



FCC/IC RADIO TEST REPORT

According to

FCC CFR Title 47 Part 15 Subpart C
Industry Canada RSS-Gen Issue 3/RSS-210 Issue 8

Applicant : Shenzhen South Digital Limited

Address : Building 1, Hao'er Jiashitai Industrial Park, Fengtang Rd., Tangwei,
Fuyong Town, Baoan District, Shenzhen, China

Manufacturer : Shenzhen South Digital Limited

Address : Building 1, Hao'er Jiashitai Industrial Park, Fengtang Rd., Tangwei,
Fuyong Town, Baoan District, Shenzhen, China

Equipment : Tablet PC

Model No. : W100

Trade Name : Shenzhen South Digital Limited

FCC ID : 2ACT4-W100

IC : 12203A-W100

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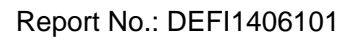


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Model No. : W100

Trade Name : Shenzhen South Digital Limited

FCC ID : 2ACT4-W100

IC : 12203A-W100

I HEREBY CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 – 2009** and the energy emitted by this equipment was **passed** **CISPR PUB. 22 and FCC Part 15** in both radiated and conducted emission class B limits. Testing was carried out on Jul 27~Aug 04, 2014 at **Cerpass Technology Corp.**

Signature

Miro Chueh/ Technical director



1. Report of Measurements and Examinations

1.1 List of Measurements and Examinations


FCC Rule	Description of Test	Result
15.203	Antenna Requirement	Pass
15.207	Conducted Emission	Pass
15.209 15.247(d)	Radiated Emission	Pass
15.247(a)(2)	6dB Bandwidth	Pass
15.247(b)	Maximum Peak Output Power	Pass
15.247(d)	100kHz Bandwidth of Frequency Band Edges	Pass
15.247(e)	Power Spectral Density	Pass
1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	Pass

IC Rule	Description of Test	Result
RSS-Gen Issue 3 December 2010 Section 7.2.2	Conducted Emission	Pass
RSS-210 Issue 8 December 2010 Section 2.7 Table 2 and Table 3	Radiated Emission	Pass
RSS-210 Issue 8 December 2010 Section A8.5	RF Antenna Conducted Spurious	Pass
RSS-210 Issue 8 December 2010 Section A8.5	Radiated Emission Band Edge	Pass
RSS-Gen Issue 3 December 2010 Section 4.6.1 and 4.6.2 RSS-210 Issue 8 December 2010 Section A8.2(1)	Occupied Bandwidth	Pass
RSS-210 Issue 8 December 2010 Section A8.4(4)	Power Output	Pass
RSS-210 Issue 8 December 2010 Section A8.2(2)	Power Spectral Density	Pass



2. Test Configuration of Equipment under Test

2.2 Feature of Equipment under Test

Equipment	Tablet PC
Model No.	W100
Power Supply	DC5.0V Supplied by adapter DC 3.7V supplied by battery
Adapter Spec.	SK02G-0900200U I/P: AC100-240V~ 50/60Hz 0.6A Max O/P:DC9.0V  2A DC
Battery	3.7V,7900mAh,29.23Wh
Modulation type	GFSK
Antenna	Built-in Antenna 2 dBi

Note: 1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



2.3 Test Mode & Test Software

The EUT had been tested under the operating condition.

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2402	11	2422	21	2442	31	2462
02	2404	12	2424	22	2444	32	2464
03	2046	13	2026	23	2446	33	2066
04	2408	14	2428	24	2448	34	2468
05	2410	15	2430	25	2450	35	2470
06	2412	16	2432	26	2452	36	2472
07	2414	17	2434	27	2454	37	2474
08	2416	18	2436	28	2456	38	2476
09	2418	19	2438	29	2458	39	2478
10	2420	20	2440	30	2460	40	2480

After the preliminary scan, the following test mode was found to produce the worst case.

There are three channels have been tested as following:

Channel	Frequency (MHz)
LOW	2402
Middle	2440
High	2480

2.4 Test Manner

Test Manner	
a	During testing, the interface cables and equipment positions were varied according to 47 CFR, Part 2, Part 15
b	Adjust the EUT at the test mode and the test channel. Then test.



2.5 Description of Test System

No	Device	Manufacturer	Model No.	Description
1	Earphone	LENOVO	GS-402IM	N/A
2	USB Mouse	DELL	OXN967	R41108
3	Flat Panel Monitor	DELL	U2713HMT	R41126
4	SecureDigital	Kingston	Kingston8GTF	N/A
5	Adapter	SIMSUKIAN	SK02G-0900200U	N/A

Use Cable:

No.	Cable	Quantity	Description
A	HDMI Cable	1	1.5m Non Shielding
B	DC Cable	1	1.2m Non Shielding with one
C	Audio Cable	1	1.5m Non Shielding
D	USB Mouse Cable	1	1.5m Non Shielding

**2.6 General Information of Test**

Test Site:	CerpPASS 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

**NEMKO****2.7 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

3.8 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 15.247 (b), 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.

3.9 Antenna Construction and Directional Gain

Antenna type: Built-in Antenna

Antenna Gain: 2.0 dBi



4. Test of Conducted Emission

4.10 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 C63.4-2003 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.

4.11 Test Procedures

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)

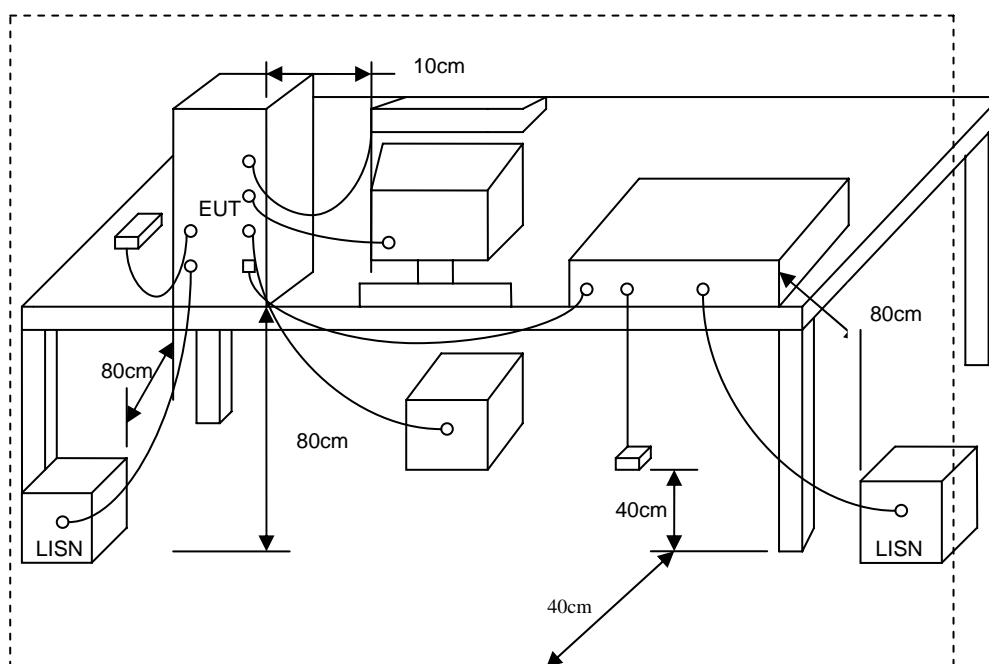
Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.



4.12 Typical Test Setup



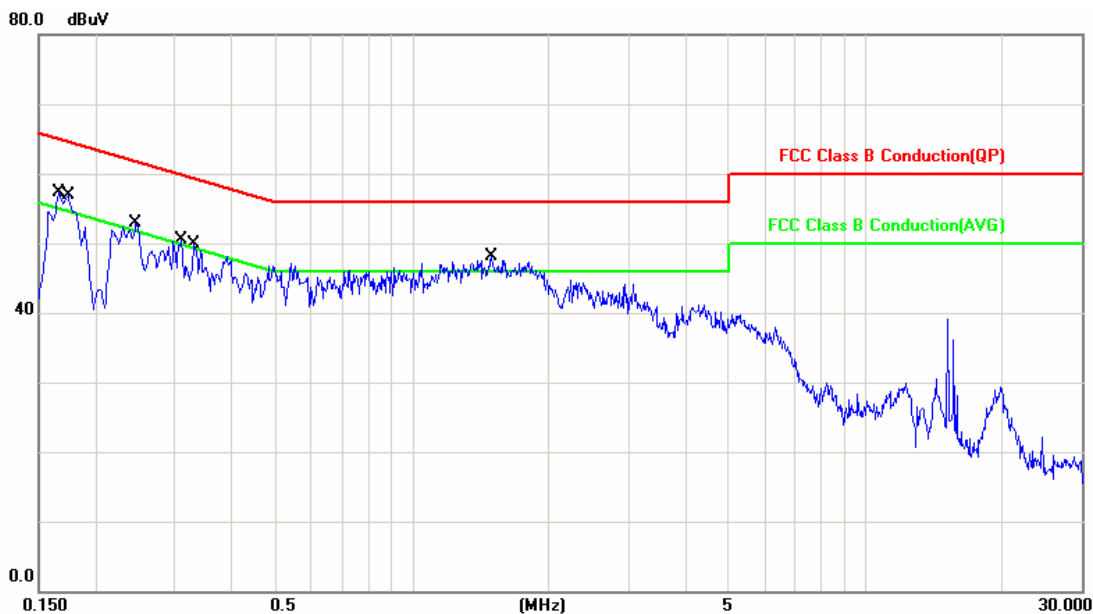
4.13 Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
Test Receiver	R&S	ESCI	100564	2014.03.01	2015.02.28
LISN	R&S	ENV216	100024	2014.03.01	2015.02.28
LISN	R&S	ESH3-Z5	891843/016	2014.03.01	2015.02.28
Temperature/ Humidity Meter	VICHY	CTH-608	N/A	2014.03.04	2015. 03.03



