Undesirable Emissions: Radiated Measurements and Restricted Band Measurements

The EUT was tested from 9kHz to the tenth harmonic of the fundamental frequency of the transmitter. Below 1GHZ a CISPR quasi peak detector was used. Above 1 GHz average measurements were taken, using RBW= 1MHz, VBW= 10Hz, and linearly polarized horn antennas. In addition, peak measurements (RBW= 1MHz, VBW= 1MHz) were taken to ensure that the peak levels are not more than 20dB above the average limit. No harmonics/spurs peak emissions are more than 20dB above the average limit. Special attention is taken for the EUT's harmonic and spurious radiated emissions in the restricted bands of operations, as defined in Section 15.205.

Frequency	F/S (ml/ /m)	Measured Distance (Meters)
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table A-6. Restricted Band Limits

TEST MEASUREMENT EQUIPMENT

Agilent E4448A	PSA Spectrum Analyzer 3 Hz - 50GHz
HP 4448A	Spectrum Analyzer 100Hz – 50GHz
HP 83017A	Microwave Analyzer 40dB Gain (0.5 – 26.5GHz)
HP 3784A	Digital Transmission Analyzer
EMCO 3115	Horn Antenna (1 – 18GHz)
EMCO 3116	Horn Antenna (18 – 40GHz)
HP 8495A	20dB Attenuator (DC-40GHz) 0 -70dB
HP 8493B	10dB Attenuator
MicroCoax Cables	Low Loss Microwave Cables (1 – 50GHz)
CDI Dipoles	Dipole Antennas (30 – 1000MHz)
EMCO 3116	Horn Antenna (18 – 40GHz)

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Undesirable Emissions: Radiated Measurements and Restricted Band Measurements

§15.407(b)(1) and (2), §15.205 & §15.209

Transfer Rate: 36 Mbps

Distance of Measurements: 3 Meters

Channel: 36

Frequency (MHz)	Level (dBm)	AFCL (dB)	POL (H/V)	F/S (dBuV/m)	F/S (uV/m)	Margin (dB)
10360	-130	52.8	٧	29.80	30.90	-24.2
15540	-133.7	62.3	V	35.60	60.26	-18.4
20720	-138	66	V	35.00	56.23	-19
25900	-140	69	V	36.00	63.10	-18

Table A-7. Radiated Measurements @ 3 meters

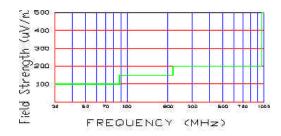


Figure A-5. Radiated limits at 3 meters.

NOTES:

- 1. The limit listed in Section 15.407(b) is -27 dBm/MHz EIRP. This is equivalent to a field strength of 68.24 dBuV/m @ 3m.
- 2. The Restricted Band limit (Section 15.205) for frequencies above 960 MHz is 54 dBuV/m @ 3m.
- 3. Average Measurements > 1GHz using RBW = 1 MHz,

VBW = 10 Hz

- 4. The peak emissions above 1 GHz are not more than 20 dB above the average limit.
- 5. The antenna is manipulated through typical positions, polarity and length during the tests.
- 6. The EUT is supplied with nominal AC voltage or/and a new/fully-recharged battery.
- 7. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported.
- 8. Levels < -140 dBm are at the analyzer noise floor.

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Undesirable Emissions: Radiated Measurements and Restricted Band Measurements

§15.407(b)(1) and (2), §15.205 & §15.209

Transfer Rate: 36 Mbps

Distance of Measurements: 3 Meters

Channel: 52

Frequency (MHz)	Level (dBm)	AFCL (dB)	POL (H/V)	F/S (dBuV/m)	F/S (uV/m)	Margin (dB)
10520	-128.2	52.9	٧	31.7	38.46	-22.3
15780	-132.5	62.5	٧	37	70.79	-17
21040	-137.5	66.4	V	35.9	62.37	-18.1
26300	-140.0	69.4	V	36.4	66.07	-17.6

Table A-8. Radiated Measurements @ 3 meters

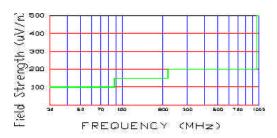


Figure A-6. Radiated limits at 3 meters.

