6.0 MHz
707	PW Doppler frequency	1.8, 2.1, 2.5, 3.1 MHz
708	Color Doppler frequency	2.1, 2.4, 3.1, 3.7 MHz
709	**C3-10-D, XDclear micro convex probe**	
710	Applications	Abdomen, neonatal, pediatric, peripheral vascular, neonatal transcranial, small parts
711	Bandwidth	2.0 – 11.0 MHz
712	Number of elements	192
713	Field of view (max.)	95°
714	Physical foot print	26 x 5 mm
715	B-Mode frequency	4.0, 6.0, 8.0 MHz
716	Harmonic frequency	6.0, 8.0, 10.0 MHz
717	PW Doppler frequency	3.1, 4.2, 6.3, 7.1 MHz
718	Color Doppler frequency	3.9, 5.3, 6.6 MHz
719	**IC5-9-D, micro convex probe**	
720	Applications	OB/GYN, urology

721	Biopsy guide	Single angle, disposable with a disposable bracket (E8385MJ) or reusable bracket (H40412LN)
722	Bandwidth	3.0 – 10.0 MHz
723	Number of elements	192
724	Field of view (max.)	179°
725	Physical foot print	26 x 6 mm
726	B-Mode frequency	3.9, 4.5, 5.0, 5.5, 6.0, 7.0, 8.0 MHz
727	Harmonic frequency	5.0, 7.0, 9.0 MHz
728	PW Doppler frequency	3.6, 4.2, 5.0 MHz
729	Color Doppler frequency	4.6, 5.9, 6.7 MHz
730	**9L-D, linear probe**	
731	Applications	Peripheral vascular, small parts, general musculoskeletal, superficial musculoskeletal, pediatric, abdomen, OB/GYN, neonatal, neonatal transcranial
732	Biopsy guide	Multi-angle, disposable with a reusable bracket (H4906BK)
733	Bandwidth	2.0 – 8.0 MHz
734	Number of elements	192
735	Field of view (max.)	44 mm
736	Physical foot print	44 x 6 mm
737	B-Mode frequency	4.0, 4.5, 5.0, 6.0, 7.0 MHz
738	Harmonic frequency	5.0, 6.0, 7.0, 8.0, 9.0, 9.4 MHz
739	PW Doppler frequency	3.6, 4.2, 5.0, 5.6, 6.3 MHz
740	Color Doppler frequency	3.5, 4.5, 5.1, 5.8 MHz
741	**L3-12-D, linear probe**	
742	Applications	General musculoskeletal, superficial musculoskeletal, small parts, vascular, neonatal, neonatal transcranial, pediatrics, abdomen, OB
743	Biopsy guide	Multi-angle, disposable with a reusable bracket (H48302AA)
744	Bandwidth	3.0 – 11.0 MHz
745	Number of elements	256
746	Field of view (max.)	51 mm
747	Physical foot print	51 x 4 mm
748	B-Mode frequency	6.0, 8.0, 10.0, 12.0 MHz
749	Harmonic frequency	4.0, 6.0, 8.0, 10.0, 12.0 MHz
750	PW Doppler frequency	4.2, 5.0, 6.3, 8.3 MHz
751	Color Doppler frequency	4.3, 4.9, 5.4, 6.1, 7.2, 8.0 MHz
752	**L6-24-D, linear probe**	
753	Applications	General musculoskeletal, superficial musculoskeletal, small parts, neonatal abdomen, neonatal transcranial
754	Bandwidth	6.0 – 20.0 MHz
755	Number of elements	192
756	Field of view (max.)	26 mm
757	Physical foot print	32 x 8 mm
758	B-Mode frequency	12.0, 16.0, 21.0 MHz
759	Harmonic frequency	12.0, 18.0, 20.0, 24.0 MHz 1.4
760	PW Doppler frequency	8.3, 10.0, 12.5 MHz
761	Color Doppler frequency	9.2, 11.2, 12.2 MHz
762	**M5Sc-D, XDclear sector probe**	
763	Applications	Adult cardiac, pediatric cardiac, adult cephalic, abdominal
764	Biopsy guide	Multi-angle, disposable with a reusable bracket (H45561FC)
765	Bandwidth	1.0 – 5.0 MHz
766	Number of elements	240
767	Field of view (max.)	120°
768	Physical foot print	28 x 18 mm
769	B-Mode frequency	2.0, 2.5, 3.5, 4.5 MHz
770	Harmonic frequency	2.4, 3.0, 3.2, 3.3, 3.7, 4.0, 4.5 MHz
771	PW Doppler frequency	1.6, 1.7, 1.8, 1.9, 2.1, 2.5, 3.1, 3.6 MHz
772	Color Doppler frequency	1.7, 1.8, 1.9, 2.2, 2.4, 2.5, 3.0, 3.1, 3.7, 3.8 MHz
773	**ML6-15-D, matrix array linear probe**	
774	Applications	Abdomen, small parts, peripheral vascular, neonatal, pediatric, neonatal transcranial, general musculoskeletal, superficial musculoskeletal
775	Biopsy guide	Multi-angle, disposable with a reusable bracket (H40432LJ)
776	Bandwidth	4.0 – 16.0 MHz 10.2.1
777	Number of elements	1008 10.2.3

778	Field of view (max.)	50.4 mm 10.2.2
779	Physical foot print	50.4 x 6 mm
780	B-Mode frequency	7.0, 9.0, 10.0, 11.0, 12.0, 15.0, 17.0 MHz
781	Harmonic frequency	10.0, 12.0, 14.0, 15.0 MHz
782	PW Doppler frequency	5.0, 6.3, 8.3 MHz
783	Color Doppler frequency	5.1, 6.1, 7.3, 8.2, 9.2, 10.3, 11.4, 12.4 MHz
784	**P2D, CW split crystal probe**	
785	Applications	Adult cardiac, pediatric cardiac, peripheral vascular, adult cephalic
786	Frequency	2.1 MHz
787	**P6D, CW split crystal probe**	
788	Applications	Adult cardiac, pediatric cardiac, peripheral vascular, adult cephalic
789	Frequency	6.3 MHz
790	**RAB6-D, convex volume probe**	
791	Applications	Abdomen, OB/GYN, pediatric, neonatal
792	Biopsy guide	Multi angle biopsy start kit (H48681ML)
793	Bandwidth	2.0 – 8.0 MHz
794	Number of elements	192
795	Field of view (max.)	80°
796	Physical foot print	62 x 34 mm
797	B-Mode frequency	3.5, 5.0, 8.0 MHz
798	Harmonic frequency	4.0, 5.0, 6.5, 8.0 MHz
799	PW Doppler frequency	3.1, 4.2, 5.0 MHz
800	Color Doppler frequency	2.8, 3.5, 3.8 MHz
801	**RIC5-9-D, convex volume probe**	
802	Applications	OB/GYN, urology
803	Biopsy guide	Single angle, reusable (H46721R)
804	Bandwidth	3.0 – 10.0 MHz
805	Number of elements	192
806	Field of view (max.)	179°
807	Physical foot print	32 x 27 mm
808	B-Mode frequency	3.9, 5.0, 5.5, 6.0, 6.5, 7.0, 8.0 MHz
809	Harmonic frequency	5.0, 7.0, 9.0 MHz
810	PW Doppler frequency	3.6, 4.2, 5.0 MHz
811	Color Doppler frequency	4.3, 6.1, 7.3 MHz
812	**Vscan Air CL, Convex probe**	
813	Applications	Abdomen, OB, peripheral vascular, general musculoskeletal, superficial musculoskeletal, cardiac, pleural
814	Bandwidth	2 - 5 MHz
815	Number of elements	128
816	Field of view (max.)	60°
817	Physical foot print	64 x 16 mm
818	B-Mode frequency	3.3, 4.4 MHz
819	Harmonic frequency	4.0, 4.4 MHz
820	PW Doppler frequency	Not Supported
821	Color Doppler frequency	1.9, 2.3 MHz
822	**Vscan Air CL, Linear probe**	
823	Applications	Peripheral Vascular, small parts, nerves, general musculoskeletal, superficial musculoskeletal, pleural (lung), neohead
824	Bandwidth	3 - 12 MHz
825	Number of elements	192
826	Field of view (max.)	38.4 mm
827	Physical foot print	38 x 4 mm
828	B-Mode frequency	8.0, 12.5 MHz
829	Harmonic frequency	8.5 MHz
830	PW Doppler frequency	Not Supported
831	Color Doppler frequency	4.5, 5.1, 6.0 MHz
832	**External Inputs and outputs (not including on-board peripherals)**	
833	HDMI	
834	Ethernet	
835	Multiple USB 3.0 ports	
836	Universal Video Converter	
837	**Safety Conformance**	
838	**The LOGIQ Totus is:**	

839	Classified to ANSI/AAMI ES60601-1 Medical Electrical Equipment, Part 1: General Requirements for Safety by a Nationally Recognized Test Lab	
840	Certified to CSA CAN/CSA-C22.2 NO. 60601-1 General requirements for safety	
841	CE Marked to Regulation (EU) 2017/745 on Medical Devices Conforms to the following standards for safety	
842	IEC/EN 60601-1 Medical electrical equipment – Part 1: General requirements for basic safety and essential performance	
843	Conforms to the following standards for safety (including national deviations)	• IEC/EN 60601-1-2 Medial electrical equipment – Part 1-2: General requirements for safety – Collateral Standard: Electromagnetic compatibility – requirements and tests • IEC/EN 60601-1-6 Medical electrical equipment Part 1 -6: General requirements for basic safety and essential performance – Collateral Standard: Usability • IEC/EN 60601-1-9 Medical electrical equipment Part 1 -9: General requirements for basic safety and essential performance –Collateral Standard: Requirements for environmentally conscious design • IEC/EN 60601-2-37 Medical electrical equipment – Part 2-37: Particular requirements for the safety of ultrasonic medical diagnostic and monitoring equipment • IEC/EN 62366-1 Application of usability engineering to medical devices • IEC/EN 62304 Software Life Cycle Processes • IEC/EN 62359 Ultrasonic - Field characterization - Test methods for the determination of thermal and mechanical indices related to medical diagnostic ultrasonic fields
844	**Supplement: cardiac measurements/calculations**	
845	**B-Mode measurements**	
846	Aorta	• Aortic Root Diameter (Ao Root Diam) • Aortic Arch Diameter (Ao Arch Diam) • Ascending Aortic diameter (Ao Asc) • Descending Aortic Diameter (Ao Desc Diam) • Aorta Isthmus (Ao Isthmus) • Aorta (Ao st junct)
847	Aortic valve	• Aortic Valve Cusp Separation (AV Cusp) • Aortic Valve Area Planimetry (AVA Planimetry) • (Trans AVA)
848	Left atrium	• Left Atrium Diameter (LA Diam) • LA Length (LA Major) • LA Width (LA Minor) • Left Atrium Diameter to AoRoot Diameter Ratio (LA/Ao ratio) • Left Atrium Area (LAA(d), LAA(s)) • Left Atrium Volume, Single Plane, Method of Disk (LAEDV A2C, LAESV A2C) (LAEDV A4C, LAESV A4C), (LAEDV A-L, LAEDV Index A-L, LAESV A-L, LAESV Index A-L)
849	Left ventricle	• Left Ventricle Mass (LVPWd, LVPWs) • Left Ventricle Volume, Teichholz/Cubic (LVIDd, LVI Ds) • Left Ventricle Internal Diameter (LVIDd, LVI Ds) Left Ventricle Length (LVLd, LVLs) • Left Ventricle Outflow Tract Diameter (LVOT Diam) • Left Ventricle Posterior Wall Thickness (LVPWd, LVPWs) • Left Ventricle Length (LV Major) • Left Ventricle Width (LV Minor) • Left Ventricle Outflow Tract Area (LVOT) • Left Ventricle Area, Two Chamber/Four Chamber/Short Axis (LVA (d), LVA (s)) • Left Ventricle Endocardial Area, Width (LVA (d), LVA(s)) • Left Ventricle Epicardial Area, Length (LVAepi (d), LVAepi (s)) • Left Ventricle Mass Index (LVPWd, LVPWs) • Ejection Fraction, Teichholz/Cube (LVIDd, LVIDs)

850	Left ventricle continued	• Left Ventricle Posterior Wall Fractional Shortening (LVPWd, LVPWs) • Left Ventricle Stroke Index, Teichholz/Cube (LVIDd, LVIDs and Body Surface Area) • Left Ventricle Fractional Shortening (LVIDd, LVIDs) • Left Ventricle Stroke Volume, Teichholz/Cubic (LVIDd, LVIDs) • Left Ventricle Stroke Index, Single Plane, Two Chamber, Method of Disk (LVI Dd, LVIDs, LVSd, LVSs) • Left Ventricle Stroke Index, Single Plane, Four Chamber, Method of Disk (LVI Dd, LVIDs, LVSd, LVSs) • Left Ventricle Stroke Index, Bi-Plane, Bullet, Method of Disk (LVAd, LVAs) • Interventricular Septum (IVS) • Left Ventricle Internal Diameter (LVI D) • Left Ventricle Posterior Wall Thickness (LVPW)
851	Mitral valve	• Mitral Valve Annulus Diameter (MV Ann Diam) • E-Point-to-Septum Separation (EPSS) • Mitral Valve Area Planimetry (MVA Planimetry)
852	Pulmonic valve	• Pulmonic Valve Area (PV Planimetry) • Pulmonic Valve Annulus Diameter (PV Annulus Diam) • Pulmonic Diameter (Pulmonic Diam)
853	Right atrium	• Right Atrium Diameter, Length (RAD Ma) • Right Atrium Diameter, Width (RAD Mi) • Right Atrium Area (RAA) • Right Atrium Volume, Single Plane, Method of Disk (RAAd) • Right Atrium Volume, Systolic, Single Plane, Method of Disk (RAAs)
854	Right ventricle	• Right Ventricle Outflow Tract Area (RVOT Planimetry) • Left Pulmonary Artery Area (LPA Area) • Right Pulmonary Artery Area (RPA Area) • Right Ventricle Internal Diameter (RVIDd, RVIDs) • Right Ventricle Diameter, Length (RVD Ma) • Right Ventricle Diameter, Width (RVD Mi) • Right Ventricle Wall Thickness (RVAWd, RVAWs) • Right Ventricle Outflow Tract Diameter (RVOT Diam) • Left Pulmonary Artery (LPA) • Main Pulmonary Artery (MPA) • Right Pulmonary Artery (RPA)
855	System inferior vena cava	• Systemic Vein Diameter (Systemic Diam) • Patent Ductus Arterosis Diameter (PDA Diam) • Pericard Effusion (PEs) • Patent Foramen Ovale Diameter (PFO Diam) • Ventricular Septal Defect Diameter (VSD Diam) • Interventricular Septum (IVS) Fractional Shortening (IVSd, IVSs)
856	Tricuspid valve	• Tricuspid Valve Area (TV Panimetry) • Tricuspid Valve Annulus Diameter (TV Annulus Diam)
857	**M-Mode measurements**	
858	Aorta	• Aortic Root Diameter (Ao Root Diam) • Aortic Valve • Aortic Valve Diameter (AV Diam) • Aortic Valve Cusp separation (AV Cusp) • Aortic Valve Ejection Time (LVET)
859	Left atrium	• Left Atrium Diameter to AoRoot Diameter Ratio (LA/Ao Ratio) • Left Atrium Diameter (LA Diam)
860	Left ventricle	• Left Ventricle Volume, Teichholz/Cubic (LVIDd, LVI Ds) • Left Ventricle Internal Diameter (LVIDd, LVI Ds) • Left Ventricle Posterior Wall Thickness (LVPWd, LVPWs) • Left Ventricle Ejection Time (LVET) • Left Ventricle Pre-Ejection Period (LVPEP) • Interventricular Septum (IVS) • Left Ventricle Internal Diameter (LVI D) • Left Ventricle Posterior Wall Thickness (LVPW)
861	Mitral valve	• E-Point-to-Septum Separation (EPSS) • Mitral Valve Leaflet Separation (D-E Excursion) • Mitral Valve Anterior Leaflet Excursion (D-E Excursion) • Mitral valve D-E Slope (D-E Slope) • Mitral Valve E-F Slope (E-F Slope) • Mitral Annular Plane Systolic Excursion (MAPSE)