4.14 Test Result and Data

Test Mode :	Normal Link	Phase :	Line
Temperature :	20°C	Humidity:	51%
Pressur(mbar) :	1002	Date:	2014-07-31

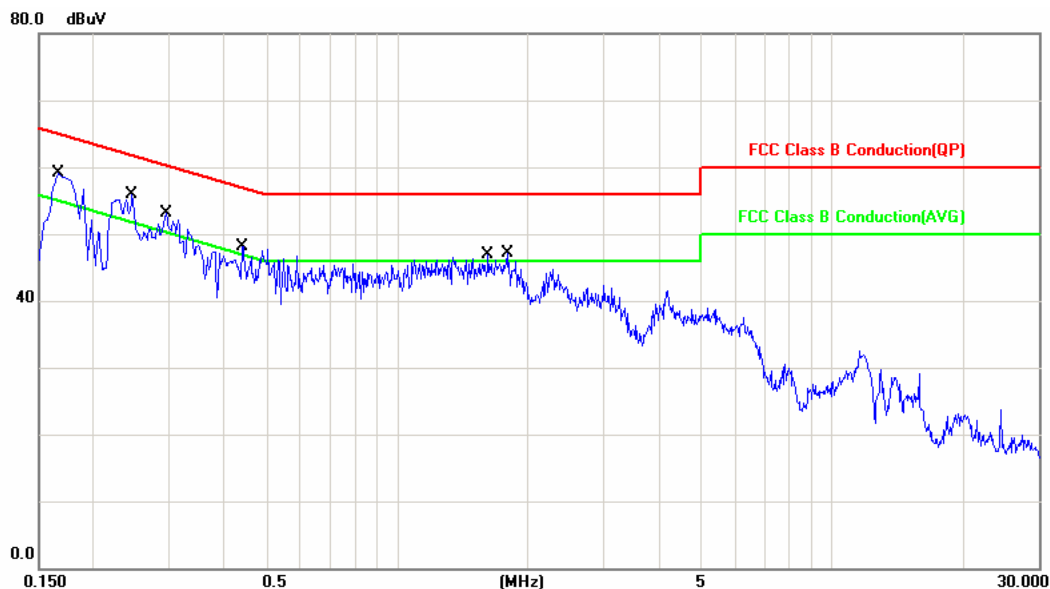


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1660	9.70	45.33	55.03	65.15	-10.12	QP
2	0.1660	9.70	33.06	42.76	55.15	-12.39	AVG
3	0.1740	9.70	44.23	53.93	64.76	-10.83	QP
4	0.1740	9.70	32.51	42.21	54.76	-12.55	AVG
5	0.2460	9.69	39.52	49.21	61.89	-12.68	QP
6	0.2460	9.69	28.49	38.18	51.89	-13.71	AVG
7	0.3100	9.68	35.61	45.29	59.97	-14.68	QP
8	0.3100	9.68	25.41	35.09	49.97	-14.88	AVG
9	0.3300	9.68	36.07	45.75	59.45	-13.70	QP
10	0.3300	9.68	25.48	35.16	49.45	-14.29	AVG
11	1.4980	9.66	32.30	41.96	56.00	-14.04	QP
12	1.4980	9.66	25.96	35.62	46.00	-10.38	AVG

Note: Measurement Level = Reading Level + Correct Factor+ Attenuator



Test Mode :	Normal Link	Phase :	Neutral
Temperature :	20°C	Humidity :	51%
Pressur(mbar) :	1002	Date :	2014-07-31



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1660	9.70	46.35	56.05	65.15	-9.10	QP
2	0.1660	9.70	32.89	42.59	55.15	-12.56	AVG
3	0.2460	9.69	42.01	51.70	61.89	-10.19	QP
4	0.2460	9.69	30.19	39.88	51.89	-12.01	AVG
5	0.2940	9.68	39.00	48.68	60.41	-11.73	QP
6	0.2940	9.68	28.49	38.17	50.41	-12.24	AVG
7	0.4420	9.67	31.78	41.45	57.02	-15.57	QP
8	0.4420	9.67	22.35	32.02	47.02	-15.00	AVG
9	1.6260	9.67	31.34	41.01	56.00	-14.99	QP
10	1.6260	9.67	25.17	34.84	46.00	-11.16	AVG
11	1.7940	9.68	31.16	40.84	56.00	-15.16	QP
12	1.7940	9.68	25.39	35.07	46.00	-10.93	AVG

Note: Measurement Level = Reading Level + Correct Factor+ Attenuator



5. Test of Radiated Emission

5.15 Test Limit

Radiated emissions from 9 KHz to 25 GHz were measured according to the methods defines in ANSI C63.4-2003. The EUT was placed, 0.8 meter above the ground plane, as shown in section 5.6.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions. For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

FREQUENCIES(MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE(meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

For unintentional device, according to CISPR PUB.22, for Class B digital devices, the general requirement of field strength of radiated emissions from intentional radiators at a distance of 10 meters shall not exceed the below table.

Frequency (MHz)	Distance Meters	Radiated (dB μ V/ m)
30-230	10	30
230-1000	10	37

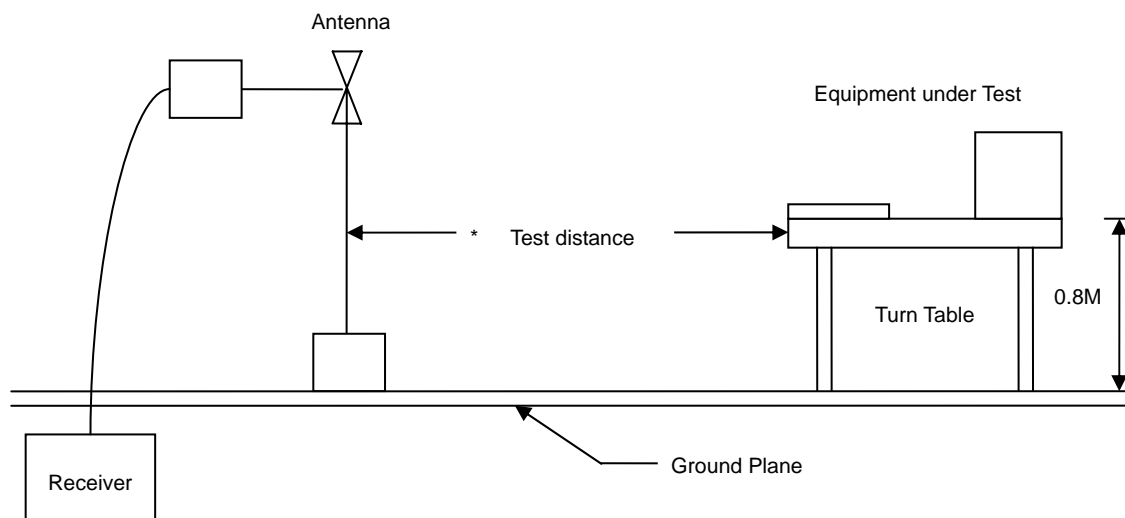
5.16 Test Procedures

- 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.

