FCC ID: V4P-MX205

FCC TEST REPORT

REPORT NO. :	**FC110321N05**
MODEL NO. :	**MX-205**
RECEIVED :	**Mar. 21, 2011**
TESTED :	**Mar.23~Mar.30, 2011**
ISSUED :	**Apr. 1, 2011**

APPLICANT :	**Shenzhen Fuyeda Industry Development Corp.,Ltd.**
ADDRESS :	**No.1 Newmen Road,Tongsheng Village,Dalang Street,Bao'An,Shenzhen,China**

ISSUED BY :	**NS Technology Co., Ltd.**
LAB ADDRESS :	**Chenwu Industrial Zone, Houjie Town, Dongguan, Guangdong, China**

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ACCREDITED
Test Lab
Cert 2951.01

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1. CERTIFICATION

PRODUCT:	Dongle
MODEL NO.:	MX-205
BRAND:	Newmen
APPLICANT:	Shenzhen Fuyeda Industry Development Corp.,Ltd.
TESTED:	Mar.24~Mar.30, 2011
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 15, Subpart C (Section 15.249)**
	ANSI C63.4-2003

The above equipment has been tested by **NS Technology Co., Ltd.**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

REVIEWED BY : Jade Yang , **DATE:** Apr. 1, 2011

Jade Yang / Supervisor

APPROVED BY : Chirs Du , **DATE:** Apr. 1, 2011

Chirs Du / Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.249)			
STANDARD PARAGRAPH	**TEST TYPE**	**RESULT**	**REMARK**
15.207	Conducted Emission Test	PASS	Meet the requirement of limit. Minimum passing margin is -12.56dB at 0.15391MHz.
15.209 15.249 15.249 (d)	Radiated Emission Test Band Edge Measurement Limit: 50dB less than the peak value of fundamental frequency or meet radiated emission limit in section 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -17.92dB at 34.85MHz.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz ~ 30MHz	2.56 dB
Radiated emissions	30MHz ~ 200MHz	3.58 dB
	200MHz ~1000MHz	3.58 dB
	1GHz ~ 18GHz	3.58 dB
	18GHz ~ 40GHz	3.58 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Dongle
MODEL NO.	MX-205
FCC ID	V4P-MX205
POWER SUPPLY	5.0Vdc form PC input AC120V/60Hz
MODULATION TYPE	FSK
OPERATING FREQUENCY	2403MHz ~ 2477MHz
NUMBER OF CHANNEL	16
ANTENNA TYPE	Printed antenna
DATA CABLE	NA
I/O PORT	NA
ACCESSORY DEVICES	NA

NOTE:

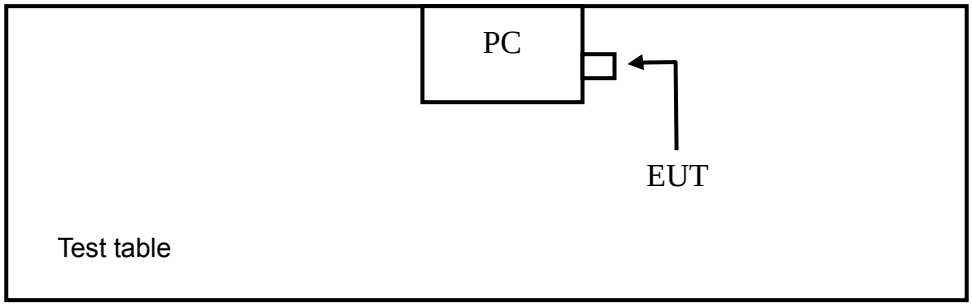
1. A set of the EUT include transmitter and receiver. This report covers transmitter only.
2. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

16 channels are provided to this EUT.

CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)
1	2403.00	9	2442.00
2	2407.00	10	2447.00
3	2412.00	11	2452.00
4	2417.00	12	2457.00
5	2422.00	13	2462.00
6	2427.00	14	2467.00
7	2432.00	15	2472.00
8	2437.00	16	2477.00

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	BM	
-	√	√	NOTE	√	-

Where **PLC:** Power Line Conducted Emission **RE<1G:** Radiated Emission below 1GHz

RE≥1G: Radiated Emission above 1GHz **BM:** Bandedge Measurement

NOTE: No need to concern of Conducted Emission due to the EUT is powered by battery.

RADIATED EMISSION TEST (ABOVE 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
1 to 16	1, 9, 16	FSK

RADIATED EMISSION TEST (BELOW 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
1 to 16	16	FSK

BANDEDGE MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
1 to 16	1, 16	FSK

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (Section 15.249)

ANSI C63.4-2003

All test items have been performed and recorded as per the above standards.

