**Table 1 –Guidelines and declaration from the manufacturer –ELECTROMAGNETIC EMISSIONS– for all EM EQUIPMENTS or EM SYSTEMS**

(Check 5.2.2.1c)

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| --- | --- | --- |
| **Guidelines and declaration from the manufacturer –ELECTROMAGNETIC EMISSIONS** | | |
| THE (EM EQUIPMENT or EM SYSTEM) is intended for use in the electromagnetic environment specified below. The buyer or user of the (EM EQUIPMENT EM or EM SYSTEM) should ensure that it is used in such environment. | | |
| **Emissions testing** | **Conformity** | **Electromagnetic environment** - **Guidelines** |
| RF Emissions  CISPR 11 | Group 1 | THE (EM EQUIPMENT or EM SYSTEM) uses RF energy only for its internal functions. Thus, your RF emissions are very low and probably will not cause any interference in others electronic equipment around it. |
| RF Emissions  CISPR 11 | Group 2 | THE (EM EQUIPMENT or EM SYSTEM) should emit electromagnetic energy so that it can perform according to its designated functions. Electronic equipment nearby may be affected. |
| RF Emissions  CISPR 11 | (A ou B) Class |  |
| Harmonic emissions  IEC 61000-3-2 | (A,B,C,D Class or Not applicable) |  |
| Voltage fluctuation / Flicker emissions  IEC 61000-3-3 | Complying or Not applicable |  |
|  | Please refer to 5.2.2.1c and figure 1 | THE (EM EQUIPMENT or EM SYSTEM) is convenient for use in all establishments including residence and those directly connected to the low voltage ELECTRIC POWER SUPPLY GRID which power the buildings used as a residence. |
|  | Please refer to 5.2.2.1c and figure 1 | THE (EM EQUIPMENT or EM SYSTEM) is suitable for use in all non-residential establishments and can be used in homes and other buildings directly connected to the public grid with low voltage power that feeds the buildings used as residence, as long as the following warning is followed:  **Warning:** This equipment / system is intended for use by healthcare professionals only. This equipment / system may cause radio interference or may disturb the operation of others equipments around. Mitigation measures should be taken, such as reorient or relocate the (EM EQUIPMENT or EM SYSTEM) or shield the place where around it. |
|  | Please refer to 5.2.2.1c and figure 1 | THE (EM EQUIPMENT or EM SYSTEM) is suitable for use in all non-residential establishments and those directly connected to the public grid of low voltage power that feeds the buildings used as residence. |
| RF Emissions  CISPR 14-1 | Comply | THE (EM EQUIPMENT or EM SYSTEM) is not suitable for interconnection with other equipment. |
| RF Emissions  CISPR 15 | Comply | THE (EM EQUIPMENT or EM SYSTEM) is not suitable for interconnection with other equipment. |

**Table 2 –Guidelines and declaration from the manufacturer – ELECTROMAGNETC IMMUNITY – for all EM EQUIPMENTS or EM SYSTEMS**

(Check 5.2.2.1f)

|  |  |  |  |
| --- | --- | --- | --- |
| **Guidelines and declaration from the manufacturer – Electromagnetic immunity** | | | |
| THE (EM EQUIPMENT or EM SYSTEM) is intended for use in the electromagnetic environment specified below. The buyer or user of the (EM EQUIPMENT or EM SYSTEM) should ensure that it is used in such environment. | | | |
| **Test of immunity** | **Test level of IEC60601** | **Conformity level** | **Electromagnetic environment – Guidelines** |
| Electrostatic discharge (DES)  IEC 61000-4-2 | +/- 6 kV contact  +/- 8 kV air |  | The floor should be made of wood, concret or ceramic. If the floor is made of synthetic material, the relative humidity should be at least 30%. |
| Fast electric transients / save  IEC 61000-4-4 | +/- 2 kV For the power supply line  +/- 1 kV For the input / output lines |  | The quality of power supply from the power grid should be same as hospital or comercial enviroment |
| Outbreaks  IEC 61000-4-5 | +/- 1 kV line ( s) a  line ( s)  +/- 2 kV line ( s) in the  ground |  | The quality of power supply from the power grid should be same as hospital or comercial enviroment. |
| Voltage drop, short interruptions and voltage variations in the power supply input lines  IEC 61000-4-11 | > 5 % Ut  (drop > 95 % in Ut)  By 0,5 cicle  40 % Ut  (drop of 60 % in Ut)  By 5 cicles  70 % Ut  (drop of 30 % in Ut)  By 25 cicles  > 5 % Ut  (drop > 95 % in Ut)  By 0,5 s |  | The quality of power supply from the power grid should be same as hospital or comercial enviroment. If the user of (EM EQUIPMENT or EM SYSTEM) needs a continuous operation during power interruptions from the eletric power, the (EM EQUIPMENT or EM SYSTEM) should be powered by a continuous source or a battery. |
| Magnetic field generated by the frequency in the eletric power (50 / 60 Hz)  IEC 61000 - 4 - 8 | 3 A/m |  | The characteristic levels of magnetic fields in the grid frequency from the power supply should be typical of a hospital or commercial space. |
| NOTA: Ut is the voltage of the network c.a. prior to the application of the test level. | | | |

