

9 - Out Of Band Emission for 15.407

9.1 Standard Applicable

§15.407 (b), undesirable emission limits: except as shown in paragraph (b)(6) of this section, the peak emission outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

§15.407 (b)(2), for transmitters operating in the 5.25 – 5.35 GHz band: all emissions outside of the 5.15 – 5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25 – 5.35 GHz band that generate emissions in the 5.15 – 5.25 GHz band must meet all applicable technical requirements for operation in the 5.15 – 5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15 – 5.25 GHz band.

9.2 Test Procedure

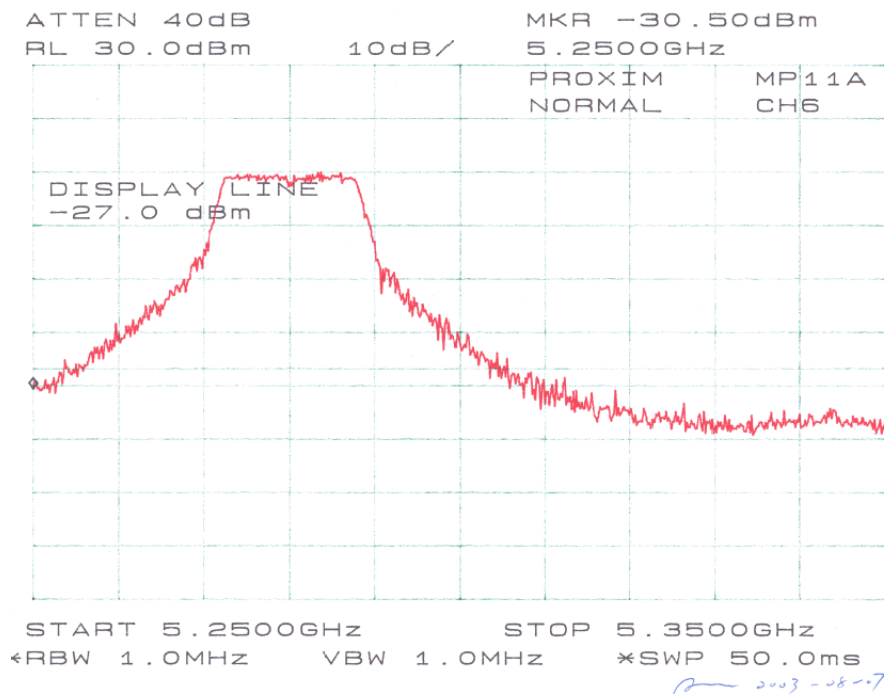
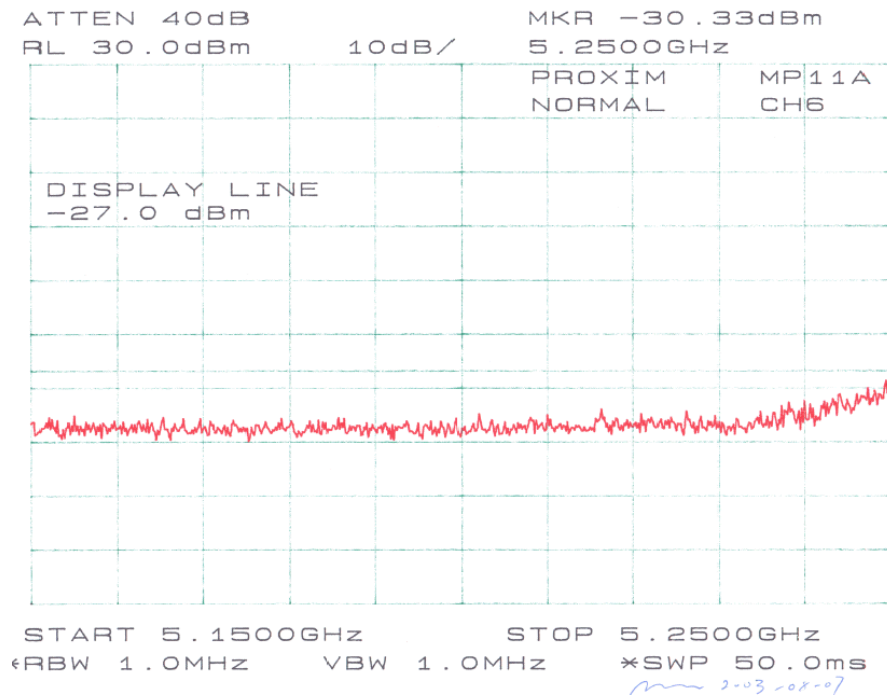
For this test, the EUT's antenna was removed and replaced with a low loss cable, so output power levels were calculated from conducted emission levels.

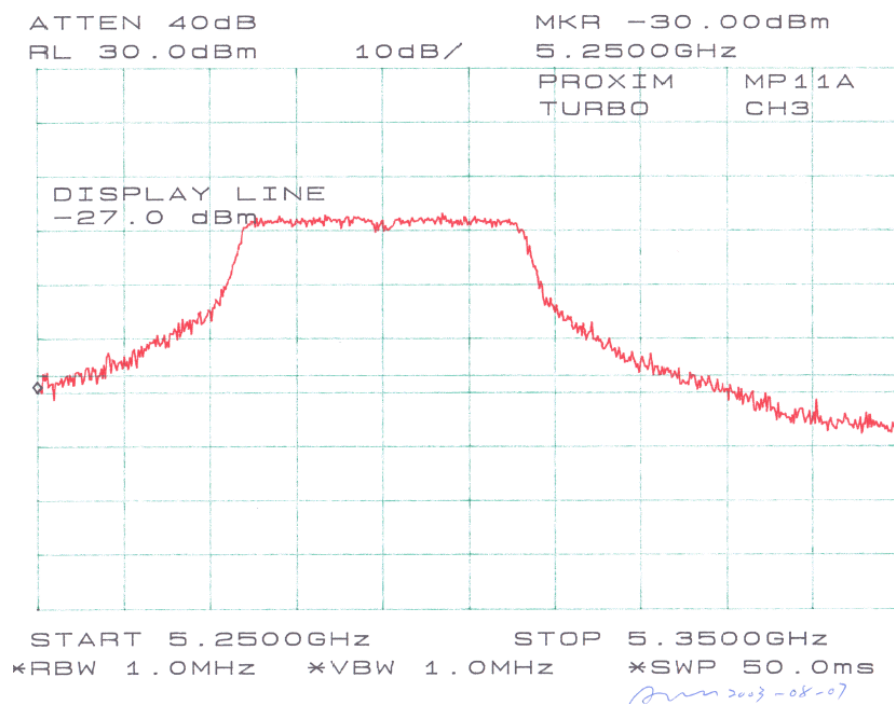
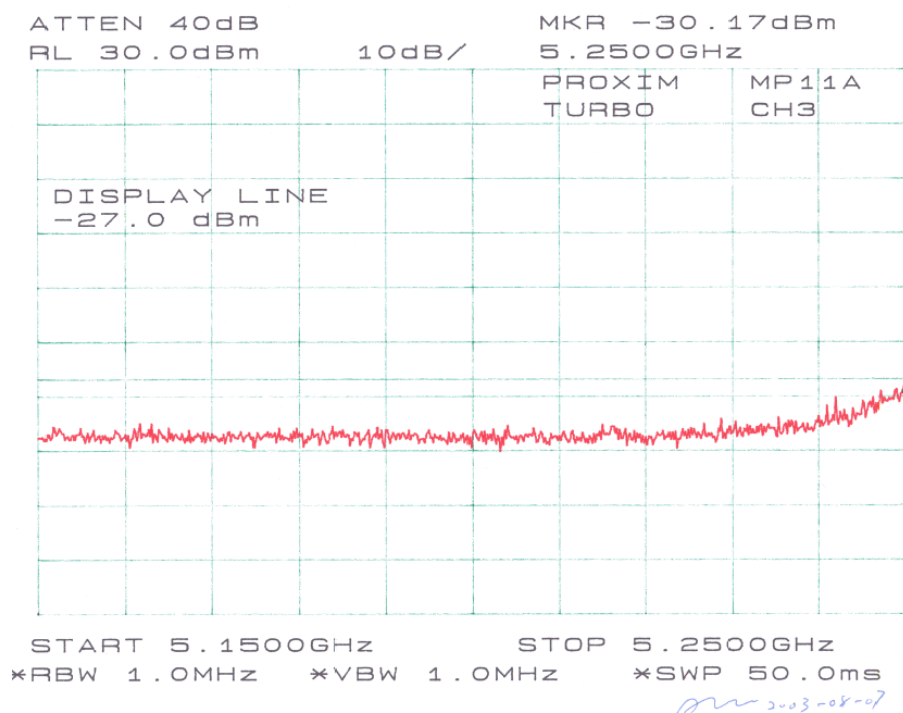
The analyzer center frequency was set to the EUT carrier frequency. The analyzer resolution and video bandwidth were set to 1MHz. The entire band from 30kHz to 40GHz was investigated.

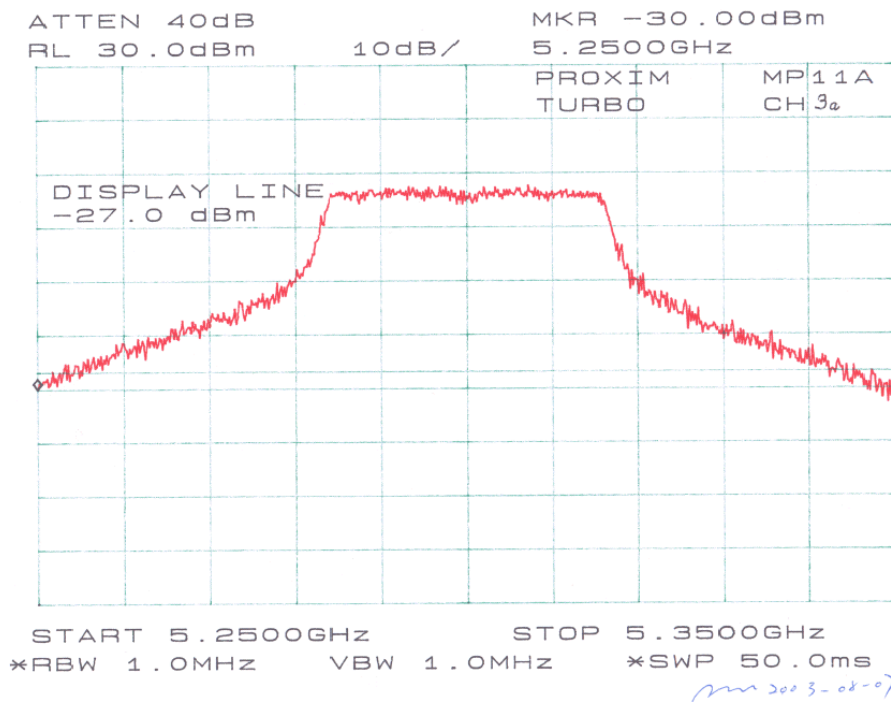
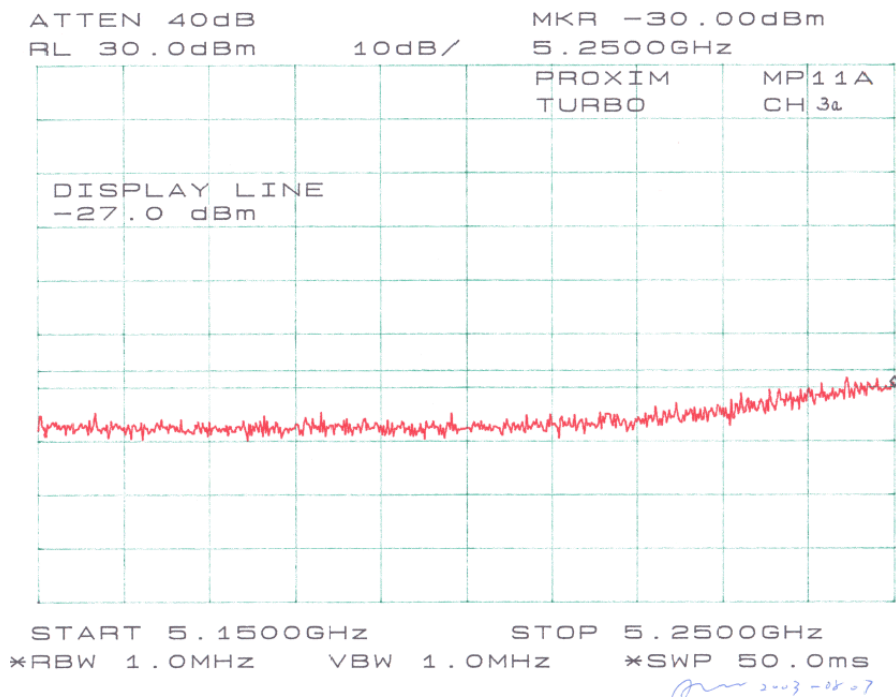
Every suspected signal was also investigated through radiated emission. Refer to section 15.205 restricted bands of operation.

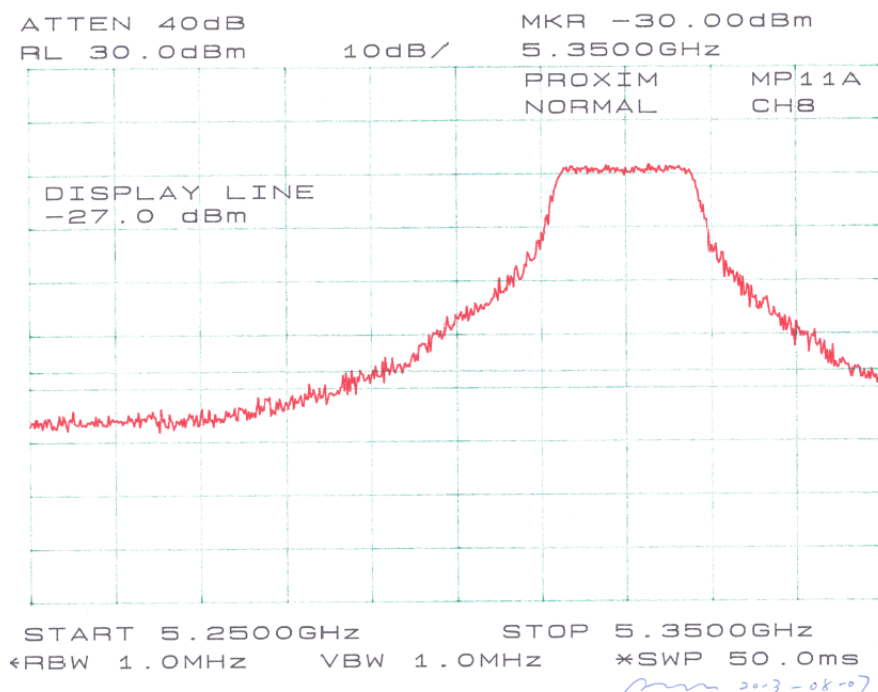
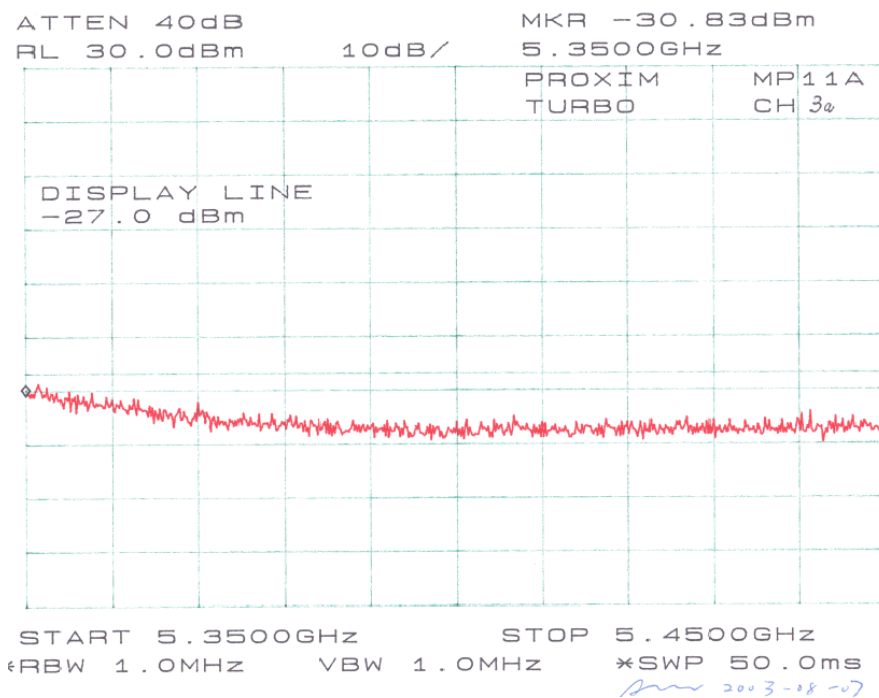
9.3 Test Result