862	Pulmonic valve	• QRS Complex to End of Envelope (Q-PV close)
863	Right ventricle	• Right Ventricle Internal Diameter (RVIDd, RVIDs) • Right Ventricle Wall Thickness (RVAWd, RVAWs) • Right Ventricle Outflow Tract Diameter (RVOT Diam) • Right Ventricle Ejection Time (RVET) • Right Ventricle Pre-Ejection Period (RVPEP)
864	System	• Pericard Effusion (PE (d))
865	Tricuspid valve	• QRS Complex to End of Envelope (Q-TV close) • Tricuspid Annular Plane Systolic Excursion (TAPSE)
866	**Doppler Mode measurements**	
867	Aortic valve	• Aortic Insufficiency Mean Pressure Gradient (AR Trace) • Aortic Insufficiency Peak Pressure Gradient (AR Vmax) • Aortic Insufficiency End Diastole Pressure Gradient (AR Trace) • Aortic Insufficiency Mean Velocity (AR Trace) • Aortic Insufficiency Velocity Time Integral (AR Trace) • Aortic Valve Mean Velocity (AV Trace) • Aortic Valve Velocity Time Integral (AV Trace) • Aortic Valve Mean Pressure Gradient (AV Trace) • Aortic Valve Peak Pressure Gradient (AR Vmax) • Aortic Insufficiency Peak Velocity (AR Vmax) • Aortic Insufficiency End-Diastolic Velocity (AR Trace) • Aortic Valve Peak Velocity (AV Vmax) • Aortic Valve Peak Velocity at Point E (AV Vmax)
868	Aortic valve continued	• Aorta Proximal Coarctation (Coarc Pre-Duct) • Aorta Distal Coarctation (Coarc Post-Duct) • Aortic Valve Insufficiency Pressure Half Time (AR PHT) • Aortic Valve Flow Acceleration (AV Trace) • Aortic Valve Pressure Half Time (AV Trace) • Aortic Valve Acceleration Time (AV Acc Time) • Aortic Valve Deceleration Time (AV Dec Time) • Aortic Valve Ejection Time (AVET) • Aortic Valve Acceleration to Ejection Time Ratio (AV Acc Time, AVET) • Aortic Valve Area(VTI): AVA (Vmax)
869	Left ventricle	• Left Ventricle Outflow Tract Peak Pressure Gradient (LVOT Vmax) • Left Ventricle Outflow Tract Peak Velocity (LVOT Vmax) • Left Ventricle Outflow Tract Mean Pressure Gradient (LVOT Trace) • Left Ventricle Outflow Tract Mean Velocity (LVOT Trace) • Left Ventricle Outflow Tract Velocity Time Integral (LVOT Trace) • Left Ventricle Ejection Time (LVET)
870	Mitral valve	• E’ Early diastolic mitral valve annular velocity (E’) • E’ Avg Averaged early diastolic mitral valve annular velocity (E’ Avg) • E’ Lat Early diastolic mitral valve lateral annular velocity (E’ Lat) • E’ Medial Early diastolic mitral valve medial annular velocity (E’ Medial) • E’ Sept Early diastolic mitral • Mitral inflow E velocity to E’ ratio (E/E’) • Mitral inflow E velocity to E’ Avg ratio (E/E’ Avg) • Mitral inflow E velocity to E’ Lat ratio (E/E’ Lat) • Medial Mitral inflow E velocity to E’ Medial ratio (E/E’) • Mitral inflow E velocity to E’ Sept ratio (E/E’ Sept) • Mitral Valve Regurgitant Flow Acceleration (MR Trace) • Mitral Valve Regurgitant Mean Velocity (MR Trace)
871	Mitral valve continued	• Mitral Regurgitant Mean Pressure Gradient (MR Trace) • Mitral Regurgitant Velocity Time Integral (MR Trace) • Mitral Valve Mean Velocity (MV Trace) • Mitral Valve Velocity Time Integral (MV Trace) • Mitral Valve Mean Pressure Gradient (MV Trace) • Mitral Regurgitant Peak Pressure Gradient (MR Vmax) • Mitral Valve Peak Pressure Gradient (MV Vmax) • Mitral Regurgitant Peak Velocity (MR Vmax) • Mitral Valve Peak Velocity (MV Vmax) • Mitral Valve Velocity Peak A (MV A Velocity) • Mitral Valve Velocity Peak E (MV E Velocity)

872	Mitral valve continued	• Mitral Valve Area According to PHT (MV PHT) • Mitral Valve Flow Deceleration (MV DecT) • Mitral Valve Pressure Half Time (MV PHT) • Mitral Valve Flow Acceleration (MV AccT) • Mitral Valve E-Peak to A-Peak Ratio (A-C and D-E) (MV E/ARatio) • Mitral Valve Acceleration Time • (MV Acc Time) • Mitral Valve Deceleration Time (MV Dec Time) • Mitral Valve Ejection Time ((MVET) • Mitral Valve A-Wave Duration (MV A Dur) • Mitral Valve Time to Peak (MV TTP) • Mitral Valve Acceleration Time/Deceleration Time Ratio (MVAcc/Dec Time) • Stroke Volume Index by Mitral Flow (MVA Planimetry, MVTrace)
873	Pulmonic Valve	• Pulmonic Insufficiency Peak Pressure Gradient (PR Vmax) • Pulmonic Insufficiency End-Diastolic Pressure Gradient (PRTrace) • Pulmonic Valve Peak Pressure Gradient (PV Vmax) • Pulmonic Insufficiency Peak Velocity (PR Vmax) • Pulmonic Insufficiency End-Diastolic Velocity (Prend Vmax) • Pulmonic Valve Peak Velocity (PV Vmax) • Pulmonary Artery Diastolic Pressure (PV Trace) • Pulmonic Insufficiency Mean Pressure Gradient (PR Trace)
874	Pulmonic valve continued	• Pulmonic Valve Mean Pressure Gradient (PV Trace) • Pulmonic Insufficiency Mean Square Root Velocity (PR Trace) • Pulmonic Insufficiency Velocity Time Integral (PR Trace) • Pulmonic Valve Mean Velocity (PV Trace) • Pulmonic Valve Velocity Time Integral (PV Trace) • Pulmonic Insufficiency Pressure Half Time (PR PHT) • Pulmonic Valve Flow Acceleration (PV Acc Time) • Pulmonic Valve Acceleration Time (PV Acc Time) • Pulmonic Valve Ejection Time (PVET) • QRS Complex to End of Envelope (Q-to-PV Close) • Pulmonic Valve Acceleration to Ejection TIme Ratio (PV Acc Time, PVET)
875	Right ventricle	• Right Ventricle Outflow Tract Peak Pressure Gradient (RVOT Vmax) • Right Ventricle Outflow Tract Peak Velocity (RVOT Vmax) • Right Ventricle Outflow Tract Velocity Time Integral (RVOTTrace) • Right Ventricle Ejection Time (RV Trace) • Stroke Volume by Pulmonic Flow (RVOT Planimetry, RVOTTrace) • Right Ventricle Stroke Volume Index by Pulmonic Flow (RVOT Planimetry, RVOT Trace)
876	System	• Pulmonary Artery Peak Velocity (PV Vmax) • Pulmonary Vein Velocity Peak A (Reverse) (P Vein A) • Pulmonary Vein Peak Velocity (P Vein D, P Vein S) • Systemic Vein Peak Velocity (PDA Diastolic, PDA Systolic) • Ventricular Septal Defect Peak Velocity (VSD Vmax) • Atrial Septal Defect (ASD Diastolic, ASD Systolic) • Pulmonary Vein A-Wave Duration (P Vein A Dur) • IsoVolumetric Relaxation Time (IVRT) • IsoVolumetric Contraction Time (IVCT) • Pulmonary Vein S/D Ratio (P Vein D, P Vein S) • Ventricular Septal Defect Peak Pressure Gradient (VSD Vmax) • Pulmonic-to-Systemic Flow Ratio (Qp/Qs)
877	Tricuspid valve	• Tricuspid Regurgitant Peak Pressure Gradient (TR Vmax) • Tricuspid Valve Peak Pressure Gradient (TV Vmax) • Tricuspid Regurgitant Peak Velocity (TR Vmax) • Tricuspid Valve Peak Velocity (TV Vmax) • Tricuspid Valve Velocity Peak A (TV A Velocity) • Tricuspid Valve Velocity Peak E (TV E Velocity) • Tricuspid Regurgitant Mean Pressure Gradient (TR Trace) • Tricuspid Valve Mean Pressure Gradient (TV Trace)

878	Tricuspid valve continued	• Tricuspid Regurgitant Mean Velocity (TR Trace) • Tricuspid Regurgitant Velocity Time Integral (TR Trace) • Tricuspid Valve Mean Velocity (TV Trace) • Tricuspid Valve Velocity Time Integral (TV Trace) • Tricuspid Valve Time to Peak (TV TTP) • Tricuspid Valve Ejection Time (TV Acc/Dec Time) • Tricuspid Valve A-Wave Duration (TV A Dur) • QRS Complex to End of Envelope (Q-TV Close) • Tricuspid Valve Pressure Half Time (TV PHT) • Stroke Volume by Tricuspid Flow (TV Planimetry, TV Trace) • Tricuspid Valve E-Peak to A-Peak Ratio (TV E/A Velocity)
879	**Color Flow Mode measurements**	
880	Aortic valve	• Proximal Isovelocity Surface Area: Regurgitant Orifice Area (AR Radius) • Proximal Isovelocity Surface Area: Radius of Aliased Point (AR Radius) • Proximal Isovelocity Surface Area: Regurgitant Flow (AR Trace) • Proximal Isovelocity Surface Area: Regurgitant Volume Flow (AR Trace) • Proximal Isovelocity Surface Area: Aliased Velocity (AR Vmax)
881	Mitral valve	• Proximal Isovelocity Surface Area: Regurgitant Orifice Area (MR Radius) • Proximal Isovelocity Surface Area: Radius of Aliased Point (MR Radius) • Proximal Isovelocity Surface Area: Regurgitant Flow (MR Trace) • Proximal Isovelocity Surface Area: Regurgitant Volume Flow (MR Trace) • Proximal Isovelocity Surface Area: Aliased Velocity (MR Vmax)
882	**Combination Mode measurements**	
883	Aortic valve	• Aortic Valve Area (Ao Root Diam, LVOT Vmax, AV Vmax) • Aortic Valve Area by Continuity Equation by Peak Velocity (Ao Root Diam, LVOT Vmax, AV Vmax) • Stroke Volume by Aortic Flow (AVA Planimetry, AV Trace) • Cardiac Output by Aortic Flow (AVA Planimetry, AV Trace, HR) • Aortic Valve Area by Continuity Equation VTI (Ao Root Diam, LVOT Vmax, AV Trace)
884	Left ventricle	• Cardiac Output, Teichholz/Cubic (LVIDd, LVI Ds, HR) • Cardiac Output Two Chamber, Single Plane, Area-Length/Method of Disk (Simpson) (LVAd, LVAs, HR) • Cardiac Output Four Chamber, Single Plane, Area-Length/Method of Disk (Simpson) (LVAd, LVAs, HR) • Ejection Fraction Two Chamber, Single Plane, Area-Length/Method of Disk (Simpson) (LVAd, LVAs) • Ejection Fraction Four Chamber, Single Plane, Area-Length/Method of Disk (Simpson) (LVAd, LVAs) • Left Ventricle Stroke Volume, Single Plane, Two Chamber/Four Chamber, Area-Length (LVAd, LVAs)
885	Left ventricle continued	• Left Ventricle Stroke Volume, Single Plane, Two Chamber/Four Chamber, Method of Disk (Simpson) (LVIDd, LVIDs, LVAd, LVAs) • Left Ventricle Volume, Two Chamber/Four Chamber, Area-Length (LVAd, LVAs) • Ejection Fraction, Bi-Plane, Method of Disk (LVAd, LVAs, 2CH, 4CH) • Left Ventricle Stroke Volume, Bi-Plane, Method of Disk (LVAd, LVAs, 2CH, 4CH) • Left Ventricle Volume, Bi-Plane, Method of Disk (LVAd, LVAs, 2CH, 4CH) • Left Ventricle Stroke Index, Single Plane, Two Chamber/Four Chamber, Area-Length (LVSd, LVSs and BSA) • Left Ventricle Volume, Single Plane, Two Chamber/Four Chamber, Method of Disk (LVAd, LVAs) • Left Ventricle Volume, Apical View, Long Axis, Method of Disk (LVAd, LVAs)

886	Mitral valve	• Stroke Volume by Mitral Flow (MVA Planimetry, MV Trace) • Cardiac Output by Mitral Flow (MVA Planimetry, MV Trace, HR)
887	Pulmonic valve	• Stroke Volume by Pulmonic Flow (PV Planimetry, PV Trace) • Cardiac Output by Pulmonic Flow (PV Planimetry, PV Trace, HR)
888	Tricuspid valve	• Cardiac Output by Tricuspid Flow (TV Planimetry, TV Trace, HR)
889	**Combination Mode measurements**	
890	Parameter: lists the mode, the measurement folder and the specific measurement	
891	Measured Value: Up to six measurement values for each item. Average, maximum, minimum or last	
892	**Generic study in cardiology**	
893	Stroke Volume (SV)	
894	Cardiac Output (CO)	

XDclear transducer includes single crystal, acoustic amplifier & cool stack technology

GE HealthCare

cSound™ Architecture

Ultrasound for today, platform for tomorrow

The breadth of clinical scenarios in general imaging ultrasound places significant demands on the ultrasound device. A patient who cannot hold her breath while a renal Doppler is performed. A patient whose tendon tear requires sub millimeter resolution. An obese patient needing a liver biopsy. A brain scan of a neonate in an incubator. A liver fibrosis assessment that depends on detecting a shear wave signal thinner than a human hair. In today's demanding clinical environment, the ultrasound machine is a partner in helping the clinician meet every challenge.

GE HealthCare has designed its advanced cSound Architecture to put the latest ultrasound technology in the hands of clinicians. It combines the power of XDclear™ probes with a new cSound Imageformer to enable confident diagnoses, provide comprehensive tools, and support concise workflow.

cSound Imageformer 1.1

The cSound Imageformer is the data acquisition and processing engine of the new architecture. At its core are cutting-edge NVIDIA® GPUs, the same graphics processing technology that is advancing the driverless car industry and the next generation of video gaming. This technology gives GE HealthCare ultrasound engineers access to 48 times the data throughput and 10 times the processing power of our previous systems.* This opens up new opportunities, allowing the cSound Imageformer to collect and use more data to create every ultrasound image.

*As compared to the LOGIQ™ E9.

Traditional beamforming

To understand cSound Imageforming, it helps to review how traditional beamforming works. As shown in Figure 1, traditional beamforming is performed in customized hardware and only the resulting beam or vector data is provided to the flexible, software-based processor that creates the ultrasound images.

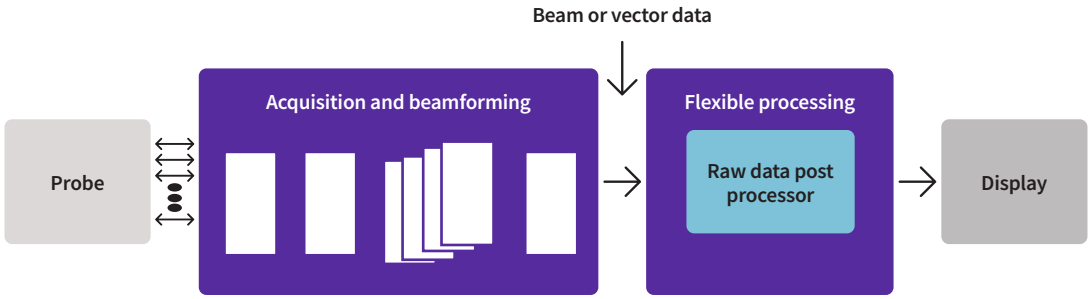


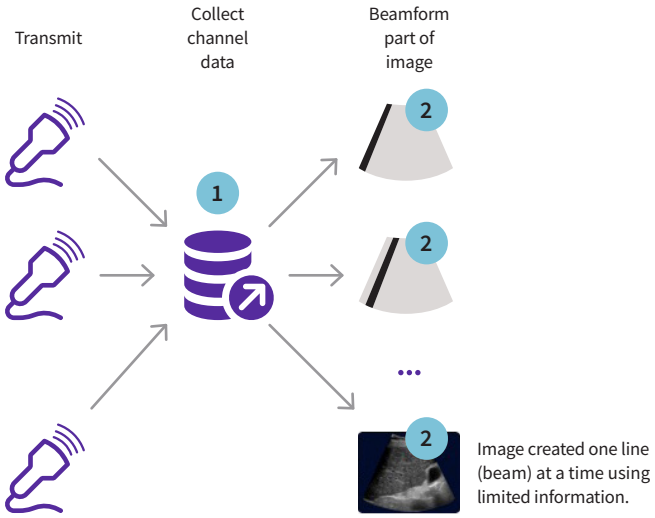
Figure 1. A traditional beamforming architecture.

Traditional beamforming steps

1. A transmit event is performed. The return ultrasound data is dynamically received and collected in a single instance of channel memory.
2. The collected channel data is processed to create a particular portion of the image often referred to as one or more vectors or beams.

   Note: If multiple focal depths are desired, steps 1 and 2 are also repeated with a transmit event focused at a different depth.
3. Steps 1-2 are repeated for another portion of the image until the entire image has been created.

Traditional beamformer



The channel data processed in step 2 and then overwritten still has useful information. However, a traditional beamformer has no means to extract this additional value before the channel data associated with the next transmit event overwrites it.

cSound Imageforming – Methodology

As shown in Figure 2, cSound Imageforming is performed using flexible, GPU-based processing. In contrast to traditional beamforming, the cSound Architecture moves raw channel data at high speeds from the acquisition system to components that perform flexible, software-based processing, including the cSound Imageformer. This channel data can be retained in memory even as channel data from subsequent transmit events is acquired and transferred to the cSound Imagefomer.

