


**Table 201 – Guidance and manufacturer’s declaration – electromagnetic emission – for all EQUIPMENT AND SYSTEMS (see 6.8.3.201 a) 3))**

Guidance and manufacturer’s declaration – electromagnetic emission		
The Multi-Point is intended for use in the electromagnetic environment specified below. The customer or the user of the Multi-Point should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The Multi-Point uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The Multi-Point 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	

**Table 202 – Guidance and manufacturer's declaration – electromagnetic immunity – for all EQUIPMENT and SYSTEMS (see 6.8.3.201 a) 6))**

<b>Guidance and manufacturer's declaration – electromagnetic immunity</b>			
The Multi-Point is intended for use in the electromagnetic environment specified below. The customer or the user of the Multi-Point should assure that it is used in such an environment.			
<b>Immunity test</b>	<b>IEC 60601 test level</b>	<b>Compliance level</b>	<b>Electromagnetic environment - guidance</b>
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient / burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	not applicable not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV differential mode ± 2 kV common mode	not applicable not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5 % $U_T$ (>95 % dip in $U_T$ ) for 0,5 cycle  40 % $U_T$ (60 % dip in $U_T$ ) for 5 cycles  70 % $U_T$ (30 % dip in $U_T$ ) for 25 cycles  < 5 % $U_T$ (>95 % dip in $U_T$ ) for 5 sec	not applicable	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Multi-Point requires continued operation during power mains interruptions, it is recommended that the Multi-Point be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
<b>NOTE</b>	$U_T$ is the a. c. mains voltage prior to application of the test level.		

**Table 204 – Guidance and manufacturer’s declaration – electromagnetic immunity – for EQUIPMENT and SYSTEM that are not LIFE-SUPPORTING (see 6.8.3.201 b))**

<b>Guidance and manufacturer’s declaration – electromagnetic immunity</b>			
The Multi-Point is intended for use in the electromagnetic environment specified below. The customer or the user of the Multi-Point should assure that it is used in such an environment.			
<b>Immunity test</b>	<b>IEC 60601 test level</b>	<b>Compliance level</b>	<b>Electromagnetic environment - guidance</b>
Conducted RF IEC 61000-4-6	3 V 150 kHz to 80 MHz	not applicable	<p>Portable and mobile RF communications equipment should be used no closer to any part of the Multi-Point, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p><b>Recommended separation distance</b></p> $d = 1,17\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	<b>10 V/m</b>	$d = 0,35\sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = 0,7\sqrt{P} \quad 800 \text{ MHz to } 2,5 \text{ GHz}$ <p>where <math>p</math> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <math>d</math> is the recommended separation distance in metres (m).<sup>b</sup></p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup></p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 
NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic is affected by absorption and reflection from structures, objects and people.			
<p><sup>a</sup> 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 Multi-Point is used exceeds the applicable RF compliance level above, the Multi-Point should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the Multi-Point.</p> <p><sup>b</sup> Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.</p>			

**Table 206 – Recommended separation distances between portable and mobile RF communications equipment and the EQUIPMENT or SYSTEM - for EQUIPMENT and SYSTEMS that are not LIFE-SUPPORTING (see 6.8.3.201 b))**

<b>Recommended separation distances between portable and mobile RF communications equipment and the Multi-Point</b>			
The Multi-Point is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Multi-Point can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Multi-Point as recommended below, according to the maximum output power of the communications equipment			
Rated maximum output of transmitter  W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz  $d = 1,17\sqrt{P}$	80 MHz to 800 MHz  $d = 0,35\sqrt{P}$	800 MHz to 2,5 GHz  $d = 0,7\sqrt{P}$
0,01	0,12	0,04	0,07
0,1	0,37	0,11	0,22
1	1,17	0,35	0,70
10	3,69	1,11	2,21
100	11,67	3,50	7,00
For transmitters rated at a maximum output power not listed above the recommended separation distance $d$ in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where $P$ is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.			
NOTE 1 At 80 MHz and 800 MHz, the separation distance for 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.			