



TEST REPORT

According to

FCC CFR Title 47 Part 15 Subpart E(15.407)
Industry Canada RSS-Gen Issue 3/RSS-210 Issue 8

Applicant	:	Matrix Sound Limited
Address	:	95 High Street Hail Weston St Neots Cambridgeshire PE19 5JS
Equipment	:	Wireless Speaker
Model No.	:	WS 90t
Trademark	:	BLUE AURA
FCC ID	:	OSY-WS90T
IC	:	1015A-WS90T

- The test result refers exclusively to the test presented test model / sample.
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TEST REPORT

according to

**FCC CFR Title 47 Part 15 Subpart E(15.407)
Industry Canada RSS-Gen Issue 3/RSS-210 Issue 8**

Applicant	:	Matrix Sound Limited
Address	:	95 High Street Hail Weston St Neots Cambridgeshire PE19 5JS
Manufacturer	:	Solidex audio corp
Address	:	Room 202, Citic Concorde Bulding, No.556, Chang Tai Road, Dong Cheng District, Dong Guan City, Guang Dong Province, China
Equipment	:	Wireless Speaker
Model No.	:	WS 90t
Trademark	:	BLUE AURA
FCC ID	:	OSY-WS90T
IC	:	1015A-WS90T

I HEREBY CERTIFY THAT :

he measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4** The equipment was **passed** the test performed according to **FCC Rules and Regulations Part 15 Subpart E (15.407)& Industry Canada RSS-Gen Issue 3/RSS-210 Issue 8.**

The test was carried out on Sept. 30~Dec.19, 2013 at **Cerpass Technology Corp.**

Signature

Miro Chueh/ Technical director



1. Report of Measurements and Examinations

1.1. List of Measurements and Examinations

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 15 Subpart E	PASS
Canada RSS-210: 2010	PASS



2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Frequency Range	5180MHz~5240MHz
EUT Power Ratings	I/P: 100-240V~, 50/60Hz, 50W
Antenna Specification	2.0dBi(5.2GHz)
Modulation technology	QPSK/BPSK

Note: 1. The EUT has two Chains. Chain 0 and Chain 1 transmit/receive independently.

2. For more details, please refer to the User's manual of the EUT.

2.2. Carrier Frequency of Channels

Operated in 5180MHz-5240MHz bands:

Channel	Frequency(MHz)
01	5180
02	5210
03	5240

2.3. Test Manner

Test Manner	
a	During testing, the interface cables and equipment positions were varied according to ANSI C63.4
b	The complete test system included EUT for RF test.
c	Adjust the EUT at the test mode and the test channel. Then test.
d	The following test mode was performed for conduction and radiation test: • CH low :5180MHz, CH Mid: 5210MHz, CH High: 5240MHz

2.4. Description of Test System

No.	Device	Manufacturer	Model No.	Description
1	iPod	APPLE	MA477TA/A	N/A
2	Wireless Transmitter	Solidex	BlueAura Wireless Transmitter	N/A
3	Remote Control	Solidex	N/A	N/A

The cable used

No.	Cable	Quantity	Description
A	Audio Cable	1	1.5m Non Shielding without core
B	USB Cable	1	1.2m Shielding with two core



2.5. General Information of Test

Test Site:	Cerpass Technology Corp.
Performand Location :	No.66,Tangzhuang Road, Suzhou Industrial Park, Jiangsu 215006, China
NVLAP LAB Code :	200814-0
FCC Registration Number :	916572, 331395
IC Registration Number :	7290A-1, 7290A-2
VCCI Registration Number :	T-343 for Telecommunication Test C-2919 for Conducted emission test R-2670 for Radiated emission test below 1GHz G-227 for Radiated emission test above 1GHz

Laboratory accreditation



2.6. Measurement Uncertainty

Measurement Item	Measurement Frequency	Polarization	Uncertainty
Conducted Emission	9 kHz ~ 30 MHz	LINE/NEUTRAL	±2.71 dB
Radiated Emission	30 MHz ~ 25GHz	Vertical	±4.11 dB
		Horizontal	±4.10 dB
Occupied Bandwidth	---	---	±7500 Hz
Maximum Peak Output Power	---	---	±1.4 dB
Band Edges	---	---	±2.2 dB
Power Spectral Density	---	---	±2.2 dB



3. Antenna Requirements

3.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, 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.

And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.



4. Test of Conducted Emission

4.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-2009 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

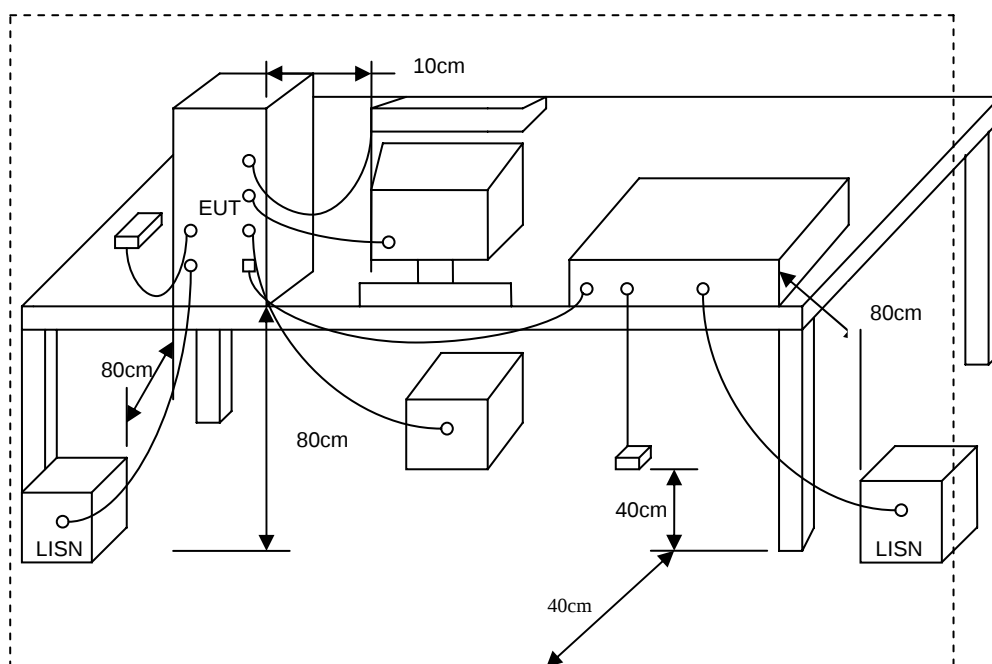
*Decreases with the logarithm of the frequency.

4.2. Test Procedures

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.



4.3. Typical Test Setup



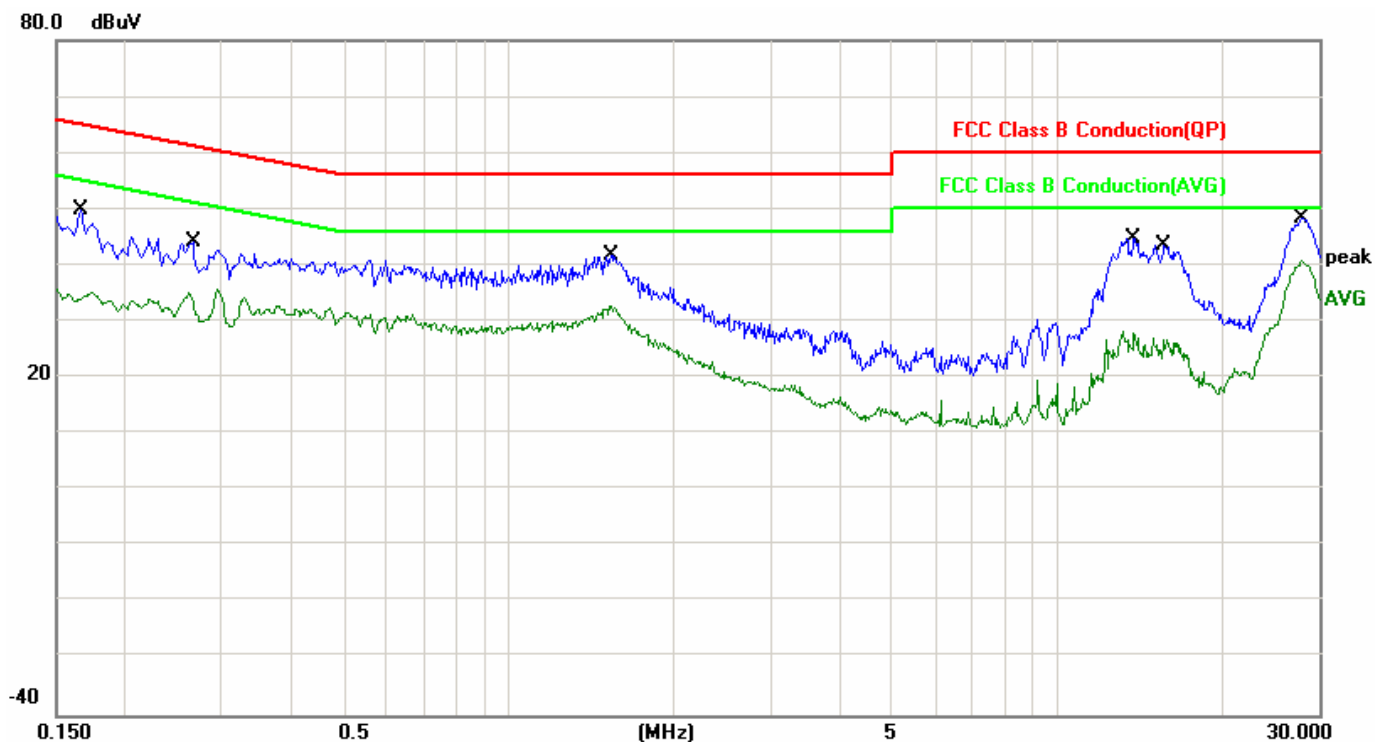
4.4. Measurement equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
Test Receiver	R&S	ESCI	100565	2013.03.10	2014.03.09
AMN	R&S	ESH2-Z5	100182	2013.09.11	2014.09.10
Two-Line V-Network	R&S	ENV216	100325	2013.03.10	2014.03.09
ISN	FCC	FCC-TLISN-T2-02	20379	2013.06.25	2014.06.24
ISN	FCC	FCC-TLISN-T4-02	20380	2013.06.25	2014.06.24
ISN	FCC	FCC-TLISN-T8-02	20381	2013.07.09	2014.07.08
ISN	TESEQ	ISN ST08	30175	2013.09.11	2014.09.10
Current Probe	R&S	EZ-17	100303	2013.03.10	2014.03.09
Passive Voltage Probe	R&S	ESH2-Z3	100026	2013.03.10	2014.03.09
Pulse Limiter	R&S	ESH3-Z2	100529	2013.03.10	2014.03.09
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-004	2013.03.10	2014.03.09



4.5. Test Result and Data

Power	: AC 120V/60Hz	Pol/Phase	: LINE
Test Mode	: Normal Link	Temperature	: 25 °C
Memo	:	Humidity	: 60 %

