

# FCC Radio Test Report

## FCC ID: QMPM505NR3

This report concerns (check one): Original Grant Class II Change

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Tested by: BTL Inc. EMC Laboratory Date of Receipt: May. 08, 2014 Date of Test: May. 08, 2014 ~Jun. 10, 2014 Issued Date: Jun. 11, 2014

Testing Engineer :

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(David Mao)

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**Authorized Signatory** 

PO-0-

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#### Declaration

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C**, or National Institute of Standards and Technology (**NIST**) of **U.S.A**.

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#### Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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Table of Contents Pa	ige
1. CERTIFICATION	6
2 . SUMMARY OF TEST RESULTS	7
2.1 TEST FACILITY	8
2.2 MEASUREMENT UNCERTAINTY	8
3. GENERAL INFORMATION	9
3.1 GENERAL DESCRIPTION OF EUT	9
3.2 DESCRIPTION OF TEST MODES	11
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	12
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	
3.5 DESCRIPTION OF SUPPORT UNITS	14
4. EMC EMISSION TEST	15
4.1 CONDUCTED EMISSION MEASUREMENT	15
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS	15
4.1.2 TEST PROCEDURE	15
4.1.3 DEVIATION FROM TEST STANDARD	15
4.1.4 TEST SETUP	16
4.1.5 EUT OPERATING CONDITIONS 4.1.6 EUT TEST CONDITIONS	16 16
4.1.7 TEST RESULTS	16
4.2 RADIATED EMISSION MEASUREMENT	17
4.2.1 RADIATED EMISSION LIMITS	17
4.2.2 TEST PROCEDURE	18
4.2.3 DEVIATION FROM TEST STANDARD	18
4.2.4 TEST SETUP	18
4.2.5 EUT OPERATING CONDITIONS 4.2.6 EUT TEST CONDITIONS	19
4.2.8 EUT TEST CONDITIONS 4.2.7 TEST RESULTS (9KHZ TO 30MHZ)	19 20
4.2.8 TEST RESULTS (BETWEEN 30MHZ TO 1000 MHZ)	20
4.2.9 TEST RESULTS (ABOVE 1000 MHZ)	20
5 . BANDWIDTH TEST	21
5.1 APPLIED PROCEDURES	21
5.1.1 TEST PROCEDURE	21
5.1.2 DEVIATION FROM STANDARD	21
5.1.3 TEST SETUP	21
5.1.4 EUT OPERATION CONDITIONS 5.1.5 EUT TEST CONDITIONS	21 21
5.1.6 TEST RESULTS	21

BLL	_
Table of Contents	Page
6 . MAXIMUM OUTPUT POWER TEST	22
6.1 APPLIED PROCEDURES / LIMIT	22
6.1.1 TEST PROCEDURE 6.1.2 DEVIATION FROM STANDARD	22 22
6.1.2 DEVIATION FROM STANDARD 6.1.3 TEST SETUP	22
6.1.4 EUT OPERATION CONDITIONS	22
6.1.5 EUT TEST CONDITIONS	22
6.1.6 TEST RESULTS	22
7 . ANTENNA CONDUCTED SPURIOUS EMISSION	23
7.1 APPLIED PROCEDURES / LIMIT	23
7.1.1 TEST PROCEDURE 7.1.2 DEVIATION FROM STANDARD	23
7.1.2 DEVIATION FROM STANDARD 7.1.3 TEST SETUP	23 23
7.1.4 EUT OPERATION CONDITIONS	23
7.1.5 EUT TEST CONDITIONS	23
7.1.6 TEST RESULTS	23
8 . POWER SPECTRAL DENSITY TEST	24
8.1 APPLIED PROCEDURES / LIMIT	24
8.1.1 TEST PROCEDURE 8.1.2 DEVIATION FROM STANDARD	24 24
8.1.3 TEST SETUP	24 24
8.1.4 EUT OPERATION CONDITIONS	24
8.1.5 EUT TEST CONDITIONS	24
8.1.6 TEST RESULTS	24
9 . MEASUREMENT INSTRUMENTS LIST	25
10 . EUT TEST PHOTO	27
ATTACHMENT A - CONDUCTED EMISSION	31
ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)	36
ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)	38
ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)	45
ATTACHMENT E - BANDWIDTH	94
ATTACHMENT F - MAXIMUM OUTPUT POWER	107
ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION	111
ATTACHMENT H - POWER SPECTRAL DENSITY	142



## **REPORT ISSUED HISTORY**

Issued No.	Description	Issued Date
NEI-FCCP-1-1405C031	Original Issue.	Jun. 11, 2014



## 1. CERTIFICATION

Brand Name : Model Name : Applicant : Manufacturer :	
	<ol> <li>Shenzhen Gongjin Electronics Co.,Ltd</li> <li>Taicang T&amp;W Electronics.Co.,Ltd</li> </ol>
Address :	1. No 2&3 Buildings, Mingwei Factory Area, Songgang Road West, No. A
	Building, 1#Songgang Road Songgang Sub-District,Shenzhen,Guangdong,518105,P.R.China
	<ol> <li>Jiangnan Road 89, Ludu Town, Taicang, Suzhou, Jiangsu, 215412, P.R. China</li> </ol>
Test Item :	May. 08, 2014 ~Jun. 10, 2014 ENGINEERING SAMPLE FCC Part15, Subpart C(15.247) / ANSI C63.4-2009

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc. EMC Laboratory.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1405C031) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).



## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

## Applied Standard(s): FCC Part15 (15.247) , Subpart C

Standard(s) Section FCC	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(d)	Antenna conducted Spurious Emission	PASS	
15.247(a)(2)	6dB Bandwidth	PASS	
15.247(b)(3)	Peak Output Power	PASS	
15.247(e)	Power Spectral Density	PASS	
15.203	Antenna Requirement	PASS	
15.209/15.205	Transmitter Radiated Emissions	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this test report.

(2) The test follows FCC KDB Publication No. 558074 D01 DTS Meas Guidance v03r02 (Measurement Guidelines of DTS)



#### 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C02/DG-CB03** at the location of No.3, Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.523792 BTL's test firm number for FCC: 319330

#### 2.2 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:

The reported uncertainty of measurement y  $\pm$  U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of  $\,$  k=2 , providing a level of confidence of approximately 95 %  $^\circ$ 

#### A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U , (dB)	NOTE
DG-C02	CISPR	150 KHz ~ 30MHz	1.94	

#### B. Radiated Measurement :

Test Site	Method	H Measurement Frequency Ant. Range H / V U · (dB)		NOTE	
		9KHz~30MHz	V	3.79	
		9KHz~30MHz	Н	3.57	
		30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	Н	3.60	
DG-CB03	CISPR	200MHz ~ 1,000MHz	V	3.86	
DG-CB03	CIOFK	200MHz ~ 1,000MHz	Н	3.94	
		1GHz~18GHz	V	3.12	
		1GHz~18GHz	Н	3.68	
		18GHz~40GHz	V	4.15	
		18GHz~40GHz	Н	4.14	



## **3. GENERAL INFORMATION**

#### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	ADSL2+,Ethernet WAN, Broadband Gateway			
Brand Name	VisionNet			
Model Name	M505N			
Model Difference	N/A			
	Operation Frequency	2412~2462 MHz		
	Modulation Technology     802.11b:DSSS       802.11g:OFDM       802.11n:OFDM			
Product Description	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n up to 300 Mbps		
	Output Power (Max.)	802.11b: 20.62dBm 802.11g: 20.70dBm 802.11n(20MHz): 23.93dBm 802.11n(40MHz): 23.91dBm		
Power Source	DC voltage supplied from AC/DC adapter. #1 Manufacturer: Shenzhen Gongjin Electronics Co., Ltd. Model: S12B22-120A100-04 #2 Model: RD1201000-C55-1MG			
Power Rating	#1 I/P: AC 100-240V~50/60Hz max 0.5A O/P: DC 12V/1A #2 I/P: AC 100-240V~50/60Hz max 0.6A O/P: DC 12V/1A			
Connecting I/O Port(s)	Please refer to the User's Manual			

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Note:

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



## 2. Channel List:

	CH 01 – CH 11 for 802.11b, 802.11g, 802.11n(20MHz) CH 03 – CH 09 for 802.11n(40MHz)						
Channel Frequency (MHz) Channel Frequency (MHz) Channel Frequency (MHz) Channel Frequency (MHz) Channel (MHz) Channel (MHz)					Frequency (MHz)		
01	01 2412 04 2427 07 2442 10 2457						
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

3. Table for Filed Antenna

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)
1	Airgain <sup>-</sup> ))	N2420-Series	Internal	N/A	2
2	Airgain <sup>-</sup> ))	N2420-Series	Internal	N/A	2

#### Note:

(1 The EUT incorporates a MIMO function. Physically, the EUT provides two completed two transmitters and two receivers (2T2R).

4.

Operating Mode TX Mode	1TX	2TX
802.11b	V (ANT 1 or ANT 2)	-
802.11g	V (ANT 1 or ANT 2)	-
802.11n(20MHz)	-	V (ANT 1 + ANT 2)
802.11n(40MHz)	-	V (ANT 1 + ANT 2)



#### **3.2 DESCRIPTION OF TEST MODES**

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11
Mode 4	TX N-40MHZ MODE CHANNEL 03/06/09
Mode 5	TX MODE

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Test		
Final Test Mode Description		
Mode 5	TX MODE	

For Radiated Test		
Final Test Mode	Description	
Mode 1	TX B MODE CHANNEL 01/06/11	
Mode 2	TX G MODE CHANNEL 01/06/11	
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11	
Mode 4	TX N-40MHZ MODE CHANNEL 03/06/09	

Note:

(1) The measurements are performed at the high, middle, low available channels.

(2) 802.11b mode: DBPSK (1Mbps)
802.11g mode: OFDM (6Mbps)
802.11n HT20 mode : BPSK (13Mbps)
802.11n HT40 mode : BPSK (27Mbps)
For radiated emission tests, the highest output powers were set for final test.