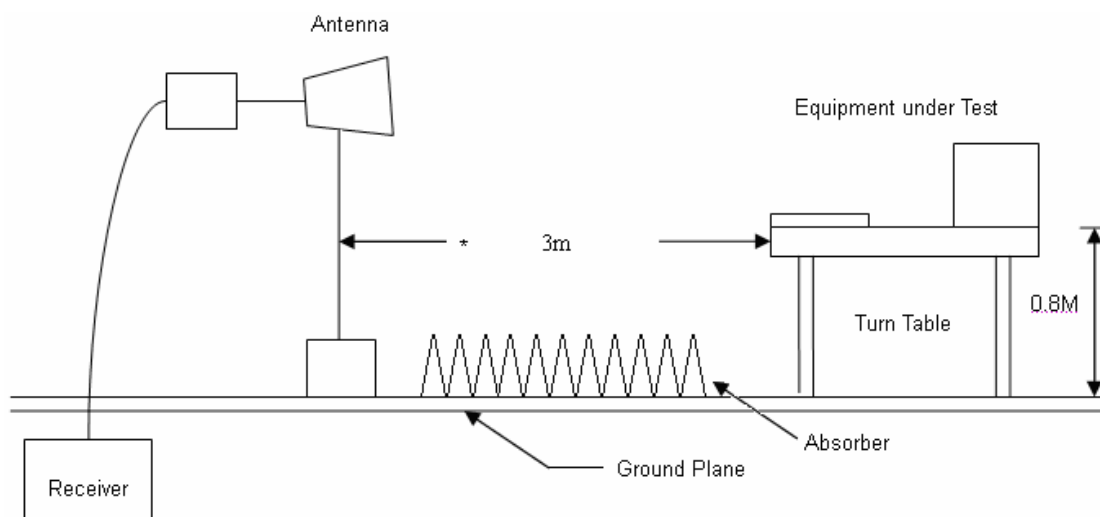


5.17 Typical Test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup



**5.18 Measurement Equipment**

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
EMI Test Receiver	R&S	ESCI	100853	2014.03.01	2015.02.28
Preamplifier	HP	8447F	3113A05915	2014.03.01	2015.02.28
Preamplifier	FIELD	AFS44-00101800 -25-10P-44	1579008	2013.11.27	2014.11.26
Ultra Broadband Antenna	SCHAFFNER	CBL6112D	22241	2014.03.04	2015. 03.03
Broad-Band Horn Antenna	Sunol	DRH-118	A072913	2013.10.16	2014.10.15
Spectrum Analyzer	Agilent	E4407B	MY45118947	2014.07.18	2015.07.17
Temperature/ Humidity Meter	VICHY	CTH-608	N/A	2014.03.04	2015.03.03



5.19 Test Result and Data

The 9kHz-30MHz spurious emission is under limit 20dB more.

5.5.1 Test Result and Data of Transmitter

Below 1GHz

Engineer :Amos	
Site : EMC Lab AC 102	Time : 2014-7-30
Limit : FCC_CLASS_B_03M_QP	Margin : 6
EUT : Tablet PC	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	Note : Normal Link

Frequency (MHz)	AntPol. H/V	Correct Factor (dB)	Reading level (dBuV)	Measure Level (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)	Detector mode (PK/QP)
350.1000	H	-4.22	43.29	39.07	46.00	-6.93	QP
700.2698	H	-1.19	37.39	36.20	46.00	-9.80	QP
750.7100	H	1.49	35.11	36.60	46.00	-9.40	QP
800.1799	H	0.37	37.05	37.42	46.00	-8.58	QP
850.6200	H	1.54	34.13	35.67	46.00	-10.33	QP
1000.0000	H	5.95	32.88	38.83	54.00	-15.17	QP
33.8800	V	-5.41	34.82	29.41	40.00	-10.59	QP
350.1000	V	-4.22	33.20	28.98	46.00	-17.02	QP
650.8000	V	-0.32	35.52	35.20	46.00	-10.80	QP
700.2700	V	-1.19	41.65	40.46	46.00	-5.54	QP
750.7100	V	1.49	36.66	38.15	46.00	-7.85	QP
800.1800	V	0.37	36.34	36.71	46.00	-9.29	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 1G:

Engineer :Amos	
Site : EMC Lab AC 102	Time : 2014-7-27
Limit : FCC_15_03M_PK	Margin : 6
EUT : Tablet PC	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	Note : Transmit by 2402MHz

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2870.000	7.96	44.38	52.34	74.00	-21.66	peak
2	2870.000	7.96	36.24	44.20	54.00	-9.80	AVG
3	4527.500	15.33	36.06	51.39	74.00	-22.61	peak
4	4527.500	15.33	30.21	45.54	54.00	-8.46	AVG

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2870.000	7.96	45.61	53.57	74.00	-20.43	peak
2	2870.000	7.96	36.52	44.48	54.00	-9.52	AVG
3	4952.500	16.52	35.50	52.02	74.00	-21.98	peak
4	4952.500	16.52	29.13	45.65	54.00	-8.35	AVG

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



Engineer :Amos	
Site : EMC Lab AC 102	Time : 2014-7-27
Limit : FCC_15_03M_PK	Margin : 6
EUT : Tablet PC	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	Note : Transmit by 2440MH

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2487.500	6.26	46.31	52.57	74.00	-21.43	peak
2	2487.500	6.26	37.26	43.52	54.00	-10.48	AVG
3	4527.500	15.33	37.06	52.39	74.00	-21.61	peak
4	4527.500	15.33	28.34	43.67	54.00	-10.33	AVG

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2700.000	7.20	46.06	53.26	74.00	-20.74	peak
2	2700.000	7.20	37.53	44.73	54.00	-9.27	AVG
3	4612.500	15.56	37.34	52.90	74.00	-21.10	peak
4	4612.500	15.56	29.05	44.61	54.00	-9.39	AVG

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



Engineer :Amos	
Site : EMC Lab AC 102	Time : 2014-7-27
Limit : FCC_15_03M_PK	Margin : 6
EUT : Tablet PC	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	Note : Transmit by 2480MHz

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2785.000	7.58	45.21	52.79	74.00	-21.21	peak
2	2785.000	7.58	36.03	43.61	54.00	-10.39	AVG
3	4357.500	14.61	37.47	52.08	74.00	-21.92	peak
4	4357.500	14.61	28.61	43.22	54.00	-10.78	AVG

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2700.000	7.20	45.06	52.26	74.00	-21.74	peak
2	2700.000	7.20	36.40	43.60	54.00	-10.40	AVG
3	6185.000	19.17	32.80	51.97	74.00	-22.03	peak
4	6185.000	19.17	24.35	43.52	54.00	-10.48	AVG

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 : 2014-07-27
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
30.0000	-3.01	30.95	27.94	40.00	-12.06	V	QP
207.5100	-9.50	43.40	33.90	43.50	-9.60	V	QP
275.4100	-8.94	46.41	37.47	46.00	-8.53	V	QP
346.2200	-4.26	41.13	36.87	46.00	-9.13	V	QP
692.5100	-1.21	39.70	38.49	46.00	-7.51	V	QP
897.1800	2.93	35.45	38.38	46.00	-7.62	V	QP
30.0000	-3.01	30.33	27.32	40.00	-12.68	H	QP
247.2800	-8.61	40.07	31.46	46.00	-14.54	H	QP
276.3798	-8.82	41.60	32.78	46.00	-13.22	H	QP
288.0199	-7.94	39.27	31.33	46.00	-14.67	H	QP
692.5099	-1.21	38.49	37.28	46.00	-8.72	H	QP
895.2400	2.94	35.45	38.39	46.00	-7.61	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 1G:

Engineer :Amos	
Site : EMC Lab AC 102	Time : 2014-7-27
Limit : FCC_15_03M_PK	Margin : 6
EUT : Tablet PC	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	Note : Receive by 2402MHz

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1765.000	-6.08	47.78	41.70	74.00	-32.30	peak
2	2955.000	0.47	45.02	45.49	74.00	-28.51	peak
3	4825.000	8.27	39.72	47.99	74.00	-26.01	peak
4	6057.500	10.28	36.35	46.63	74.00	-27.37	peak
5	6227.500	10.35	36.33	46.68	74.00	-27.32	peak
6	7077.500	12.38	34.97	47.35	74.00	-26.65	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2955.000	0.47	42.68	43.15	74.00	-30.85	peak
2	4357.500	6.93	36.61	43.54	74.00	-30.46	peak
3	4740.000	8.11	36.60	44.71	74.00	-29.29	peak
4	5377.500	8.92	36.69	45.61	74.00	-28.39	peak
5	6695.000	11.09	36.13	47.22	74.00	-26.78	peak
6	7800.000	14.17	33.08	47.25	74.00	-26.75	peak

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



Engineer :Amos	
Site : EMC Lab AC 102	Time : 2014-7-27
Limit : FCC_15_03M_PK	Margin : 6
EUT : Tablet PC	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	Note : Receive by 2440MHz

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2190.000	-3.91	47.95	44.04	74.00	-29.96	peak
2	2870.000	-0.10	44.20	44.10	74.00	-29.90	peak
3	3550.000	3.57	39.59	43.16	74.00	-30.84	peak
4	4442.500	7.37	38.18	45.55	74.00	-28.45	peak
5	4825.000	8.27	36.85	45.12	74.00	-28.88	peak
6	7290.000	13.21	33.71	46.92	74.00	-27.08	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2870.000	-0.10	43.20	43.10	74.00	-30.90	peak
2	4442.500	7.37	36.18	43.55	74.00	-30.45	peak
3	4825.000	8.27	37.85	46.12	74.00	-27.88	peak
4	6057.500	10.28	33.53	43.81	74.00	-30.19	peak
5	6482.500	10.45	34.06	44.51	74.00	-29.49	peak
6	7290.000	13.21	34.71	47.92	74.00	-26.08	peak

