



Electromagnetic Compatibility Test Report

Test Report No: MOT 161007

Issued on: October 16, 2007

**Product Name:
Smart Rider - M990 Professional Install
Model: FLN3872A
FCC ID: IHDP56HN1
IC: 1090-56HN1**

**Tested According to
FCC 47 CFR, Part 15, Subparts B & C
Industry Canada ICES-003 & RSS-210**

**Tests Performed for
Motorola Inc.**

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1633.01

Test Report details:

Issued on: 16.10.2007

Assessment information:

This report contains an assessment of the EUT against Electromagnetic Compatibility based upon tests carried out on the samples submitted. The results contained in this report relate only to the items tested. Manufactured products will not necessarily give identical results due to production and measurement tolerances. QualiTech, EMC Lab does not assume responsibility for any conclusion and generalization drawn from the test results with regards to other specimens or samples of type of the equipment represented by test item.

The EUT was set up and exercised using the configuration, modes of operation and arrangements defined in this report only.

Modifications:

Modifications made to the EUT

None.

Modifications made to the Test Standard

None.

Summary of Compliance Status

Bluetooth: FCC 47 CFR, Part 15, Subparts B & C, RSS 210 Annex.8 Issue 6

Test Spec. Clause	Test Case	Remarks
§15.247 (a) (1) & RSS-210 section A8.1 (2)	Carrier Frequency Separation	Pass
§15.247 (a) (1)(iii) & RSS-210 section A8.1 (3)	Number of Hopping Channels	Pass
§15.247 (a) (1)(iii) & RSS-210 section A8.1 (4)	Time Occupancy (Dwell Time)	Pass
§15.247 (a) (1) (ii) & RSS-210 section A8.1 (1)	Spectrum Bandwidth of a FHSS system/ Maximum 20dB BW	Pass
§15.247 (b) (1) & RSS-210 section A8.4 (2)	Maximum Peak Output Power	Pass
§15.247 (d) & RSS-210 section A8.5	Band-Edge compliance of RF Conducted Emission	Pass
§15.205& RSS-210 section A8.5	Radiated Emission, Restricted Bands	Pass
§15.247 (d) & RSS-210 section A8.5	Spurious Emission Conducted	Pass
§15.247 (d) & RSS-210 section A8.5	Spurious Emission Radiated	Pass
§15.203 & RSS-Gen, Section 7.1.4	Antenna Connector requirement	Pass

Unintentional Radiations

Test Spec. Clause	Test Case	Remarks
§15.109 & ICES-003, RSS-GEN, Section 7.2.3.2	Radiated Emission (receiver)	Pass

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1. General Description

Description of the EUT system/test Item:

Product name: Smart Rider - M990 Professional Install

Model: FLN3872A

FCC ID: IHDP56HN1

IC: 109O-56HN1

EUT Description:

The Smart Rider - M990 Professional Install, a GSM high tier fixed mobile car phone powered from 12 / 24V vehicle battery.

It provides not only voice services but also high-speed data services, entertainment, information, advanced network connection, BT connections, GPS navigation services etc.

The Smart Rider / M990-PI is a Professional Install configuration that requires a fixed installation by Motorola service shop and is supporting external microphone & speaker and external antennas (GPS & GSM). It's Main Unit (shown in the picture below) can be detached from its base unit (cradle) (when not in use). It incorporates a Quad-band GSM/GPRS/EDGE g24 module, new big color screen and integrated GPS and Bluetooth components. With the stylish look and full features set, it is targeted to a broad band of markets looking for exclusivity like business men, limousines and private cars looking for stylish communication and navigation solution

It supports internal Microphone and Speaker and switches automatically to External MIC and Speaker while connecting these acoustic devices to the M990 octopus cable.

Bands and Modulations:

Radio	Transmitter Modulation	Freq. Band	Nominal Output Power
GPRS Multislot Class 10 / Power class 4	GMSK	824.2 - 848.8 MHz	32.0 dBm
GPRS Multislot Class 10 / Power class 1		1850.2 - 1909.8 MHz	29.0 dBm
EDGE Multislot Class 10 / Power class E2	8PSK	824.2 - 848.8 MHz	26.5 dBm
		1850.2 - 1909.8 MHz	24.5 dBm
Bluetooth class 2	GFSK	2402 - 2480 MHz	1.75 dBm

Product operation models:

Mode	Details
GSM850/1900 and Bluetooth 2.4GHz	Coexistence All Tx/Rx combinations
GPS receive	GPS operational while Bluetooth & GSM850/1900 Transmit full power

2. Method of Measurements

2.1. Conducted Measurements:

The RF output of the transmitter under test was directly connected to the input of the Spectrum analyzer through a specialized antenna connector provided by the manufacturer, and an attenuator as specified. The external attenuator and cable loss were added to the reading. Worst-case results of in the various modulation modes (where applicable) were reported.

For carrier frequency separation, number of hopping frequencies, time of occupancy, 20dB BW, peak output power, band edge emissions, and spurious emissions were measured according the guidelines in DA 00-705.

For PSD, emission peak was zoomed within the pass band with spectrum analyzer's settings as reported (Sweep time=Span/3kHz).

For Maximum Conducted Output Power per §15.247(b)(3), the spectrum analyzer was set for video trigger, and 100 traces were averaged in power averaging mode. The power was integrated across a bandwidth of the 26dB EBW of the signal, using the spectrum analyzer's band power measurement function with band limits set equal to the EBW band edges.

2.2. Radiated Emissions Measurements in the restricted bands:

For radiated emissions, which fall in the restricted bands the spectrum from 1MHz to 25GHz was investigated following the guidelines in ANSI C63.4-2003, with the transmitter set to the lowest, middle and highest channel frequencies. Measurements were performed with peak detector and repeated averaged with VBW=10Hz.

2.3. Radiated Emission measurements:

During the testing process, the EUT was controlled via dedicated software. The EUT was operated in receive mode.

Measurements were performed at a 3-meter measurement distance in the semi-anechoic chamber in order to evaluate the radiated electromagnetic interference characteristics of the EUT. The EUT was placed on a non-metallic table/support, 0.8m above the turntable, was configured, arranged and operated in a manner consistent with typical application and load conditions.

An appropriate antenna depending upon the frequency range, per ANSI C63.4-2003 clause 4.1.5 was used. While the turntable was being rotated, the height of the antenna was varied from 1 to 4m for the frequency range of 9kHz to 25GHz. The highest radiated emission was detected by manipulating the system cables to the worst-case position. This process was repeated for both antenna polarizations.

The amplitudes of worst-case emission were measured with the detector modes and resolution bandwidths over various frequency ranges according to the requirements of ANSI C63.4-2003 clause 4.2.

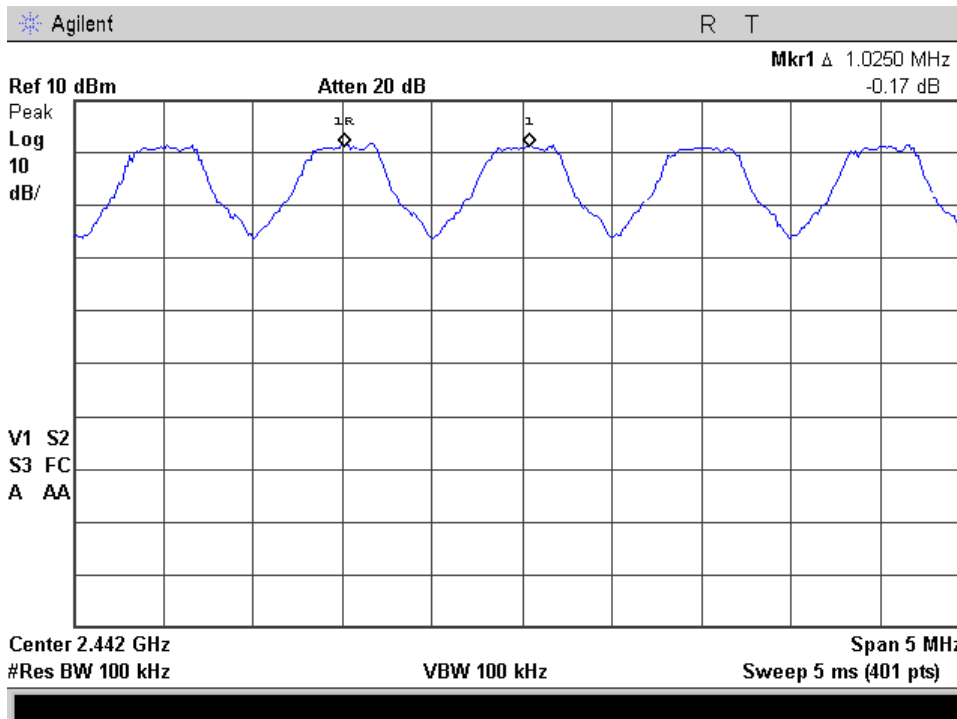
3. Bluetooth: Report of Measurements and examinations

3.1. Carrier Frequency Separation

Reference document:	47 CFR §15.247 (a) (1) & DA 00-705		
Test Requirements:	Hopping channels carrier frequencies separated by a minimum of 25 kHz or 20dB Bandwidth of the hopping channel, whichever is greater.		
Test setup:	See Sec. 2.1	Pass	
Operating conditions:	Under normal test conditions		
Method of testing:	Conducted		
S.A. Settings:	RBW: 100kHz, VBW: 100kHz		
Hopping function:	Enabled		
Environment conditions:	Ambient Temperature: 22°C	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	Reference Plot 3.1	

20dB BW [kHz]	Carrier separation [kHz]	Result
810	1025	Pass

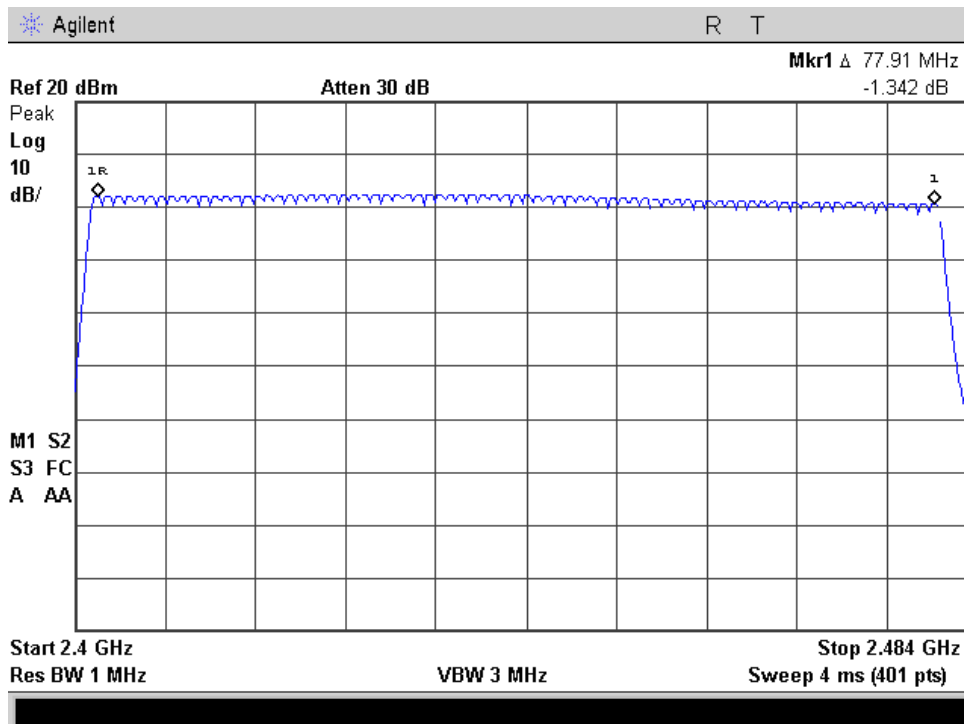
Plot 3.1



3.2. Number of Hopping Channels

Reference document:	47 CFR §15.247 (a) (1)(iii) & DA 00-705		
Test Requirements:	Hopping system shall use at least 15 non-overlapping channels.		
Test setup:	See Sec. 2.1	Pass	
Operating conditions:	Under normal test conditions		
Method of testing:	Conducted		
S.A. Settings:	RBW: 1MHz, VBW: 3MHz		
Hopping function:	Enabled		
Environment conditions:	Ambient Temperature: 22°C	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	79 hopping channels	Reference Plot 3.2	

Plot 3.2



3.3. Average Time of Occupancy (Dwell Time)

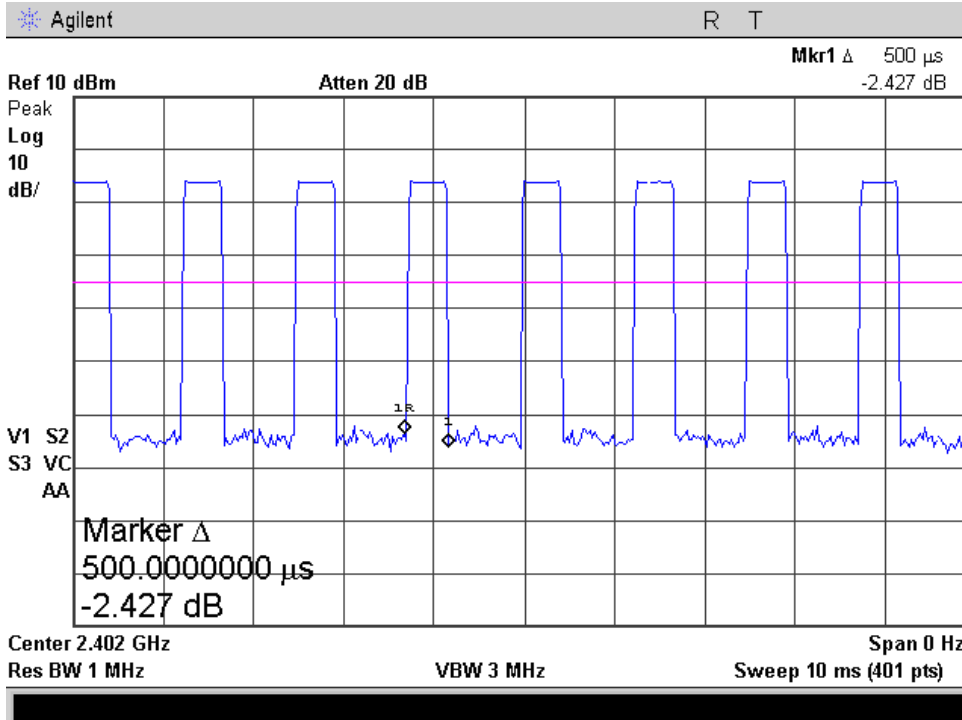
Reference document:	47 CFR §15.247 (a) (1) (iii) & DA 00-705		
Test Requirements:	The average time of occupancy on any channel shall not be greater than 0.4seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.		
Test setup:	See Sec. 2.1	Pass	
Operating conditions:	Under normal test conditions		
Method of testing:	Conducted		
S.A. Settings:	RBW: 1MHz, VBW: 3MHz, Span:0 centered on hopping channel		
Hopping function:	Disabled		
Environment conditions:	Ambient Temperature: 22°c	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	Reference Plots 3.3.1–3.3.3	