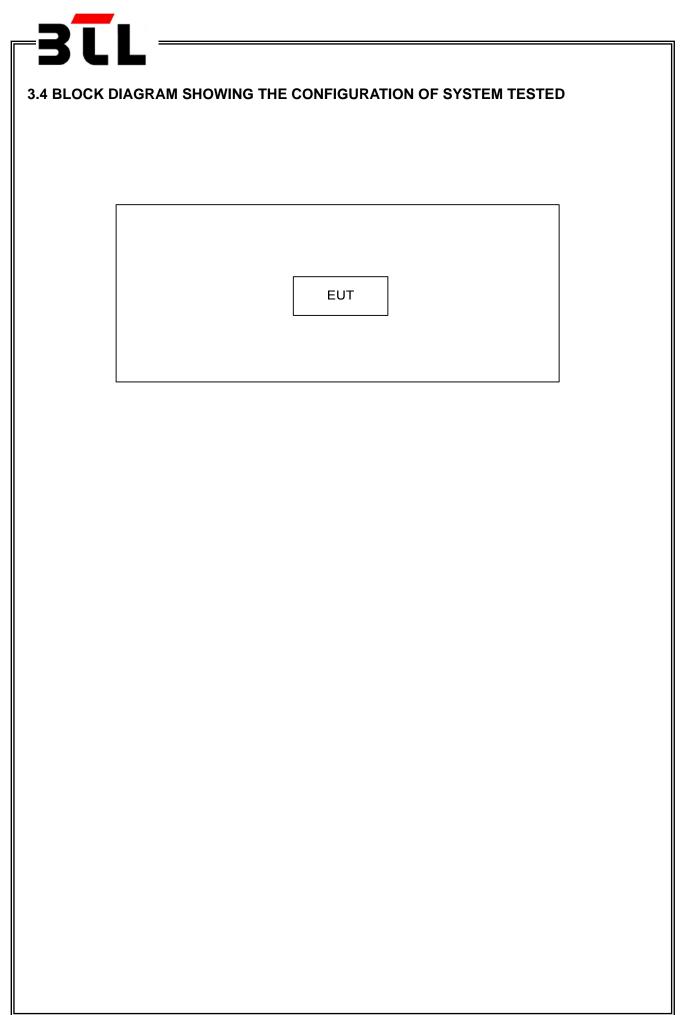
(3) For radiated below 1G test, the 802.11b is found to be the worst case and recorded.



#### 3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of WLAN

Test software version	Duck_1_1-9		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b DSSS	18	18	17
IEEE 802.11g OFDM	17	17	17
IEEE 802.11n (20MHz)	17	17	17
Frequency	2422 MHz	2437 MHz	2452 MHz
IEEE 802.11n (40MHz)	18	18	15





#### **3.5 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.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID/IC	Series No.	Note
-	-	-	-	-	-	

Iter	Shielded Type	Ferrite Core	Length	Note
-	-	-	-	



## 4. EMC EMISSION TEST

#### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

	Class A	(dBuV)	Class B (dBuV)		Standard
Frequency (MHz)	Quasi-peak	Average	Quasi-peak	Average	Standard
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

#### The following table is the setting of the receiver

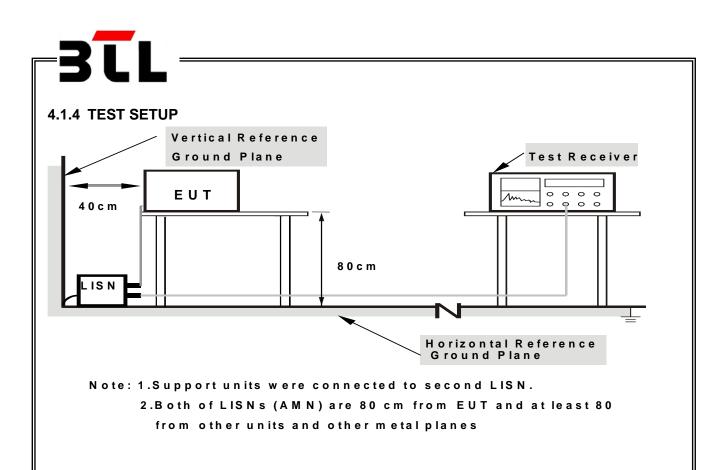
Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

#### 4.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 4.1.3 DEVIATION FROM TEST STANDARD

No deviation



## 4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

#### 4.1.6 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

#### 4.1.7 TEST RESULTS

Please refer to the Attachment A.



#### 4.2 RADIATED EMISSION MEASUREMENT

#### 4.2.1 RADIATED EMISSION LIMITS

20dB in any 100 KHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a) & RSS-210 section 2.2& Annex 8 (A8.5), then the 15.209(a)& RSS-Gen limit in the table below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (9KHz-1000MHz)

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(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
960~1000	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Frequency (MHz)	(dBuV/m) (at 3 meters)		
	PEAK	AVERAGE	
Above 1000	74	54	

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting	
Attenuation	Auto	
Start Frequency	1000 MHz	
Stop Frequency	10th carrier harmonic	
RBW / VBW	1MHz / 1MHz for Dook 1 MHz / 10Hz for Average	
(Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average	

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9KHz~90KHz for PK/AVG detector
Start ~ Stop Frequency	90KHz~110KHz for QP detector
Start ~ Stop Frequency	110KHz~490KHz for PK/AVG detector
Start ~ Stop Frequency	490KHz~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

Report No.: NEI-FCCP-1-1405C031



### 4.2.2 TEST PROCEDURE

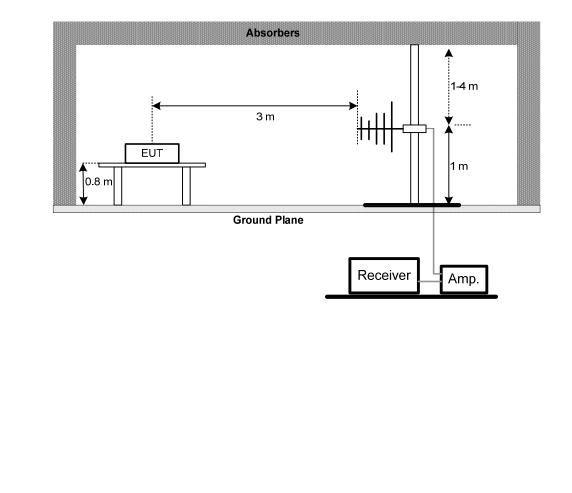
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item -EUT Test Photos.

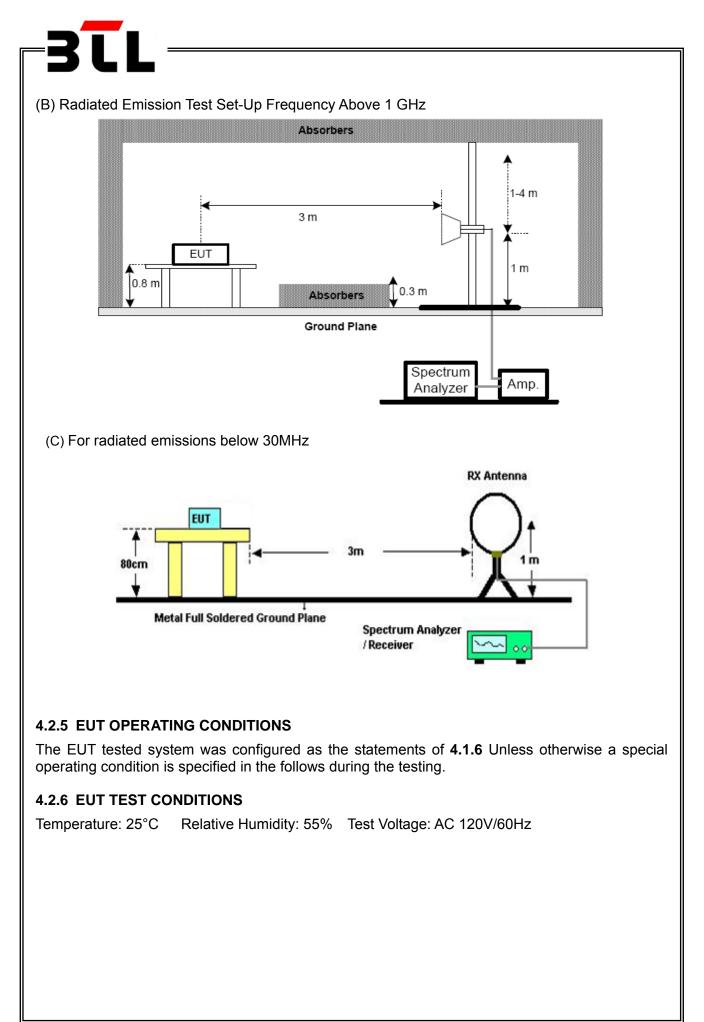
#### 4.2.3 DEVIATION FROM TEST STANDARD

#### No deviation

## 4.2.4 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz







### 4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Attachment B

Remark:

- (1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
- (2) Distance extrapolation factor = 40 log (specific distance / test distance) (dB).
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor.

#### 4.2.8 TEST RESULTS (BETWEEN 30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

#### 4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.



## 5. BANDWIDTH TEST

#### 5.1 Applied procedures

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Frequency Range (MHz)	Result	
15.247(a)(2)	Bandwidth	2400-2483.5	PASS	

#### 5.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = 2.5 ms.

#### 5.1.2 DEVIATION FROM STANDARD

No deviation.

#### 5.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### 5.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 5.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

#### 5.1.6 TEST RESULTS

Please refer to the Attachment E.



## 6. MAXIMUM OUTPUT POWER TEST

#### 6.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C						
Section	Test Item	Limit	Frequency Range (MHz)	Result		
15.247(b)(3)	Maximum Output Power	1 Watt or 30dBm	2400-2483.5	PASS		

#### 6.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
- b. The maximum peak conducted output power was performed in accordance with method 9.1.3 of FCC KDB 558074 D01 DTS Meas Guidance v03r02.

#### 6.1.2 DEVIATION FROM STANDARD

No deviation.

#### 6.1.3 TEST SETUP



#### 6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

Transmit output power was measured while the host equipment supply voltage was varied from 85 % to 115 % of the nominal rated supply voltage. No change in transmit output power was observed.

#### 6.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

#### 6.1.6 TEST RESULTS

Please refer to the Attachment F.



## 7. ANTENNA CONDUCTED SPURIOUS EMISSION

#### 7.1 Applied procedures / limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

#### 7.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = Auto.

#### 7.1.2 DEVIATION FROM STANDARD

No deviation.