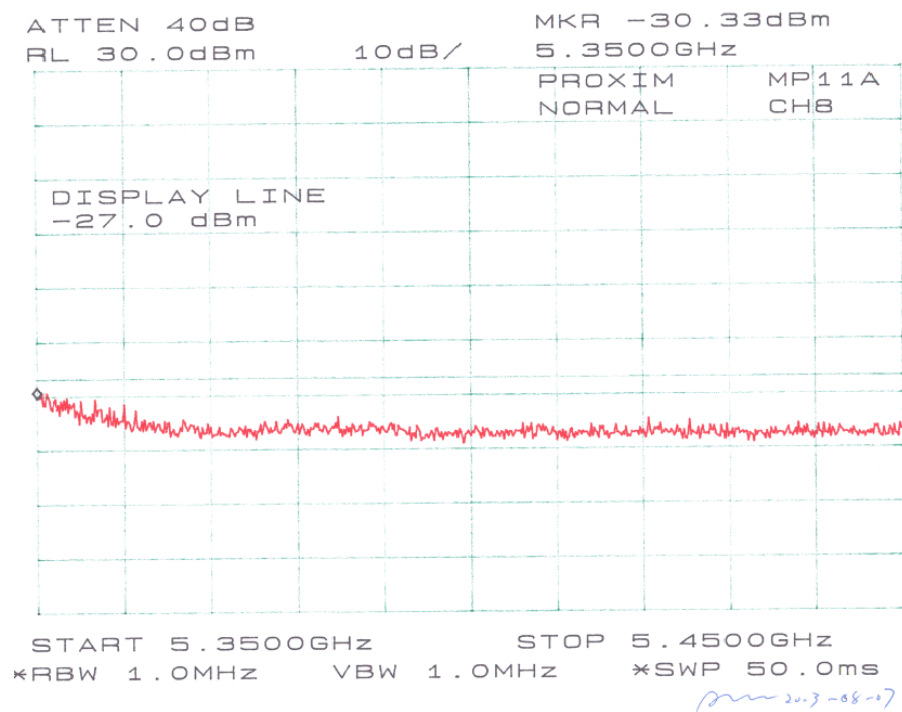
Please refer to the following plots for 5250-5350 MHz Band.











10 - SPURIOUS EMISSION AT ANTENNA TERMINAL

10.1 Standard Applicable

Requirements: CFR 47, §2.1051.

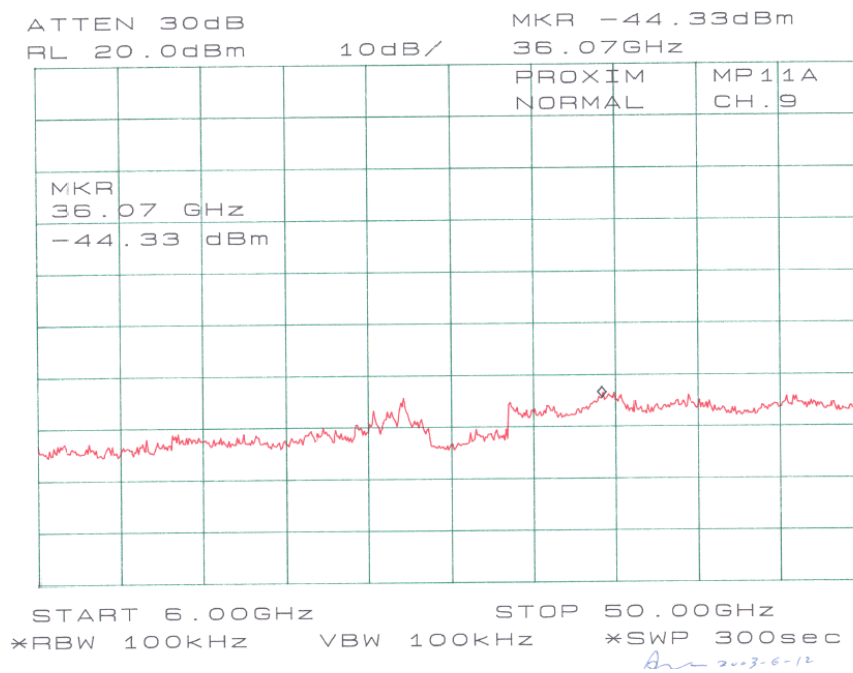
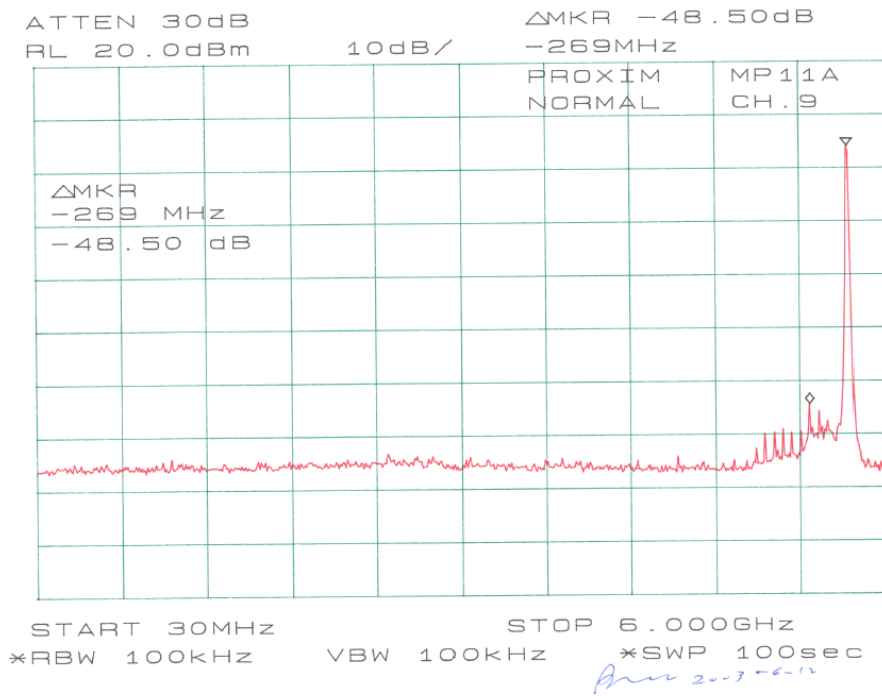
The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in §2.1057.

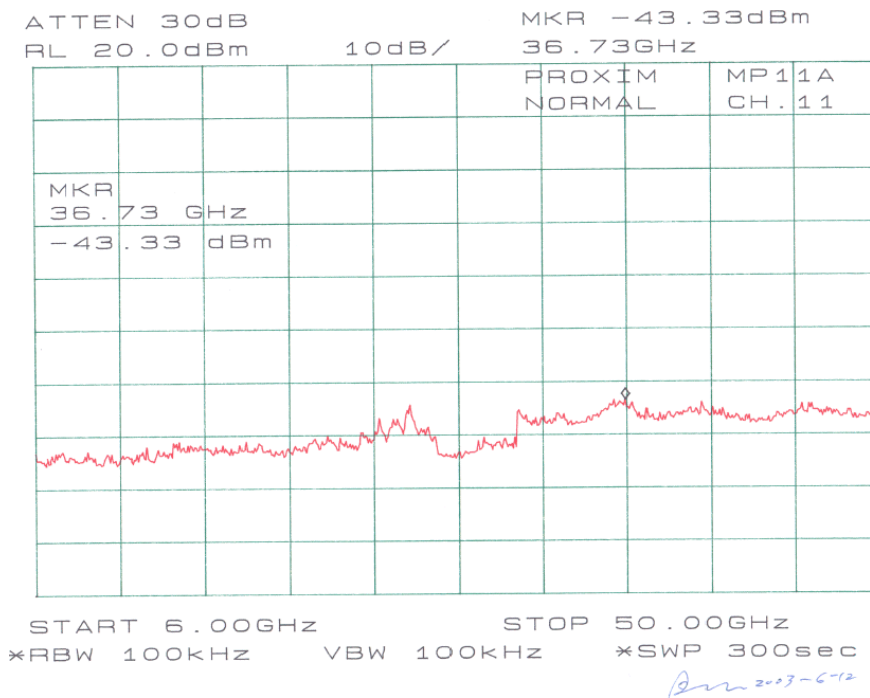
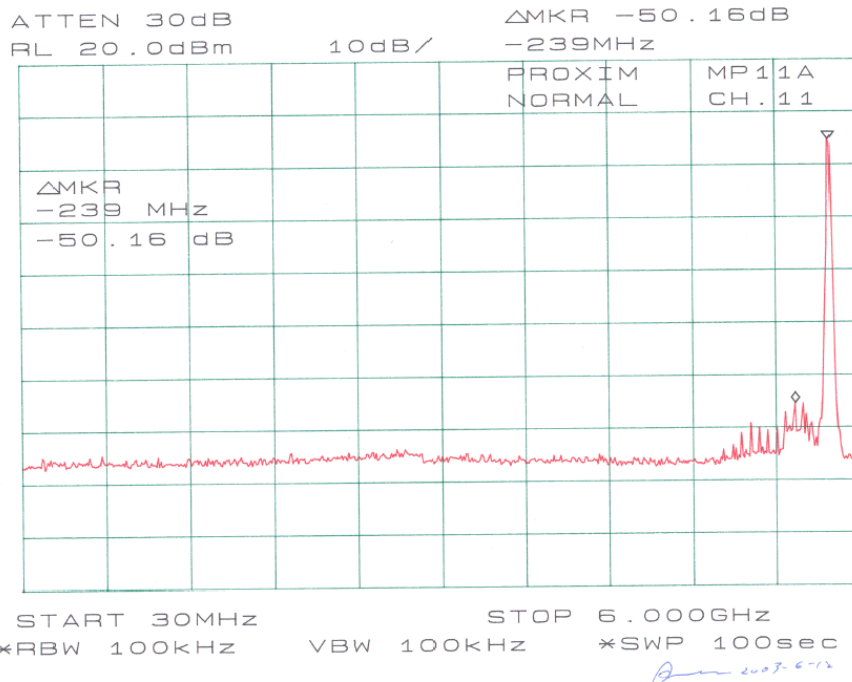
10.2 Measurement Procedure

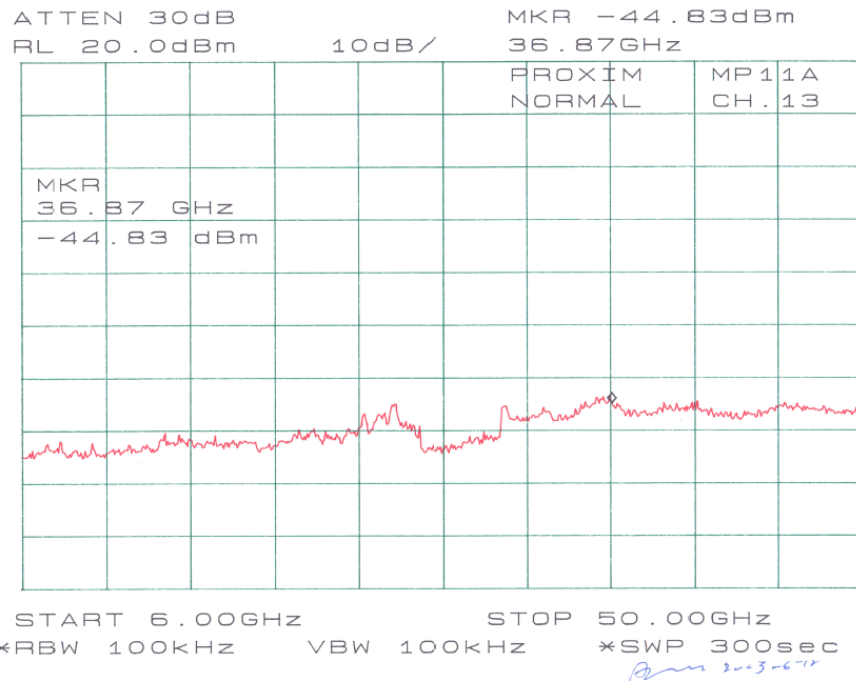
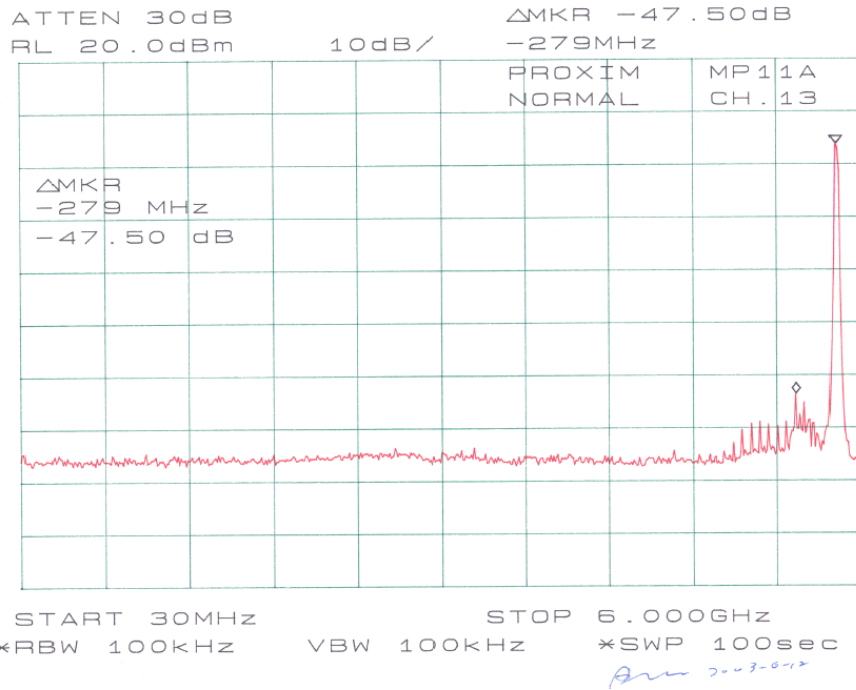
1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set the SA on Max-Hold Mode, and then keep the EUT in transmitting mode. Record all the signals from each channel until each one has been recorded.
4. Set the SA on View mode and then plot the result on SA screen.
5. Repeat above procedures until all frequencies measured were complete.