Test results:

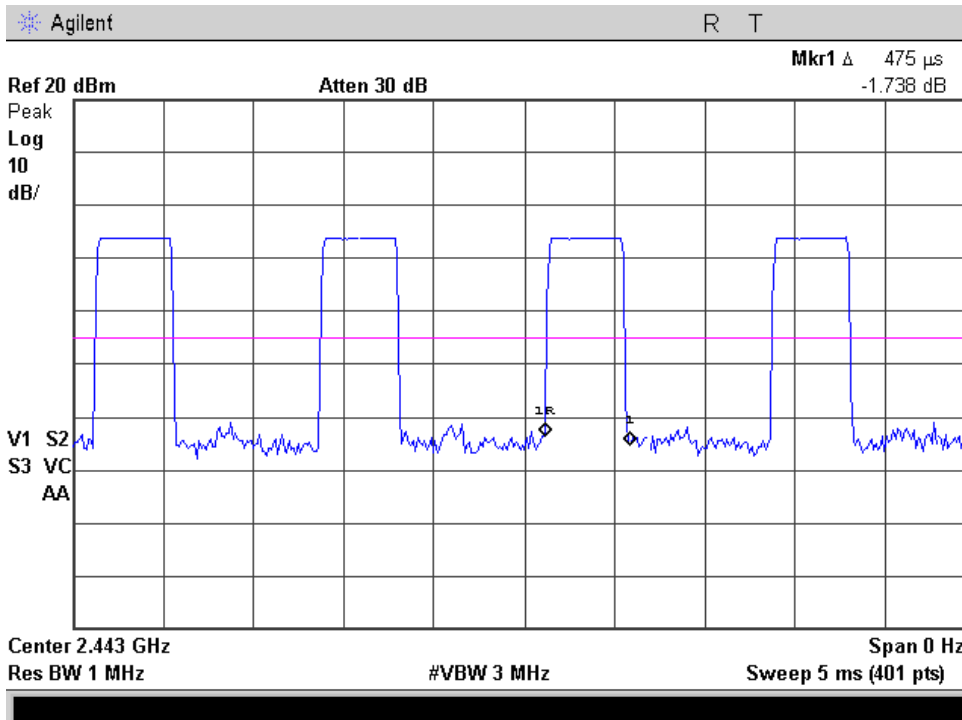
Frequency [GHz]	Time slot length [msec]	Reference	Dwell time [Sec]	Limit [Sec]	Result
2.402	0.500	Plot 3.3.1	0.320	0.4	Pass
2.443	0.475	Plot 3.3.2	0.304	0.4	Pass
2.480	0.475	Plot 3.3.3	0.304	0.4	Pass

Dwell Time = Time Slot Length * Hop Rate/Number of Hopping Channels* Period Time
 Period Time= 0.4sec * 79, Hop Rate =1600 1/s

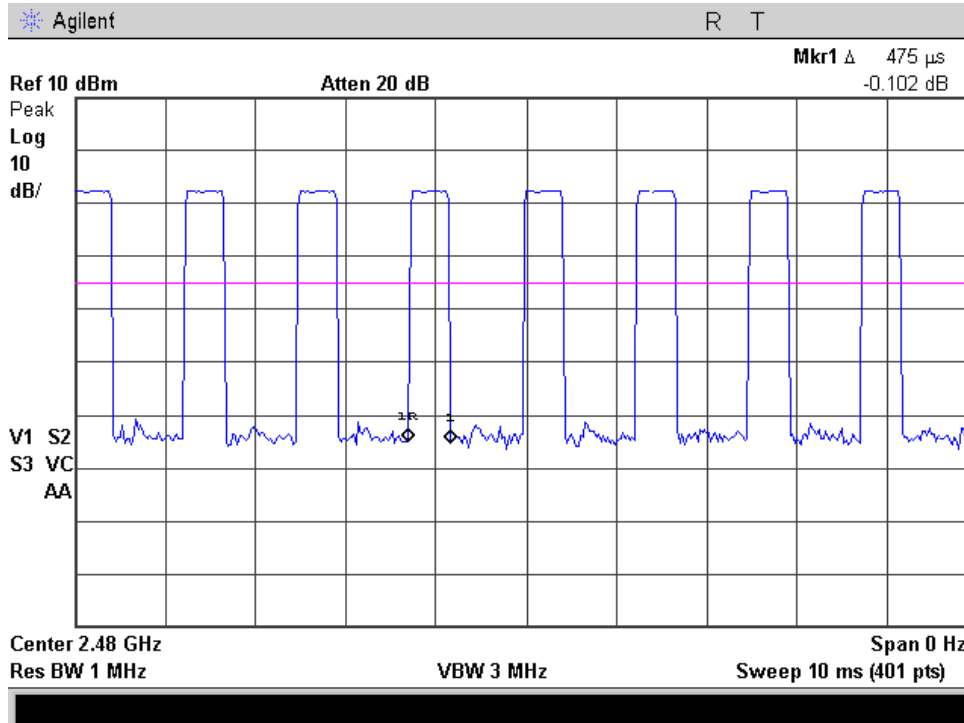
Plot 3.3.1



Plot 3.3.2



Plot 3.3.3



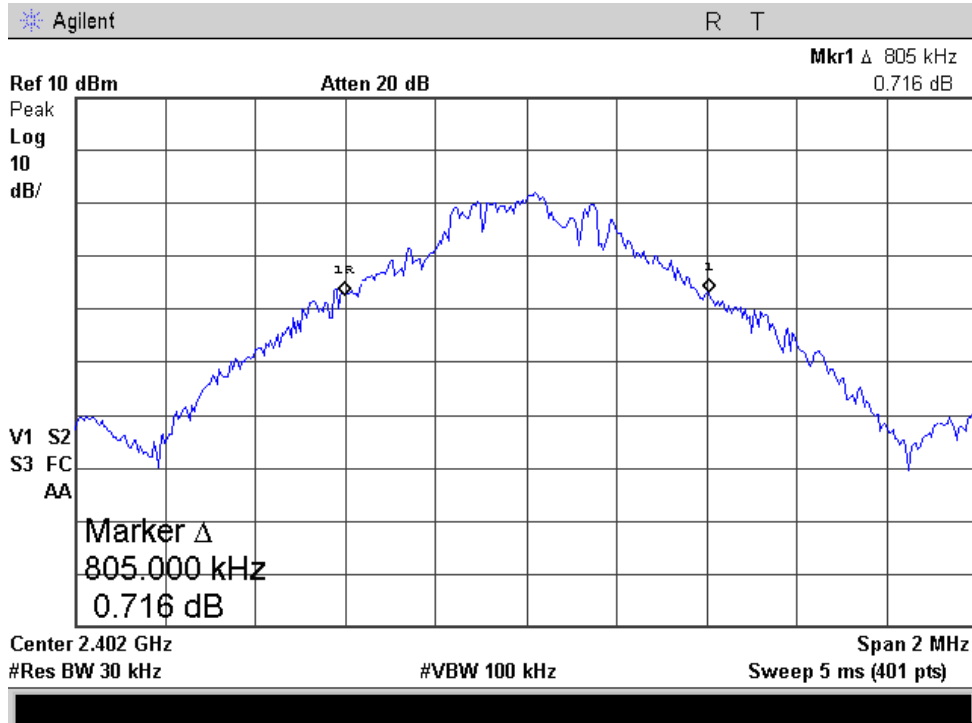
3.4. 20dB Bandwidth

Reference document:	47 CFR §15.247 (a) (1)(iii) & DA 00-705		
Test Requirements:	Hopping channels carrier frequencies separated by a minimum of 25kHz or 20dB Bandwidth of the hopping channel, whichever is greater.		
Test setup:	See Sec. 2.1	Pass	
Operating conditions:	Under normal test conditions		
Method of testing:	Conducted		
S.A. Settings:	RBW: 30kHz, VBW: 100kHz, Span: 2MHz		
Hopping function:	Disabled		
Environment conditions:	Ambient Temperature: 22°C	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	Reference Plots 3.4.1 –3.4.3	

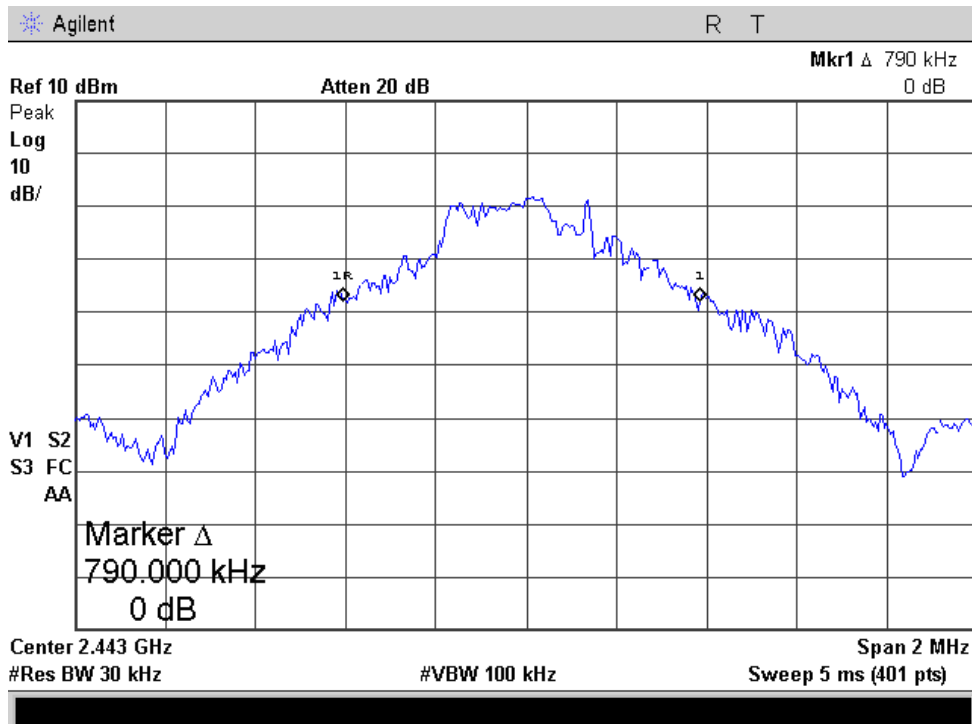
Test results:

Frequency [GHz]	20dB BW [kHz]	Reference
2.402	805	Plot 3.4.1
2.443	750	Plot 3.4.2
2.480	810	Plot 3.4.3