#### 7.1.3 TEST SETUP



#### 7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 7.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

#### 7.1.6 TEST RESULTS

Please refer to the Attachment G.



## 8. POWER SPECTRAL DENSITY TEST

#### 8.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C					
Section	Test Item	Limit	Frequency Range (MHz)	Result	
15.247(e)	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS	

#### 8.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW=3KHz, VBW=10KHz, Sweep time = Auto.

#### 8.1.2 DEVIATION FROM STANDARD

No deviation.

### 8.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### 8.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 8.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

#### 8.1.6 TEST RESULTS

Please refer to the Attachment H.



## 9. MEASUREMENT INSTRUMENTS LIST

	Conducted Emission Measurement							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until			
1	LISN	EMCO	3816/2	00052765	Mar. 29, 2015			
2	LISN	R&S	ENV216	101447	Mar. 29, 2015			
3	Test Cable	N/A	C_17	N/A	Mar. 14, 2015			
4	EMI TEST RECEIVER	R&S	ESCS30	833364/017	Mar. 29, 2015			
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 29, 2015			

		Radiated Emis	ssion Measuren	nent	
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	EMCO	3142C	00066462	Mar. 29, 2015
2	Antenna	EMCO	3142C	00066464	Mar. 29, 2015
3	Amplifier	Agilent	8447D	2944A11203	Nov. 11, 2014
4	Amplifier	Agilent	8447D	2944A11204	Nov. 11, 2014
5	Spectrum Analyzer	Agilent	E4443A	MY48250370	Nov. 11, 2014
6	RF Pre-selector	Agilent	N9039A	MY46520201	Nov. 11, 2014
7	Test Cable	N/A	Cable_5m_8m _15m	N/A	Jan. 14, 2015
8	Test Cable	N/A	Cable_5m_11 m_15m	N/A	Jan. 14, 2015
9	Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov. 11, 2014
10	RF Pre-selector	Agilent	N9039A	MY46520214	Nov. 11, 2014
11	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
12	Horn Antenna	EMCO	3115	9605-4803	Mar. 29, 2015
13	Amplifier	Agilent	8449B	3008A02584	Nov. 11, 2014
14	Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov. 11, 2014
15	Test Cable	Huber+Suhner	SUCOFLEX_1 5m_4m	N/A	Jan. 14, 2015
16	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Feb. 22, 2015
17	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Mar. 29, 2015



	6dB Bandwidth Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014		

	Peak Output Power Measurement						
ltem	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	P-series Power meter	Agilent	N1911A	MY45100473	Apr. 24, 2015		
2	Wireband Power sensor	Agilent	N1921A	MY51100041	Apr. 24, 2015		

	Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014	

	Power Spectral Density Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014		

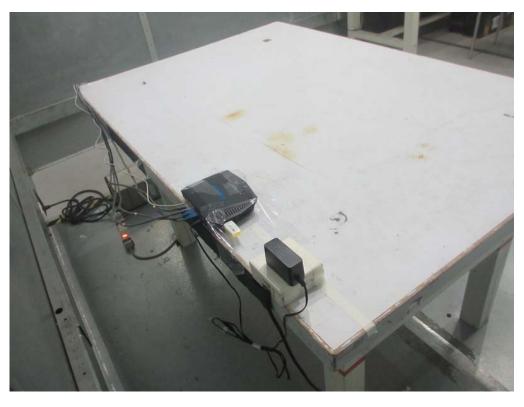
Remark: "N/A" denotes no model name, serial no. or calibration specified.

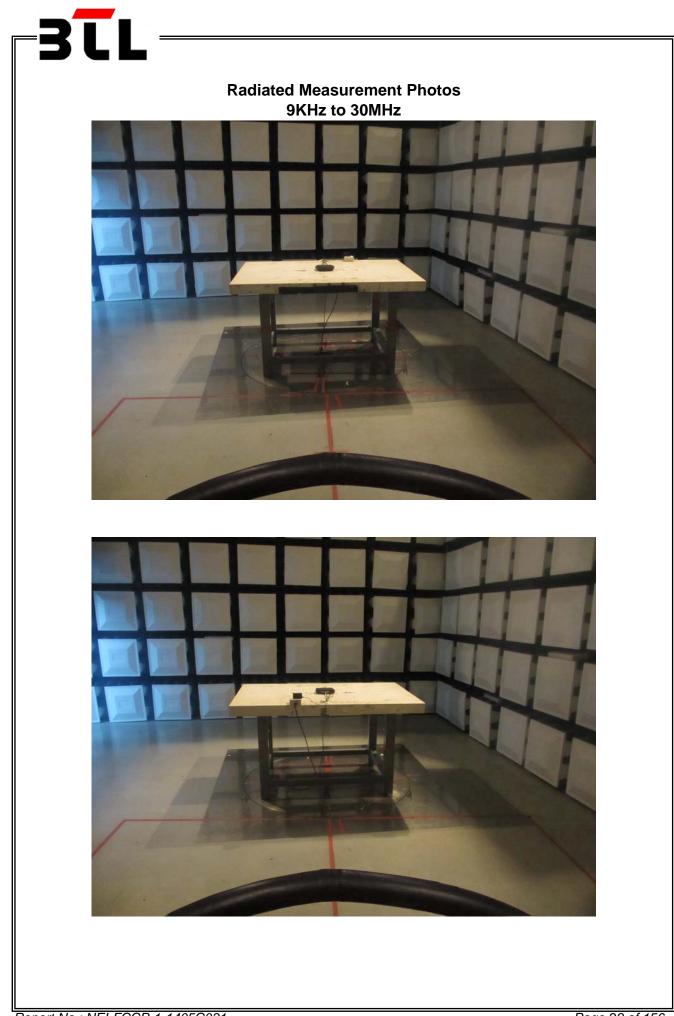
All calibration period of equipment list is one year.

