



Electromagnetic Compatibility Test Report

Test Report No: EXT 130308

Issued on: March 13, 2008

**Product Name
Access Point – EXRP 20E/40E**

**Tested According to
FCC 47 CFR, Part 15, Subpart E**

**Tests Performed for
Extricom Ltd.**

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Regis. No: 102724



1633.01

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Test personnel



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QualiTech EMC Laboratory



1633.01

Test Report details:

Test commencement date: 20.02.2008
Test completion date: 10.03.2008
Customer's Representative: A.Y. Erez
Issued on: 13.03.2008

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

Test Spec. Clause	Test Case	Remarks
47 CFR §15.403 (i) & RSS-Gen §4.6.1	Emission Bandwidth (26dB BW)	Comply
47 CFR §15.407 (a) (1) & RSS-210 §A9.2(1)	Peak Output Power, 5180-5250 MHz	Comply
47 CFR §15.407 (a) (1) & RSS-210 §A9.2(1) & §A9.5(2)	Peak Power Spectral Density	Comply
47 CFR §15.407 (a) (6)	Peak Excursion	Comply
47 CFR §15.407 (b) (1) & §15.407 (b)(6) & RSS-210 §A8.5, §A9.3(1), §2.2	Conducted Spurious Emissions	Comply
47 CFR §15.407 (b) (1) & (b)(6) & RSS-210, §A9.3(1), §A8.5, §2.2	Spurious Radiated Emissions, Restricted Bands	Comply
§15.209 & RSS- Gen. §6 & §7.2.3.2 & RSS-GEN 4.10	Radiated Emissions (Receive mode)	Comply
§15.203 & RSS- Gen. §7.1.4	Antenna Connector requirement	Comply



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1. General Description

Description of the EUT system/test Item:

Product name: IEEE 802.11a/b/g Wireless Access Point

Model: Access Point – EXRP 20E/40E

FCC ID: VDJ-EXRP-20E and VDJ-EXRP-40E

IC: 7180A-EXRP20E and 7180A-EXRP40E

Transmit Power:

802.11b: 72mW

802.11g: 180mW

802.11a: 75mW

Frequency range:

802.11b/g: 2.412 – 2.462 GHz

802.11a: 5.15-5.250, 5.745-5.825 GHz

Transmit Data rate:

Protocol	Rate [Mbps]							
802.11a	6	9	12	18	24	36	48	54
802.11b	1	2	5.5	11				
802.11g	6	9	12	18	24	36	48	54

Type of Modulation:

Protocol	Modulation
802.11a	OFDM (64QAM, 16QAM, QPSK, BPSK)
802.11b	DSSS (CCQ, DQPSK, DBPSK)
802.11g	DSSS/OFDM (64QAM, 16QAM, QPSK, BPSK, CCK, DQPSK, DBPSK)

Antenna Specification:

Type: Omni-Directional Dual band Rubber Duck for indoor use.

Gain:

802.11b/g: 3 dBi

802.11a: 5 dBi

2. Method of Measurements

2.1. Conducted RF Measurements:

The RF output of the transmitter under test was directly connected to the input of the measuring instrument 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 the various modulation modes (where applicable) were reported.

“UNII –Part 15 Subpart E Measurements” and “Updated Procedure for Peak Transmit Power in the U-NII band” DA 02-2138 procedures published on August 2002 were applied.

a. Emission bandwidth: Using a RBW equal to 1% of the EBW (measured, compared with the RBW setting, and repeated until the RBW/EBW of 1% was the setting), the View button was used to capture the emission. The widest width of the emission that is 26dB down from the peak was measured.

b. Peak Conducted Output Power: Method 1 was used. The device was configured to transmit continuously. The span of the spectrum analyzer was set to 50MHz (>EBW), using the “Sample Detector mode” (bin width <0.5RBW) and setting the trigger to “free run”, 100 traces were averaged in power averaging mode. The band power measurement function was used to integrate the power across the 26dB EBW of the signal.

c. PSD: Method 2 was used. The device was configured to transmit continuously. The span of the spectrum analyzer was set to 30MHz (>EBW), using the “Sample Detector mode” and 100 sweeps were averaged in power averaging mode.

d. Peak Excursion: The device was configured to transmit continuously. The span of the spectrum analyzer was set to 30MHz (>EBW), settings of 1st trace as reported and settings of 2nd trace using the settings of Method 1. The test was repeated for the lowest, middle and highest channel frequencies.

2.2. Radiated Emission measurements:

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. The test program of exercising the equipment ensured that various parts of the EUT were exercised to permit detection of all EUT emissions.

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 through 360 degrees, the height of the antenna was varied from 1 to 4m for the frequency range of 30MHz to 1GHz. 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 spectrum up to 40GHz was investigated for spurious emissions, using a band-reject filter where appropriate.

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.

2.3. Worst Case Results:

Worst case result is determined as the channel with the highest output power. Worst-case results of various modulation modes were determined as the modulation with the highest output power, and that was reported.

3. Test Facility & Uncertainty of Measurement

3.1. Accreditation/ Registration reference:

- A2LA Certificate Number: 1633.01

3.2. Test Facility description

The tests were performed at the EMC Laboratory, QualiTech Division, ECI Telecom Group

Address: 30, Hasivim St., Petah Tikva, Israel.
Tel: 972-3-926-8443

3m Anechoic Chamber:

The 3m-screened chamber is used in two configurations: the semi-anechoic configuration for Radiated Emission measurements and the full-anechoic configuration for Radiated Immunity tests.

Semi Anechoic Configuration:

Measurement distance	3m
Chamber dimensions	9.5m x 6.5m x 5.2m
Antenna height	1 - 4m
Shielding Effectiveness	Magnetic field $\geq 80\text{dB}$ at 15 kHz $\geq 90\text{dB}$ at 100 kHz Electric field $> 120\text{dB}$ from 1MHz to 1GHz $> 110\text{dB}$ from 1GHz to 10GHz
Absorbing material	Ferrite tiles on the walls and ceiling Frankonia hybrid absorbing material in selected positions on the walls
Normalized Site Attenuation measured at 5 positions	$\pm 3.49\text{dB}$, 30MHz to 1GHz
Transmission Loss measured at 5 positions, at 1.5m height	$\pm 3\text{dB}$, 1GHz to 18GHz

Full-Anechoic Configuration:

Measurement distance	3m
Chamber dimensions	7m x 4m x 3m
Antenna height	1.55m at Horizontal & Vertical polarizations
Shielding Effectiveness	Magnetic field $\geq 80\text{dB}$ at 15 kHz $\geq 90\text{dB}$ at 100 kHz Electric field $> 120\text{dB}$ from 1MHz to 1GHz $> 110\text{dB}$ from 1GHz to 10GHz
Absorbing material	Ferrite tiles on the walls and ceiling Frankonia hybrid absorbing material in selected positions on the walls and floor
Field Uniformity to EN61000-4-3	$\pm 3\text{dB}$ 80MHz to 18GHz

3.3. Uncertainty of Measurement:

Test Name	Test Method & Range	Uncertainty	
		Combined std. $U_c(y)$ [dB]	Expanded U [dB]
Radiated Emission	30MHz÷230MHz, Horiz. polar.	1.8	3.6
	30MHz÷230MHz, Ver. polar.	2.0	3.9
	230MHz÷1000MHz, Horiz. polar.	1.5	3.0
	230MHz÷1000MHz, Vert. polar.	1.5	3.0
Conducted Emission	9 kHz÷150 kHz	1.4	2.8
	150 kHz÷30MHz	1.1	2.2

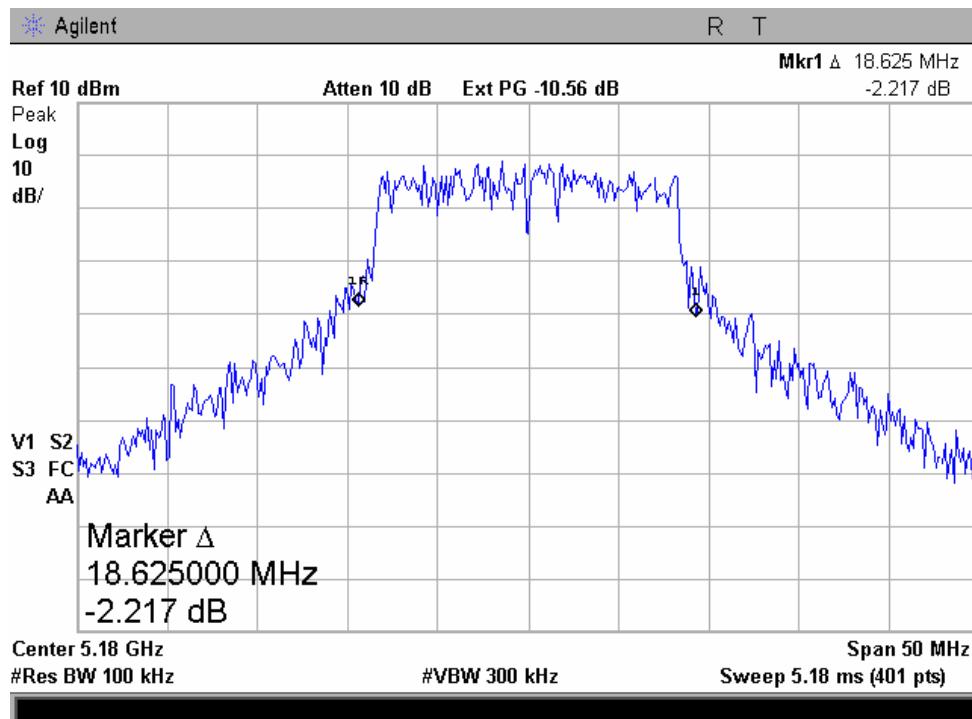
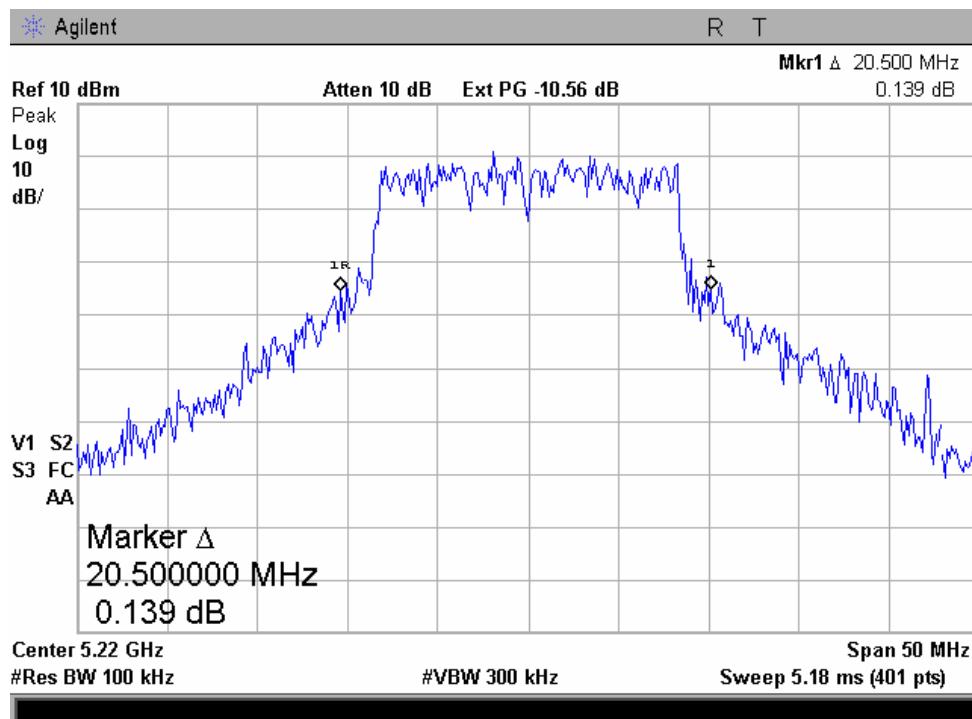
4. Report of Measurements and Examinations