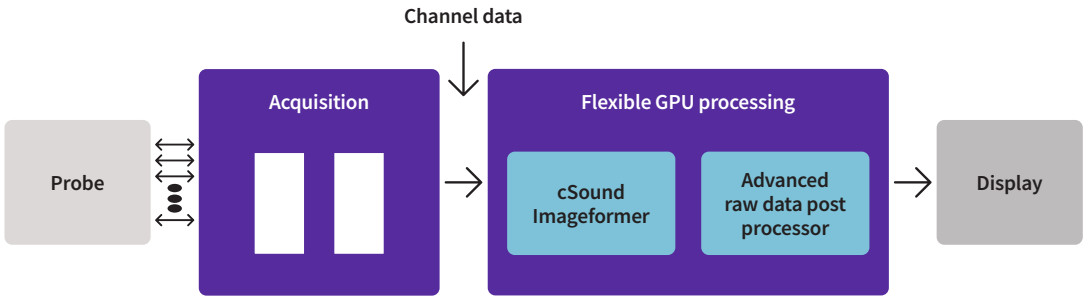
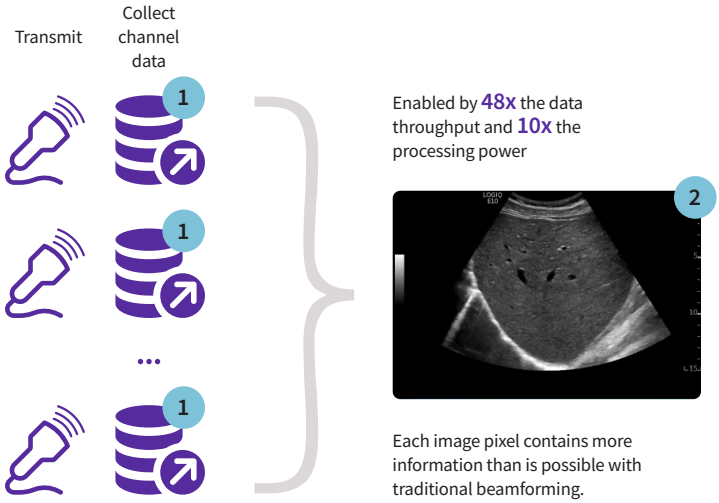


Figure 2. cSound Architecture.

cSound Imageforming phases

1. **Acquisition:** A series of transmit events are performed with the return ultrasound data being dynamically received and transferred to memory.
2. **Reconstruction:** The channel data from all of the transmits is combined to form the image.

New cSound Imageformer



Similar to CT and MRI, cSound Imageforming has a distinct acquisition phase followed by a reconstruction phase. This requires the cSound Architecture to acquire, move and store large amounts of channel data and, once collected, the cSound Imagefomer must be able to process the data at high speeds to enable real-time image reconstruction. The image formation process leverages channel data that would have been discarded in traditional beamforming. This additional data provides numerous samples for every point in the image. The image formation process combines these samples to achieve transmit focus for each point in the image, enhance contrast resolution and deliver fine spatial resolution. 1.6

cSound Imageformer – Retrospective transmit focus

In traditional beamforming, each transmit event has a transmit focus that is created by adjusting the time delays of individual transducer elements. This generates a curved wave front that converges until reaching a particular depth (the focus depth) and then diverges as it continues to propagate beyond the focus depth. The focus is the location that is insonified from multiple directions.

For each transmit event, the cSound Imageformer collects and saves the receive ultrasound data for each element. This is referred to as channel data. Even when a new transmit event occurs, the channel data associated with previous transmit events is retained and not overwritten.

Individual transmit events are spatially and/or angularly offset from one another creating significant overlap. As a result, for any point in the image, there are multiple transmit events that have insonified the point, each from a different direction. Knowing the spatial locations of a particular point in the image relative to a given transmit event, the cSound Imageformer can retrospectively process the channel data of each intersecting transmit event, and then coherently combine the results to achieve retrospective transmit focus at that point. It is worth noting that noise associated with each transmit beam is independent and therefore sums incoherently while the signal itself sums coherently. This increases the signal-to-noise ratio, further improving contrast resolution throughout the image.

This approach to focusing at each point in an image is possible for all types of transmit events providing there is overlap.

- **Converging waves:** Sound from multiple elements converges at a finite depth relative to the transducer face
- **Plane waves:** Sound from multiple elements is unfocused or essentially focused at an infinite depth
- **Diverging waves:** Sound from multiple elements diverges as if the focus was behind the transducer face

The cSound Imageformer is capable of all types of transmit events, giving engineers the flexibility to optimize the system uniquely depending on the needs of each clinical application.

cSound Imageformer – Retrospective transmit focus, an example

For illustrative purposes consider a simplified scenario, as shown in Figure 3.

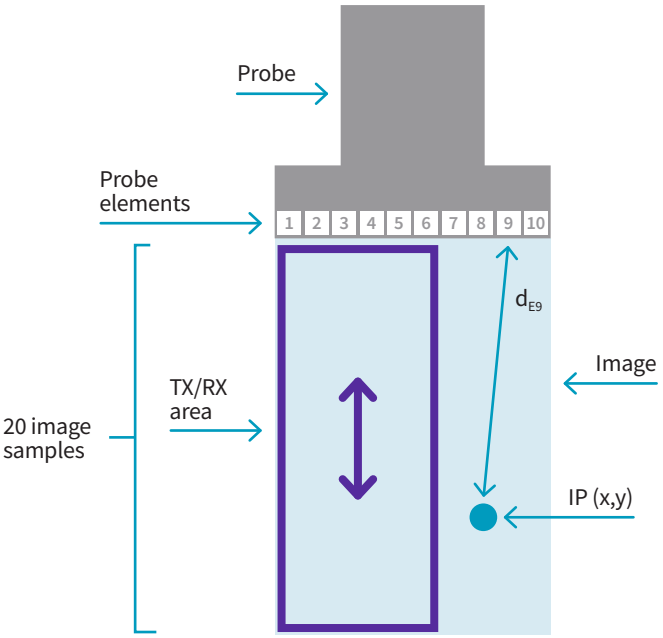


Figure 3. A simplified imaging scenario for illustrating retrospective transmit focus.

- Linear transducer with just 10 elements (E1 – E10)
- Each transmit event uses just six elements for transmitting and receiving. In this case, the first transmit event uses elements 1 through 6 (1-6) and then subsequent transmit events shift by a single element to use elements 2-7, 3-8, 4-9, and 5-10 for a total of 5 transmit events to create the image
- All transmit events are unfocused
- The receive signal is sampled so that 20 samples cover the depth of the image
- Each point in the image can be represented by IP (x,y) where x is the lateral direction and is restricted to the width of the image (which equals the width of the probe) and y is the axial direction and is restricted to the depth of the image
- The distance between IP (x,y) and a particular probe element is defined as d_{EN} where N is the element number 1-10

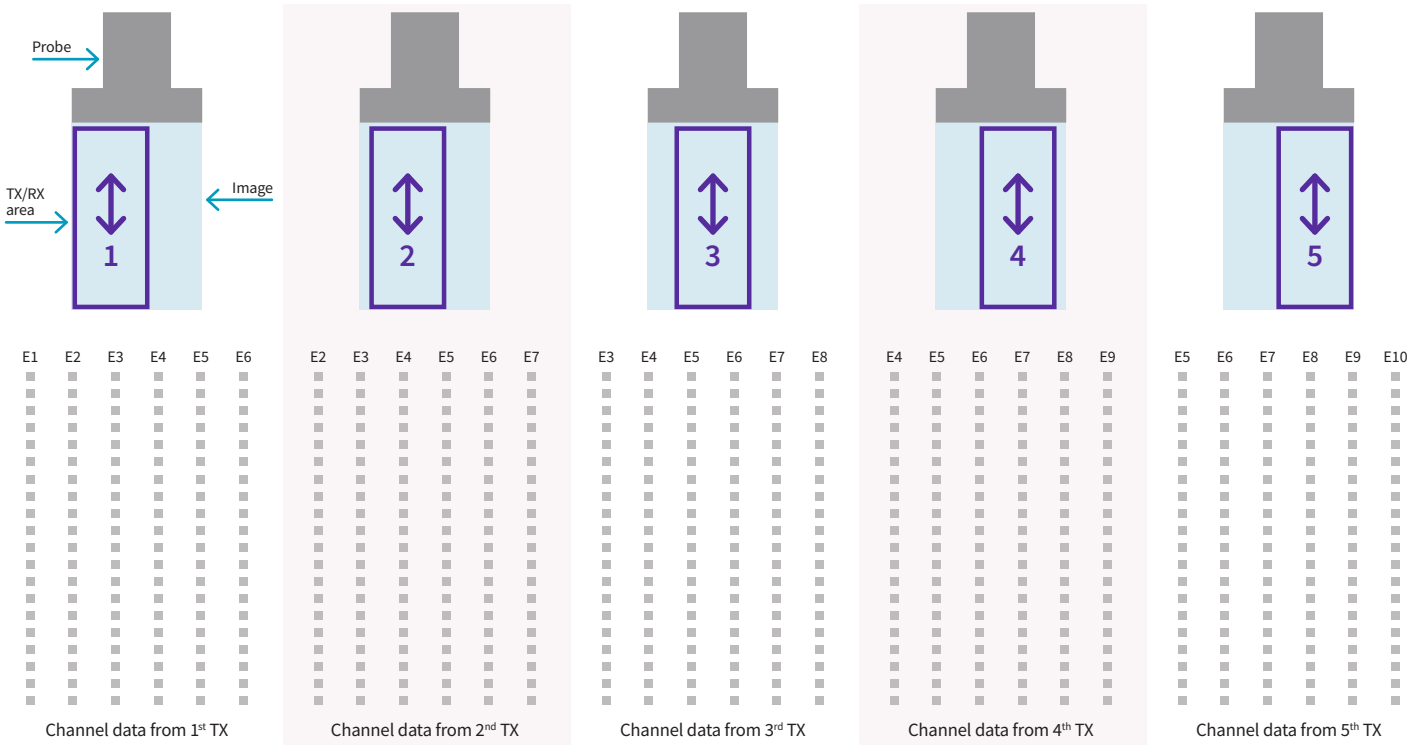


Figure 4. The first transmit (1) occurs and channel data is collected and stored. This is repeated for subsequent transmits (2 through 5) which are each offset from the previous.

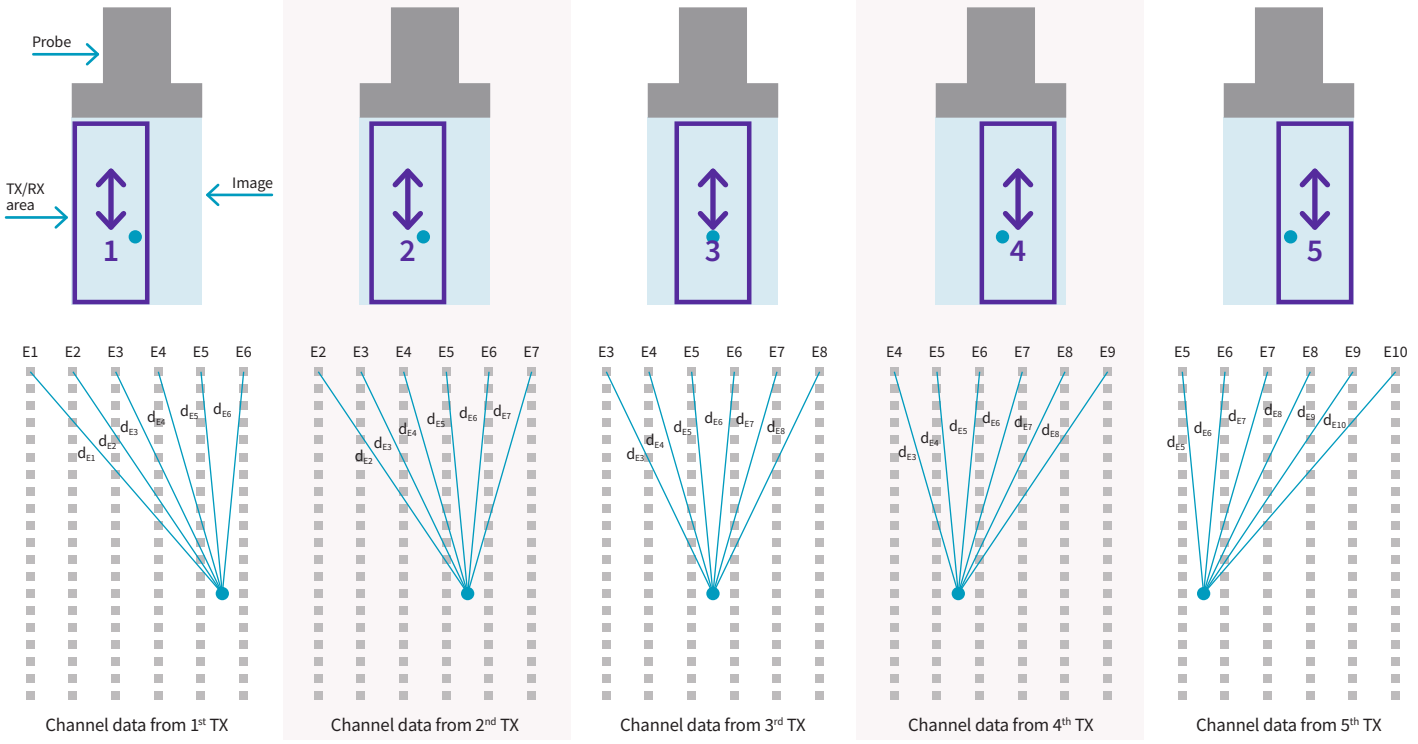


Figure 5. For each set of relevant channel data, the distance between the deep image point (represented by the circle) and each probe element is computed.

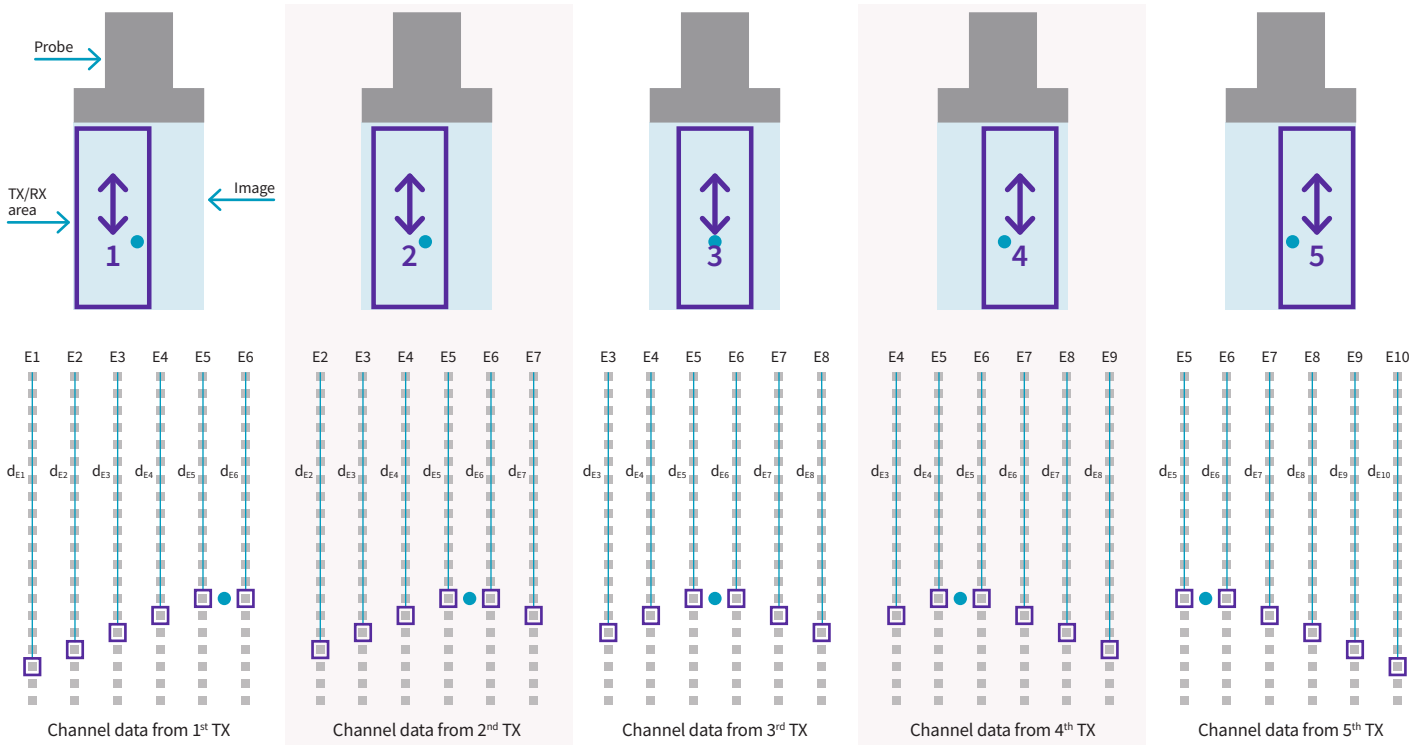


Figure 6. The computed distances between the image point and each element are used to access the channel data that focuses on the image point. The selected channel data from each transmit is coherently summed to determine the signal associated with the image point.