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	MOUSE	NEWMEN	MS-148OR	NA	V4P-MS148OR-3
2	PC	DELL	5P2PM2X	12400120329	

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	Adapter: M/N:DA90PE1-00 I/P:AC 100~240V O/P:DC 19.5V 4.62A AC Line:Unshielded,Detachable,0.8m DC Line:Unshielded,Undetachable,1.5m

4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
EMI Test Receiver	ESCS30	100340	May 30,10	May 30,11
Artificial Mains Network	ESH2-Z5	100071	May 30,10	May 30,11
Artificial Mains Network (AUX)	KNW-407	8-1579-1	May 30,10	May 30,11
Pulse Limiter	3D-2W	844 Cable	May 2,10	May 2,11

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA and NIM/CHINA.
2. The test was performed in Shielded Room 843.

4.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

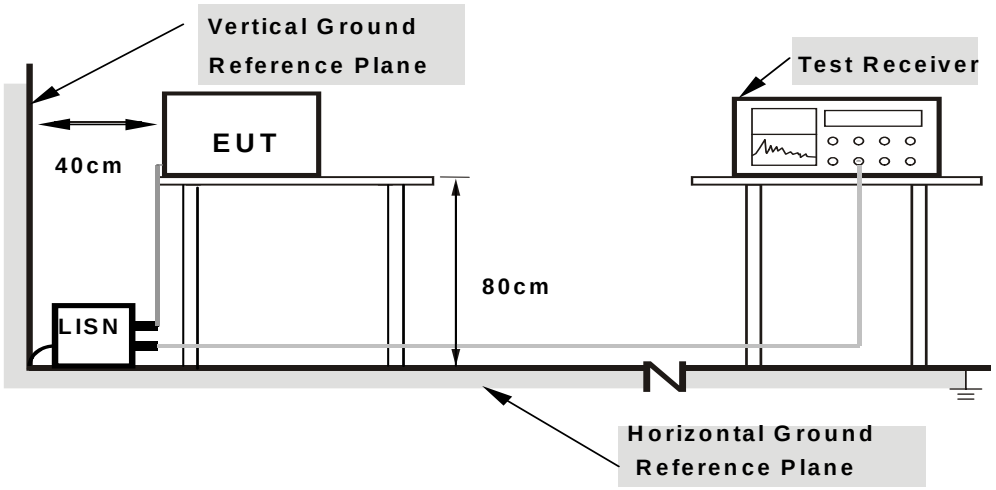
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

4.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT OPERATING CONDITIONS

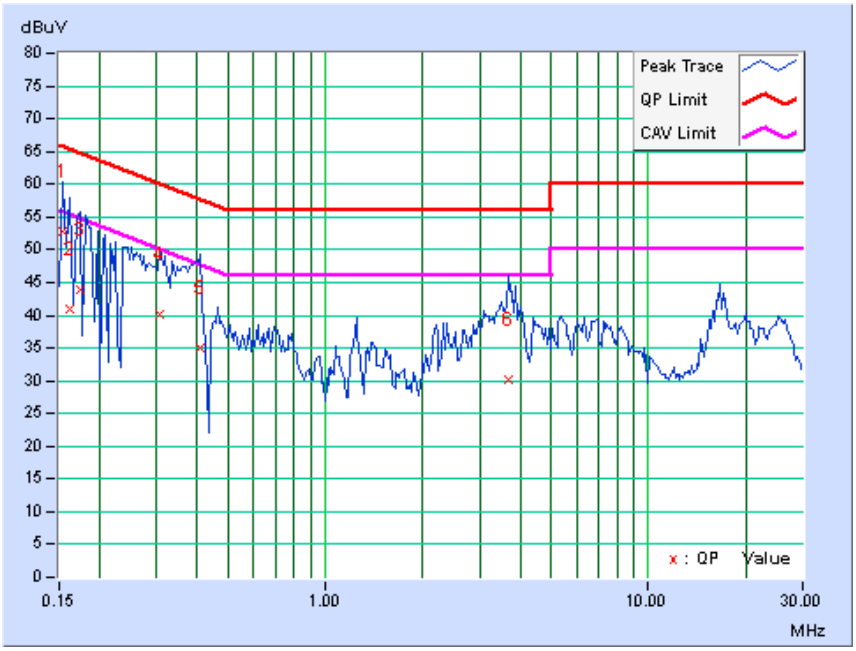
Same as 4.1.6.