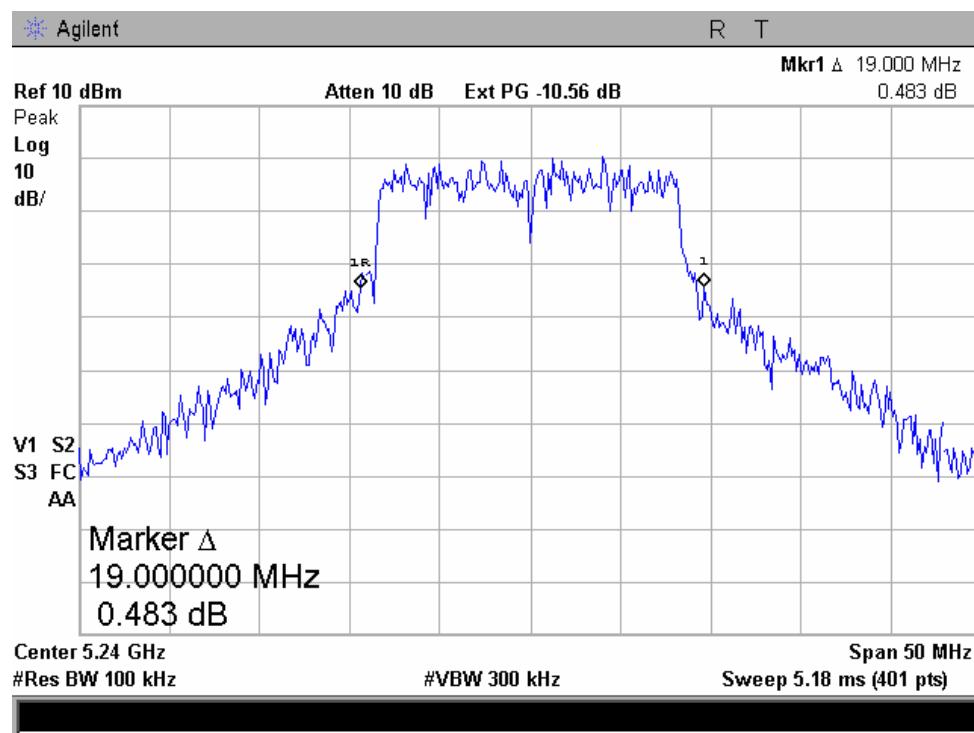
4.1. Emission Bandwidth (26dB BW)

Reference document:	47 CFR §15.403 (i)		
Test Requirements:	For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.		
Test Method:	See sec.2.1a		
Method of testing:	Conducted		
Operating conditions:	Under normal test conditions		
S.A. Settings:	RBW: 100kHz, VBW: 300kHz, Peak detector		
Environment conditions:	Ambient Temperature: 22°C	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	See Plot 4.1.1 to 4.1.3	

Test results

Frequency [MHz]	Data Rate [Mbps]	26 dB Bandwidth [kHz]	Ref Plot
802.11a			
5180	54	18625	4.1.1
5220	54	20500	4.1.2
5240	54	19000	4.1.3

5180-5250 MHz
Plot 4.1.1**Plot 4.1.2**

Plot 4.1.3

4.2. Peak Output Power, 5180-5250 MHz

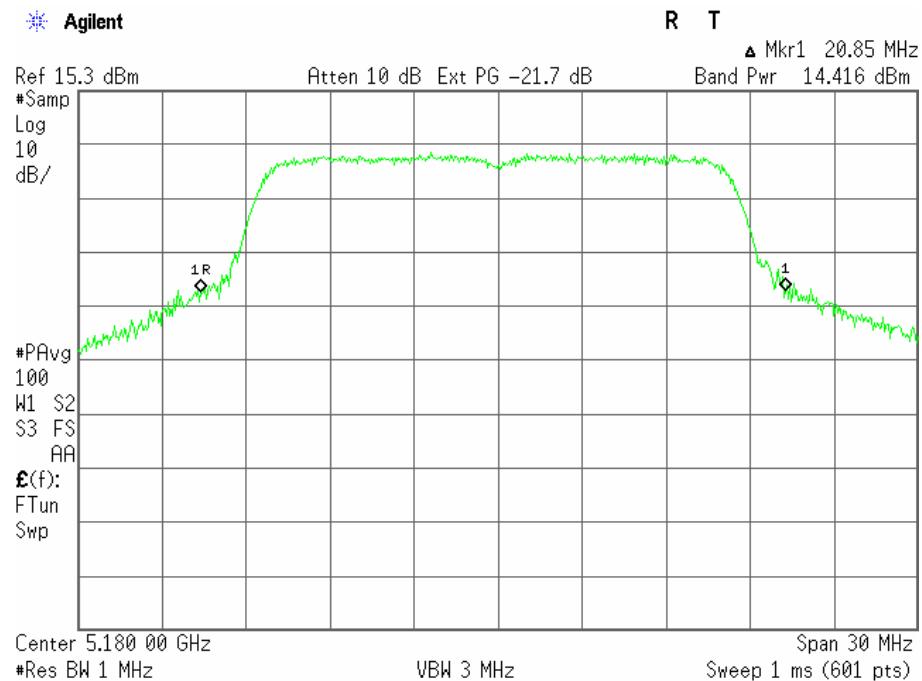
Reference document:	47 CFR §15.407 (a) (1)		
Test Requirements:	For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10 log B, where B is the 26-dB, emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.		
Test Method:	See sec 2.1b (Method 1)		
Method of testing:	Conducted		
Operating conditions:	Under normal test conditions		
S.A. Settings:	RBW: 1MHz, VBW: 3MHz		
Environment conditions:	Ambient Temperature: 22°C	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	See Plot 4.2.1 to 4.2.3	

Peak results:

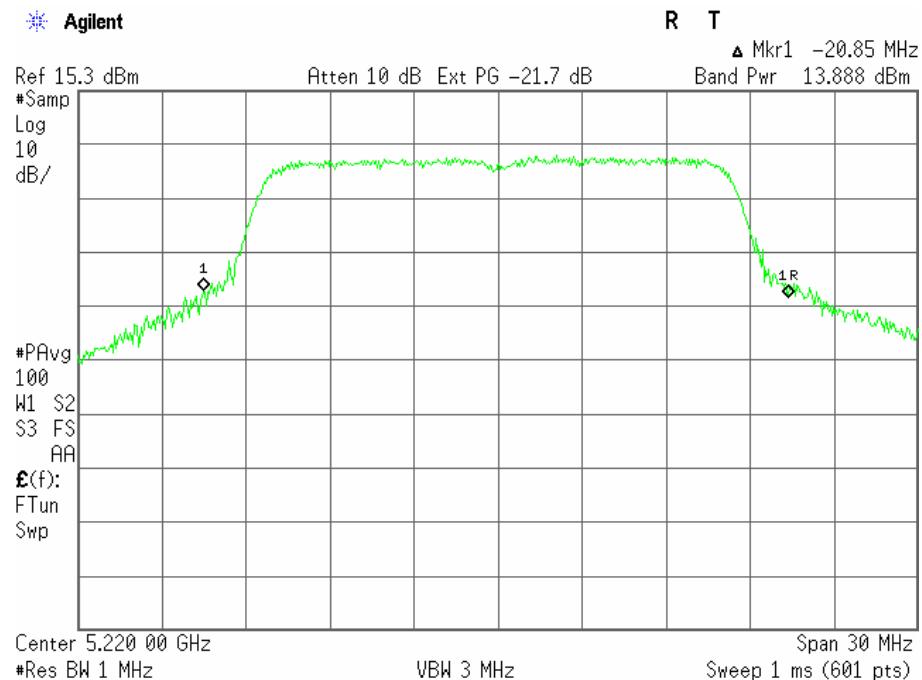
5150-5250MHz Band:

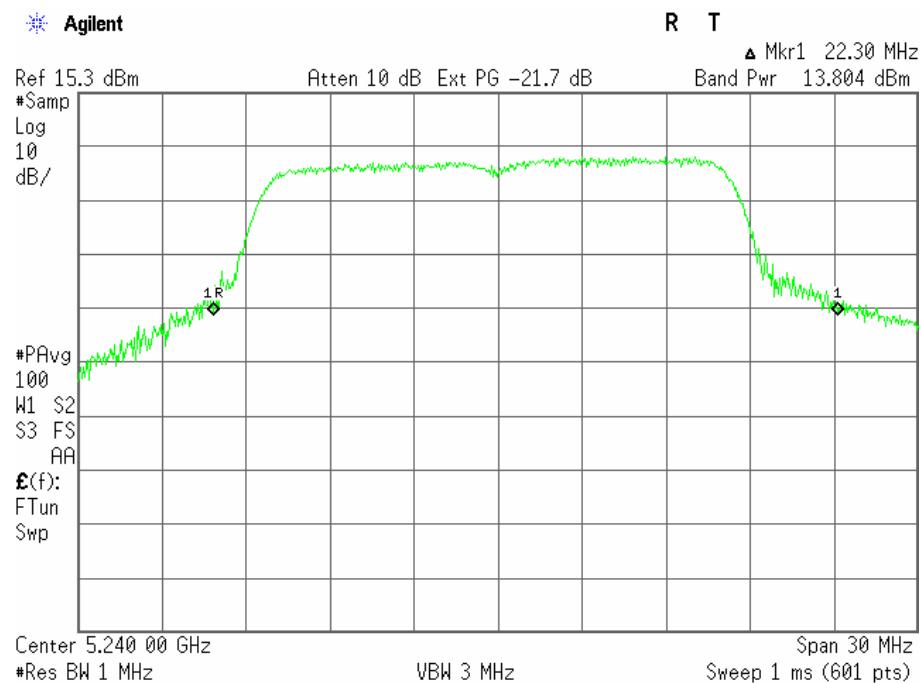
Frequency [MHz]	26 dB Bandwidth (B) [MHz]	10Log B [dBm]	4 + 10Log B [dBm]	Measured Peak Power [dBm]	Power Limit [dBm]	Margin [dB]	Ref Plot
802.11a Mode							
5180	18.63	12.70	16.70	14.4	16.70	-2.3	4.2.1
5220	20.50	13.12	17.12	13.9	17.00	-3.1	4.2.2
5240	19.00	12.79	16.79	13.8	16.79	-2.99	4.2.3