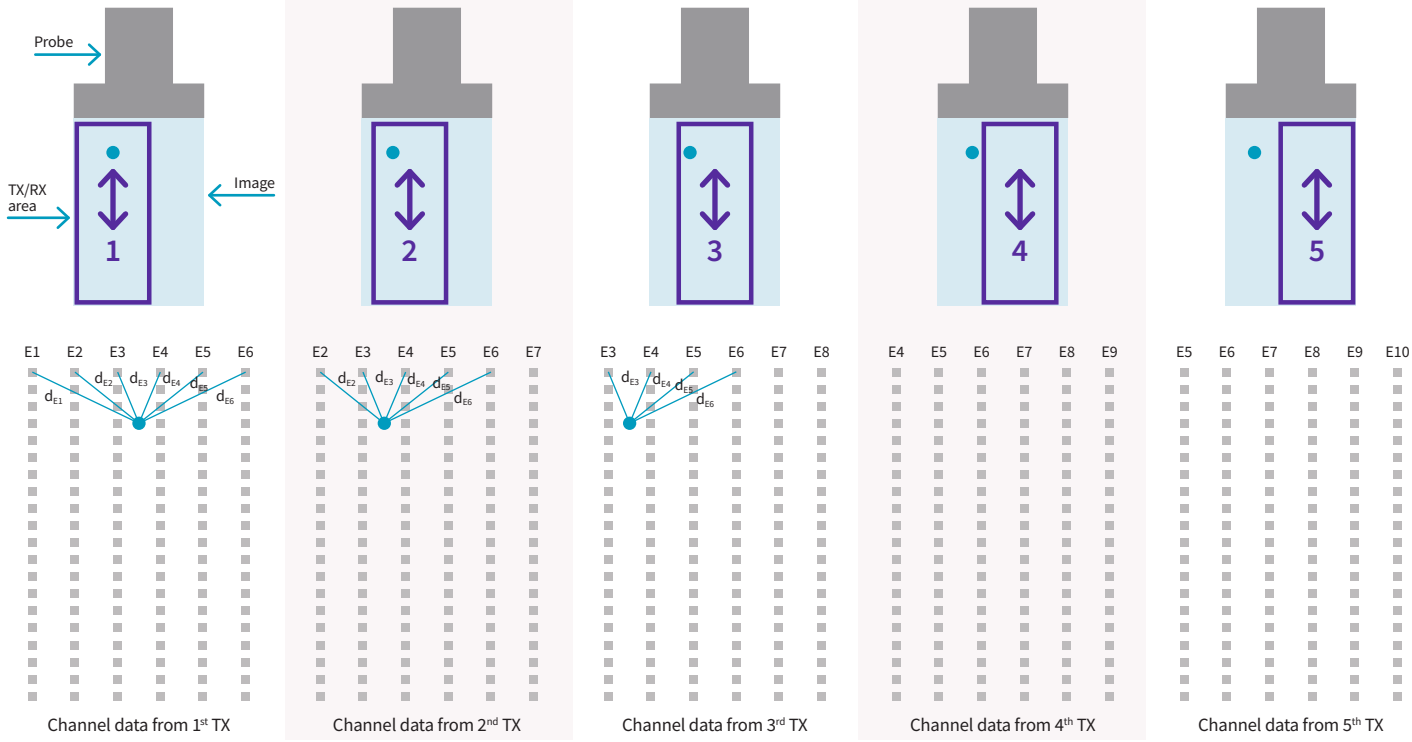


Figure 7. For each set of relevant channel data, the distance between the shallow image point (represented by the circle) and each probe element is computed. Note that transmits 4 and 5 do not overlap with the image point. Further note that some elements, such as E7 and E8 on transmit 3, are not included because of their steep angle relative to the image point.

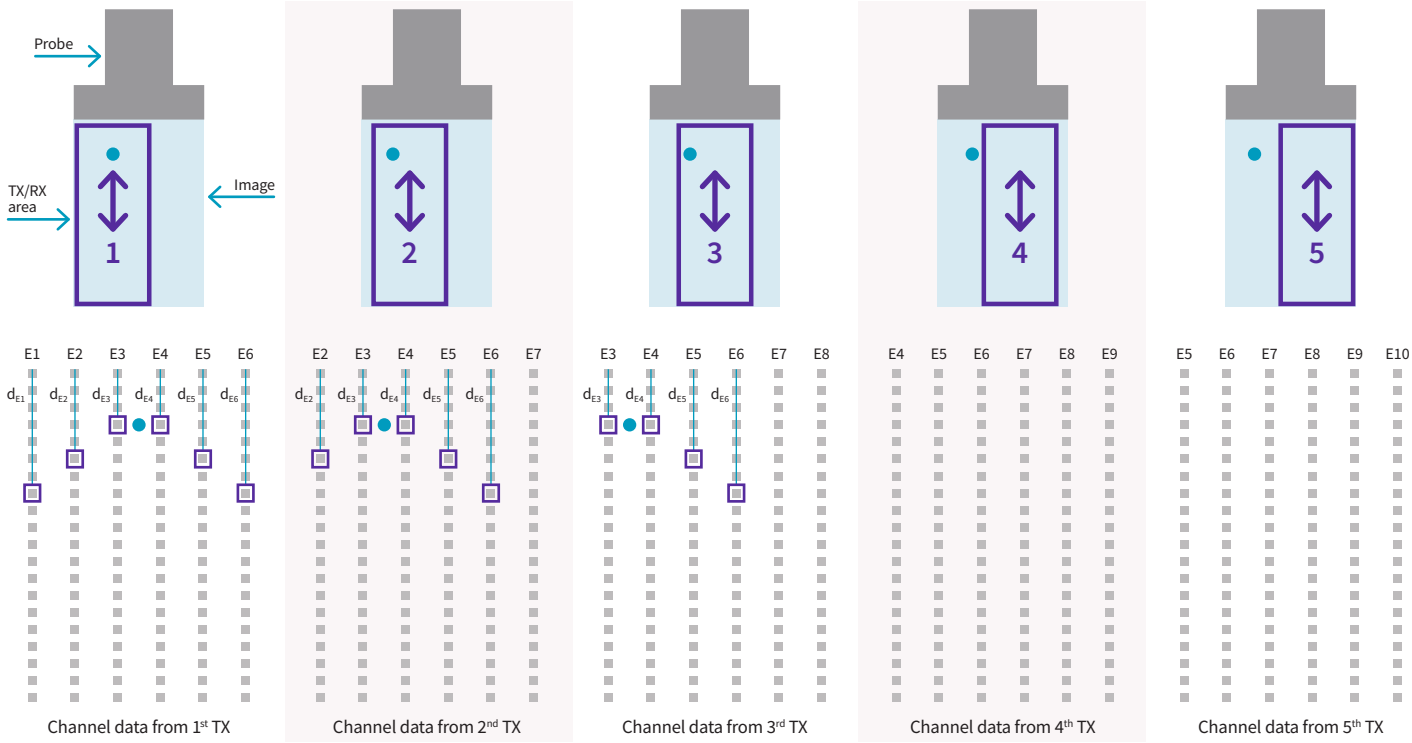


Figure 8. The computed distances between the image point and each element are used to access the channel data that focuses on the image point. The selected channel data from each transmit is coherently summed to determine the signal associated with the image point.

When extending this simplified scenario to the cSound Imageformer, there are additional complexities to consider. For example, the geometry of the transducer and the delay profile of the transmit event impact the computation of the image point to probe element distance and therefore the offset needed to reference the correct channel data. In another difference, the received elements are often larger than the number of transmit elements. Most notably, the sheer volume of data puts extensive demands on the system:

- The large quantity of collected channel data must be reliably and quickly streamed to the channel data memory before additional channel data is collected from the next transmit
- A massive amount of channel memory is required to store the channel data collected from many transmit events
- The retrospective processing of each relevant set of channel data for each point in the image requires intensive, ultra-high-speed, parallel computations to be performed to achieve real-time imaging at very high frame and volume rates

In a less powerful system, the real-time nature of imageforming could be achieved by restricting the amount of data collected by each transmit; speed would come at the expense of image quality. The cSound Architecture, in contrast, is able to keep up without restricting the data, even in radiology's most challenging applications. To put the cSound Architecture's performance in context, it can move the equivalent of multiple DVDs worth of data in one second.

cSound Imageformer – Benefits

Imagine an ultrasound department where no image is acquired with the focal zone in the wrong position. With each point in the image in focus, the user doesn't need to select multiple focal zones or to move the focus position. Additionally, there are no trade-offs between near- and far-field image quality. Deep liver imaging provides detailed data from the capsule to the diaphragm. When biopsying a deep lesion, there is no compromise to needle visualization as it enters the image area. When surveying breast tissue, a clinician is able to see small lesions present from the skin line to the chest wall – all without the user having to make any adjustments.

While greater focal range in ultrasound has traditionally meant lower frame rates, cSound Imageforming actually increases frame rates. It requires a smaller collection of transmit events, a direct result of efficiently using the data collected from each individual transmit event. To understand this efficiency, consider that an ultrasound transmit event can be focused, but the sound energy still travels in many directions; it acts like a flashlight rather than a laser.

Though a flashlight generates maximum light energy in the center of its beam, there is still useful visual information in the light outside of the central beam. Similarly, there is much useful ultrasound image data in the sound that propagates outside the focused direction and the cSound Imageformer is designed to take full advantage of this data.

cSound Imageformer – A platform for growth

cSound Imageforming runs on high performance NVIDIA GPUs, but the imageforming algorithms are software based. This affords significant flexibility; the algorithms can be adjusted for specific applications and evolve over time without impacting the underlying hardware architecture. In addition to forming the image, current algorithms can incorporate Adaptive Contrast Enhancement (ACE) and other GE HealthCare proprietary techniques to boost the real image signal and suppress artifact. And with advances in GPU technology, there is potential to incorporate newer GPUs into the platform, enabling even more sophisticated algorithms.

Advanced Raw Data Post Processor

The improved images resulting from the cSound Imageformer flow into the Advanced Raw Data Post Processor where additional enhancement is performed by spatial compounding, frame averaging, advanced speckle reduction imaging (Advanced SRI), and other functions. The post-processed image data is then mapped to gray scale levels and the scan is converted for display to the operator.

While speckle reduction imaging has been a feature of ultrasound systems for many years, Advanced SRI is GE HealthCare's most sophisticated algorithm to date, and requires the expanded computational power of the cSound architecture to achieve real-time results. It employs proprietary processing steps at different resolutions of the raw image data to smooth speckle-based artifacts while simultaneously enhancing structures of all sizes within the image. The level of smoothing and enhancement is adjustable by the user.

The "raw data" aspect of the Advanced Raw Data Post Processor refers to the fact that image data is saved prior to the processing steps. This allows the user to continue to adjust the processing long after the images have been saved.

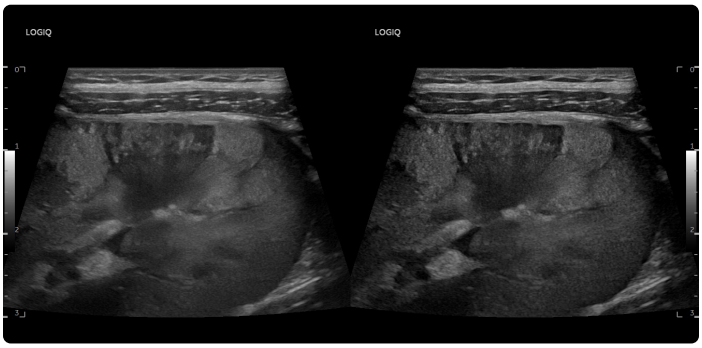
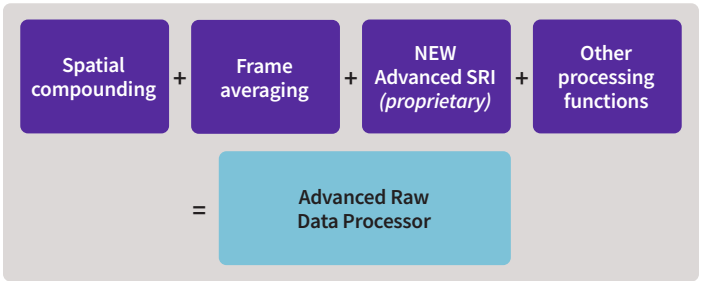


Figure 9. Advanced SRI (right) takes advantage of the increased computational power of the cSound Architecture to identify and enhance structures of all sizes while reducing speckle-based artifacts.



XDclear probes 10.1.2

While cSound Imageforming provides numerous benefits over traditional beamforming, the quality of the acoustic data coming into the system is still of utmost importance. In combination with the cSound Architecture's state-of-the-art transmit and receive electronics, XDclear transducers help deliver a more powerful, pure, and efficient sound wave with wider bandwidth than traditional GE HealthCare transducer technology. This results in impressive deep penetration and high resolution, enabling ultrasound to be used effectively on a broad range of patients.

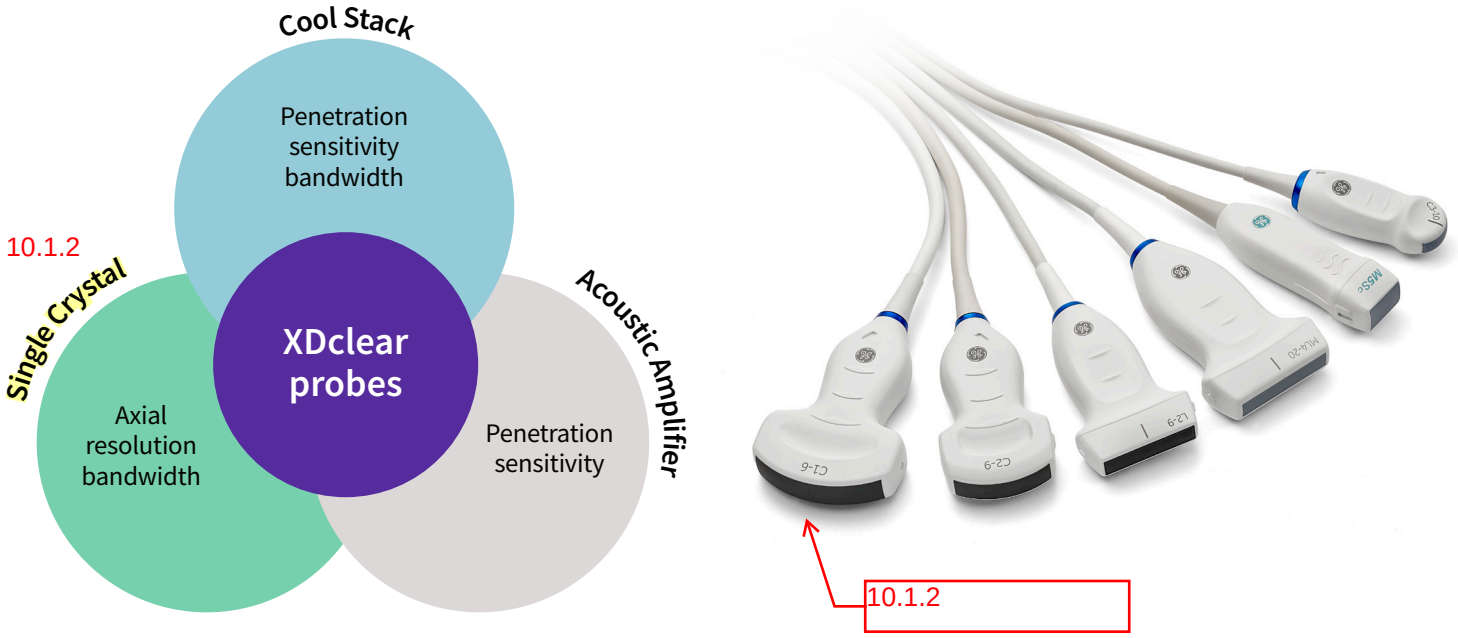


Figure 10. XDclear probes: Derive their superior performance from three key technologies: Single Crystal, Cool Stack, and Acoustic Amplifier.

XDclear transducers are a proprietary combination of advanced materials and innovative design. The XDclear design incorporates an enhanced piezoelectric material, Single Crystal, to generate a high quality acoustic signal. The quality of that signal is preserved through an innovative Acoustic Amplifier design coupled with GE HealthCare's Cool Stack technology to help optimize energy management. The ability to effectively and efficiently combine these technologies is what makes XDclear extraordinary.

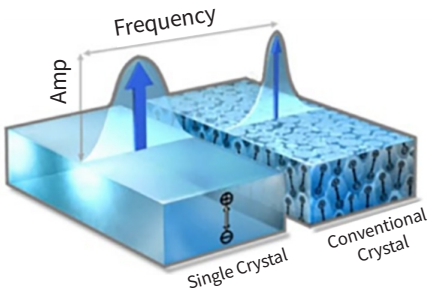


Figure 11. *Single Crystal:* Advanced piezoelectric material that delivers high quality acoustic signal with a wider bandwidth than conventional piezoelectric material.

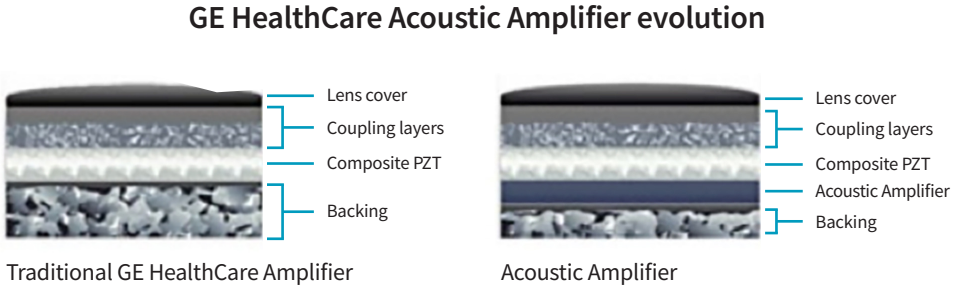


Figure 12. *Acoustic Amplifier:* Preserves the acoustic signal through an innovative design that captures and redirects the unused energy that passes through the crystal to enhance sensitivity, axial resolution, and penetration.

XDclear transducers enable deep penetration and resolution. One objective measure of transducer performance is bandwidth: the range of frequencies that the transducer can transmit and receive. Increased bandwidth allows a transducer to cover a broader frequency range, which makes it possible to achieve deep penetration and high resolution, as well as enhanced performance in harmonic imaging.

With sufficient bandwidth, one transducer can cover the range of acoustic frequencies that previously required separate transducers. XDclear transducers with Single Crystal materials have measurably enhanced bandwidth, achieving a -6 dB fractional bandwidth that can exceed 100 percent compared with 70 to 80 percent for traditional GE HealthCare transducers. The result is a new level of penetration, resolution, and sensitivity in GE HealthCare transducer performance.