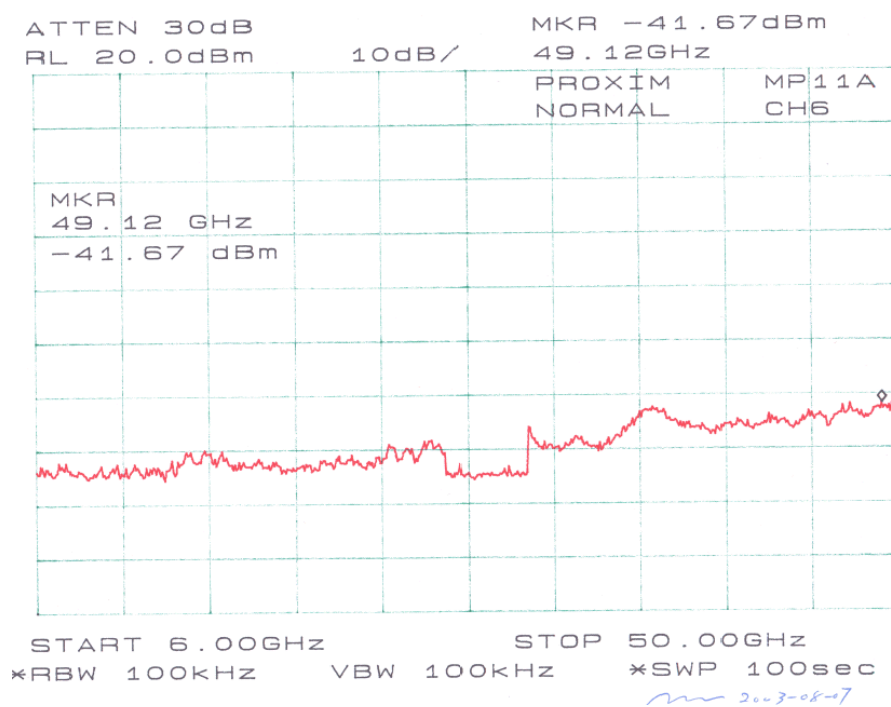
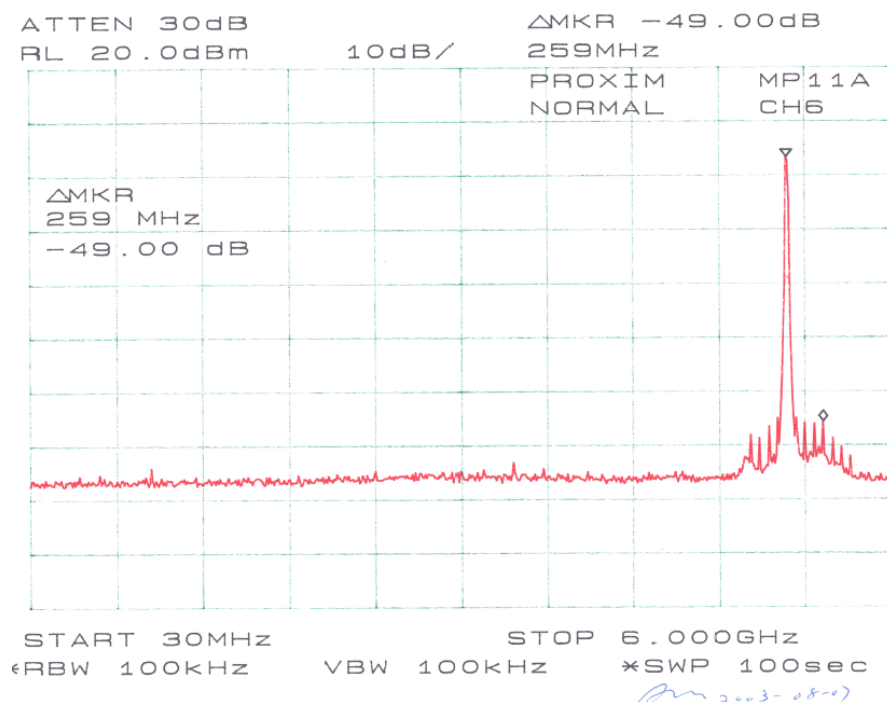
10.3 Measurement Result

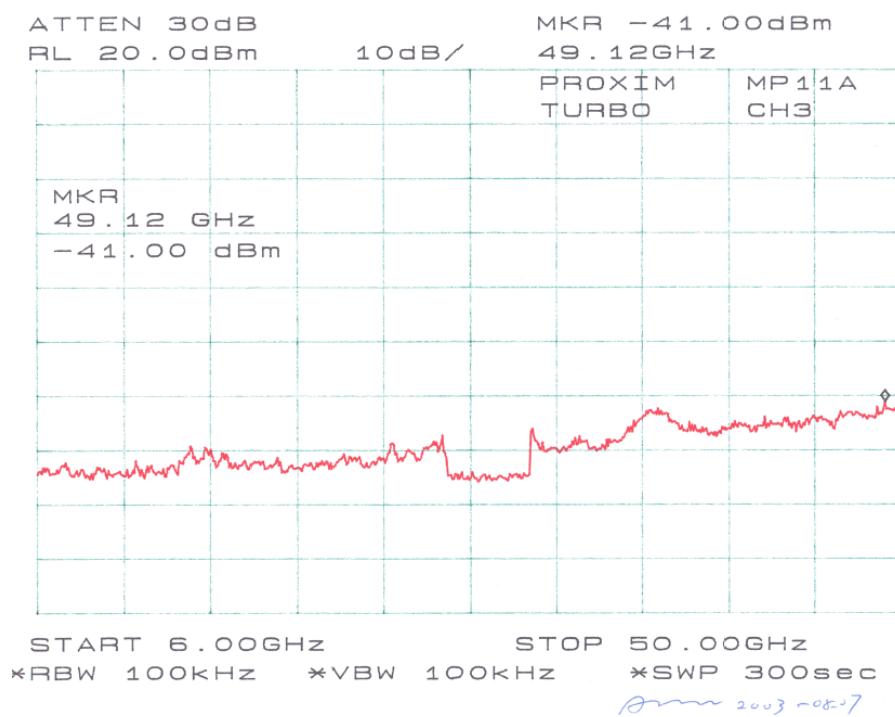
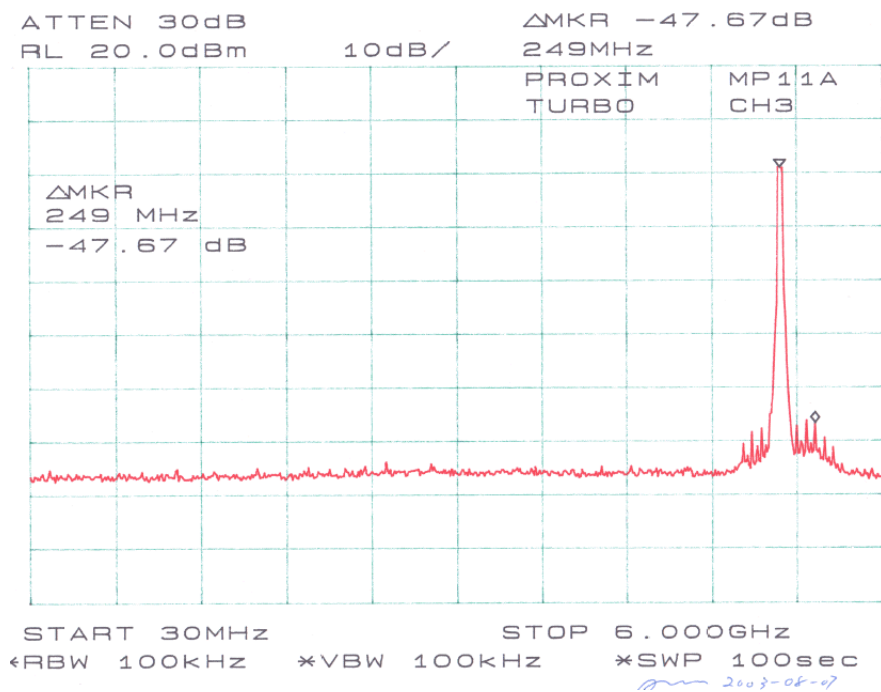
Please refer to following pages for plots of spurious emission.

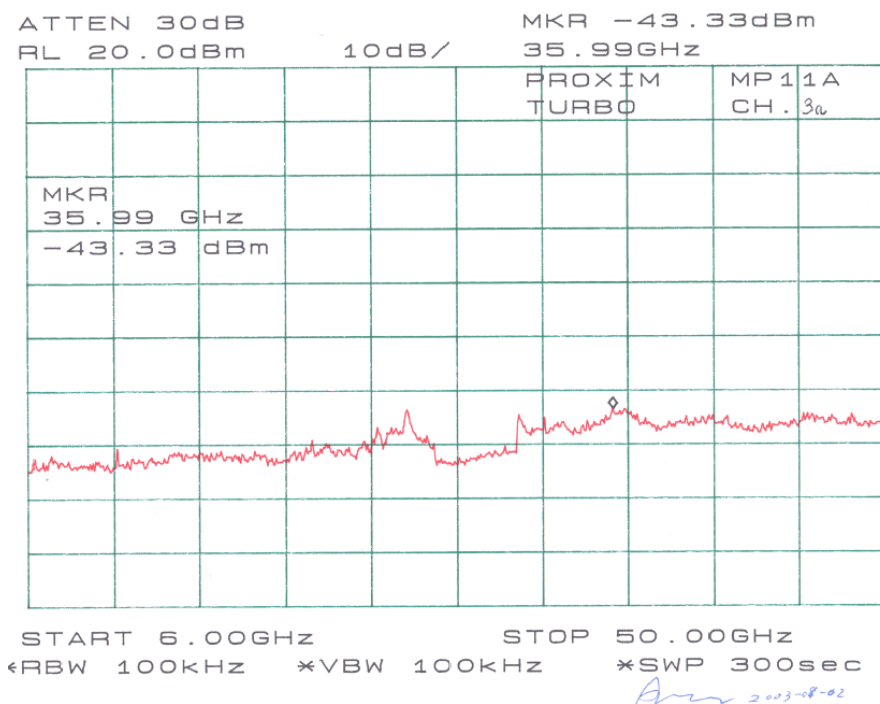
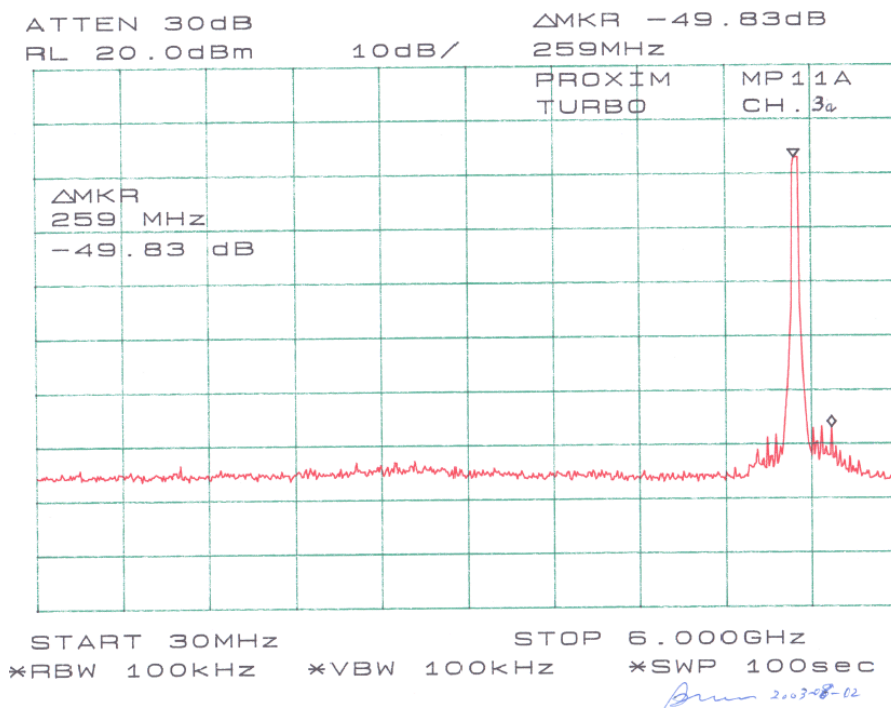
Plots of Spurious Emission for 5725-5850MHz Band (15.247)

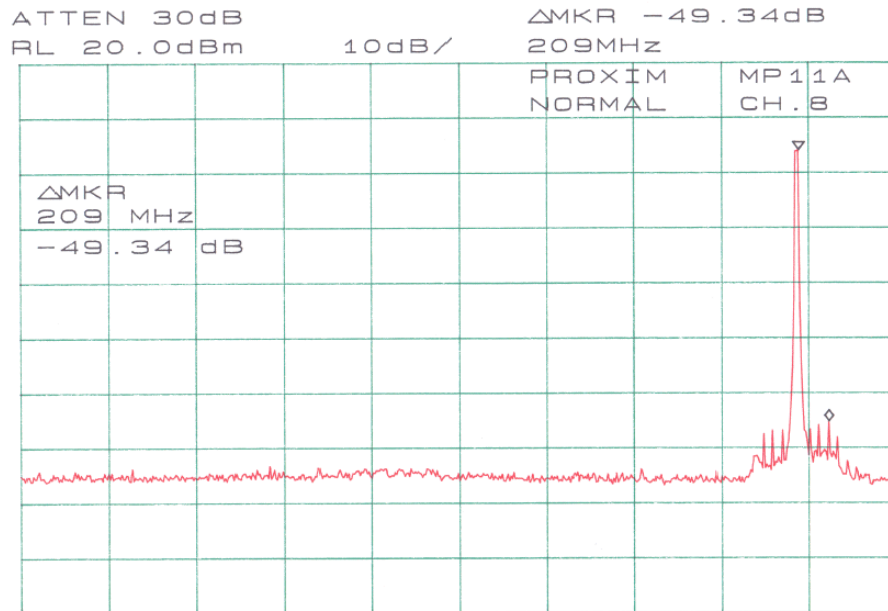




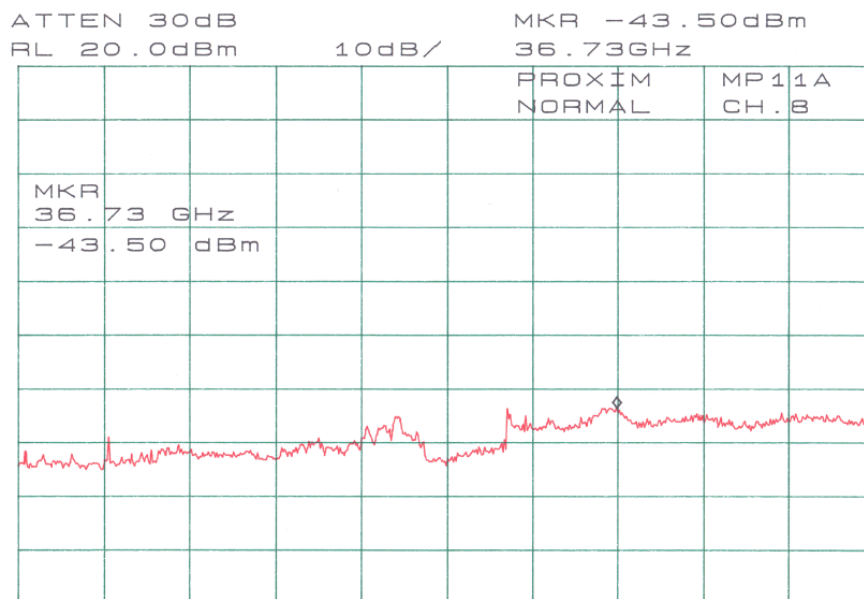
Plots of Spurious Emission for 5250-5350MHz Band (15.407)







START 30MHz STOP 6.000GHz
*RBW 100kHz *VBW 100kHz *SWP 100sec
2003-6-12



START 6.00GHz STOP 50.00GHz
*RBW 100kHz *VBW 100kHz *SWP 300sec
2003-6-12

11 - ANTENNA REQUIREMENT

The product is for use in outdoor environment using external antennas. The device uses an N type connector for connection to an external antenna. In compliance to 15.203, the device must be professionally installed. All antenna types that could potentially be used with the radio are tested to max gain and a min gain of all antennas was tested also.

