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BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

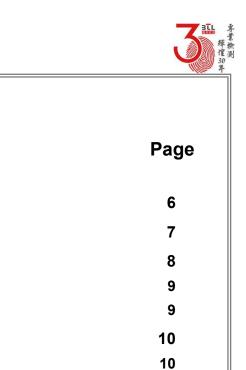
BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

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. Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.





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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Jun. 13, 2019
R01	Updated the model difference(s).	Jun. 21, 2019
RUZ	Delete the Ant.1 and total test result of the TX G Mode. The rest are kept the same.	Jun. 27, 2019





1. GENERAL SUMMARY

Brand Name :	SET TOP BOX Technicolor UIW4020WOW
	UIW4020TLU, UIW4020COG
Applicant :	Technicolor Connected Home USA LLC
Manufacturer :	Technicolor Connected Home USA LLC
Address :	5030 Sugarloaf Parkway Building 6 Lawrenceville Georgia United States
Factory :	Fuhong Precision Component (Bac Giang) COMPANY Limited
Address :	Dinh Tram Industrial Park, Hoang Ninh Commune, Viet Yen District, Bac Giang Province, Vietnam Postcode: 10000
Date of Test :	Apr. 30, 2019 ~ May 16, 2019
Test Sample :	Engineering Sample No.: D190404649
Standard(s) :	FCC Part15, Subpart C (15.247)
	ANSI C63.10-2013
	FCC KDB 558074 D01 DTS Meas Guidance v05r02
	FCC KDB 662911 D01 Multiple Transmitter Output v02r01

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

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-3-1904C199) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of A2LA according to the ISO/IEC 17025 quality assessment standard and technical standard(s).

Test results included in this report are only for the WLAN 2.4 GHz part.



2. SUMMARY OF TEST RESULTS

FCC Part15, Subpart C (15.247)						
Standard(s) Section	Standard(s) Section Test Item		Judgment	Remark		
15.207	AC Power Line Conducted Emissions	APPENDIX A	PASS			
15.247(d)		APPENDIX B				
15.205(a)	Radiated Emissions	APPENDIX C	PASS			
15.209(a)		APPENDIX D				
15.247(a)(2)	Bandwidth	APPENDIX E	PASS			
15.247(b)(3)	Maximum Output Power	APPENDIX F	PASS			
15.247(d)	Conducted Spurious Emissions	APPENDIX G	PASS			
15.247(e)	Power Spectral Density	APPENDIX H	PASS			
15.203	Antenna Requirement		PASS			

Test procedures according to the technical standard(s):

Note:

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



2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China. BTL's Test Firm Registration Number for FCC: 357015 BTL's Designation Number for FCC: CN1240

2.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)) The BTL measurement uncertainty as below table:

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C02	CISPR	150 kHz ~ 30 MHz	2.32

B. Radiated emissions test:

Test Site	Method	od Measurement Frequency Range		U, (dB)		
		9 KHz~30 MHz	V	3.79		
		9 KHz~30 MHz	Н	3.57		
		30 MHz~200 MHz	V	3.82		
	DG-CB03 CISPR			30 MHz~200 MHz	Н	3.78
		200 MHz~1,000 MHz	V	4.10		
DG-CB03			200 MHz~1,000 MHz	Н	4.06	
		1 GHz~18 GHz	V	3.12		
		1 GHz~18 GHz	Н	3.68		
		18 (18 GHz~40 GHz	V	4.15	
		18 GHz~40 GHz	Н	4.14		

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	SET TOP BOX		
Brand Name	Technicolor		
Test Model	UIW4020WOW		
Series Model	IIW4020TLU, UIW4020COG		
Model Difference(s)	Only differ in housing color, PSU color and label.		
S/N	293930019126800075		
Power Source	Supplied from AC/DC adapter. Brand/Model: MOSO/MSA-C1500CS12.0-18G-US		
Power Rating	I/P: 100-120V~50-60Hz 0.6A max O/P: 12V1.5A		
Operation Frequency	2412 MHz ~ 2462 MHz		
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM		
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps		
IEEE 802.11h: up to 300 mbps Maximum Output Power IEEE 802.11b: 26.34 dBm (0.4305 W) IEEE 802.11g: 21.83 dBm (0.1524 W) IEEE 802.11n(HT20): 25.25 dBm (0.3350 W) IEEE 802.11n(HT40): 22.25 dBm (0.1679 W)			
Hardware Version	FGR build		
Software Version	KERNEL: 4.9.141-1-6pre #13 SMP Tue Jan 22 17:06:52 CET 2019 ANDROID : 9 Sapphire-E-1.16		
PCB Version	FGR Apex/015		

Note:

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

2. Channel List:

	CH01 - CH11 for 802.11b, 802.11g, 802.11n(20 MHz) CH03 - CH09 for 802.11n(40 MHz)						
Channel Frequency (MHz)							
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		



3. Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PIFA	N/A	4.40
2	N/A	N/A	PIFA	N/A	4.42

Note:

BIL

This EUT supports MIMO 2X2, any transmit signals are correlated with each other, and the CDD 1S2T directional gain =4.42dBi.

4. Table for Antenna Configuration:

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



3.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

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-20 MHz Mode Channel 01/06/11	
Mode 4	TX N-40 MHz Mode Channel 03/06/09	
Mode 5	Normal Link	

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

AC power line conducted emissions test		
Final Test Mode:	Description	
Mode 5	Normal Link	

Radiated emissions test - 9KHz to 30MHz		
Final Test Mode:	Description	
Mode 5	Normal Link	

Radiated emissions test - 30MHz to 1000MHz		
Final Test Mode: Description		
Mode 1	TX B Mode Channel 01/06/11	

Radiated emissions test - Above 1GHz		
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-20 MHz Mode Channel 01/06/11	
Mode 4	TX N-40 MHz Mode Channel 03/06/09	



Conducted 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-20 MHz Mode Channel 01/06/11	
Mode 4	TX N-40 MHz Mode Channel 03/06/09	

NOTE:

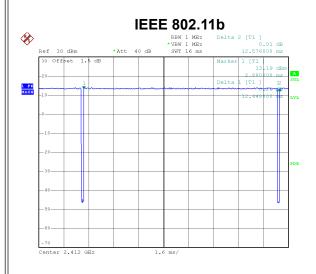
- (1) The measurements are performed at the high, middle, low available channels.
- (2) 802.11b mode: CCK (1 Mbps) 802.11g mode: BPSK (6 Mbps) 802.11n HT20 mode : BPSK (6.5 Mbps) 802.11n HT40 mode : BPSK (13.5 Mbps) For radiated emission tests, the highest output powers were set for final test.
- (3) For radiated emission below 1 GHz test, the IEEE 802.11b is found to be the worst case and recorded.
- (4) For radiated emission above 1 GHz test, 1GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
- (5) There are two kinds of shield (shield cover) in the equipment. The measurements for radiated emission were pre-tested with original shield and new shield, the worst case are original shield, only worst case was documented.