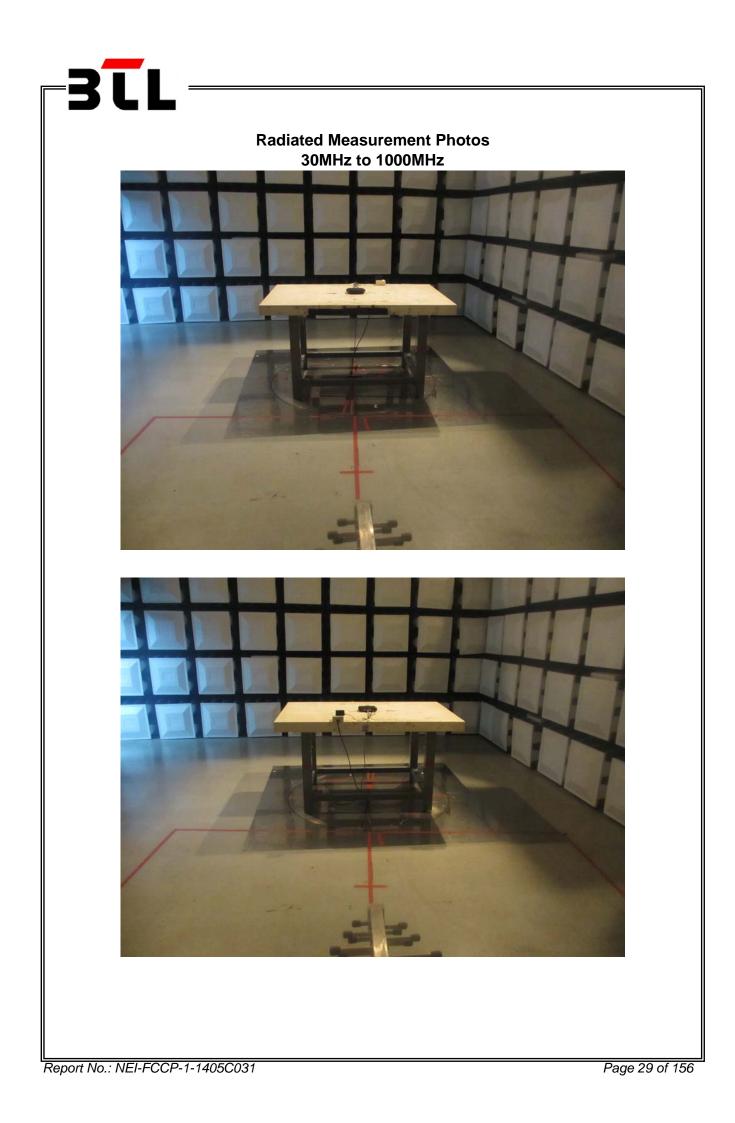


### **Conducted Measurement Photos**





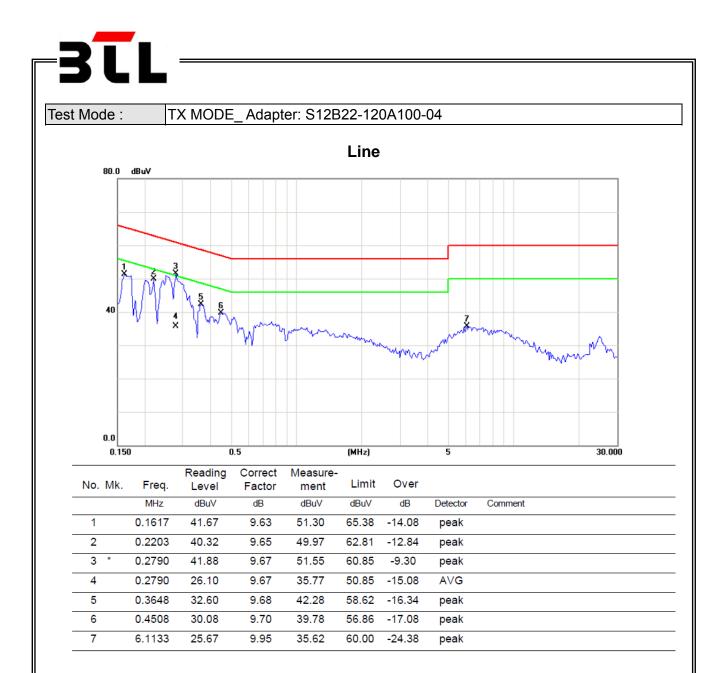


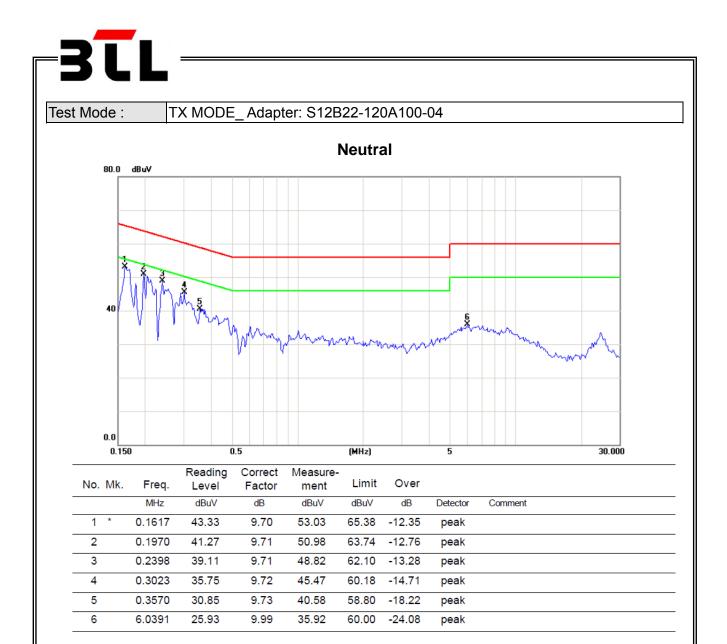






## **ATTACHMENT A - CONDUCTED EMISSION**

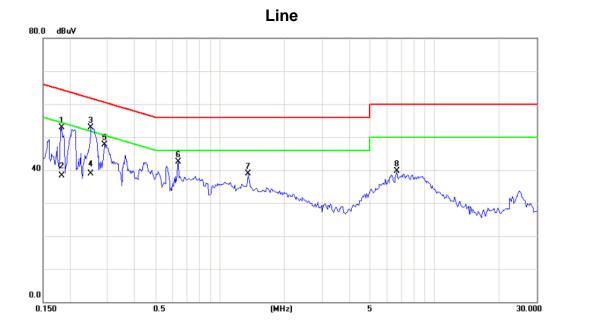




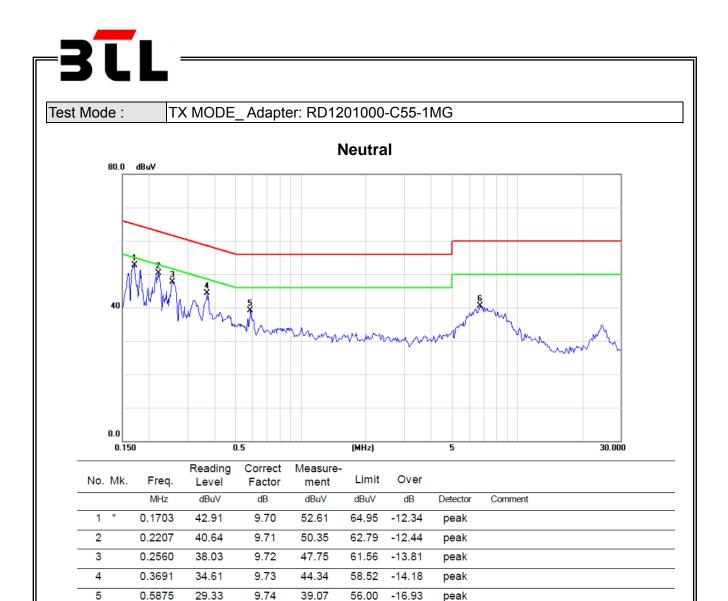


Test Mode :

## TX MODE\_Adapter: RD1201000-C55-1MG



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1833	43.17	9.65	52.82	64.33	-11.51	peak	
2	0.1833	28.60	9.65	38.25	54.33	-16.08	AVG	
3 *	0.2515	43.24	9.66	52.90	61.71	-8.81	peak	
4	0.2515	29.30	9.66	38.96	51.71	-12.75	AVG	
5	0.2906	38.00	9.67	47.67	60.51	-12.84	peak	
6	0.6421	32.77	9.72	42.49	56.00	-13.51	peak	
7	1.3521	29.11	9.78	38.89	56.00	-17.11	peak	
8	6.6952	29.66	9.97	39.63	60.00	-20.37	peak	



6.7540

6

30.50

10.01

40.51

60.00 -19.49

peak



ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)



Test Mode:	T	X Mode					
Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	. ,	Margin	Note
(MHz)	0°/90°	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
0.0094	0°	68.74	24.30	93.04	128.18	-35.14	AVG
0.0094	0°	74.35	24.30	98.65	148.18	-49.53	PEAK
0.0152	0°	71.38	24.30	95.68	123.97	-28.29	AVG
0.0152	0°	80.26	24.30	104.56	143.97	-39.41	PEAK
0.0267	0°	54.16	23.88	78.04	119.07	-41.04	AVG
0.0267	0°	60.72	23.88	84.60	139.07	-54.48	PEAK
0.0358	0°	60.54	23.30	83.84	116.53	-32.69	AVG
0.0358	0°	65.78	23.30	89.08	136.53	-47.45	PEAK
0.5780	0°	19.32	20.05	39.37	72.37	-33.00	QP
1.7536	0°	18.82	19.52	38.34	69.54	-31.20	QP
				-			
Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	0°/90°	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
0.0096	90°	74.35	24.30	98.65	127.99	-29.34	AVG
0.0096	90°	82.76	24.30	107.06	147.99	-40.93	PEAK
0.0253	90°	54.18	23.96	78.14	119.54	-41.40	AVG
0.0253	90°	59.65	23.96	83.61	139.54	-55.93	PEAK
0.0348	90°	54.75	23.36	78.11	116.77	-38.66	AVG
0.0348	90°	58.85	23.36	82.21	136.77	-54.56	PEAK
0.0437	90°	57.45	22.80	80.25	114.79	-34.55	AVG
0.0437	90°	66.75	22.80	89.55	134.79	-45.25	PEAK
0.4972	90°	18.75	19.81	38.56	73.67	-35.12	QP
	1	1					

Remark:

1.7246

90°

18.63

(1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

38.16

69.54

-31.38

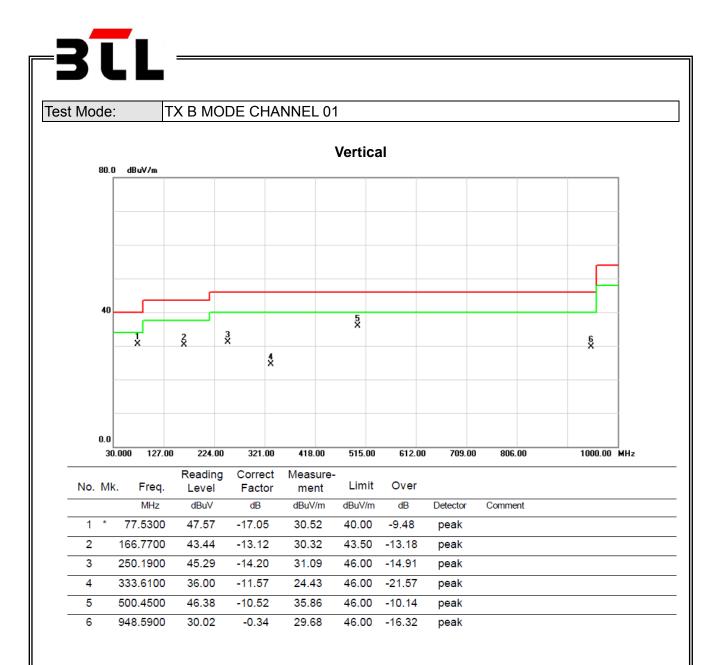
QP

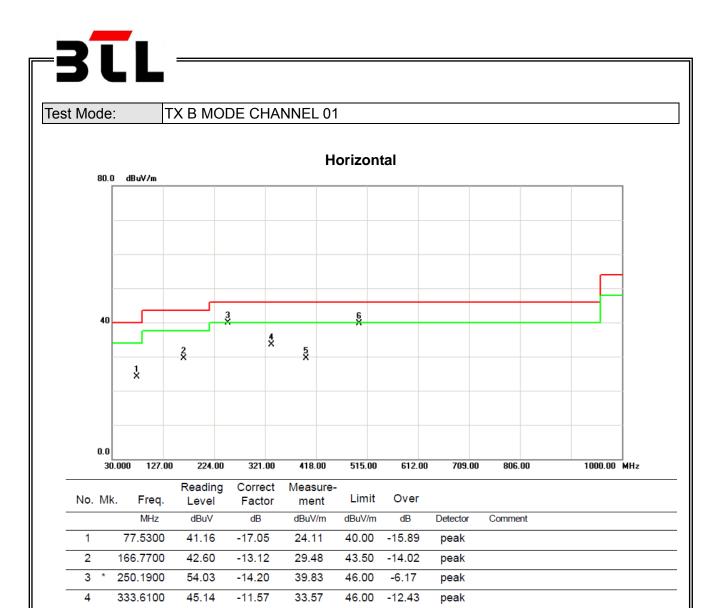
- (2) Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor.