Plot 4.2.1



Plot 4.2.2



Plot 4.2.3

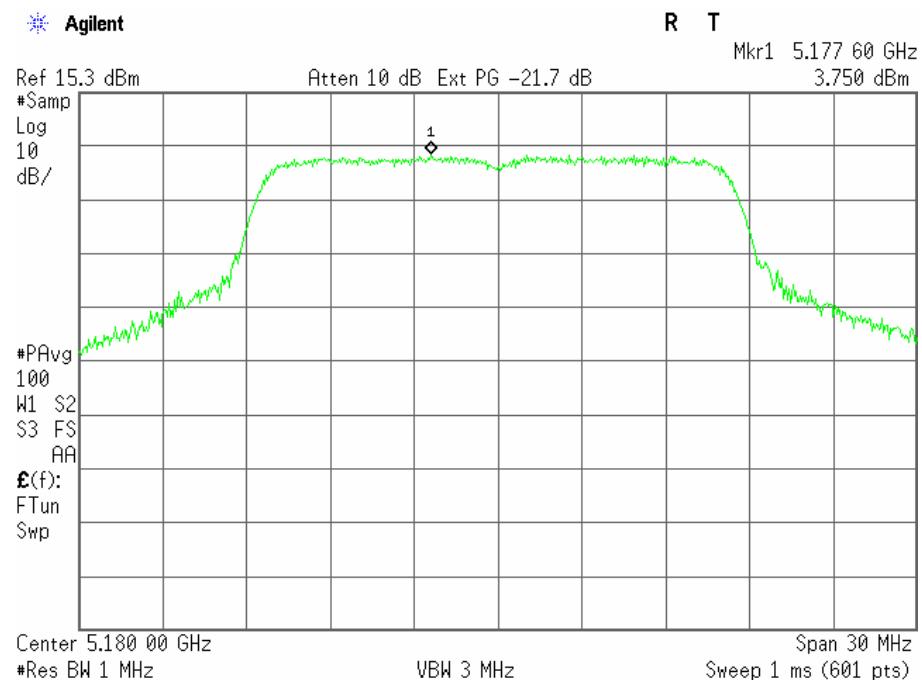
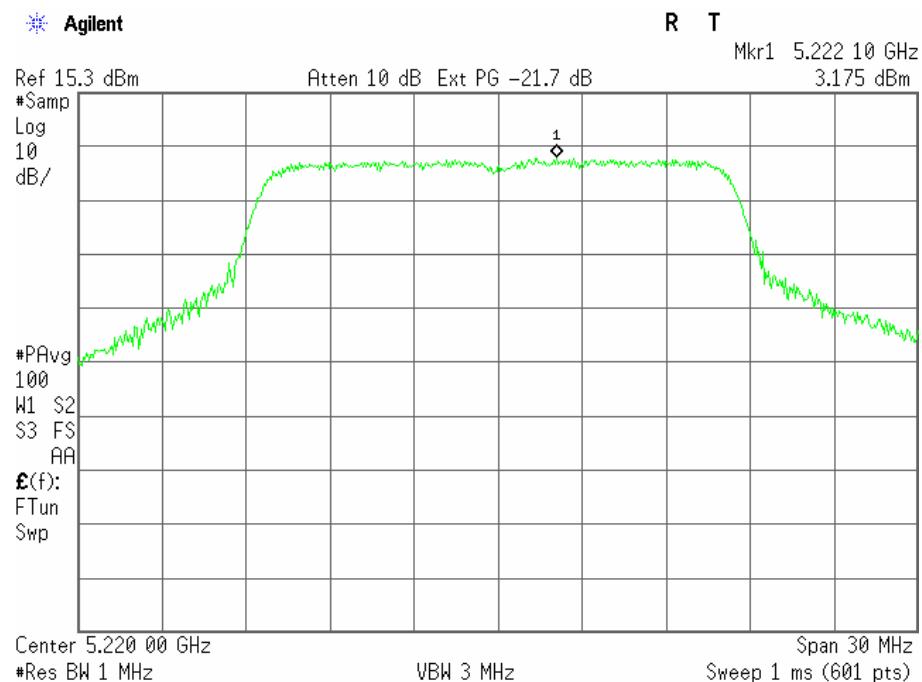
4.3. Peak Power Spectral Density

Reference document:	47 CFR §15.407 (a) (1)			
Test Requirements:	For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.			
Test Method:	See sec 2.1c (Method 2)			
Method of testing:	Conducted			
Operating conditions:	Under normal test conditions			
S.A. Settings:	RBW: 1MHz , VBW: 3MHz , Sweep Time: Auto			
Environment conditions:	Ambient Temperature: 22°C		Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below		See Plot 4.3.1 to 4.3.3	

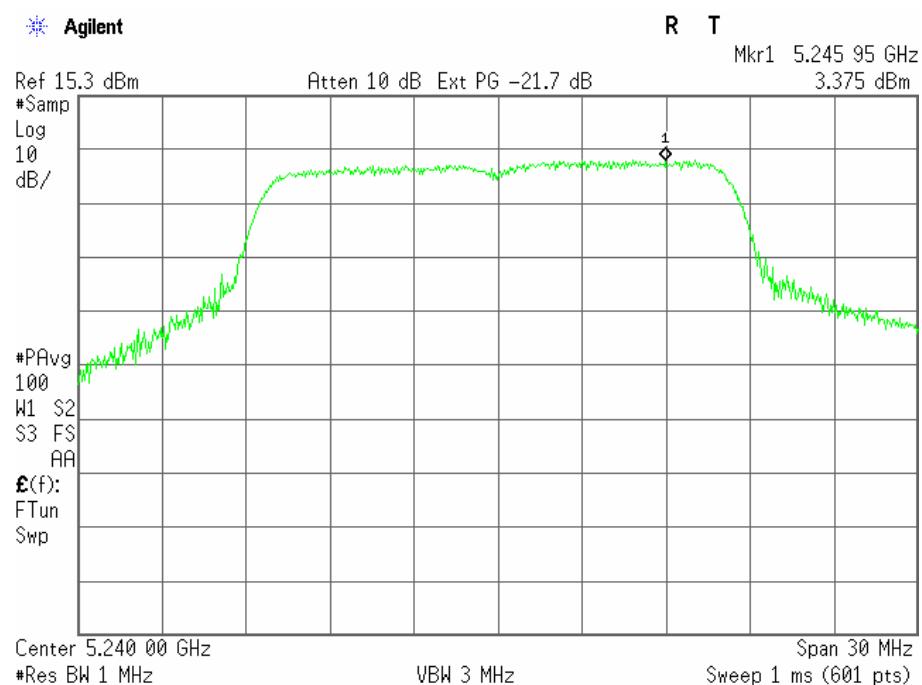
5150-5250 MHz:

Frequency [MHz]	Data Rate [Mbps]	PPSD [dBm/1MHz]	PPSD Limit [dBm/1MHz]	Margin [dB]	Ref Plot
802.11a Mode					
5180	6	3.750	4	-0.25	1
5220	6	3.175	4	-0.825	2
5240	6	3.375	4	-0.625	3

Per RSS-210 § A9.5(2): comply

Plot 4.3.1

Plot 4.3.2


Plot 4.3.3



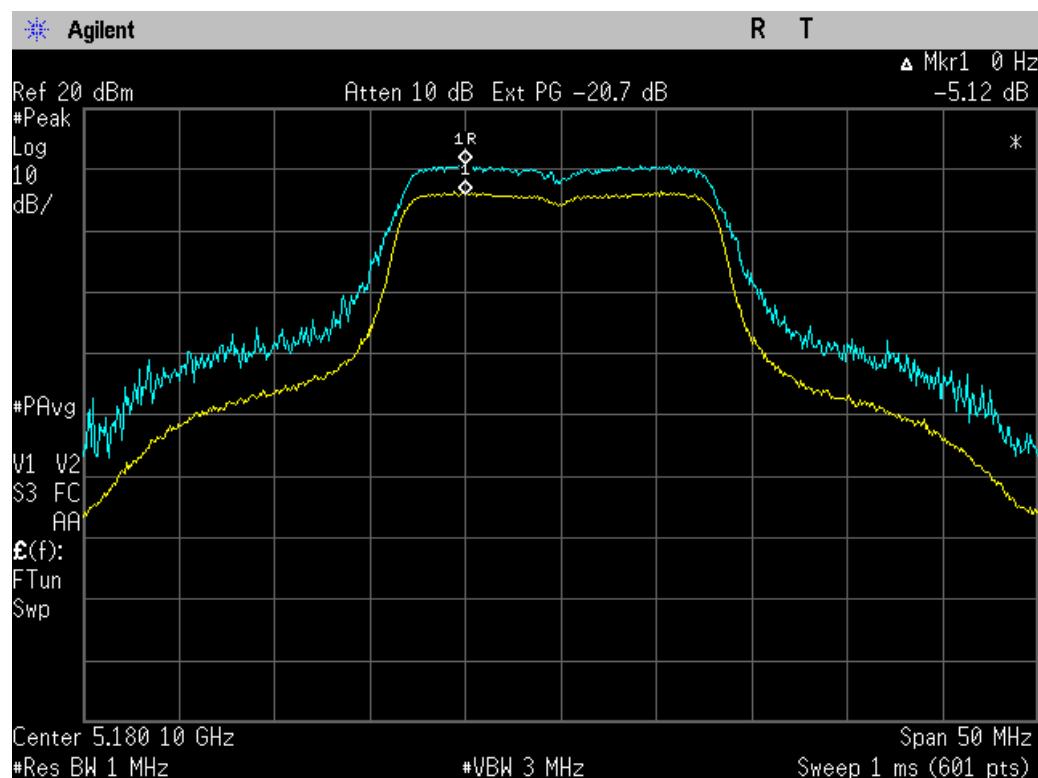
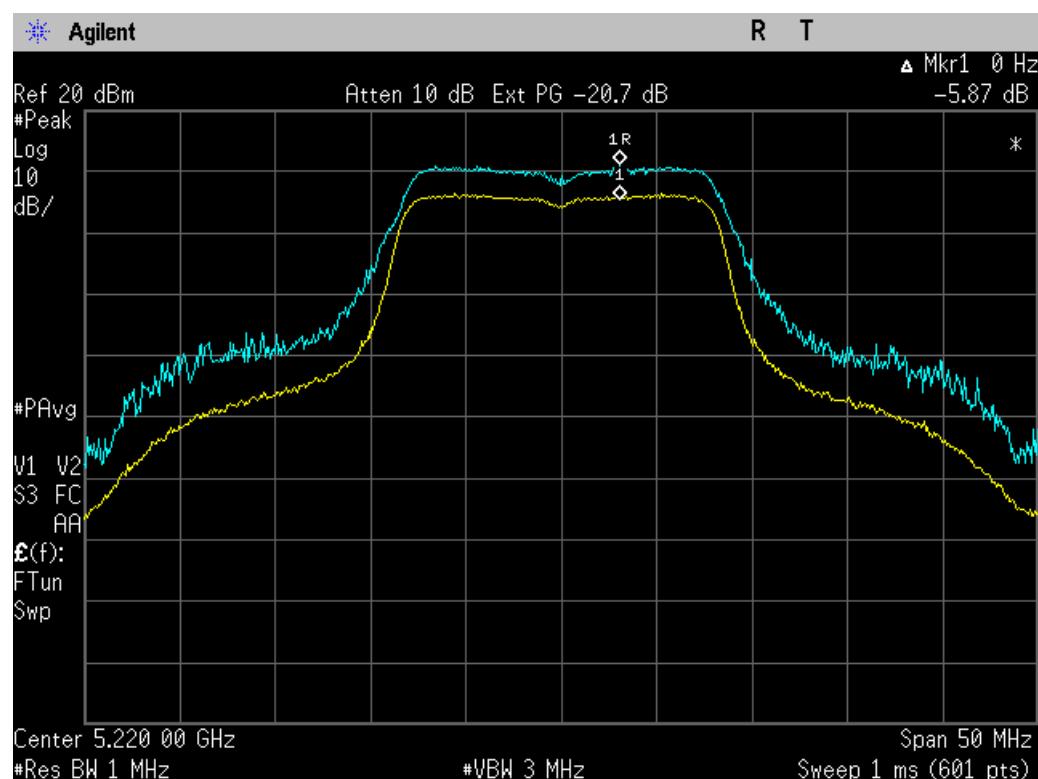
4.4. Peak Excursion

