

APPENDIX 1 - RADIATED MEASUREMENTS AT A BANDEDGE

Scope

This report contains the results of the Band-edge testing performed on the Fujitsu PC Corp. model: PFCWL02. The tests were carried out in accordance with FCC CFR 15.247(c).

Applicable References

1. FCC CFR 15.247(c).
2. ANSI C63.4-1992.
3. "RADIATED MEASUREMENTS AT A BANDEDGE" by FCC

FCC Requirements

Band-edge radiated emission measurements may be necessary to demonstrate compliance with radiated emission limits in Sections 15.249(c) or 15.205 when a restricted band is located adjacent to a 15.247 band (e.g., the restricted band beginning at 2483.5 MHz).

Test Equipment

Test Equipment	Manufacturer/ Model	Serial No.	Last Cal.	Cal. Due Date
EMI Receiver	R&S / ESMI-RF	849937/006	03/01/01	03/01/02
EMI Receiver	R&S / ESAI-D	825035/005	03/01/01	03/01/02
Horn Antenna	EMCO / 3115 w/ Miteq Amp	001	10/28/00	10/28/01
Horn Antenna	EMCO / 3116 w/ Miteq Amp	002	10/28/00	10/28/01

Method of Measurement

1. Perform an in-band field strength measurement of the fundamental emission using the RBW and detector function required by C63.4. For transmitters operating above 1 GHz, use a 1 MHz RBW and a peak detector (as required by Section 15.35). Repeat the measurement with an average detector (i.e., 1 MHz RBW with 10 Hz video bandwidth).
2. Set the analyzer RBW to 1% of the total span, but never use a RBW less than 30 kHz. Use a video bandwidth equal to or greater than the RBW.

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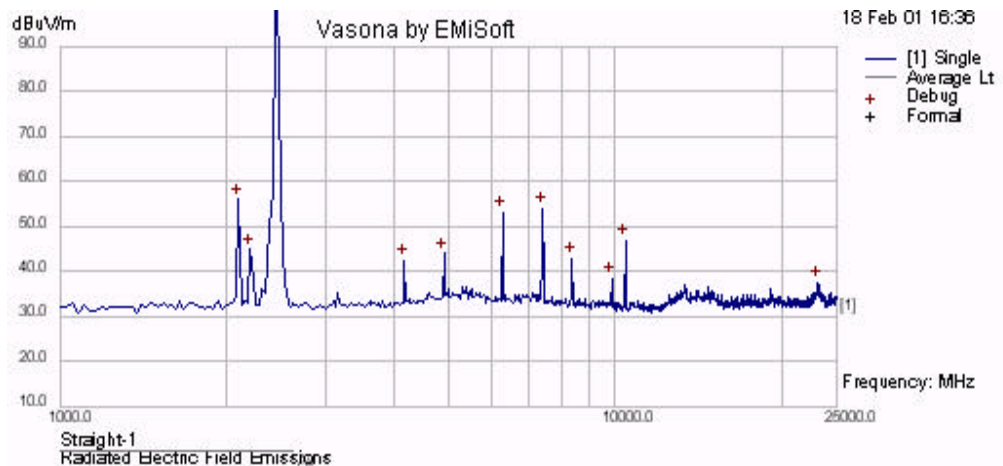
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Record the peak levels of the fundamental emission and the relevant band-edge emission (i.e., run several sweeps in peak hold mode). Observe the stored trace and measure the amplitude delta between the peak of the fundamental and the peak of the band-edge emission.

3. Subtract the delta measured in (2) from the field strengths measured in (1). The resultant field strengths (CISPR QP, average, or peak, as appropriate) are then used to determine band-edge compliance as required by CFR 15.205.
4. Use the above "delta" measurement technique for measuring emissions that are up to two "standard" bandwidths away from the band-edge, where a "standard" bandwidth is the bandwidth specified by C63.4 for the frequency being measured. For example, for band-edge measurements in the restricted band that begins at 2483.5 MHz, C63.4 specifies a measurement bandwidth of at least 1 MHz.

Plot



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Test Results:

Freq. (MHz)	RAW Reading (dBuV)	Correction Factors (dB/m)	Polar. (V/H)	Detector (Peak/Ave)	Field Strength (dBuV/m)	Margin (dB)	Notes
Low Channel							
4804.00	29.47	15.96	H	Ave	45.44	-8.56	RB
4804.01	33.56	15.96	V	Ave	49.53	-4.47	RB
7205.99	21.89	23.17	H	Peak	48.13	-22.14	NRB
7206.00	23.38	23.17	V	Peak	46.55	-23.72	NRB
9645.7	<20.00	-	V	Peak	-	-	NRB
Mid Channel							
4880.05	34.07	15.56	H	Ave	49.63	-4.37	RB
7320.1	28.32	22.50	H	Ave	50.82	-3.18	RB
9760.00	<20.00	-	H	Peak	-	-	NRB
12202.13	<20.00	-	H	Peak	-	-	RB
High Channel							
4960.02	33.63	16.21	H	Ave	49.84	-4.16	RB
7440.05	26.50	23.70	H	Ave	50.2	-3.80	RB
9920.10	< 30.00	-	H	Peak	-	-	NRB
12399.98	< 30.00	-	H	Peak	-	-	NRB

Legends:

NRB = Non Restricted Band, Limits should be 20 dB below the Operating Frequency.

RB = Frequency within the Restricted Bands according to CFR15.205, Limits shall comply with CFR15.209. In this case the limit is 500uV/m (54dBuV/m).

Notes:

1. An EMI receiver peak scan is made from 1 – 25 GHz frequency range using RBW/VBW = 100kHz.
2. Average measurements above 1 GHz are using RBW= 1 MHz, VBW = 10 Hz.
3. During this test EUT is manipulated through typical positions, polarity and length, the worst case emissions are reported above.

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