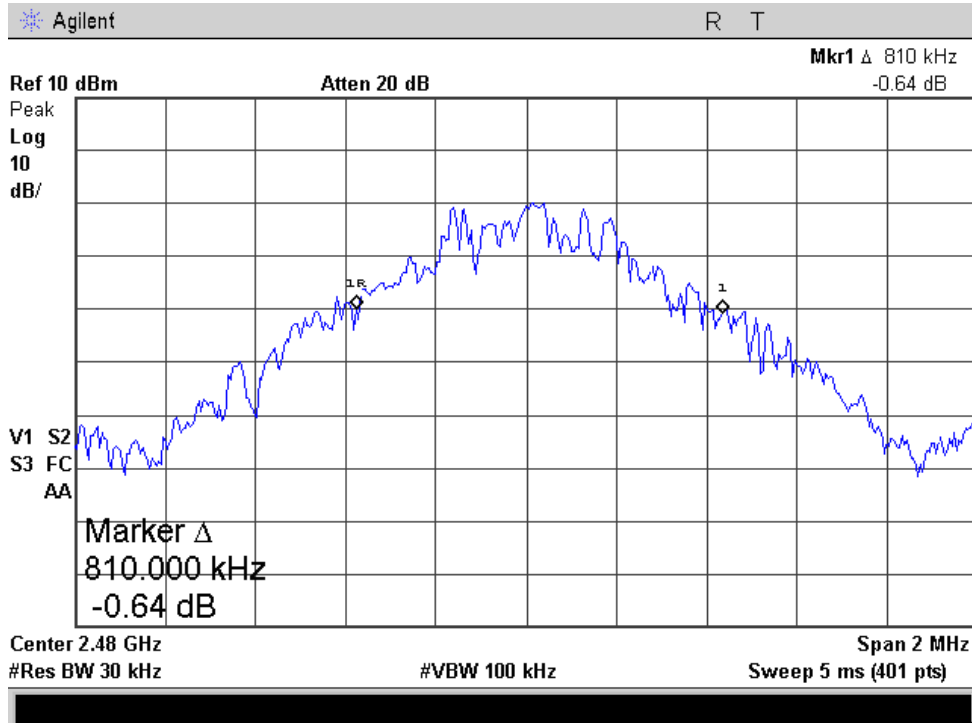
Plot 3.4.1



Plot 3.4.2



Plot 3.4.3



3.5. Maximum Peak Output Power

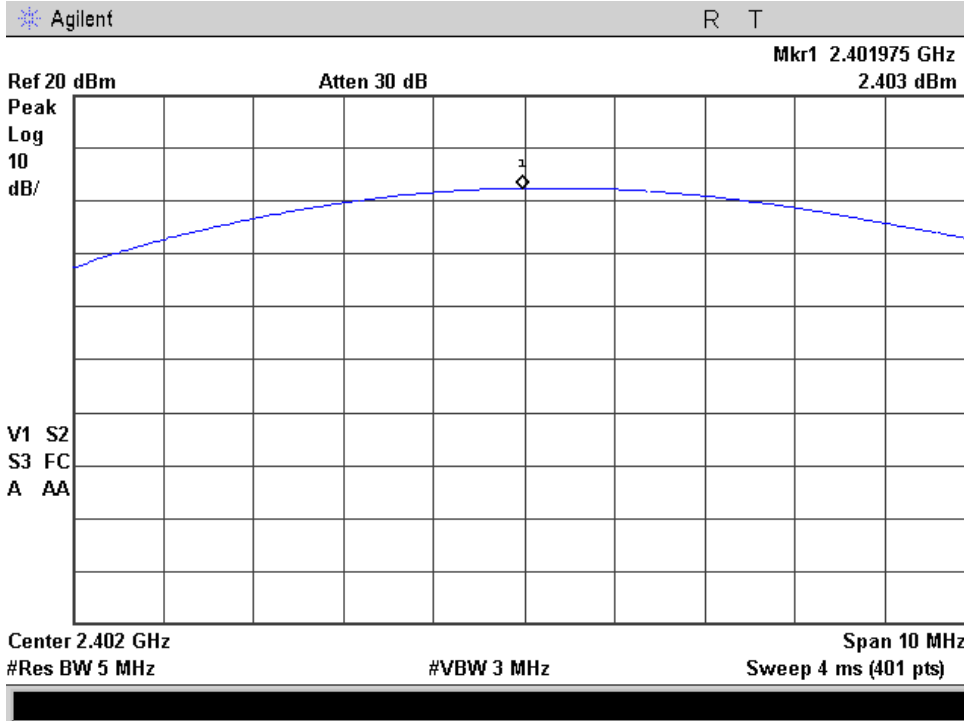
Reference document:	47 CFR §15.247 (b) (1) & DA 00-705		
Test Requirements:	The maximum peak output power shall not exceed 1Watt (30dBm)		
Test setup:	See Sec. 2.1	Pass	
Operating conditions:	Under normal test conditions		
Method of testing:	Conducted		
S.A. Settings:	RBW: 3MHz, VBW: 3MHz,		
Hopping function:	Disabled		
Environment conditions:	Ambient Temperature: 22°C	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	Reference Plots 3.5.1 –3.5.3	

Test results:

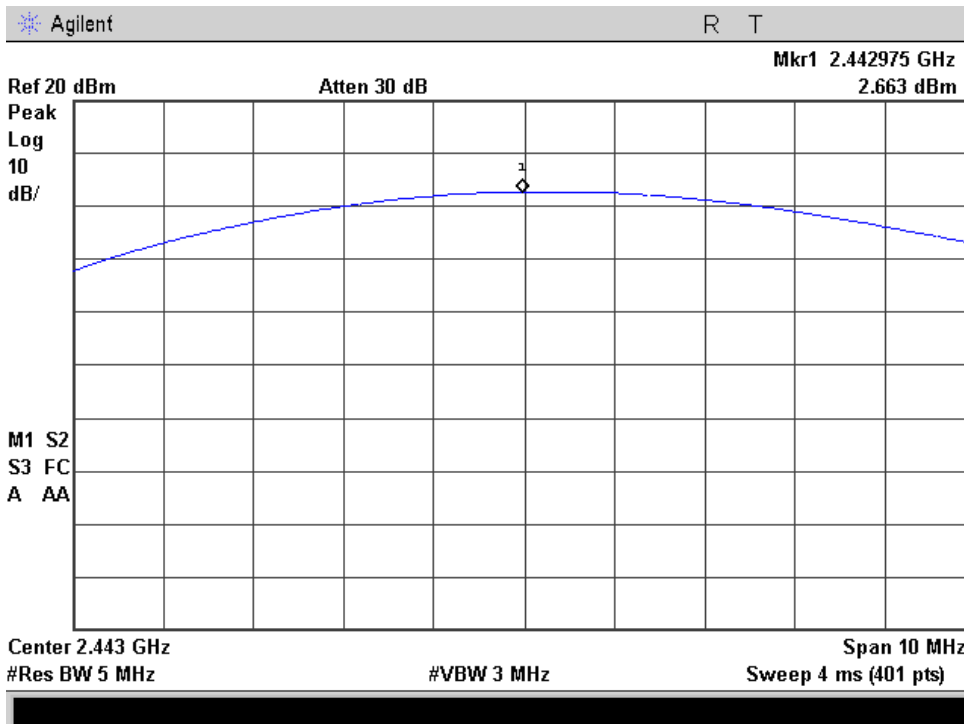
Frequency [GHz]	Max. Peak Output power* [dBm]	Max. Peak Output power* [mW]	Reference	Result
2.402	2.403	1.739	Plot 3.5.1	Pass
2.443	2.663	1.846	Plot 3.5.2	Pass
2.480	1.031	1.268	Plot 3.5.3	Pass

*Corrected for external attenuations and cable

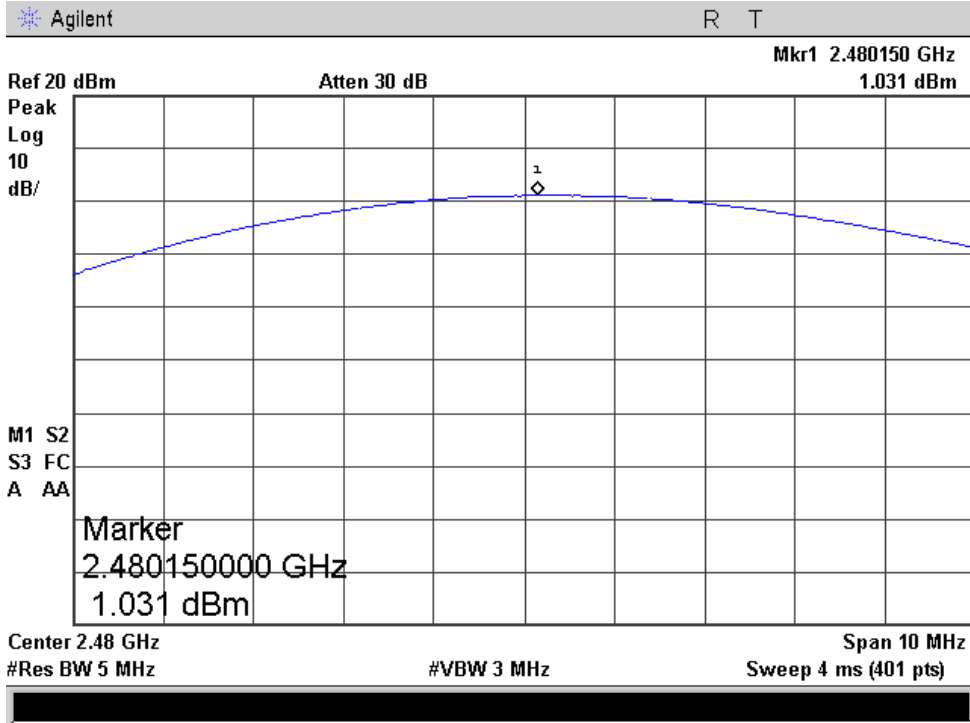
Plot 3.5.1



Plot 3.5.2



Plot 3.5.3



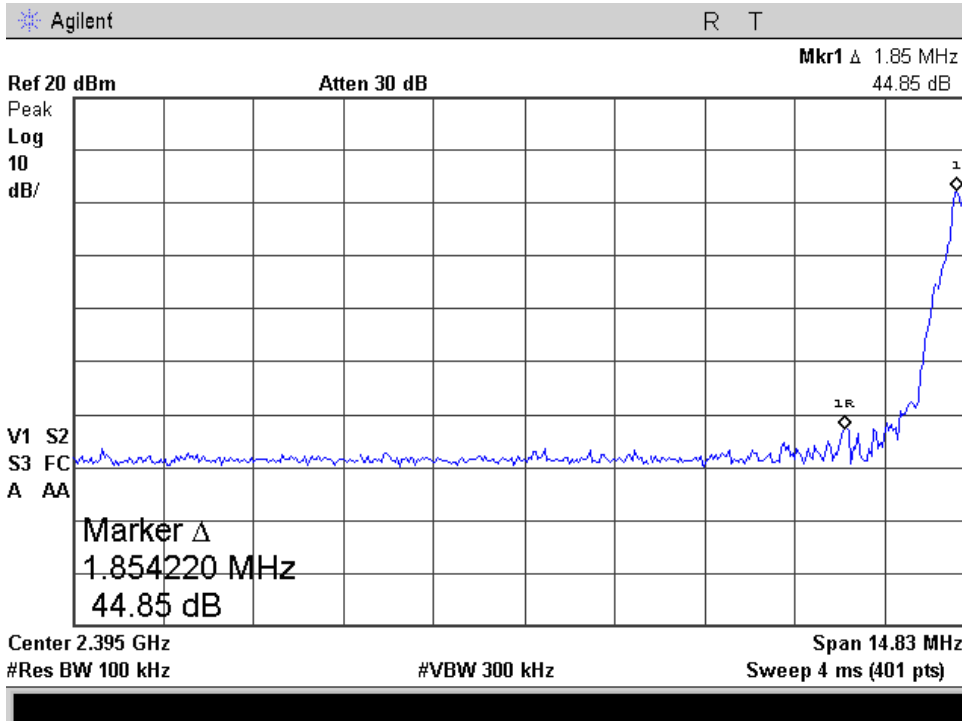
3.6. Band-edge compliance of RF Conducted Emission

Reference document:	47 CFR §15.247 (d) & DA 00-705		
Test Requirements and limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).		
Test setup:	See Sec. 2.1	Pass	
Operating conditions:	Under normal test conditions		
Method of testing:	Conducted		
S.A. Settings:	RBW: 100kHz, VBW: 100kHz		
Hopping function:	Disabled/Enabled		
Environment conditions:	Ambient Temperature: 22°C	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	Reference Plot 3.6.1 –3.6.4	

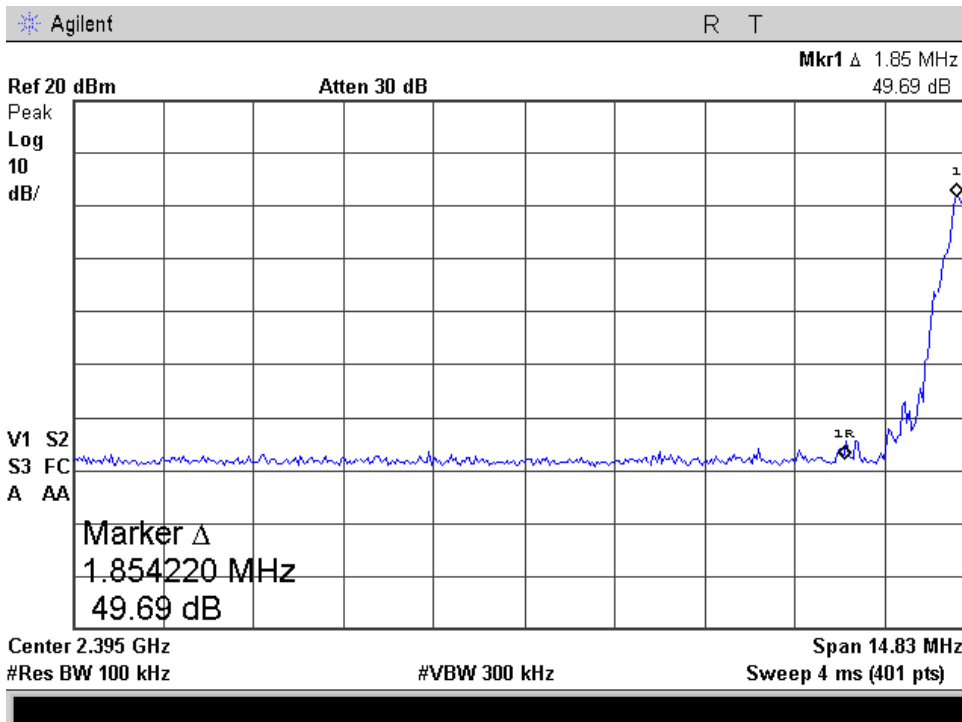
Test results of

Activity	Measured emission [dBc]	Limit [dBc]	Reference	Result
Hopping off, lowest frequency	-44.85	-20	Plot 3.6.1	Pass
Hopping on, lowest frequency	-49.69	-20	Plot 3.6.2	Pass
Hopping off, highest frequency	-46.91	-20	Plot 3.6.3	Pass
Hopping on, highest frequency	-47.85	-20	Plot 3.6.4	Pass