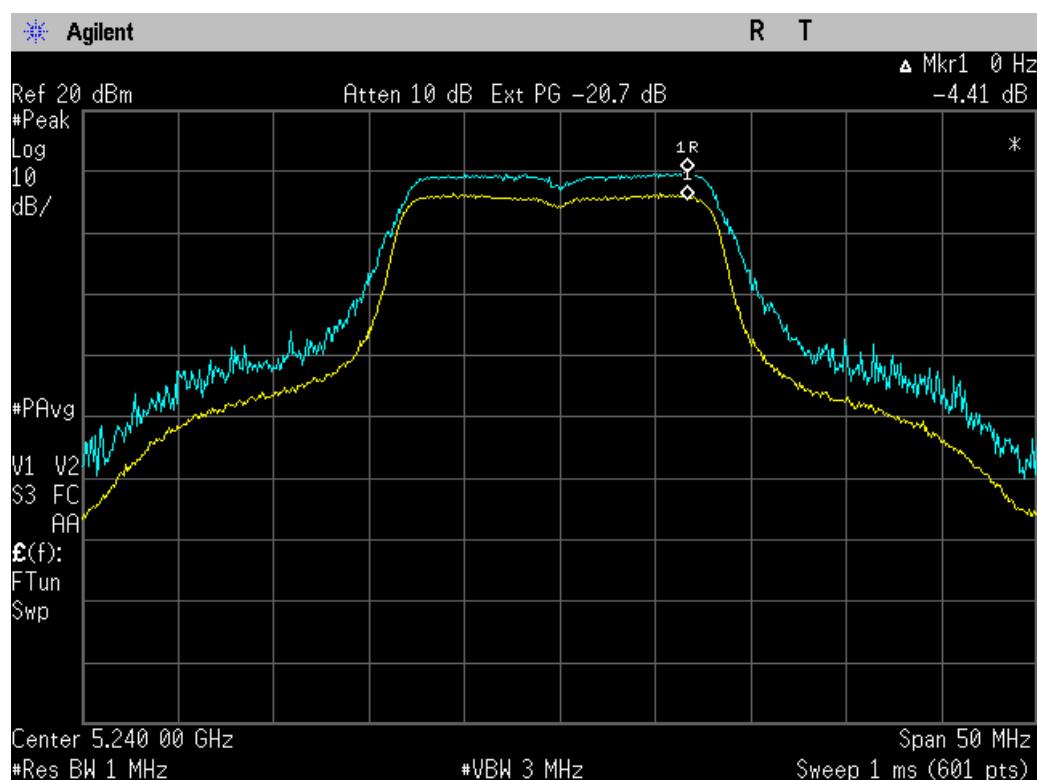
Reference document:	47 CFR §15.407 (a) (6)		
Test Requirements:	The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.		
Test Method:	See sec 2.1d	Comply	Comply
Method of testing:	Conducted		
Operating conditions:	Under normal test conditions		
S.A. Settings:	Trace 1: RBW: 1MHz , VBW: 3MHz , Peak Det., Max Hold, Sweep Time: Auto, Trace 2: RBW: 1MHz , VBW: 3MHz , Sample Detector, 100 traces averaged	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Environment conditions:	Ambient Temperature: 22°C		
Test Result:	See below	See Plot 4.4.1 to 4.4.3	

Test Results:

5150-5250 MHz:

Frequency [MHz]	Peak Excursion [dB]	Limit [dB]	Margin [dB]	Ref Plot
802.11a Mode				
5180	5.12	13	-7.88	4.4.1
5220	5.87	13	-7.13	4.4.2
5240	4.41	13	-8.59	4.4.3

Plot 4.4.1**Plot 4.4.2**

Plot 4.4.3

4.5. Conducted Spurious Emissions

Reference document:	47 CFR §15.407 (b) (1) & §15.407 (b)(6)		
Test Requirements:	For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHZ, unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Sec. 15.209.		
Test Method:	See sec 2.1		
Method of testing:	Conducted		
Operating conditions:	Under normal test conditions		
S.A. Settings:	RBW: 1 MHz, VBW:1 MHz		
Environment conditions:	Ambient Temperature: 22°C		Relative Humidity: 48% Atmospheric Pressure: 1011.4 hPa
Test Result:	See below		See Plot 4.5.1 to 4.5.8

Test results:

5150-5250 MHz:

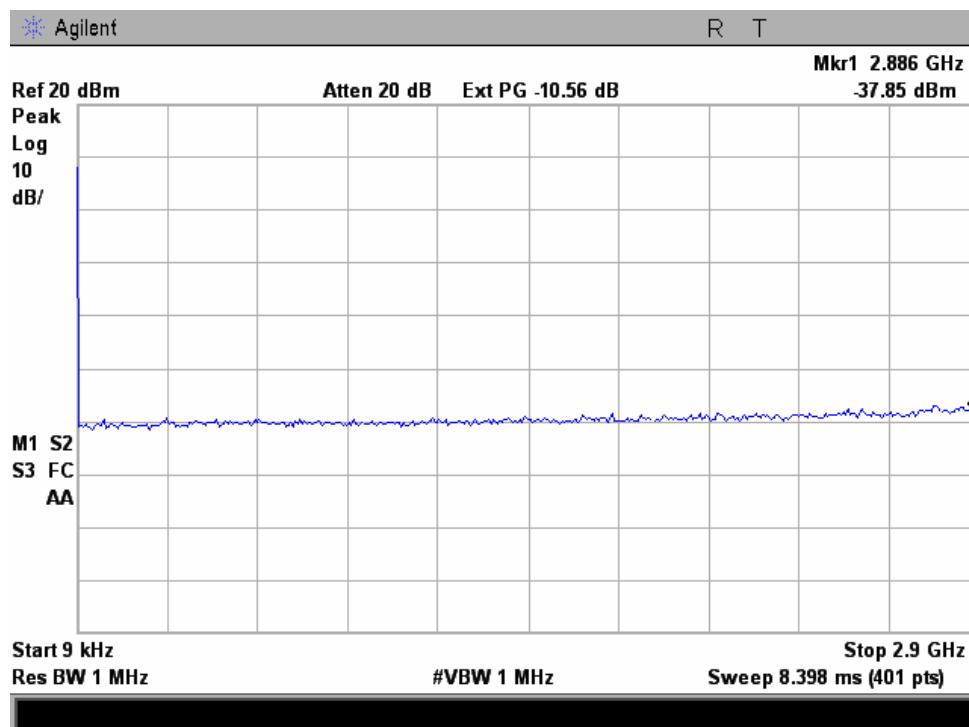
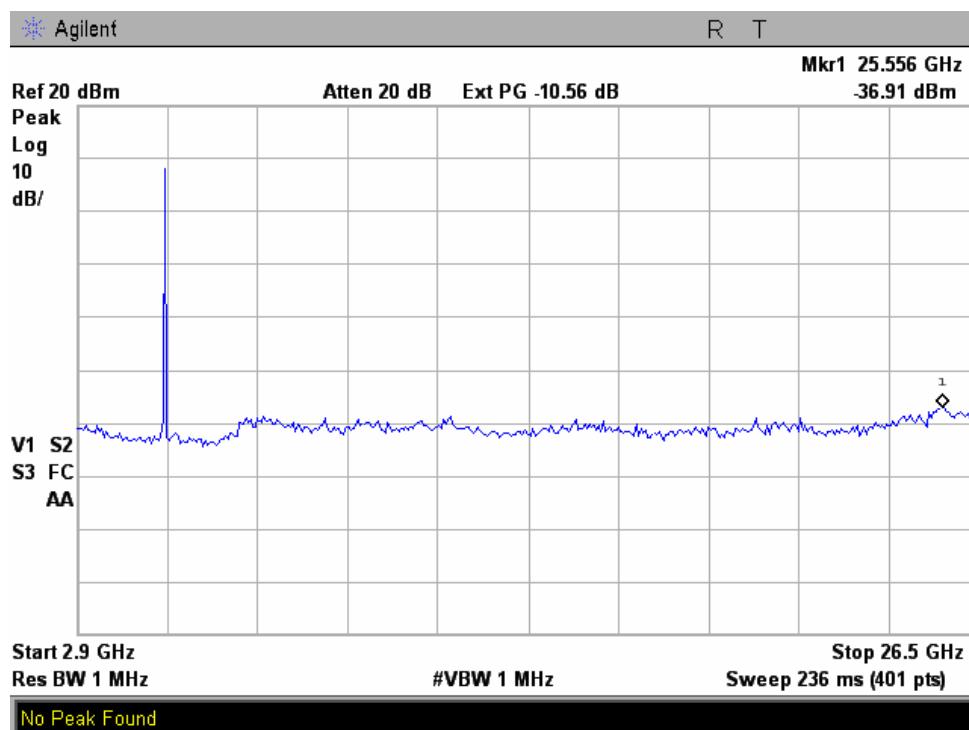
Spurious

Frequency [MHz]	Data Rate [Mbps]	Measured Value [dBm/MHz]	EIRP Value Limit [dBm/MHz]	Reference	Result
802.11a Mode					
5180	54	*	-27	4.5.1-4.5.2	Comply
5220	54	*	-27	4.5.3-4.5.4	Comply
5240	54	*	-27	4.5.5-4.5.6	Comply