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



Engineer :Amos	
Site : EMC Lab AC 102	Time : 2014-7-27
Limit : FCC_15_03M_PK	Margin : 6
EUT : Tablet PC	Probe : VERTICAL/ HORIZONTAL
Power : AC 120V/60Hz	Note : Receive by 2480MHz

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1510.000	-7.55	56.47	48.92	74.00	-25.08	peak
2	3975.000	5.02	39.18	44.20	74.00	-29.80	peak
3	4485.000	7.58	39.29	46.87	74.00	-27.13	peak
4	6822.500	11.50	36.51	48.01	74.00	-25.99	peak
5	7672.500	14.11	37.55	51.66	74.00	-22.34	peak
6	8140.000	14.65	37.33	51.98	74.00	-22.02	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1297.500	-9.46	58.91	49.45	74.00	-24.55	peak
2	1680.000	-6.57	56.42	49.85	74.00	-24.15	peak
3	2955.000	0.47	49.41	49.88	74.00	-24.12	peak
4	4315.000	6.72	42.29	49.01	74.00	-24.99	peak
5	5887.500	9.98	40.68	50.66	74.00	-23.34	peak
6	7630.000	14.09	37.63	51.72	74.00	-22.28	peak

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. Occupied Bandwidth

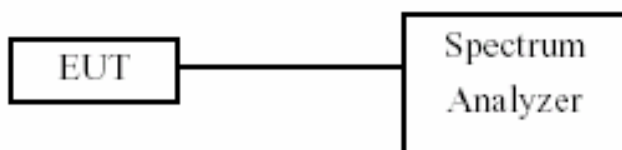
6.20 Test Limit

Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725- 5850 MHz band. The minimum 6 dB bandwidth shall be at least 500 kHz.

6.21 Test Procedures

- The transmitter output was connected to the spectrum analyzer.
- Set RBW of spectrum analyzer to 1~5% of the emission bandwidth and $VBW \geq 3 \times RBW$.
- The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.
- The 6dB Bandwidth was measured and recorded.

6.22 Test Setup Layout



6.23 Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY45118947	2014.07.18	2015.07.17

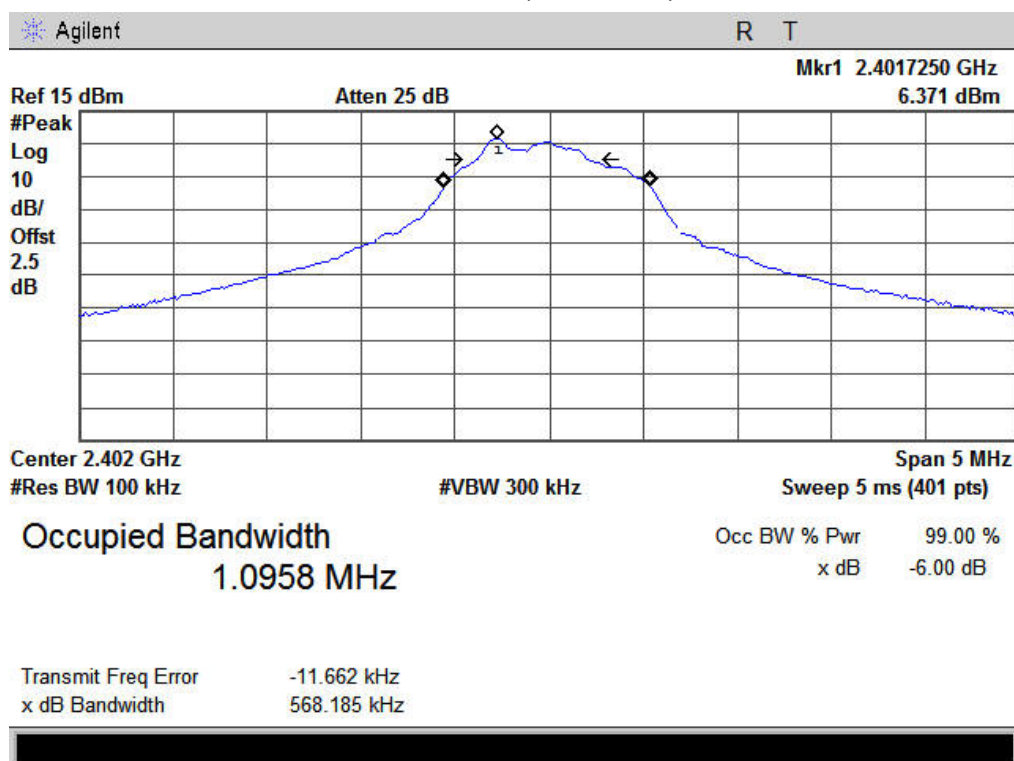


6.24 Test Result and Data

Test Item	Occupied Bandwidth
Test Mode	Transmit by GFSK
Test Date	2014-7-27

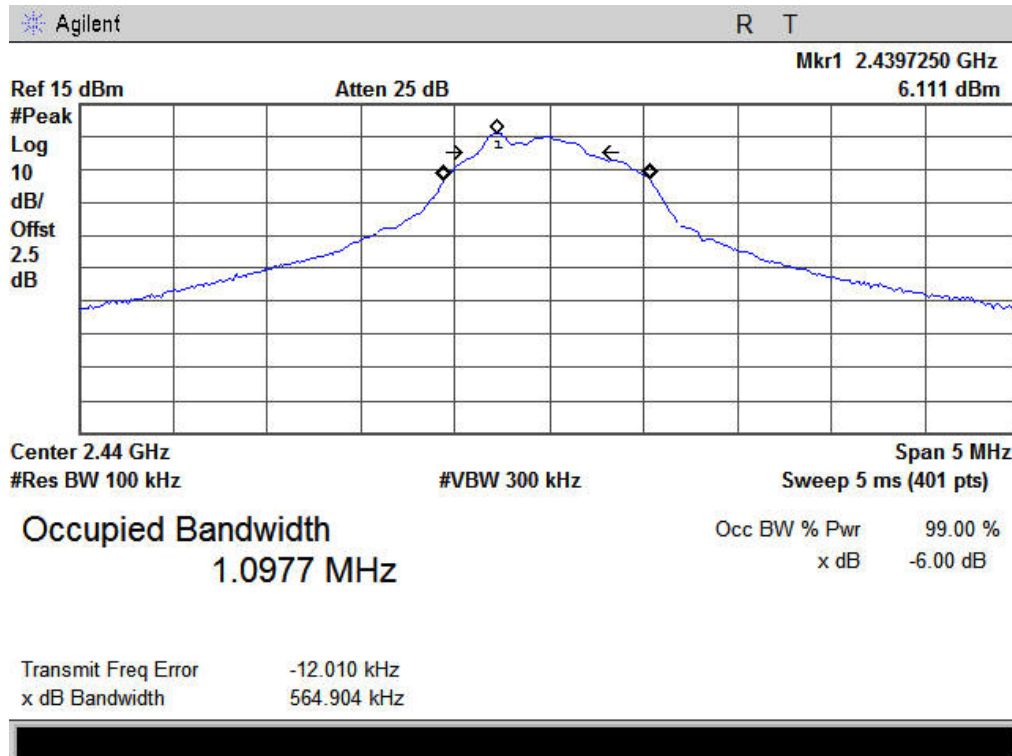
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2402	568.185	500	Pass
20	2440	564.904	500	Pass
40	2480	564.548	500	Pass

Channel 01 (2402MHz)

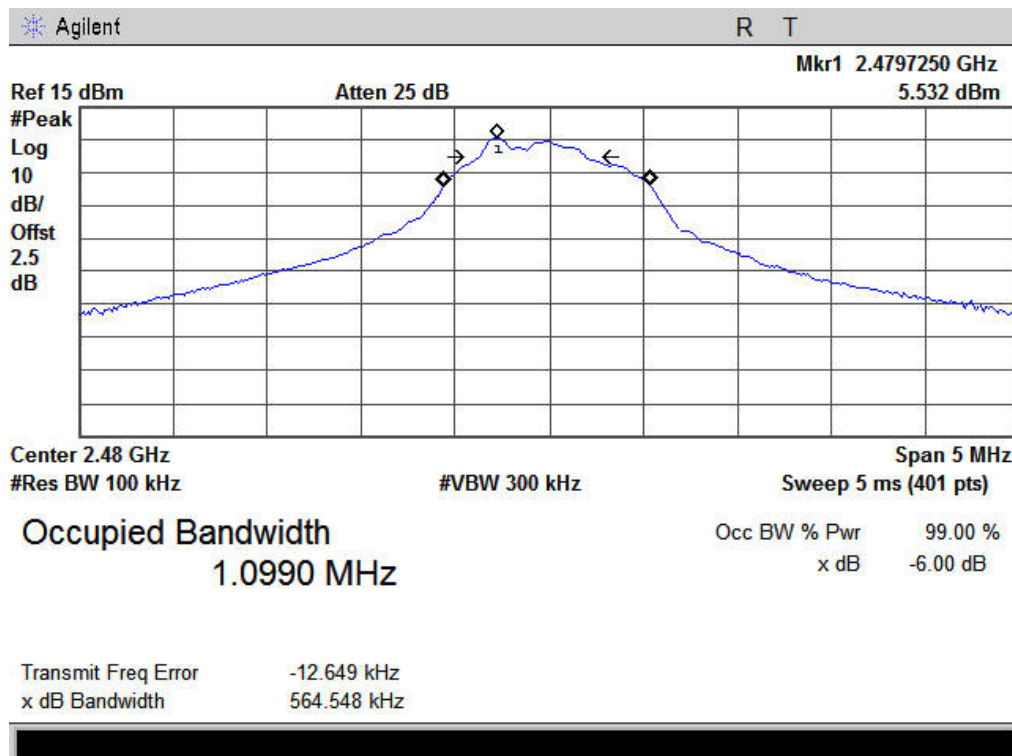




Channel 20 (2440MHz)