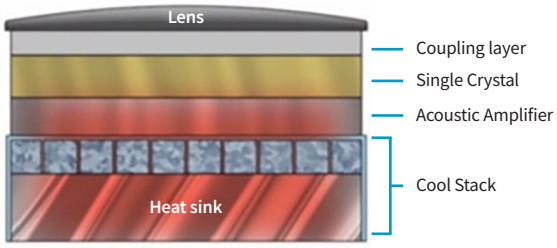


Figure 13. *Cool Stack:* Optimizes energy usage via patented technology integrated into the transducer's internal architecture; it relieves inherent heat generation that can otherwise reduce sensitivity and penetration.

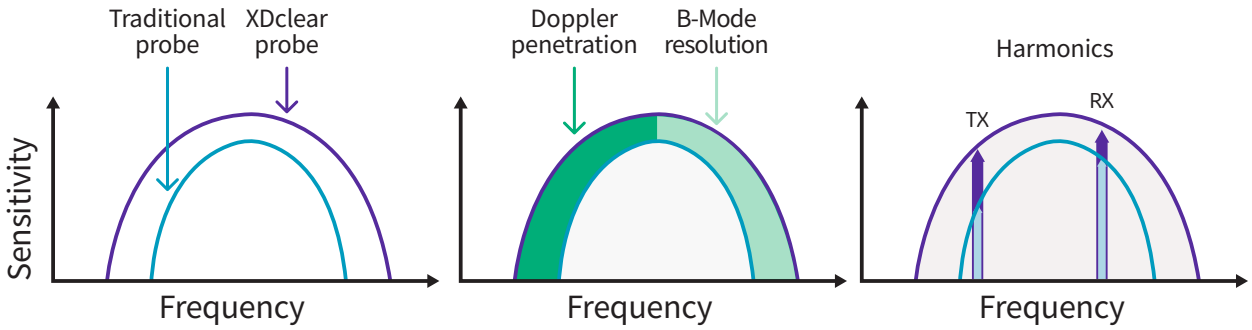


Figure 14. XDclear probe performance benefits are derived from improved sensitivity and wider bandwidth.

cSound Architecture summary

The cSound Architecture leverages next-generation data rates and processing power that were previously unavailable, allowing significantly more data to be collected and used to create every image. This additional data is used to achieve focus at every point and to increase contrast and spatial resolution—all while significantly improving frame rates. Combined with the performance advantages of XDclear probes and the Advanced Raw Data Post Processor, these advancements make the cSound Architecture an excellent imaging system for today and its flexible design makes it a powerful imaging platform for tomorrow.

GE HealthCare

June 2024
JB29536XX

Brake pedal

Figure 3-42. Front and Right-rear caster

1. Step on Lower side pedal to activate Brake
2. Step on Upper side pedal to release Brake

1.7

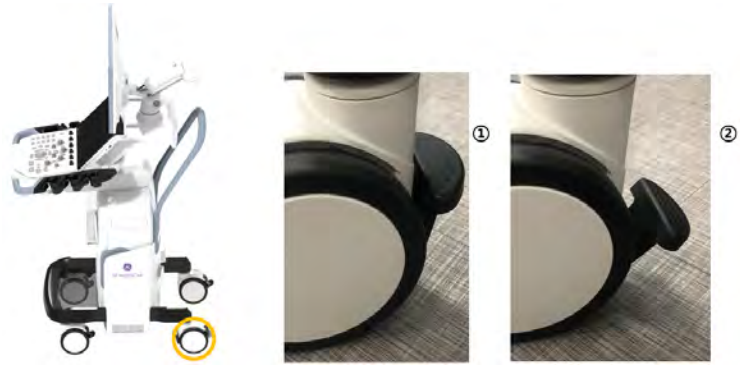


Figure 3-43. Left-rear caster

1. Step on to activate Brake
2. Raise up to release Brake

Before moving the system (continued)

8. Store sufficient gel and other essential accessories in the provided space.
9. Adjust the monitor and control panel to their lowest positions by using the up/down switch on the front of the operator panel. Make sure the operator panel is locked in place.

CAUTION

To prevent system damage while not in use AND/OR before moving the system, flip down the monitor and lock the monitor arm and operator panel firmly in place.

Figure 3-40. Flip down the monitor and lock the monitor arm

10. Unlock the wheels.

3.4 Fiksuojamas monitorių laikantis rėmas

Keyboard

On Screen Keyboard 4.5

You can use "On Screen Keyboard" on touchscreen. Keyboard will show up when you press "Keyboard" User Defined key. And you can hide it with "Exit" button on Keyboard or Keyboard UD key.

Figure 3-29. On Screen Keyboard

Figure 3-30. Keyboard User Defined key

PW Doppler Mode Display

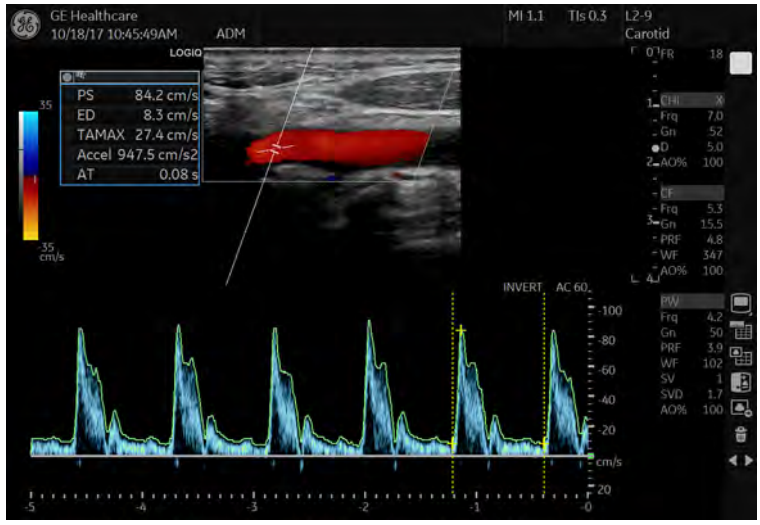


Figure 5-18. PW Doppler Mode Display

Table 5-7: Doppler Mode Display Explanations

Doppler Display	Description, Format, Values
Scale	Velocity Scale, displayed as PRF in kHz.
Wall Filter	Wall filter size, displayed as WF in Hz.
Doppler Gain*	Displays as GN in decibels (dB).
Sample Volume Depth	Displays (in Cm) when Doppler cursor is present.
Doppler Angle (AC ##)	Indicates angle in degrees between the Doppler mode cursor and the angle correction indicator. Displays when Doppler cursor is present. The Doppler Angle displays in red when the angle exceeds 60°. Velocities obtained when the angle is greater than 80° are displayed as asterisks (***).
Spectral Invert	INVERT appears when the spectral trace is inverted and the plus/minus signs (+/-) are reversed.
HPRF 5.5	HPRF mode is used when detected velocities exceed the processing capabilities of the currently selected PW Doppler scale or when the selected anatomical site is too deep for the selected PW Doppler scale.
Time Scale	Each selection represents a different sweep time.
Angle Correct	Indicates flow direction.
Sample Volume Gate	Indicates sample volume box. Each probe defaults to a specific range gate.
Doppler Velocity Scale	Flow direction has a positive and negative indicator, noted in centimeters per second (cm/sec). When the velocity scale is less than 10 cm/s, it is displayed to the first decimal point (4.6 rather than 5 cm/s). The Doppler velocity scale adjust as you adjust the Scale.

Flow Imaging

LOGIQ E10 Series

Introduction

Ultrasound can be a highly desirable imaging tool to assess flow hemodynamics due to its lack of ionizing radiation, real-time nature, portability, and economy. To address the wide-ranging clinical needs of various specialties, GE Healthcare has made a variety of flow technologies available on the LOGIQ™ E10 Series ultrasound systems, including:

- Color Flow
- Power Doppler Imaging
- Microvascular Imaging
- Radiant*flow*™
- B-Flow™ Imaging

This paper will review the technical aspects and clinical benefits of each flow technology.

Color Flow

Introduction

The color flow (CF) mode allows the visualization of flow direction and velocity information within the region of interest (ROI), or color box, defined by the operator. The Doppler shifts of returning ultrasound waves within the ROI are color-coded based on average velocity and direction.

How CF Works

Similar to Pulsed Wave (PW) Doppler, CF utilizes intermittent sampling of ultrasound waves, and avoids the range ambiguity of Continuous Wave (CW) Doppler.

Flow is depicted in blue when traveling away from the transducer (negative Doppler shift), while flow traveling toward the transducer (positive Doppler shift) is depicted in red. Lighter shades of each color denote higher velocities. The areas of high flow turbulence are depicted in a third color.

An aliasing artifact appears as flow in the opposite direction of the real flow. This occurs when the Nyquist limit is reached due to a sampling rate that is too slow relative to the speed of the blood.

Figure 1 shows CF (light blue, inside the ROI) and background B-Mode (gray), which are generated by separated transmit (Tx) waveforms and received (Rx) echoes. The entire CF frame is created by overlaying CF information onto the background B-Mode.

A wall motion filter (WMF) is always applied to differentiate true flow and clutter.

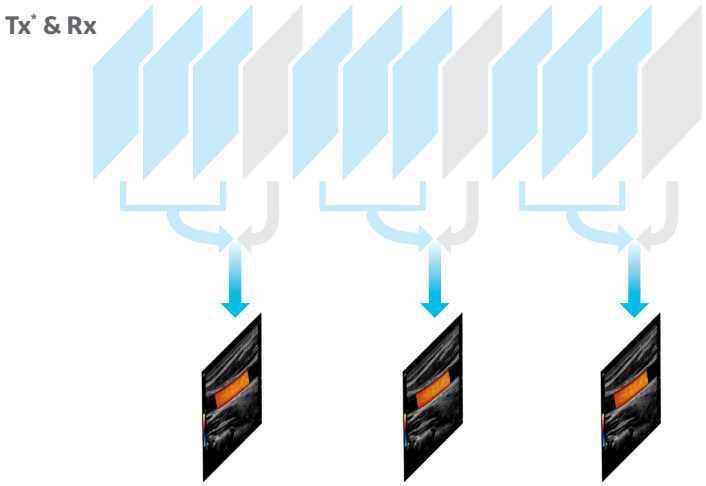


Figure 1. Color flow imaging. (*Tx: Pulse transmission, Rx: Receiving echo signal; Gray: B-Mode Tx & Rx).

Since CF on the LOGIQ E10 Series incorporates proprietary Coded Excitation technology for a new flow processing chain, it helps achieve finer spatial resolution and less flow overwriting at shallow depth, and simultaneously penetrates more at deeper depth.

Color Flow Technical Advantages

Compared with other flow modes, CF imaging has the following advantages:

- Displays flow velocity for both small and large vessels at different depths
- Helps show flow information at deeper depths
- Improves separation of arteries and veins in close proximity

Color Flow Clinical Benefits

Abdominal Imaging

CF may help to improve:

- Hepatic artery and portal vein separation (Figure 2)
- Visualization of renal vessels from origin to the hilum
- Deep aortic imaging

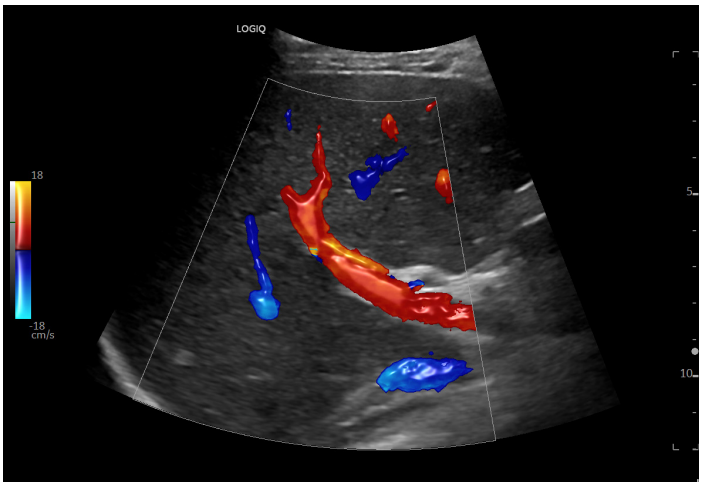


Figure 2. Separation of hepatic artery and portal vein using CF imaging.

Gynecologic Imaging

CF may be useful in:

- Evaluation for torsion in deep ovarian vessels
- Assessment of flow in a fibrotic uterus

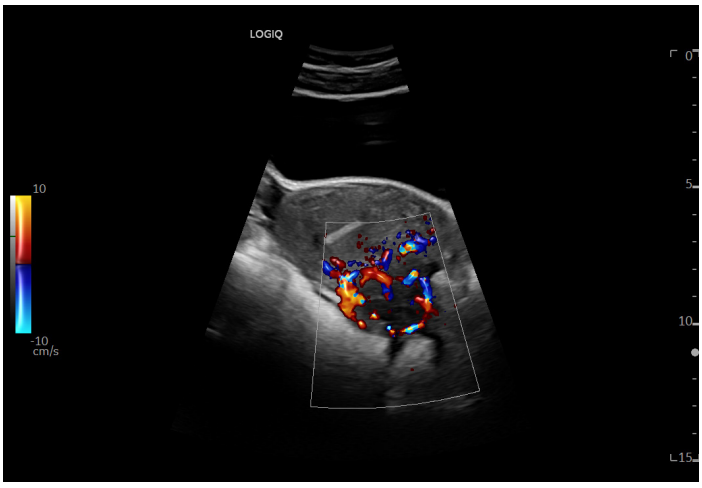
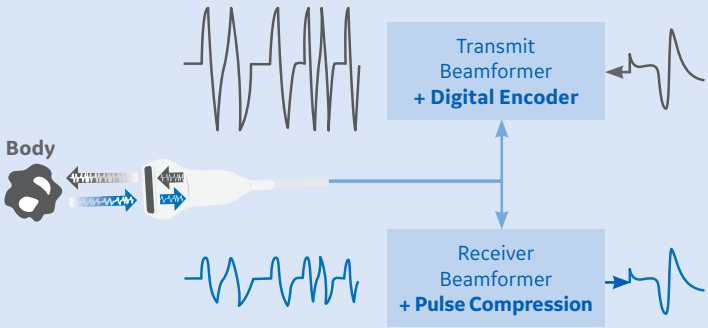


Figure 3. Color flow imaging in a fibroid using the C2-9 transducer.

CODED EXCITATION

Coded Excitation, a proprietary technology of GE Healthcare, is a key component in many of the ultrasound flow modes referenced in this paper. As shown below, the Coded Excitation process digitally codes a typical wideband signal (short pulse base waveform) to form a long pulse on the transmit side. The echoes from both tissue and blood cells are then on the receiver side, which decodes the long pulse into a pulse similar in length to the original pulse, but with much larger amplitude.



Obstetric Imaging

CF may be useful in:

- Visualization of the chambers of the fetal heart and great vessels
- Visualization of umbilical cord to see separation of the vein and arteries (Figure 4)

Vascular Imaging

CF may be useful in:

- Detection of high velocity areas in the carotid or lower extremity arteries (Figure 5)
- Detection of slow flow in deep arteries and veins

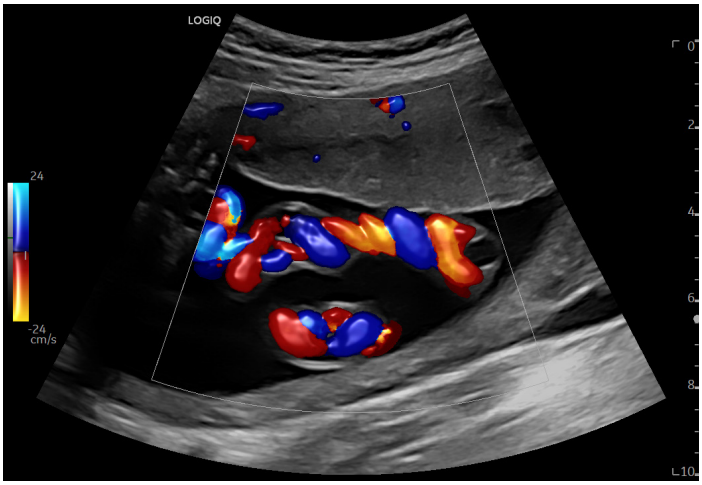


Figure 4. Separation of vein and arteries in umbilical cord.

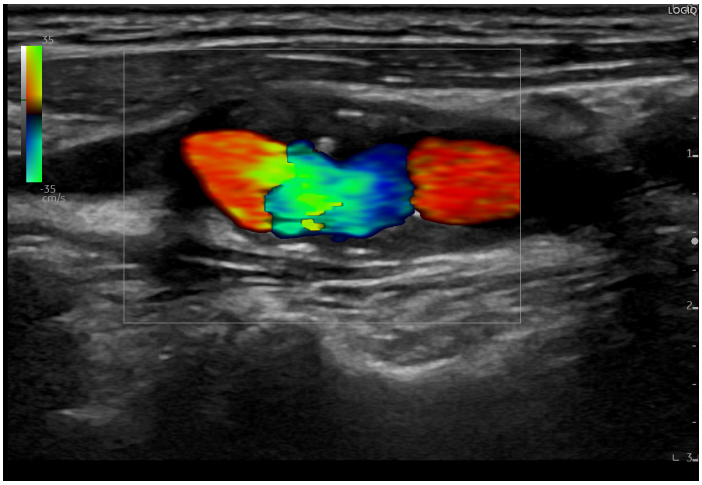


Figure 5. CF imaging in the carotid artery showing high grade stenosis.