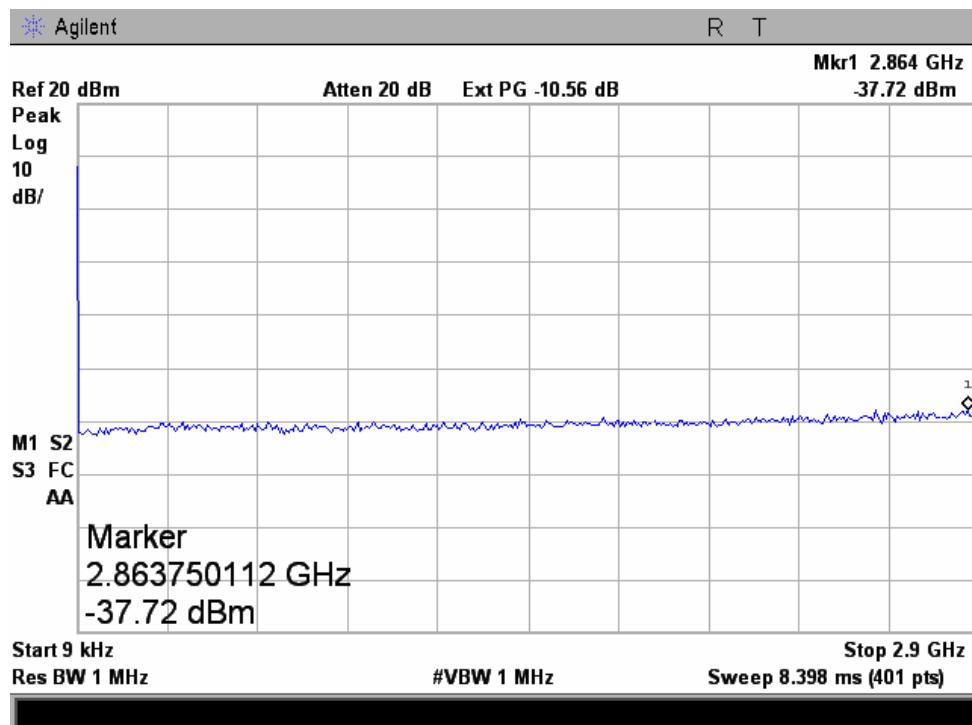
Band edge

Frequency [MHz]	Data Rate [Mbps]	Measured Value [dBm/MHz]	EIRP Value Limit [dBm/MHz]	Reference	Result
802.11a Mode					
5180	54	*	-27	4.5.7	Comply
5240	54	*	-27	4.5.8	Comply

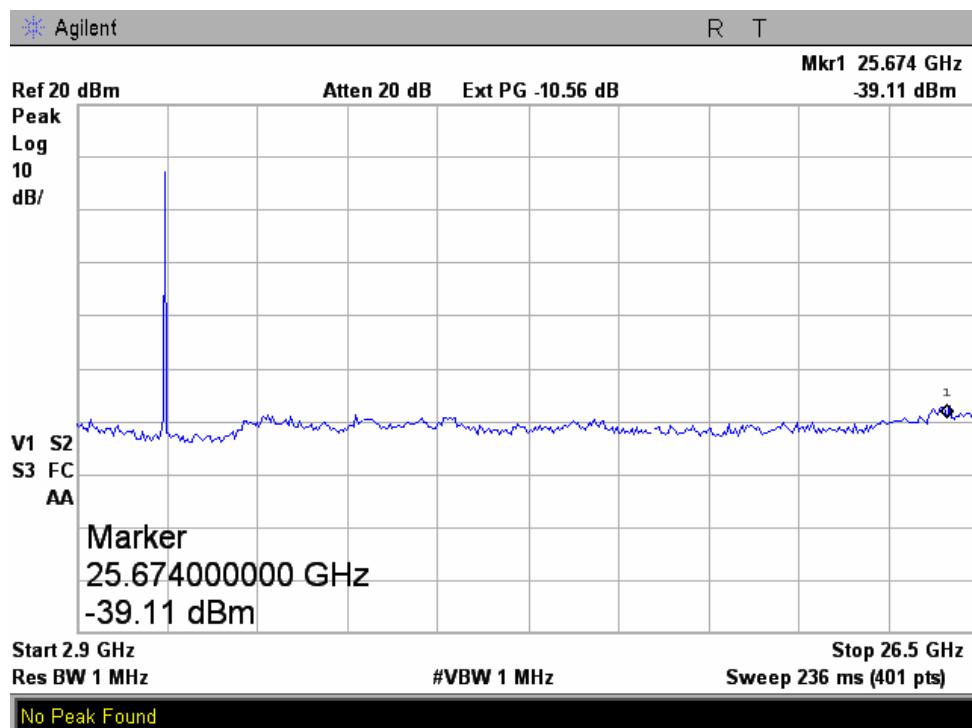
*All emissions at least 10 dB below -27dBm. For EIRP calculation: the gain of the antenna is uncertain, however worst-case gain would be 5dBi.