Channel 40(2480MHz)





7. 99% Bandwidth

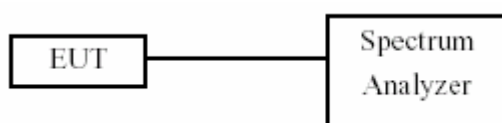
7.25 Test Limit

None; for reporting purposes only.

7.26 Test Procedures

- The transmitter output was connected to the spectrum analyzer.
- The RBW is set to 1% to 3% of the span, Span greater than RBW.

7.27 Test Setup Layout



7.28 Measurement equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY45118947	2014.07.18	2015.07.17

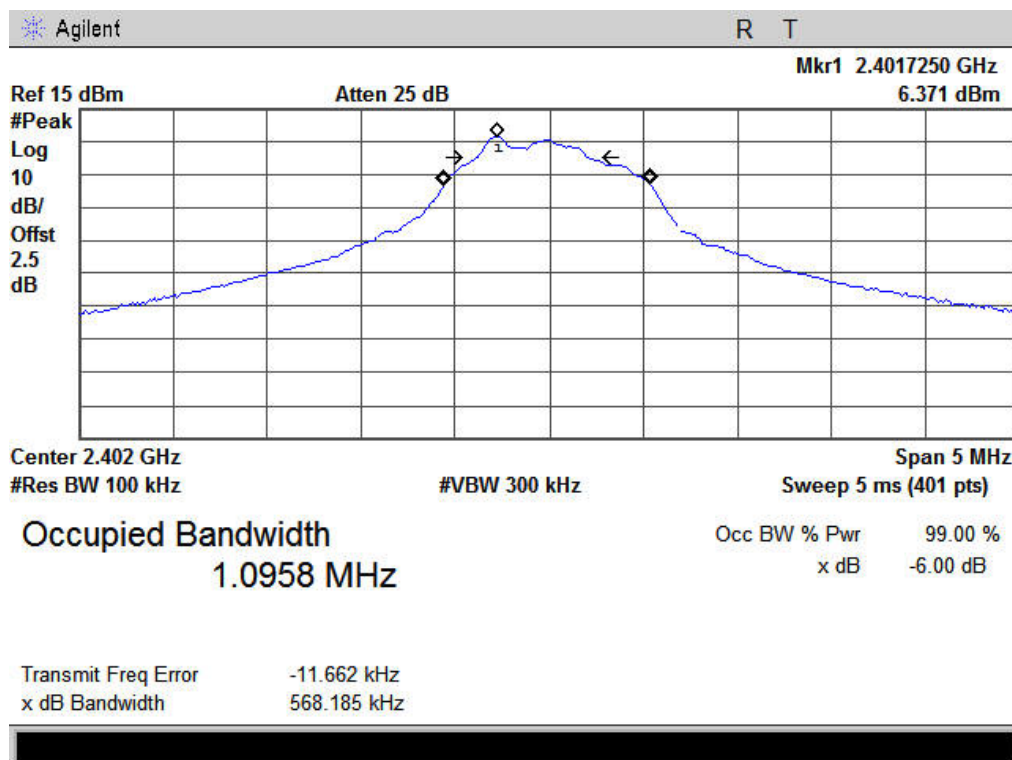


7.29 Test Result and Data

Test Item	99% Bandwidth
Test Mode	Transmit by GFSK
Test Date	2014-7-27

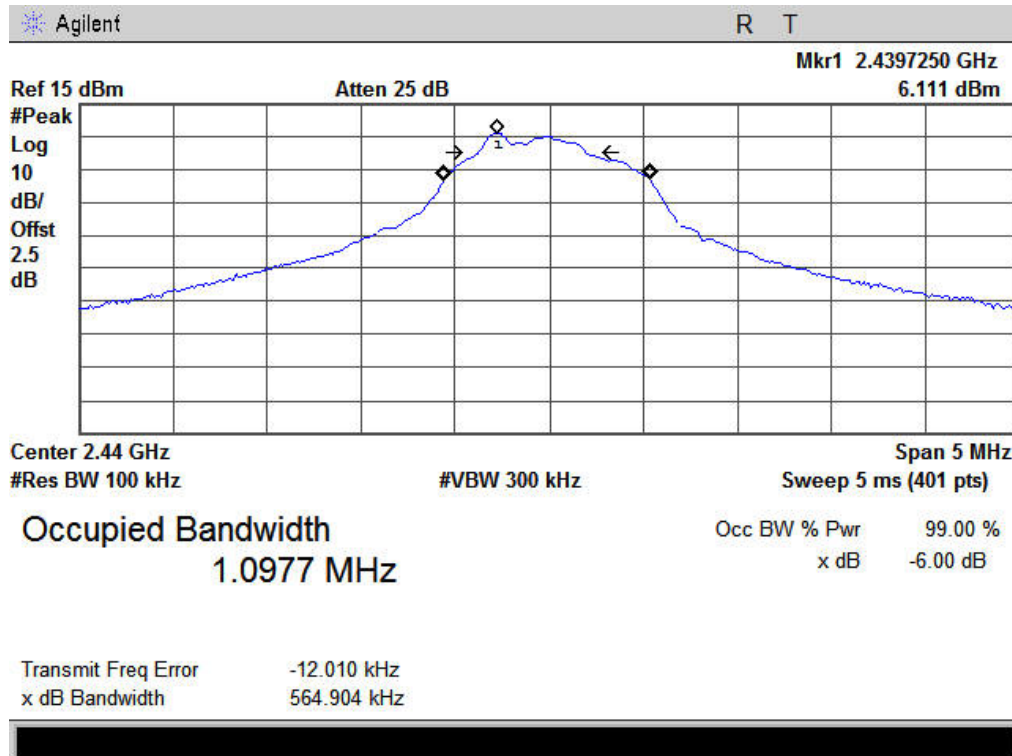
Channel No.	Frequency (MHz)	99% Bandwidth (KHz)
01	2402	10958
20	2440	10977
40	2480	10990

Channel 01 (2402MHz)

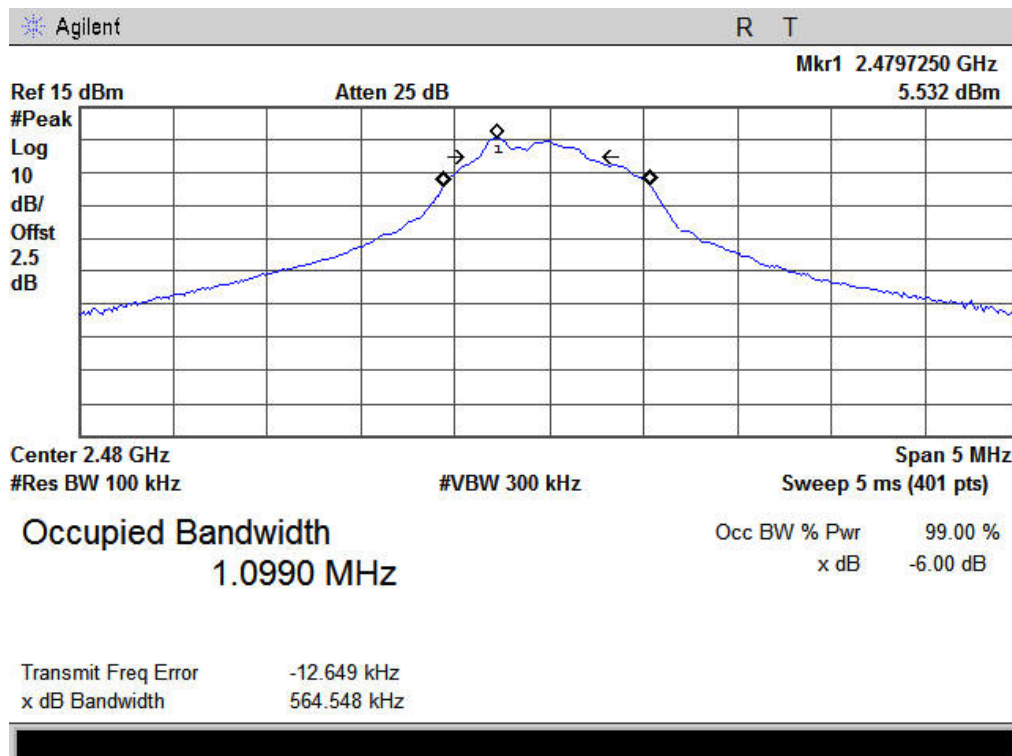




Channel 20 (2440MHz)



Channel 40(2480MHz)





8. Maximum Peak Output Power

8.30 Test Limit

The maximum peak power shall be less 1Watt (30dBm).