19.53



## ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)





5

6

399.5700

500.4500

39.29

50.23

-9.70

-10.52

29.59

39.71

46.00

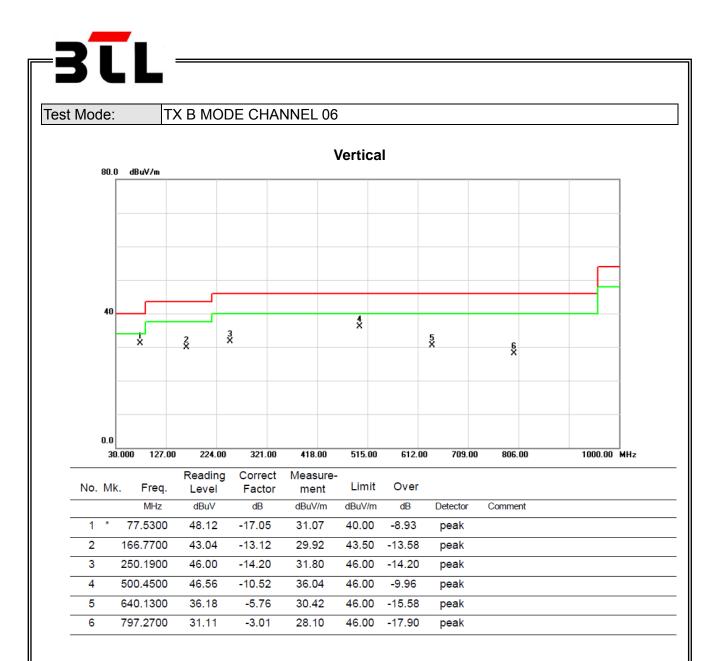
46.00

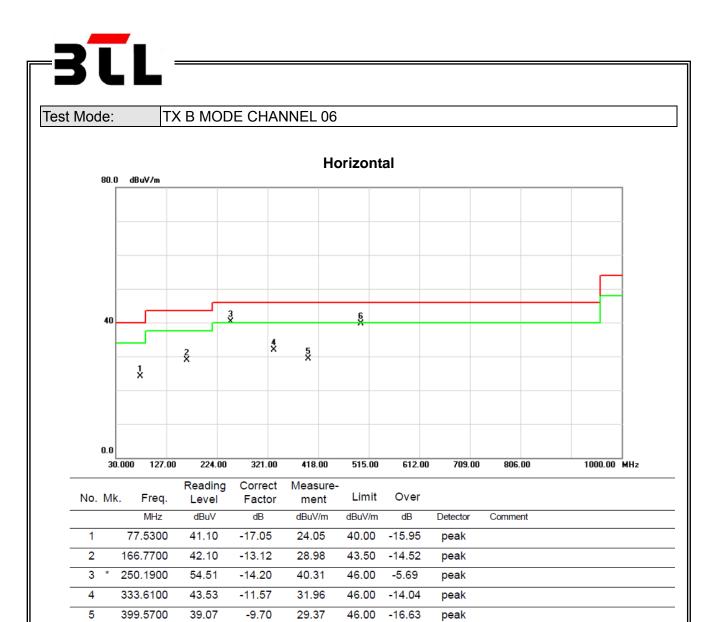
-16.41

-6.29

peak

peak





500.4500

50.28

-10.52

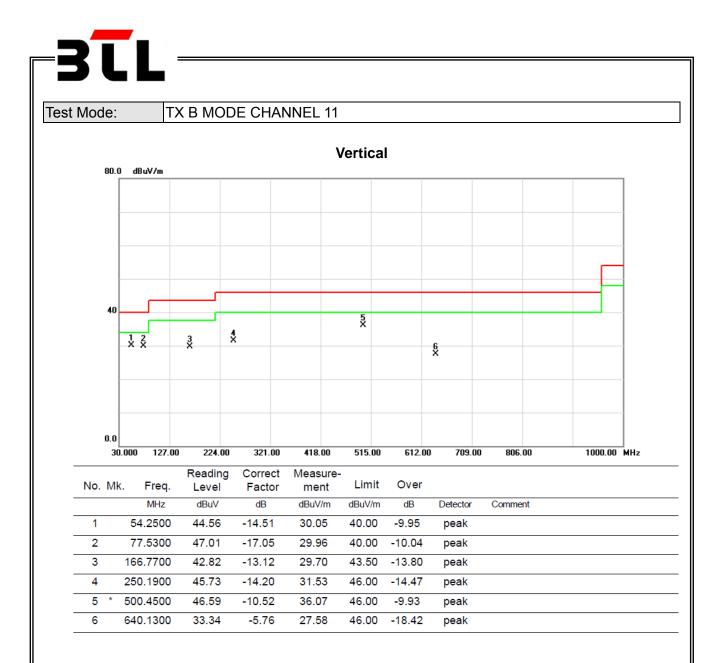
39.76

46.00

-6.24

peak

6



## 2 Test Mode: **TX B MODE CHANNEL 11** Horizontal 80.0 dBu¥/m ŝ <u>6</u> 40 5 X 4 X 2 X $\stackrel{1}{\times}$ 0.0 127.00 515.00 612.00 1000.00 MHz 30.000 224.00 321.00 418.00 709.00 806.00 Reading Correct Measure-Limit Over No. Mk. Freq. Level Factor ment MHz dBuV/m dBuV dB dBuV/m dB Detector Comment 77.5300 40.57 40.00 -17.05 23.52 -16.48 1 peak 2 166.7700 41.43 -13.12 28.31 43.50 -15.19 peak 3 \* 250.1900 54.04 -14.20 39.84 46.00 -6.16 peak