4.1.7 TEST RESULTS

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	TX Mode		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	9.64	43.11	27.74	52.75	37.38	65.79	55.79	-13.04	-18.41
2	0.16172	9.64	31.40	25.10	41.04	34.74	65.38	55.38	-24.34	-20.64
3	0.17344	9.64	34.29	6.37	43.93	16.01	64.79	54.79	-20.86	-38.78
4	0.30625	9.56	30.55	19.70	40.11	29.26	60.07	50.07	-19.96	-20.81
5	0.41172	9.48	25.47	5.91	34.95	15.39	57.61	47.61	-22.67	-32.23
6	3.69141	10.19	20.11	2.25	30.30	12.44	56.00	46.00	-25.70	-33.56

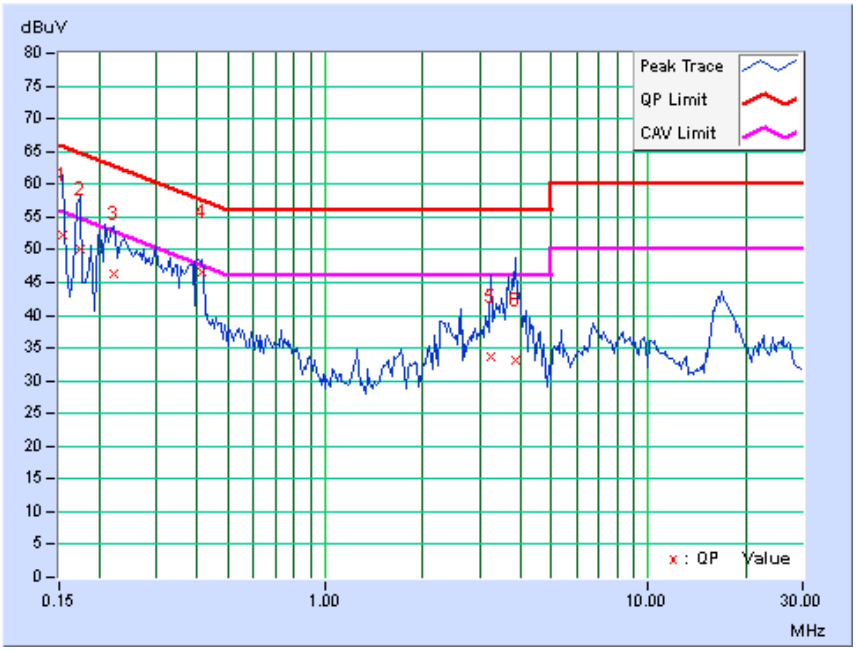
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



PHASE	N	**6dB BANDWIDTH**	9kHz
TEST MODE	TX Mode		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.15391**	**9.63**	**42.58**	**33.60**	**52.21**	**43.23**	**65.79**	**55.79**	**-13.58**	**-12.56**
2	0.17344	9.63	40.55	11.53	50.18	21.16	64.79	54.79	-14.61	-33.63
3	0.22031	9.62	36.79	13.93	46.41	23.55	62.81	52.81	-16.40	-29.26
4	0.41563	9.47	37.12	13.68	46.59	23.15	57.54	47.54	-10.94	-24.38
5	3.25391	10.16	23.41	4.49	33.57	14.65	56.00	46.00	-22.43	-31.35
6	3.85547	10.18	23.06	2.16	33.24	12.34	56.00	46.00	-22.76	-33.66

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209, 15.249 as following:

15.209 LIMIT		
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
15.249 LIMIT		
Fundamental Frequency	**Field Strength of Fundamental (millivolts/meter)**	**Field Strength of Harmonics (microvolts/meter)**
902 ~ 928 MHz	50	500
2400 ~ 2483.5 MHz	50	500
5725 ~ 5875 MHz	50	500
24 ~ 24.25 GHz	250	2500

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.2.2 TEST INSTRUMENTS

BELOW 1GHz

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Spectrum Analyzer	E7405A	MY45118807	May 30,10	May 30,11
EMI Test Receiver	ESVS10	841431/004	May 30,10	May 30,11
Bilog Antenna	CBL 6111D	25758	Nov.22,10	Nov.22,11
10m Semi-anechoic Chamber	21.4m*12.1m*8.8m	NSEMC006	May 2,10	May 2,11
RF Cable	IMRO-400	10m Cable 1#10m	May 2,10	May 2,11
RF Cable	IMRO-400	10m Cable 2#3m	May 2,10	May 2,11
Signal Amplifier	8447D	2944A11174	May 2,10	May 2,11

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA and NIM/CHINA.

2. The test was performed in Chamber 10m.

ABOVE 1GHz

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Horn Antenna	3117	00062558	Nov.01,10	Nov.01,11
Horn Antenna (AUX)	3117	00085519	Nov.01,10	Nov.01,11
Spectrum Analyzer	8593E	3448U00806	May 30,10	May 30,11
Signal Amplifier	PEC-38-30M18G -12-SFF	NSEMC001	Oct.16,10	Oct.16,11
RF Cable	M06/25-RG102	966 Cable 2#	May 2,10	May 2,11

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA and NIM/CHINA.