The conducted output power limits specified in §15.247(b) are based on the use of transmit antennae with directional gains that do not exceed 6 dBi. If transmit antennae with an effective directional gain greater than 6 dBi are used, then the conducted output power from the EUT shall be reduced as specified in §15.247(b) and (c).

8.31 Test Procedure

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a spectrum analyzer.

“9.1.2 integrated band power method” of KDB558074 was used to test the power.

Select the “channel power” selection in “measurement” on spectrum analyzer,

The test procedure and setup as following:

Set the RBW = 1 MHz.

Set the VBW = 3 MHz.

Detector = peak.

Sweep time = auto couple.

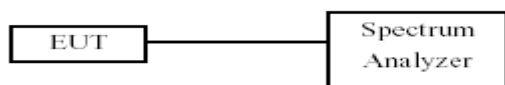
Trace mode = max hold.

Allow trace to fully stabilize.

Record the power value in dBm.

The power output at the transmitter antenna port was determined by adding the value of the attenuator to the spectrum analyzer reading.

8.32 Test Setup Layout



8.33 Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY45118947	2014.07.18	2015.07.17
Temperature/ Humidity Meter	VICHY	CTH-608	N/A	2014.03.04	2015.03.03

**8.34 Test Result and Data**

Test Item	Maximum Peak Output Power
Test Mode	Transmit by GFSK
Duty cycle	99%
Test Date	2014-7-27

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit (dBm)	Result
		Peak		
01	2402	-0.52	30	Pass
20	2440	0.07	30	Pass
40	2480	-1.13	30	Pass



9. Band Edges Measurement

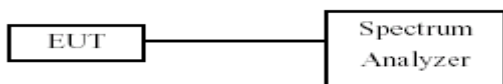
9.35 Test Limit

Below -20dB of the highest emission level of operating band (In 100 kHz Resolution Bandwidth)

9.36 Test Procedure

- The transmitter output was connected to the spectrum analyzer via a low lose cable.
- Set RBW of spectrum analyzer to 100 KHz and VBW of spectrum analyzer to 300 KHz with convenient frequency span including 100 KHz bandwidth from band edge.
- The band edges was measured and recorded.

9.37 Test Setup Layout



9.38 Measurement Equipment

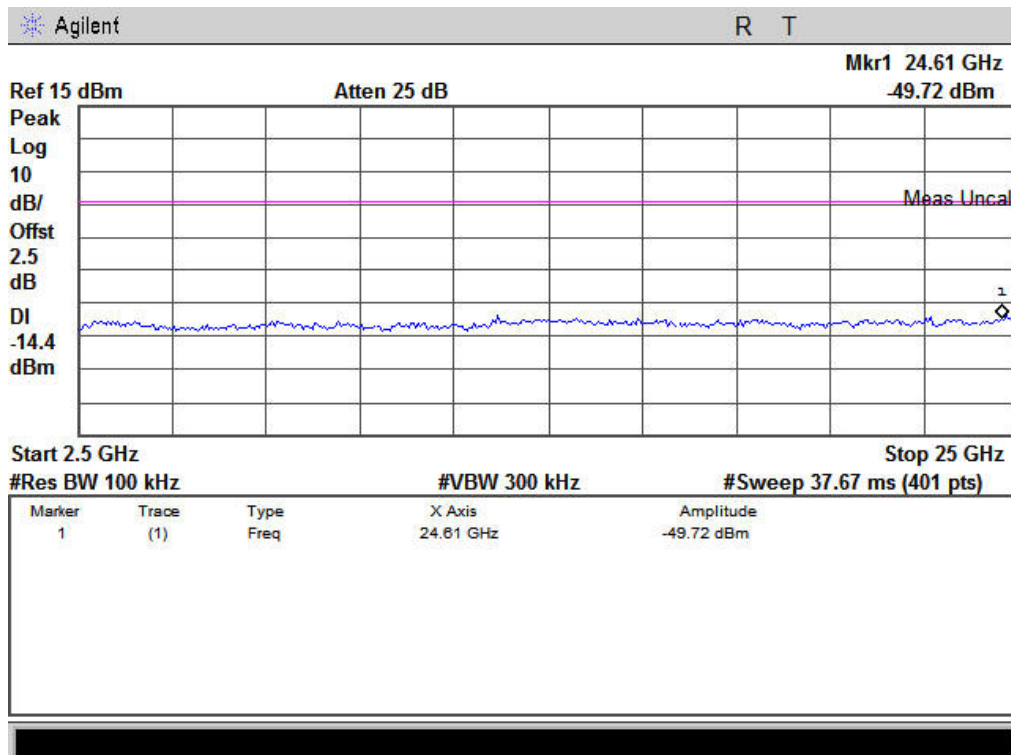
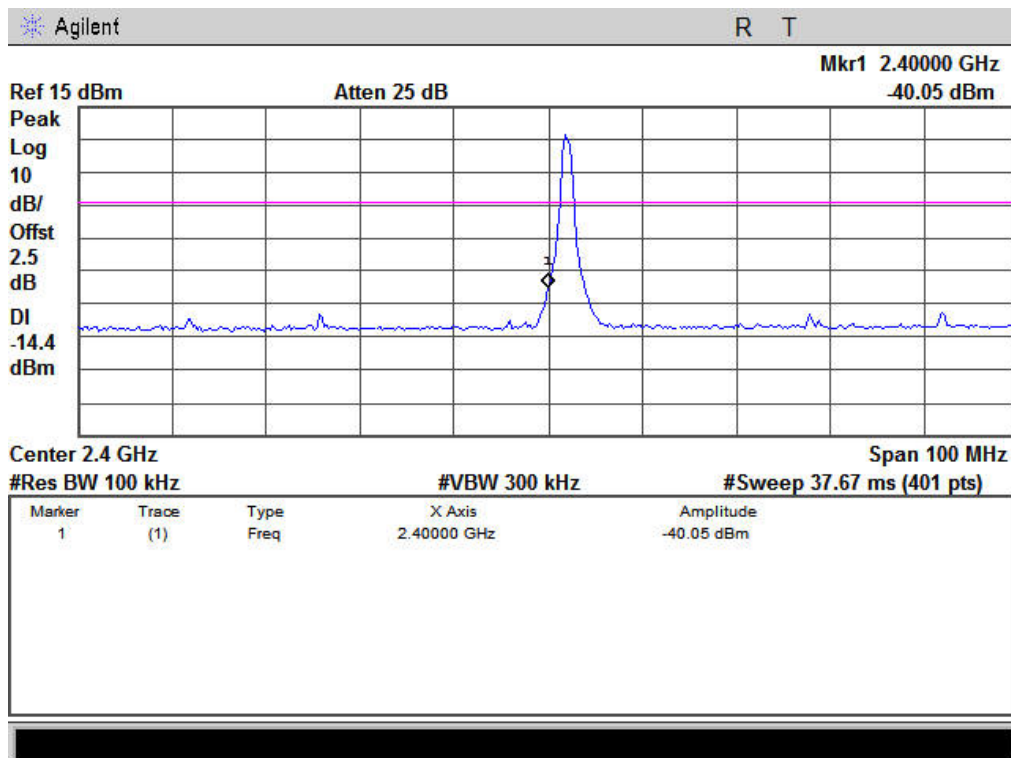
Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY45118947	2014.07.18	2015.07.17

9.39 Test Result and Data

Modulation Standard	Channel	Frequency (MHz)	maximum value in frequency (MHz)	maximum value(dBm)
GFSK	01	2402	2400.00	-40.05
	40	2480	2483.50	-48.77