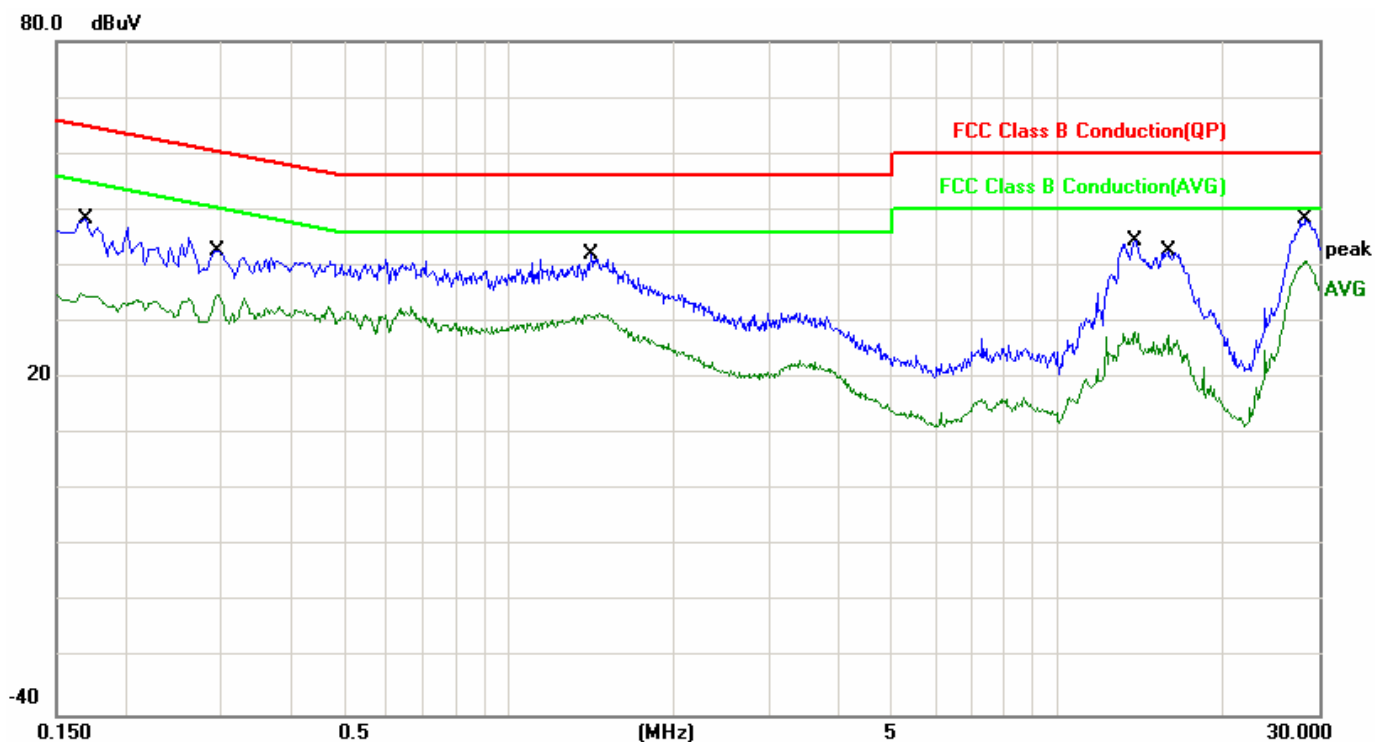


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1660	10.04	32.93	42.97	65.15	-22.18	QP
2	0.1660	10.04	24.13	34.17	55.15	-20.98	AVG
3	0.2660	10.03	29.30	39.33	61.24	-21.91	QP
4	0.2660	10.03	22.93	32.96	51.24	-18.28	AVG
5	1.5380	10.12	27.33	37.45	56.00	-18.55	QP
6	1.5380	10.12	22.32	32.44	46.00	-13.56	AVG
7	13.8340	10.34	29.10	39.44	60.00	-20.56	QP
8	13.8340	10.34	13.51	23.85	50.00	-26.15	AVG
9	15.7060	10.36	28.01	38.37	60.00	-21.63	QP
10	15.7060	10.36	12.89	23.25	50.00	-26.75	AVG
11	27.9060	10.49	33.78	44.27	60.00	-15.73	QP
12	27.9060	10.49	29.05	39.54	50.00	-10.46	AVG

Note: Measurement Level = Reading Level + Correct Factor



Power	: AC 120V/60Hz	Pol/Phase	: NEUTRAL
Test Mode	: Normal Link	Temperature	: 25 °C
Memo	:	Humidity	: 60 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1700	10.09	32.15	42.24	64.96	-22.72	QP
2	0.1700	10.09	24.28	34.37	54.96	-20.59	AVG
3	0.2940	10.10	29.38	39.48	60.41	-20.93	QP
4	0.2940	10.10	24.69	34.79	50.41	-15.62	AVG
5	1.4180	10.16	26.35	36.51	56.00	-19.49	QP
6	1.4180	10.16	20.79	30.95	46.00	-15.05	AVG
7	13.8420	10.36	28.91	39.27	60.00	-20.73	QP
8	13.8420	10.36	14.76	25.12	50.00	-24.88	AVG
9	15.8860	10.39	27.44	37.83	60.00	-22.17	QP
10	15.8860	10.39	12.60	22.99	50.00	-27.01	AVG
11	28.3100	10.49	33.80	44.29	60.00	-15.71	QP
12	28.3100	10.49	29.22	39.71	50.00	-10.29	AVG

Note: Measurement Level = Reading Level + Correct Factor



5. Test of Radiated Emission

5.1. Test Limit

According to §15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Distance Meters	Radiated (μ V / M)	Radiated (dB μ V/ M)
30-88	3	100	40.0
88-216	3	150	43.5
216-960	3	200	46.0
Above 960	3	500	54.0

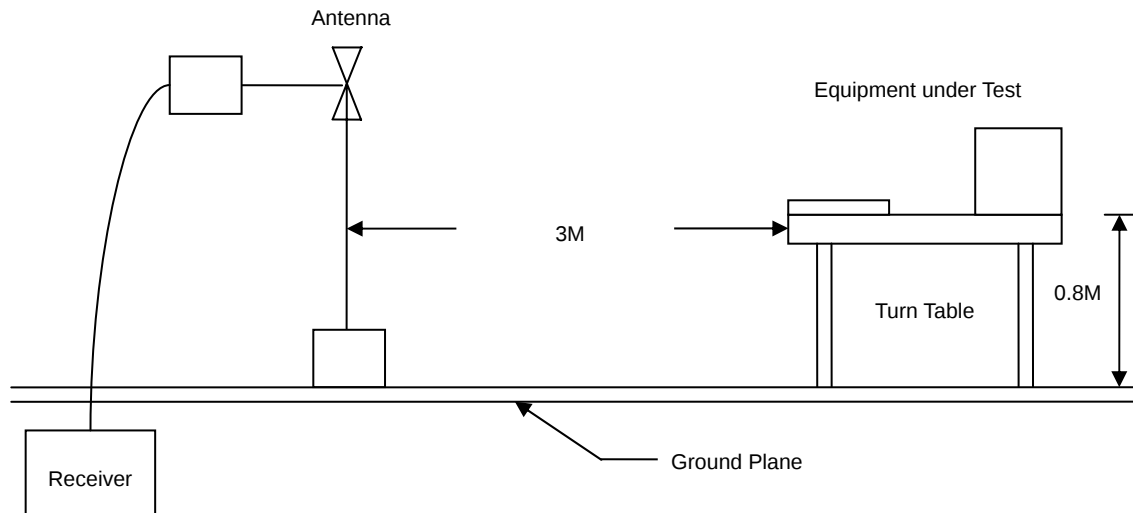
5.2. Test Procedures

- The EUT was placed on a rotatable table top 0.8 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

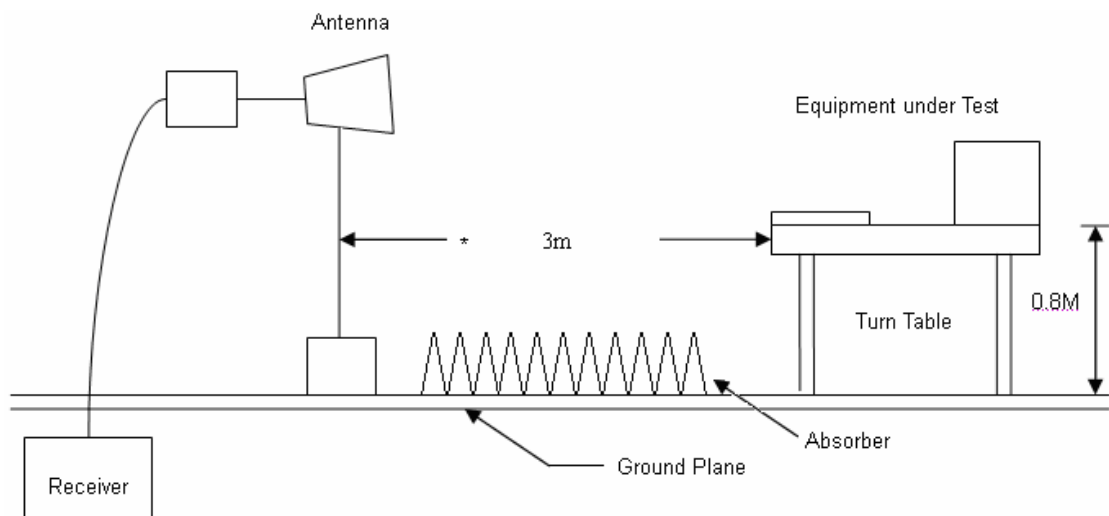


5.3. Typical Test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup



**5.4. Measurement Equipment**

Instrument	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
EMI Test Receiver	R&S	ESCI	100563	2013.03.10	2014.03.09
H64 Preamplifier	HP	8447F	3113A05582	2013.03.10	2014.03.09
Preamplifier	Agilent	8449B	3008A02342	2013.03.10	2014.03.09
Ultra Broadband Antenna	R&S	HL562	100362	2013.05.03	2014.05.02
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-619	2013.05.03	2014.05.02
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	9170-347	2013.05.15	2014.05.15
Spectrum Analyzer	R&S	FSP40	100324	2013.03.10	2014.03.09
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2013.03.10	2014.03.09



5.5. Test Result and Data

Transmitter

Under 1GHz

Site : EMC Lab AC 102	Time : 2013-12-17
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Test mode: Normal link	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
55.2199	-16.94	49.35	32.41	40.00	-7.59	V	QP
250.1899	-8.74	46.80	38.06	46.00	-7.94	V	QP
359.8000	-4.41	45.16	40.75	46.00	-5.25	V	QP
480.0799	-1.10	42.37	41.27	46.00	-4.73	V	QP
500.4499	-2.20	40.29	38.09	46.00	-7.91	V	QP
600.3600	-1.05	42.16	41.11	46.00	-4.89	V	QP
250.1899	-8.74	46.05	37.31	46.00	-8.69	H	QP
359.8000	-4.41	48.65	44.24	46.00	-1.76	H	QP
375.3199	-4.95	45.29	40.34	46.00	-5.66	H	QP
480.0799	-1.10	40.02	38.92	46.00	-7.08	H	QP
600.3600	-1.05	37.88	36.83	46.00	-9.17	H	QP
960.2300	3.17	35.98	39.15	54.00	-14.85	H	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

**Above 1GHz****Chain 0**

Site : EMC Lab AC 102	Time : 2013-11-18
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Test mode: Transmit by 5180 MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Antenna Pole (V/H)
1	10365.07	18.28	37.02	55.30	-18.70	74.00	PEAK	V
2	10365.07	18.28	23.15	41.43	-12.57	54.00	AVG	V
1	10365.07	18.28	33.36	51.64	-22.36	74.00	PEAK	H
2	10365.07	18.28	21.24	39.52	-14.48	54.00	AVG	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2013-11-18
Limit : FCC CLASS B 03M_QP	Margin : 6
Test mode: Transmit by 5210MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Antenna Pole (V/H)
1	10420.33	19.08	32.02	51.10	-22.90	74.00	PEAK	V
2	10420.33	19.08	19.66	38.74	-15.26	54.00	AVG	V
1	10420.38	19.08	30.25	49.33	-24.67	74.00	PEAK	H
2	10420.38	19.08	18.64	37.72	-16.28	54.00	AVG	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2013-11-18
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Test mode: Transmit by 5240MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Antenna Pole (V/H)
1	10480.14	19.95	32.03	51.98	-22.02	74.00	PEAK	V
2	10480.14	19.95	20.05	40.00	-14.00	54.00	AVG	V
1	10480.14	19.95	26.48	46.43	-27.57	74.00	PEAK	H
2	10480.14	19.95	15.37	35.32	-18.68	54.00	AVG	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

**Chain 1**

Site : EMC Lab AC 102	Time : 2013-11-18
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Test mode: Transmit by 5180MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Antenna Pole (V/H)
1	10365.07	18.28	31.25	49.53	-24.47	74.00	PEAK	V
2	10365.07	18.28	24.51	42.79	-11.21	54.00	AVG	V
1	10365.07	18.28	34.62	52.90	-21.10	74.00	PEAK	H
2	10365.07	18.28	22.64	40.92	-13.08	54.00	AVG	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2013-11-18
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Test mode: Transmit by 5210MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Antenna Pole (V/H)
1	10420.38	19.08	34.05	53.13	-20.87	74.00	PEAK	V
2	10420.38	19.08	22.53	41.61	-12.39	54.00	AVG	V
1	10420.38	19.08	32.61	51.69	-22.31	74.00	PEAK	H
2	10420.38	19.08	20.52	39.60	-14.40	54.00	AVG	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2013-11-18
Limit : FCC CLASS B 03M_QP	Margin : 6
Test mode: Transmit by 5240MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Antenna Pole (V/H)
1	10480.14	19.95	31.23	51.18	-22.82	74.00	PEAK	V
2	10480.14	19.95	19.64	39.59	-14.41	54.00	AVG	V
1	10480.14	19.95	27.34	47.29	-26.71	74.00	PEAK	H
2	10480.14	19.95	15.52	35.47	-18.53	54.00	AVG	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

**Receiver
Under 1GHz**

Site : EMC Lab AC 102	Time : 2013-12-19
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Test mode: Normal link	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
33.8800	-7.27	43.25	35.98	40.00	-4.02	V	QP
152.2200	-12.29	46.84	34.55	43.50	-8.95	V	QP
283.1700	-8.26	40.43	32.17	46.00	-13.83	V	QP
510.1500	-2.45	36.32	33.87	46.00	-12.13	V	QP
650.8000	-0.32	41.24	40.92	46.00	-5.08	V	QP
755.5600	1.66	32.54	34.20	46.00	-11.80	V	QP
98.8700	-11.28	39.93	28.65	43.50	-14.85	H	QP
211.3900	-10.19	42.18	31.99	43.50	-11.51	H	QP
249.2200	-8.82	40.37	31.55	46.00	-14.45	H	QP
650.8000	-0.32	38.23	37.91	46.00	-8.09	H	QP
759.4400	1.78	38.89	40.67	46.00	-5.33	H	QP
807.9400	0.70	37.34	38.04	46.00	-7.96	H	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