Power Doppler Imaging

Introduction

Unlike CF, Power Doppler Imaging (PDI) is independent of velocity and direction of flow, and does not have any signal aliasing issue. Therefore, it allows detection of lower velocities than CF. In general, PDI has higher sensitivity than CF, which makes a trade-off with flash noise artifacts.

How PDI Works

Ultrasound images are formed by the reflected ultrasound echoes. These waves have an amplitude and a frequency, which is equal to the frequency of the emitted wave if the anatomy is static. But frequency shift is generated due to movement (e.g. blood).

Spectral analysis of Doppler signal consists of both frequency and amplitude information of a small sample. In PDI, the brightness of the pixels represents the amplitude of the signal (related to Power Doppler).

PDI works in a similar fashion to color flow. Power Doppler flow (inside the ROI) and background B-Mode (gray) are generated by separated Tx waveforms and Rx echoes, as shown in Figure 6. An entire PDI frame is created by superimposing Power Doppler flow information onto the background B-Mode.

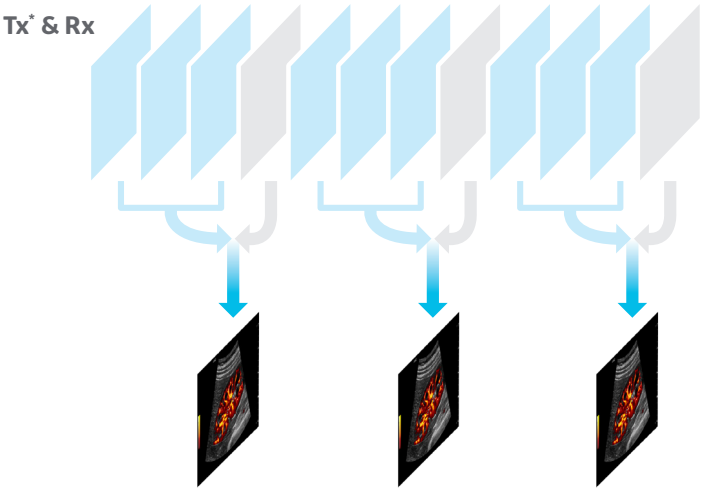


Figure 6. Power Doppler Imaging (PDI). (*Tx: PDI Pulse transmission, Rx: PDI Receiving echo signal; Gray: B-Mode Tx & Rx).

PDI always uses WMF to differentiate true flow and clutter.

Since PDI on the LOGIQ E10 Series incorporates proprietary Coded Excitation technology for a new flow processing chain, it helps achieve finer spatial resolution and higher sensitivity at shallow depth, and simultaneously has deep penetration.

PDI Technical Advantages

Compared with other flow modes, PDI has the following advantages:

- Shows high flow sensitivity, especially for small vessels at shallow depths
- No aliasing as compared with CF
- Displays intensity information and can show directional information with Directional PDI Maps

Clinical Benefits

Abdominal Imaging

PDI may be useful in:

- Assessment of liver lesions
- Assessing inflammation or ischemia in the kidneys (Figure 7)

Figure 7. PDI showing renal perfusion.

Small Parts Imaging

PDI may be useful in:

- Evaluation of thyroid nodules to assess vascular patterns (Figure 8)
- Evaluation of testicular torsion or hyperemia in the epididymis

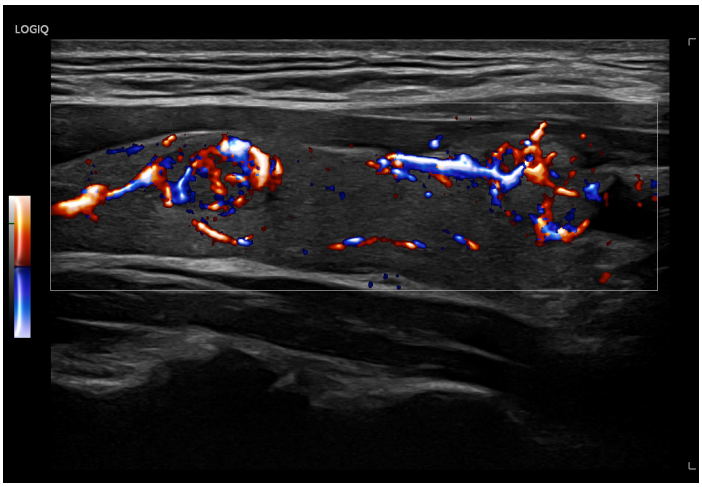


Figure 8. PDI showing vascular patterns within thyroid nodules.

Obstetric Imaging

PDI may be helpful in:

- Visualization of chambers in a fetal heart and great vessels (Figure 9)
- Assessing separation of the vein and arteries in the umbilical cord

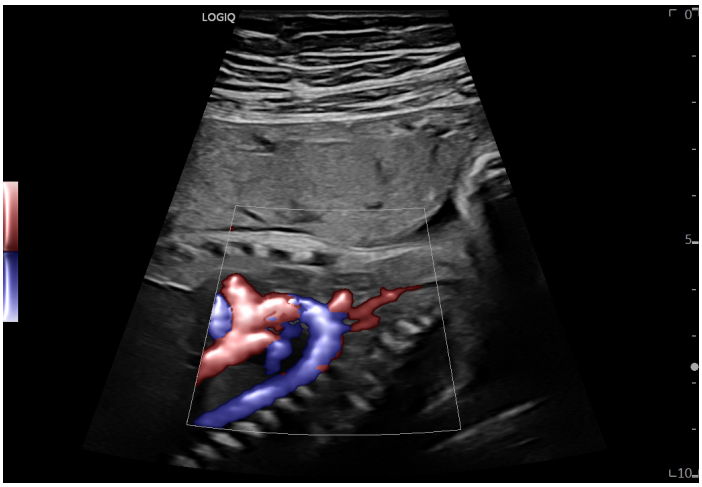


Figure 9. PDI showing aortic arch in a fetus.

Additionally, PDI may be beneficial when assessing neonatal brain perfusion as shown in Figure 10.

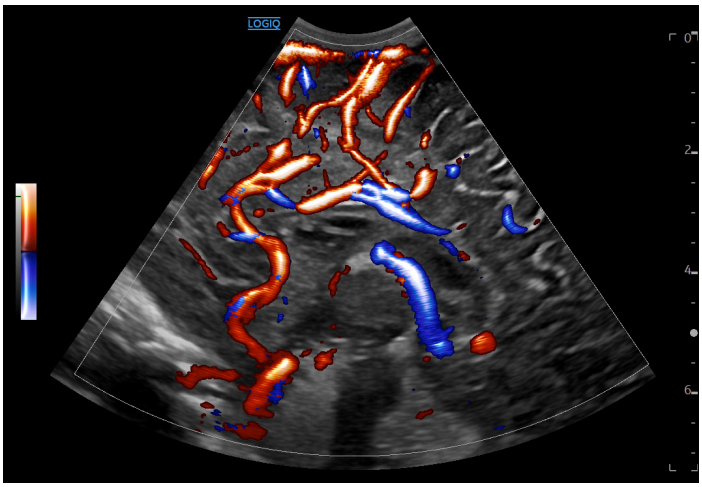


Figure 10. Perfusion through neonatal brain using PDI.

Micro Vascular Imaging

Introduction

There has long been a clinical need for detection of slow flow states especially in areas where assessment of vascularity is crucial to diagnosis and follow-up treatments. Traditional flow modes are limited in detecting very slow flow especially in small vessels. The Micro Vascular Imaging (MVI) technique has the potential to fill this role.

Limitations of Other Flow Imaging Modes

Traditional flow modes, such as CF and PDI, are challenged by clutter signals resulting from stationary and slowly moving tissue, including vessel walls. Removing this motion with conventional WMFs is effective but it also removes slow flow that occupies the same bandwidth on the frequency domain.

Conventional flow techniques acquire a limited number of samples for each point in the flow ROI. The number is dictated by the system or user-specified packet size, which is typically in the range of 10-13 to maintain an adequate frame rate. The relatively small number of samples limits both frequency resolution and the design options for WMFs. As a result, WMFs filter out tissue motion but also some blood flow.

How MVI Works

Continuous Scan Sequence

MVI is designed to continuously acquire samples at each point in the flow ROI. Unlike traditional flow techniques that fire the entire B-Mode image sequentially and then resume the flow transmit events, this continuous MVI scan sequence transmits only parts of the B-Mode image in between individual flow firings.

Figure 11 shows the basic diagram of MVI processing compared with CFM/PDI, illustrating that conventional flow modes have a limited number of packets. MVI's continuous scan sequence, combined with proprietary digitally encoded ultrasound technology, helps to boost weak blood cell echoes and enhance spatial resolution.

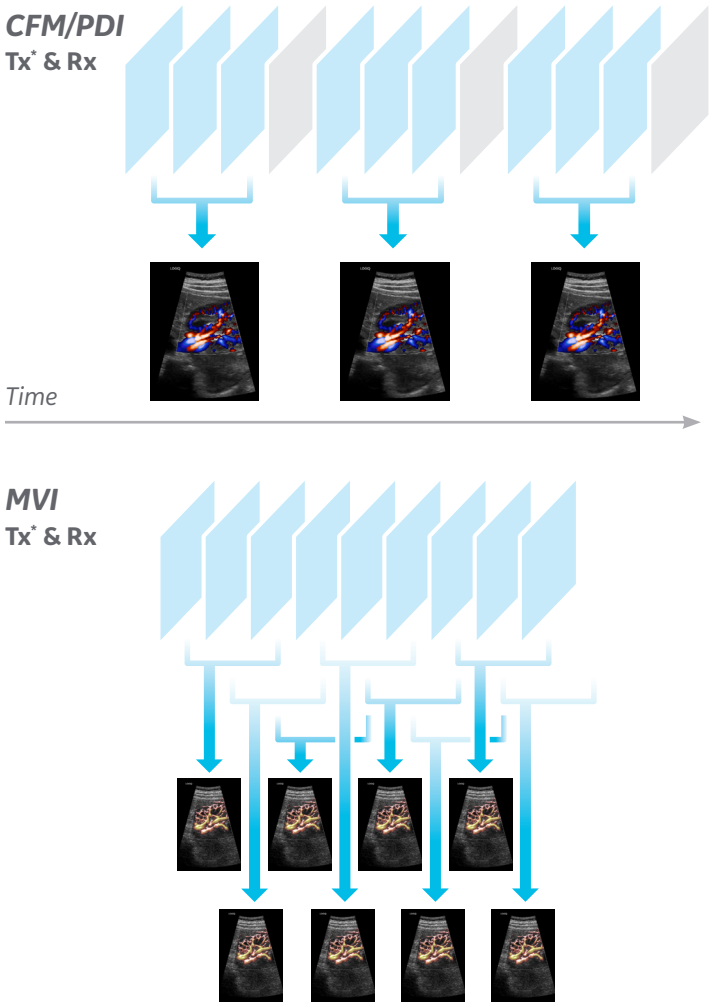


Figure 11. Continuous scan sequence of MVI versus traditional flow mode (PDI). At the top, conventional flow modes need to fire desired packet size of flow and a full frame of background B-Mode (gray in picture). At the bottom, MVI continuously acquires flow frame without interruption due to background B-Mode and theoretically has no limitation on packet.

Advanced Clutter Filter

To make sure these weak blood cell echoes are not lost while removing the clutter signal, a different WMF approach is needed and the access to continuous samples for each point in the flow ROI enables this more advanced approach.

As seen in Figure 12, the advanced clutter filter shifts flow data into a new domain to separate slow flow signal from clutter. In this new domain, clutter is separated from slow flow without the impact of losing sensitivity in real time.

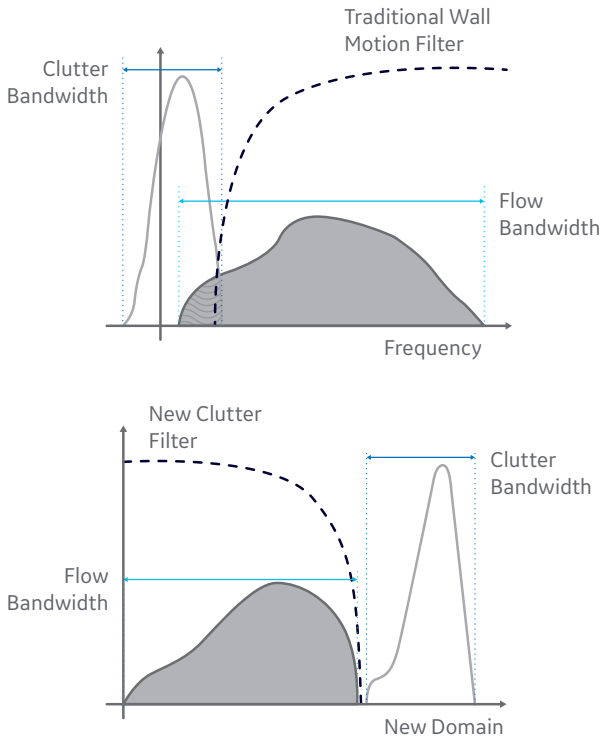


Figure 12. Comparison of a traditional WMF (top) and an advanced clutter filter (bottom). The traditional filter reduces slow flow (wavy stroke) due to overlap with clutter. The advanced clutter filter shifts domain into covariance and effectively removes clutter without losing slow flow.

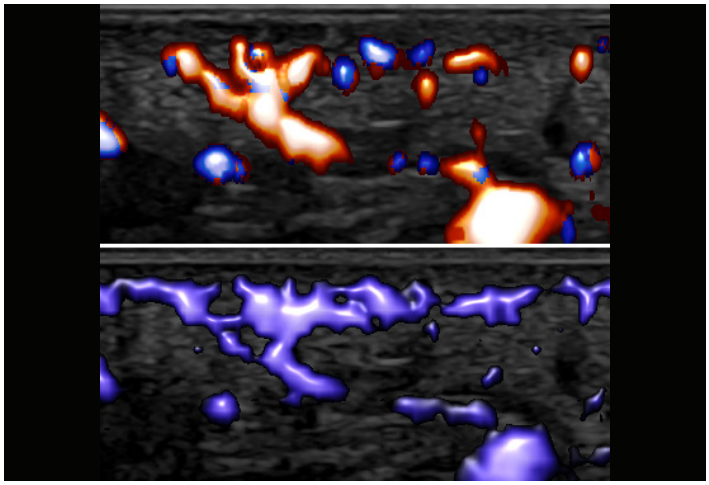


Figure 13. Flow in finger. Comparison of conventional flow presentation with PDI (top) and with MVI (bottom). MVI shows more small branches and slow flow with excellent continuity.

Clinical Benefits

Musculoskeletal and Superficial Imaging

MVI may be useful in:

- Assessing inflammation in wrist and finger (Figure 14)
- Improving visualization of a foreign body

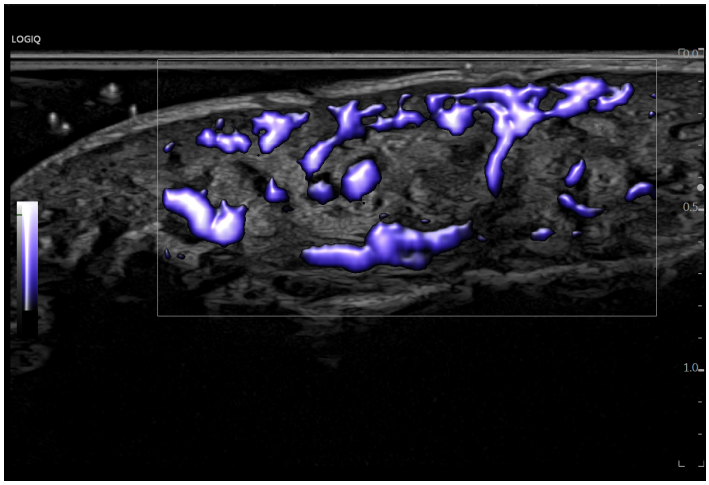


Figure 14. Perfusion through finger with MVI.

Small Parts Imaging

MVI may be useful in:

- Pediatric scrotal imaging to assess inflammation or torsion (Figure 15)
- Evaluating a lymph node or lesion vascularity

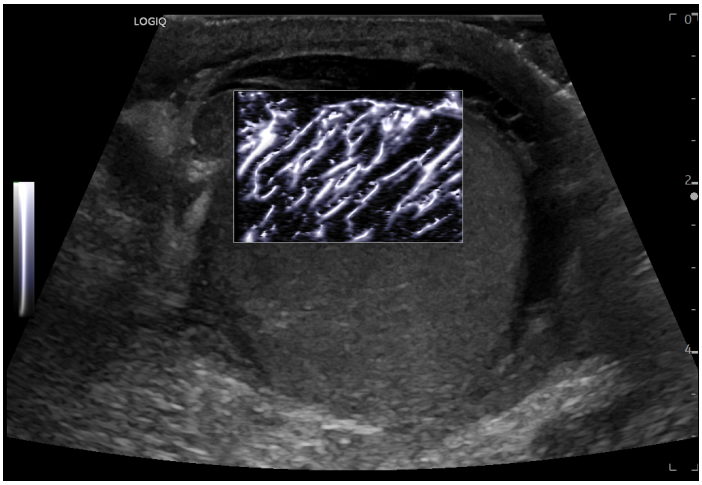


Figure 15. Perfusion through testicle using MVI.