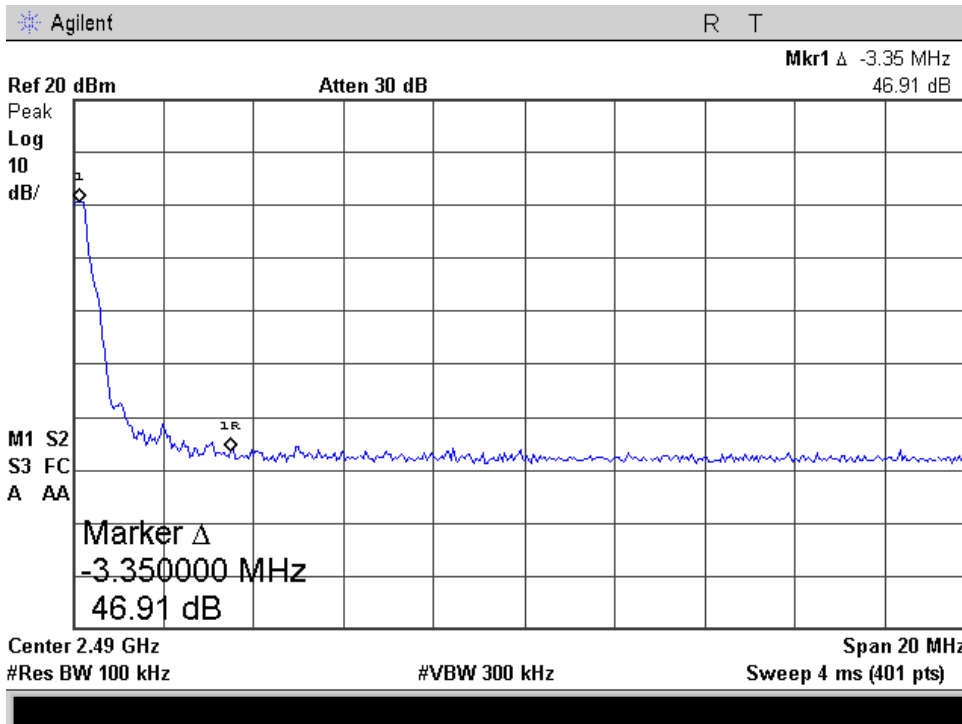
Plot 3.6.1



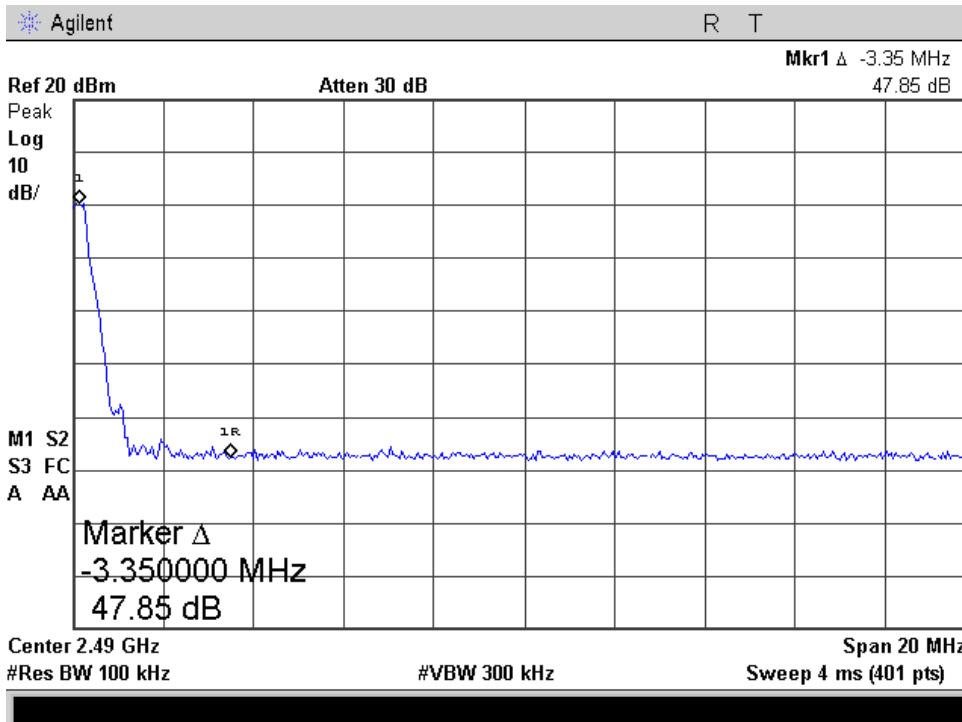
Plot 3.6.2



Plot 3.6.3



Plot 3.6.4



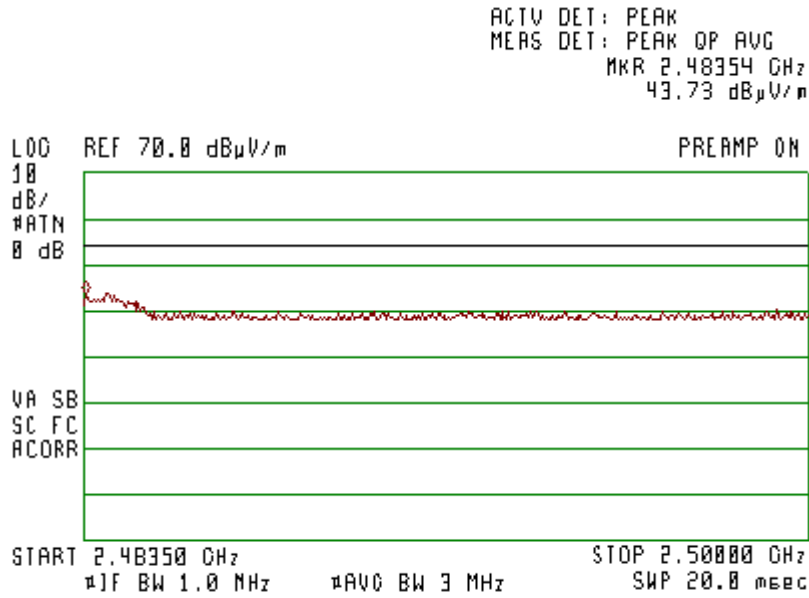
3.7. Radiated Spurious Emissions, Restricted Bands (2310-2390MHz, 2483.5-2500MHz)

Reference document:	47 CFR §15.205 & DA 00-705		
Test Requirements:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).		
Test setup:	See Sec. 2.2	Pass	
Operating conditions:	Under normal test conditions		
Method of testing:	Radiated		
S.A. Settings:	RBW: 1MHz, VBW: 3MHz / 10Hz		
Hopping function:	Disabled/Enabled		
Environment conditions:	Ambient Temperature: 22°C	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	Reference Plots 3.7.1 –3.7.16	

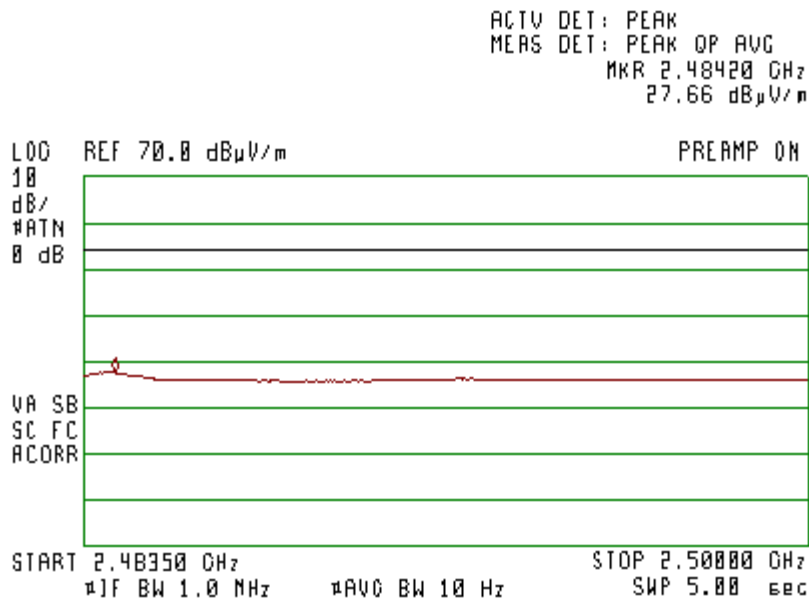
Test results:

Channel	Detector type	Max. Measured in restricted band at 3m [dBµV/m]	Limit [dBµV/m]	Reference	Result
Hopping off, highest frequency	Average	28.92	54	Plot 3.7.1 – Plot 3.7.8	Pass
	Peak	49.68	74		Pass
Hopping on, highest frequency	Average	25.82	54		Pass
	Peak	39.44	74		Pass
Hopping off, lowest frequency	Average	25.89	54	Plot 3.7.9 – Plot 3.7.16	Pass
	Peak	40.05	74		Pass
Hopping on, lowest frequency	Average	20.58	54		Pass
	Peak	33.71	74		Pass

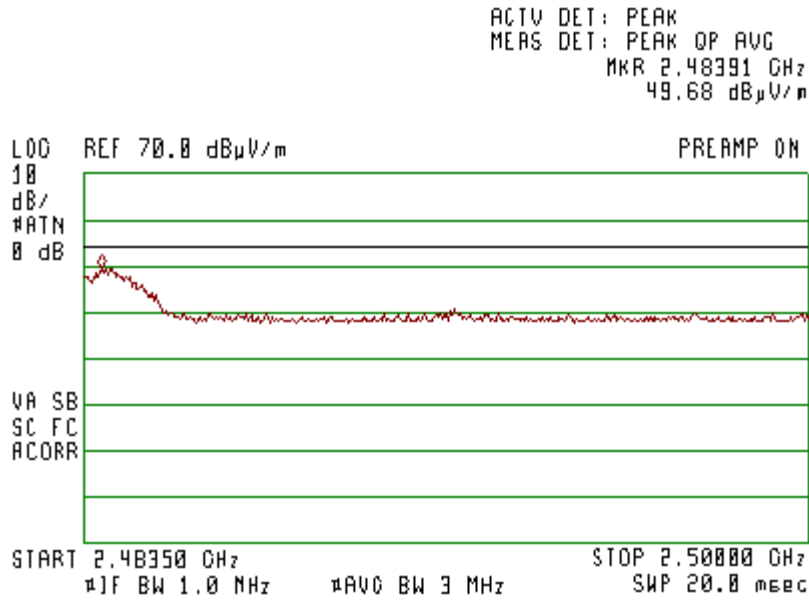
**Single mode Highest Frequency
Vertical Polarization
Peak
Plot 3.7.1**



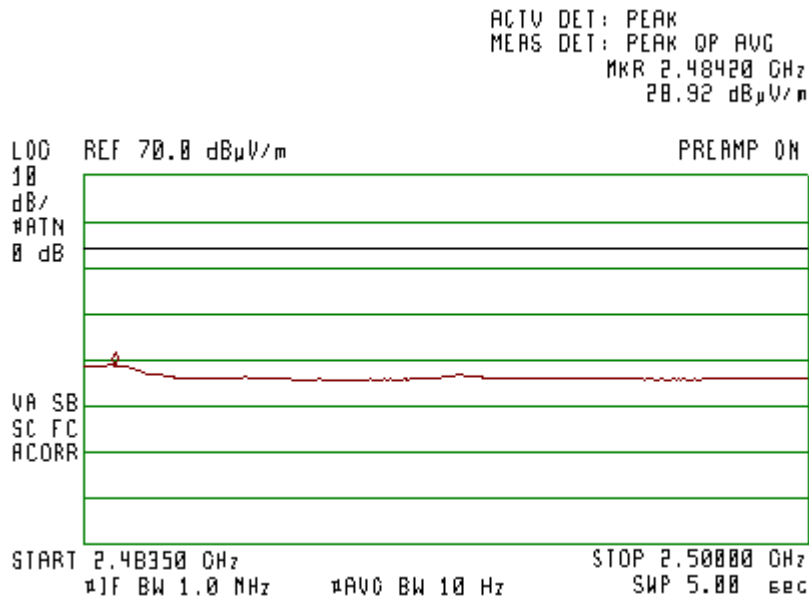
**Average
Plot 3.7.2**



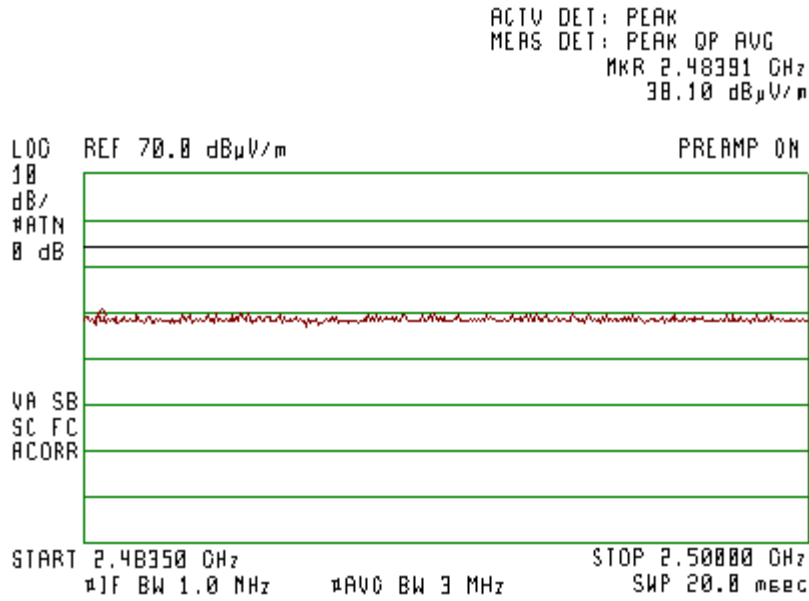
**Single mode Highest Frequency
Horizontal Polarization
Peak
Plot 3.7.3**



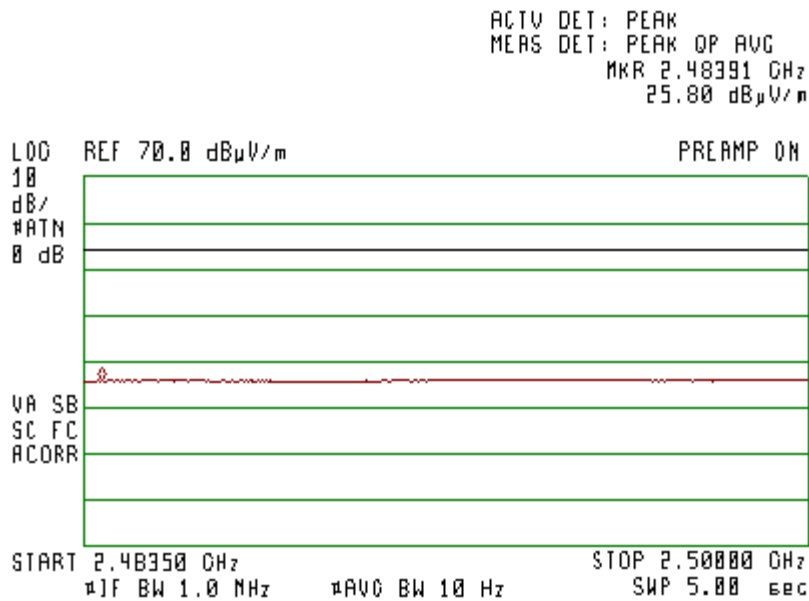
**Average
Plot 3.7.4**



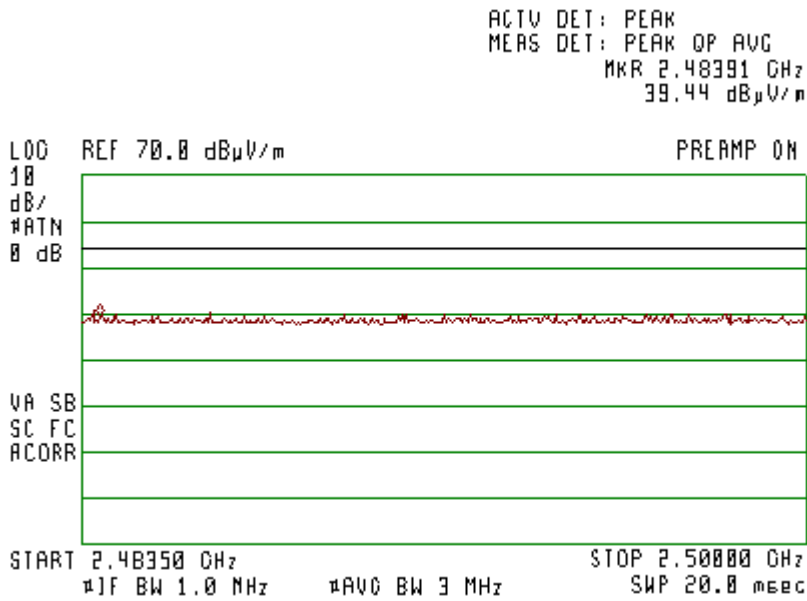
**Hopping mode highest Frequency
Vertical Polarization
Peak
Plot 3.7.5**