**Table 4 –Guidelines and declaration from the manufacturer – ELECTROMAGNETC IMMUNITY – for all EM EQUIPMENTS or EM SYSTEMS that are not life support**

(Check 5.2.2.2)

|  |  |  |  |
| --- | --- | --- | --- |
| **Guidelines and declaration from the manufacturer – Electromagnetic immunity** | | | |
| THE (EM EQUIPMENT or EM SYSTEM) is intended for use in the electromagnetic environment specified below. The buyer or user of the (EM EQUIPMENT or EM SYSTEM) should ensure that it is used in such environment. | | | |
| **Test of immunity** | **Test level of IEC60601** | **Conformity level** | **Electromagnetic environment – Guidelines** |
| Conducted RF  IEC 61000-4-6  Radiated RF  IEC 61000-4-3 | 3 Vrms  150 kHz to 80 MHz  3V/m  80 MHz to 2,5 GHz | ［］V  ［］V/m | It is not advisable to use mobile or portable RF communication equipment at a shorter distance from any part of the (EM EQUIPMENT or EM SYSTEM), including cables, than the recommended separation distance calculated by the equation applicable to the transmitter frequency.  Recommended separation distance  d ＝［］  d ＝［］ 80 MHz to 800 MHz  d ＝［］ 800 MHz to 2,5 MHz  cicles    Where P and the maximum output power declared of the transmitter in watts (W), according to the transmitter´s manufacturer and d is the recommended seperation distance in meters (m).  The field strength from RF transmitters determined by an electromagnetic field inspection should be less than the compliance level for each frequency band. Interference may occur if its surrounded by equipment marked with this symbol: |
| NOTA 1: A 80 MHz and 800 MHz, the highest frequency range is applicable.  NOTA 2: These guidelines may not apply to all the situations. Electromagnetic propagation is affected by the absorption and reflection of structures, objects and people. | | | |
| The strength of the field from fixed transmitters, such as radio base stations for telephones (mobile phone or wireless) and mobile ground radios, amateur radio, AM and FM radio transmissions and TV transmissions can not be predicted theoretically with precision. In order to evaluate the electromagnetic environment generated by fixed RF trsnsmisspres, it is convenient to consider an electromagnetic field inspection. If the measured field strength at the location where the (EM EQUIPMENT or EM SYSTEM) will be used exceeds the applicable compliance level for RF designated above, the equipment should be inspected to make sure that it is operating normally. If abnormal performance has been detected, additional measures such as reorientation or relocation of (EM EQUIPMENT or EM SYSTEM), should be taken.    Above the frequency range of 150 KHz to 80 MHz, the intensity field shoul be less than ［］V/m. | | | |

**Table 6 – Recommended separation distances between mobile or portable RF communication equipment and the EM EQUIPMENTS or EM SYSTEMS**

(Check 5.2.2.2)

|  |  |  |  |
| --- | --- | --- | --- |
| **Recommended separation distances between mobile or portable RF communication equipment and the EM EQUIPMENTS or EM SYSTEMS** | | | |
| THE (EM EQUIPMENT or EM SYSTEM) is intended for use in the electromagnetic environment where the disturbances by RF radiation are controlled. The buyer or user of (EM EQUIPMENT or EM SYSTEM) can help prevent electromagnetic interference by keeping the minimum distance between mobile or portable RF communication equipment (transmitters) and (EM EQUIPMENT or EM SYSTEM) as recommended below, according to the maximum output power of the communication equipment | | | |
| **Maximum output power level of the transmitter**  **W** | **Recommended separation distances according**  **to the transmitter frequency** m | | |
| **150 kHz a 80 MHz**  d ＝［］ | **80 MHz a 800 MHz**  d ＝［］ | **800 MHz a 2,5 GHz**  d ＝［］ |
| 0,01 |  |  |  |
| 0,1 |  |  |  |
| 1 |  |  |  |
| 10 |  |  |  |
| 100 |  |  |  |
| For transmitters with a maximum output power level declared that is not listed above, the recommended separation distance d in meters (m) may be determined using the equation applicable to the transmitter frequency, where P is the maximum output power declared of the transmitter in watts (W) according to the transmitter´s manufacturer.  NOTA 1: A 80 MHz and 800 MHz, the separation distance for a larger frequency range is applicable.  NOTA 2: These guidelines may not apply to all the situations. Electromagnetic propagation is affected by the absorption and reflection of structures, objects and people. | | | |