**Above 1GHz****Chain 0**

Site : EMC Lab AC 102	Time : 2013-12-18
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Test mode: Receive by 5180 MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Antenna Pole (V/H)
1	1060.0000	55.91	-9.37	46.54	74.00	-27.46	PEAK	V
2	1660.0000	60.16	-8.26	51.90	74.00	-22.10	PEAK	V
3	2950.0000	46.22	-3.46	42.76	74.00	-31.24	PEAK	V
4	3040.0000	46.23	-3.21	43.02	74.00	-30.98	PEAK	V
5	4255.0000	45.13	-0.14	44.99	74.00	-29.01	PEAK	V
6	5140.0000	45.06	2.82	47.88	74.00	-26.12	PEAK	V
1	1195.0000	52.06	-8.19	43.87	74.00	-30.13	PEAK	H
2	1630.0000	58.19	-8.14	50.05	74.00	-23.95	PEAK	H
3	2665.0000	46.70	-4.65	42.05	74.00	-31.95	PEAK	H
4	3160.0000	46.97	-3.04	43.93	74.00	-30.07	PEAK	H
5	3940.0000	46.27	-1.08	45.19	74.00	-28.81	PEAK	H
6	4510.0000	44.48	1.08	45.56	74.00	-28.44	PEAK	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2013-12-18
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Test mode: Receive by 5210MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Antenna Pole (V/H)
1	1060.0000	56.33	-9.37	46.96	74.00	-27.04	PEAK	V
2	1600.0000	58.58	-8.02	50.56	74.00	-23.44	PEAK	V
3	1795.0000	54.27	-8.80	45.47	74.00	-28.53	PEAK	V
4	2410.0000	48.00	-5.61	42.39	74.00	-31.61	PEAK	V
5	3355.0000	46.10	-2.94	43.16	74.00	-30.84	PEAK	V
6	4270.0000	45.61	-0.06	45.55	74.00	-28.45	PEAK	V
1	1195.0000	52.72	-8.19	44.53	74.00	-29.47	PEAK	H
2	1600.0000	59.53	-8.02	51.51	74.00	-22.49	PEAK	H
3	2395.0000	47.81	-5.69	42.12	74.00	-31.88	PEAK	H
4	2950.0000	47.19	-3.46	43.73	74.00	-30.27	PEAK	H
5	3580.0000	45.58	-1.90	43.68	74.00	-30.32	PEAK	H
6	4375.0000	45.46	0.47	45.93	74.00	-28.07	PEAK	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2013-12-18
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Test mode: Receive by 5240MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Antenna Pole (V/H)
1	1060.0000	58.90	-9.37	49.53	74.00	-24.47	PEAK	V
2	1630.0000	59.82	-8.14	51.68	74.00	-22.32	PEAK	V
3	2440.0000	46.74	-5.51	41.23	74.00	-32.77	PEAK	V
4	2965.0000	46.10	-3.40	42.70	74.00	-31.30	PEAK	V
5	3775.0000	45.30	-1.53	43.77	74.00	-30.23	PEAK	V
6	4225.0000	45.26	-0.29	44.97	74.00	-29.03	PEAK	V
1	1195.0000	52.09	-8.19	43.90	74.00	-30.10	PEAK	H
2	1600.0000	58.14	-8.02	50.12	74.00	-23.88	PEAK	H
3	2665.0000	47.64	-4.65	42.99	74.00	-31.01	PEAK	H
4	2890.0000	46.69	-3.70	42.99	74.00	-31.01	PEAK	H
5	3655.0000	46.37	-1.71	44.66	74.00	-29.34	PEAK	H
6	4930.0000	44.31	2.36	46.67	74.00	-27.33	PEAK	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

**Chain 1**

Site : EMC Lab AC 102	Time : 2013-12-18
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Test mode: Receive by 5180 MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Antenna Pole (V/H)
1	1066.6667	57.75	-9.80	47.95	74.00	-26.05	PEAK	V
2	1200.0000	51.65	-8.73	42.92	74.00	-31.08	PEAK	V
3	1600.0000	52.43	-8.68	43.75	74.00	-30.25	PEAK	V
4	2560.0000	47.22	-5.98	41.24	74.00	-32.76	PEAK	V
5	3226.6667	47.44	-4.08	43.36	74.00	-30.64	PEAK	V
6	3860.0000	45.79	-2.50	43.29	74.00	-30.71	PEAK	V
1	1600.0000	55.58	-8.68	46.90	74.00	-27.10	PEAK	H
2	2406.6667	48.73	-6.51	42.22	74.00	-31.78	PEAK	H
3	3046.6667	47.38	-4.20	43.18	74.00	-30.82	PEAK	H
4	3686.6667	46.77	-2.78	43.99	74.00	-30.01	PEAK	H
5	4373.3333	45.90	-0.92	44.98	74.00	-29.02	PEAK	H
6	4813.3333	45.73	0.47	46.20	74.00	-27.80	PEAK	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2013-12-18
Limit : FCC CLASS B 03M_QP	Margin : 6
Test mode: Receive by 5210MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Antenna Pole (V/H)
1	1500.0000	55.03	-8.25	46.78	74.00	-27.22	PEAK	V
2	1653.3333	54.07	-8.88	45.19	74.00	-28.81	PEAK	V
3	2486.6667	54.31	-6.23	48.08	74.00	-25.92	PEAK	V
4	2993.3332	48.05	-4.27	43.78	74.00	-30.22	PEAK	V
5	3746.6667	46.66	-2.63	44.03	74.00	-29.97	PEAK	V
6	4400.0000	45.20	-0.82	44.38	74.00	-29.62	PEAK	V
1	1626.6667	55.84	-8.78	47.06	74.00	-26.94	PEAK	H
2	2433.3333	47.58	-6.41	41.17	74.00	-32.83	PEAK	H
3	2973.3333	46.48	-4.35	42.13	74.00	-31.87	PEAK	H
4	3200.0000	46.55	-4.09	42.46	74.00	-31.54	PEAK	H
5	3753.3333	46.02	-2.61	43.41	74.00	-30.59	PEAK	H
6	4526.6667	45.73	-0.59	45.14	74.00	-28.86	PEAK	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2013-12-18
Limit : FCC CLASS B 03M_QP	Margin : 6
Test mode: Receive by 5240MHz	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	

	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type	Antenna Pole (V/H)
1	1200.0000	52.61	-8.73	43.88	74.00	-30.12	PEAK	V
2	1626.6667	51.59	-8.78	42.81	74.00	-31.19	PEAK	V
3	2506.6667	47.61	-6.16	41.45	74.00	-32.55	PEAK	V
4	2820.0000	47.34	-4.96	42.38	74.00	-31.62	PEAK	V
5	3200.0000	46.07	-4.09	41.98	74.00	-32.02	PEAK	V
6	3880.0000	46.15	-2.51	43.64	74.00	-30.36	PEAK	V
1	1653.3333	57.75	-8.88	48.87	74.00	-25.13	PEAK	H
2	2546.6667	47.01	-6.02	40.99	74.00	-33.01	PEAK	H
3	3006.6667	47.55	-4.23	43.32	74.00	-30.68	PEAK	H
4	3400.0000	47.21	-4.00	43.21	74.00	-30.79	PEAK	H
5	3873.3333	46.51	-2.50	44.01	74.00	-29.99	PEAK	H
6	4306.6667	45.29	-1.17	44.12	74.00	-29.88	PEAK	H

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor



6. 99% And 26dB Bandwidth Measurement Data

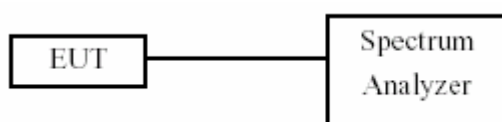
6.1. Test Limit

According to §15.303(c), 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. Compliance with the emissions limits is based on the use of measurement instrumentation employing a peak detector function with an instrument resolutions bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

6.2. Test Procedures

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low-loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW > 1%EBW, VBW > RBW, Span >26dB bandwidth, and Sweep = auto.
4. Mark the peak frequency and -26dB (upper and lower) frequency.
5. Repeat until all the rest channels were investigated.

6.3. Test Setup Layout



6.4. Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	100324	2012.03.10	2014.03.09



6.5. Test Result and Data

Test Date: 2013-11-29

Temperature: 25°C

Atmospheric pressure: 1020 hPa

Humidity: 55%

Chain 0

Channel	Frequency (MHz)	-26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
Low	5180	21.460	13.9395
Mid	5210	21.200	13.8483
High	5240	21.346	13.7070

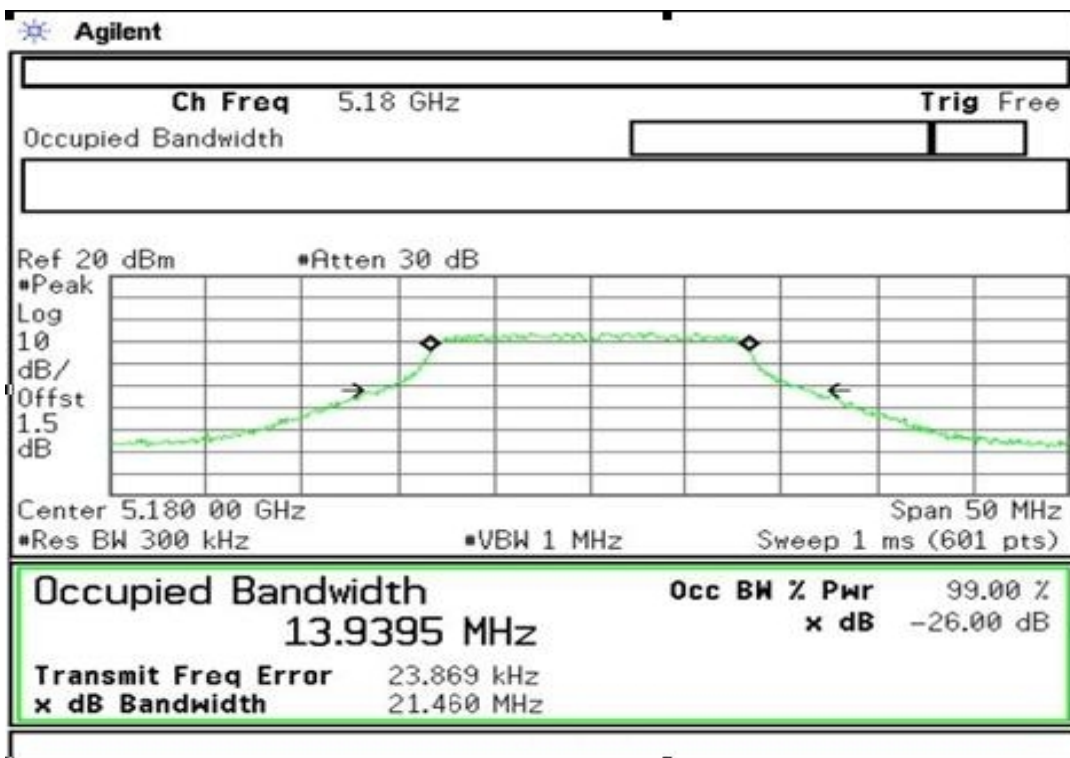
Chain 1

Channel	Frequency (MHz)	-26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
Low	5180	20.851	13.8773
Mid	5210	21.165	12.7575
High	5240	21.294	13.2325