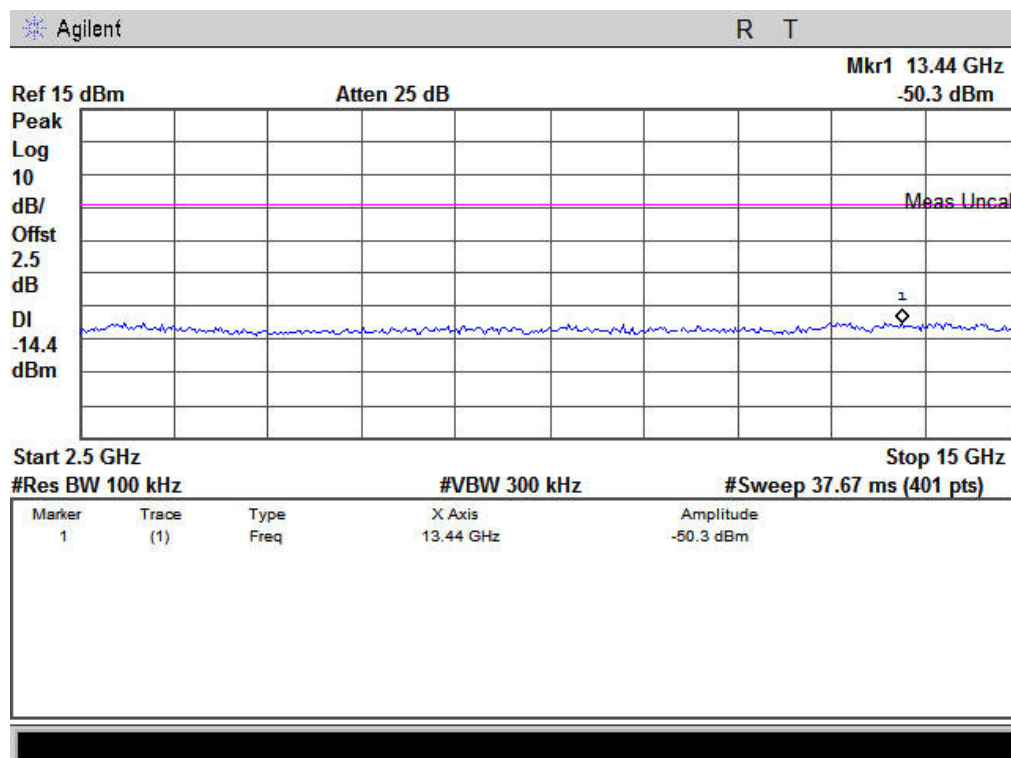
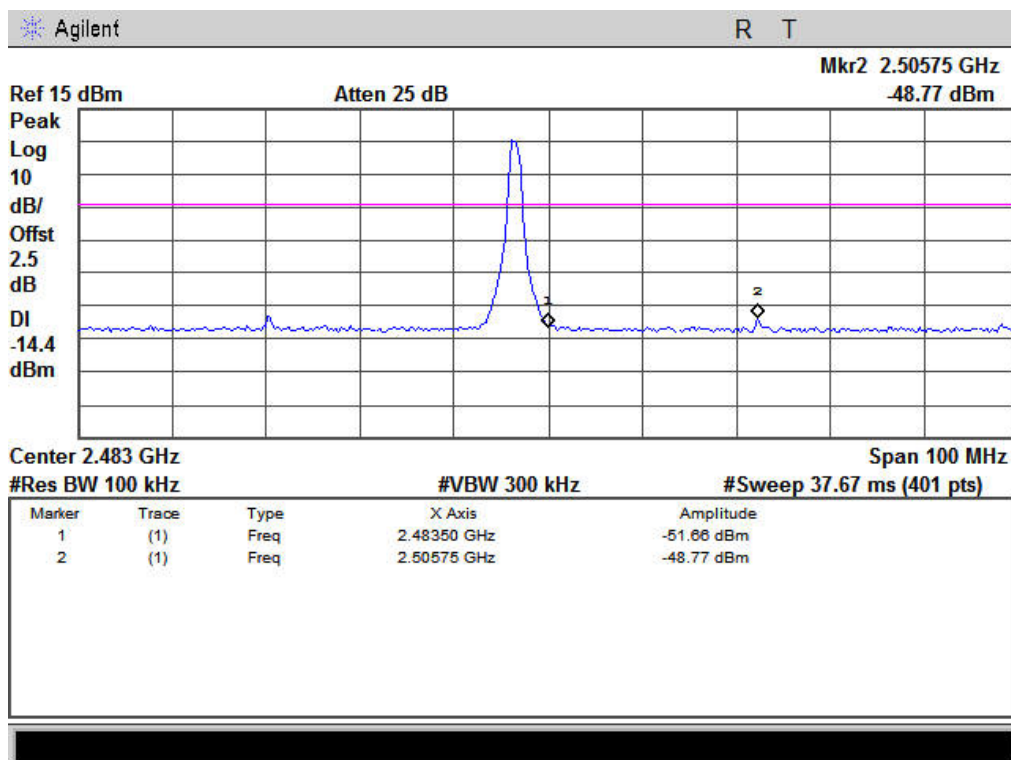


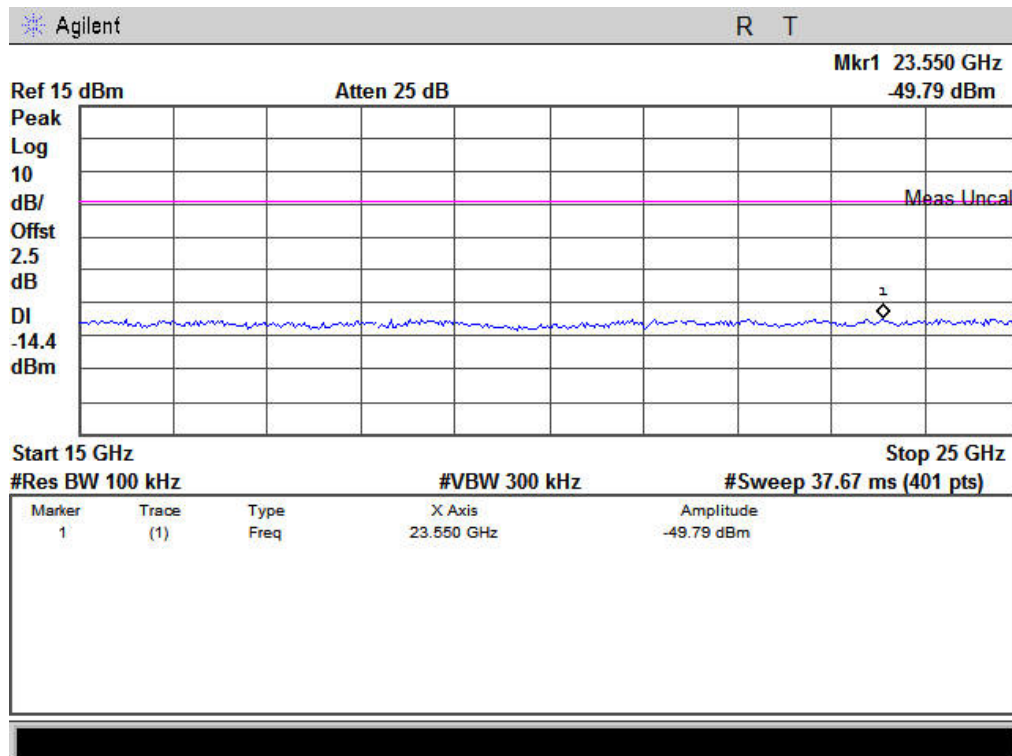
Transmit by GFSK Channel 01





Transmit by GFSK Channel 40





**9.40 Restrict Band Emission Measurement Data**

Test Date : 2014-7-27
Temperature : 24 °C
Humidity : 52 %
Atmospheric Pressure : 1023 hPa

Modulation Standard:GFSK

Channel 1						Fundamental Frequency: 2412 MHz				
Frequency (MHz)	Ant-Pol H/V	Corrected Factor	Meter Reading	Result (dBuV/m)	Remark	Limit@3m (dBuV/m)		Margin (dB)	Table (Deg.)	Ant High (cm)
						Peak	Ave.			
2390.00	H	5.82	51.12	56.94	Peak	74	54	-17.06	348	200
2390.00	H	5.82	39.61	45.43	Ave	74	54	-8.57	348	200
2390.00	V	5.82	50.31	56.13	Peak	74	54	-17.87	360	100
2390.00	V	5.82	40.35	46.17	Ave	74	54	-7.83	360	100
Channel 40						Fundamental Frequency: 2462 MHz				
Frequency (MHz)	Ant-Pol H/V	Corrected Factor	Meter Reading	Result (dBuV/m)	Remark	Limit@3m (dBuV/m)		Margin (dB)	Table (Deg.)	Ant High (cm)
						Peak	Ave.			
2483.50	H	6.24	62.13	68.37	Peak	74	54	-5.63	0	200
2483.50	H	6.24	41.63	47.87	Ave	74	54	-6.13	249	200
2483.50	V	6.24	63.23	69.47	Peak	74	54	-4.53	251	100
2483.50	V	6.24	41.68	47.92	Ave	74	54	-6.08	251	100

Notes:1. Result = Meter Reading + Factor

2. Factor = Antenna Factor + Cable Loss – Amplifier

3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1GHz.

4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.