12 - SPURIOUS RADIATED EMISSION

12.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at BACL is ± 4.0 dB.

According to §15.205, except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
¹ 0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2655 – 2900	22.01 – 23.12
8.41425 – 8.41475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.57725	240 – 285	3345.8 – 3358	36.43 – 36.5
13.36 – 13.41	322 – 335.4	3600 – 4400	(²)

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510MHz

² Above 38.6

Except as provided in paragraph (d) and (e), the filed strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

According to §15.209, the device shall meet radiated emission general requirements.

Except for Class A device, the filed strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength (Microvolts/meter)	dB (dBμV/meter)
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

According to §15.247(c), attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the §15.209(a) limits.

12.2 EUT Setup

The radiated emission tests were performed in the open area 3-meter test site, using the setup in accordance with the ANSI C63.4-1992. The specification used was the FCC 15 Subpart C limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The notebook PC was connected with 120Vac/60Hz power source.

12.3 Spectrum Analyzer Setup

According to FCC CFR 47, Section 15.31, the EUT was tested to 50GHz. During the radiated emission test, the spectrum analyzer was set with the following configurations:

Start Frequency 30 MHz
Stop Frequency 50GHz
Sweep Speed Auto
IF Bandwidth 1 MHz
Video Bandwidth 1 MHz
Quasi-Peak Adapter Bandwidth..... 120 kHz
Quasi-Peak Adapter Mode Normal
Resolution Bandwidth..... 1MHz

12.4 Test Procedure

For the radiated emissions test, the Host PC system power cord was connected to the AC floor outlet since the power supply used in the EUT did not provide an accessory power outlet.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB μ V of specification limits), and are distinguished with a "Qp" in the data table.

12.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB μ V means the emission is 7dB μ V below the maximum limit for Subpart C. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Subpart C Limit}$$

12.6 Summary of Test Results

According to the data in section 11.7, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.207 and 15.247, and had the worst margin of:

EUT with DFPD2-52 Antenna for 5725-5850MHz Band (15.247)

- 8.7 dB at 11490.00 MHz in the **Vertical** polarization, Low Channel
- 8.5 dB at 11520.00 MHz in the **Vertical** polarization, Middle Channel
- 8.8 dB at 11650.00 MHz in the **Vertical** polarization, High Channel
- 4.5 dB at 864.10 MHz in the **Horizontal** polarization, Unwanted Emission

EUT with R0320-056 Antenna for 5725-5850MHz Band (15.247)

- 8.7 dB at 11490.00 MHz in the **Horizontal** polarization, Low Channel
- 8.7 dB at 11520.00 MHz in the **Vertical** polarization, Middle Channel
- 8.7 dB at 11650.00 MHz in the **Vertical** polarization, High Channel
- 4.5 dB at 864.10 MHz in the **Horizontal** polarization, Unintentional Emission

EUT with MA-WC50 Antenna for 5750-5850MHz Band (15.247)

- 8.9 dB at 11490.00 MHz in the **Vertical** polarization, Low Channel
- 8.8 dB at 11520.00 MHz in the **Vertical** polarization, Middle Channel
- 8.9 dB at 11650.00 MHz in the **Vertical** polarization, High Channel
- 4.5 dB at 864.10 MHz in the **Horizontal** polarization, Unintentional Emission

EUT with 58 3360 Antenna for 5750-5850MHz Band (15.247)

- 8.7 dB at 11490.00 MHz in the **Vertical** polarization, Low Channel
- 8.7 dB at 11520.00 MHz in the **Vertical** polarization, Middle Channel
- 9.1 dB at 11650.00 MHz in the **Vertical** polarization, High Channel
- 4.5 dB at 864.10 MHz in the **Horizontal** polarization, Unintentional Emission

EUT with P3F-52-N7A Dish Antenna for 5750-5850MHz Band (15.247)

- 8.5 dB at 11490.00 MHz in the **Horizontal** polarization, Low Channel
- 8.2 dB at 11520.00 MHz in the **Horizontal** polarization, Middle Channel
- 8.7 dB at 11650.00 MHz in the **Horizontal** polarization, High Band, High Channel
- 4.5 dB at 864.10 MHz in the **Horizontal** polarization, Unwanted Emission

EUT with DFPD2-52 Antenna for 5250-5350MHz Band (15.407)

- 12.1 dB at 4208.00 MHz in the **Vertical** polarization, Low Channel
- 8.4 dB at 5350.00 MHz in the **Vertical** polarization, Middle Channel
- 8.4 dB at 5350.00 MHz in the **Vertical** polarization, High Channel
- 4.5 dB at 864.10 MHz in the **Horizontal** polarization, Unwanted Emission

EUT with R0320-056 Antenna for 5250-5350MHz Band (15.407)

- 11.4 dB at 4208.00 MHz in the **Vertical** polarization, Low Channel
- 8.4 dB at 5350.00 MHz in the **Vertical** polarization, Middle Channel
- 8.4 dB at 5350.00 MHz in the **Vertical** polarization, High Channel
- 7.0 dB at 768.30 MHz in the **Vertical** polarization, Unintentional Emission

EUT with MA-WC50 Antenna for 5250-5350MHz Band (15.407)

- 11.5 dB at 4208.00 MHz in the **Vertical** polarization, Low Channel
- 8.2 dB at 5350.00 MHz in the **Vertical** polarization, Middle Channel
- 8.2 dB at 5350.00 MHz in the **Vertical** polarization, High Channel
- 4.8 dB at 864.10 MHz in the **Horizontal** polarization, Unintentional Emission

EUT with 52 3360 Antenna for 5250-5350MHz Band (15.407)

- 12.3 dB at 4208.00 MHz in the **Vertical** polarization, Low Channel
- 8.2 dB at 5350.00 MHz in the **Vertical** polarization, Middle Channel
- 8.2 dB at 5350.00 MHz in the **Vertical** polarization, High Channel
- 4.7 dB at 864.10 MHz in the **Horizontal** polarization, Unintentional Emission

EUT with P3F-52-N7A Dish Antenna for 5250-5350MHz Band (15.407)

- 11.9 dB at 4208.00 MHz in the **Horizontal** polarization, Low Channel
- 8.3 dB at 5350.00 MHz in the **Horizontal** polarization, Middle Channel
- 8.2 dB at 5350.00 MHz in the **Horizontal** polarization, High Band, High Channel
- 4.5 dB at 864.10 MHz in the **Horizontal** polarization, Unwanted Emission

12.6.1 Final test data, EUT with DFPD2-52 Antenna for 5725-5850MHz Band (15.247)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-50GHz, Normal Mode CH. 9											
5745.00	111.9	FUND/PEAK	0	1.2	V	34.1	5.4	33.0	118.4		
5745.00	111.7	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	118.2		
5745.00	104.5	FUND/AVG	0	1.2	V	34.1	5.4	33.0	111.0		
5745.00	104.3	FUND/AVG	0	1.5	H	34.1	5.4	33.0	110.8		
11490.00	38.9	AVG	0	1.2	V	35.1	5.6	34.3	45.3	54	-8.7
11490.00	37.5	AVG	0	1.2	H	35.1	5.6	34.3	43.9	54	-10.1
4590.00	35.9	AVG	0	1.2	V	32.5	4.9	32.7	40.6	54	-13.4
4590.00	34.8	AVG	0	1.2	H	32.5	4.9	32.7	39.5	54	-14.5
11490.00	47.2	PEAK	0	1.2	V	35.1	5.6	34.3	53.6	74	-20.4
11490.00	46.4	PEAK	0	1.2	H	35.1	5.6	34.3	52.8	74	-21.2
4590.00	46.5	PEAK	0	1.2	V	32.5	4.9	32.7	51.2	74	-22.8
4590.00	45.7	PEAK	0	1.2	H	32.5	4.9	32.7	50.4	74	-23.6
Middle Channel, 1-50GHz, Turbo Mode CH.4											
5760.00	111.2	FUND/PEAK	0	1.2	V	34.1	5.4	33.0	117.7		
5760.00	105.7	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	112.2		
5760.00	101.6	FUND/AVG	0	1.2	V	34.1	5.4	33.0	108.1		
5760.00	95.4	FUND/AVG	0	1.5	H	34.1	5.4	33.0	101.9		
11520.00	39.1	AVG	0	1.2	V	35.1	5.6	34.3	45.5	54	-8.5
11520.00	37.3	AVG	0	1.2	H	35.1	5.6	34.3	43.7	54	-10.3
4608.00	34.7	AVG	0	1.2	V	32.5	4.9	32.7	39.4	54	-14.6
4608.00	33.1	AVG	0	1.2	H	32.5	4.9	32.7	37.8	54	-16.2
11520.00	47.7	PEAK	0	1.2	V	35.1	5.6	34.3	54.1	74	-19.9
11520.00	46.2	PEAK	0	1.2	H	35.1	5.6	34.3	52.6	74	-21.4
4608.00	44.6	PEAK	0	1.2	V	32.5	4.9	32.7	49.3	74	-24.7
4608.00	43.2	PEAK	0	1.2	H	32.5	4.9	32.7	47.9	74	-26.1
High Channel, 1-50GHz, Normal Mode CH. 13											
5825.00	111.9	FUND/PEAK	0	1.2	V	34.1	5.4	33.0	118.4		
5825.00	111.8	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	118.3		
5825.00	104.5	FUND/AVG	0	1.2	V	34.1	5.4	33.0	111.0		
5825.00	104.2	FUND/AVG	0	1.5	H	34.1	5.4	33.0	110.7		
11650.00	38.8	AVG	0	1.2	V	35.1	5.6	34.3	45.2	54	-8.8
11650.00	37.5	AVG	0	1.2	H	35.1	5.6	34.3	43.9	54	-10.1
4658.00	34.8	AVG	0	1.2	V	32.5	4.9	32.7	39.5	54	-14.5
4658.00	33.2	AVG	0	1.2	H	32.5	4.9	32.7	37.9	54	-16.1
11650.00	47.3	PEAK	0	1.2	V	35.1	5.6	34.3	53.7	74	-20.3
11650.00	46.5	PEAK	0	1.2	H	35.1	5.6	34.3	52.9	74	-21.1
4658.00	44.7	PEAK	0	1.2	V	32.5	4.9	32.7	49.4	74	-24.6
4658.00	43.5	PEAK	0	1.2	H	32.5	4.9	32.7	48.2	74	-25.8

Unintentional Emission

Frequency MHz	Indicated		Table Height Meter	Antenna		Correction Factor			FCC 15 Subpart B	
	Ampl. dB μ V/m	Direction Degree		Polar H/V	Antenna dB μ V/m	Cable Loss dB μ V/m	Amp. dB	Corr. Ampl. dB μ V/m	Limit dB μ V/m	Margin dB
864.10	45.1	270	2.5	H	18.3	3.1	25.0	41.5	46	-4.5
768.30	48.3	90	1.5	V	13.7	2.1	25.0	39.1	46	-6.9
768.30	45.5	90	1.5	H	13.7	2.2	25.0	36.4	46	-9.6
320.50	39.7	270	1.2	H	18.3	3.1	25.0	36.1	46	-9.9
481.00	44.2	0	1.5	H	13.7	2.1	25.0	35.0	46	-11.0
864.10	42.5	270	2.5	V	13.7	3.1	25.0	34.3	46	-11.7
256.20	43.8	90	1.5	H	11.5	2.2	25.0	32.5	46	-13.5
128.00	39.2	330	1.5	V	11.8	2.2	25.0	28.2	43.5	-15.3
416.50	36.4	330	1.5	V	13.7	2.1	25.0	27.2	46	-18.8

Note:

FUND = Fundamental

AVG = average

12.6.2 Final test data, EUT with R0320-056 Antenna for 5725-5850MHz Band (15.247)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-50GHz, Normal Mode CH.9											
5745.00	110.7	FUND/PEAK	0	1.5	V	34.1	5.4	33.0	117.2		
5745.00	98.5	FUND/PEAK	0	1.8	H	34.1	5.4	33.0	105.0		
5745.00	102.4	FUND/AVG	0	1.5	V	34.1	5.4	33.0	108.9		
5745.00	90.2	FUND/AVG	0	1.8	H	34.1	5.4	33.0	96.7		
11490.00	38.9	AVG	0	1.5	V	35.1	5.6	34.3	45.3	54	-8.7
11490.00	37.5	AVG	0	1.5	H	35.1	5.6	34.3	43.9	54	-10.1
4590.00	38.7	AVG	0	1.5	V	32.5	4.9	32.7	43.4	54	-10.6
4590.00	37.4	AVG	0	1.5	H	32.5	4.9	32.7	42.1	54	-11.9
11490.00	47.2	PEAK	0	1.5	V	35.1	5.6	34.3	53.6	74	-20.4
11490.00	46.4	PEAK	0	1.5	H	35.1	5.6	34.3	52.8	74	-21.2
4590.00	46.1	PEAK	0	1.5	V	32.5	4.9	32.7	50.8	74	-23.2
4590.00	45.8	PEAK	0	1.5	H	32.5	4.9	32.7	50.5	74	-23.5
Middle Channel, 1-50GHz, Turbo Mode CH. 4											
5760.00	105.2	FUND/PEAK	0	1.5	V	34.1	5.4	33.0	111.7		
5760.00	92.6	FUND/PEAK	0	1.8	H	34.1	5.4	33.0	99.1		
5760.00	95.3	FUND/AVG	0	1.5	V	34.1	5.4	33.0	101.8		
5760.00	82.7	FUND/AVG	0	1.8	H	34.1	5.4	33.0	89.2		
11520.00	38.9	AVG	0	1.5	V	35.1	5.6	34.3	45.3	54	-8.7
11520.00	37.4	AVG	0	1.5	H	35.1	5.6	34.3	43.8	54	-10.2
4608.00	34.5	AVG	0	1.5	V	32.5	4.9	32.7	39.2	54	-14.8
4608.00	33.8	AVG	0	1.5	H	32.5	4.9	32.7	38.5	54	-15.5
11520.00	47.1	PEAK	0	1.5	V	35.1	5.6	34.3	53.5	74	-20.5
11520.00	46.3	PEAK	0	1.5	H	35.1	5.6	34.3	52.7	74	-21.3
4608.00	46.2	PEAK	0	1.5	V	32.5	4.9	32.7	50.9	74	-23.1
4608.00	45.7	PEAK	0	1.5	H	32.5	4.9	32.7	50.4	74	-23.6
High Channel, 1-50GHz, Normal Mode CH. 13											
5825.00	110.3	FUND/PEAK	0	1.5	V	34.1	5.4	33.0	116.8		
5825.00	98.7	FUND/PEAK	0	1.8	H	34.1	5.4	33.0	105.2		
5825.00	101.6	FUND/AVG	0	1.5	V	34.1	5.4	33.0	108.1		
5825.00	79.8	FUND/AVG	0	1.8	H	34.1	5.4	33.0	86.3		
11650.00	38.9	AVG	0	1.5	V	35.1	5.6	34.3	45.3	54	-8.7
11650.00	37.3	AVG	0	1.5	H	35.1	5.6	34.3	43.7	54	-10.3
4658.00	35.7	AVG	0	1.5	V	32.5	4.9	32.7	40.4	54	-13.6
4658.00	34.6	AVG	0	1.5	H	32.5	4.9	32.7	39.3	54	-14.7
11650.00	47.5	PEAK	0	1.5	V	35.1	5.6	34.3	54.0	74	-20.0
11650.00	46.6	PEAK	0	1.5	H	35.1	5.6	34.3	53.0	74	-21.0
4658.00	46.1	PEAK	0	1.5	V	32.5	4.9	32.7	50.8	74	-23.2
4658.00	45.8	PEAK	0	1.5	H	32.5	4.9	32.7	50.5	74	-23.5