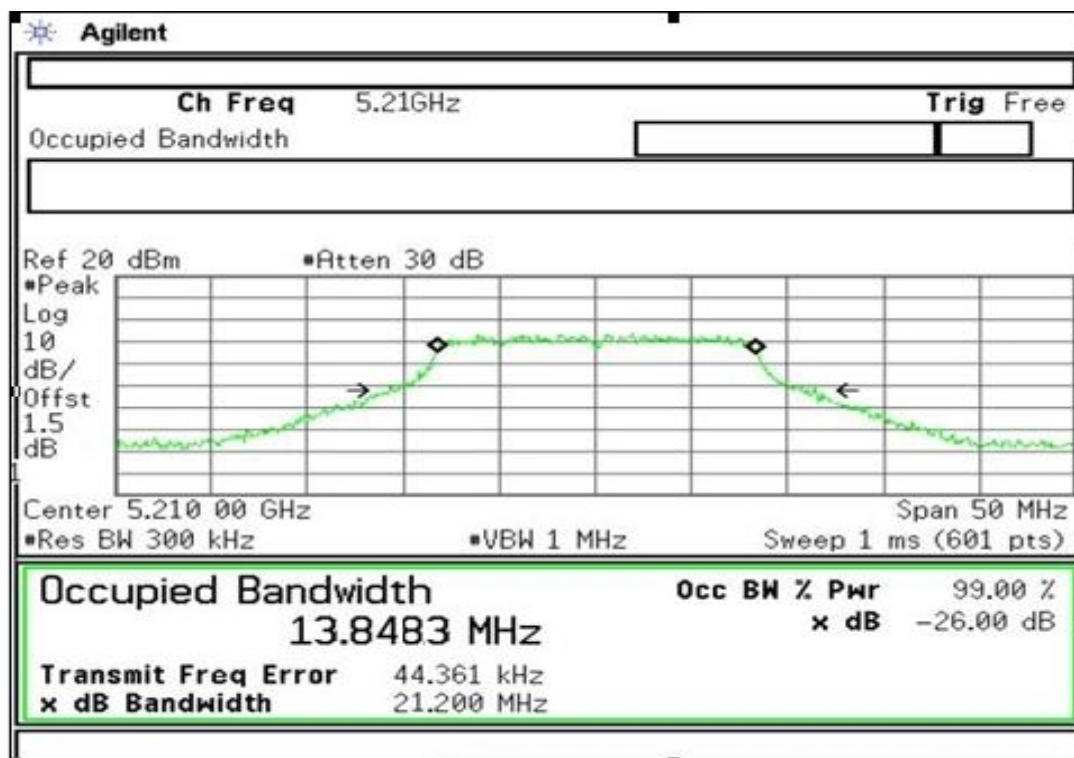


Chain 0

Channel: Low

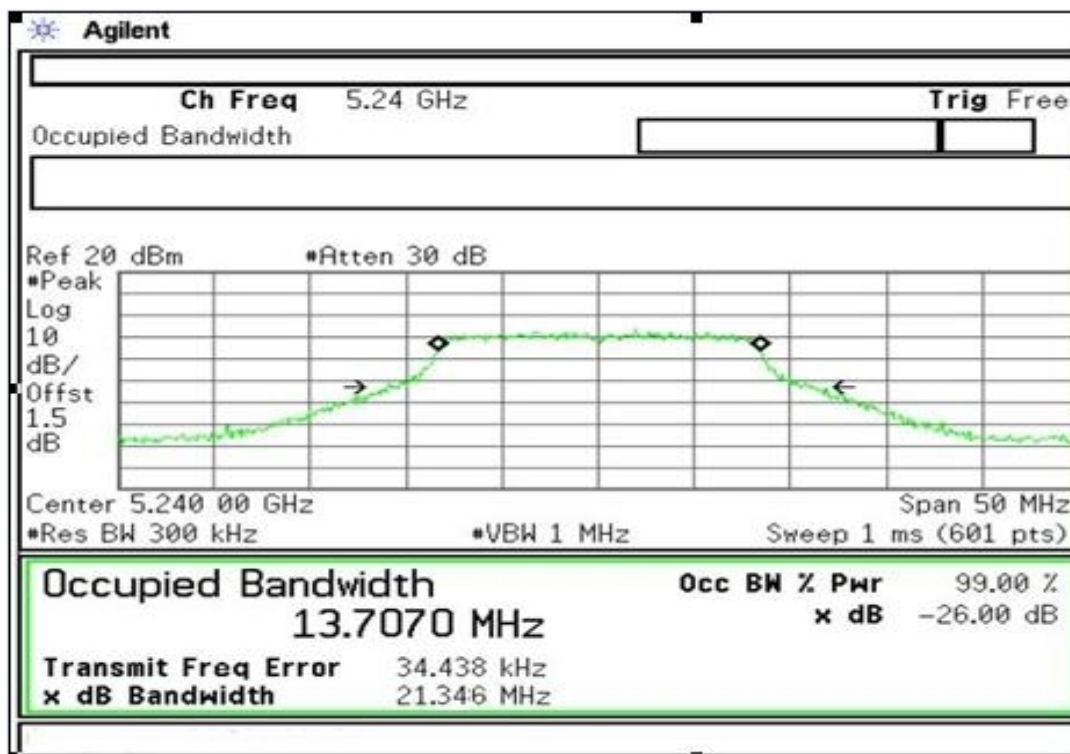


Channel: Mid



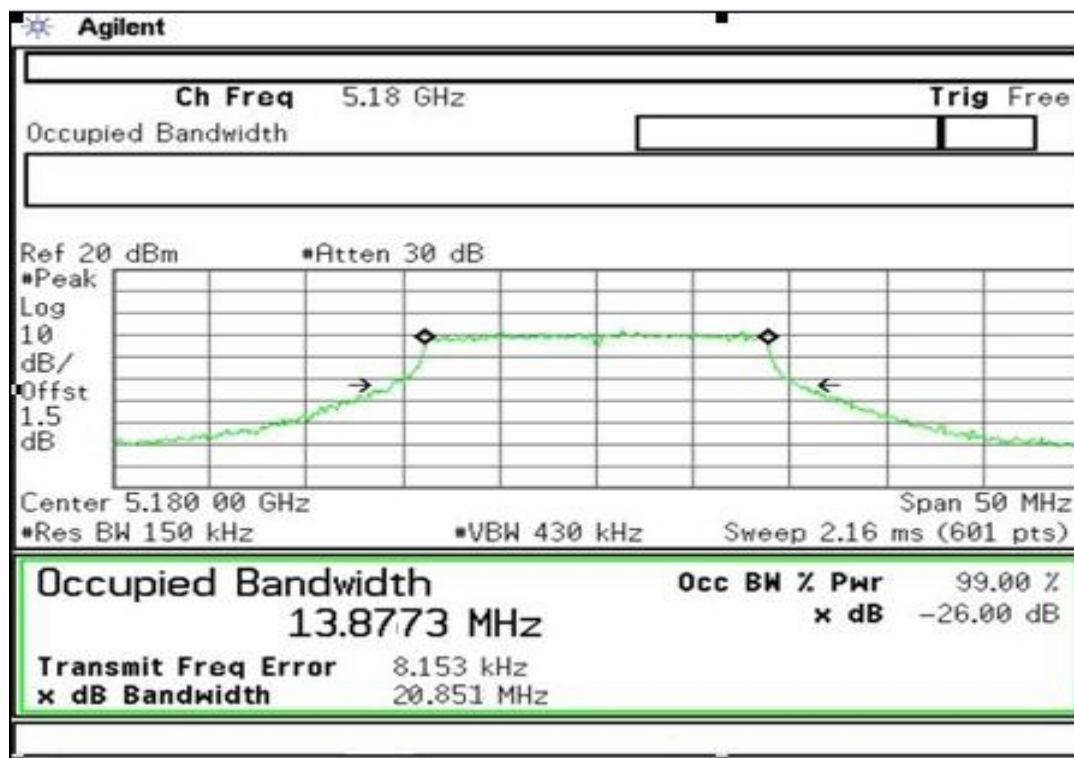


Channel: High



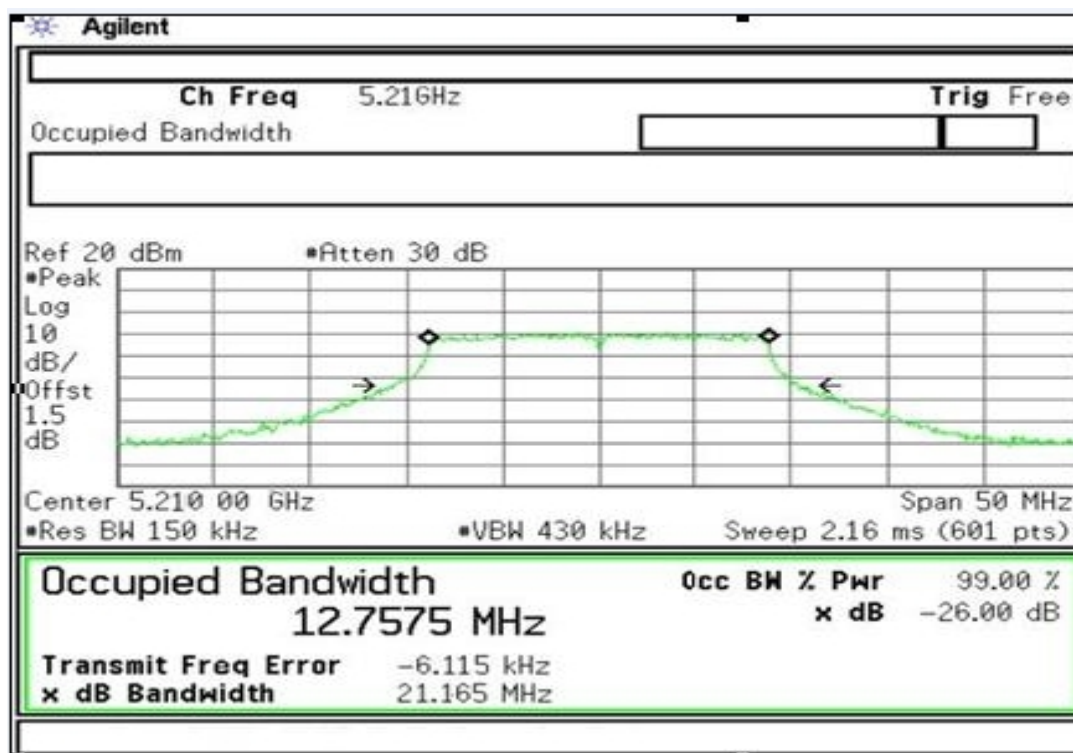
Chain 1

Channel: Low

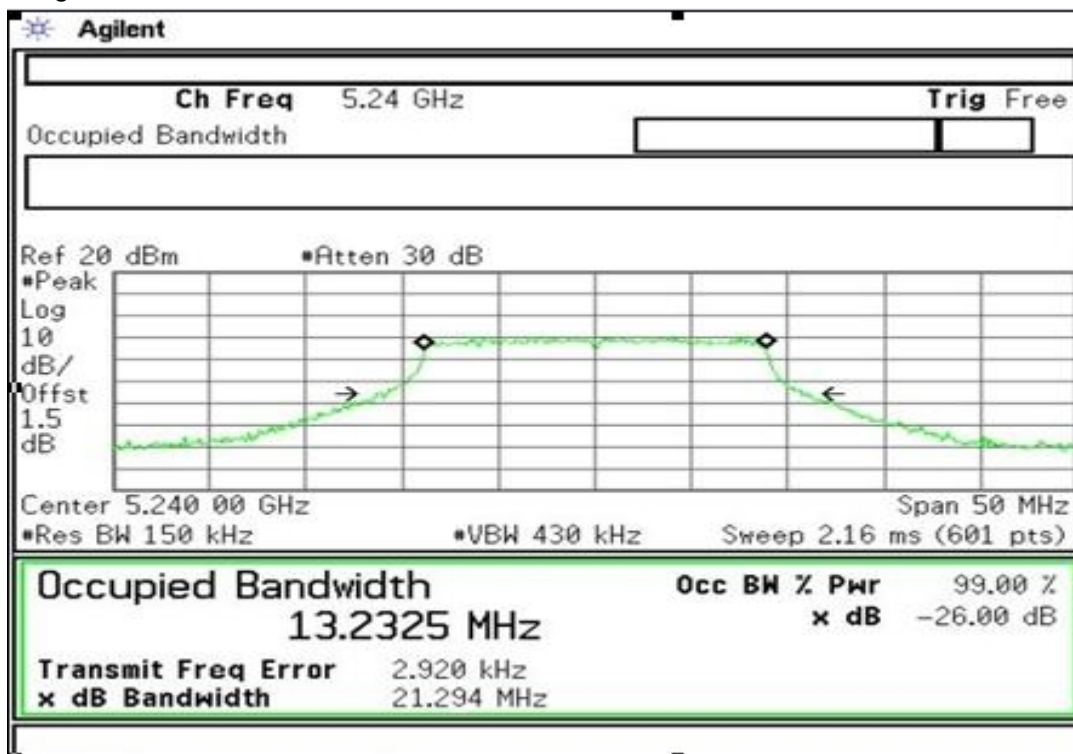




Channel: Mid



Channel: High





7. Band Edges Measurement

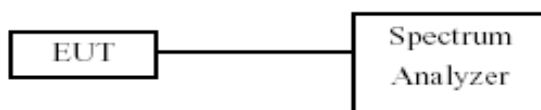
7.1. Test Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m).

7.2. Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

7.3. Test Setup Layout



7.4. Measurement Equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	100324	2013.03.10	2014.03.09



7.5. Restrict Band Emission Measurement Data

Test Date : 2013-11-18
Temperature : 24 °C
Humidity : 52 %
Atmospheric Pressure : 1023 hPa

Chain 0

Fundamental Frequency: 5180 MHz

VERTICAL

No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	5150.000	7.030	50.263	57.293	-16.707	74.000	PEAK
2	5150.000	7.030	35.245	42.275	-11.725	54.000	AVG

HORIZONTAL

No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	5150.000	7.030	49.689	56.719	-17.281	74.000	PEAK
2	5150.000	7.030	36.648	43.678	-10.322	54.000	AVG

Fundamental Frequency: 5240 MHz

VERTICAL

No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	5350.000	7.260	48.598	55.858	-18.142	74.000	PEAK
2	5350.000	7.260	38.521	45.781	-8.219	54.000	AVG

HORIZONTAL

No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	5350.000	7.260	50.114	57.374	-16.626	74.000	PEAK
2	5350.000	7.260	34.526	41.786	-12.214	54.000	AVG

**Chain 1**

Fundamental Frequency: 5180 MHz

VERTICAL

No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	5150.000	7.030	51.236	58.266	-15.734	74.000	PEAK
2	5150.000	7.030	36.542	43.572	-10.428	54.000	AVG

HORIZONTAL

No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	5150.000	7.030	49.685	56.715	-17.285	74.000	PEAK
2	5150.000	7.030	35.263	42.293	-11.707	54.000	AVG

Fundamental Frequency: 5240 MHz

VERTICAL

No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	5350.000	7.260	49.632	56.892	-17.108	74.000	PEAK
2	5350.000	7.260	36.563	43.823	-10.177	54.000	AVG

HORIZONTAL

No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	5350.000	7.260	47.558	54.818	-19.182	74.000	PEAK
2	5350.000	7.260	35.202	42.462	-11.538	54.000	AVG



8. Maximum Peak Output Power

8.1. Test Limit

Test Item	Frequency Range (MHz)	Limit	Result
Conducted Output Power	5150–5250	Not exceed the lesser of 50 mW (17dBm) or 4dBm +10log B	Pass

Note:

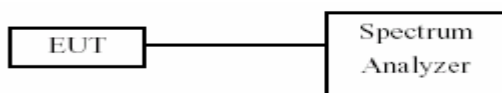
For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10log B, where B is the 26 dB emission bandwidth in MHz.