Abdominal Imaging

MVI may be useful in assessing:

- Perfusion through a renal transplant and detecting areas of ischemia
- Vessel patterns in a superficial liver lesion (Figure 16)

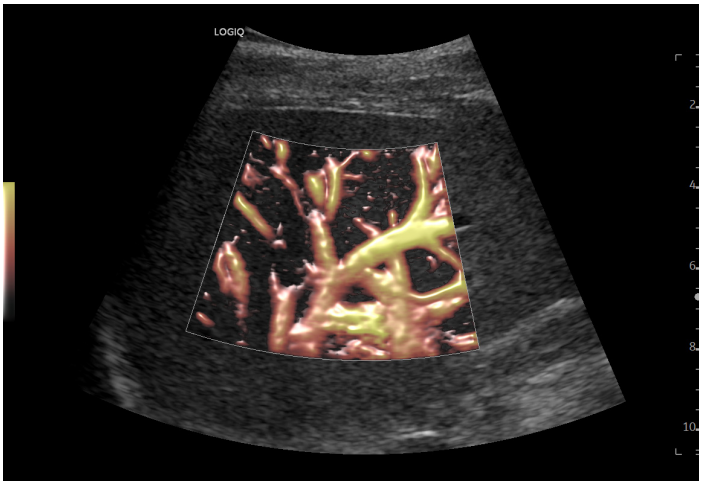


Figure 16. Liver perfusion using MVI with Radiant*flow*.

In addition, MVI may be useful in identifying inflammation in superficial lymph nodes and evaluating flow characteristics in suspicious lumps or bumps (Figure 17).

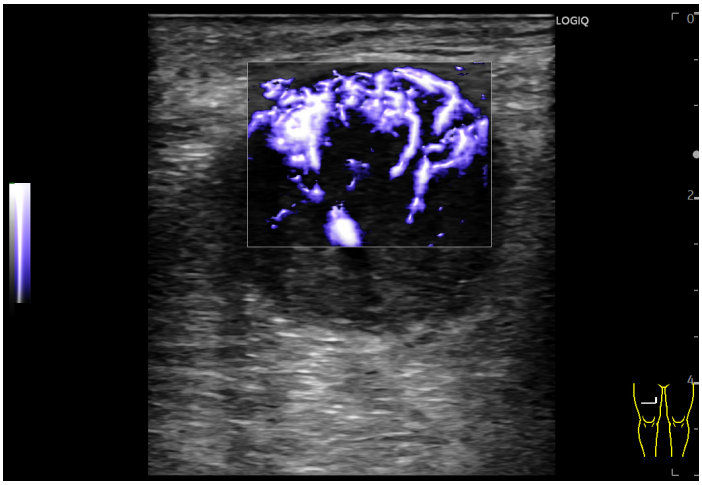


Figure 17. MVI showing slow small vessel flow through a superficial mass.

Radiant*flow*

Introduction

Radiant*flow* is an advanced visualization technology which improves vessel separation and tightness. Radiant*flow* algorithms add height and depth information to CF, PDI or MVI signals to provide a 3D-like appearance. Radiant*flow* provides clearer separation of the signal and background and assists in identifying slow flow in small vessels that at times can be hard to detect with traditional visualization techniques.

How Radiant*flow* Works

Traditional flow images use color to represent components such as velocity, power or variance (turbulence). Radiant*flow* utilizes the power component as elevation data to represent flow as a color textured surface as seen in Figure 18.

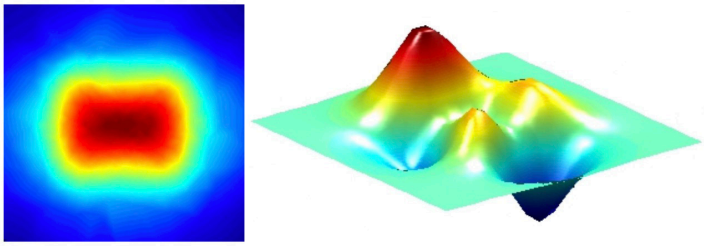


Figure 18. Conventional color flow map of velocity (left) and illustrated 3D converted flow map with Radiant*flow* (right).

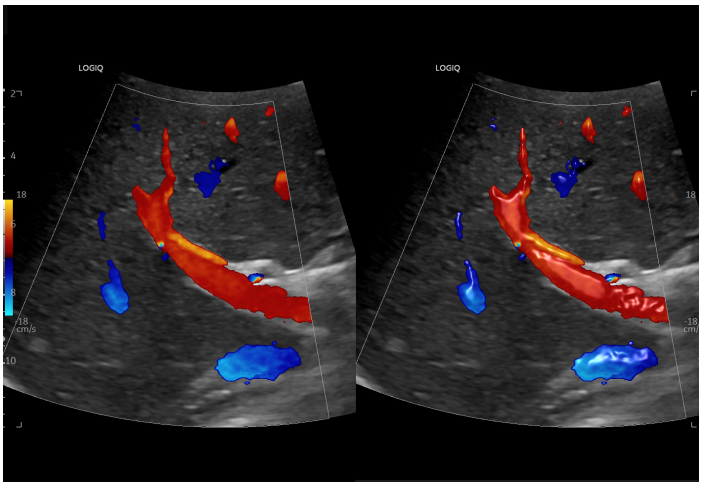


Figure 19. Normal color flow (left) and Radiant*flow* (right).

3D visualization technologies, such as diffuse and specular reflections, are applied in order to enhance Radiant*flow* visualization effect as seen in Figure 19.

Three different presets, MIN-MID-MAX, enable Radiant*flow* imaging to be tailored to various scan conditions, as seen in Figure 20.

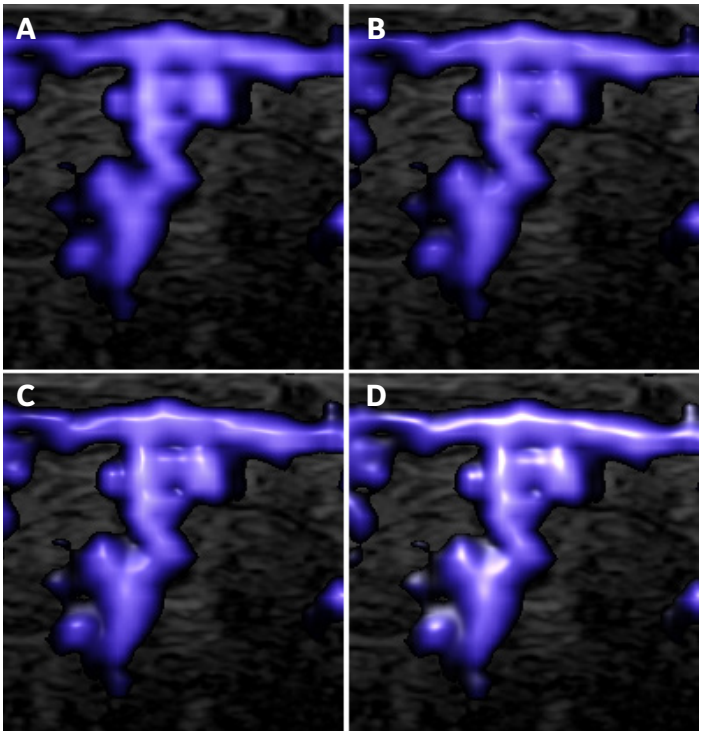


Figure 20. The level of Radiant*flow* at different presets: A. OFF; B. MIN; C. MID; D. MAX (Flow in finger with MVI).

In Summary

Radiant*flow* algorithms add height and depth information to color Doppler signals, providing a 3D-like appearance. When used with CF, PDI and MVI, this advanced visualization technology can help to improve vessel separation and tightness.

B-Flow

Introduction

B-Flow is a unique flow mode that directly images blood reflectors and tissue information simultaneously, providing an accurate morphologic display of the intraluminal blood flow throughout the entire field of view.

How B-Flow Works

B-Flow uses Coded Excitation technology to boost weak blood flow signal. Coded ultrasound pulses are transmitted with long waveforms containing a large amount of energy. In receiving, the digital beam former decodes the long echo waveforms to very sharp and crisp short pulses. This helps achieve deep penetration and tight resolution at the same time.

B-Flow Technical Advantages

B-Flow is a GE technique that displays the small vessel flow signals in gray scale throughout the entire field of view. This non-Doppler technique uses coded excitation to capture the hemodynamics within large vessels and perfusion of smaller vessels through organs. B-Flow is not angle dependent and visualizes real flow without overwriting of vessels. Finally, the user can choose to visualize B-Mode and B-Flow in a dual screen or use Hybrid Visualization which shows the B-Flow overlaid on the B-Mode image, as shown in Figure 21.

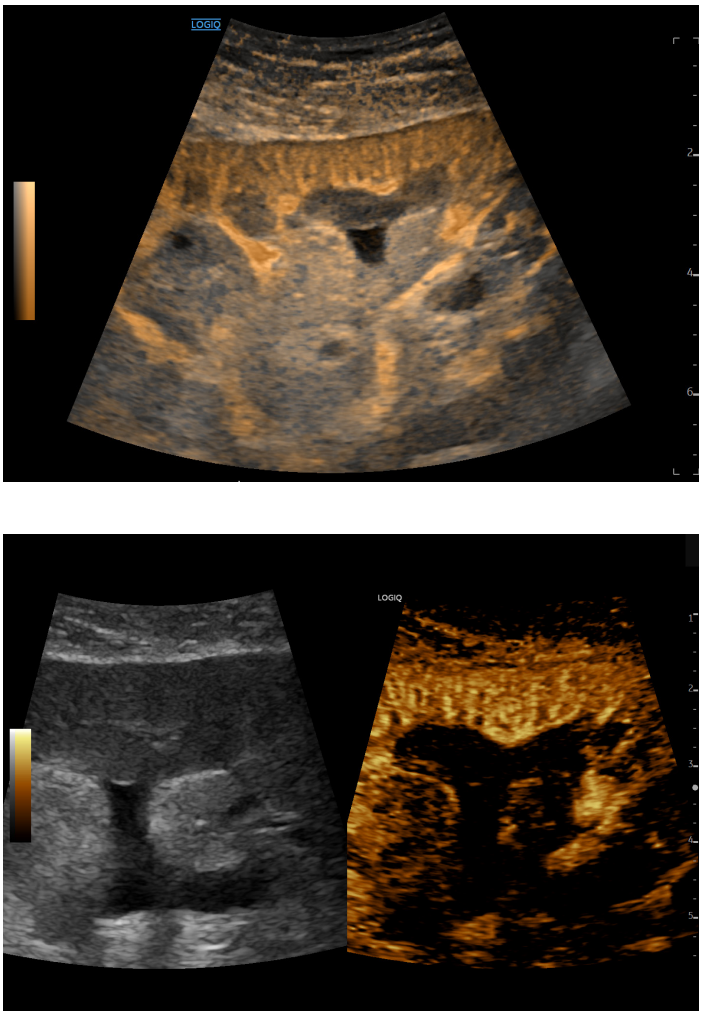


Figure 21. Dual (bottom) and hybrid (top) B-Flow displays. Hybrid provides an overlay of the B-Flow on the reference B-Mode image, enhancing background detail and producing less flash noise in the image.

6.5 Technologija, naudojanti doplerio srautą triukšmų pašalinimui ir artefaktų sumažinimui

B-Flow Clinical Benefits

Compared to other flow modes, B-Flow has the following advantages:

- Displays the true vessel diameter
- High spatial resolution to show fine vessel details and flow hemodynamics in larger vessels
- No angle dependency or ROI needed

Vascular Imaging

B-Flow may be useful in:

- Assessing high grade stenosis in arteries (Figure 22)
- Visualizing flow around an area of soft plaque

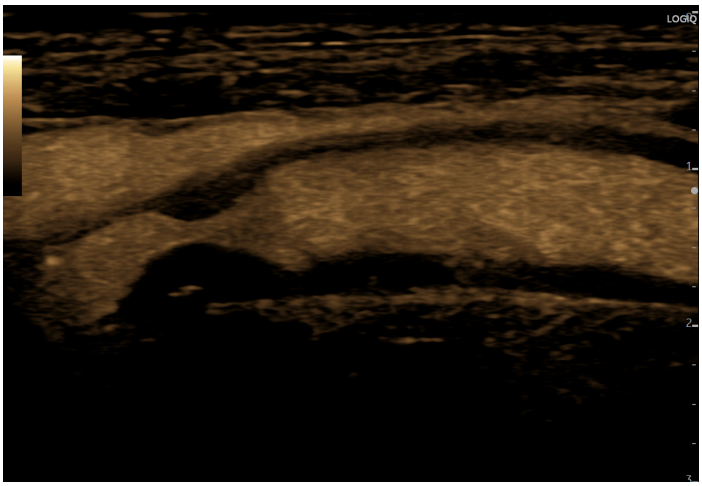


Figure 22. Distal common carotid artery with B-Flow allowing a clear delineation of the wall defect caused by plaque.

6.5 padidinanti audinių ir kraujagyslių sienelių ryškumą

Abdominal Imaging

B-Flow may be useful in:

- Evaluating liver surface for tortuosity of vessels (Figure 23)
- Assessing organ perfusion through a kidney transplant
- Confirming vessel patterns in liver lesions

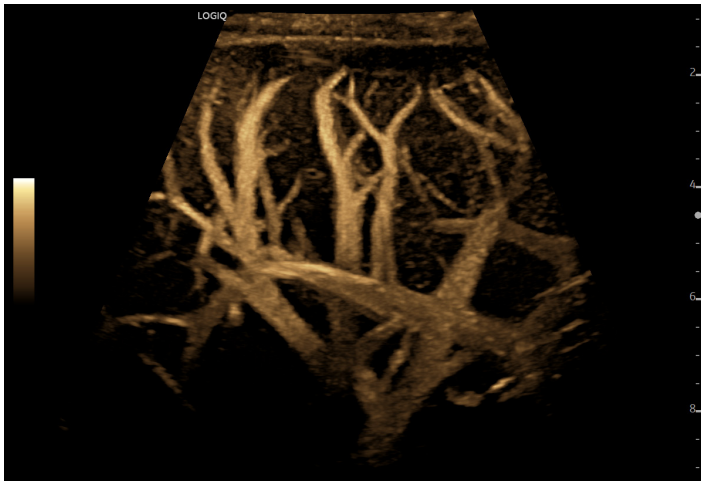


Figure 23. Liver vasculature using B-Flow cine capture.

In addition, B-Flow may be useful in:

- Assessing neonatal head perfusion (Figure 24)
- Assessing a lymph node or area of inflammation for vascularity
- Improving visualization of a hernia or ureteral jets
- Placenta perfusion

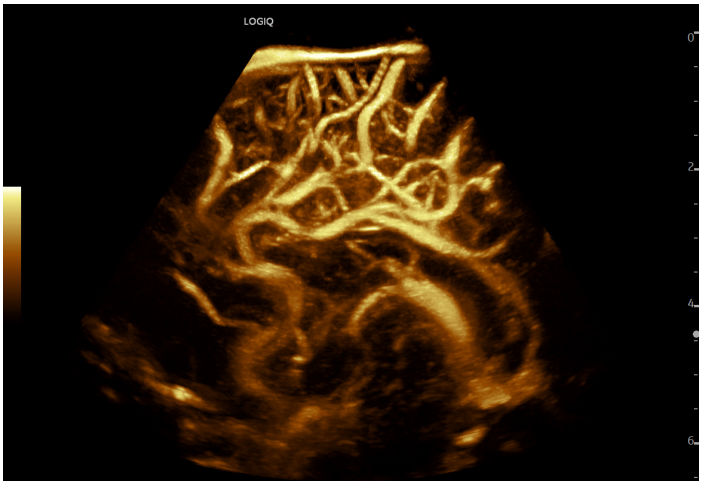


Figure 24. Neonatal head using B-Flow Capture to assess perfusion.