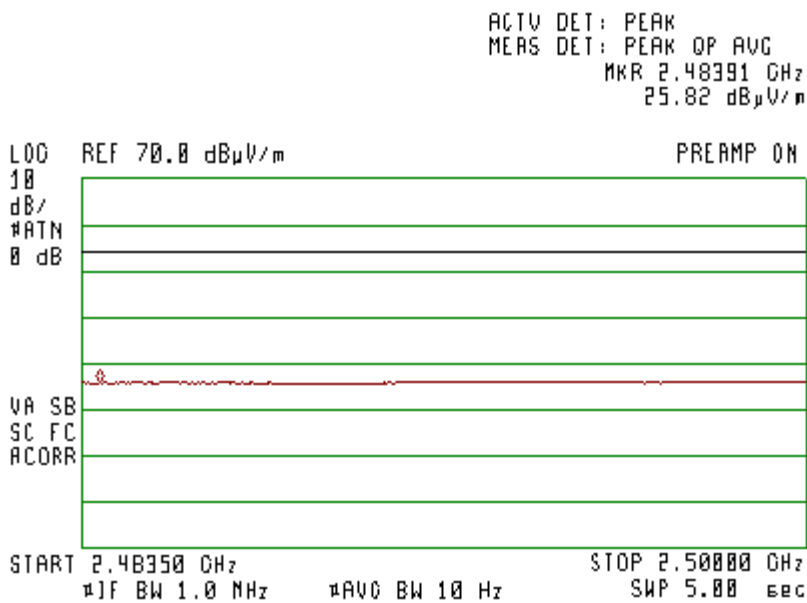
**Average
Plot 3.7.6**



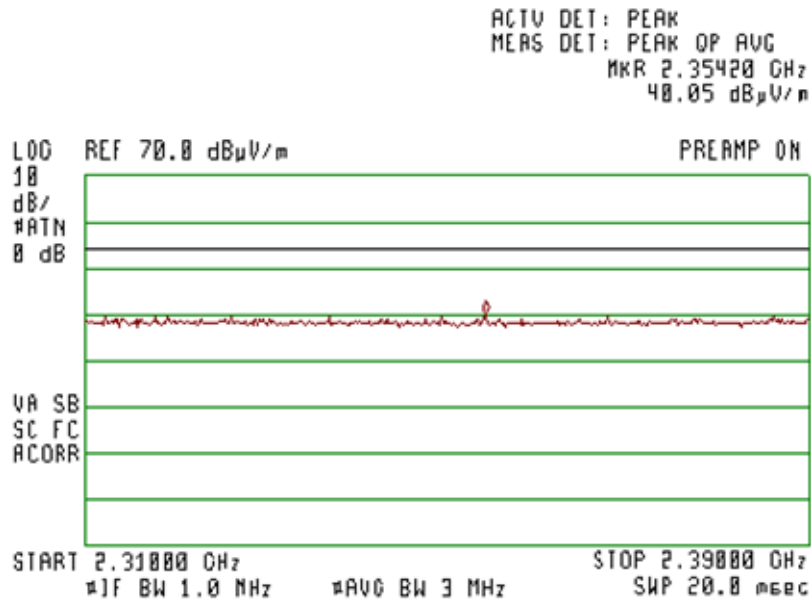
**Hopping mode highest Frequency
Horizontal Polarization
Peak
Plot 3.7.7**



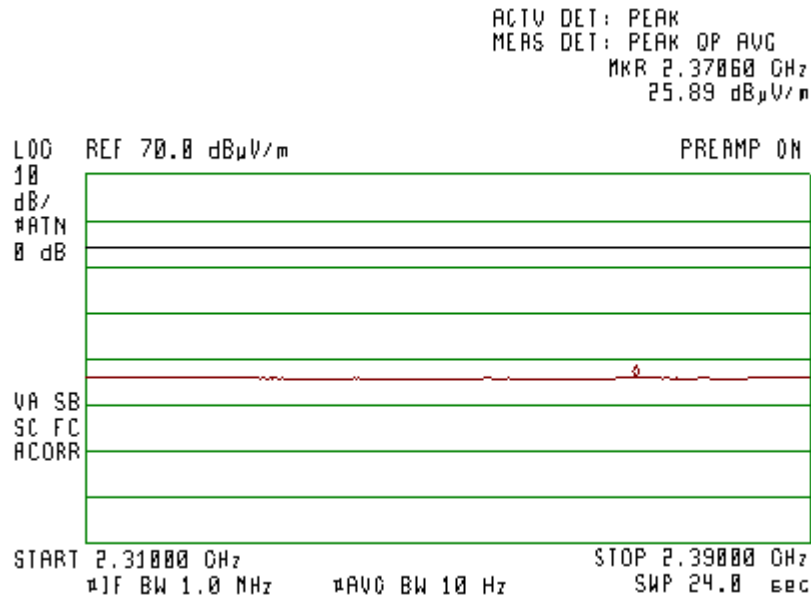
**Average
Plot 3.7.8**



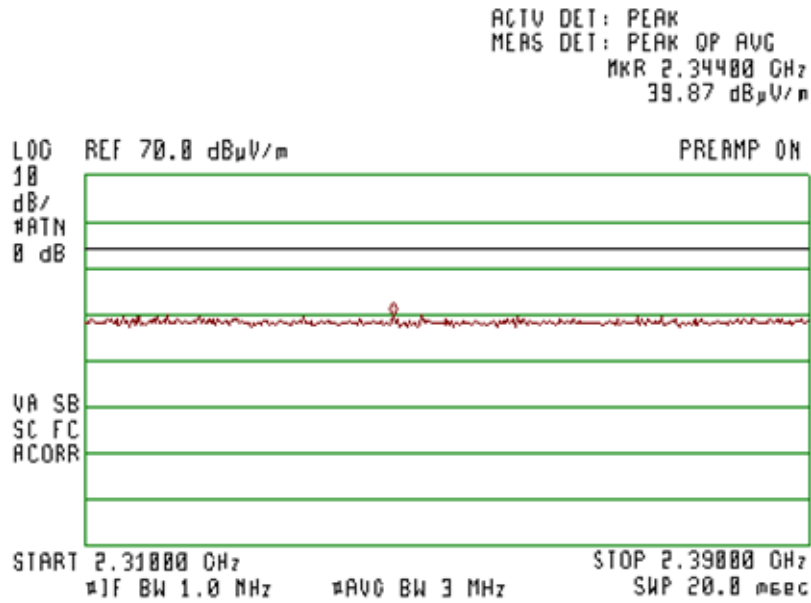
Single mode Lowest Frequency
Vertical Polarization
Peak
Plot 3.7.9



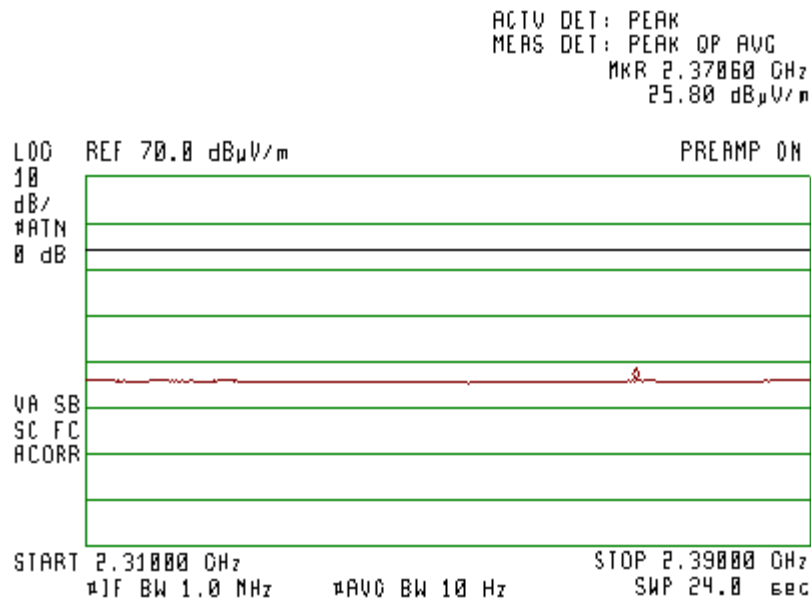
Average
Plot 3.7.10



**Single mode Lowest Frequency
Horizontal Polarization
Peak
Plot 3.7.11**

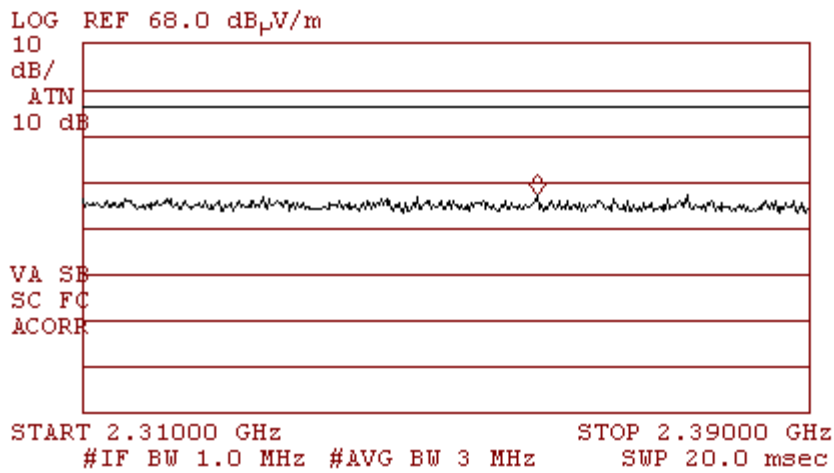


**Average
Plot 3.7.12**



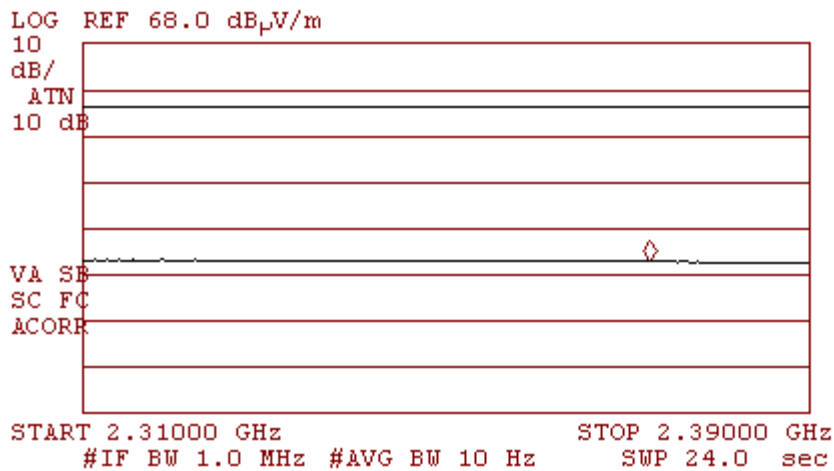
**Hopping mode Lowest Frequency
Vertical Polarization
Peak
Plot 3.7.13**

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 2.36000 GHz
34.95 dB μ V/m



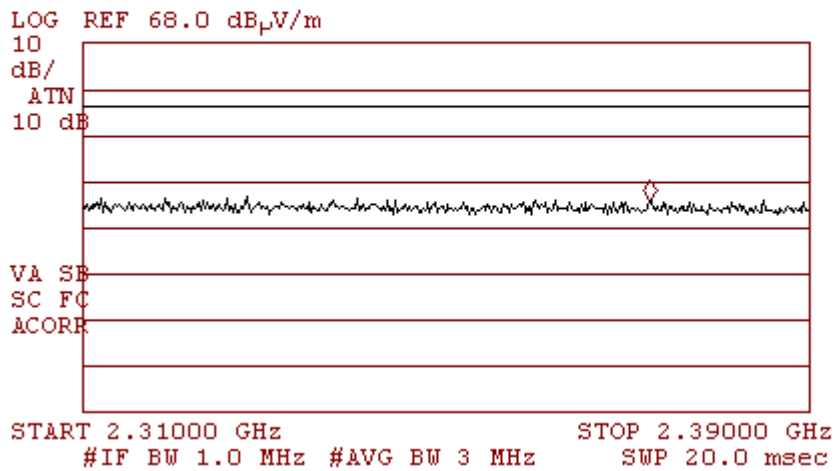
**Average
Plot 3.7.14**

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 2.37240 GHz
20.52 dB μ V/m



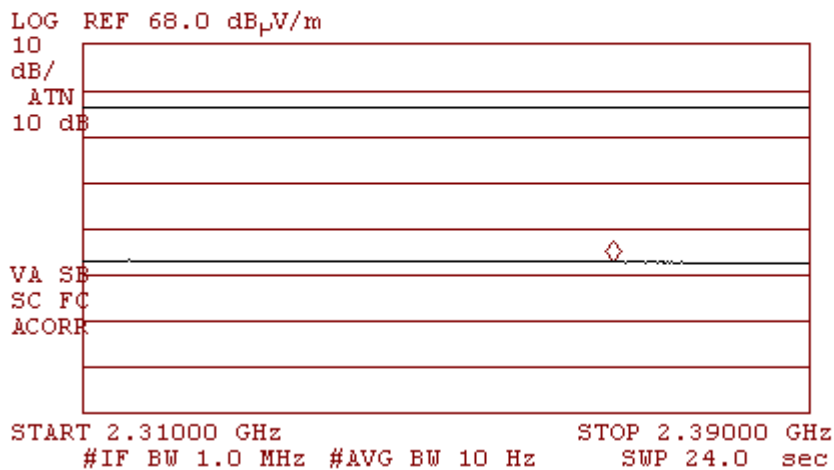
**Hopping mode Lowest Frequency
Horizontal Polarization
Peak
Plot 3.7.15**