If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

8.2. Test Procedures

The antenna port (RF output) of the EUT was connected to the input (RF input) of Spectrum. Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

8.3. Test Setup Layout



8.4. Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	100324	2013.03.10	2014.03.09

**8.5. Test Result and Data**

Test Date: Dec. 18,2013

Temperature: 25℃

Atmospheric pressure: 1020 hPa

Humidity: 46%

For Chain 0

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5180	9.82	17.00
Mid	5210	9.68	17.00
High	5240	9.54	17.00

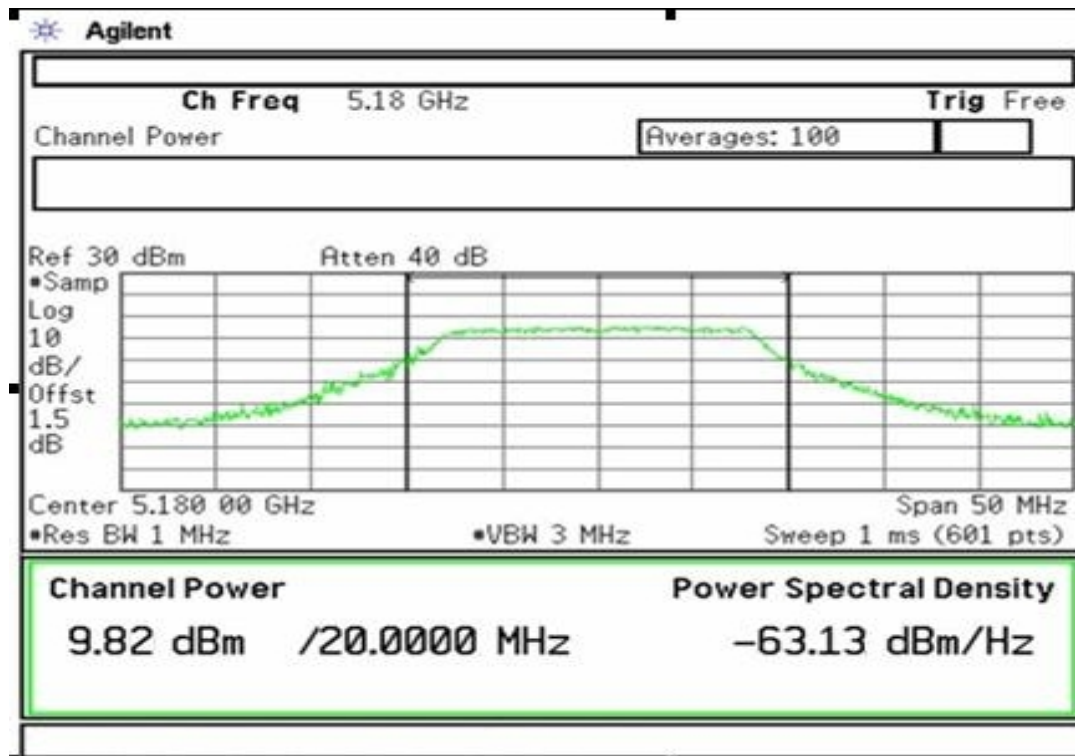
For Chain 1

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5180	9.36	17.00
Mid	5210	9.12	17.00
High	5240	9.54	17.00