3.3 PARAMETERS OF TEST SOFTWARE

Test Software	N/A		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	55	59	51
IEEE 802.11g	44	57	47
IEEE 802.11n (HT20)	43/43	57/57	46/46
Frequency (MHz)	2422	2437	2452
IEEE 802.11n (HT40)	42/42	51/53	46/46

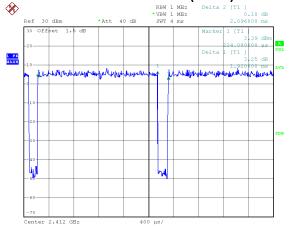
3.4 DUTY CYCLE

If duty cycle is \geq 98 %, duty factor is not required. If duty cycle is < 98 %, duty factor shall be considered. The output power = measured power + duty factor.



Date: 15.MAY.2019 18:26:53

Duty cycle = 12.448 ms / 12.576 ms = 98.98% Duty Factor = 10 log(1/Duty cycle) = 0.00 IEEE 802.11n (HT20)



Date: 15.MAY.2019 18:54:14

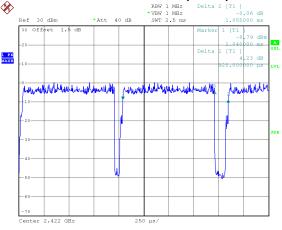
Duty cycle = 1.920 ms / 2.096 ms = 91.60% Duty Factor = 10 log(1/Duty cycle) = 0.38

NOTE:

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Normalization of the transmission of the t

Date: 15.MAY.2019 18:43:42





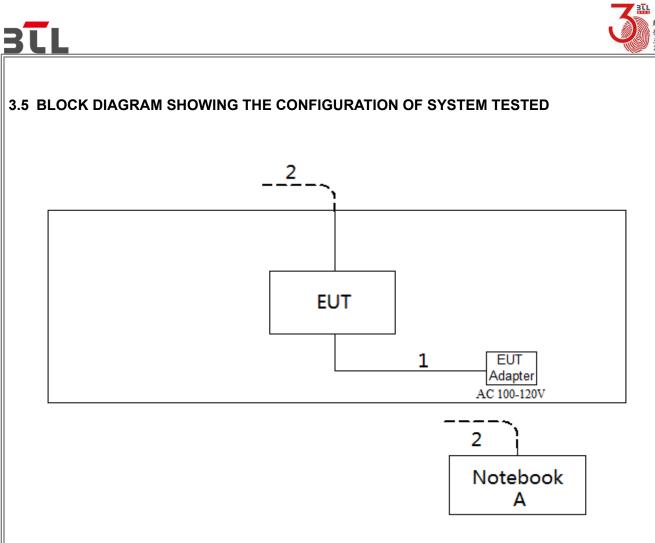
Date: 15.MAY.2019 19:00:48

Duty cycle = 0.920 ms / 1.055 ms = 87.20% Duty Factor = 10 log(1/Duty cycle) = 0.59

For IEEE 802.11g and IEEE 802.11n (HT20): For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz (Duty cycle < 98%).

For IEEE 802.11n (HT40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 2 kHz (Duty cycle < 98%).



3.6 SUPPORT UNITS

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.
А	Notebook	Dell	Inspiron 15-7559	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1.5m
2	RJ45 Cable	NO	NO	10m

4. AC POWER LINE CONDUCTED EMISSIONS TEST

4.1 LIMIT

Frequency of Emission (MHz)	Limit (d	BμV)
Frequency of Emission (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5.0	56	46
5.0 - 30.0	60	50

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

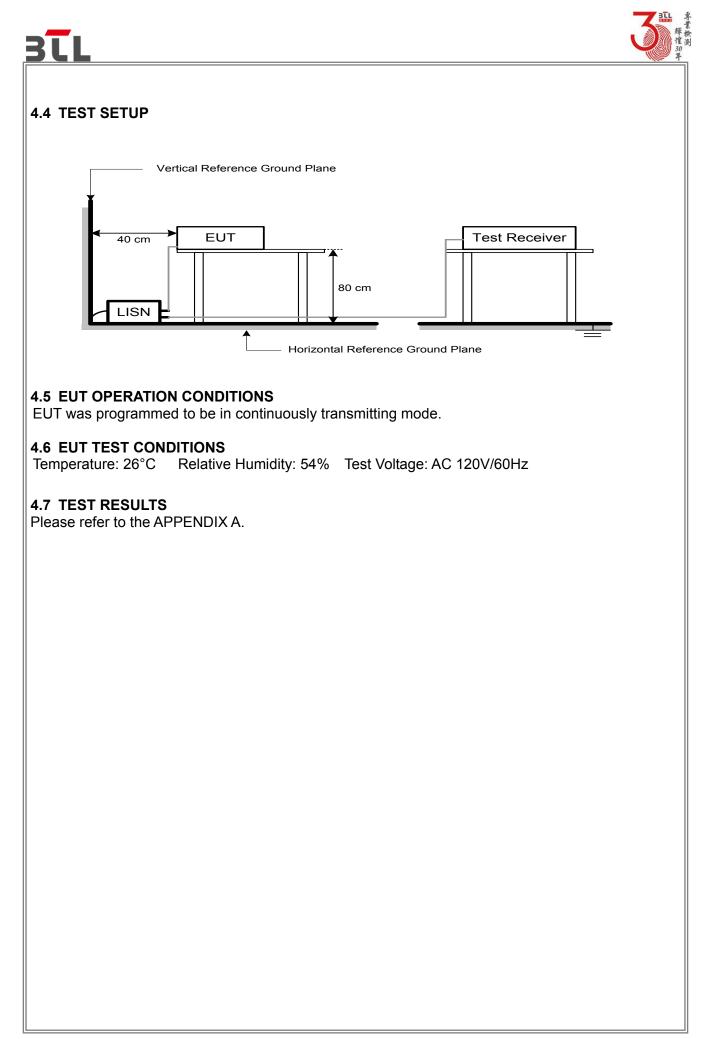
Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

4.2 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 equipment 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.

4.3 DEVIATION FROM TEST STANDARD

No deviation





5. RADIATED EMISSIONS TEST

5.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

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
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	(dBuV/n	n at 3 m)
	Peak	Average
Above 1000	74	54

NOTE:

- (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	1 MHz / 3 MHz for Peak,	
(Emission in restricted band)	1 MHz / 1/T for Average	
Receiver Parameter	Setting	
Attenuation	Auto	
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector	
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector	
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector	
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector	
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector	

5.2 TEST PROCEDURE

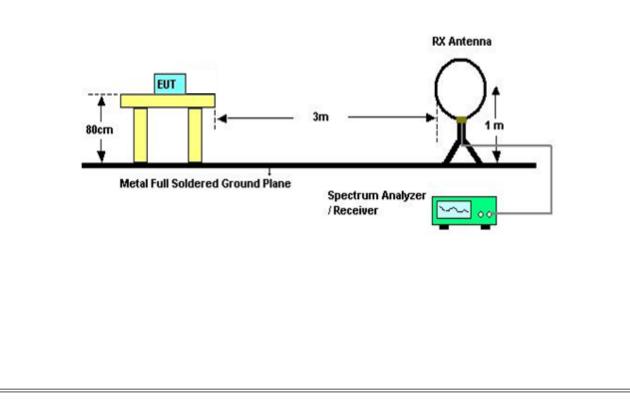
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1 GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; 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. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1 GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i. For the actual test configuration, please refer to the related Item -EUT Test Photos.