2. The test was performed in Chamber 10m.

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

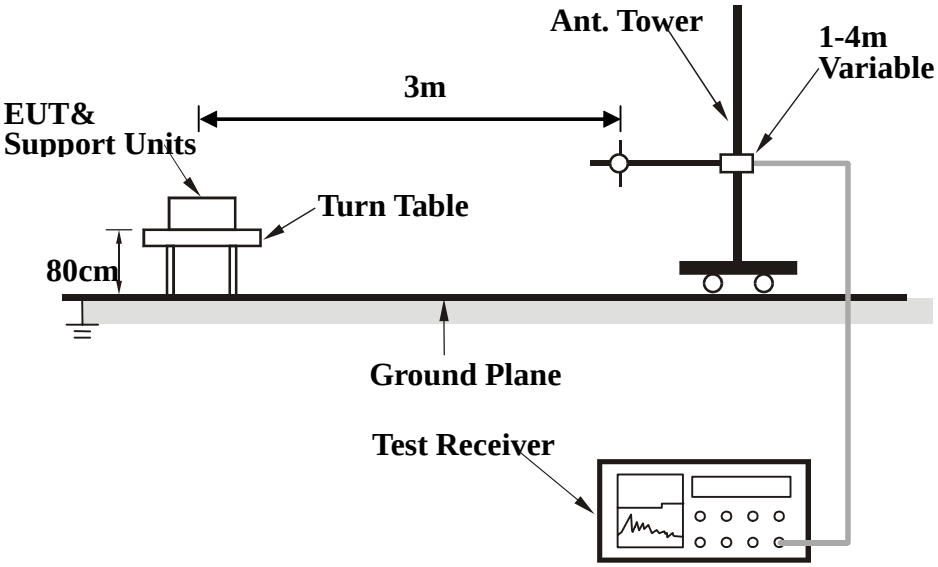
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz. For Average measurement at frequency above 1GHz.The resolution bandwidth of the test receiver was 1MHz ; due to the shortest pulse width T is 116us, according the video bandwidth should not smaller than 1/T,so the video bandwidth is 10Hz.
3. All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT OPERATING CONDITIONS

Set the EUT under transmission condition continuously at specific channel frequency.

4.2.7 TEST RESULTS

ABOVE 1GHz WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	**FREQUENCY RANGE**	1 ~ 25GHz
MODULATION TYPE	FSK	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 55%RH, 1008hPa	**TESTED BY**	Jade

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2403.00	95.67 PK	114.00	-18.33	300	2	61.29	34.38
2	2403.00	72.45 AV	94.00	-21.55	300	2	38.07	34.38
3	2951.00	49.93 PK	74.00	-24.07	253	93	14.28	35.65
4	2951.00	39.96 AV	54.00	-14.04	253	93	4.31	35.65
5	8692.00	54.70 PK	74.00	-19.30	400	181	6.40	48.30
6	8692.00	44.01 AV	54.00	-9.99	400	181	-4.29	48.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2403.00	95.89 PK	114.00	-18.11	100	15	61.51	34.38
2	2403.00	72.67 AV	94.00	-21.33	100	15	38.29	34.38
3	8140.00	54.64 PK	74.00	-19.36	180	87	6.62	48.02
4	8140.00	43.93 AV	54.00	-10.07	180	87	-4.09	48.02
5	11115.00	52.14 PK	74.00	-21.86	100	350	3.68	48.46
6	11115.00	41.87 AV	54.00	-12.13	100	350	-6.59	48.46

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:

$$20\log(\text{Duty cycle}) = 20\log\frac{0.275\ \text{ms} * 26}{100\ \text{ms}} = -23.22\text{dB}$$

Please see page 17 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 55%RH, 1008hPa	TESTED BY	Jade

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2442.00	96.25 PK	114.00	-17.75	400	16	61.87	34.38
2	2442.00	73.03 AV	94.00	-20.97	400	16	38.65	34.38
3	2950.00	50.72 PK	74.00	-23.28	305	88	15.07	35.65
4	2950.00	39.77 AV	54.00	-14.23	305	88	4.12	35.65
5	12007.00	56.06 PK	74.00	-17.94	100	226	5.28	50.78
6	12007.00	46.17AV	54.00	-7.83	100	226	-4.61	50.78

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2442.00	95.67 PK	114.00	-18.33	100	29	61.29	34.38
2	2442.00	72.45 AV	94.00	-21.55	100	29	38.07	34.38
3	2955.00	49.80 PK	74.00	-24.20	181	78	14.15	35.65
4	2955.00	39.34 AV	54.00	-14.66	181	78	3.69	35.65
5	8097.50	54.09 PK	74.00	-19.91	106	316	6.12	47.97
6	8097.50	43.90AV	54.00	-10.10	106	316	-4.07	47.97

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:

$$20\log(\text{Duty cycle}) = 20\log\frac{0.276\text{ms} * 25}{100\text{ ms}} = -23.22\text{B}$$

Please see page 17 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 16	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 55%RH, 1008hPa	TESTED BY	Jade