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 2.37240 GHz
33.71 dB μ V/m



**Average
Plot 3.7.16**

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 2.36840 GHz
20.58 dB μ V/m



3.8. Radiated Spurious Emissions, Restricted Bands

Reference document:	47 CFR §15.247 (d) & §15.209(a) & DA 00-705		
Test Requirements:	The emissions from an intentional radiator shall not exceed the field strength levels specified in §15.209(a).		
Test setup:	See Sec. 2.2	Pass	
Operating conditions:	Under normal test conditions		
Method of testing:	Radiated		
S.A. Settings:	f <1GHz: RBW: 120kHz,VBW: 1MHz/10Hz f >1GHz: RBW: 1MHz, VBW: 3MHz/10Hz		
Hopping function:	Disabled (lowest, middle, and highest)		
Environment conditions:	Ambient Temperature: 22°C	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	Reference Plots 3.8.1- 3.8.12	

Test result

All measurements were done in horizontal and vertical polarizations; the results show the worst case

Lowest channel, 2.402				
Frequency [MHz]	Detector	Spurious level [dBµV/m]	Limit [dBµV/m]	Result
4804	Avg	37.8	54	Pass
4804	Peak	47.2	74	Pass
7220	Avg	46.6	54	Pass
7220	Peak	52.6	74	Pass

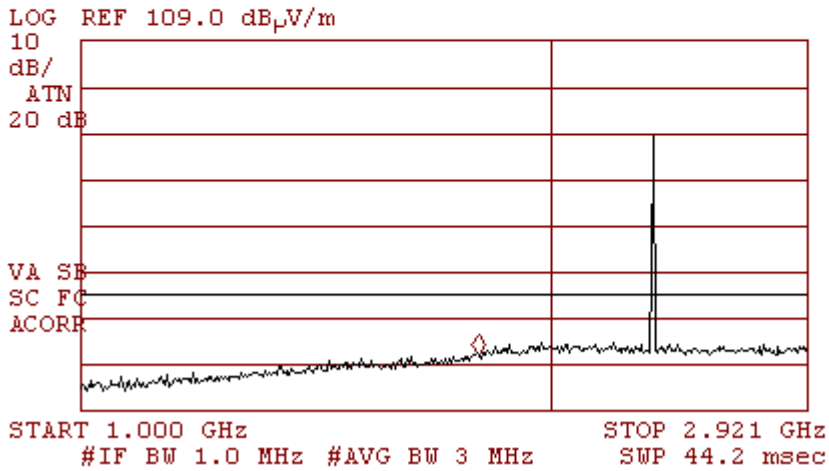
Middle channel, 2.443				
Frequency [MHz]	Detector	Spurious level [dBµV/m]	Limit [dBµV/m]	Result
4886	Avg	36.5	54	Pass
4886	Peak	46.9	74	Pass
7329	Avg	42.9	54	Pass
7329	Peak	47.9	74	Pass

Highest channel, 2.48				
Frequency [MHz]	Detector	Spurious level [dBµV/m]	Limit [dBµV/m]	Result
4960	Avg	39.8	54	Pass
4960	Peak	49.7	74	Pass
7440	Avg	40.4	54	Pass
7440	Peak	45.8	74	Pass

**Lowest frequency
Horizontal & Vertical Polarization
Plot 3.8.1**

/s/

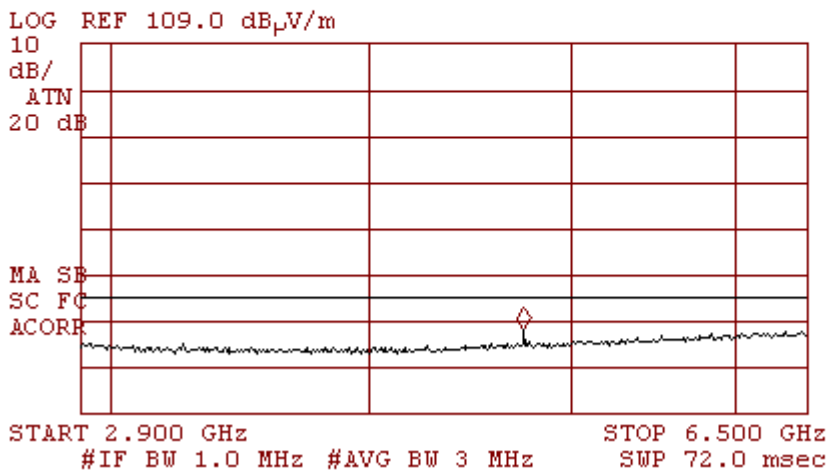
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 1.821 GHz
40.87 dB μ V/m



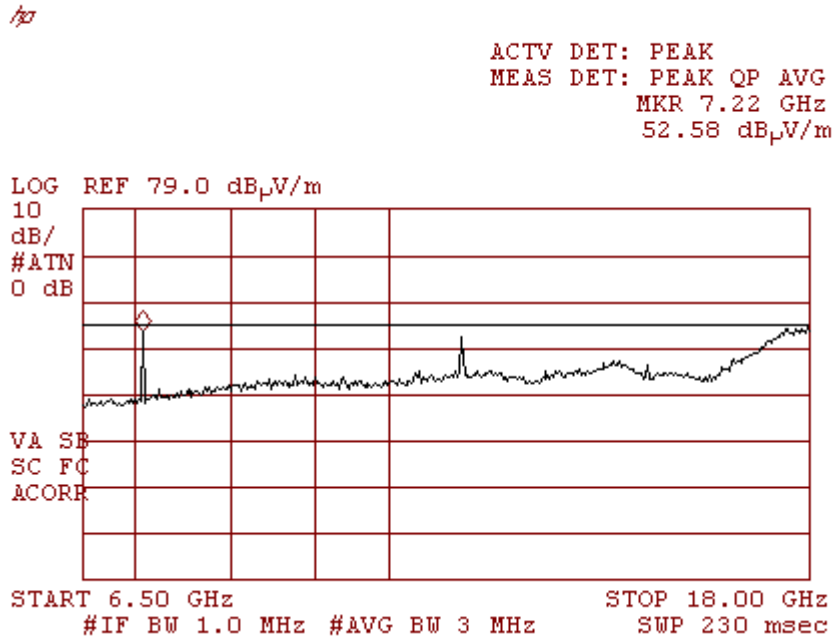
**Horizontal & Vertical Polarization
Plot 3.8.2**

/s/

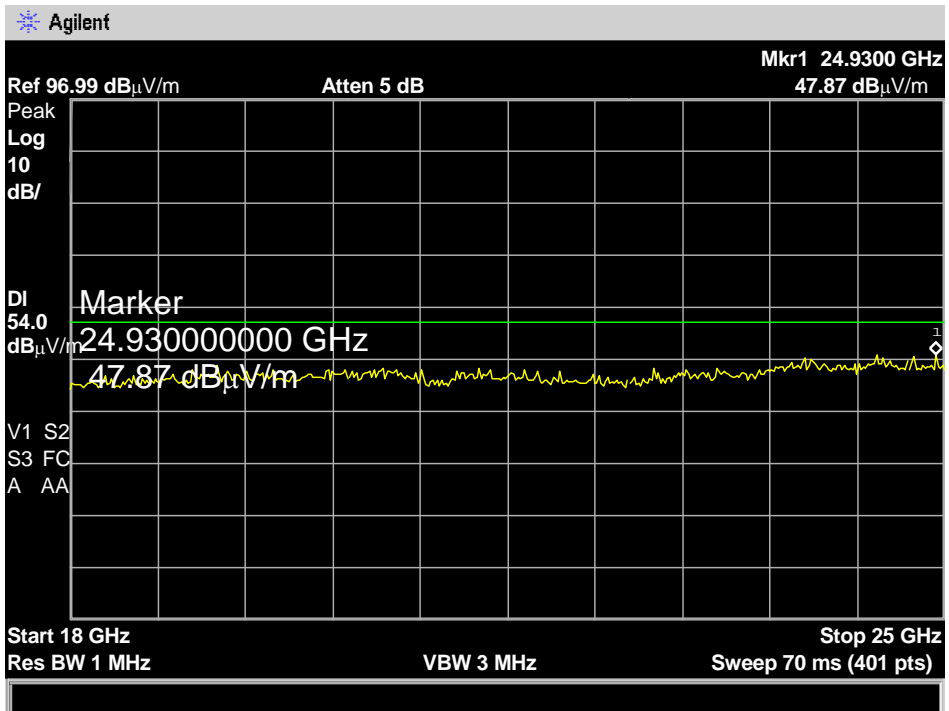
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 4.811 GHz
47.19 dB μ V/m



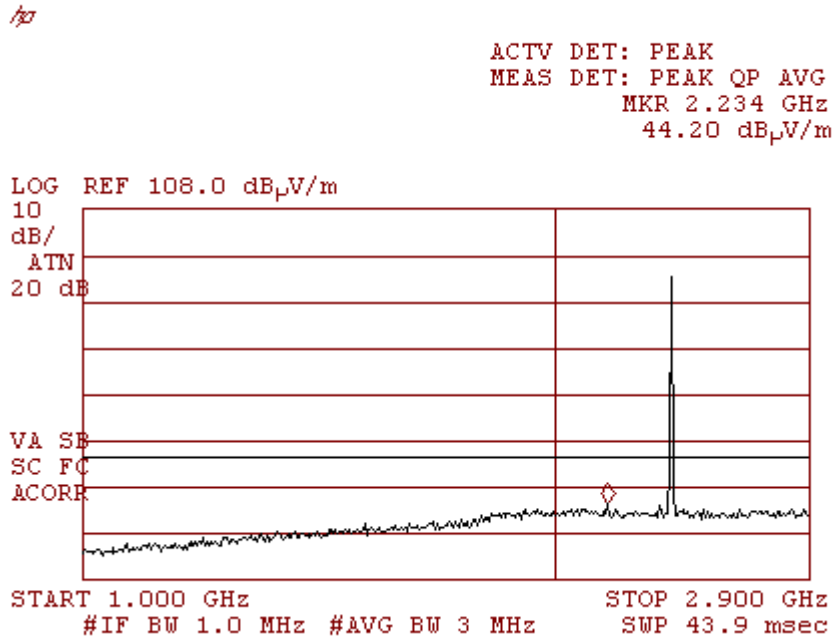
**Horizontal & Vertical Polarization
Plot 3.8.3**



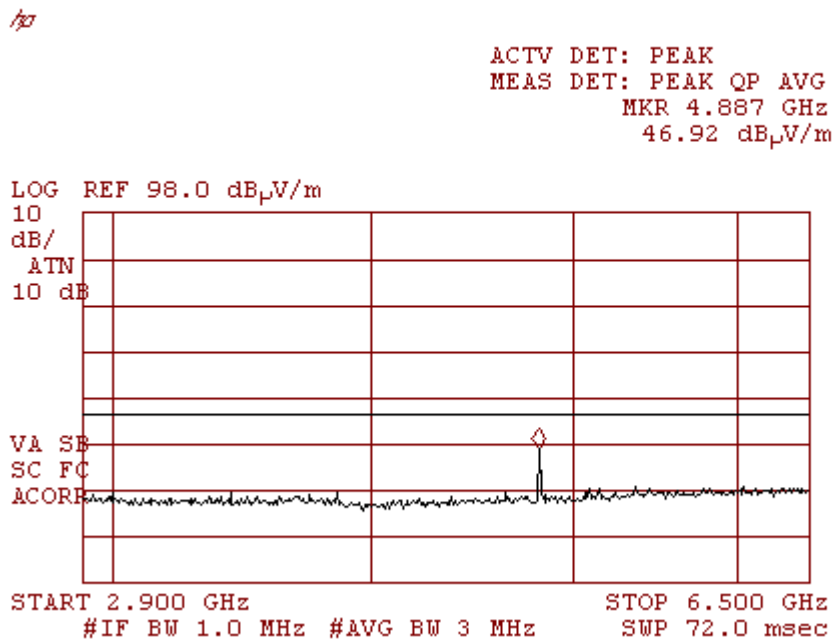
**Horizontal & Vertical Polarization
Plot 3.8.4**



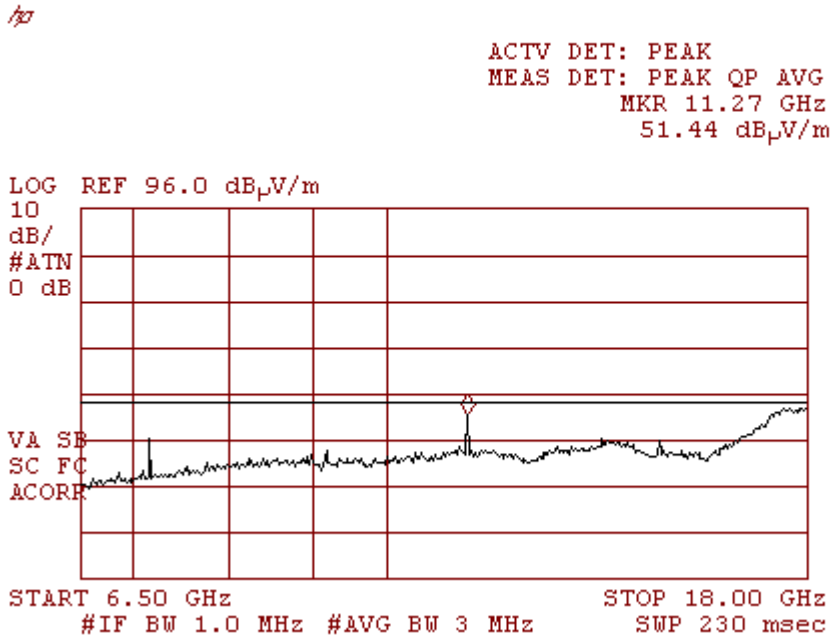
**Middle frequency
Horizontal & Vertical Polarization
Plot 3.8.5**