Unintentional Emission

Frequency MHz	Indicated		Table Height Meter	Antenna		Correction Factor			FCC 15 Subpart B	
	Ampl. dB μ V/m	Direction Degree		Polar H/V	Antenna dB μ V/m	Cable Loss dB μ V/m	Amp. dB	Corr. Ampl. dB μ V/m	Limit dB μ V/m	Margin dB
864.10	44.9	270	2.5	H	18.3	3.1	25.0	41.5	46	-4.5
768.30	48.3	90	1.5	V	13.7	2.1	25.0	39.1	46	-6.9
768.30	48.3	90	1.5	V	13.7	2.1	25.0	39.1	46	-6.9
768.30	45.6	90	1.5	H	13.7	2.2	25.0	36.5	46	-9.5
320.50	39.7	270	1.2	H	18.3	3.1	25.0	36.1	46	-9.9
481.00	44.3	0	1.5	H	13.7	2.1	25.0	35.1	46	-10.9
864.10	42.3	270	2.5	V	13.7	3.1	25.0	34.3	46	-11.7
864.10	42.5	270	2.5	V	13.7	3.1	25.0	34.3	46	-11.7
256.20	43.8	90	1.5	H	11.5	2.2	25.0	32.5	46	-13.5
128.00	39.2	330	1.5	V	11.8	2.2	25.0	28.2	43.5	-15.3
128.00	39.2	330	1.5	V	11.8	2.2	25.0	28.2	43.5	-15.3
416.50	36.4	330	1.5	V	13.7	2.1	25.0	27.2	46	-18.8
416.50	36.4	330	1.5	V	13.7	2.1	25.0	27.2	46	-18.8

Note:

FUND = Fundamental

AVG = average

12.6.3 Final test data, EUT with MA-WC50 Antenna for 5725-5850MHz Band (15.247)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-50GHz, Normal Mode CH.9											
5745.00	104.7	FUND/PEAK	0	1.2	V	34.1	5.4	33.0	111.2		
5745.00	93.4	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	99.9		
5745.00	95.3	FUND/AVG	0	1.2	V	34.1	5.4	33.0	101.8		
5745.00	81.7	FUND/AVG	0	1.5	H	34.1	5.4	33.0	88.2		
11490.00	38.7	AVG	0	1.2	V	35.1	5.6	34.3	45.1	54	-8.9
11490.00	37.5	AVG	0	1.2	H	35.1	5.6	34.3	43.9	54	-10.1
4590.00	36.4	AVG	0	1.2	V	32.5	4.9	32.7	41.1	54	-12.9
4590.00	35.3	AVG	0	1.2	H	32.5	4.9	32.7	40.0	54	-14.0
11490.00	47.4	PEAK	0	1.2	V	35.1	5.6	34.3	53.8	74	-20.2
11490.00	46.5	PEAK	0	1.2	H	35.1	5.6	34.3	52.9	74	-21.1
4590.00	47.8	PEAK	0	1.2	V	32.5	4.9	32.7	52.5	74	-21.5
4590.00	46.1	PEAK	0	1.2	H	32.5	4.9	32.7	50.8	74	-23.2
Low Band, Middle Channel, 1-50GHz											
5760.00	101.7	FUND/PEAK	0	1.2	V	34.1	5.4	33.0	108.2		
5760.00	91.3	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	97.8		
5760.00	92.4	FUND/AVG	0	1.2	V	34.1	5.4	33.0	98.9		
5760.00	80.2	FUND/AVG	0	1.5	H	34.1	5.4	33.0	86.7		
11520.00	38.8	AVG	0	1.2	V	35.1	5.6	34.3	45.2	54	-8.8
11520.00	37.6	AVG	0	1.2	H	35.1	5.6	34.3	44.0	54	-10.0
4610.00	37.1	AVG	0	1.2	V	32.5	4.9	32.7	41.8	54	-12.2
4610.00	36.4	AVG	0	1.2	H	32.5	4.9	32.7	41.1	54	-12.9
11520.00	47.2	PEAK	0	1.2	V	35.1	5.6	34.3	53.6	74	-20.4
11520.00	46.2	PEAK	0	1.2	H	35.1	5.6	34.3	52.6	74	-21.4
4610.00	46.3	PEAK	0	1.2	V	32.5	4.9	32.7	51.0	74	-23.0
4610.00	45.5	PEAK	0	1.2	H	32.5	4.9	32.7	50.2	74	-23.8
Low Band, High Channel, 1-50GHz											
5825.00	100.8	FUND/PEAK	0	1.2	V	34.1	5.4	33.0	107.3		
5825.00	90.7	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	97.2		
5825.00	90.2	FUND/AVG	0	1.2	V	34.1	5.4	33.0	96.7		
5825.00	80.4	FUND/AVG	0	1.5	H	34.1	5.4	33.0	86.9		
11650.00	38.7	AVG	0	1.2	V	35.1	5.6	34.3	45.1	54	-8.9
11650.00	37.2	AVG	0	1.2	H	35.1	5.6	34.3	43.6	54	-10.4
4658.00	37.3	AVG	0	1.2	V	32.5	4.9	32.7	42.0	54	-12.0
4658.00	36.5	AVG	0	1.2	H	32.5	4.9	32.7	41.2	54	-12.8
11650.00	47.3	PEAK	0	1.2	V	35.1	5.6	34.3	53.7	74	-20.3
11650.00	46.4	PEAK	0	1.2	H	35.1	5.6	34.3	52.8	74	-21.2
4658.00	46.6	PEAK	0	1.2	V	32.5	4.9	32.7	51.3	74	-22.7
4658.00	45.9	PEAK	0	1.2	H	32.5	4.9	32.7	50.6	74	-23.4

Unintentional Emission

Frequency MHz	Indicated		Table Height Meter	Antenna		Correction Factor			FCC 15 Subpart B	
	Ampl. dB μ V/m	Direction Degree		Polar H/V	Antenna dB μ V/m	Cable Loss dB μ V/m	Amp. dB	Corr. Ampl. dB μ V/m	Limit dB μ V/m	Margin dB
864.10	49.7	270	2.5	H	18.3	3.1	25.0	41.5	46	-4.5
768.30	48.3	90	1.5	V	13.7	2.1	25.0	39.1	46	-6.9
768.30	45.2	90	1.5	H	13.7	2.2	25.0	36.3	46	-9.7
320.50	39.7	270	1.2	H	18.3	3.1	25.0	36.1	46	-9.9
481.00	44.1	0	1.5	H	13.7	2.1	25.0	35.0	46	-11.0
864.10	42.5	270	2.5	V	13.7	3.1	25.0	34.3	46	-11.7
256.20	43.8	90	1.5	H	11.5	2.2	25.0	32.5	46	-13.5
128.00	39.2	330	1.5	V	11.8	2.2	25.0	28.2	43.5	-15.3
416.50	36.4	330	1.5	V	13.7	2.1	25.0	27.2	46	-18.8

Note:

FUND = Fundamental
 AVG = average

12.6.4 Final test data, EUT with 58 3360 Antenna for 5725-5850MHz Band (15.247)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-50GHz, Normal Mode CH. 9											
5745.00	102.5	FUND/PEAK	0	1.2	V	34.1	5.4	33.0	109.0		
5745.00	88.1	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	94.6		
5745.00	93.4	FUND/AVG	0	1.2	V	34.1	5.4	33.0	99.9		
5745.00	79.8	FUND/AVG	0	1.5	H	34.1	5.4	33.0	86.3		
11490.00	38.9	AVG	0	1.2	V	35.1	5.6	34.3	45.3	54	-8.7
11490.00	37.6	AVG	0	1.2	H	35.1	5.6	34.3	44.0	54	-10.0
4590.00	37.4	AVG	0	1.2	V	32.5	4.9	32.7	42.1	54	-11.9
4590.00	36.5	AVG	0	1.2	H	32.5	4.9	32.7	41.2	54	-12.8
11490.00	47.7	PEAK	0	1.2	V	35.1	5.6	34.3	54.1	74	-19.9
11490.00	45.9	PEAK	0	1.2	H	35.1	5.6	34.3	52.3	74	-21.7
4590.00	46.5	PEAK	0	1.2	V	32.5	4.9	32.7	51.2	74	-22.8
4590.00	45.9	PEAK	0	1.2	H	32.5	4.9	32.7	50.6	74	-23.4
Middle Channel, 1-50GHz, Turbo Mode CH. 4											
5760.00	103.2	FUND/PEAK	0	1.2	V	34.1	5.4	33.0	109.7		
5760.00	94.6	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	101.1		
5760.00	93.3	FUND/AVG	0	1.2	V	34.1	5.4	33.0	99.8		
5760.00	84.5	FUND/AVG	0	1.5	H	34.1	5.4	33.0	91.0		
11520.00	38.9	AVG	0	1.2	V	35.1	5.6	34.3	45.3	54	-8.7
11520.00	37.5	AVG	0	1.2	H	35.1	5.6	34.3	43.9	54	-10.1
4610.00	37.5	AVG	0	1.2	V	32.5	4.9	32.7	42.2	54	-11.8
4610.00	36.2	AVG	0	1.2	H	32.5	4.9	32.7	40.9	54	-13.1
11520.00	47.2	PEAK	0	1.2	V	35.1	5.6	34.3	53.6	74	-20.4
11520.00	46.4	PEAK	0	1.2	H	35.1	5.6	34.3	52.8	74	-21.2
4610.00	46.3	PEAK	0	1.2	V	32.5	4.9	32.7	51.0	74	-23.0
4610.00	45.4	PEAK	0	1.2	H	32.5	4.9	32.7	50.1	74	-23.9
High Channel, 1-50GHz, Normal Mode CH. 13											
5825.00	108.3	FUND/PEAK	0	1.2	V	34.1	5.4	33.0	114.8		
5825.00	98.3	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	104.8		
5825.00	98.7	FUND/AVG	0	1.2	V	34.1	5.4	33.0	105.2		
5825.00	88.6	FUND/AVG	0	1.5	H	34.1	5.4	33.0	95.1		
11650.00	38.5	AVG	0	1.2	V	35.1	5.6	34.3	44.9	54	-9.1
11650.00	36.1	AVG	0	1.2	H	35.1	5.6	34.3	42.5	54	-11.5
4658.00	37.2	AVG	0	1.2	V	32.5	4.9	32.7	41.9	54	-12.1
4658.00	36.9	AVG	0	1.2	H	32.5	4.9	32.7	41.6	54	-12.4
11650.00	47.1	PEAK	0	1.2	V	35.1	5.6	34.3	53.5	74	-20.5
11650.00	46.2	PEAK	0	1.2	H	35.1	5.6	34.3	52.6	74	-21.4
4658.00	46.3	PEAK	0	1.2	V	32.5	4.9	32.7	51.0	74	-23.0
4658.00	45.7	PEAK	0	1.2	H	32.5	4.9	32.7	50.4	74	-23.6

Unintentional Emission

Frequency MHz	Indicated		Table Height Meter	Antenna		Correction Factor			FCC 15 Subpart B	
	Ampl. dB μ V/m	Direction Degree		Polar H/V	Antenna dB μ V/m	Cable Loss dB μ V/m	Amp. dB	Corr. Ampl. dB μ V/m	Limit dB μ V/m	Margin dB
864.10	45.1	270	2.5	H	18.3	3.1	25.0	41.5	46	-4.5
768.30	48.3	90	1.5	V	13.7	2.1	25.0	39.1	46	-6.9
768.30	45.6	90	1.5	H	13.7	2.2	25.0	36.5	46	-9.5
320.50	39.7	270	1.2	H	18.3	3.1	25.0	36.1	46	-9.9
481.00	44.5	0	1.5	H	13.7	2.1	25.0	35.3	46	-10.7
864.10	42.5	270	2.5	V	13.7	3.1	25.0	34.3	46	-11.7
256.20	43.8	90	1.5	H	11.5	2.2	25.0	32.5	46	-13.5
128.00	39.2	330	1.5	V	11.8	2.2	25.0	28.2	43.5	-15.3
416.50	36.4	330	1.5	V	13.7	2.1	25.0	27.2	46	-18.8

Note:

FUND = Fundamental
 AVG = average

12.6.5 Final test data, EUT with P3F-52-N7A Dish Antenna for 5725-5850MHz Band (15.247)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-50GHz, Normal Mode CH. 9											
5745.00	108.5	FUND/PEAK	0	1.5	V	34.1	5.4	33.0	115.0		
5745.00	113.2	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	119.7		
5745.00	100.2	FUND/AVG	0	1.5	V	34.1	5.4	33.0	106.7		
5745.00	103.4	FUND/AVG	0	1.5	H	34.1	5.4	33.0	109.9		
11490.00	39.1	AVG	0	1.5	H	35.1	5.6	34.3	45.5	54	-8.5
11490.00	37.6	AVG	0	1.5	V	35.1	5.6	34.3	44.0	54	-10.0
4590.00	36.1	AVG	0	1.5	H	32.5	4.9	32.7	40.8	54	-13.2
4590.00	34.9	AVG	0	1.5	V	32.5	4.9	32.7	39.6	54	-14.4
11490.00	47.5	PEAK	0	1.5	H	35.1	5.6	34.3	53.9	74	-20.1
11490.00	46.6	PEAK	0	1.5	V	35.1	5.6	34.3	53.0	74	-21.0
4590.00	46.7	PEAK	0	1.5	H	32.5	4.9	32.7	51.4	74	-22.6
4590.00	45.8	PEAK	0	1.5	V	32.5	4.9	32.7	50.5	74	-23.5
Middle Channel, 1-50GHz, Turbo Mode CH. 4											
5760.00	109.3	FUND/PEAK	0	1.5	V	34.1	5.4	33.0	115.8		
5760.00	116.1	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	122.6		
5760.00	99.5	FUND/AVG	0	1.5	V	34.1	5.4	33.0	106.0		
5760.00	106.4	FUND/AVG	0	1.5	H	34.1	5.4	33.0	112.9		
11520.00	39.4	AVG	0	1.5	H	35.1	5.6	34.3	45.8	54	-8.2
11520.00	37.5	AVG	0	1.5	V	35.1	5.6	34.3	43.9	54	-10.1
4608.00	34.9	AVG	0	1.5	H	32.5	4.9	32.7	39.6	54	-14.4
4608.00	33.4	AVG	0	1.5	V	32.5	4.9	32.7	38.1	54	-15.9
11520.00	47.9	PEAK	0	1.5	H	35.1	5.6	34.3	54.3	74	-19.7
11520.00	46.5	PEAK	0	1.5	V	35.1	5.6	34.3	52.9	74	-21.1
4608.00	44.8	PEAK	0	1.5	H	32.5	4.9	32.7	49.5	74	-24.5
4608.00	43.3	PEAK	0	1.5	V	32.5	4.9	32.7	48.0	74	-26.0
High Channel, 1-50GHz, Normal Mode CH. 13											
5825.00	107.5	FUND/PEAK	0	1.2	V	34.1	5.4	33.0	114.0		
5825.00	114.2	FUND/PEAK	0	1.5	H	34.1	5.4	33.0	120.7		
5825.00	97.7	FUND/AVG	0	1.2	V	34.1	5.4	33.0	104.2		
5825.00	104.6	FUND/AVG	0	1.5	H	34.1	5.4	33.0	111.1		
11650.00	38.9	AVG	0	1.2	H	35.1	5.6	34.3	45.3	54	-8.7
11650.00	37.6	AVG	0	1.2	V	35.1	5.6	34.3	44.0	54	-10.0
4658.00	34.9	AVG	0	1.2	H	32.5	4.9	32.7	39.6	54	-14.4
4658.00	33.5	AVG	0	1.2	V	32.5	4.9	32.7	38.2	54	-15.8
11650.00	47.5	PEAK	0	1.2	H	35.1	5.6	34.3	53.9	74	-20.1
11650.00	46.7	PEAK	0	1.2	V	35.1	5.6	34.3	53.1	74	-20.9
4658.00	44.8	PEAK	0	1.2	H	32.5	4.9	32.7	49.5	74	-24.5
4658.00	43.6	PEAK	0	1.2	V	32.5	4.9	32.7	48.3	74	-25.7

Unintentional Emission

Frequency MHz	Indicated		Table	Antenna		Correction Factor			FCC 15 Subpart B	
	Ampl. dB μ V/m	Direction Degree	Height Meter	Polar H/V	Antenna dB μ V/m	Cable Loss dB μ V/m	Amp. dB	Corr. Ampl. dB μ V/m	Limit dB μ V/m	Margin dB
864.10	44.8	270	2.5	H	18.3	3.1	25.0	41.5	46	-4.5
768.30	48.3	90	1.5	V	13.7	2.1	25.0	39.1	46	-6.9
768.30	45.9	90	1.5	H	13.7	2.2	25.0	36.8	46	-9.2
320.50	39.7	270	1.2	H	18.3	3.1	25.0	36.1	46	-9.9
481.00	44.6	0	1.5	H	13.7	2.1	25.0	35.5	46	-10.5
864.10	42.5	270	2.5	V	13.7	3.1	25.0	34.3	46	-11.7
256.20	43.8	90	1.5	H	11.5	2.2	25.0	32.5	46	-13.5
128.00	39.2	330	1.5	V	11.8	2.2	25.0	28.2	43.5	-15.3
416.50	36.4	330	1.5	V	13.7	2.1	25.0	27.2	46	-18.8

Note:

FUND = Fundamental

AVG = average

12.6.6 Final test data, EUT with DFPD2-52 Antenna for 5250-5350MHz Band (15.407)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-50GHz, Normal Mode CH. 5											
5280.00	116.5	FUND/PEAK	0	1.2	V	33.9	5.2	33.0	122.6		
5280.00	114.9	FUND/PEAK	0	1.2	H	33.9	5.2	33.0	121.0		
5280.00	106.7	FUND/AVG	0	1.2	V	33.9	5.2	33.0	112.8		
5280.00	105.8	FUND/AVG	0	1.2	H	33.9	5.2	33.0	111.9		
4208.00	38.4	AVG	0	1.5	V	31.4	4.7	32.6	41.9	54	-12.1
4208.00	37.9	AVG	0	1.2	H	31.4	4.7	32.6	41.4	54	-12.6
10560.00	49.1	PEAK	0	1.5	V	35.1	5.6	34.3	55.5	68.3	-12.8
10560.00	48.5	PEAK	0	1.8	H	35.1	5.6	34.3	54.9	68.3	-13.4
4208.00	47.7	PEAK	0	1.5	V	31.4	4.7	32.6	51.2	74	-22.8
4208.00	46.5	PEAK	0	1.2	H	31.4	4.7	32.6	50.0	74	-24.0
Middle Channel, 1-50GHz, Turbo Mode CH. 3											
5300.00	112.6	FUND/PEAK	0	1.2	V	33.9	5.2	33.0	118.7		
5300.00	112.1	FUND/PEAK	0	1.2	H	33.9	5.2	33.0	118.2		
5300.00	103.2	FUND/AVG	0	1.2	V	33.9	5.2	33.0	109.3		
5300.00	102.1	FUND/AVG	0	1.2	H	33.9	5.2	33.0	108.2		
5350.00	39.5	AVG	0	1.5	V	33.9	5.2	33.0	45.6	54	-8.4
5350.00	38.4	AVG	0	1.2	H	33.9	5.2	33.0	44.5	54	-9.5
4232.00	38.2	AVG	0	1.5	V	31.4	4.7	32.6	41.7	54	-12.3
4232.00	37.5	AVG	0	1.2	H	31.4	4.7	32.6	41.0	54	-13.0
10600.00	48.1	PEAK	0	1.5	V	35.1	5.6	34.3	54.5	68.3	-13.8
10600.00	47.7	PEAK	0	1.8	H	35.1	5.6	34.3	54.1	68.3	-14.2
5350.00	48.7	PEAK	0	1.5	V	33.9	5.2	33.0	54.8	74	-19.2
5350.00	47.6	PEAK	0	1.2	H	33.9	5.2	33.0	53.7	74	-20.3
4232.00	47.8	PEAK	0	1.5	V	31.4	4.7	32.6	51.3	74	-22.7
4232.00	46.3	PEAK	0	1.2	H	31.4	4.7	32.6	49.8	74	-24.2
High Channel, 1-50GHz, Normal Mode CH. 8											
5320.00	105.4	FUND/PEAK	0	1.2	V	33.9	5.2	33.0	111.5		
5320.00	89.9	FUND/PEAK	0	1.5	H	33.9	5.2	33.0	96.0		
5320.00	96.2	FUND/AVG	0	1.2	V	33.9	5.2	33.0	102.3		
5320.00	80.3	FUND/AVG	0	1.5	H	33.9	5.2	33.0	86.4		
5350.00	39.5	AVG	0	1.5	V	33.9	5.2	33.0	45.6	54	-8.4
10640.00	38.1	AVG	0	1.5	V	35.1	5.6	34.3	44.5	54	-9.5
5350.00	38.4	AVG	0	1.2	H	33.9	5.2	33.0	44.5	54	-9.5
10640.00	37.5	AVG	0	1.8	H	35.1	5.6	34.3	43.9	54	-10.1
4256.00	38.3	AVG	0	1.5	V	31.4	4.7	32.6	41.8	54	-12.2
4256.00	37.6	AVG	0	1.2	H	31.4	4.7	32.6	41.1	54	-12.9
5350.00	48.7	PEAK	0	1.5	V	33.9	5.2	33.0	54.8	74	-19.2

Final test data, EUT with DFPD2-52 Antenna for 5250-5350MHz Band (15.407, Continued)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
High Channel, 1-50GHz, Normal Mode CH. 8											
10640.00	47.6	PEAK	0	1.5	V	35.1	5.6	34.3	54.0	74	-20.0
5350.00	47.6	PEAK	0	1.2	H	33.9	5.2	33.0	53.7	74	-20.3
10640.00	46.5	PEAK	0	1.8	H	35.1	5.6	34.3	52.9	74	-21.1
4256.00	46.7	PEAK	0	1.5	V	31.4	4.7	32.6	50.2	74	-23.8
4256.00	45.4	PEAK	0	1.2	H	31.4	4.7	32.6	48.9	74	-25.1

Unintentional Emission

Indicated			Table	Antenna		Correction Factor			FCC 15 Subpart B	
Frequency MHz	Ampl. dBμV/m	Direction Degree	Height Meter	Polar H/V	Antenna dBμV/m	Cable Loss dBμV/m	Amp. dB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
864.10	45.1	270	2.5	H	18.3	3.1	25.0	41.5	46	-4.5
768.30	48.3	90	1.5	V	13.7	2.1	25.0	39.1	46	-6.9
768.30	45.8	90	1.5	H	13.7	2.2	25.0	36.7	46	-9.3
320.50	39.7	270	1.2	H	18.3	3.1	25.0	36.1	46	-9.9
481.00	44.2	0	1.5	H	13.7	2.1	25.0	35.0	46	-11.0
864.10	42.5	270	2.5	V	13.7	3.1	25.0	34.3	46	-11.7
256.20	43.8	90	1.5	H	11.5	2.2	25.0	32.5	46	-13.5
128.00	39.2	330	1.5	V	11.8	2.2	25.0	28.2	43.5	-15.3
416.50	36.4	330	1.5	V	13.7	2.1	25.0	27.2	46	-18.8

Note:

FUND = Fundamental

AVG = average

12.6.7 Final test data, EUT with R0320-056 Antenna for 5250-5350MHz Band (15.407)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-50GHz, Normal Mode CH. 5											
5280.00	108.9	FUND/PEAK	0	1.5	V	33.9	5.2	33.0	115.0		
5280.00	96.5	FUND/PEAK	0	1.5	H	33.9	5.2	33.0	102.6		
5280.00	90.3	FUND/AVG	0	1.5	V	33.9	5.2	33.0	96.4		
5280.00	80.5	FUND/AVG	0	1.5	H	33.9	5.2	33.0	86.6		
4208.00	39.1	AVG	0	1.5	V	31.4	4.7	32.6	42.6	54	-11.4
10560.00	48.7	PEAK	0	1.5	V	35.1	5.6	34.3	55.1	68.3	-13.2
4208.00	36.5	AVG	0	1.6	H	31.4	4.7	32.6	40.0	54	-14.0
10560.00	47.6	PEAK	0	1.8	H	35.1	5.6	34.3	54.0	68.3	-14.3
4208.00	49.3	PEAK	0	1.5	V	31.4	4.7	32.6	52.8	74	-21.2
4208.00	45.4	PEAK	0	1.6	H	31.4	4.7	32.6	48.9	74	-25.1
Middle Channel, 1-50GHz, Turbo Mode CH. 3											
5300.00	104.8	FUND/PEAK	0	1.5	V	33.9	5.2	33.0	110.9		
5300.00	93.4	FUND/PEAK	0	1.5	H	33.9	5.2	33.0	99.5		
5300.00	95.6	FUND/AVG	0	1.5	V	33.9	5.2	33.0	101.7		
5300.00	84.7	FUND/AVG	0	1.5	H	33.9	5.2	33.0	90.8		
5350.00	39.5	AVG	0	1.5	V	33.9	5.2	33.0	45.6	54	-8.4
5350.00	38.3	AVG	0	1.6	H	33.9	5.2	33.0	44.4	54	-9.6
4232.00	38.1	AVG	0	1.5	V	31.4	4.7	32.6	41.6	54	-12.4
4232.00	37.2	AVG	0	1.2	H	31.4	4.7	32.6	40.7	54	-13.3
10600.00	47.5	PEAK	0	1.5	V	35.1	5.6	34.3	53.9	68.3	-14.4
10600.00	46.4	PEAK	0	1.8	H	35.1	5.6	34.3	52.8	68.3	-15.5
5350.00	48.4	PEAK	0	1.5	V	33.9	5.2	33.0	54.5	74	-19.5
5350.00	47.5	PEAK	0	1.6	H	33.9	5.2	33.0	53.6	74	-20.4
4232.00	47.6	PEAK	0	1.5	V	31.4	4.7	32.6	51.1	74	-22.9
4232.00	45.9	PEAK	0	1.2	H	31.4	4.7	32.6	49.4	74	-24.6
High Channel, 1-50GHz, Normal Mode CH. 8											
5320.00	105.4	FUND/PEAK	0	1.2	V	33.9	5.2	33.0	111.5		
5320.00	89.9	FUND/PEAK	0	1.5	H	33.9	5.2	33.0	96.0		
5320.00	96.2	FUND/AVG	0	1.2	V	33.9	5.2	33.0	102.3		
5320.00	80.3	FUND/AVG	0	1.5	H	33.9	5.2	33.0	86.4		
5350.00	39.5	AVG	0	1.5	V	33.9	5.2	33.0	45.6	54	-8.4
5350.00	38.3	AVG	0	1.2	H	33.9	5.2	33.0	44.4	54	-9.6
10640.00	37.3	AVG	0	1.5	V	35.1	5.6	34.3	43.7	54	-10.3
10640.00	36.6	AVG	0	1.8	H	35.1	5.6	34.3	43.0	54	-11.0
4256.00	38.5	AVG	0	1.5	V	31.4	4.7	32.6	42.0	54	-12.0
4256.00	37.6	AVG	0	1.2	H	31.4	4.7	32.6	41.1	54	-12.9
5350.00	48.4	PEAK	0	1.5	V	33.9	5.2	33.0	54.5	74	-19.5

Final test data, EUT with R0320-056 Antenna for 5250-5350MHz Band (15.407, Continued)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dB μ V/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dB μ V/m	Cable DB	Amp. DB	Corr. Ampl. dB μ V/m	Limit dB μ V/m	Margin dB
High Channel, 1-50GHz, Normal Mode CH. 8											
5350.00	47.5	PEAK	0	1.2	H	33.9	5.2	33.0	53.6	74	-20.4
10640.00	46.5	PEAK	0	1.5	V	35.1	5.6	34.3	52.9	74	-21.1
10640.00	45.8	PEAK	0	1.8	H	35.1	5.6	34.3	52.2	74	-21.8
4256.00	47.8	PEAK	0	1.5	V	31.4	4.7	32.6	51.3	74	-22.7
4256.00	46.9	PEAK	0	1.2	H	31.4	4.7	32.6	50.4	74	-23.6

Unintentional Emission

Indicated			Table	Antenna		Correction Factor			FCC 15 Subpart B	
Frequency MHz	Ampl. dB μ V/m	Direction Degree	Height Meter	Polar H/V	Antenna dB μ V/m	Cable Loss dB μ V/m	Amp. dB	Corr. Ampl. dB μ V/m	Limit dB μ V/m	Margin dB
768.30	48.2	90	1.5	V	13.7	2.1	25.0	39.0	46	-7.0
864.10	42.5	270	2.5	H	18.3	3.1	25.0	38.9	46	-7.1
864.10	45.1	270	2.5	V	13.7	3.1	25.0	36.9	46	-9.1
768.30	45.3	90	1.5	H	13.7	2.2	25.0	36.2	46	-9.8
320.50	39.7	270	1.2	H	18.3	3.1	25.0	36.1	46	-9.9
481.00	44.2	0	1.5	H	13.7	2.1	25.0	35.0	46	-11.0
256.20	43.6	90	1.5	H	11.5	2.2	25.0	32.3	46	-13.7
128.00	39.2	330	1.5	V	11.8	2.2	25.0	28.2	43.5	-15.3
416.50	36.4	330	1.5	V	13.7	2.1	25.0	27.2	46	-18.8

Note:

FUND = Fundamental

AVG = average

UNII after 2nd harmonics are too low that cannot be detected.