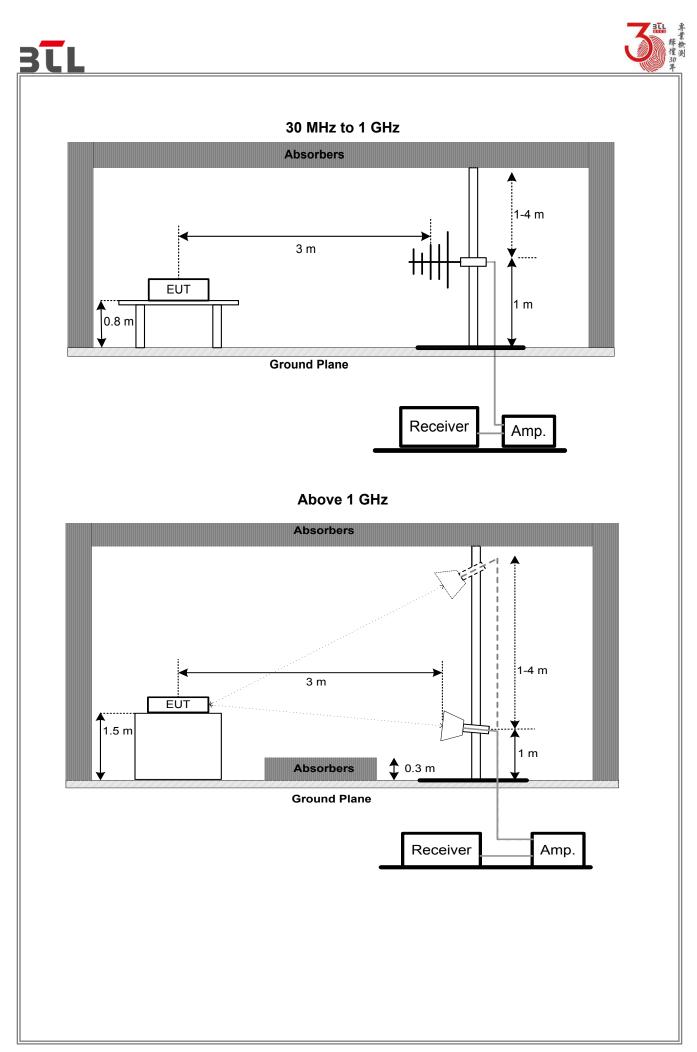
5.3 DEVIATION FROM TEST STANDARD

No deviation

5.4 TEST SETUP

9 kHz-30 MHz









5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 EUT TEST CONDITIONS

Temperature: 24°C Relative Humidity: 68% Test Voltage: AC 120V/60Hz

5.7 TEST RESULTS - 9 KHZ TO 30 MHZ

Please refer to the APPENDIX B

Remark:

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

5.8 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

5.9 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX D.

Remark:

(1) No limit: This is fundamental signal, the judgment is not applicable. For fundamental signal judgment was referred to Peak output test.



6. BANDWIDTH TEST

6.1 LIMIT

FCC Part15, Subpart C (15.247)					
Section Test Item Limit					
	6 dB Bandwidth	Minimum 500 kHz			
15.247(a)(2)	99% Emission Bandwidth	-			

6.2 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= 100 kHz, VBW=300 kHz, Sweep time = 2.5 ms.
- c. The bandwidth was performed in accordance with method 11.8 of ANSI C63.10-2013.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



SPECTRUM

ANALYZER

6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 EUT TEST CONDITIONS

Temperature: 23°C Relative Humidity: 70% Test Voltage: AC 120V/60Hz

6.7 TEST RESULTS

Please refer to the APPENDIX E.





7. MAXIMUM OUTPUT POWER TEST

7.1 LIMIT

FCC Part15, Subpart C (15.247)				
Section Test Item Limit				
15.247(b)(3) Maximum Output Power 1 Watt or 30dBm				

7.2 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 conducted output power was performed in accordance with method 11.9.1.3 of ANSI C63.10-2013.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP

EUT	Power Meter

7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 EUT TEST CONDITIONS

Temperature: 23°C Relative Humidity: 70% Test Voltage: AC 120V/60Hz

7.7 TEST RESULTS

Please refer to the APPENDIX F.



8. CONDUCTED SPURIOUS EMISSIONS

8.1 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 or a radiated measurement, provided the transmitter demonstrates compliance with the peak Output Power limits. If the transmitter complies with the Output Power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

8.2 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= 100 kHz, VBW=300 kHz, Sweep time = Auto.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP

EUT	SPECTRUM
	ANALYZER

8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 EUT TEST CONDITIONS

Temperature: 23°C Relative Humidity: 70% Test Voltage: AC 120V/60Hz

8.7 TEST RESULTS

Please refer to the APPENDIX G.





9. POWER SPECTRAL DENSITY TEST

9.1 LIMIT

FCC Part15, Subpart C (15.247)					
Section Test Item Limit					
15.247(e)	Power Spectral Density	8 dBm (in any 3 kHz)			

9.2 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=3 kHz, VBW=10 kHz, Sweep time = Auto.
- c. The Power Spectral Density was performed in accordance with method 11.10.2 of ANSI C63.10-2013.

9.3 DEVIATION FROM STANDARD

No deviation.

9.4 TEST SETUP



SPECTRUM

ANALYZER

9.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

9.6 EUT TEST CONDITIONS

Temperature: 23°C Relative Humidity: 70% Test Voltage: AC 120V/60Hz

9.7 TEST RESULTS

Please refer to the APPENDIX H.



10. MEASUREMENT INSTRUMENTS LIST

	AC Power Line Conducted Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	EMI Test Receiver	R&S	ESCI	100382	Mar. 10, 2020	
2	LISN	EMCO	3816/2	52765	Mar. 10, 2020	
3	50ohm Terminator	SHX	TF5-3	15041305	Mar. 10, 2020	
4	Artificial-Mains Network	SCHWARZBECK	NSLK 8127	8127685	Mar. 10, 2020	
5	TRANSIENT LIMITER	EM	EM-7600	772	Mar. 10, 2020	
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	
7	Cable	N/A	RG223	12m	Mar. 12, 2020	

	Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Loop Antenna	EM	EM-6876-1	230	Jan. 15, 2020	
2	Cable	N/A	RG 213/U	C-102	Jun. 01, 2019	
3	EMI Test Receiver	R&S	ESCI	100895	Mar. 10, 2020	
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	

	Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 09, 2020	
2	Amplifier	HP	8447D	2944A09673	Aug. 11, 2019	
3	Receiver	Agilent	N9038A	MY52130039	Aug. 11, 2019	
4	Cable	emci	LMR-400(30MHz- 1GHz)(8m+5m)	N/A	May 25, 2019	
5	Controller	СТ	SC100	N/A	N/A	
6	Controller	MF	MF-7802	MF780208416	N/A	
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	

	Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 09, 2020	
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 30, 2019	
3	Amplifier	Agilent	8449B	3008A02333	Mar. 10, 2020	
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 10, 2020	
5	Receiver	Agilent	N9038A	MY52130039	Aug. 11, 2019	
6	Controller	СТ	SC100	N/A	N/A	
7	Controller	MF	MF-7802	MF780208416	N/A	
8	Cable	mitron	B10-01-01-12M	18072744	Jul. 30, 2019	
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	





	Bandwidth					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 11, 2019	
	Maximum Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	P-series power meter	Agilent	N1911A	MY45100473	Aug. 11, 2019	
2	wideband power sensor	Agilent	N1921A	MY51100041	Aug. 11, 2019	

Antenna Conducted Spurious Emissions							
	Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
	1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 11, 2019	

	Power Spectral Density							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until			
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 11, 2019			

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

All calibration period of equipment list is one year.





