

Electromagnetic compatibility information

Upper arm blood pressure monitor

REF BU 580 connect / BU 584 connect / BU 582 / BU 586 / BU-97E

Model: HL858CB/HL888HC/HL868DT

Item number: 51580 / 51584 / 51582 / 51586 / 23224



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Guidance and manufacturer's declaration - electromagnetic emissions

The device is intended for use in the electromagnetic environments listed below and should only be used in such environments:

Emissions test	Compliance	Electromagnetic environment -guidance
RF emissions CISPR 11	Group 1	RF energy is used only to maintain device's operation. Therefore, its RF emissions are so low that it's not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The device is suitable for use in all establishments, including domestic establishments, and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	not applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	not applicable	

Guidance and manufacturer's declaration - electromagnetic immunity

The device is intended for use in the electromagnetic environments listed below and should only be used in such environments:

Immunity test	IEC 60601-1-2 Test level	Compliance level	Electromagnetic environment -guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact discharge ±15 kV air discharge	±8 kV contact discharge ±15 kV air discharge	In the case of air discharge testing, the climatic conditions shall be within the following ranges: Ambient Temperature: 15°C~35°C Relative Humidity: 30%~60%
Power frequency (50 or 60 Hz) magnetic field IEC 61000-4-8	30 A/m 50 or 60 Hz	30 A/m 50 or 60 Hz	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Conducted RF IEC61000-4-6	3V rms At 0.15-80 MHz 6V rms At ISM & Radio Amateur Freq	not applicable	Portable and mobile RF communications equipment should be used no closer to any part of the device, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.

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Test specifications for enclosure port immunity to RF wireless communications equipment.


Test frequency (MHz)	Modulation	IMMUNITY TEST LEVEL (V/m)
385	Pulse modulation 18 Hz	27
450	FM± 5 kHz deviation 1 kHz sine	28
710	Pulse modulation 217 Hz	9
745		
780		
810	Pulse modulation 18 Hz	28
870		
930		
1720	Pulse modulation 217 Hz	28
1845		
1970		
2450	Pulse modulation 217 Hz	28
5240	Pulse modulation 217 Hz	9
5500		
5785		

NOTE: If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1 m, the 1 m test distance is permitted by IEC 61000-4-3.

- a). The carrier shall be modulated using a 50% duty cycle square wave signal.
b). As an alternative to FM modulation, 50% pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.

Guidance and manufacturer's declaration - electromagnetic immunity

The device is intended for use in the electromagnetic environments listed below and should only be used in such environments:

Immunity test	IEC 60601-1-2 Test level	Compliance level	Electromagnetic environment - guidance
Radiated RF IEC 61000-4-3 (Proximity field from RF wireless communications equipment IEC 61000-4-3)	10 V/m at 80-2700 MHz AM Modulation And 9- 28V/m at 385-6000MHz, Pulse Mode and other Modulation The system shall be tested as specified in IEC60601-1-2 Table 9 for proximity fields from RF wireless communications equipment using the test methods specified in IEC 61000-4-3	10 V/m at 80-2700 MHz AM Modulation And 9- 28V/m at 385-6000MHz, Pulse Mode and other Modulation The system shall be tested as specified in IEC60601-1-2 Table 9 for proximity fields from RF wireless communications equipment using the test methods specified in IEC 61000-4-3	Recommended separation distance Considering to reduce the minimum separation distance, based on RISK MANAGEMENT, and using higher IMMUNITY TEST LEVELS that are appropriate For the reduced minimum separation distance. Minimum separation distances for higher IMMUNITY TEST LEVELS shall be calculated using the following equation: $E = 6/d\sqrt{P}$ where P is the maximum power in W, d is the minimum separation distance in m, and E is the IMMUNITY TEST LEVELS in V/m. Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey ^a should be less than the compliance level in each frequency range ^b . Interference may occur in the vicinity of equipment marked with the following symbol: 

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures objects and people.

a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the device is used exceeds the applicable RF compliance level above, the device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the device.

b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.