802.11a Mode
Plot 4.5.1**Plot 4.5.2**

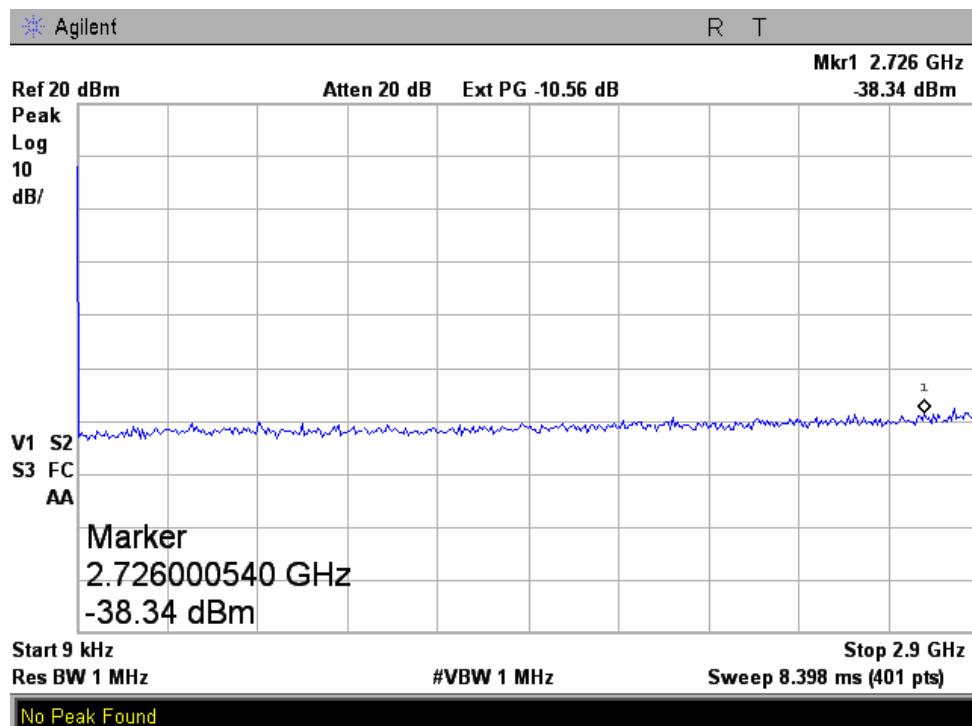
Plot 4.5.3



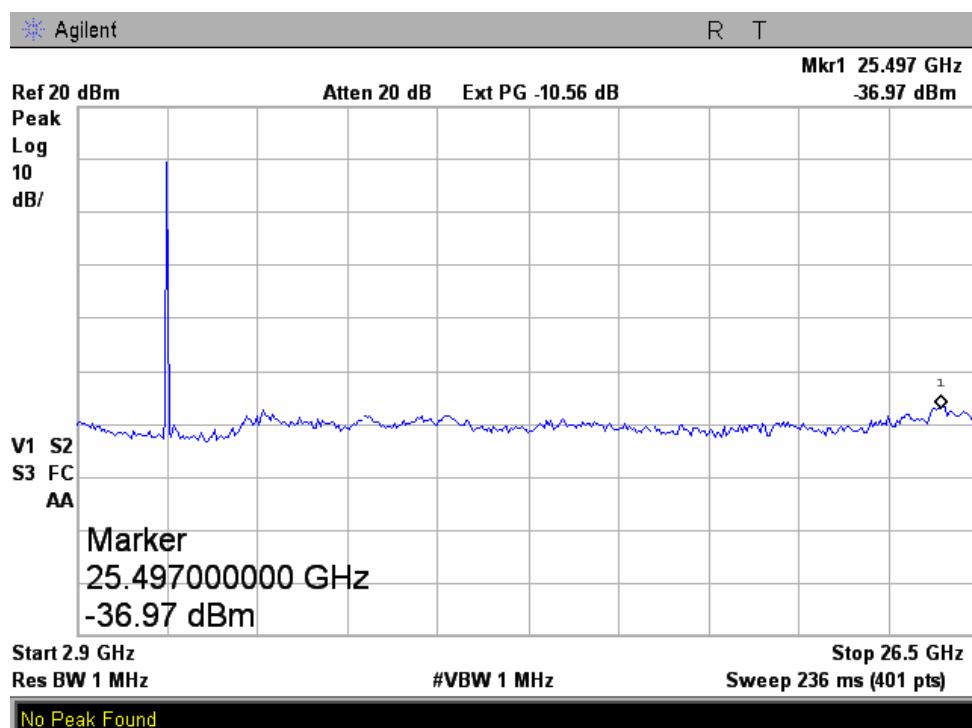
Plot 4.5.4

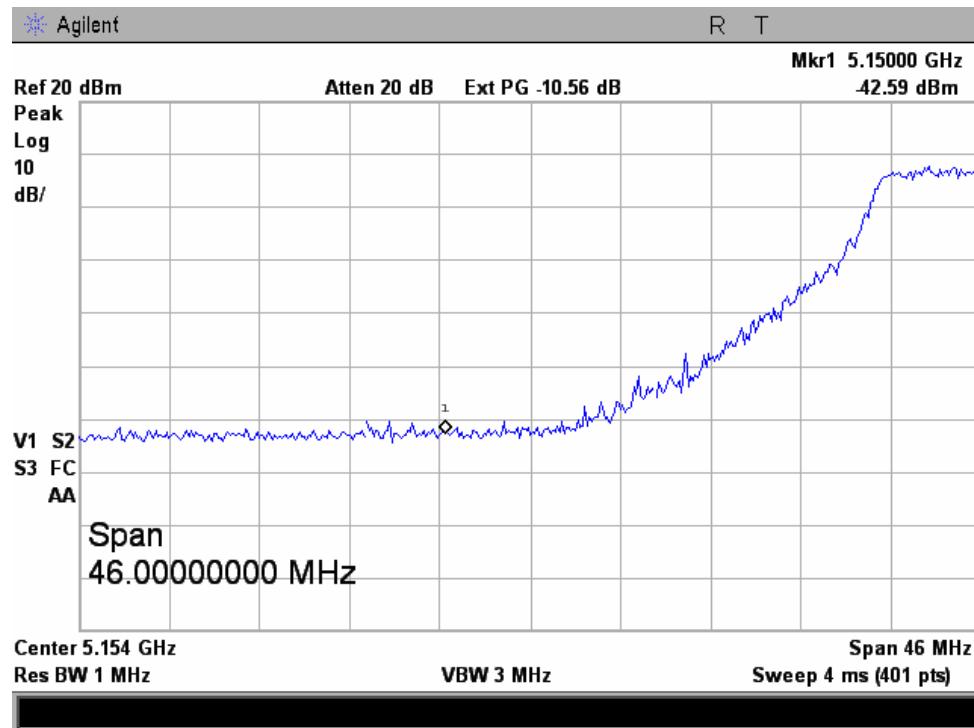
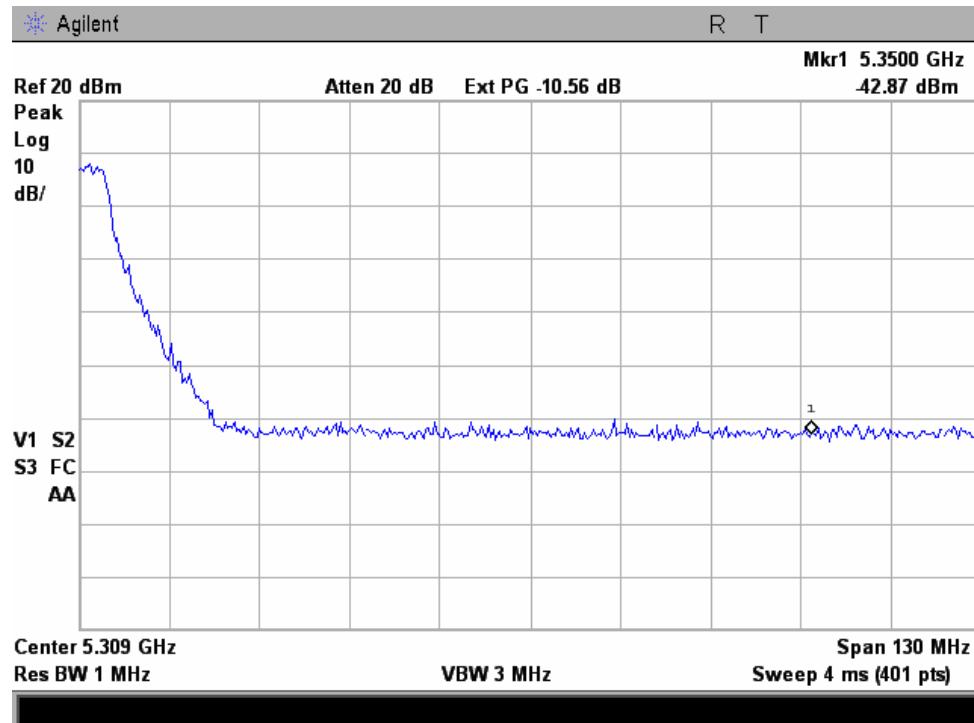


Plot 4.5.5



Plot 4.5.6



802.11a Mode
Plot 4.5.7**Plot 4.5.8**

4.6. Spurious Radiated Emissions, Restricted Bands

Reference document:	47 CFR §15.407 (b) (1) & §15.407 (b)(6)		
Test Requirements:	For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHZ, unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Sec. 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in Sec. 15.207. The provisions of Sec. 15.205 apply to intentional radiators operating under this section.		
Test Method:	See sec 2.2, with High-pass filter where appropriate		
Method of testing:	Radiated		
Operating conditions:	Under normal test conditions		
S.A. Settings:	f>Peak: RBW= 1MHz, VBW= 3MHz, Average: VBW= 10 Hz f<1GHz: RBW= 120kHz, VBW= 300kHz,		
Environment conditions:	Ambient Temperature: 22°C		Relative Humidity: 48% Atmospheric Pressure: 1011.4 hPa
Test Result:	See below		See Plot 4.6.1 to 4.6.12

Test results:

802.11a Mode							
Frequency [MHz]	Data Rate [Mbps]	Emission frequency [MHz]	Detector Type	Polar. V/H	Emission Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]
All emissions at least 20 dB below the limit							

Test results below 1GHz:

All measurements were done in horizontal and vertical polarizations; the results show the worst case for all mode and channel.

Frequency [MHz]	Emission Level [dBμV/m]	Detector Type	Polarization V/H	Limit [dBμV/m]	Margin [dB]
32.85	30.6	QP	V	40	-9.4
67.95	31.3	QP	V	40	-8.7
100	32.2	QP	V	43.5	-11.3
200	36.9	QP	H	43.5	-6.6
250	39.9	QP	H	46.5	-6.6
500	40.6	QP	H	46.5	-5.9
750	32.5	QP	V	46.5	-14.0

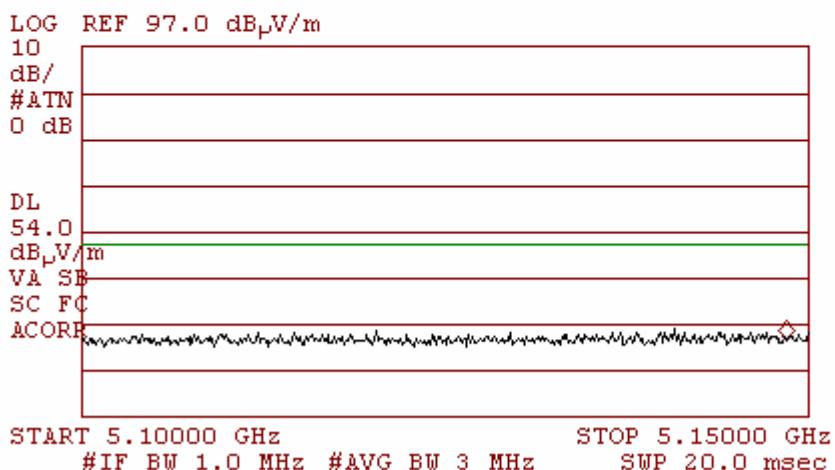
Note: Spurious Emission [dBμV/m] = measured [dBμV] + Correction-factor [dB (1/m)]

Correction Factor = Antenna factor + Cable Loss +Filter I/L.

**54 Mbit, Lowest Frequency
Vertical Polarization
Plot 4.6.1**

/p

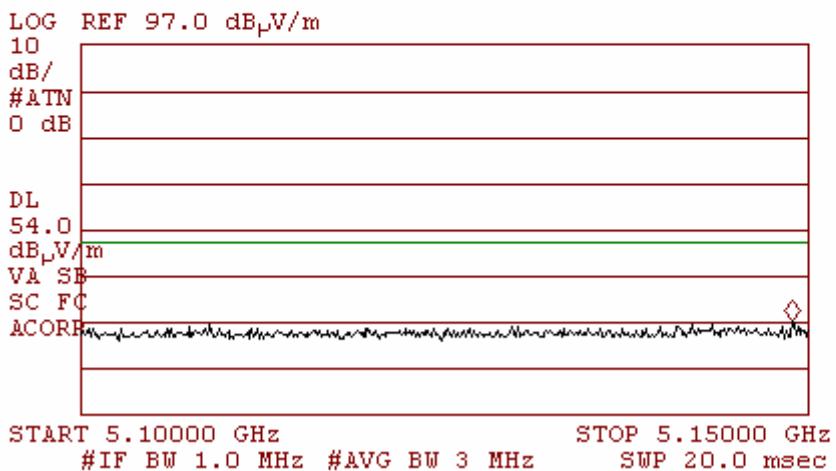
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 5.14850 GHz
33.24 dB_PV/m



**Horizontal Polarization
Plot 4.6.2**

/p

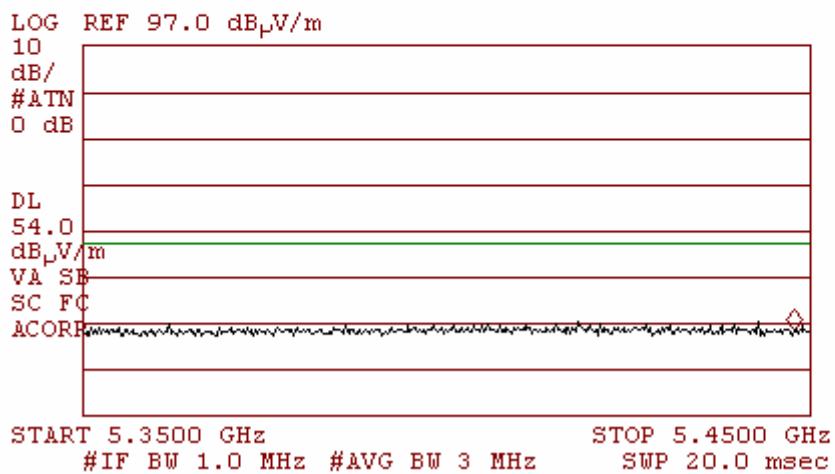
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 5.14888 GHz
37.11 dB_PV/m



**Highest Frequency
Horizontal Polarization
Plot 4.6.3**

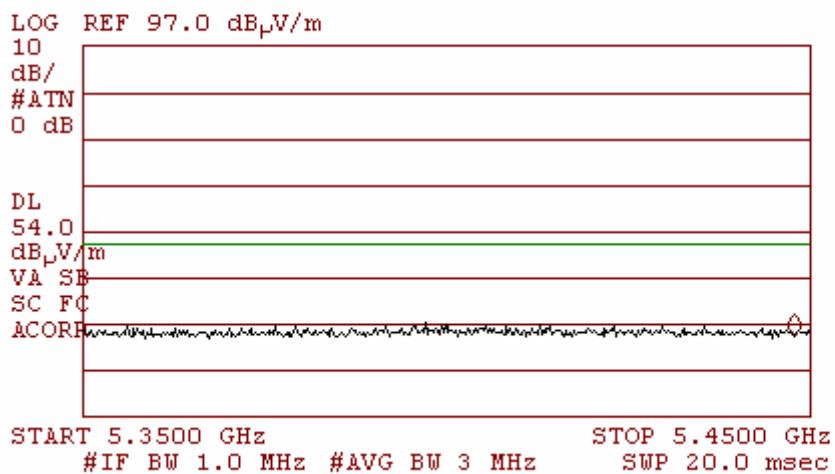
/p

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 5.4478 GHz
35.54 dB_PV/m

**Vertical Polarization
Plot 4.6.4**

/p

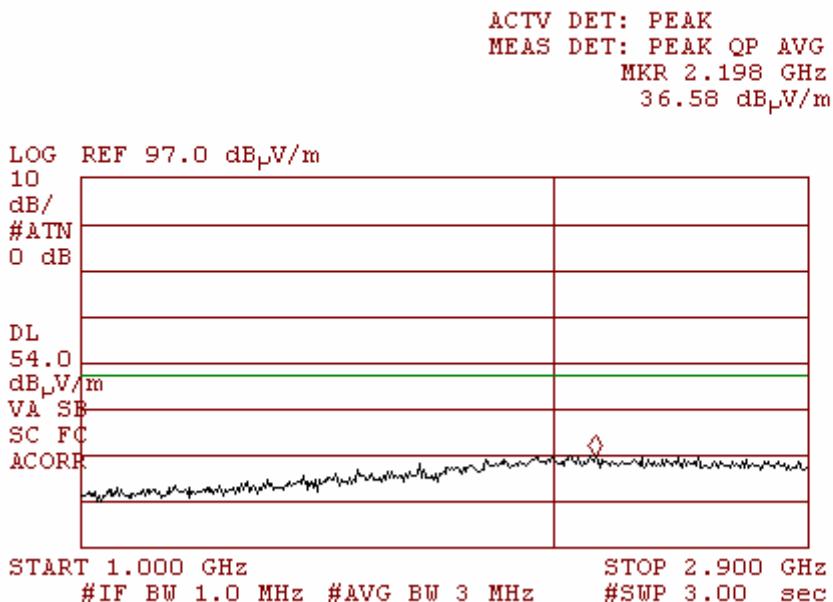
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 5.4478 GHz
34.35 dB_PV/m



802.11a Mode all channels transmitting simultaneously.