11. EUT TEST PHOTO

AC Power Line Conducted Emissions Test Photos





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Radiated Emissions Test Photos

9 kHz to 30 MHz







Radiated Emissions Test Photos

30 MHz to 1 GHz

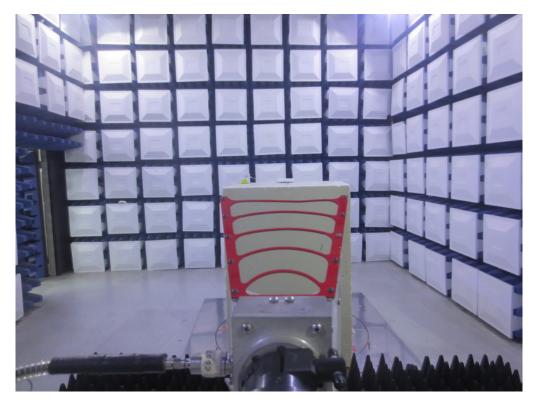






Radiated Emissions Test Photos

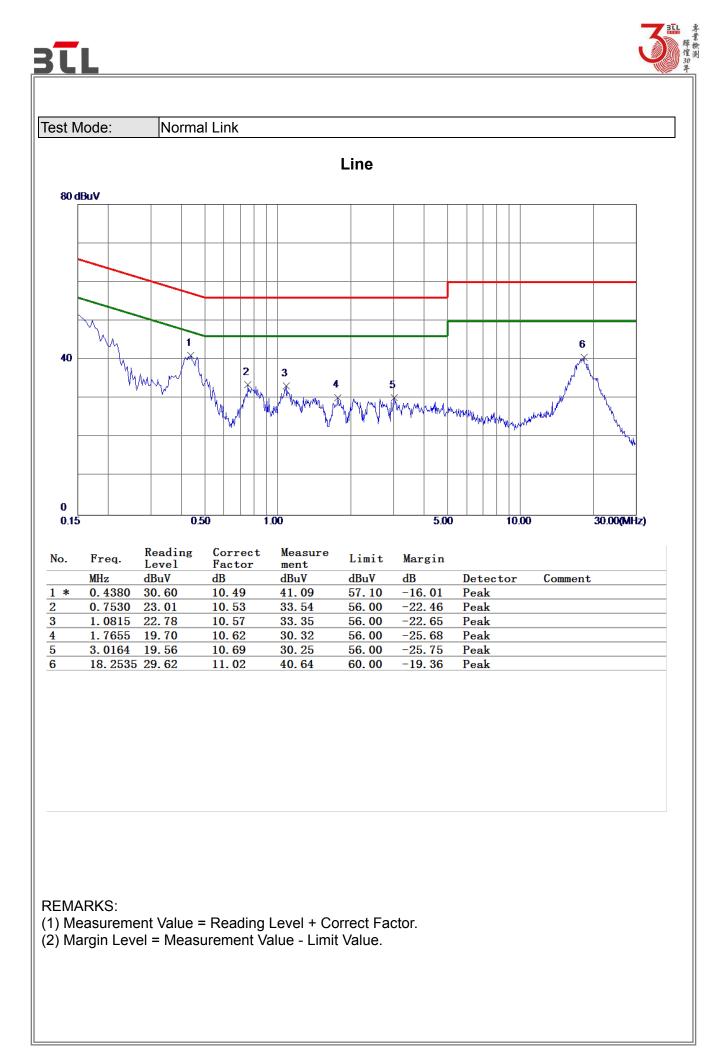
Above 1 GHz

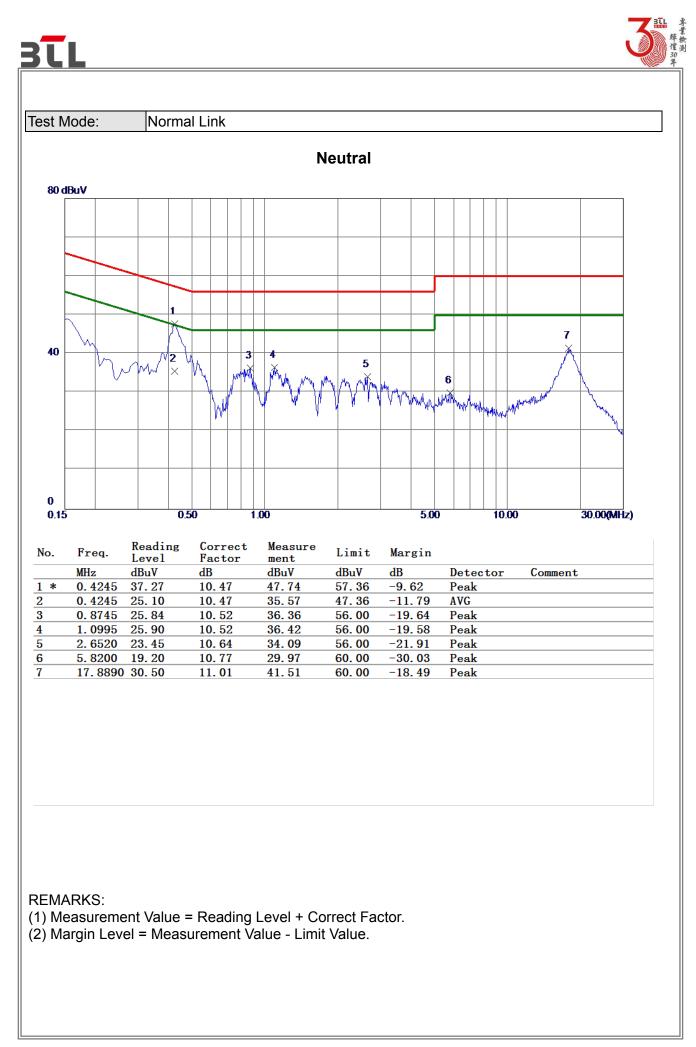






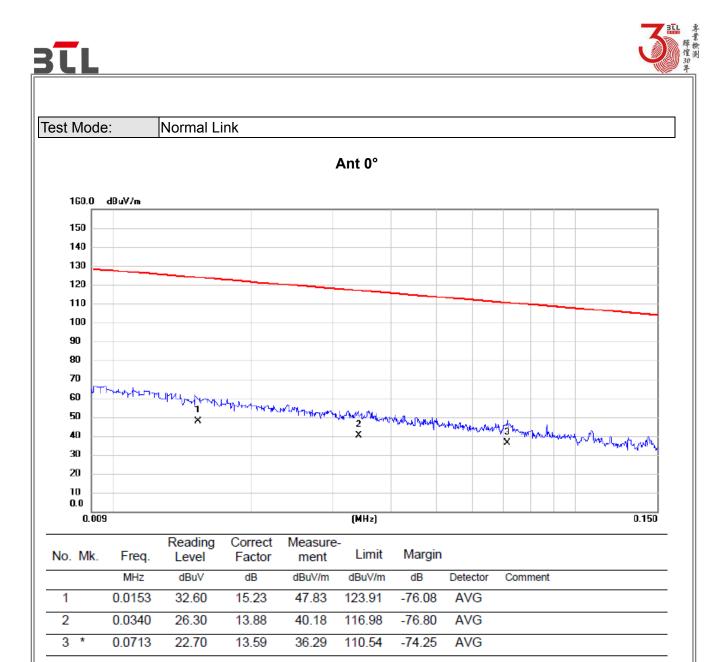
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS





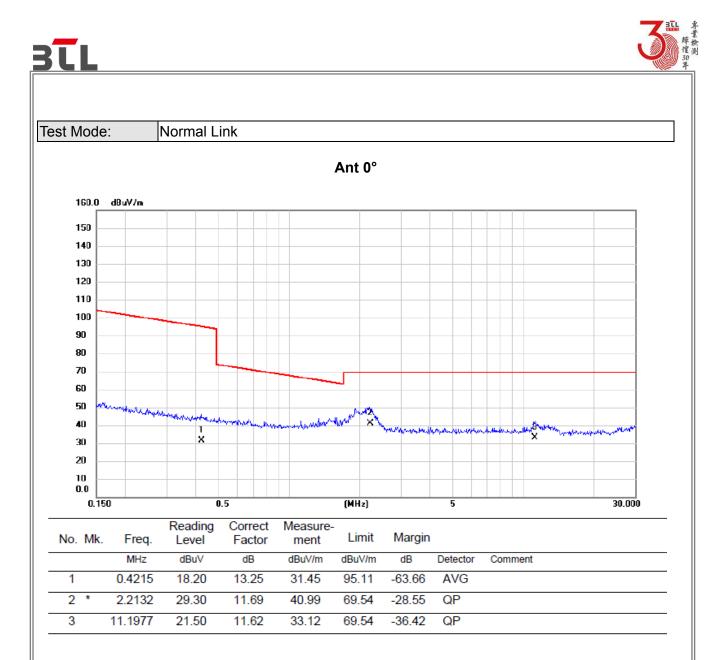


APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

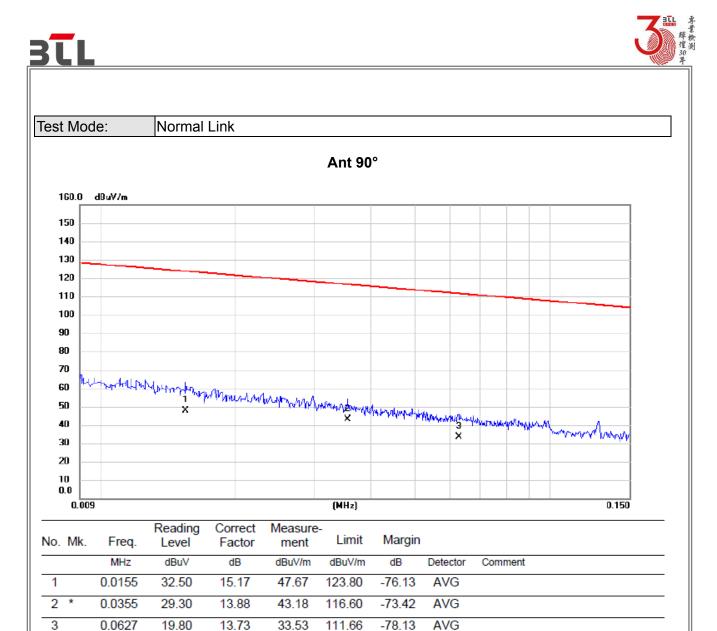


REMARKS:

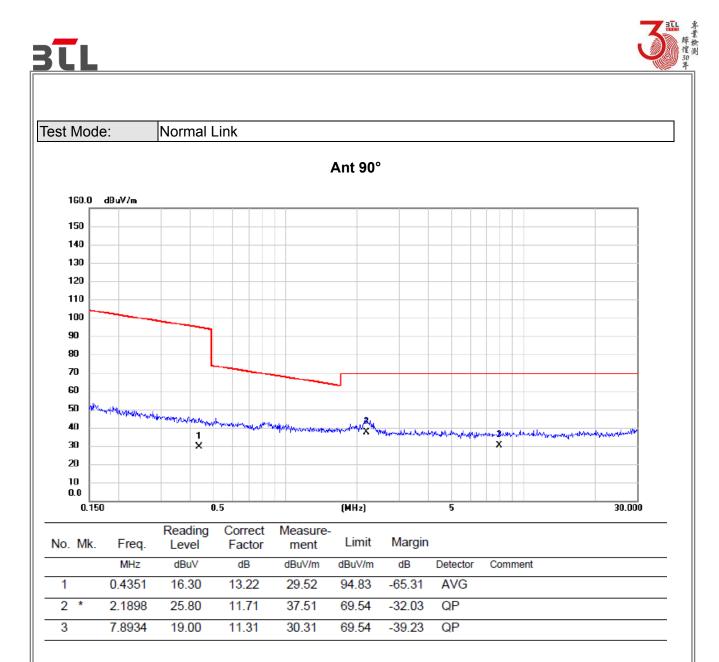
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



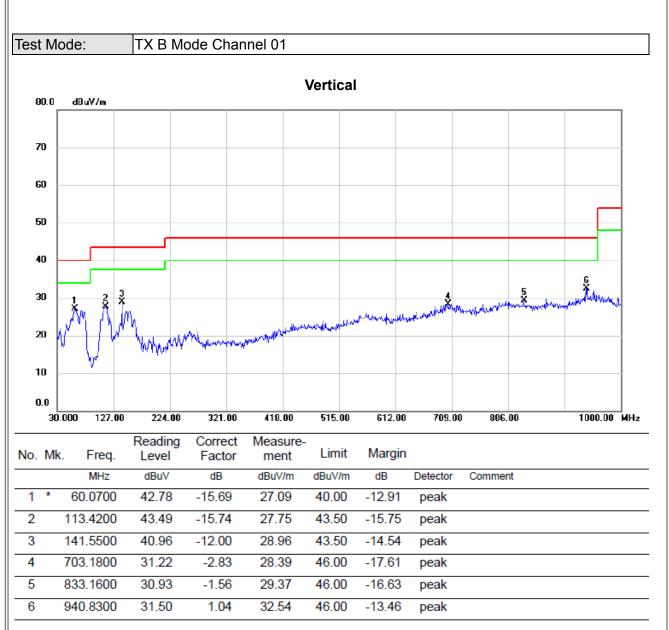
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ



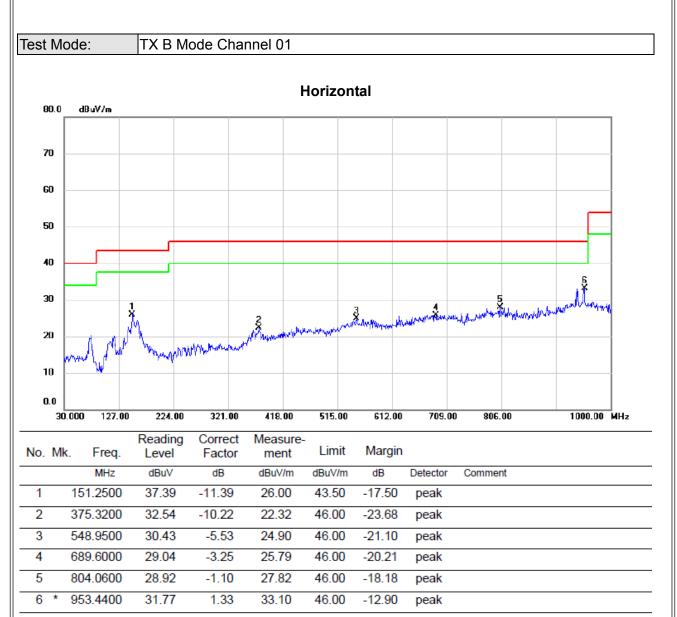




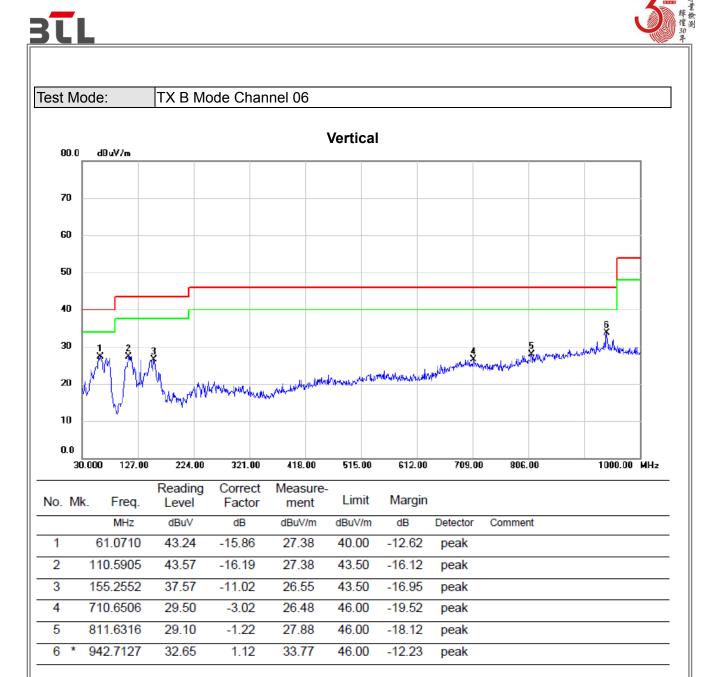
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.







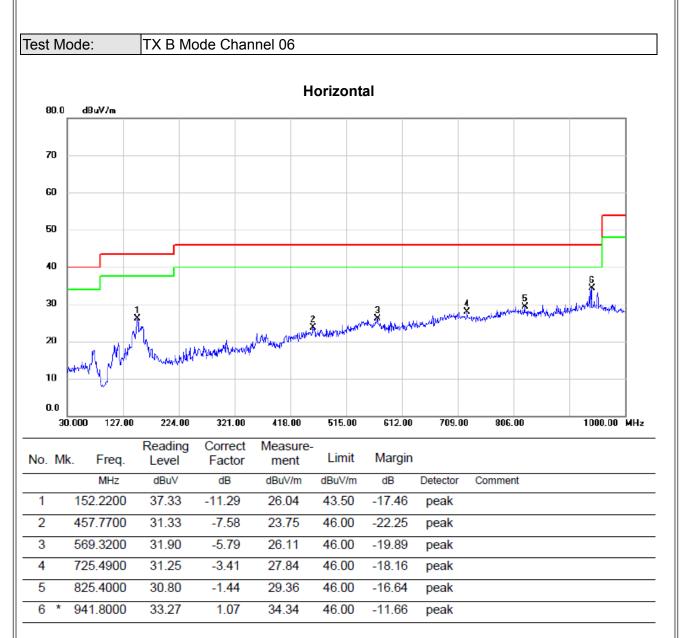
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



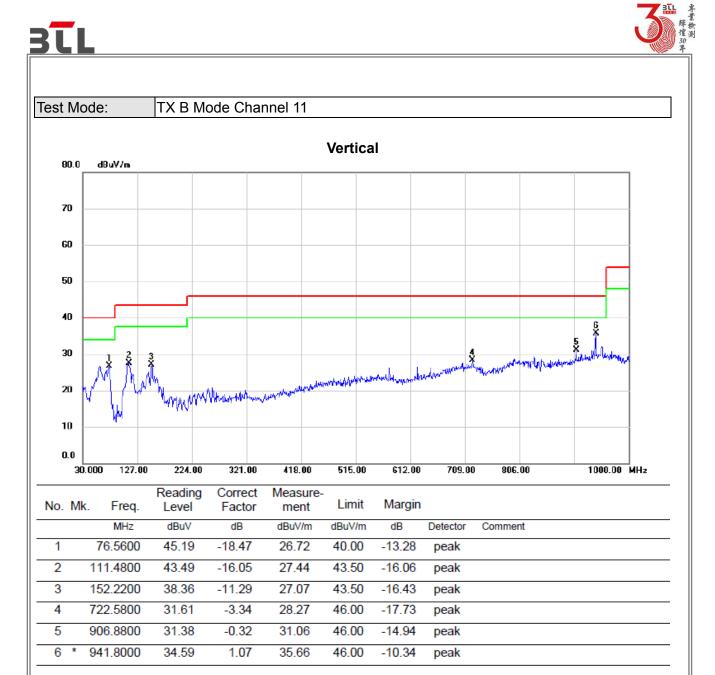
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.







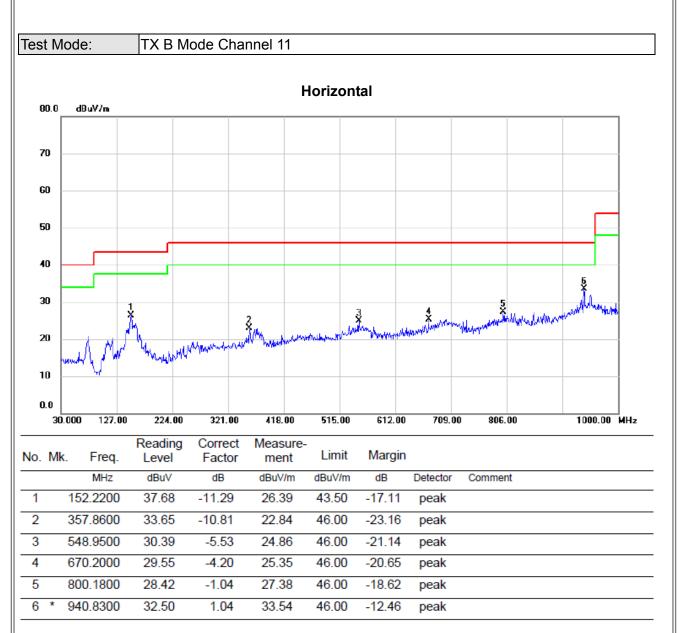
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