LOGIQ E10 Series Flow Modes: Comparison of Clinical Applications

	CF	PDI	B-Flow	MVI
Abdomen	When deep penetration is needed, such as in the aorta; Separation of arteries and veins	To evaluate an area of ischemia; When more sensitivity is needed to assess a liver lesion	Hemodynamics within large vessels in the abdomen; Perfusion through organs to assess small vessel structures	Image a superficial lesion to assess small vessel patterns; Kidney transplant to assess perfusion for areas of ischemia
OB/GYN	Assessing flow in a fibrotic uterus; Umbilical cord to see separation of the vein and arteries	Evaluation for torsion in deep ovarian vessels; Use directional PDI to assess the chambers in fetal heart and great vessels	Evaluate placental perfusion; Circle of Willis in the fetal brain	Evaluate placental perfusion
Vascular	Assess velocity information and direction; Slow flow in deep arteries and veins	Assess slow flow in deep arteries and veins	Assess high velocity stenosis; Evaluate true vessel diameter around an area of soft plaque	Very slow flow in superficial veins, such as varicose veins
Small Parts	When a deep breast lesion requires more penetration	Evaluation of testicular torsion or hyperemia in the epididymis	Depict the true vessel diameter in very small vessels in a lesion or through an organ to assess tortuosity of the vessels	Finger or wrist to assess inflammation; Improve visualization of a foreign body
Pediatrics	When deep penetration is needed: Velocity assessment of hepatic artery in a post liver transplant patient	Evaluate pyelonephritis: Evaluate neonatal head perfusion through entire brain	Assess ureteral jets; Perfusion through neonatal brain to assess tortuous vessels around a shunt or superficial vessels	Pediatric scrotal exams to detect small vessels with slow flow; Lumps and bumps to evaluate vasculature, such as arteriovenous malformation
Urology	When deep penetration is needed through the prostate	When additional sensitivity is needed to assess the prostate	Not currently available on the endocavitary probe	Not currently available on the endocavitary probe
Cardiac	Use color in most cases	Not typically used in cardiac exams	Use to assess hypertrophy of the heart	Not currently available on the cardiac probes

LOGIQ E10 Series Flow Modes: Comparison of Technical Attributes

	CF	PDI	MVI	B-Flow
Quantify velocity	X			
Show flow direction	X	X		
No aliasing		X	X	X
Flow angle independent				X
Background B-Mode	X	X	X	X
Whole image flow (no ROI)				X
Best penetration	X	X		
Best hemodynamics			X	X
Best spatial resolution			X	X

April 2020
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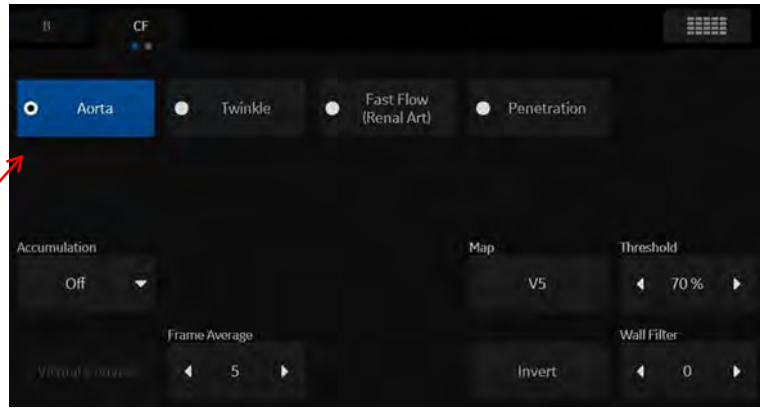
Flow Model Shortcuts

Flow Model Shortcuts values vary by application. You can configure these Shortcuts on the Utility--> Imaging--> CF. Below is an example of the Renal Flow Model Shortcuts and the following table lists all the following Flow Model Shortcuts by application.



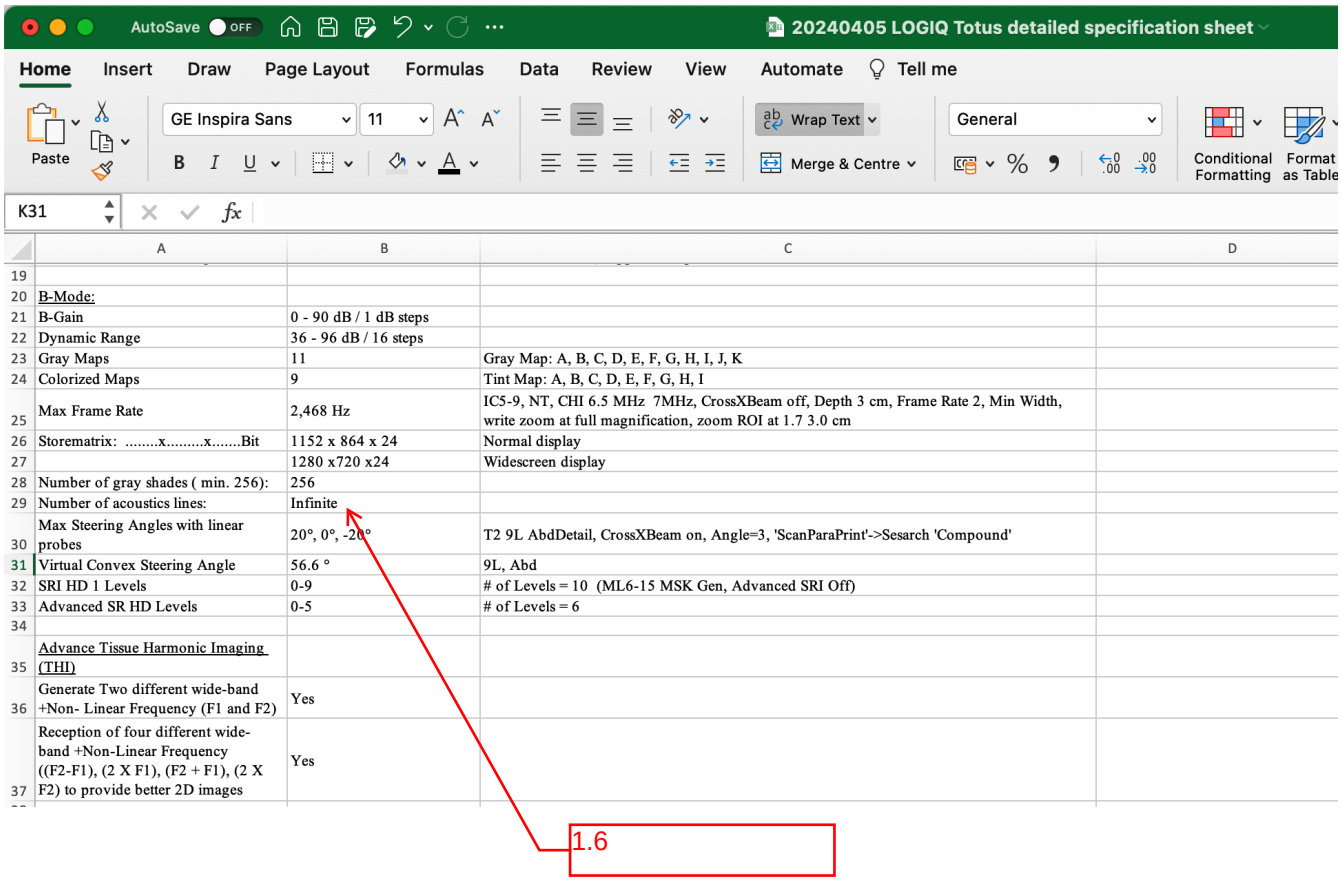
7.2 Optimizavimas pagal pasirinktą tėkmės būseną

Figure 5-15. Application Flow Model Shortcuts

Flow Model Shortcuts (continued) 7.2

Table 5-5: Flow Model Shortcuts

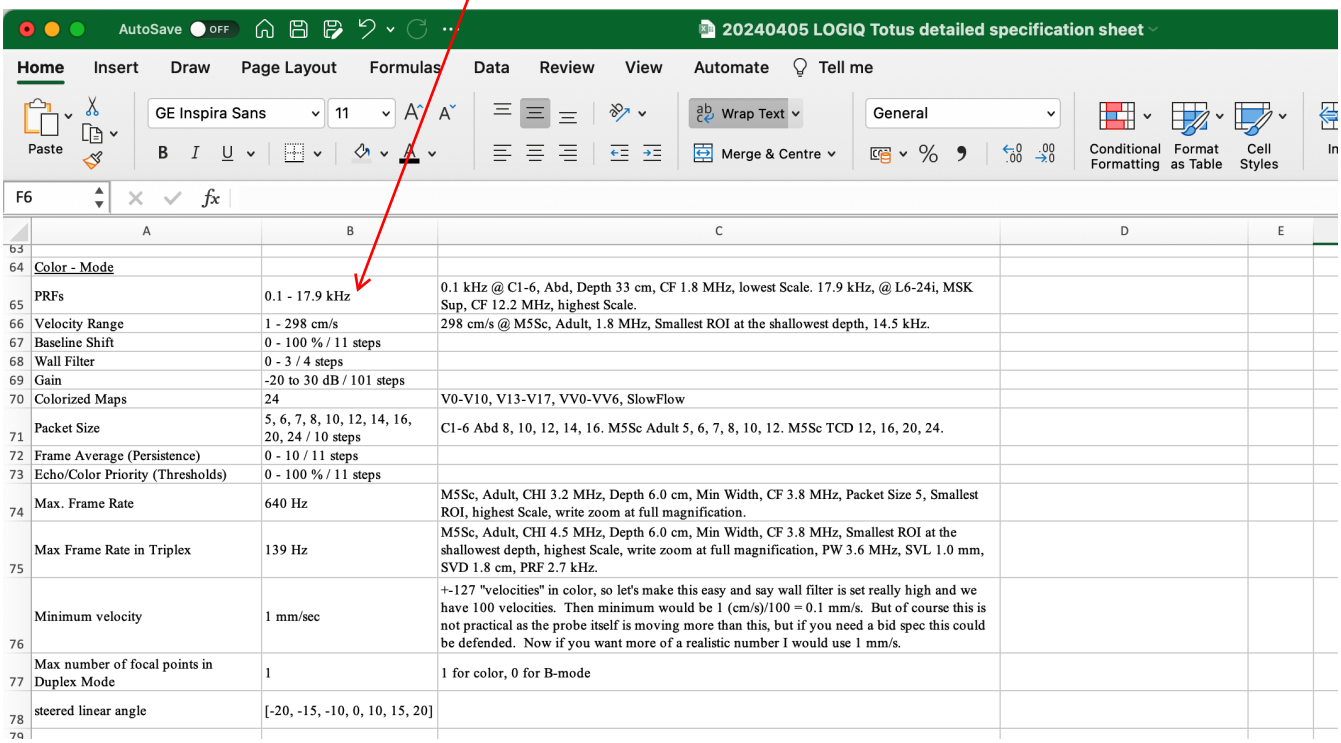
Application	Flow Model Shortcuts			
ABD, ABD Biopsy	Aorta	Slow Flow (Renal)	Fast Flow (Renal Art)	Penetration
Renal	Aorta	Twinkle	Fast Flow (Renal Art)	Penetration
OB1, OB23	Fetal Echo	Ovary		
PedAbd	Slow Flow (Renal)		Twinkle	Penetration
NeoHead	Slow Flow			Penetration
NeoAbd	Slow Flow (Renal)			Penetration
Cardiac (Adult, Pediatric)	Fast Frame Rate	Penetration	Slow Flow	
Scrotal	Slow Flow			
Thyroid	Slow Flow	Med Flow	Carotid	
Breast, MskGen	Slow Flow	Med Flow	Fast Flow	Penetration
MskSup	Slow Flow	Med Flow	Fast Flow	Rheuma
LEV	Slow Flow	Fast Flow		
UEV	Slow Flow			
Carotid	Vascular Surgery	Vertebral Arterial (Vert.Art.)		
UEA	Vascular Surgery	Slow Flow		
GYN	Ovary			



	A	B	C	D
19				
20	B-Mode:			
21	B-Gain	0 - 90 dB / 1 dB steps		
22	Dynamic Range	36 - 96 dB / 16 steps		
23	Gray Maps	11	Gray Map: A, B, C, D, E, F, G, H, I, J, K	
24	Colorized Maps	9	Tint Map: A, B, C, D, E, F, G, H, I	
25	Max Frame Rate	2,468 Hz	IC5-9, NT, CHI 6.5 MHz 7MHz, CrossXBeam off, Depth 3 cm, Frame Rate 2, Min Width, write zoom at full magnification, zoom ROI at 1.7 3.0 cm	
26	Storematrix: .....x.....x.....Bit	1152 x 864 x 24	Normal display	
27		1280 x720 x24	Widescreen display	
28	Number of gray shades (min. 256):	256		
29	Number of acoustics lines:	Infinite		
30	Max Steering Angles with linear probes	20°, 0°, -20°	T2 9L AbdDetail, CrossXBeam on, Angle=3, 'ScanParaPrint'->Sesarch 'Compound'	
31	Virtual Convex Steering Angle	56.6 °	9L, Abd	
32	SRI HD 1 Levels	0-9	# of Levels = 10 (ML6-15 MSK Gen, Advanced SRI Off)	
33	Advanced SR HD Levels	0-5	# of Levels = 6	
34				
35	Advance Tissue Harmonic Imaging (THI)			
36	Generate Two different wide-band +Non- Linear Frequency (F1 and F2)	Yes		
37	Reception of four different wide-band +Non-Linear Frequency ((F2-F1), (2 X F1), (F2 + F1), (2 X F2) to provide better 2D images	Yes		

1.6

7.3



	A	B	C	D	E
64	Color - Mode				
65	PRFs	0.1 - 17.9 kHz	0.1 kHz @ C1-6, Abd, Depth 33 cm, CF 1.8 MHz, lowest Scale. 17.9 kHz, @ L6-24i, MSK Sup, CF 12.2 MHz, highest Scale.		
66	Velocity Range	1 - 298 cm/s	298 cm/s @ M5Sc, Adult, 1.8 MHz, Smallest ROI at the shallowest depth, 14.5 kHz.		
67	Baseline Shift	0 - 100 % / 11 steps			
68	Wall Filter	0 - 3 / 4 steps			
69	Gain	-20 to 30 dB / 101 steps			
70	Colorized Maps	24	V0-V10, V13-V17, VV0-VV6, SlowFlow		
71	Packet Size	5, 6, 7, 8, 10, 12, 14, 16, 20, 24 / 10 steps	C1-6 Abd 8, 10, 12, 14, 16. M5Sc Adult 5, 6, 7, 8, 10, 12. M5Sc TCD 12, 16, 20, 24.		
72	Frame Average (Persistence)	0 - 10 / 11 steps			
73	Echo/Color Priority (Thresholds)	0 - 100 % / 11 steps			
74	Max. Frame Rate	640 Hz	M5Sc, Adult, CHI 3.2 MHz, Depth 6.0 cm, Min Width, CF 3.8 MHz, Packet Size 5, Smallest ROI, highest Scale, write zoom at full magnification.		
75	Max Frame Rate in Triplex	139 Hz	M5Sc, Adult, CHI 4.5 MHz, Depth 6.0 cm, Min Width, CF 3.8 MHz, Smallest ROI at the shallowest depth, highest Scale, write zoom at full magnification, PW 3.6 MHz, SVL 1.0 mm, SVD 1.8 cm, PRF 2.7 kHz.		
76	Minimum velocity	1 mm/sec	+-127 "velocities" in color, so let's make this easy and say wall filter is set really high and we have 100 velocities. Then minimum would be 1 (cm/s)/100 = 0.1 mm/s. But of course this is not practical as the probe itself is moving more than this, but if you need a bid spec this could be defended. Now if you want more of a realistic number I would use 1 mm/s.		
77	Max number of focal points in Duplex Mode	1	1 for color, 0 for B-mode		
78	steered linear angle	[-20, -15, -10, 0, 10, 15, 20]			

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F1

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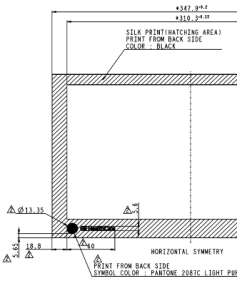
Display Detailed Specification

Category		HDU	AUO
Supplier		INX	AUO
Screen size		23.8"	23.8"
Resolution		1920 x 1080	1920 x 1080
Shades of gray		256	256
Refresh rate		60 Hz	60 Hz
Response time		15 ms	14 ms
Optical	White luminance	320 cd/m^2	236 cd/m^2
	Black luminance	0.0016 cd/m^2	0.3 cd/m^2
	Contrast ratio	200,000 : 1	1,000 : 1
	Color gamut	NTSC 89%	NTSC 70 %
	Surface haze	25%	42%
	Viewing angle	89°/89°/89°/89°	89°/89°/89°/89°
	Structure	Dual Cells	Single Cell
	Luminance uniformity	<1.43	<1.33
	Gamma	2.2, 2.4, DICOM GSDF	2.2, 2.4, DICOM GSDF
	Color temperature	6500K, 9300K, 11000K, 13000K	6500K, 9300K, 11000K, 13000K
Electrical	Power consumption	54 W	17 W
	LED lifetime	50,000 hrs	50,000 hrs
Mechanical	Dimension [W x H x D]	547 x 323 x 21 mm	535 x 314 x 13 mm
	Weight	6700 g	5600 g
	Horizontal Translation	350 mm	350 mm
	Vertical Translation	150 mm	150 mm
	Swivel	180°	180°
	Tilt Back Max	15-25°	15-25°
	Tilt Forward Max	85°	85°

T2- LOGIQ Totus
Touch Panel Dimention



3.3

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G43

Console:				
Size (LCD monitor)		1415 (Height) x 545 (Width) x 835 (Depth) mm / 55.7 (Height) x 21.5 (Width) x 32.9 (Depth) inches / 1265 (Height) x545(Width) x 835 (Depth) mm for Transportation		
Size (HDU monitor)		1460 (Height) x 565 (Width) x 835 (Depth) mm / 55.7 (Height) x 22.2 (Width) x 32.9 (Depth) inches / 1265 (Height) x565(Width) x 835 (Depth) mm for Transportation		
Weight		73kg without peripherals		
Acoustic noise				
	Freeze/system Idle (Fan40%)	26.5 dBA	Measured at operator position (100cm up from floor and 100cm away from front)	
	Norminal scan(FAN 50%)	28 dBA	Measured at operator position (100cm up from floor and 100cm away from front)	
	Max (FAN 60%)	30.7 dBA	Measured at operator position (100cm up from floor and 100cm away from front)	
Push/Pull Force:		Push/Pull force at rear handle on carpeting:	2.8kgf (Push), 3.4kgf(Pull)	
		Push/Pull force at rear handle on painted	1.8kgf (Push), 2.5kgf (Pull)	
Console Height Monitor Vertical		1415mm with lowest position (LCD monitor) 1460mm with lowest position (HDU monitor)		
Console Height Monitor Horizontal		1265mm with lowest position (LCD, HDU monitor)		
Front of OP Panel Height		810mm with lowest position		
Floating keyboard and adjustable in three dimensions:				
Height: 810mm - 1060mm				
Rotation: +/- 45°				
Wheels:	5", 125mm			

4.2