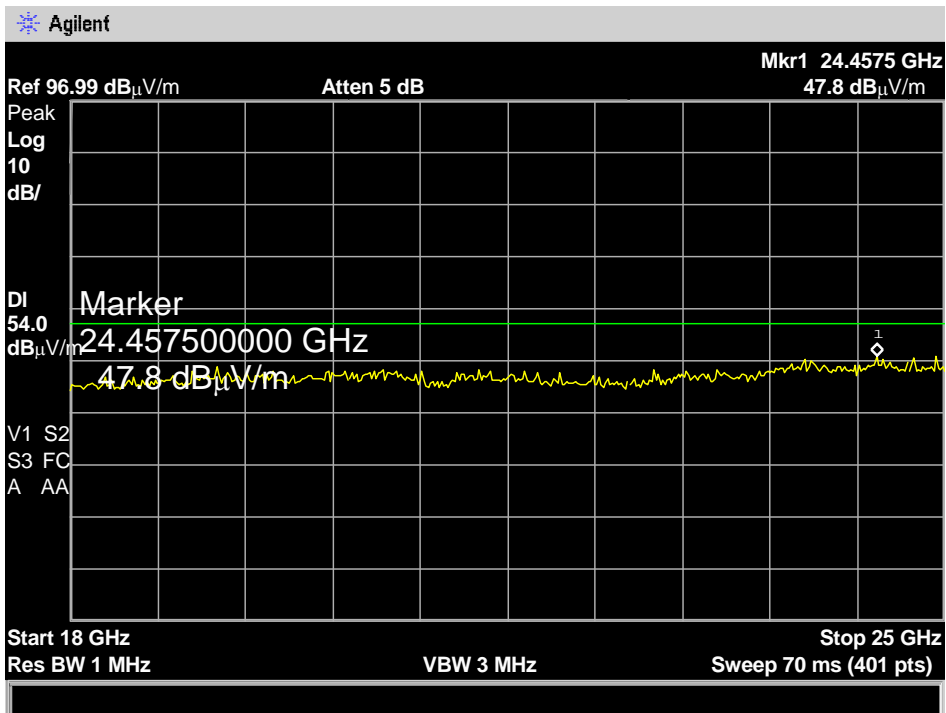
**Horizontal & Vertical Polarization
Plot 3.8.6**



Horizontal & Vertical Polarization
Plot 3.8.7



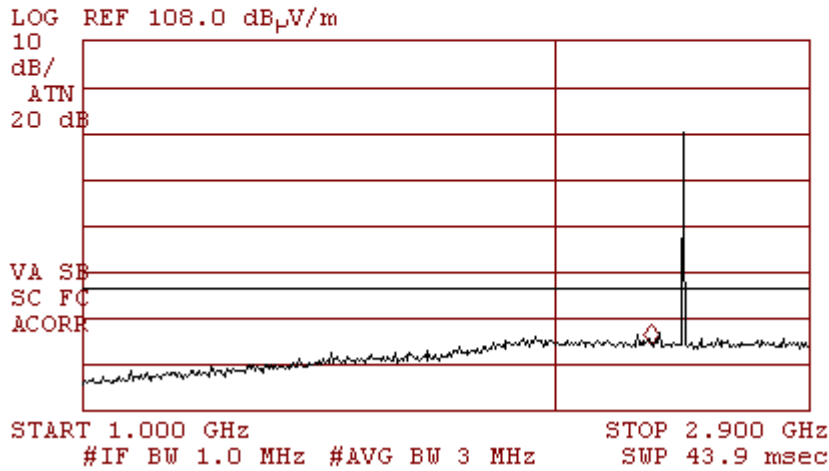
Horizontal & Vertical Polarization
Plot 3.8.8



**Highest frequency
Horizontal & Vertical Polarization
Plot 3.8.9**

hp

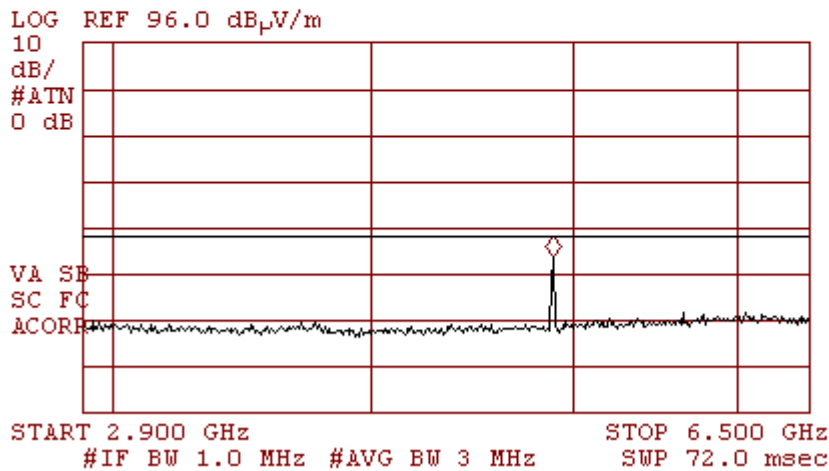
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 2.378 GHz
42.22 dB μ V/m



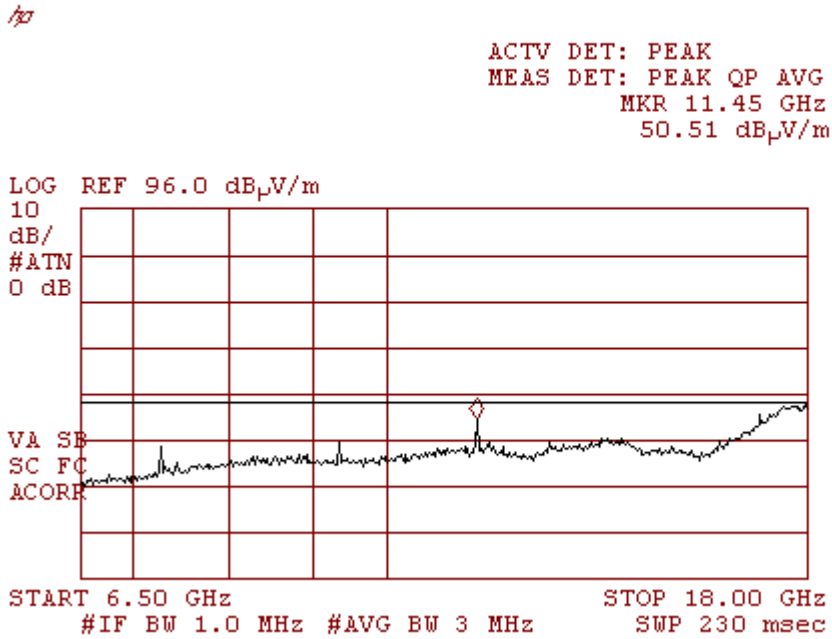
**Horizontal & Vertical Polarization
Plot 3.8.10**

hp

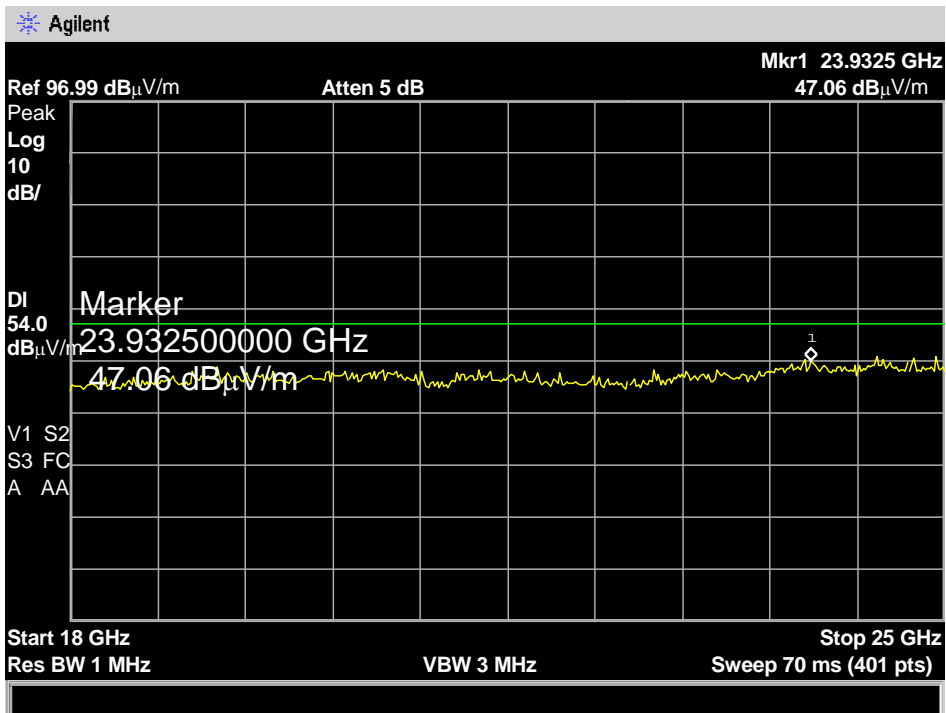
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 4.974 GHz
49.69 dB μ V/m



**Horizontal & Vertical Polarization
Plot 3.8.11**



**Horizontal & Vertical Polarization
Plot 3.8.12**



3.9. Spurious Emission- Conducted

Reference document:	47 CFR §15.247 (d) & DA 00-705		
Test Requirements:	In any 100 kHz bandwidth outside the frequency band at least 20 dB below the highest level of the desired power.		
Test setup:	See Sec. 2.1	Pass	
Operating conditions:	Under normal test conditions		
Method of testing:	Conducted		
S.A. Settings:	RBW: 100kHz, VBW: 100kHz,		
Hopping function:	Disabled (lowest, middle, and highest)		
Environment conditions:	Ambient Temperature: 22°c	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	Reference Plots 3.9.1 –3.9.3	

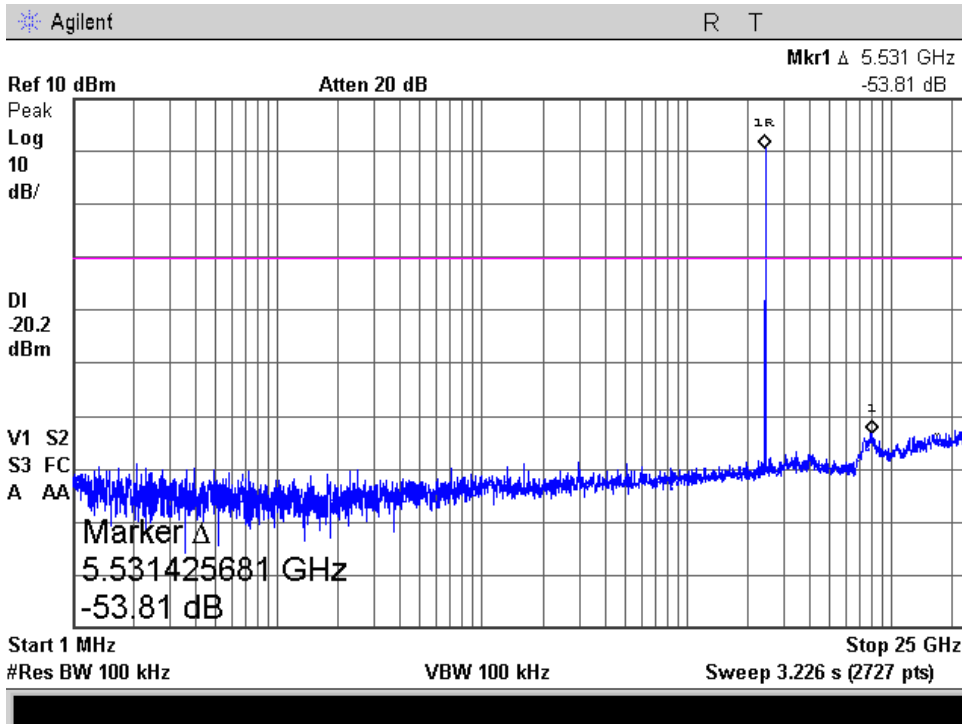
Test results:

Frequency [GHz]	Spurious Frequency [GHz]	Emissions limit	Reference	Result
2.402	All readings At least -40dBc	-20dBc	Plot 3.9.1	Pass
2.443	All readings At least -40dBc		Plot 3.9.2	Pass
2.480	All readings At least -40dBc		Plot 3.9.3	Pass