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2477.00	95.63 PK	114.00	-18.37	211	61	61.06	34.57
2	2477.00	72.41 AV	94.00	-21.59	211	61	37.84	34.57
3	2912.00	50.91 PK	74.00	-23.09	364	28	15.31	35.60
4	2912.00	39.85 AV	54.00	-14.15	364	28	4.25	35.60
5	12002.00	53.21 PK	74.00	-20.79	202	305	5.19	48.02
6	12002.00	42.95 AV	54.00	-11.05	202	305	-5.07	48.02

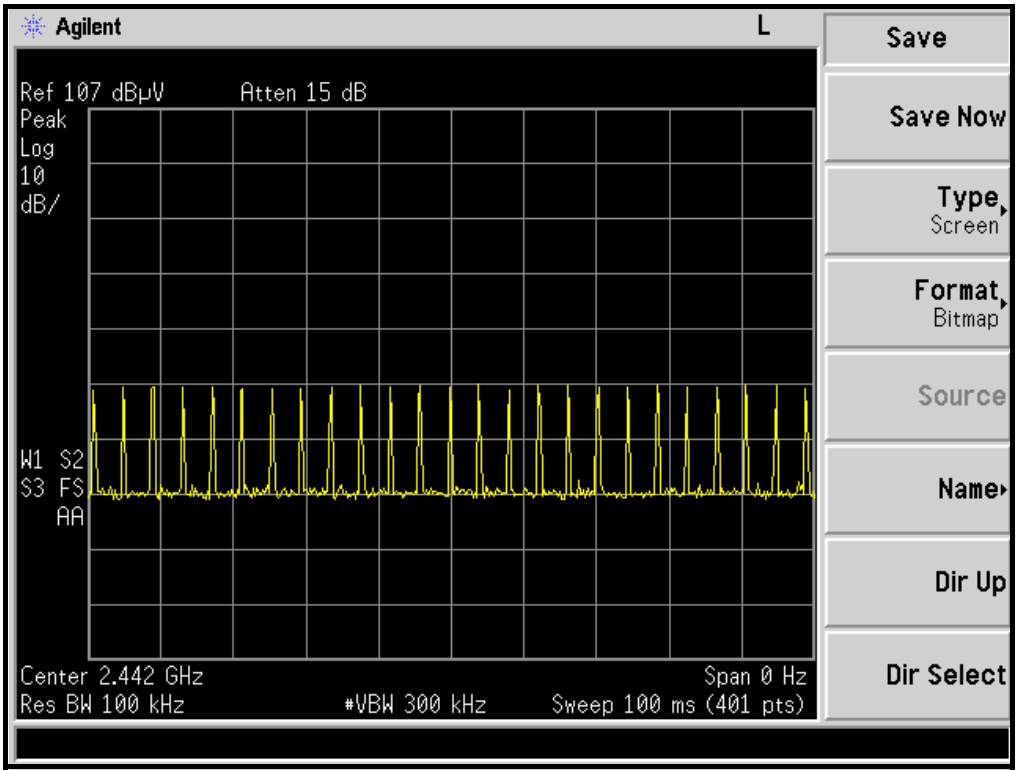
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2477.00	95.16 PK	114.00	-18.84	100	21	60.59	34.57
2	2477.00	71.94 AV	94.00	-22.06	100	21	37.37	34.57
3	2955.00	49.70 PK	74.00	-24.30	112	29	14.05	35.65
4	2955.00	40.08 AV	54.00	-13.92	112	29	4.43	35.65
5	8145.00	54.17 PK	74.00	-19.83	106	108	6.15	48.02
6	8145.00	43.40 AV	54.00	-10.60	106	108	-4.62	48.02

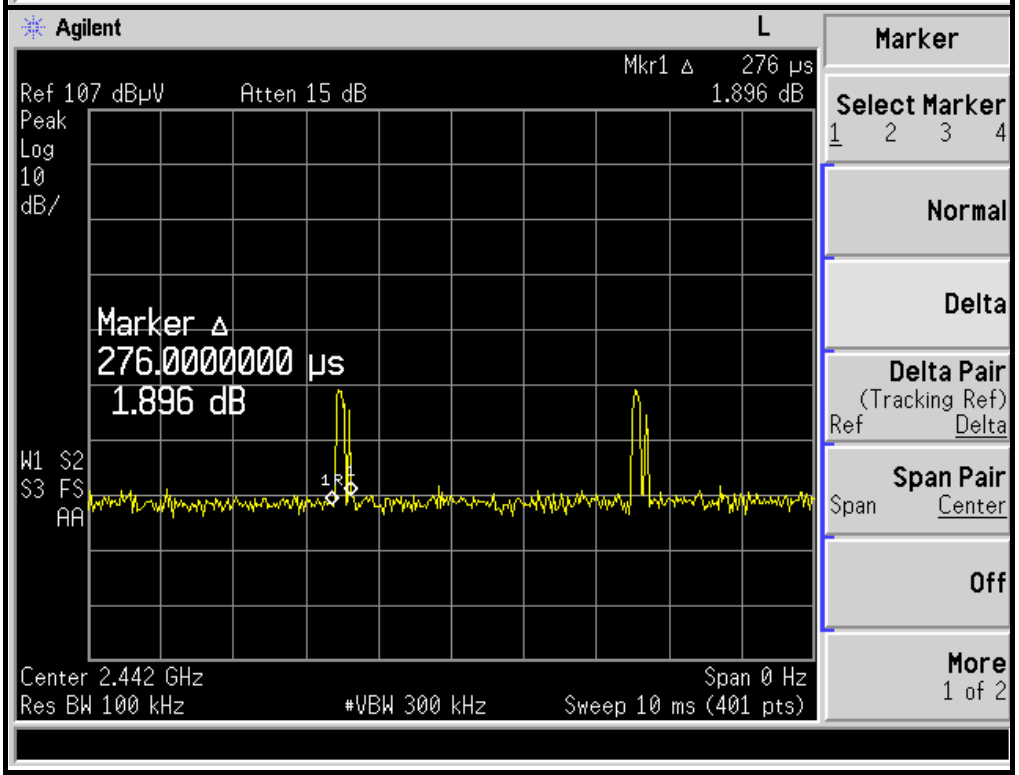
REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:

$$20\log(\text{Duty cycle}) = 20\log\frac{0.276\ \text{ms} * 25}{100\ \text{ms}} = -23.22\text{dB}$$

Please see page 17 for plotted duty





$$20\log(\text{Duty cycle}) = 20\log\frac{0.276\text{ ms} * 25}{100\text{ ms}} = -23.22\text{dB}$$

RADIATED WORST-CASE DATA: BELOW 1GHz

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 16	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 55%RH, 1008hPa	TESTED BY	Jade

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	117.30	23.14	43.50	-20.36	320	332	10.42	12.72
2	214.30	29.38	43.50	-14.12	238	359	18.49	10.89
3	267.65	28.62	46.00	-17.38	162	0	13.52	15.10
4	379.20	30.48	46.00	-15.52	260	301	12.33	18.15
5	466.50	29.01	46.00	-16.99	330	278	8.79	20.21
6	798.73	36.20	46.00	-9.80	400	246	10.26	25.94

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**34.85**	**32.08**	**40.00**	**-7.92**	**100**	**0**	**14.53**	**17.55**
2	51.83	26.74	40.00	-13.26	100	307	18.35	8.39
3	379.20	32.29	46.00	-13.71	100	332	14.14	18.15
4	485.90	33.03	46.00	-12.97	100	267	12.47	20.57
5	624.12	30.73	46.00	-15.27	100	213	7.19	23.54
6	798.73	36.91	46.00	-9.09	100	240	10.96	25.94

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

4.3 BAND EDGES MEASUREMENT

4.3.1 LIMITS OF BAND EDGES MEASUREMENT

Below –50dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED
SPECTRUM ANALYZER	FSP 40	100041	Apr. 21, 2009

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA and NIM/CHINA.

4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 1MHz and 3MHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.
The spectrum plots are attached on the following pages.

4.3.4 DEVIATION FROM TEST STANDARD

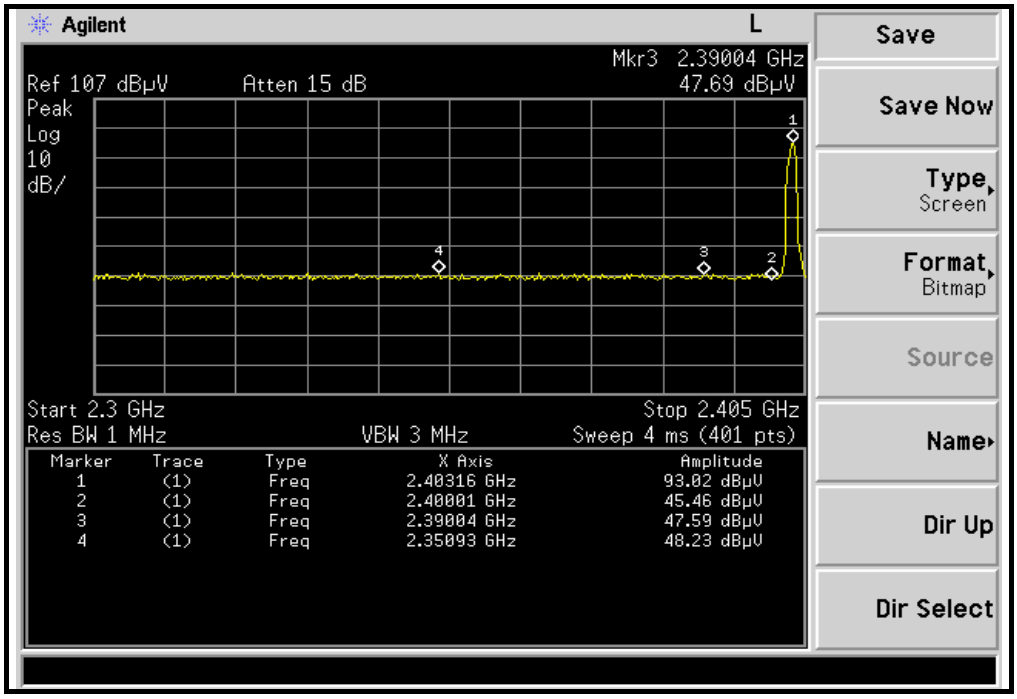
No deviation.