12.6.8 Final test data, EUT with MA-WC50 Antenna for 5250-5350MHz Band (15.407)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-50GHz, Normal Mode CH. 5											
5280.00	105.8	FUND/PEAK	0	1.5	V	33.9	5.2	33.0	111.9		
5280.00	90.4	FUND/PEAK	0	1.5	H	33.9	5.2	33.0	96.5		
5280.00	95.9	FUND/AVG	0	1.5	V	33.9	5.2	33.0	102.0		
5280.00	80.7	FUND/AVG	0	1.5	H	33.9	5.2	33.0	86.8		
4208.00	39.0	AVG	0	1.5	V	31.4	4.7	32.6	42.5	54	-11.5
10560.00	48.5	PEAK	0	1.5	V	35.1	5.6	34.3	54.9	68.3	-13.4
4208.00	36.4	AVG	0	1.2	H	31.4	4.7	32.6	39.9	54	-14.1
10560.00	47.3	PEAK	0	1.8	H	35.1	5.6	34.3	53.7	68.3	-14.6
4208.00	49.1	PEAK	0	1.5	V	31.4	4.7	32.6	52.6	74	-21.4
4208.00	45.2	PEAK	0	1.2	H	31.4	4.7	32.6	48.7	74	-25.3
Middle Channel, 1-50GHz, Turbo Mode CH. 3											
5300.00	101.5	FUND/PEAK	0	1.2	V	33.9	5.2	33.0	107.6		
5300.00	88.3	FUND/PEAK	0	1.2	H	33.9	5.2	33.0	94.4		
5300.00	91.5	FUND/AVG	0	1.2	V	33.9	5.2	33.0	97.6		
5300.00	78.1	FUND/AVG	0	1.2	H	33.9	5.2	33.0	84.2		
5350.00	39.7	AVG	0	1.5	V	33.9	5.2	33.0	45.8	54	-8.2
5350.00	38.2	AVG	0	1.2	H	33.9	5.2	33.0	44.3	54	-9.7
4230.00	38.0	AVG	0	1.5	V	31.4	4.7	32.6	41.5	54	-12.5
4230.00	37.1	AVG	0	1.2	H	31.4	4.7	32.6	40.6	54	-13.4
10600.00	47.4	PEAK	0	1.5	V	35.1	5.6	34.3	53.8	68.3	-14.5
10600.00	46.2	PEAK	0	1.8	H	35.1	5.6	34.3	52.6	68.3	-15.7
5350.00	48.6	PEAK	0	1.5	V	33.9	5.2	33.0	54.7	74	-19.3
5350.00	47.5	PEAK	0	1.2	H	33.9	5.2	33.0	53.6	74	-20.4
4230.00	47.5	PEAK	0	1.5	V	31.4	4.7	32.6	51.0	74	-23.0
4230.00	45.4	PEAK	0	1.2	H	31.4	4.7	32.6	48.9	74	-25.1
High Channel, 1-50GHz, Normal Mode CH. 8											
5320.00	105.4	FUND/PEAK	0	1.2	V	33.9	5.2	33.0	111.5		
5320.00	89.9	FUND/PEAK	0	1.5	H	33.9	5.2	33.0	96.0		
5320.00	96.2	FUND/AVG	0	1.2	V	33.9	5.2	33.0	102.3		
5320.00	80.3	FUND/AVG	0	1.5	H	33.9	5.2	33.0	86.4		
5350.00	39.7	AVG	0	1.5	V	33.9	5.2	33.0	45.8	54	-8.2
5350.00	38.2	AVG	0	1.2	H	33.9	5.2	33.0	44.3	54	-9.7
10640.00	37.8	AVG	0	1.5	V	35.1	5.6	34.3	44.2	54	-9.8
10640.00	36.9	AVG	0	1.8	H	35.1	5.6	34.3	43.3	54	-10.7
4256.00	39.7	AVG	0	1.5	V	31.4	4.7	32.6	43.2	54	-10.8
4256.00	38.4	AVG	0	1.2	H	31.4	4.7	32.6	41.9	54	-12.1
5350.00	48.6	PEAK	0	1.5	V	33.9	5.2	33.0	54.7	74	-19.3
5350.00	47.5	PEAK	0	1.2	H	33.9	5.2	33.0	53.6	74	-20.4

Final test data, EUT with MA-WC50 Antenna for 5250-5350MHz Band (15.407, Continued)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
High Channel, 1-50GHz, Normal Mode CH. 8											
10640.00	46.6	PEAK	0	1.5	V	35.1	5.6	34.3	53.0	74	-21.0
4256.00	48.8	PEAK	0	1.5	V	31.4	4.7	32.6	52.3	74	-21.7
10640.00	45.3	PEAK	0	1.8	H	35.1	5.6	34.3	51.7	74	-22.3
4256.00	47.5	PEAK	0	1.2	H	31.4	4.7	32.6	51.0	74	-23.0

Unintentional Emission

Indicated			Table	Antenna		Correction Factor			FCC 15 Subpart B	
Frequency MHz	Ampl. dBμV/m	Direction Degree	Height Meter	Polar H/V	Antenna dBμV/m	Cable Loss dBμV/m	Amp. dB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
864.10	44.8	270	2.5	H	18.3	3.1	25.0	41.2	46	-4.8
864.10	44.8	270	2.5	V	13.7	3.1	25.0	36.6	46	-9.4
768.30	45.4	90	1.5	H	13.7	2.2	25.0	36.3	46	-9.7
768.30	45.4	90	1.5	V	13.7	2.1	25.0	36.2	46	-9.8
320.50	39.7	270	1.2	H	18.3	3.1	25.0	36.1	46	-9.9
481.00	44.3	0	1.5	H	13.7	2.1	25.0	35.1	46	-10.9
256.20	43.8	90	1.5	H	11.5	2.2	25.0	32.5	46	-13.5
128.00	39.1	330	1.5	V	11.8	2.2	25.0	28.1	43.5	-15.4
416.50	36.4	330	1.5	V	13.7	2.1	25.0	27.2	46	-18.8

Note:

FUND = Fundamental

AVG = average

12.6.9 Final test data, EUT with 52 3360 Antenna for 5250-5350MHz Band (15.407)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-50GHz, Normal Mode CH. 5											
5280.00	106.6	FUND/PEAK	0	1.2	V	33.9	5.2	33.0	112.7		
5280.00	95.2	FUND/PEAK	0	1.2	H	33.9	5.2	33.0	101.3		
5280.00	97.2	FUND/AVG	0	1.2	V	33.9	5.2	33.0	103.3		
5280.00	85.6	FUND/AVG	0	1.2	H	33.9	5.2	33.0	91.7		
4208.00	38.2	AVG	0	1.5	V	31.4	4.7	32.6	41.7	54	-12.3
10560.00	48.6	PEAK	0	1.5	V	35.1	5.6	34.3	55.0	68.3	-13.3
4208.00	36.7	AVG	0	1.2	H	31.4	4.7	32.6	40.2	54	-13.8
10560.00	47.5	PEAK	0	1.8	H	35.1	5.6	34.3	53.9	68.3	-14.4
4208.00	47.3	PEAK	0	1.5	V	31.4	4.7	32.6	50.8	74	-23.2
4208.00	45.5	PEAK	0	1.2	H	31.4	4.7	32.6	49.0	74	-25.0
Middle Channel, 1-50GHz, Turbo Mode CH. 3											
5300.00	101.9	FUND/PEAK	0	1.2	V	33.9	5.2	33.0	108.0		
5300.00	87.6	FUND/PEAK	0	1.2	H	33.9	5.2	33.0	93.7		
5300.00	92.6	FUND/AVG	0	1.2	V	33.9	5.2	33.0	98.7		
5300.00	78.8	FUND/AVG	0	1.2	H	33.9	5.2	33.0	84.9		
5350.00	39.7	AVG	0	1.5	V	33.9	5.2	33.0	45.8	54	-8.2
5350.00	38.4	AVG	0	1.2	H	33.9	5.2	33.0	44.5	54	-9.5
4230.00	38.4	AVG	0	1.5	V	31.4	4.7	32.6	41.9	54	-12.1
4230.00	36.7	AVG	0	1.2	H	31.4	4.7	32.6	40.2	54	-13.8
10600.00	47.6	PEAK	0	1.5	V	35.1	5.6	34.3	54.0	68.3	-14.3
10600.00	46.1	PEAK	0	1.8	H	35.1	5.6	34.3	52.5	68.3	-15.8
5350.00	48.5	PEAK	0	1.5	V	33.9	5.2	33.0	54.6	74	-19.4
5350.00	47.3	PEAK	0	1.2	H	33.9	5.2	33.0	53.4	74	-20.6
4230.00	47.8	PEAK	0	1.5	V	31.4	4.7	32.6	51.3	74	-22.7
4230.00	45.2	PEAK	0	1.2	H	31.4	4.7	32.6	48.7	74	-25.3
High Channel, 1-50GHz, Normal Mode CH. 8											
5320.00	105.4	FUND/PEAK	0	1.2	V	33.9	5.2	33.0	111.5		
5320.00	89.9	FUND/PEAK	0	1.5	H	33.9	5.2	33.0	96.0		
5320.00	96.2	FUND/AVG	0	1.2	V	33.9	5.2	33.0	102.3		
5320.00	80.3	FUND/AVG	0	1.5	H	33.9	5.2	33.0	86.4		
5350.00	39.7	AVG	0	1.5	V	33.9	5.2	33.0	45.8	54	-8.2
5350.00	38.4	AVG	0	1.2	H	33.9	5.2	33.0	44.5	54	-9.5
10640.00	37.8	AVG	0	1.5	V	35.1	5.6	34.3	44.2	54	-9.8
10640.00	36.4	AVG	0	1.8	H	35.1	5.6	34.3	42.8	54	-11.2
4256.00	38.4	AVG	0	1.5	V	31.4	4.7	32.6	41.9	54	-12.1
4256.00	37.7	AVG	0	1.2	H	31.4	4.7	32.6	41.2	54	-12.8
5350.00	48.5	PEAK	0	1.5	V	33.9	5.2	33.0	54.6	74	-19.4
5350.00	47.3	PEAK	0	1.2	H	33.9	5.2	33.0	53.4	74	-20.6

Final test data, EUT with 52 3360 Antenna for 5250-5350MHz Band (15.407, Continued)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
High Channel, 1-50GHz, Normal Mode CH. 8											
10640.00	46.6	PEAK	0	1.5	V	35.1	5.6	34.3	53.0	74	-21.0
10640.00	45.2	PEAK	0	1.8	H	35.1	5.6	34.3	51.6	74	-22.4
4256.00	47.3	PEAK	0	1.5	V	31.4	4.7	32.6	50.8	74	-23.2
4256.00	46.5	PEAK	0	1.2	H	31.4	4.7	32.6	50.0	74	-24.0

Unintentional Emission

Indicated			Table	Antenna		Correction Factor			FCC 15 Subpart B	
Frequency MHz	Ampl. dBμV/m	Direction Degree	Height Meter	Polar H/V	Antenna dBμV/m	Cable Loss dBμV/m	Amp. dB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
864.10	44.9	270	2.5	H	18.3	3.1	25.0	41.3	46	-4.7
768.30	45.8	90	1.5	H	13.7	2.2	25.0	36.7	46	-9.3
864.10	44.9	270	2.5	V	13.7	3.1	25.0	36.7	46	-9.3
768.30	45.8	90	1.5	V	13.7	2.1	25.0	36.6	46	-9.4
320.50	39.7	270	1.2	H	18.3	3.1	25.0	36.1	46	-9.9
481.00	44.3	0	1.5	H	13.7	2.1	25.0	35.1	46	-10.9
256.20	43.8	90	1.5	H	11.5	2.2	25.0	32.5	46	-13.5
128.00	39.2	330	1.5	V	11.8	2.2	25.0	28.2	43.5	-15.3
416.50	36.2	330	1.5	V	13.7	2.1	25.0	27.0	46	-19.0

Note:

FUND = Fundamental

AVG = average

12.6.10 Final test data, EUT with P3F-52-N7A Dish Antenna for 5250-5350MHz Band (15.407)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-50GHz, Normal Mode CH. 5											
5280.00	109.6	FUND/PEAK	0	1.5	V	33.9	5.2	33.0	115.7		
5280.00	113.6	FUND/PEAK	0	1.5	H	33.9	5.2	33.0	119.7		
5280.00	99.8	FUND/AVG	0	1.5	V	33.9	5.2	33.0	105.9		
5280.00	103.4	FUND/AVG	0	1.5	H	33.9	5.2	33.0	109.5		
4208.00	38.6	AVG	0	1.2	H	31.4	4.7	32.6	42.1	54	-11.9
10560.00	49.3	PEAK	0	1.5	H	35.1	5.6	34.3	55.7	68.3	-12.6
4208.00	37.4	AVG	0	1.5	V	31.4	4.7	32.6	40.9	54	-13.1
10560.00	48.5	PEAK	0	1.5	V	35.1	5.6	34.3	54.9	68.3	-13.4
4208.00	47.5	PEAK	0	1.5	H	31.4	4.7	32.6	51.0	74	-23.0
4208.00	46.8	PEAK	0	1.5	V	31.4	4.7	32.6	50.3	74	-23.7
Middle Channel, 1-50GHz, Turbo Mode CH. 3											
5300.00	107.5	FUND/PEAK	0	1.5	V	33.9	5.2	33.0	113.6		
5300.00	112.3	FUND/PEAK	0	1.5	H	33.9	5.2	33.0	118.4		
5300.00	97.8	FUND/AVG	0	1.5	V	33.9	5.2	33.0	103.9		
5300.00	102.4	FUND/AVG	0	1.5	H	33.9	5.2	33.0	108.5		
5350.00	39.6	AVG	0	1.5	H	33.9	5.2	33.0	45.7	54	-8.3
5350.00	38.5	AVG	0	1.5	V	33.9	5.2	33.0	44.6	54	-9.4
4232.00	38.3	AVG	0	1.5	H	31.4	4.7	32.6	41.8	54	-12.2
4232.00	37.6	AVG	0	1.5	V	31.4	4.7	32.6	41.1	54	-12.9
10600.00	48.2	PEAK	0	1.5	H	35.1	5.6	34.3	54.6	68.3	-13.7
10600.00	47.8	PEAK	0	1.5	V	35.1	5.6	34.3	54.2	68.3	-14.1
5350.00	48.9	PEAK	0	1.5	H	33.9	5.2	33.0	55.0	74	-19.0
5350.00	47.7	PEAK	0	1.5	V	33.9	5.2	33.0	53.8	74	-20.2
4232.00	47.9	PEAK	0	1.5	H	31.4	4.7	32.6	51.4	74	-22.6
4232.00	46.4	PEAK	0	1.5	V	31.4	4.7	32.6	49.9	74	-24.1
High Channel, 1-50GHz, Normal Mode CH. 8											
5320.00	112.1	FUND/PEAK	0	1.2	V	33.9	5.2	33.0	118.2		
5320.00	116.5	FUND/PEAK	0	1.5	H	33.9	5.2	33.0	122.6		
5320.00	102.4	FUND/AVG	0	1.2	V	33.9	5.2	33.0	108.5		
5320.00	106.7	FUND/AVG	0	1.5	H	33.9	5.2	33.0	112.8		
5350.00	39.7	AVG	0	1.2	H	33.9	5.2	33.0	45.8	54	-8.2
10640.00	38.2	AVG	0	1.8	H	35.1	5.6	34.3	44.6	54	-9.4
5350.00	38.5	AVG	0	1.5	V	33.9	5.2	33.0	44.6	54	-9.4
10640.00	37.6	AVG	0	1.5	V	35.1	5.6	34.3	44.0	54	-10.0
4256.00	38.5	AVG	0	1.2	H	31.4	4.7	32.6	42.0	54	-12.0
4256.00	37.7	AVG	0	1.5	V	31.4	4.7	32.6	41.2	54	-12.8
5350.00	48.9	PEAK	0	1.2	H	33.9	5.2	33.0	55.0	74	-19.0
10640.00	47.8	PEAK	0	1.8	H	35.1	5.6	34.3	54.2	74	-19.8