4

5

6

333.6100

417.0300

500.4500

43.24

42.49

50.29

-11.57

-9.33

-10.52

31.67

33.16

39.77

46.00

46.00

-14.33

-6.23

46.00 -12.84

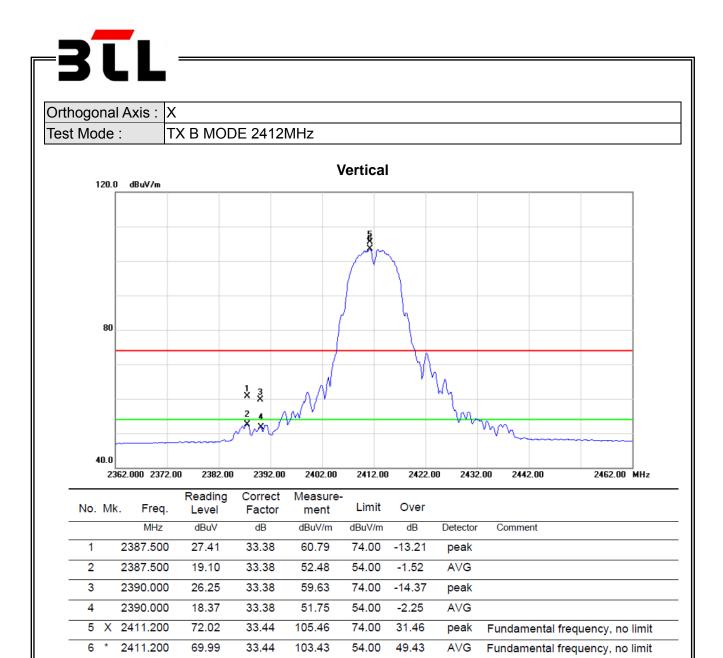
peak

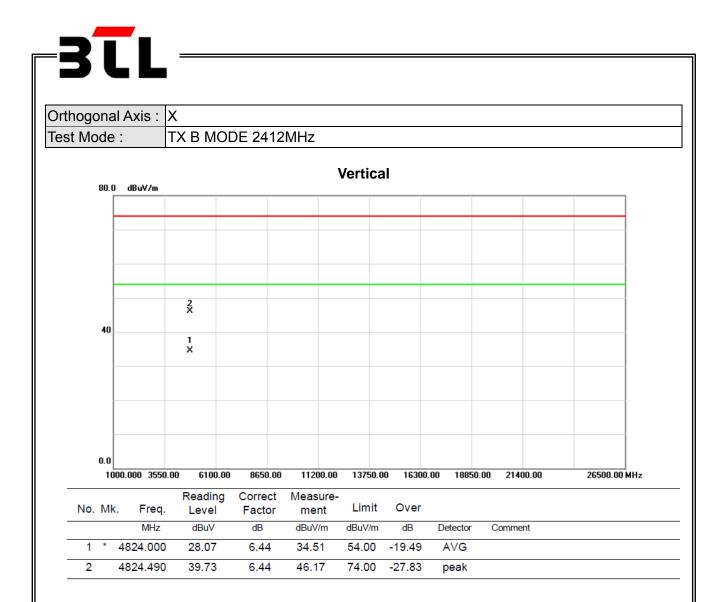
peak

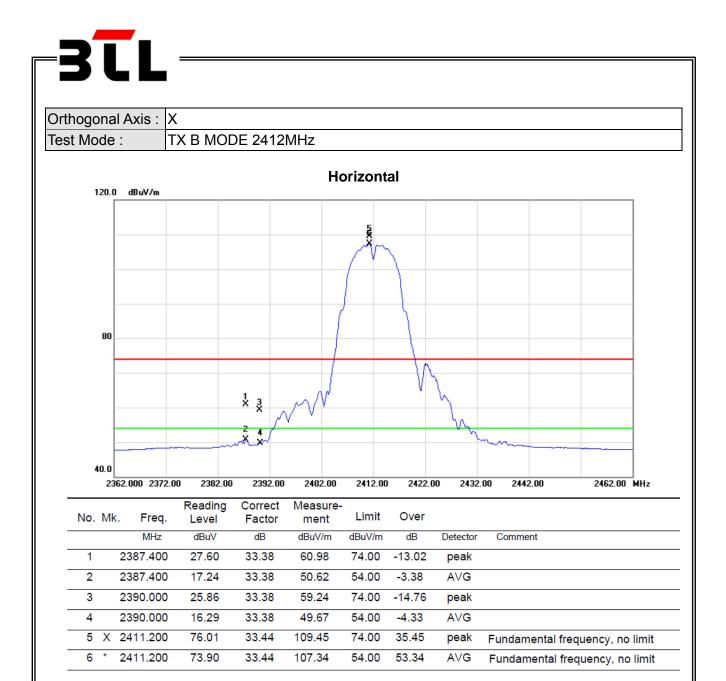
peak

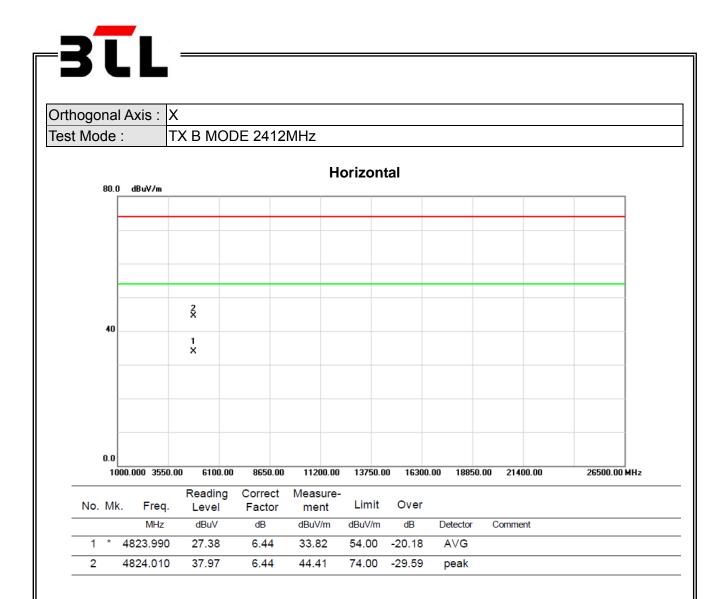


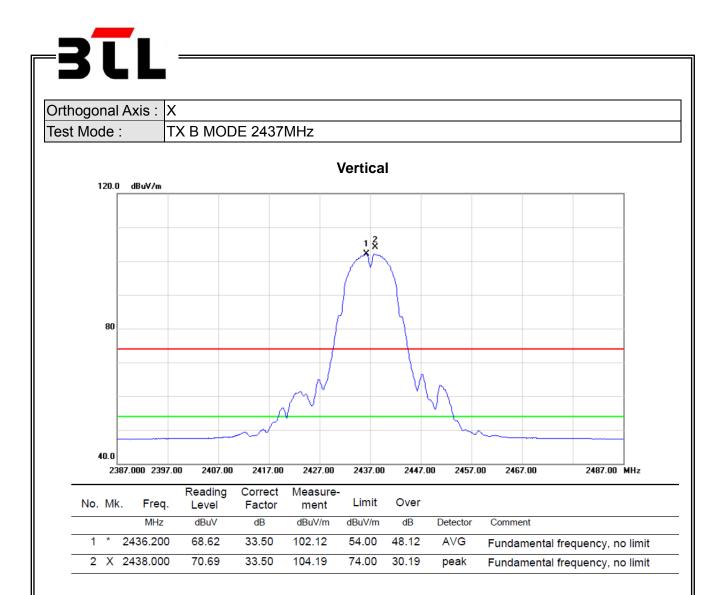
## ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