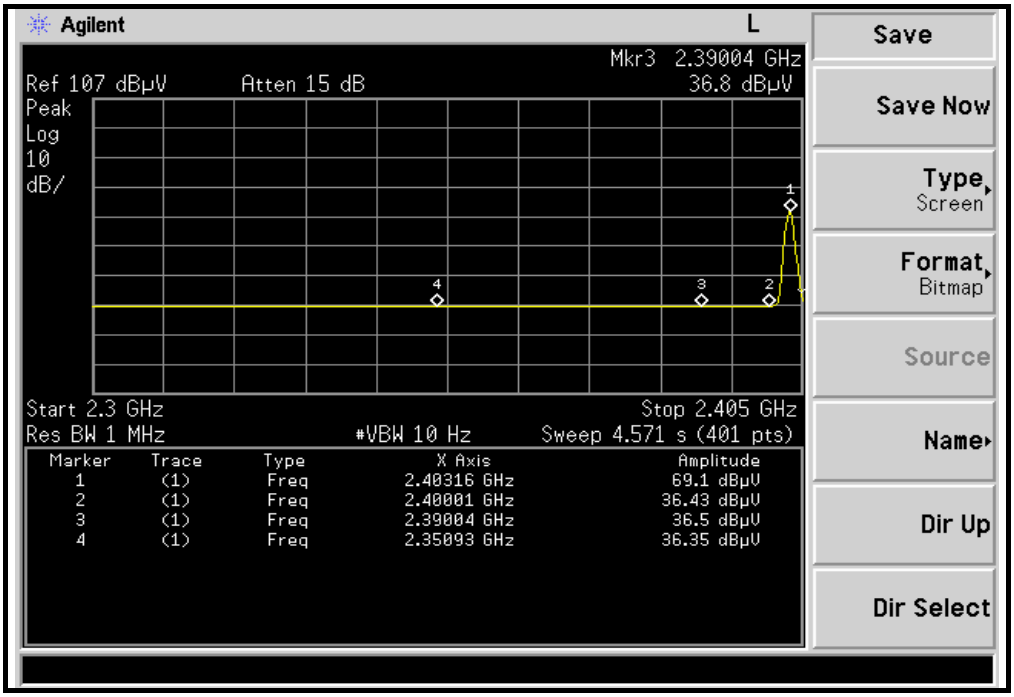
4.3.5 EUT OPERATING CONDITION

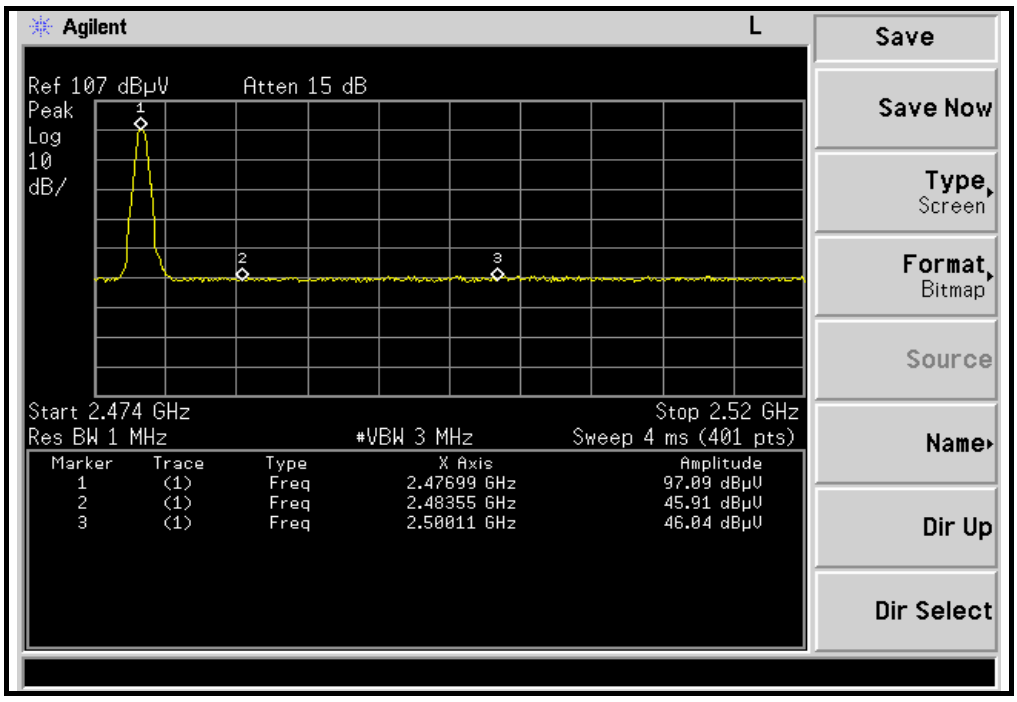
The software provided by client to enable the EUT under transmission condition continuously at lowest and highest channel frequencies individually.