Spurious Emission- Conducted

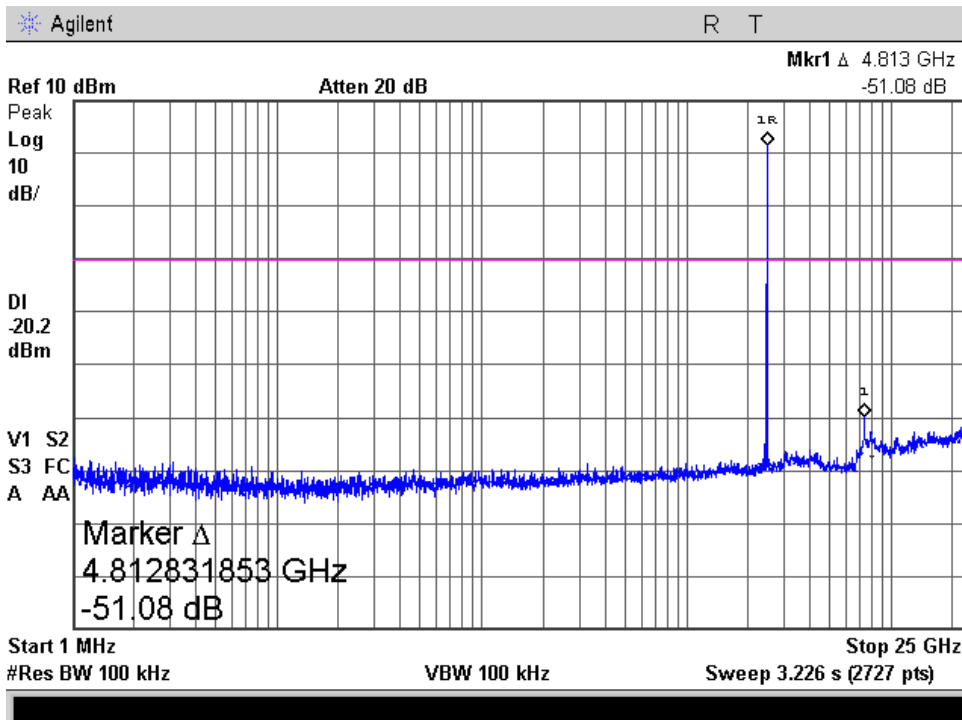
Low frequency

Plot 3.9.1

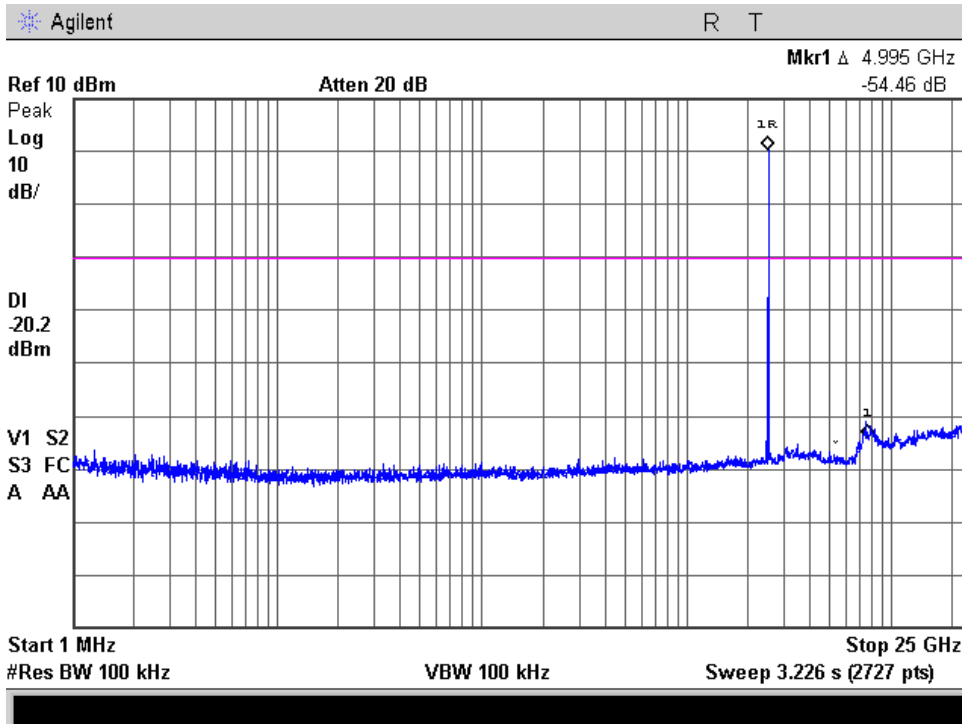


Middle frequency

Plot 3.9.2



High frequency
Plot 3.9.3



3.10. Antenna Connector Requirements

Reference document:	47 CFR §15.203	
Test Requirements:	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with provisions of this section.	
Test Result:	The M990 employs an integral antenna with a unique connector type.	Pass

4. Unintentional Radiations: Report of Measurements and Examinations

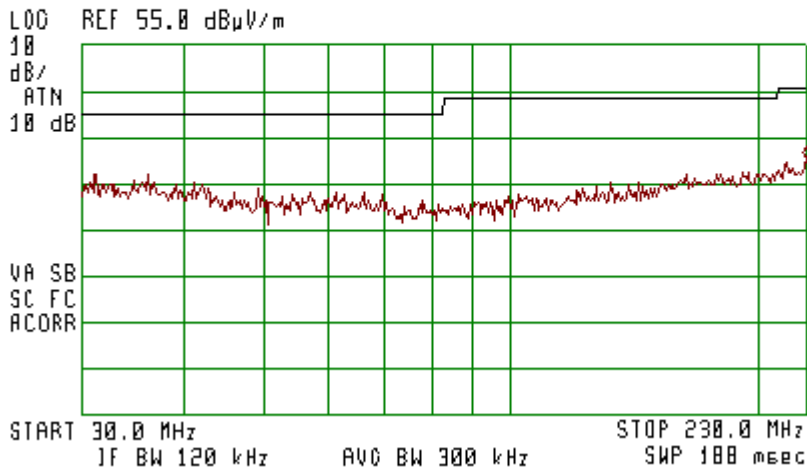
4.1. Radiated Emission- (Receive mode)

Reference document:	47 CFR §15.109		
Test Requirements:	Emission Level shall not exceed §15.109 limits		
Test setup:	See Sec. 2.3	Pass	
Operating conditions:	Under normal test conditions		
Method of testing:	Radiated		
S.A. Settings:	F <1GHz: RBW: 120kHz, VBW: 300kHz F >1GHz: RBW: 1MHz, VBW: 3MHz		
Mode of operation:	Receive		
Environment conditions:	Ambient Temperature: 22°C	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	All readings were at least 10 db below the limit	See Plots 4.1.1 – Plots 4.1.6	

Horizontal Polarization
Plot 41.1



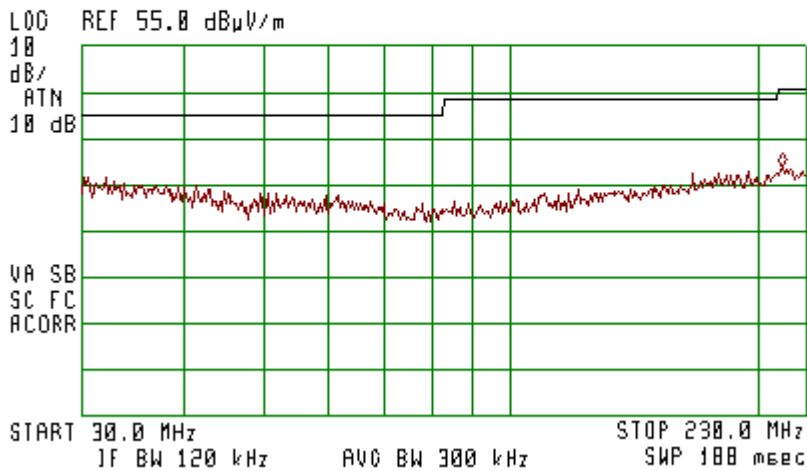
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 229.1 MHz
38.40 dB μ V/m



Vertical Polarization
Plot 4.1.2

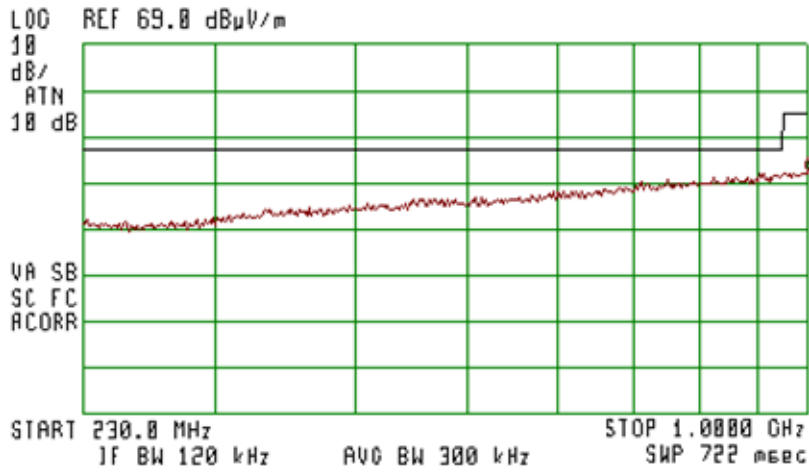


ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 218.1 MHz
28.84 dB μ V/m



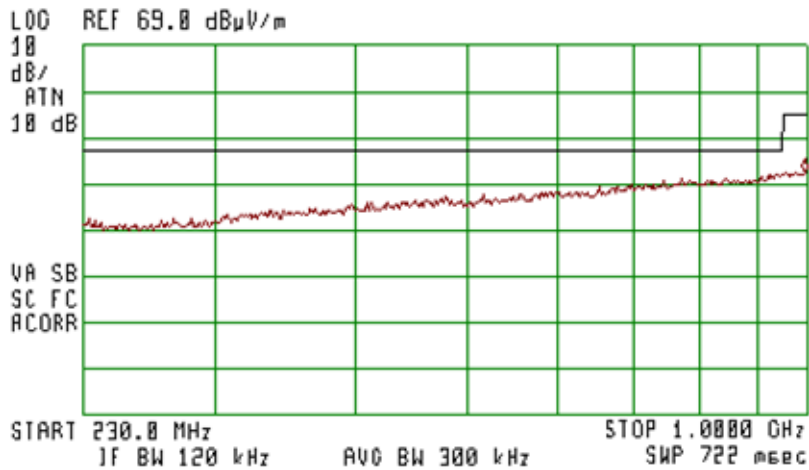
Horizontal Polarization
Plot 4.1.3

ACTV DET: PEAK
MERS DET: PEAK OP AVG
MKR 1.0000 GHz
41.56 dB μ V/m

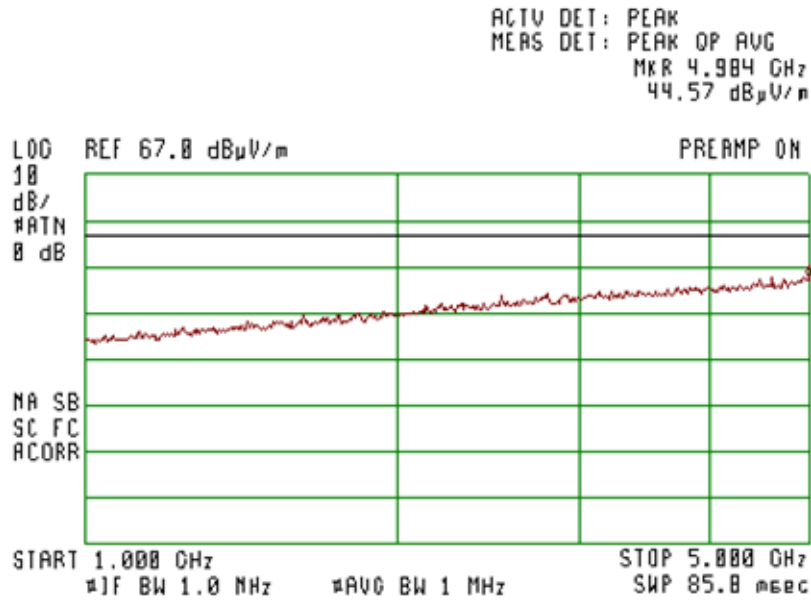


Vertical Polarization
Plot 4.1.4

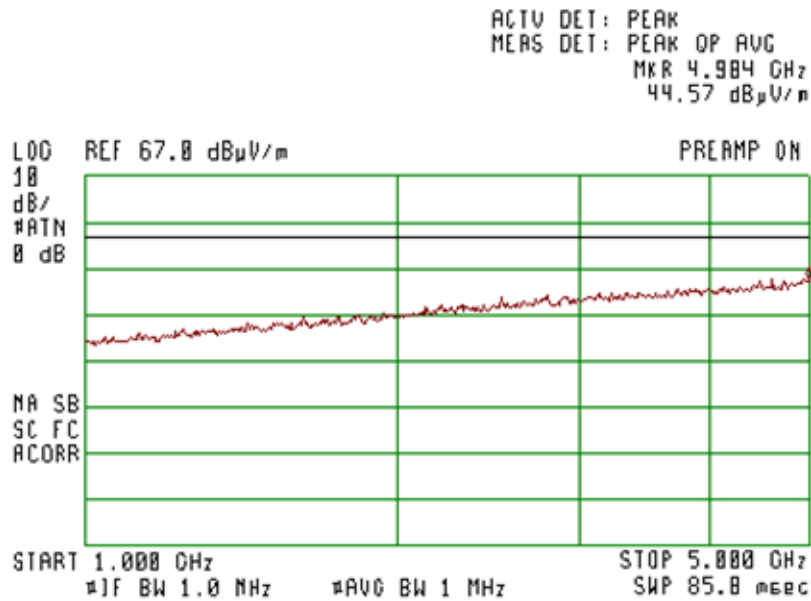
ACTV DET: PEAK
MERS DET: PEAK OP AVG
MKR 994.2 MHz
41.56 dB μ V/m



Horizontal Polarization
Plot 4.1.5



Vertical Polarization
Plot 4.1.6



5. Appendix

Appendix A: List of Measuring Equipment used:

Equipment	Manufacturer/ Model	Serial Number	Due date
CISPR16 EMI Receiver	HP8546A	3710A00392	30.06.2008
Spectrum Analyzer 9kHz ÷ 22 GHz	HP 8593EM	3536A00131	30.06.2008
Spectrum Analyzer 100 Hz ÷ 26.5 GHz	Agilent E7405A	US41160436	30.06.2008
LNA Amplifier 1 GHz ÷ 18 GHz	AMP – 5D-010180-30-10P-GW	618653	01.01.2008
Dual Ridged Guide Ant.1-18 GHz	EMCO 3115	9602-4677	01.01.2008
Antenna 18 GHz ÷ 26.5 GHz	Alpha Industry 861A/599	505	01.01.2008
Turn table	HD100	100/693	-
Antenna Mast	HD 100	100/693	-
Biconical 20 –200 MHz	Schwarzbeck VHBB9124	9124/0255	30.06.2008
Log-Periodic 200 – 1000 MHz	Schwarzbeck VUSLP9111	VUSLP9111184	30.06.2008
Pre-Amplifier	MiTeq, AMF-5F-18002650-30-10P	945372	01.01.2008
LISN	Fischer 50/250-25-2	-	30.06.2008
Transient Limiter	HP11947A	-	30.06.2008
Notch Filter	Micro-Tronics BRM50702-05	0001	01.01.2008
Antenna 15G-40 GHz	Schwarzbeck BBHA 9170	BBHA9170214	01.01.2008
High pass Filter	Wainwright WHK 1.2/15G-10EF	3	30.06.2008
High pass Filter	Wainwright WHK2.4/18G-10EF	1	30.06.2008
Oven	Tenneg Ten	10.158-5	30.06.2008
LISN	Fischer 50/250-25-2	-	30.06.2008
Transient Limiter	HP11947A	-	30.06.2008

End of the Test Report