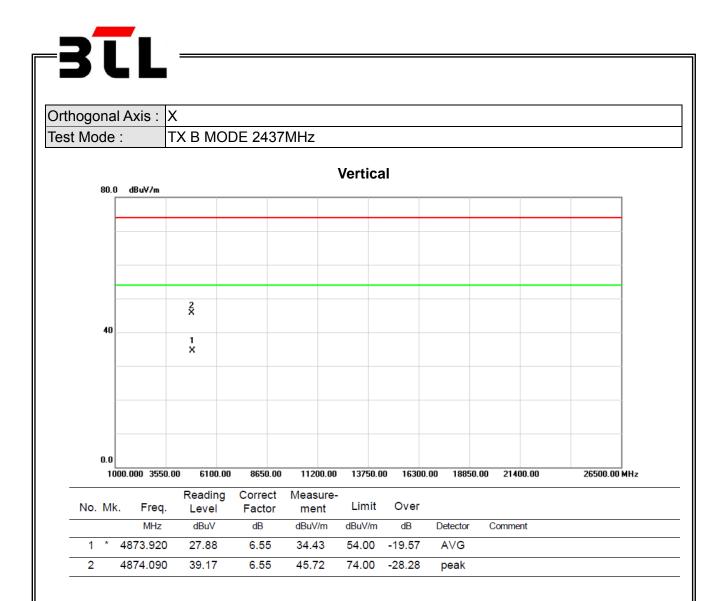


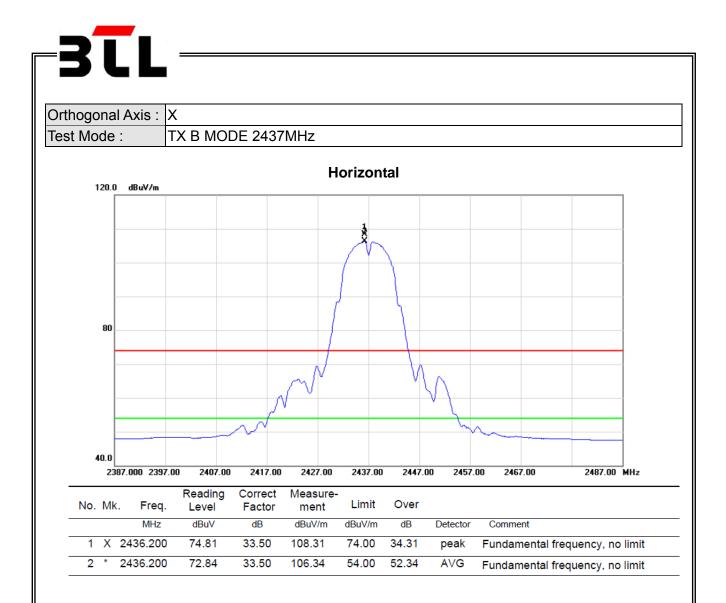


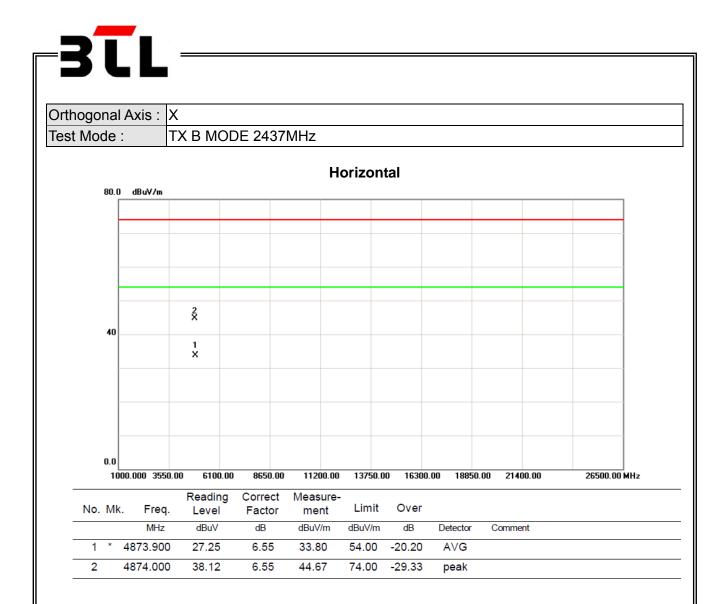


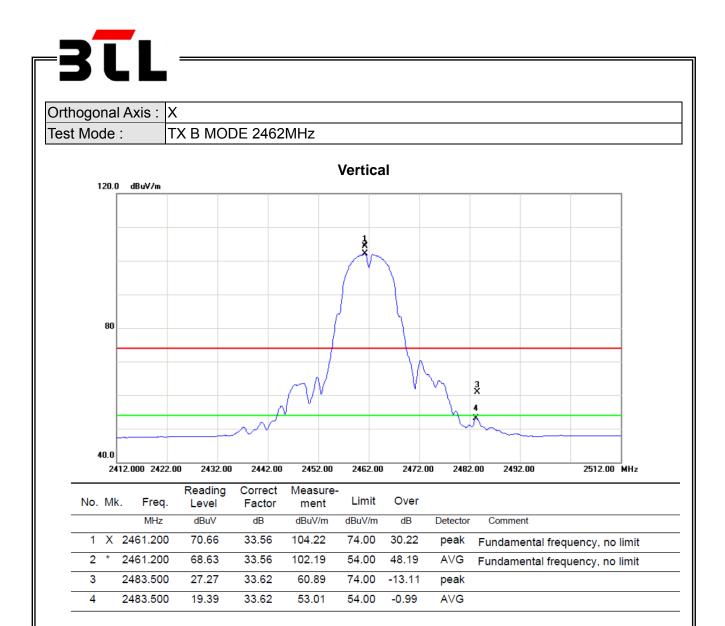


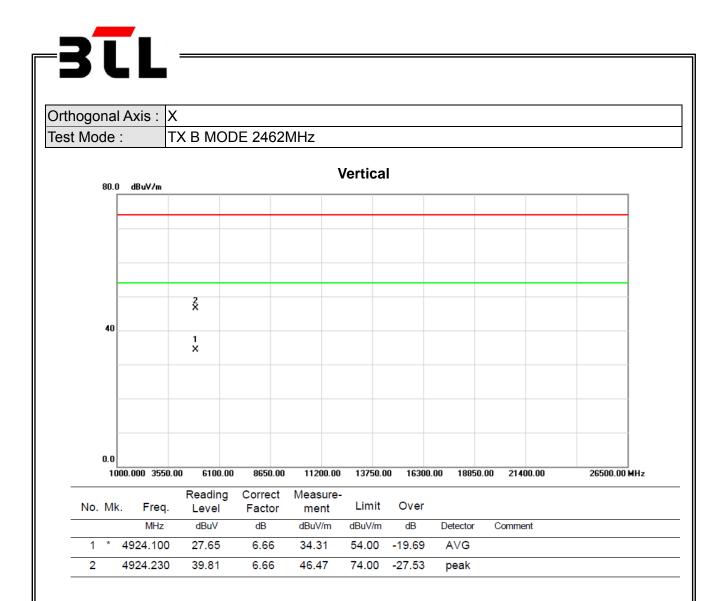


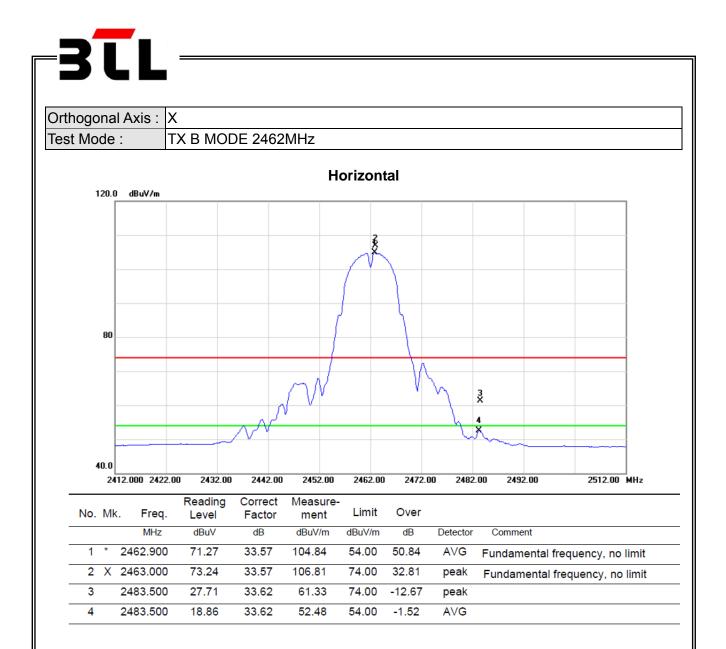


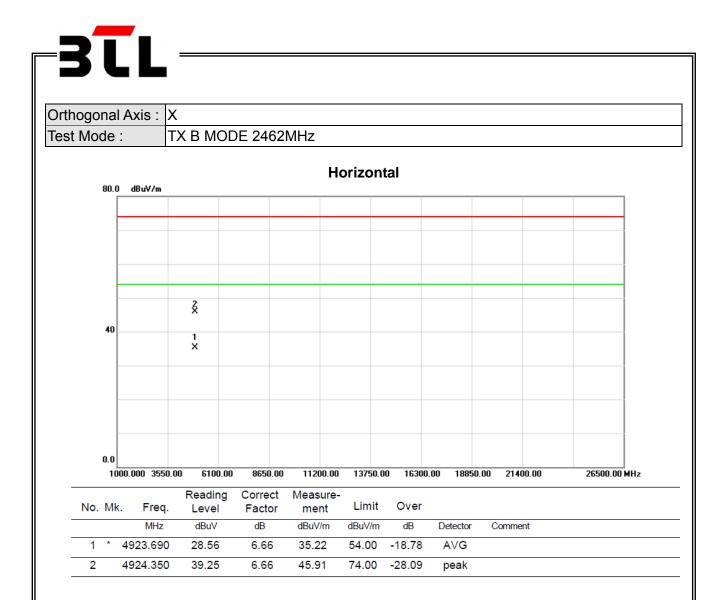


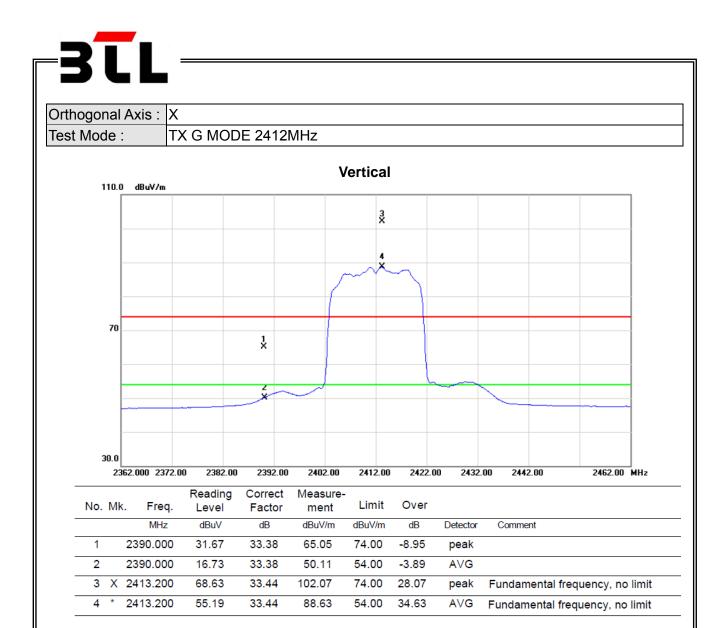


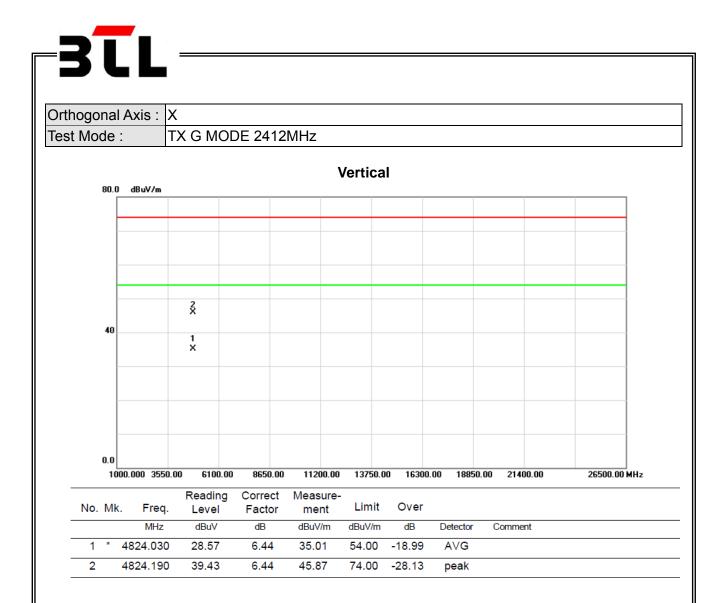


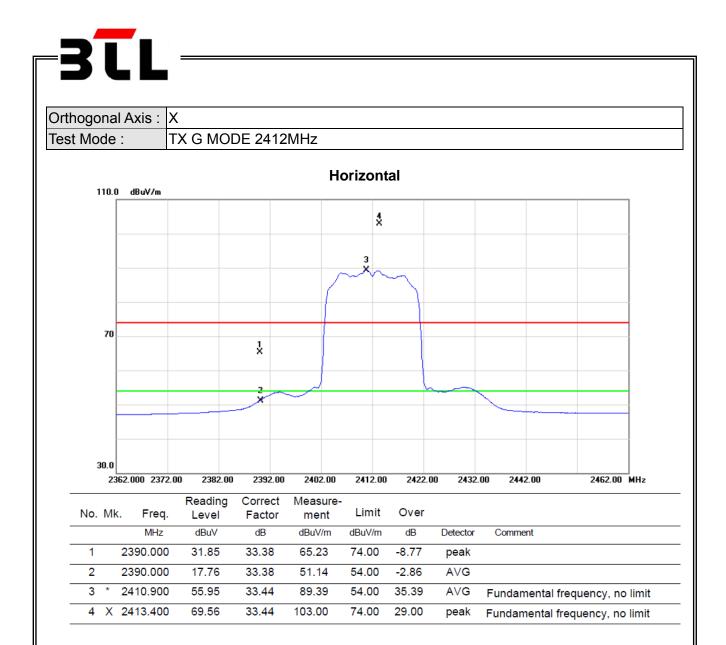


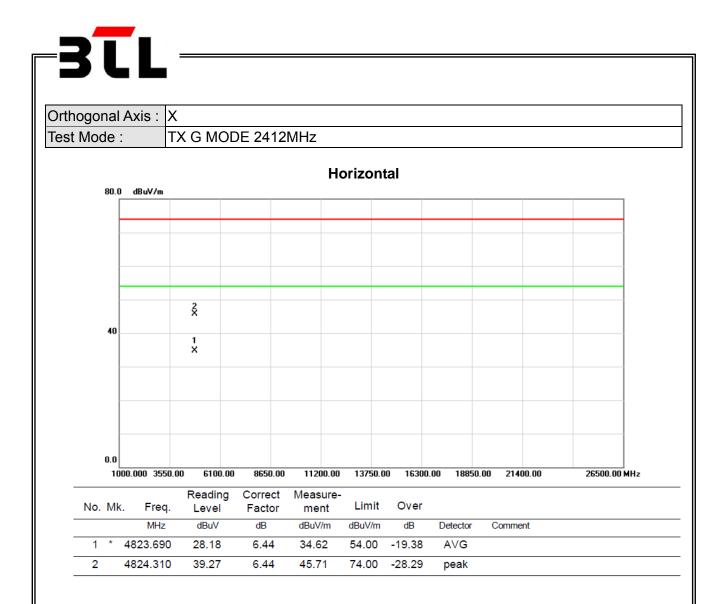