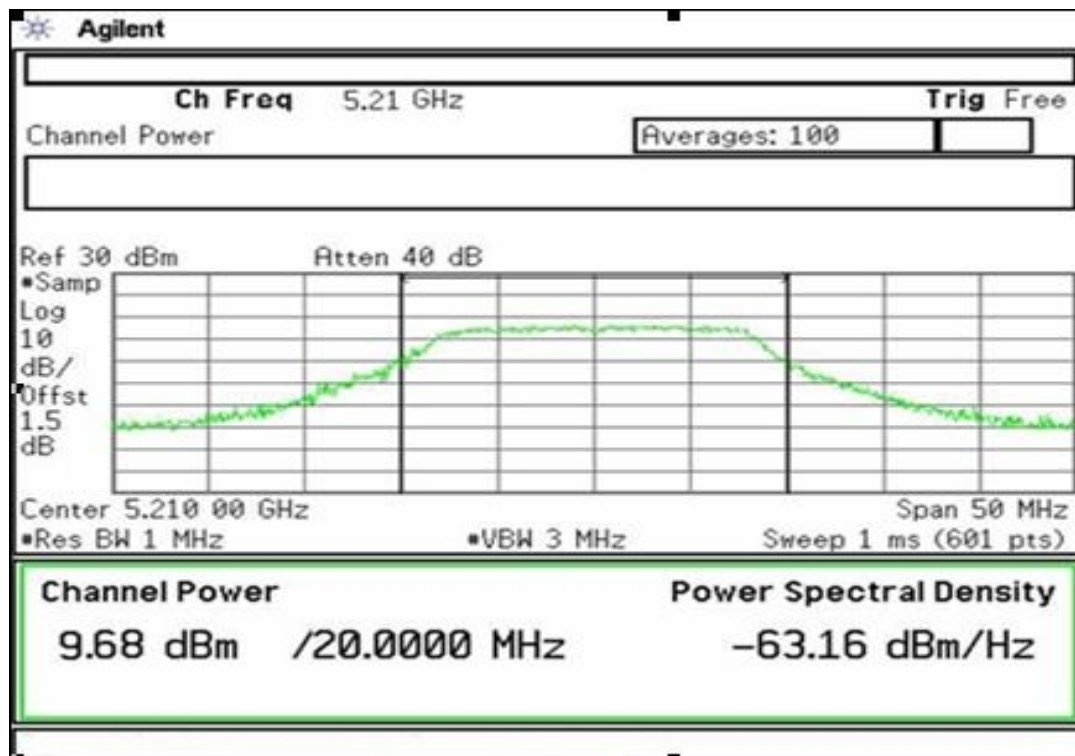
Test Plot

For Chain 0

Low

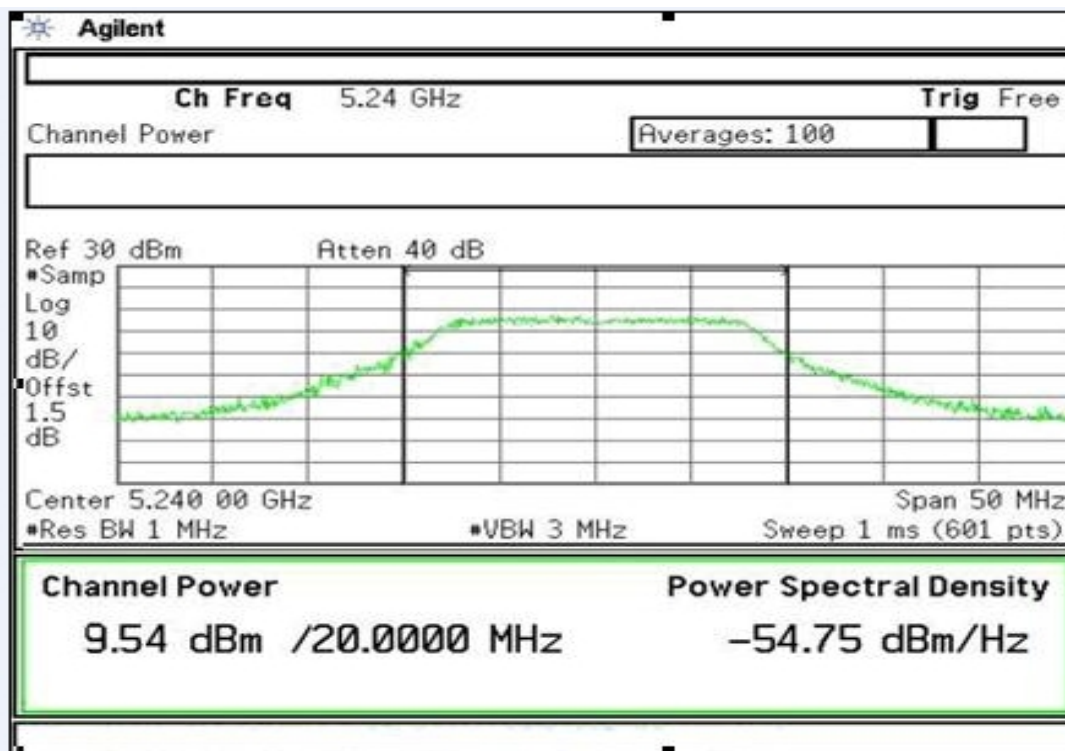


Mid



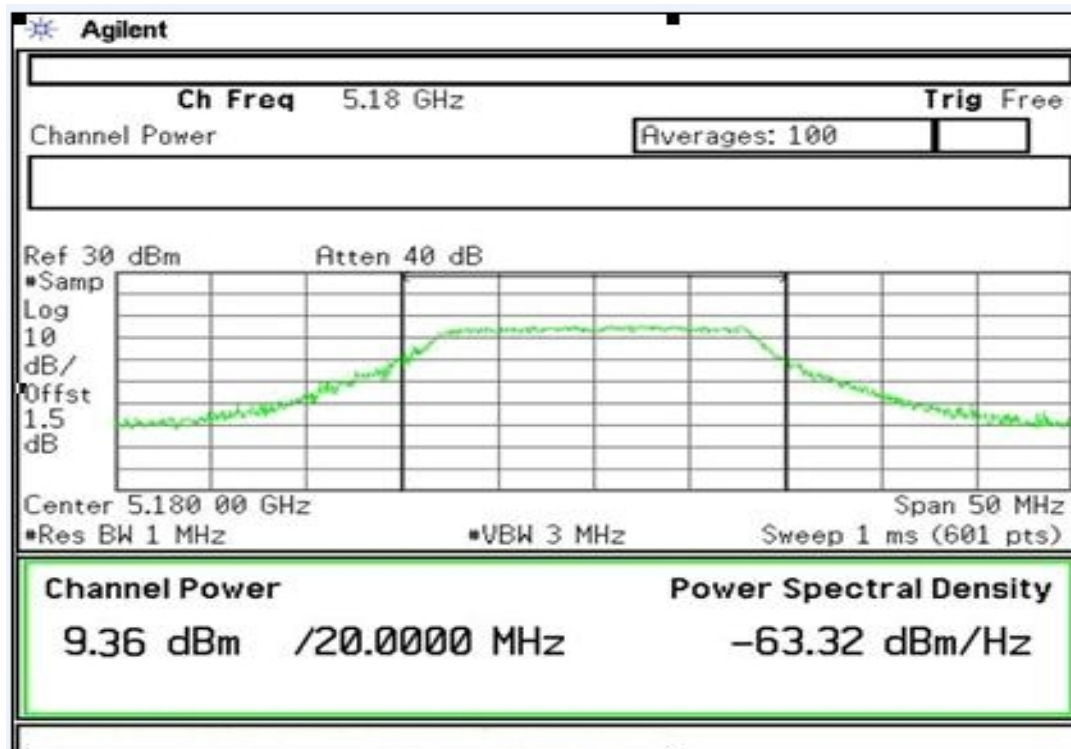


High



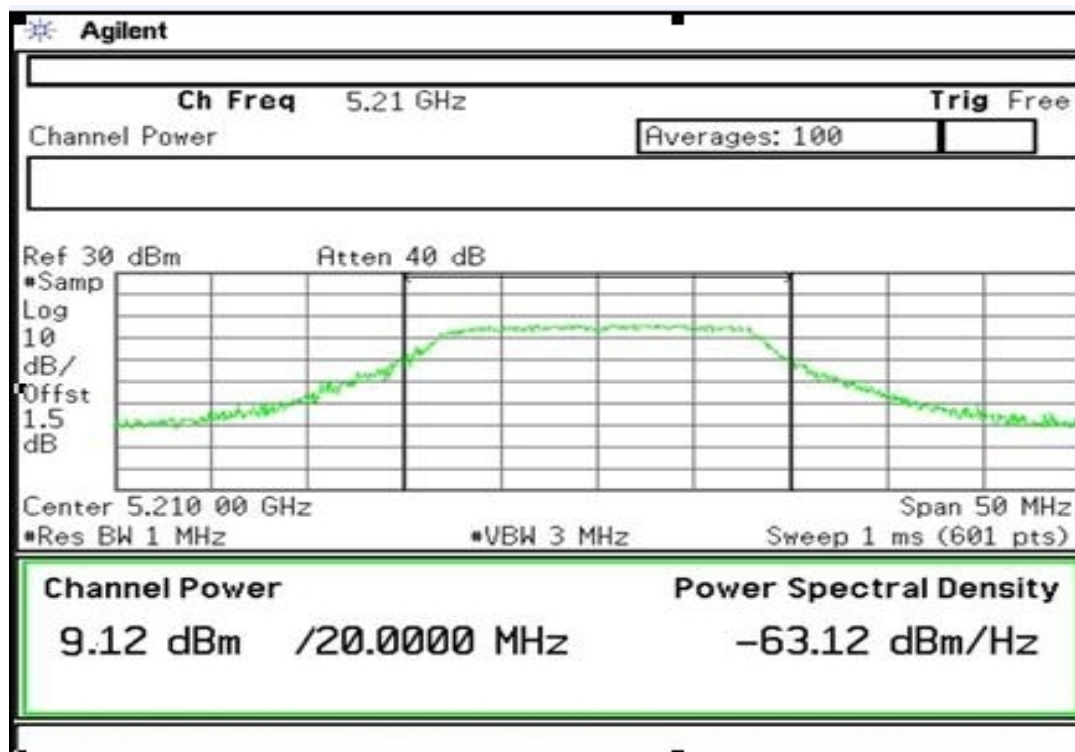
For Chain 1

Low

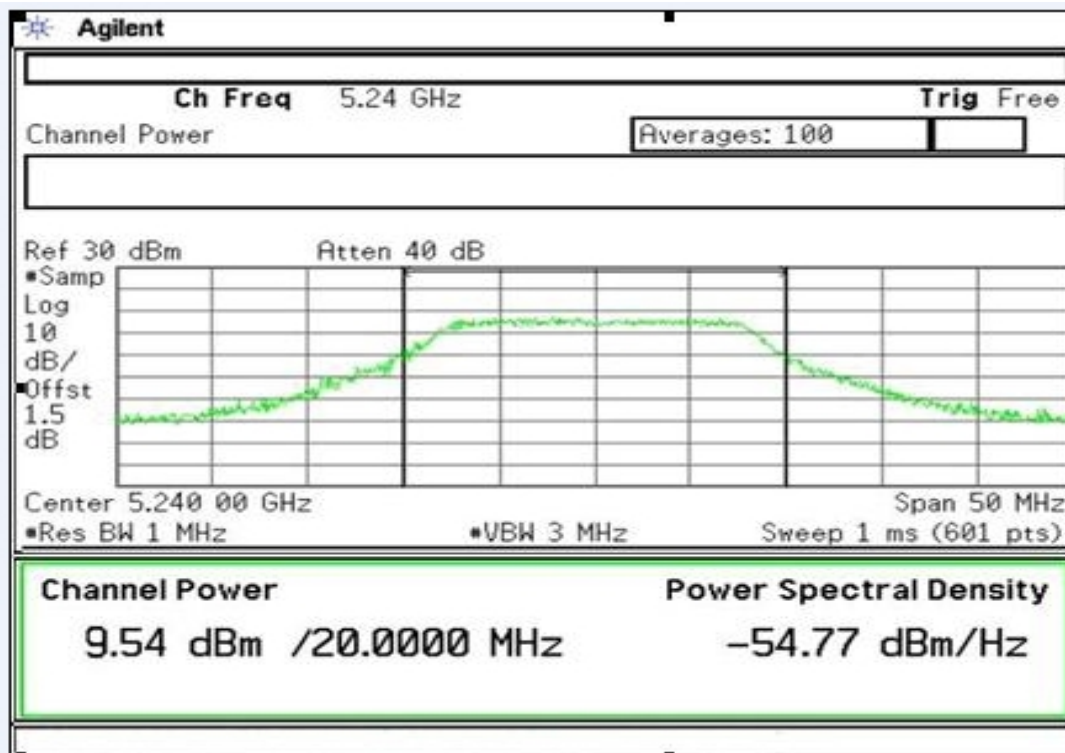




Mid



High





9. Peak Power Spectral Density

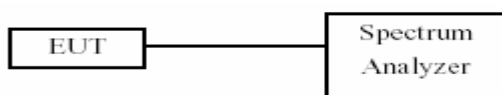
9.1. Test Limit

For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4dBm in any 1MHz band.

9.2. Test Procedures

- 1.The antenna port (RF output) of the EUT was connected to the input (RF input) of Spectrum.
Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.
2. Set the spectrum analyzer as RBW = 1MHz, VBW = 3MHz, Span = Sweep= AUTO
3. Record the max. reading.
4. Repeat the above procedure until the measurements for all frequencies are completed

9.3. Test Setup Layout



9.4. Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	100324	2013.03.10	2014.03.09

**9.5. Test Result and Data**

Test Date: Dec. 18,2013

Temperature: 25°C

Atmospheric pressure: 1020 hPa

Humidity: 46%

For Chain 0

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5180	2.53	4.00	PASS
Mid	5210	2.21	4.00	PASS
High	5240	2.48	4.00	PASS

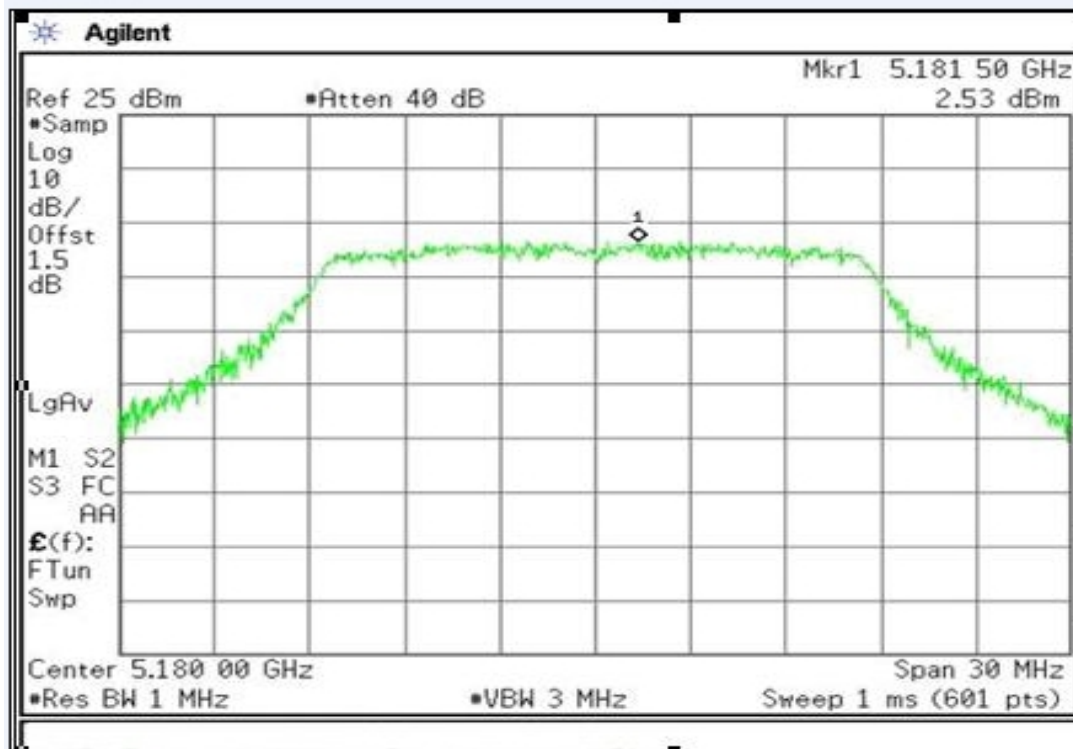
For Chain 1

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5180	2.55	4.00	PASS
Mid	5210	2.52	4.00	PASS
High	5240	2.54	4.00	PASS