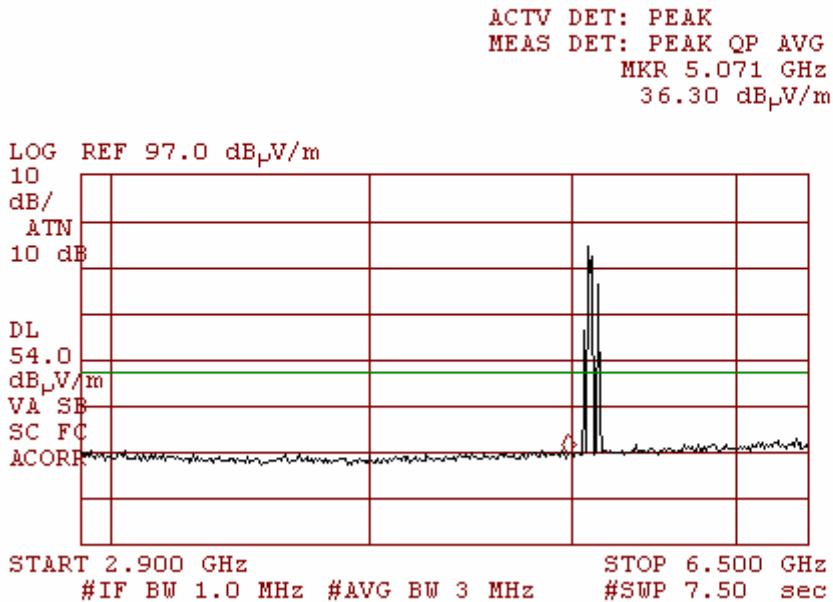
Highest Frequency
Vertical & Horizontal Polarization
Plot 4.6.5

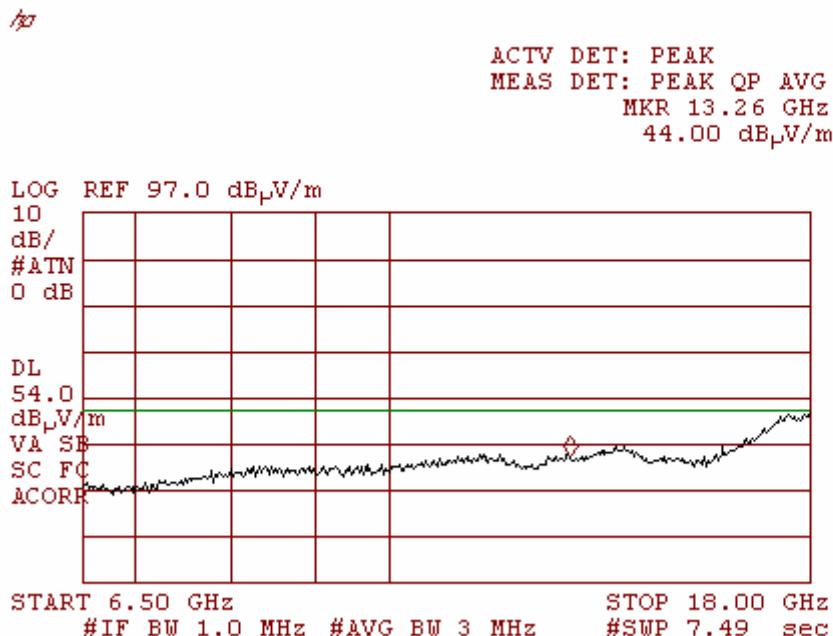
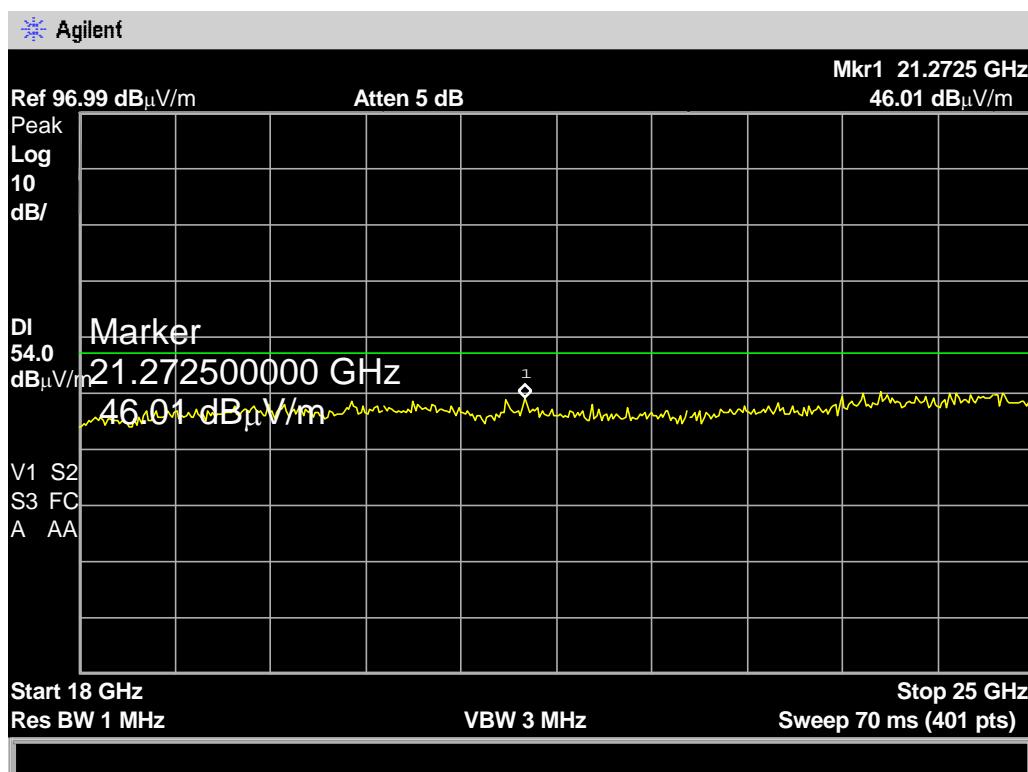
/p



Vertical & Horizontal Polarization
Plot 4.6.6

/p



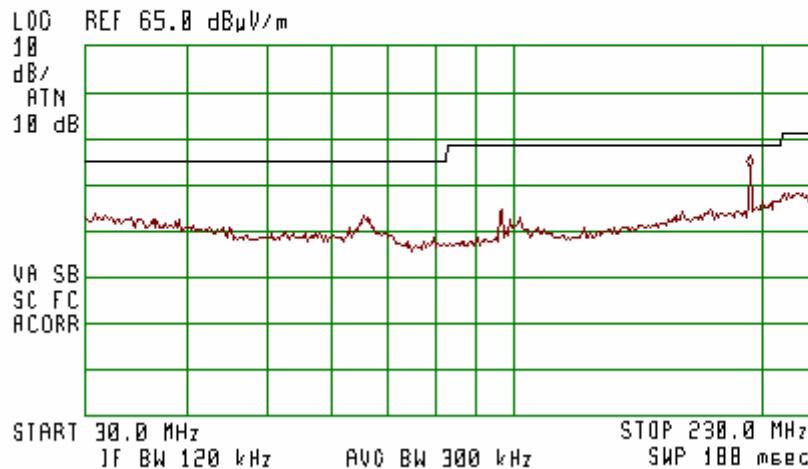
Vertical & Horizontal Polarization
 Plot 4.6.7

 Vertical & Horizontal Polarization
 Plot 4.6.8


**Below 1 GHz Worst case for all Mode and all channel Radiated Emission
Vertical Polarization
Plot 4.6.9**

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 67.9 MHz
37.04 dB μ V/m

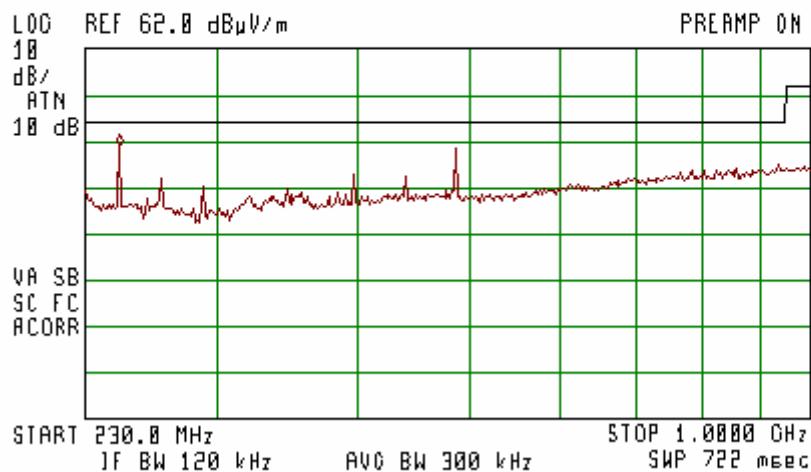
**Horizontal Polarization
Plot 4.6.10**

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 201.0 MHz
38.42 dB μ V/m

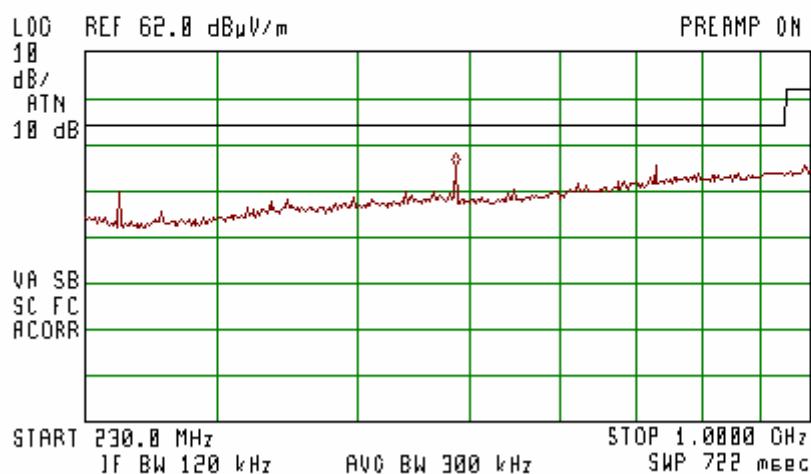


Horizontal Polarization**Plot 4.6.11**

ACTV DET: PEAK
MERS DET: PEAK QP AVG
MKR 250.8 MHz
40.85 dB μ V/m

**Vertical Polarization****Plot 4.6.12**

ACTV DET: PEAK
MERS DET: PEAK QP AVG
MKR 501.2 MHz
37.28 dB μ V/m



4.7. Radiated Emission, Receive Mode

Reference document:	47 CFR §15.109/209		
Test Requirements:	Emission Level shall not exceed §15.109 & §15.209(a) limits		
Test Method:	See sec 2.2	Comply	Comply
Method of testing:	Radiated		
Operating conditions:	Under normal test conditions		
S.A. Settings:	f<1GHz: RBW= 120kHz, VBW= 300kHz, QP f> RBW= 1MHz, VBW= 3MHz for peak and 10 Hz for Average		
Mode of operation:	Receive		
Environment conditions:	Ambient Temperature: 22°C	Relative Humidity: 48%	Atmospheric Pressure: 1011.4 hPa
Test Result:	See below	See Plot 4.7.1 to Plot 4.7.8	

Test results:

All measurements were done in horizontal and vertical polarizations; all transmitters in receive mode, the results show the worst case.