10. Power Spectral Density

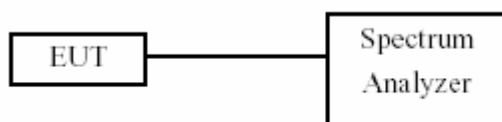
10.41 Test Limit

The Maximum of Power Spectral Density Measurement is 8dBm.

10.42 Test Procedure

- The transmitter output was connected to spectrum analyzer.
- The spectrum analyzer's resolution bandwidth were set at 3KHz RBW and 10KHz VBW as that of the fundamental frequency. Set the sweep time=auto couple.
- The power spectral density was measured and recorded.

10.43 Test Setup Layout



10.44 Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	Agilent	E4407B	MY45118947	2014.07.18	2015.07.17

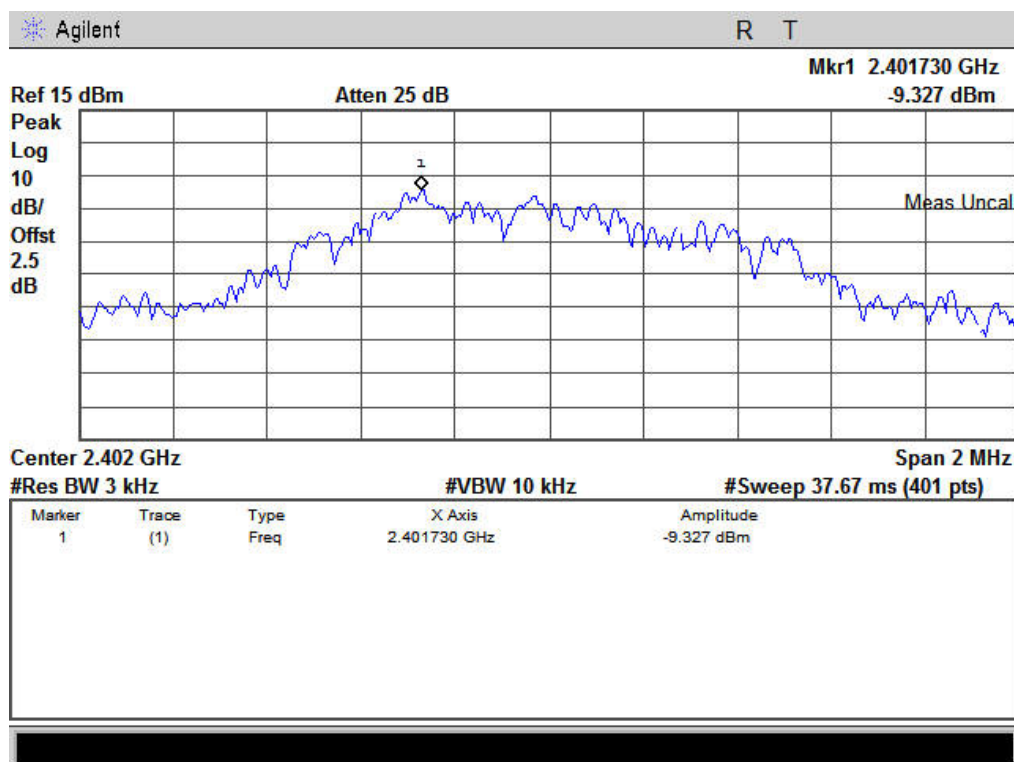


10.45 Test Result and Data

Test Item	Power Spectral Density
Test Mode	Transmit by GFSK
Test Date	2014-7-27

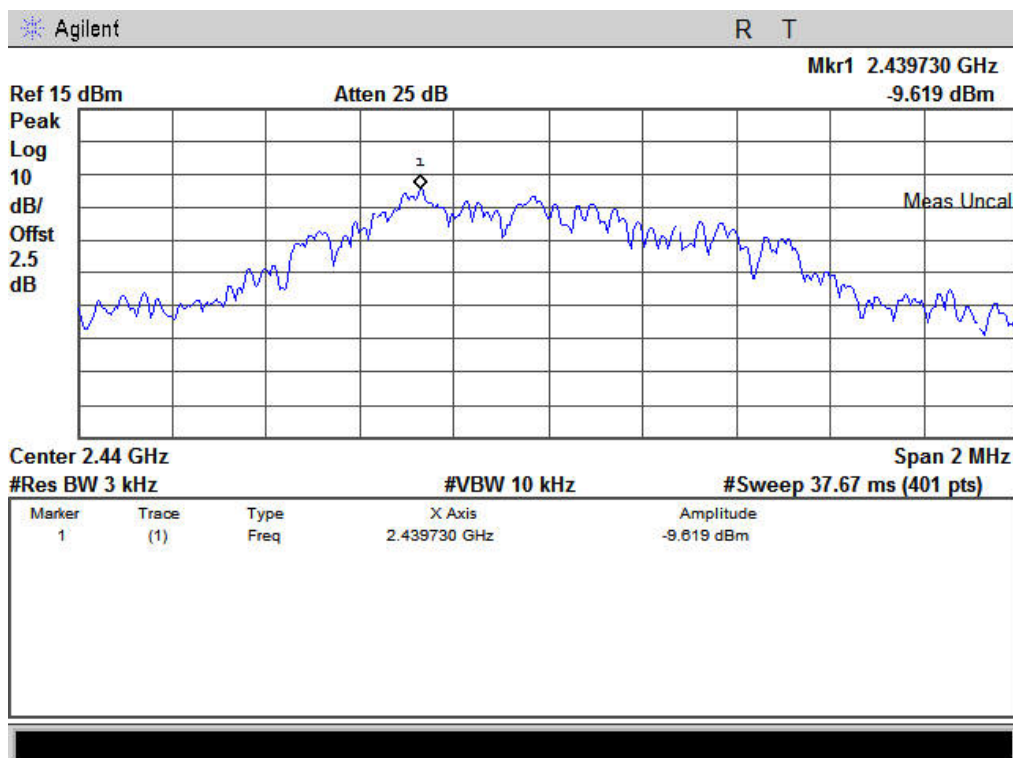
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2402	-14.10	8	Pass
20	2440	-14.29	8	Pass
40	2480	-14.46	8	Pass

Channel 01 (2402MHz)

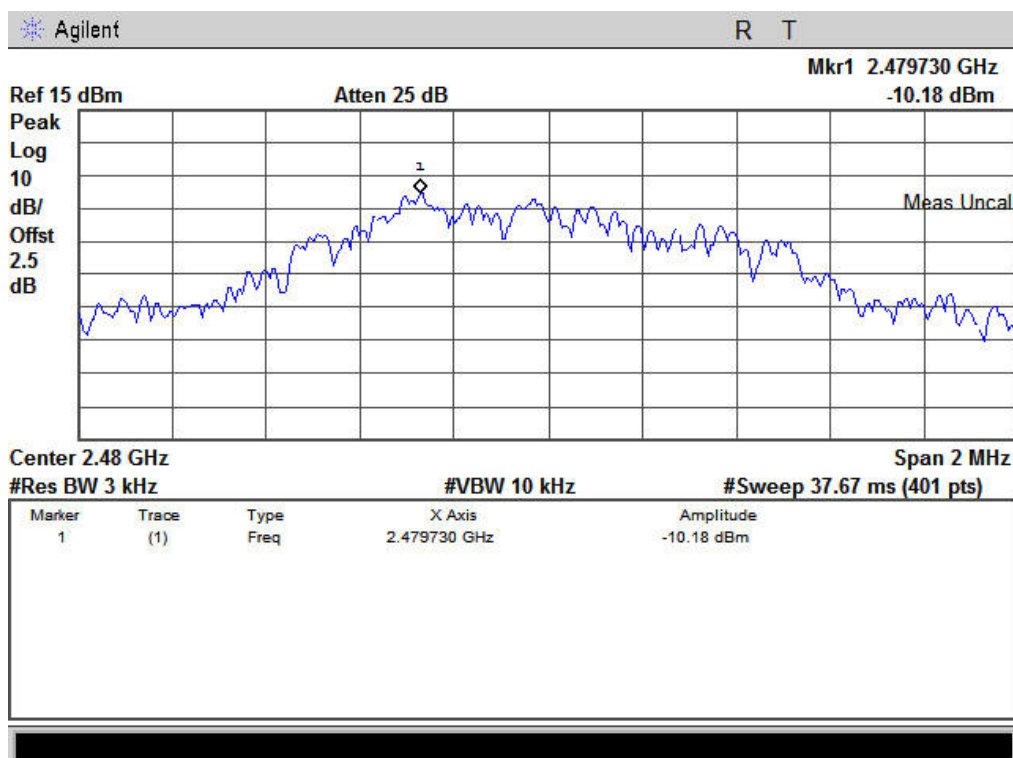




Channel 20 (2440MHz)



Channel40 (2480MHz)





11. Restricted Bands of Operation

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

11.46 Labeling Requirement

The device shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.