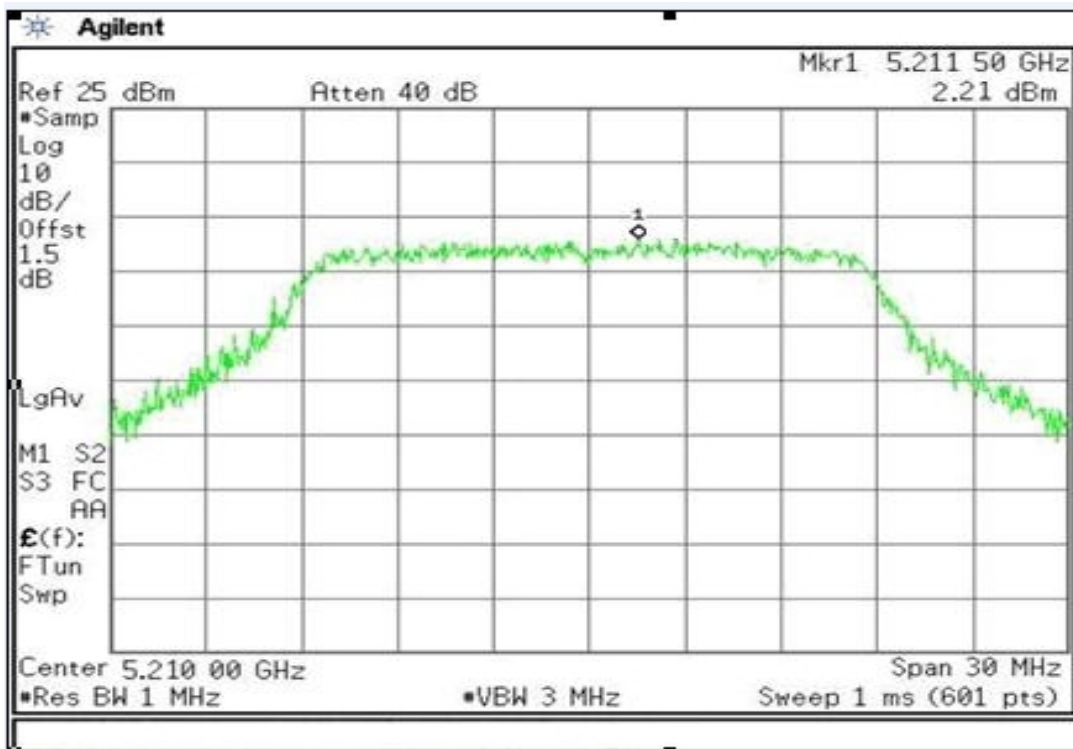
Test Plot

For Chain 0

Low

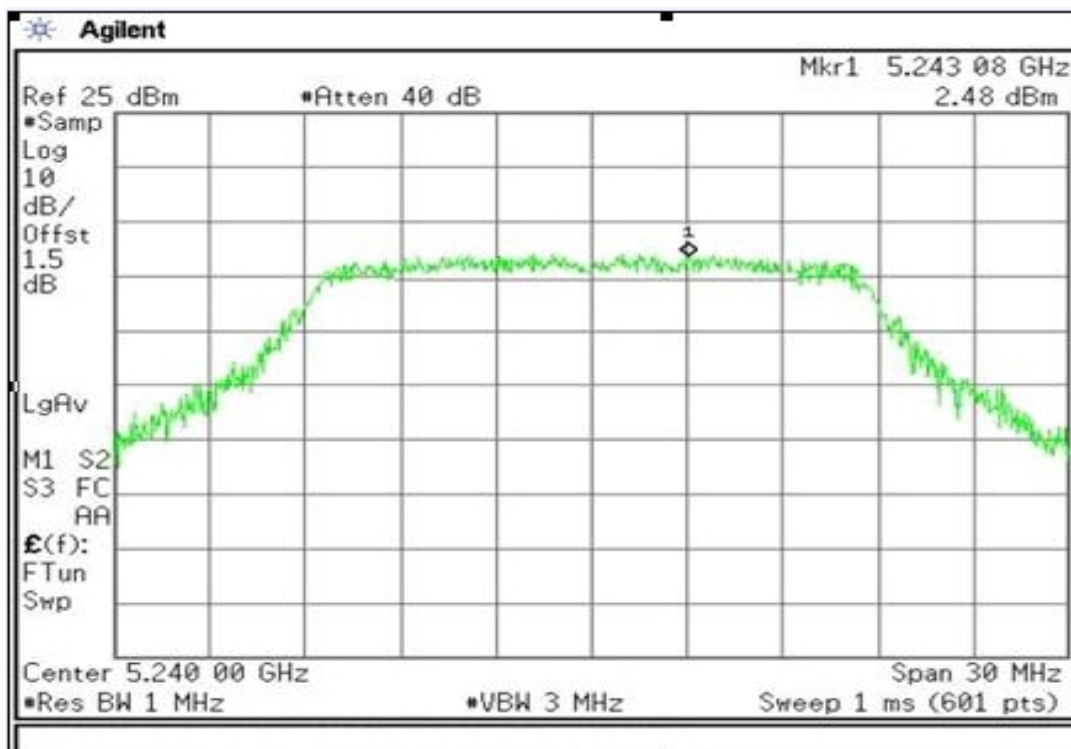


Mid



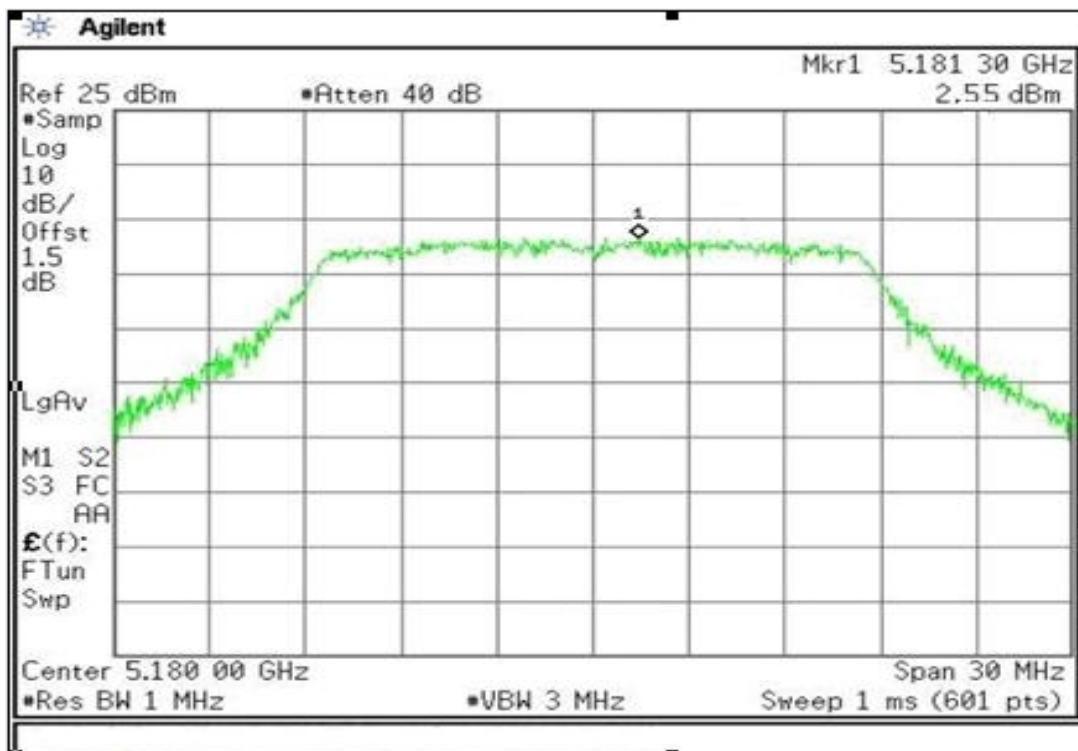


High



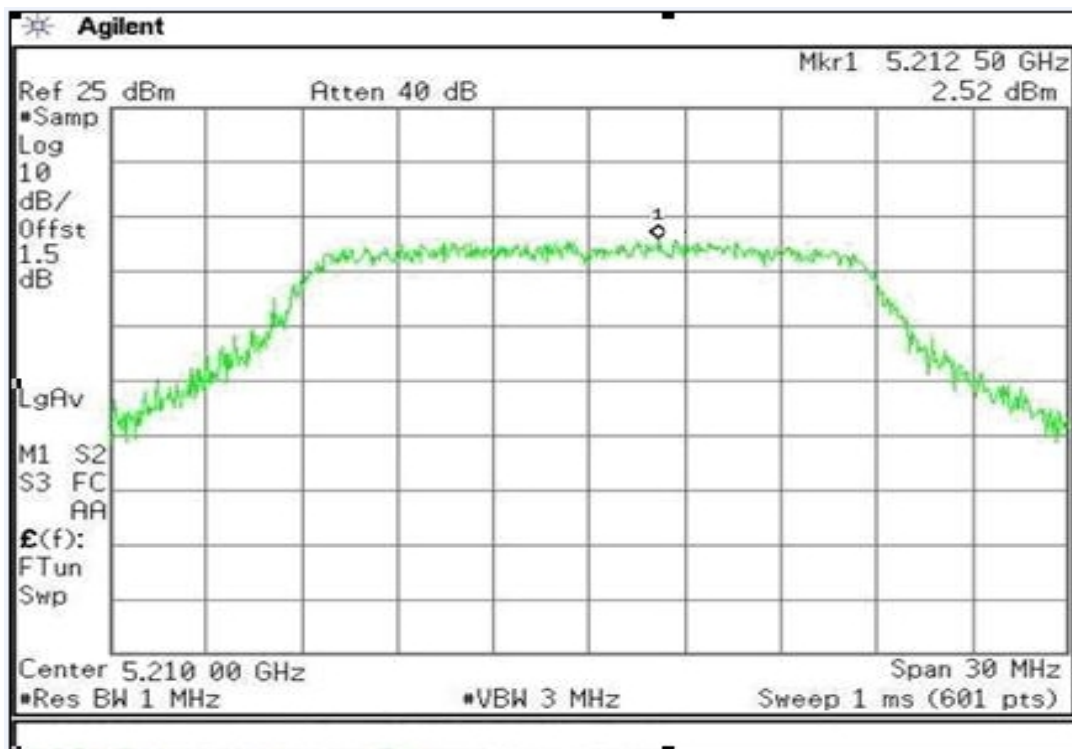
For Chain 1

Low

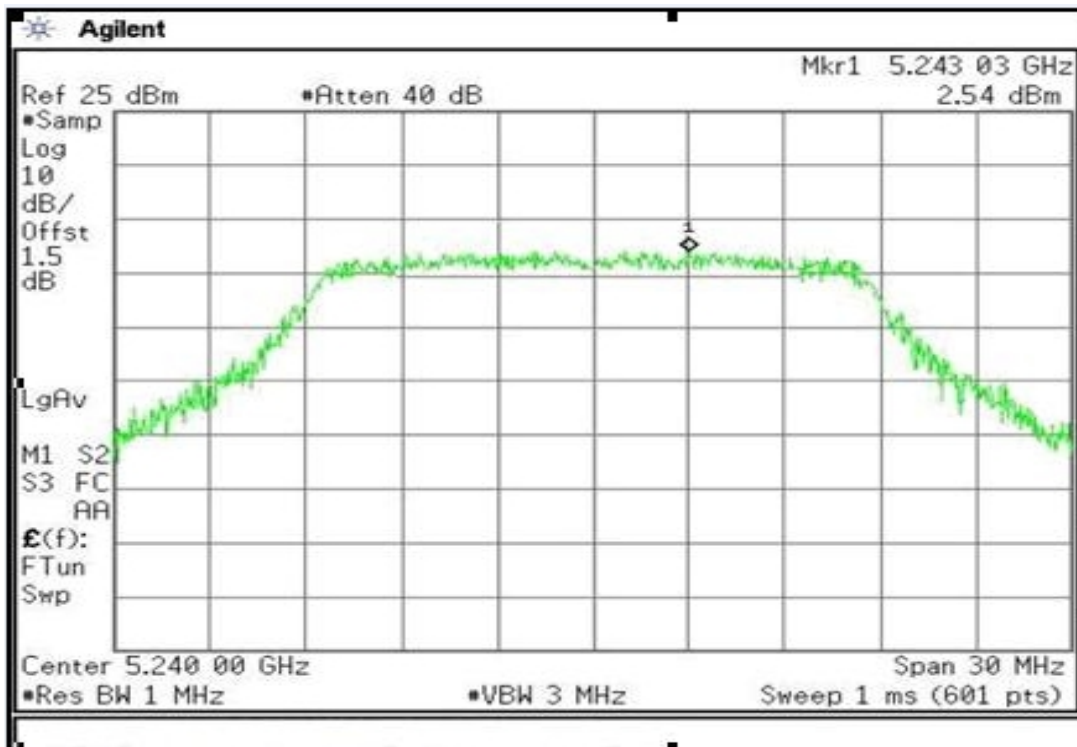




Mid



High





10. Peak Excursion

10.1. Test Limit

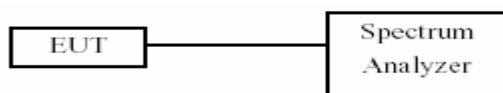
According to §15.407(a)(6), the ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

10.2. Test Procedures

The test is performed in accordance with <FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices> – Part 15, Subpart E, August 2002.

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to spectrum.
3. Trace A, Set RBW =1MHz, VBW = 3MHz, Span >26dB bandwidth, Max. hold.
4. Delta Mark trace A Maximum frequency and trace B same frequency.
5. Repeat the above procedure until measurements for all frequencies were complete.

10.3. Test Setup Layout



10.4. Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	100324	2013.03.10	2014.03.09

**10.5. Test Result and Data**

Test Date: Dec. 18, 2013

Temperature: 25°C

Atmospheric pressure: 1020 hPa

Humidity: 46%

For Chain 0

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dBm)	Margin (dB)	Result
Low	5180	6.99	13.00	-6.01	PASS
Mid	5210	8.55	13.00	-4.45	PASS
High	5240	7.06	13.00	-5.94	PASS

For Chain 1

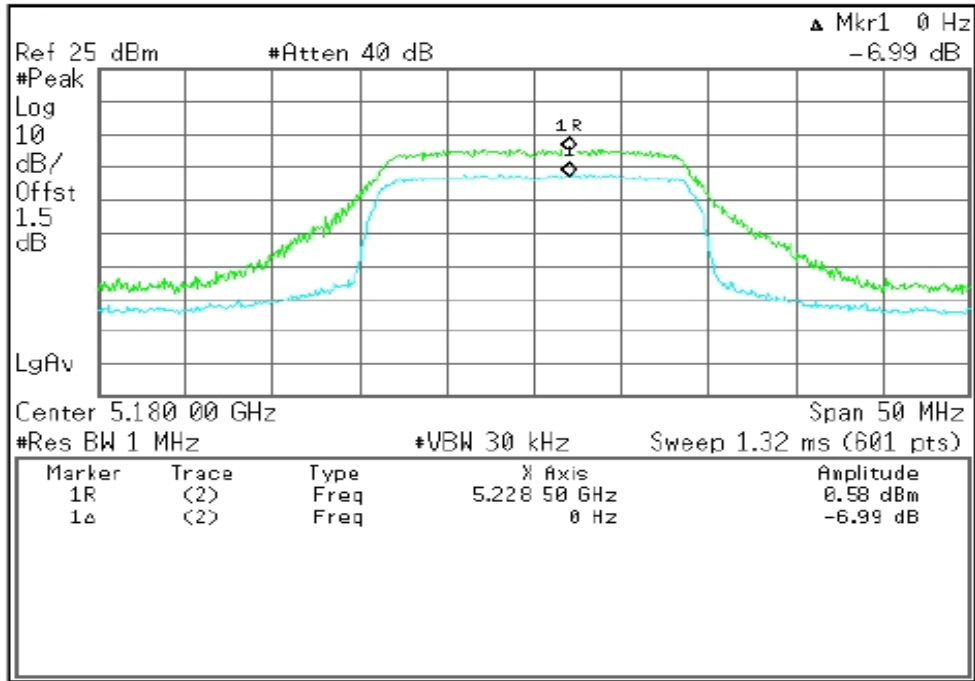
Channel	Frequency (MHz)	Peak Excursion (Db)	Limit (dBm)	Margin (dB)	Result
Low	5180	7.74	13.00	-5.26	PASS
Mid	5210	7.93	13.00	-5.07	PASS
High	5240	8.15	13.00	-7.57	PASS