Frequency [MHz]	Emission Level [dB μ V/m]	Detector Type	Polarization V/H	Limit [dB μ V/m]	Margin [dB]
32.85	31.4	QP	V	40	-8.6
67.95	32.8	QP	V	40	-7.2
100	33.5	QP	V	43.5	-10
200	38.3	QP	H	43.5	-5.2
250	41.2	QP	H	46.5	-5.3
500	40.6	QP	H	46.5	-5.9
750	34.2	QP	V	46.5	-12.3
>1GHz	No further emissions were detected above the noise floor of the receiver				

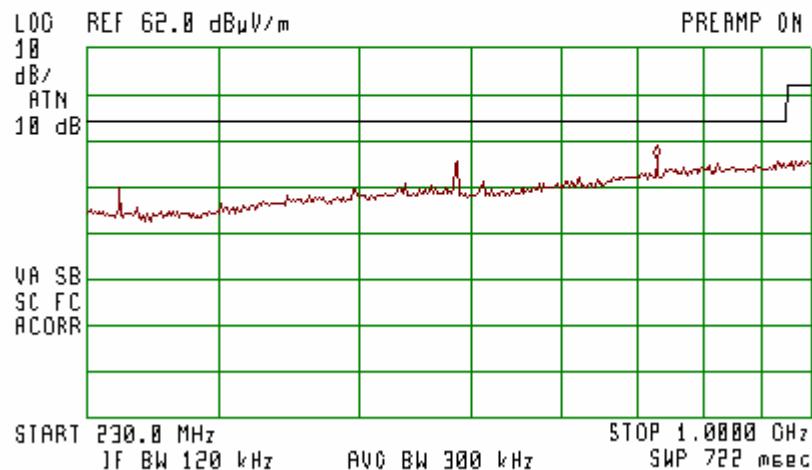
Note: Emission Level [dB μ V/m] = measured [dB μ V] + Correction-factor [dB (1/m)]

Correction Factor = Antenna factor + Cable Loss

Vertical Polarization Plot 4.7.1



ACTV DET: PEAK
MERS DET: PEAK QP AVG
MKR 749.6 MHz
37.89 dBµV/m

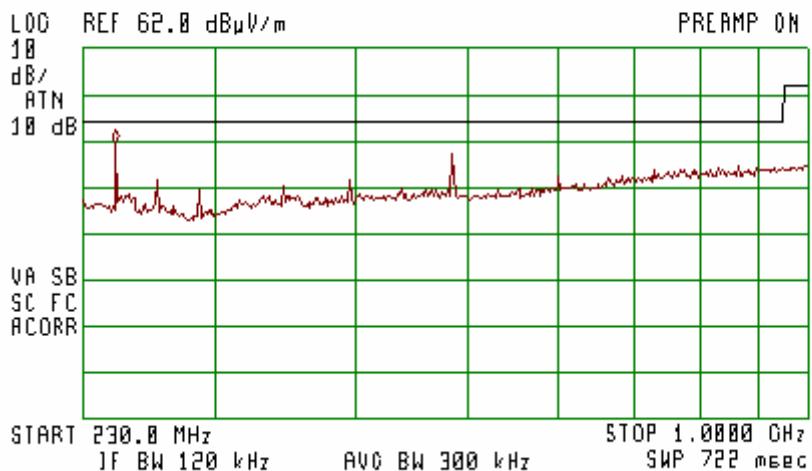


Horizontal Polarization

Plot 4.7.2



ACTV DET: PEAK
MERS DET: PEAK QP AVG
MKR 249.7 MHz
41.54 dB_{uV/m}



Vertical polarization
Plot 4.7.3

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 67.9 MHz
37.65 dB μ V/m

**Horizontal polarization**
Plot 4.7.4

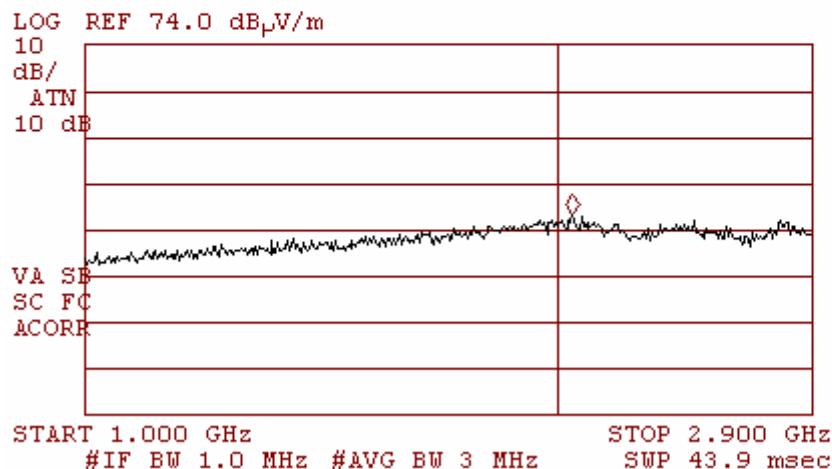
ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 201.0 MHz
39.51 dB μ V/m



Vertical polarization
Plot 4.7.5

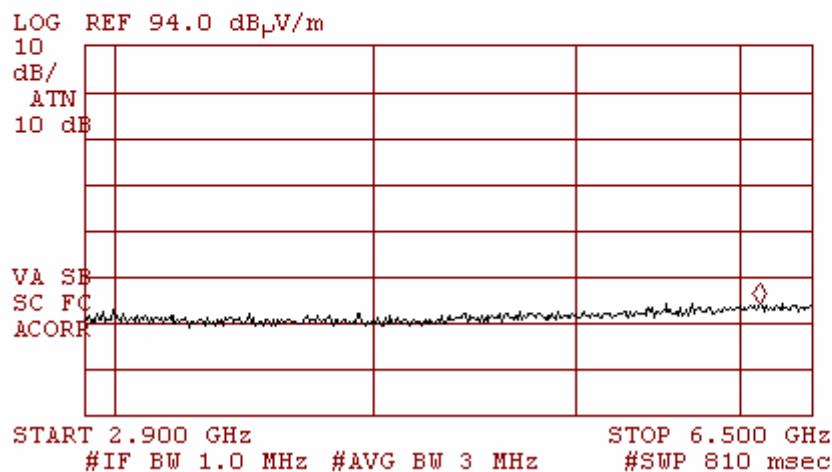
/P

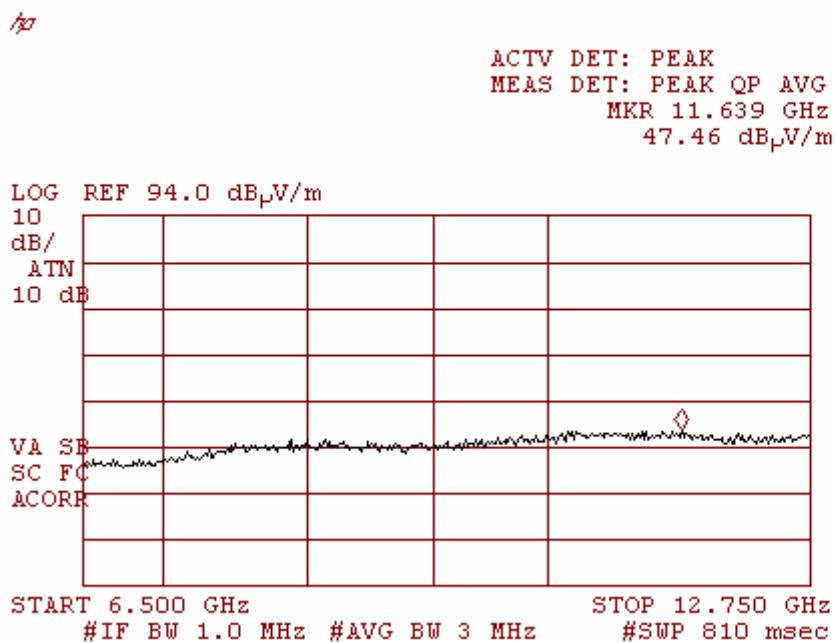
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 2.107 GHz
37.16 dB_PV/m

**Horizontal Polarization**
Plot 4.7.6

/P

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 6.186 GHz
38.17 dB_PV/m



Vertical polarization
Plot 4.7.7**Horizontal Polarization**
Plot 4.7.8

4.8. 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.	
Result:	The Access Point – EXRP 20E/40E employs Omni-Directional Dual band Rubber Duck antennas with reverse Polarity SMA Connectors.	Comply

5. Appendix

Appendix: List of Measuring Equipment used:

Equipment	Manufacturer/ Model	Serial Number	Due date
CISPR16 EMI Receiver	HP8546A	3710A00392	30-06-08
Spectrum Analyzer 9kHz ÷ 22 GHz	HP 8593EM	3536A00131	30-06-08
Spectrum Analyzer 100 Hz ÷ 26.5 GHz	Agilent E7405A	US41160436	30-06-08
LNA Amplifier 1 GHz ÷ 18 GHz	AMP – 5D-010180-30-10P-GW	618653	30-06-08
Power meter	Agilent N1911A	MY45100784	23-02-08
Dual Ridged Guide Ant.1-18 GHz	EMCO 3115	9602-4677	30-06-08
Antenna 18 GHz ÷ 26.5 GHz	Alpha Industry 861A/599	505	30-06-08
Turn table	HD100	100/693	-
Antenna Mast	HD 100	100/693	-
Biconical 20 –200 MHz	Schwarzbeck VHBB9124	9124/0255	16-05-08
Log-Periodic 200 – 1000 MHz	Schwarzbeck VUSLP9111	VUSLP9111184	16-05-08
Pre-Amplifier	MiTeq, AMF-5F-18002650-30-10P	945372	30-06-08
LISN	Fischer 50/250-25-2	-	30-06-08
Transient Limiter	HP11947A	-	30-06-08
Notch Filter	Micro-Tronics BRM50702-05	0001	30-06-08
Spectrum Analyzer 3Hz-44GHz	Agilent E4446A	MY46180602	07.03.09
Peak Power Meter	Agilent N1911A	MY45100784	31.07.08
Wideband Power Sensor	Agilent N1921A	MY45241242	31.07.08

End of the Test Report