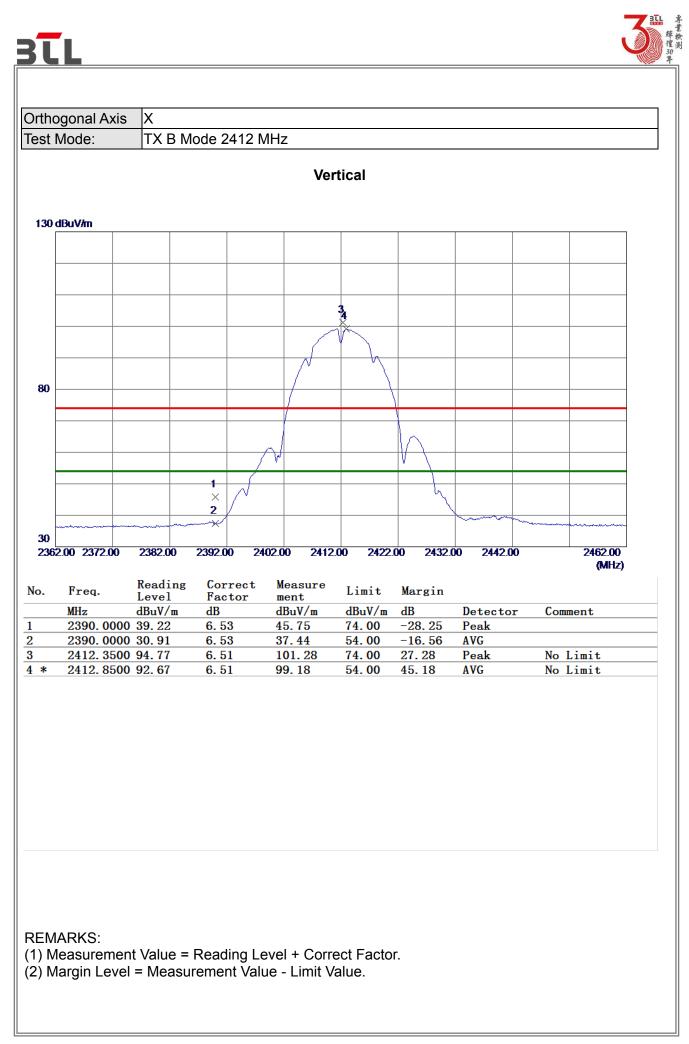


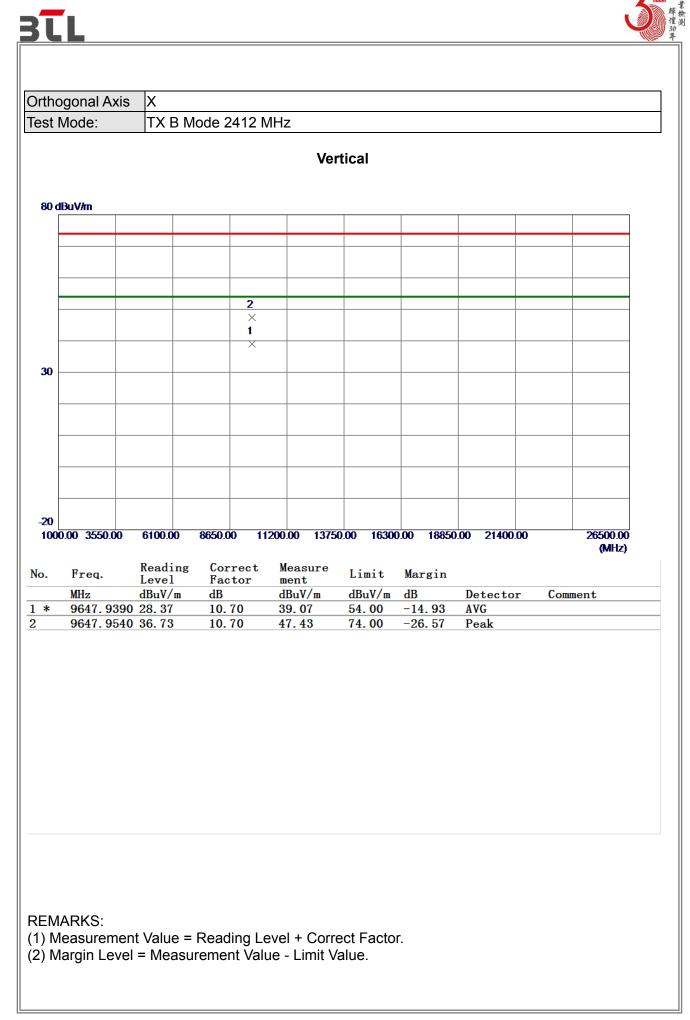


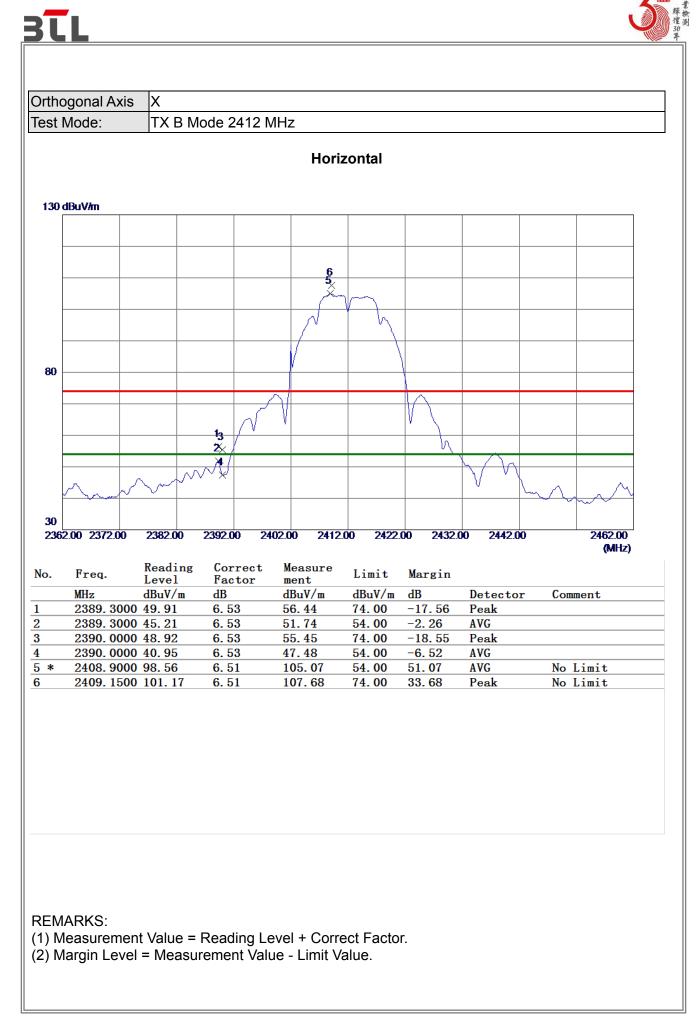
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