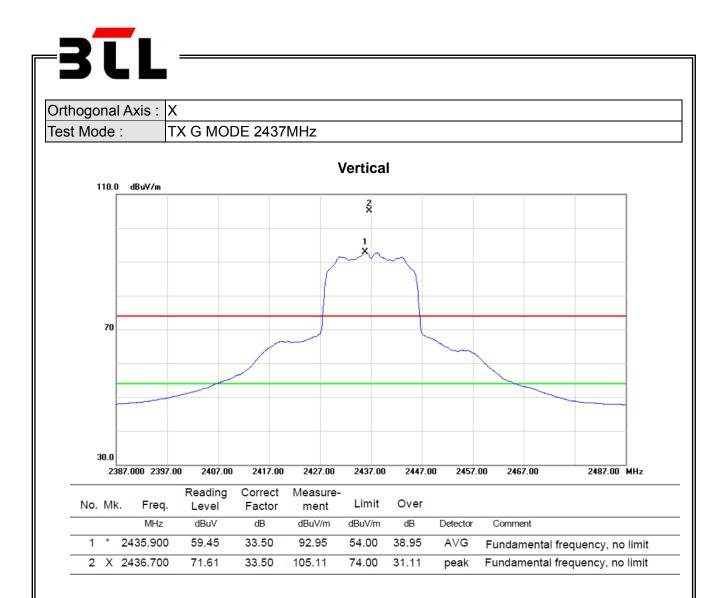


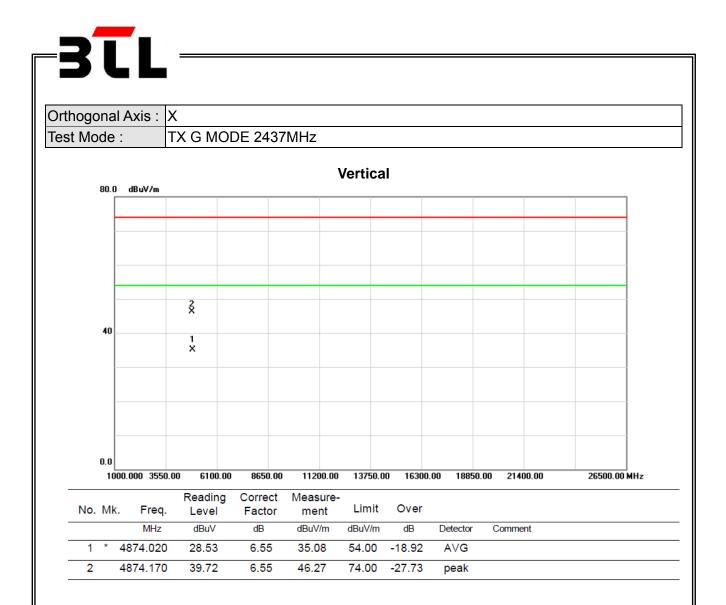


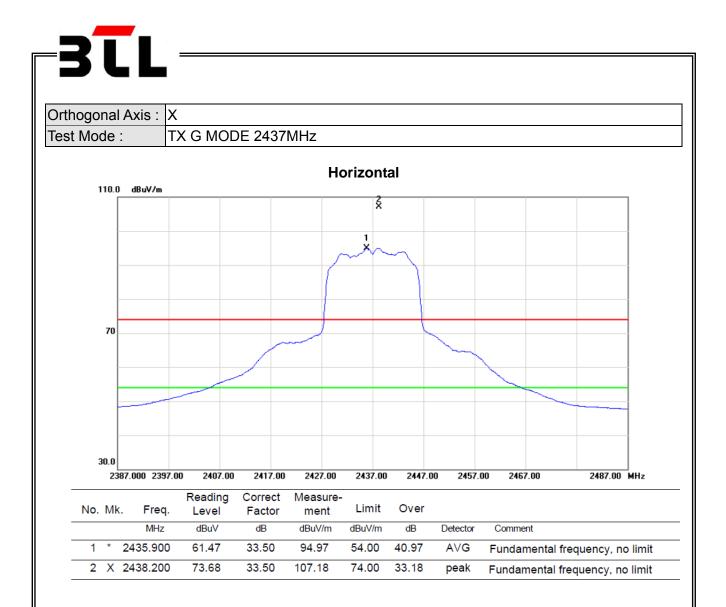


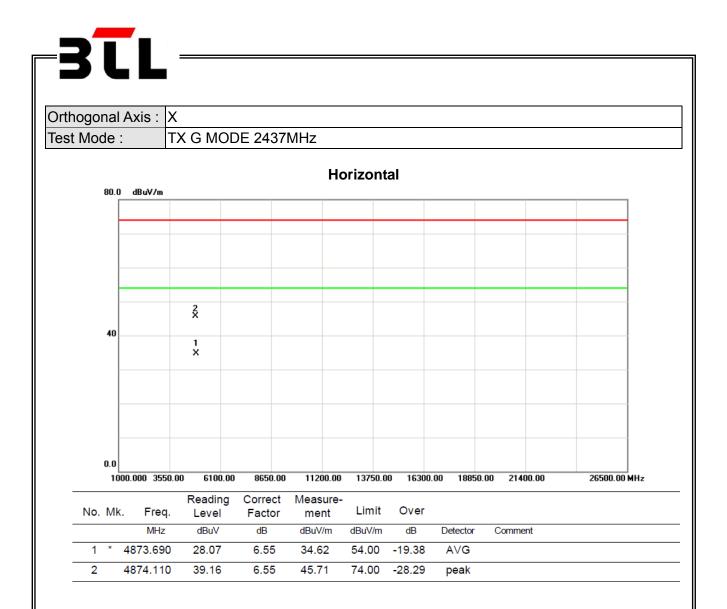


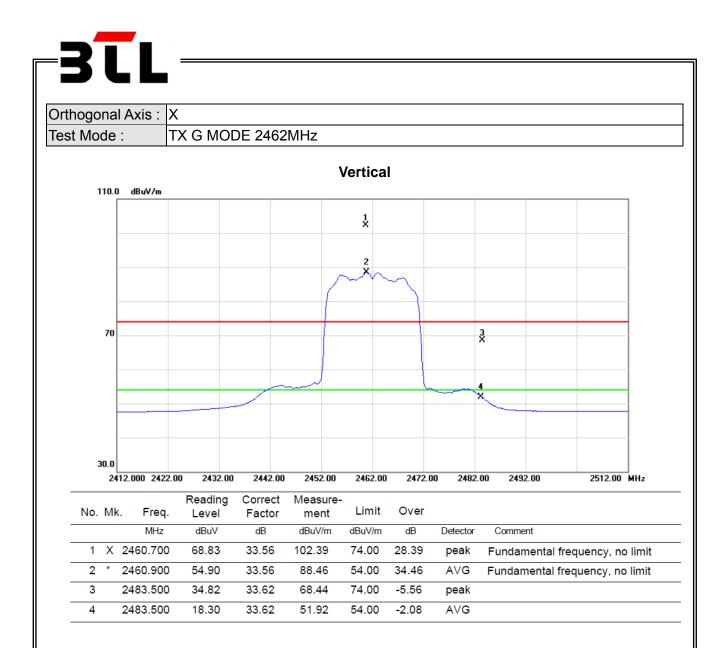


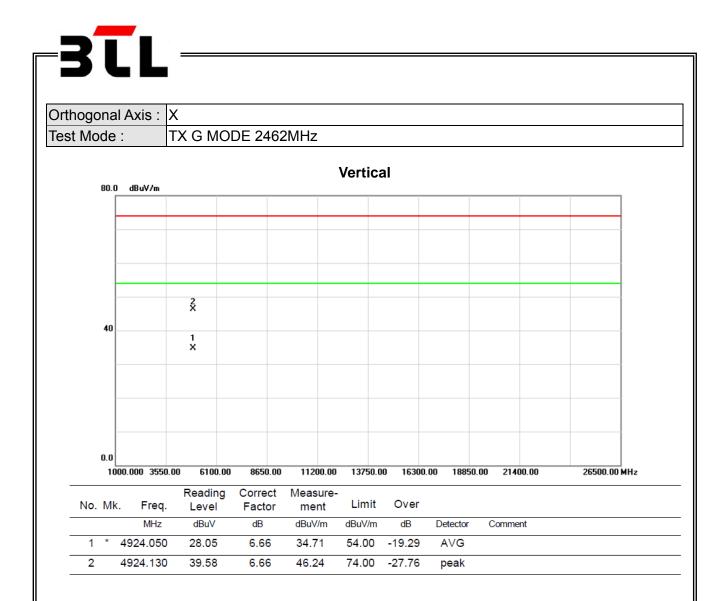


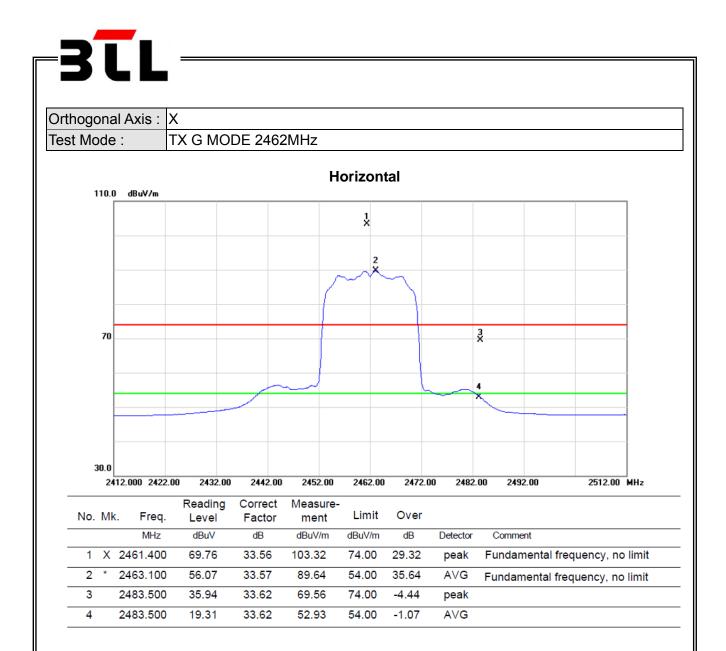


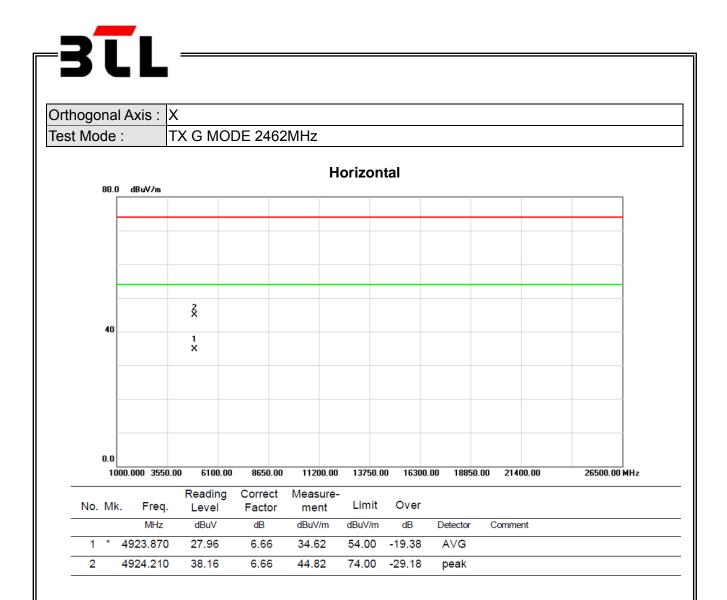




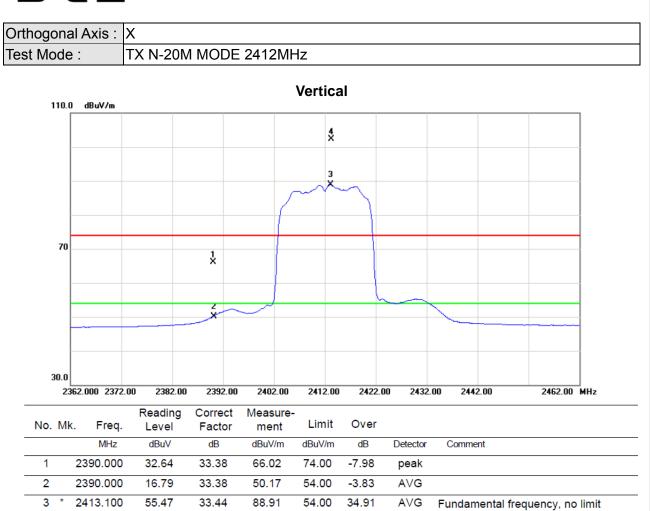












4 X 2413.300

68.80

33.44

102.24

74.00

28.24

peak

Fundamental frequency, no limit