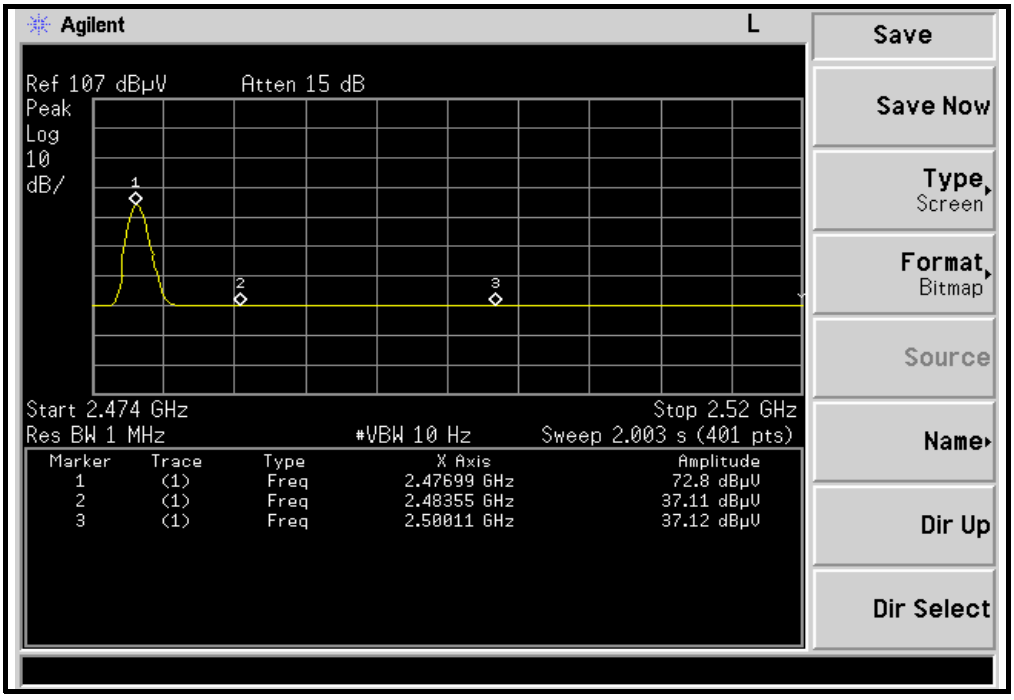
4.3.6 TEST RESULTS

The spectrum plots are attached on the following 4 images. It shows compliance with the requirement in part 15.249 (d).






Agilent
L
Ref 107 dBµV
Atten 15 dB
Peak
Log
10
dB/
Start 2.474 GHz
Res BW 1 MHz
#VBW 3 MHz
Stop 2.52 GHz
Sweep 4 ms (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.47699 GHz 97.09 dBµV
2 (1) Freq 2.48355 GHz 45.91 dBµV
3 (1) Freq 2.50011 GHz 46.04 dBµV
Save
Save Now
Type Screen
Format Bitmap
Source
Name
Dir Up
Dir Select


Agilent
L
Ref 107 dBµV
Atten 15 dB
Peak
Log
10
dB/
Start 2.474 GHz
Res BW 1 MHz
#VBW 10 Hz
Stop 2.52 GHz
Sweep 2.003 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.47699 GHz 72.8 dBµV
2 (1) Freq 2.48355 GHz 37.11 dBµV
3 (1) Freq 2.50011 GHz 37.12 dBµV
Save
Save Now
Type Screen
Format Bitmap
Source
Name
Dir Up
Dir Select

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

6. INFORMATION ON THE TESTING LABORATORIES

We, NS Technology Co., Ltd. , were founded in 2002 to provide our best service in EMC, Radio, and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025:

Copies of accreditation certificates of our laboratories obtained from approval agencies can be checked from our web site: http://www.nsco.cn. If you have any comments, please feel free to contact us at the following:

EMC Lab:
Tel: 86-769-85935656-8008
Fax: 86-769-85991080

Safety Lab:
Tel: 86-769-85935656-8018
Fax: 86-769-85991080

Email: service@nsco.cn
Web Site: http://www.nsco.cn

The address and road map of all our labs can be found in our web site also.

7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---