Final test data, EUT with P3F-52-N7A Dish Antenna for 5250-5350MHz Band (15.407,Continued)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dB μ V/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dB μ V/m	Cable DB	Amp. DB	Corr. Ampl. dB μ V/m	Limit dB μ V/m	Margin dB
High Channel, 1-50GHz, Normal Mode CH. 8											
5350.00	47.7	PEAK	0	1.5	V	33.9	5.2	33.0	53.8	74	-20.2
10640.00	46.6	PEAK	0	1.5	V	35.1	5.6	34.3	53.0	74	-21.0
4256.00	46.8	PEAK	0	1.2	H	31.4	4.7	32.6	50.3	74	-23.7
4256.00	45.6	PEAK	0	1.5	V	31.4	4.7	32.6	49.1	74	-24.9

Unintentional Emission

Indicated			Table	Antenna		Correction Factor			FCC 15 Subpart B	
Frequency MHz	Ampl. dB μ V/m	Direction Degree	Height Meter	Polar H/V	Antenna dB μ V/m	Cable Loss dB μ V/m	Amp. dB	Corr. Ampl. dB μ V/m	Limit dB μ V/m	Margin dB
864.10	45.1	270	2.5	H	18.3	3.1	25.0	41.5	46	-4.5
768.30	48.1	90	1.5	H	13.7	2.2	25.0	39.0	46	-7.0
768.30	48.1	90	1.5	V	13.7	2.1	25.0	38.9	46	-7.1
864.10	45.1	270	2.5	V	13.7	3.1	25.0	36.9	46	-9.1
320.50	39.7	270	1.2	H	18.3	3.1	25.0	36.1	46	-9.9
481.00	45.2	0	1.5	H	13.7	2.1	25.0	36.0	46	-10.0
256.20	43.5	90	1.5	H	11.5	2.2	25.0	32.2	46	-13.8
128.00	39.2	330	1.5	V	11.8	2.2	25.0	28.2	43.5	-15.3
416.50	36.4	330	1.5	V	13.7	2.1	25.0	27.2	46	-18.8

Note:

FUND = Fundamental

AVG = average

13 - CONDUCTED EMISSIONS

13.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at BACL is ± 2.4 dB.

13.2 EUT Setup

The measurement was performed in the shield room, using the same setup per ANSI C63.4-1992 measurement procedure. The specification used was FCC 15 Subpart B limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The notebook PC was connected with 120Vac/60Hz power source.

13.3 Spectrum Analyzer Setup

The spectrum analyzer was set with the following configurations during the conduction test:

Start Frequency.....	150 kHz
Stop Frequency.....	30 MHz
Sweep Speed.....	Auto
IF Bandwidth.....	10 kHz
Video Bandwidth.....	10 kHz
Quasi-Peak Adapter Bandwidth	9 kHz
Quasi-Peak Adapter Mode.....	Normal

13.4 Test Procedure

During the conducted emission test, the power cord of the host system was connected to the auxiliary outlet of the first LISN.

Maximizing procedure was performed on the six (6) highest emissions of each modes tested to ensure EUT is compliant with all installation combination.

All data was recorded in the peak detection mode. Quasi-peak readings were only performed when an emission was found to be marginal (within -4 dB μ V of specification limits). Quasi-peak readings are distinguished with a "Qp".

13.5 Summary of Test Results

According to the data in section 13.6, the EUT complies with the FCC Conducted margin for a Class B device, with the *worst* margin reading of:

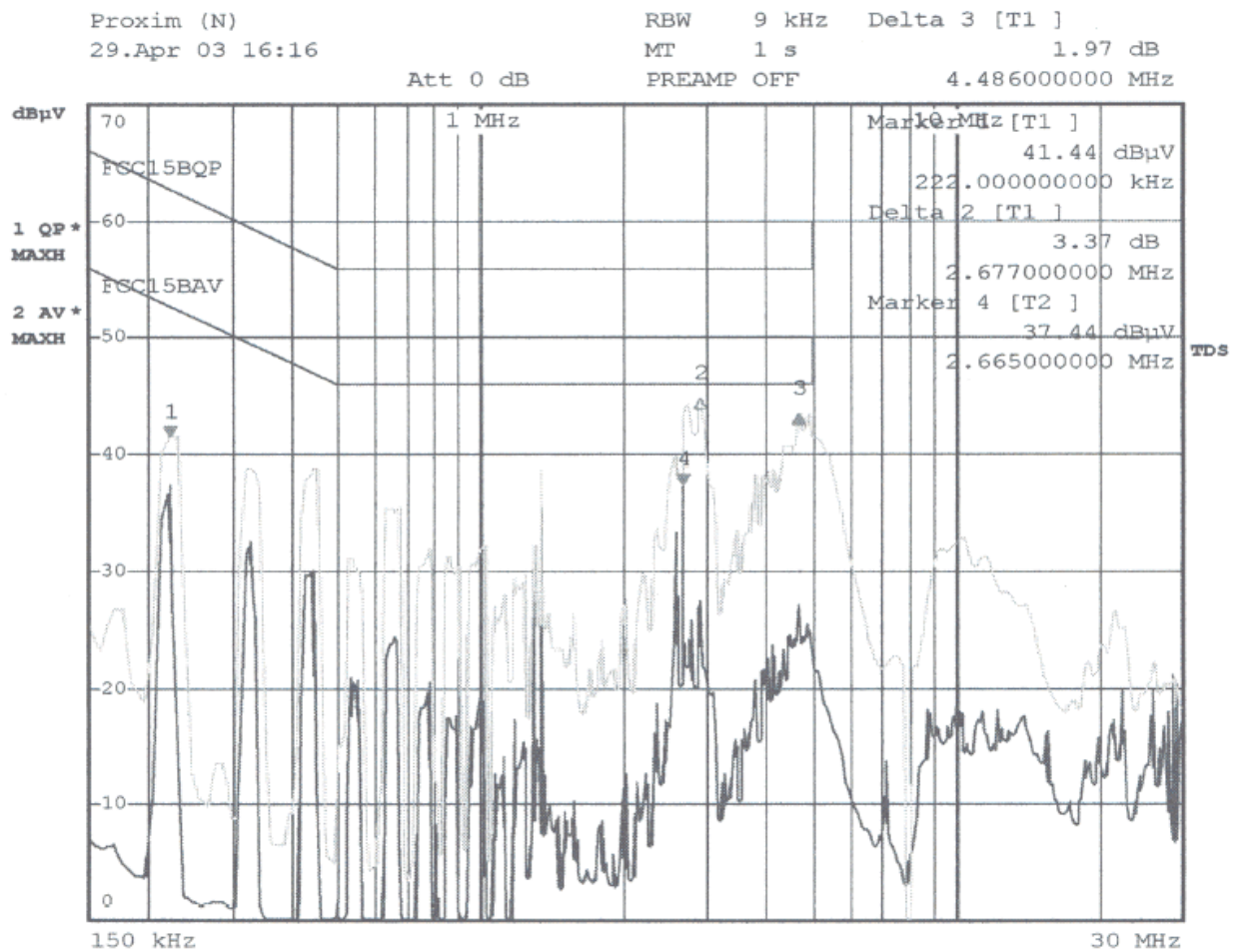
-7.6 dB μ V at 2.67 MHz in the Line mode

13.6 Conducted Emissions Test Data

LINE CONDUCTED EMISSIONS				FCC PART 15 CLASS B	
Frequency MHz	Amplitude dB μ V	Detector Qp/Ave/Peak	Phase Line/Neutral	Limit dB μ V	Margin dB
2.670	38.4	AVE	Line	46	-7.6
2.640	37.4	AVE	Neutral	46	-8.6
2.670	44.8	QP	Neutral	56	-11.2
2.670	44.7	QP	Line	56	-11.3
4.650	43.2	QP	Line	56	-12.8
4.480	43.1	QP	Neutral	56	-12.9
0.220	37.5	AVE	Neutral	53	-15.5
1.340	40.3	QP	Line	56	-15.7
1.340	29.8	AVE	Line	46	-16.2
4.480	27.5	AVE	Neutral	46	-18.5
4.650	26.7	AVE	Line	46	-19.3
0.220	41.4	QP	Neutral	63	-21.6

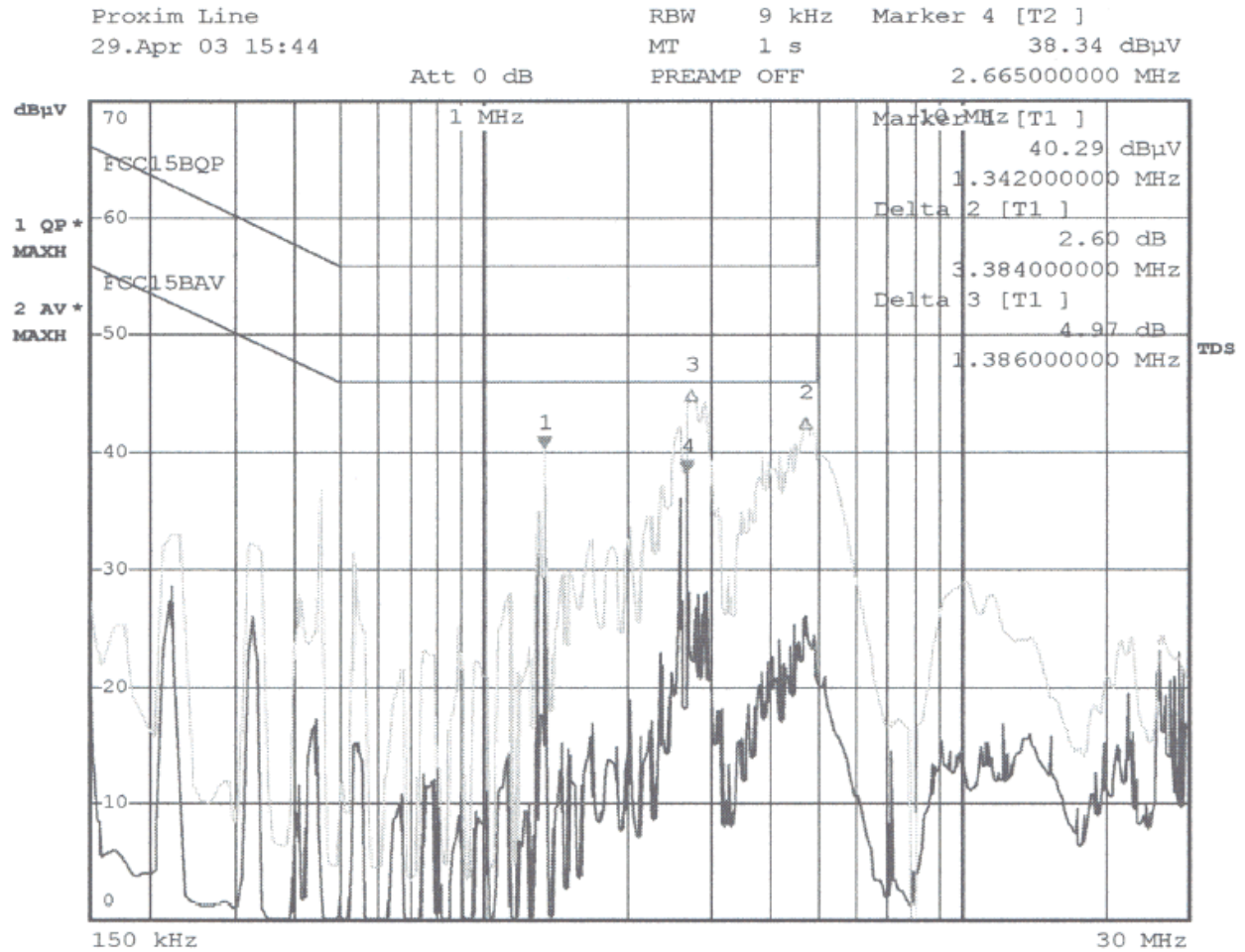
13.7 Plot of Conducted Emissions Test Data

Plot(s) of Conducted Emissions Test Data is presented hereinafter as reference.



Date: 29.APR.2003 16:16:42

am 2003-4-29



Date: 29.APR.2003 15:44:24

Run 2003-4-29

14 - Discontinue Transmitting With Absence Of Data Or Operational Failure

According to § 15.407 (c), the device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the user of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application a description of how this requirement is met.

Please refer to respective technical description.

15 - Frequency Stability

15.1 Standard Applicable

According to §15.407 (g), manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation .

15.2 Measurement Result

Reference Frequency: 5280 MHz, Limit: +/- 0.02%			
Environment Temperature (°C)	Power Supplied Vac	Frequency Measure with time Elapsed	
		MCF	Error
		MHz	%
50	110	5280.0043	0.0001
40	110	5279.9947	-0.0001
30	110	5279.9877	-0.0002
20	110	5279.9927	-0.0001
10	110	5279.9973	-0.00004
0	110	5280.0017	0.0001
-10	110	5280.0123	0.0003
-20	110	5280.0133	0.0002
-30	110	5280.0093	0.0002

Reference Frequency: 5280 MHz, Limit: +/- 0.02%						
Power Supplied Vac	Frequency Measure with Time Elapsed					
	2 Minutes		5 Minutes		10 Minutes	
	Frequency	%	Frequency	%	Frequency	%
126.5	5279.9927	-0.0001	5279.9923	-0.0002	5279.9923	-0.0002
110	5279.9927	-0.0001	5279.9923	-0.0002	5279.9923	-0.0002
93.5	5279.9923	-0.0002	5279.9926	-0.0001	5279.9925	-0.0001

16 - RF EXPOSURE

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1093 RF exposure is calculated.

Limits for Maximum Permissible Exposure (MPE)

(A) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

(B) Limits for Occupational/Controlled Exposures

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6

f = frequency in MHz

* = Plane-wave equivalent power density

MPE Prediction

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where: S = power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

*RF Exposure for 15.407*Maximum peak output power at antenna input terminal: 17.25 (dBm)Maximum peak output power at antenna input terminal: 53.09 (mW)Predication frequency: 5280 (MHz)Antenna Gain (maximum): 33.4 (dBi)antenna gain: 2187.76 (numeric)Prediction distance: 96.14 (cm)*RF Exposure for 15.247*Maximum peak output power at antenna input terminal: 20.87 (dBm)Maximum peak output power at antenna input terminal: 122.18 (mW)Predication frequency: 5800 (MHz)Antenna Gain (maximum): 33.4 (dBi)antenna gain: 2187.76 (numeric)Prediction distance: 145.85 (cm)**Test Result**

The EUT is of fixed outdoor installation, point -to-point or point-to-multipoint. 1mW/cm2 limit applies.