NOTES:

- 1. The limit listed in Section 15.407(b) is -27 dBm/MHz EIRP. This is equivalent to a field strength of 68.24 dBuV/m @ 3m.
- 2. The Restricted Band limit (Section 15.205) for frequencies above 960 MHz is 54 dBuV/m @ 3m
- 3. Average Measurements > 1GHz using RBW = 1 MHz,

VBW = 10 Hz

- 4. The peak emissions above 1 GHz are not more than 20 dB above the average limit.
- 5. The antenna is manipulated through typical positions, polarity and length during the tests.
- 6. The EUT is supplied with nominal AC voltage or/and a new/fully-recharged battery.
- 7. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported.
- 8. Levels < -140 dBm are at the analyzer noise floor.

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§15.407(b)(1) and (2), §15.205 & §15.209

Transfer Rate: 36 Mbps

Distance of Measurements: 3 Meters

Channel: 64

Frequency (MHz)	Level (dBm)	AFCL (dB)	POL (H/V)	F/S (dBuV/m)	F/S (uV/m)	Margin (dB)
10640	-127.9	53.0	V	32.1	40.27	-21.9
15960	-131.7	63.7	V	39.0	89.13	-15.0
21280	-134.7	66.9	V	39.2	91.20	-14.8
26600	-140	69.9	V	36.9	69.98	-17.1

Table A-9. Radiated Measurements @ 3 meters

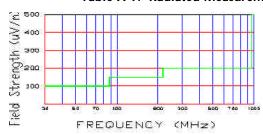


Figure A-7. Radiated limits at 3 meters.

NOTES:

- 1. The limit listed in Section 15.407(b) is -27 dBm/MHz EIRP. This is equivalent to a field strength of 68.24 dBuV/m @ 3m.
- 2. The Restricted Band limit (Section 15.205) for frequencies above 960 MHz is 54 dBuV/m @ 3m.
- 3. Average Measurements > 1GHz using RBW = 1 MHz,

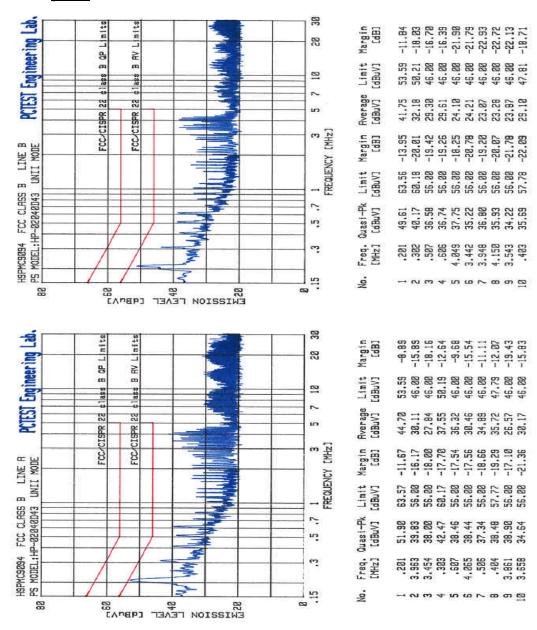
VBW = 10 Hz

- 4. The peak emissions above 1 GHz are not more than 20 dB above the average limit.
- 5. The antenna is manipulated through typical positions, polarity and length during the tests.
- 6. The EUT is supplied with nominal AC voltage or/and a new/fully-recharged battery.
- 7. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported.
- 8. Levels < -140 dBm are at the analyzer noise floor.

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Line-Conducted Test Data

§15.207



Notes:

- 1. All Modes of operation were investigated and the worst-case emissions are reported.
- 2. The limit for Class B device(s) from 150kHz to 30MHz are Specified in EN55022.
- 3. Line A = Phase; Line B = Neutral
- 4. Deviations to the Specifications: None.

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