**Test Plot**

For Chain 0

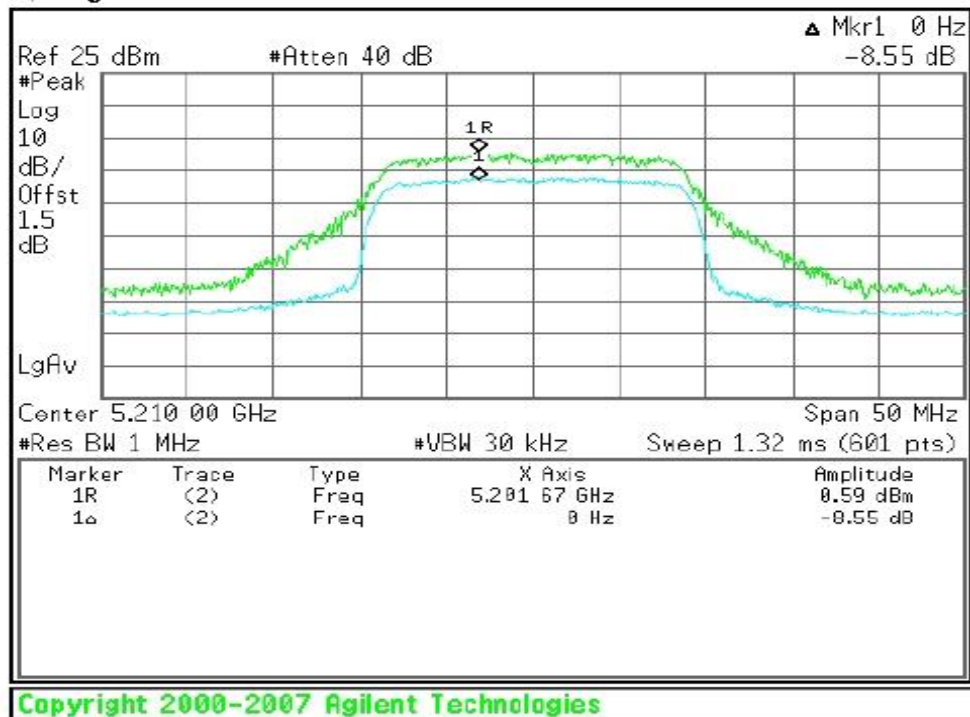
Low

* Agilent



Mid

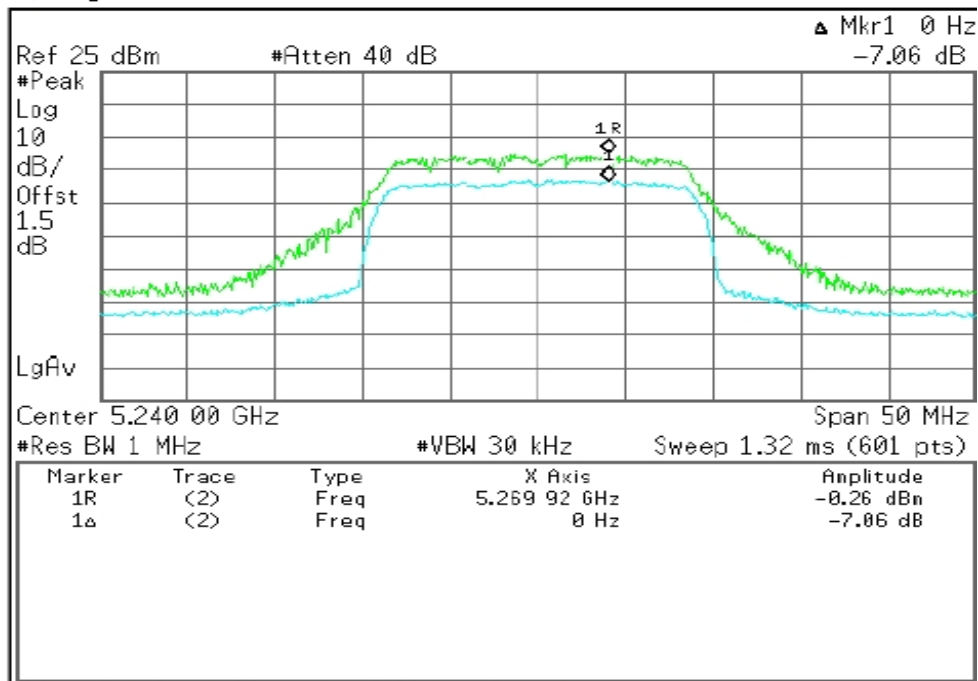
* Agilent





High

Agilent

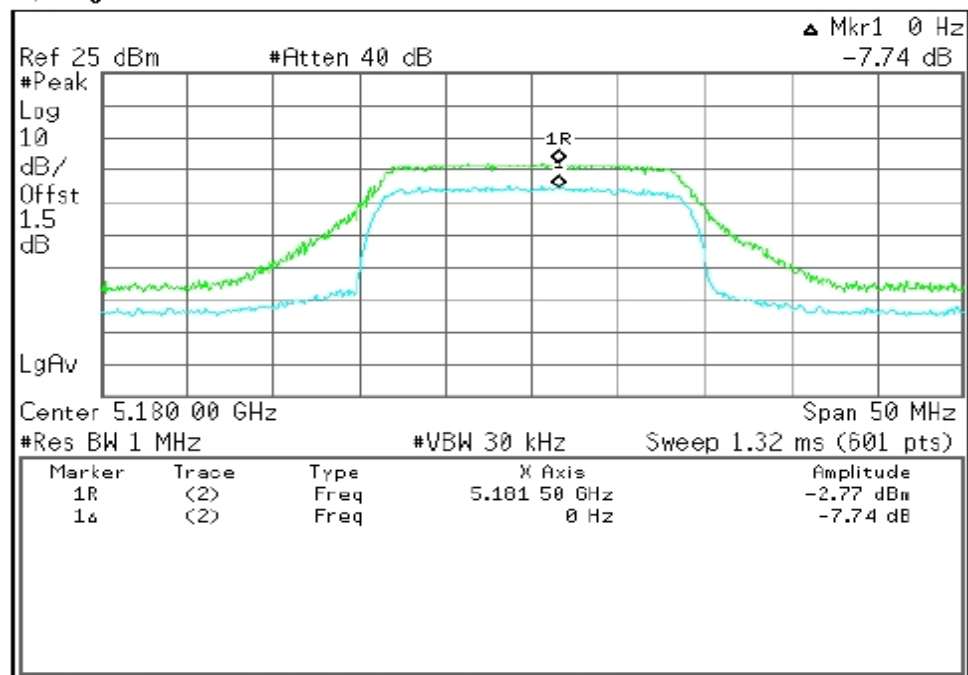


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For Chain 1

Low

Agilent

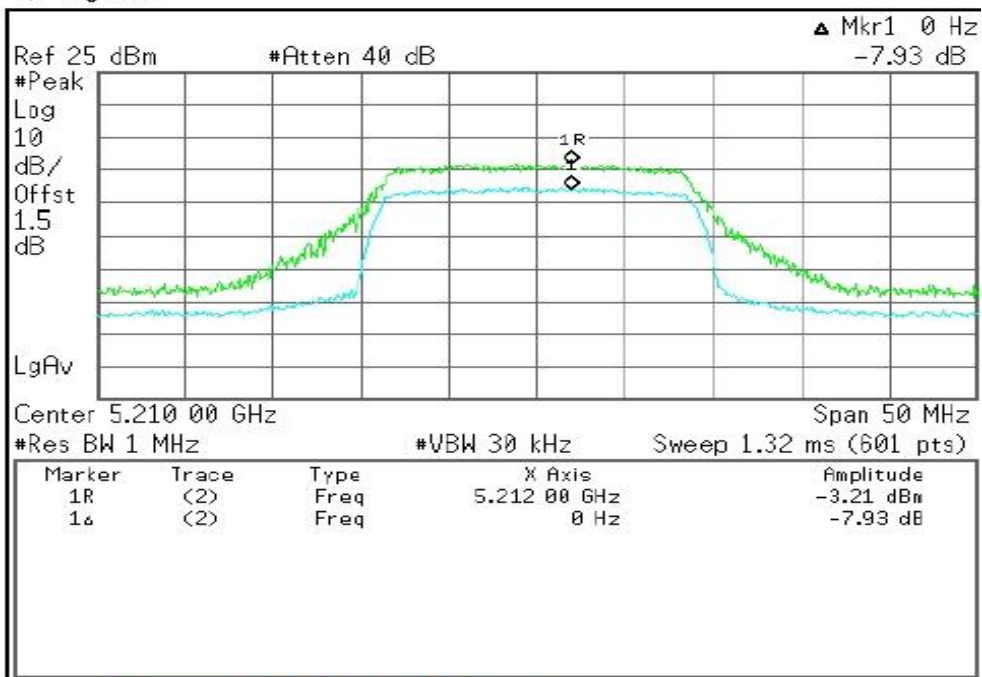


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Mid

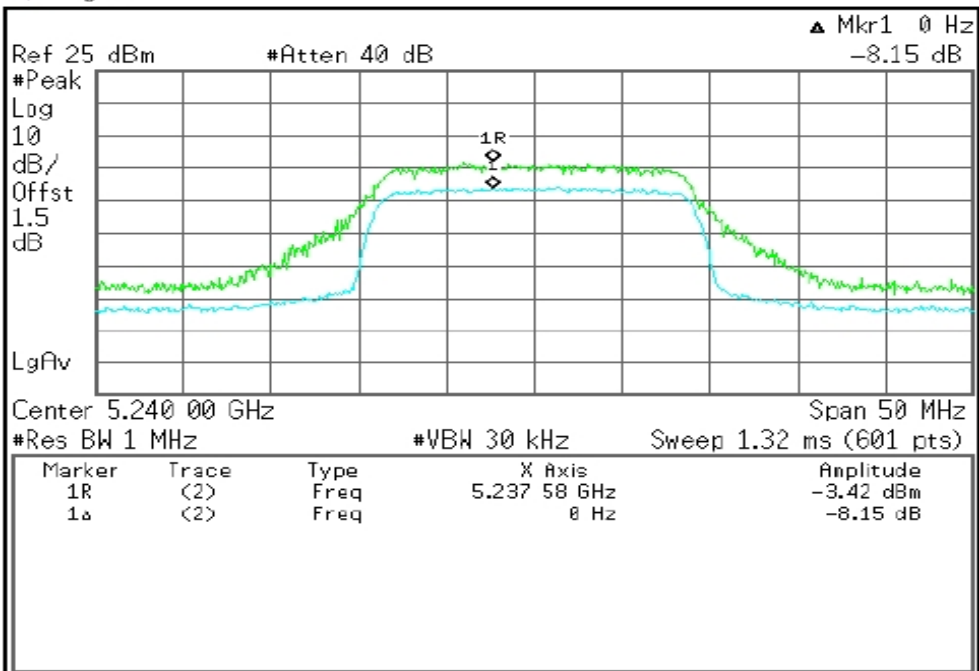
Agilent



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High

Agilent



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11. Frequency Stability Measurement

11.1. Test Limit

§ 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 as specified in the user's manual.

11.2. Test Procedures

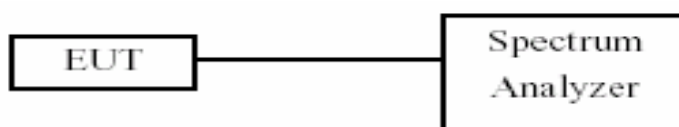
a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RB	10 kHz
VB	10 kHz
Sweep Time	Auto

b. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value

c. Extreme temperature rule is -30°C~50°C.

11.3. Test Setup Layout



11.4. Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	100324	2013.03.10	2014.03.09

**11.5. Test Result and Data**

Test Date: Dec. 18, 2013

Temperature: 25°C

Atmospheric pressure: 1020 hPa

Humidity: 46%

For Chain 0

Environment Temperature (°C)	Voltage (V)	CH Low Measurement Frequency (MHz)	Limit Range (dBm)	Test Result
60	120	5180.0052	5150~5250	PASS
50		5180.0050	5150~5250	PASS
40		5180.0051	5150~5250	PASS
30		5180.0066	5150~5250	PASS
20		5180.0063	5150~5250	PASS
10		5180.0051	5150~5250	PASS
0		5180.0053	5150~5250	PASS
-10		5180.0055	5150~5250	PASS
20	108	5180.0051	5150~5250	PASS
	120	5180.0053	5150~5250	PASS
	132	5180.0058	5150~5250	PASS

Environment Temperature (°C)	Voltage (V)	CH Middle Measurement Frequency (MHz)	Limit Range (dBm)	Test Result
60	120	5210.0052	5150~5250	PASS
50		5210.0053	5150~5250	PASS
40		5210.0050	5150~5250	PASS
30		5210.0066	5150~5250	PASS
20		5210.0052	5150~5250	PASS
10		5210.0053	5150~5250	PASS
0		5210.0057	5150~5250	PASS
-10		5210.0055	5150~5250	PASS
20	108	5210.0066	5150~5250	PASS
	120	5210.0058	5150~5250	PASS
	132	5210.0054	5150~5250	PASS



Environment Temperature (℃)	Voltage (V)	CH High Measurement Frequency (MHz)	Limit Range (dBm)	Test Result
60	120	5240.0062	5150~5250	PASS
50		5240.0054	5150~5250	PASS
40		5240.0060	5150~5250	PASS
30		5240.0058	5150~5250	PASS
20		5240.0057	5150~5250	PASS
10		5240.0032	5150~5250	PASS
0		5240.0055	5150~5250	PASS
-10		5240.0051	5150~5250	PASS
20	108	5240.0054	5150~5250	PASS
	120	5240.0058	5150~5250	PASS
	132	5540.0059	5150~5250	PASS

For Chain 1

Environment Temperature (°C)	Voltage (V)	CH Low Measurement Frequency (MHz)	Limit Range (dBm)	Test Result
60	120	5180.0060	5150~5250	PASS
50		5180.0061	5150~5250	PASS
40		5180.0068	5150~5250	PASS
30		5180.0064	5150~5250	PASS
20		5180.0061	5150~5250	PASS
10		5180.0045	5150~5250	PASS
0		5180.0048	5150~5250	PASS
-10		5180.0047	5150~5250	PASS
20	108	5180.0051	5150~5250	PASS
	120	5180.0055	5150~5250	PASS
	132	5180.0059	5150~5250	PASS



Environment Temperature (℃)	Voltage (V)	CH Middle Measurement Frequency (MHz)	Limit Range (dBm)	Test Result
60	120	5210.0060	5150~5250	PASS
50		5210.0063	5150~5250	PASS
40		5210.0064	5150~5250	PASS
30		5210.0079	5150~5250	PASS
20		5210.0063	5150~5250	PASS
10		5210.0064	5150~5250	PASS
0		5210.0062	5150~5250	PASS
-10		5210.0059	5150~5250	PASS
20	108	5210.0068	5150~5250	PASS
	120	5210.0064	5150~5250	PASS
	132	5210.0058	5150~5250	PASS

Environment Temperature (°C)	Voltage (V)	CH High Measurement Frequency (MHz)	Limit Range (dBm)	Test Result
60	120	5240.0059	5150~5250	PASS
50		5240.0055	5150~5250	PASS
40		5240.0054	5150~5250	PASS
30		5240.0053	5150~5250	PASS
20		5240.0059	5150~5250	PASS
10		5240.0060	5150~5250	PASS
0		5240.0049	5150~5250	PASS
-10		5240.0078	5150~5250	PASS
20	108	5240.0054	5150~5250	PASS
	120	5240.0053	5150~5250	PASS
	132	5540.0057	5150~5250	PASS



12. Restricted Bands of Operation

(a) Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.250
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

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

(b) Except as provided in paragraphs (d) and (e), the field 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 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, 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.