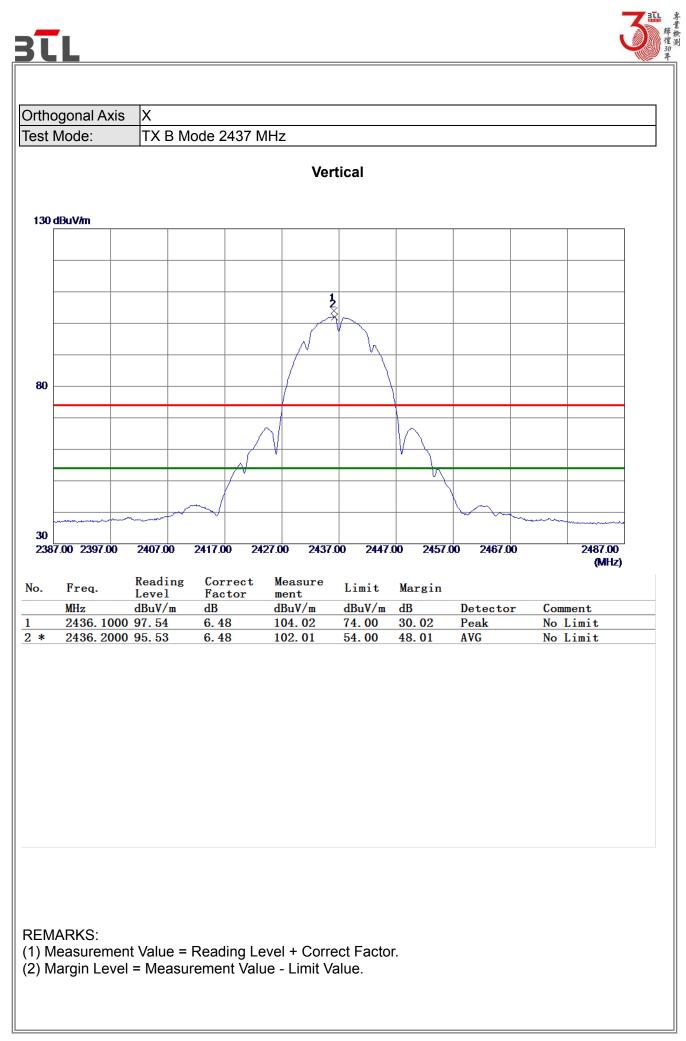
APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ

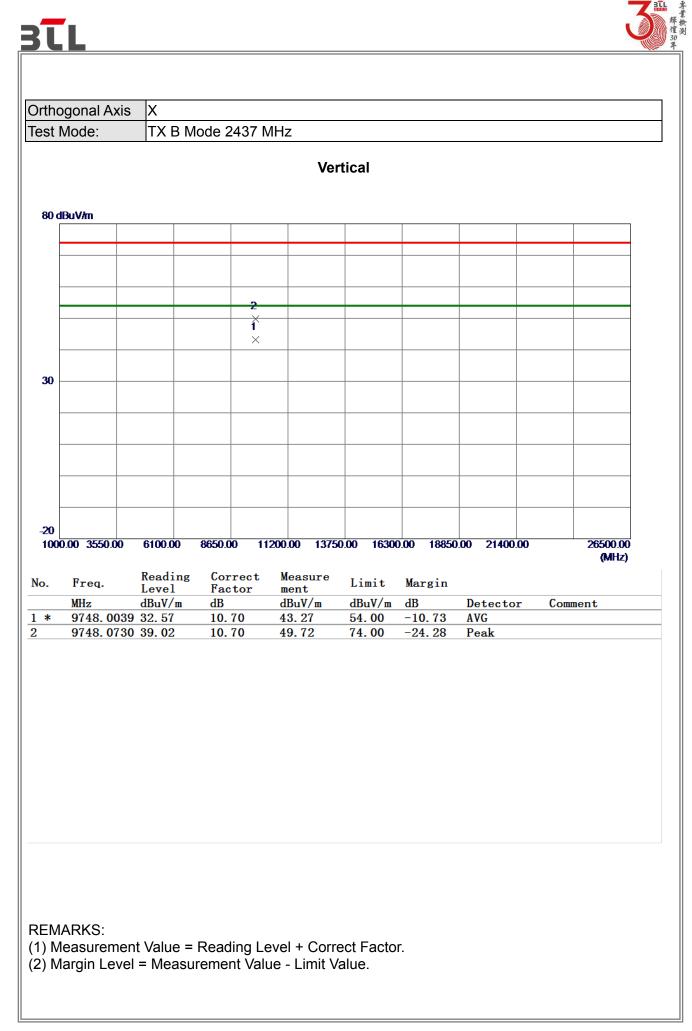


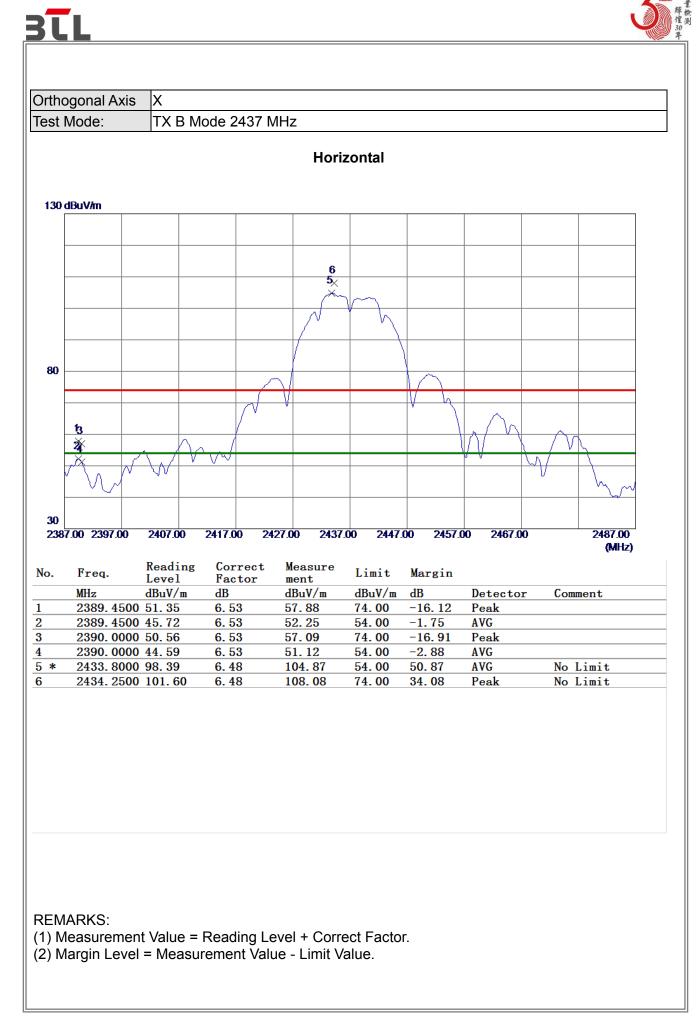


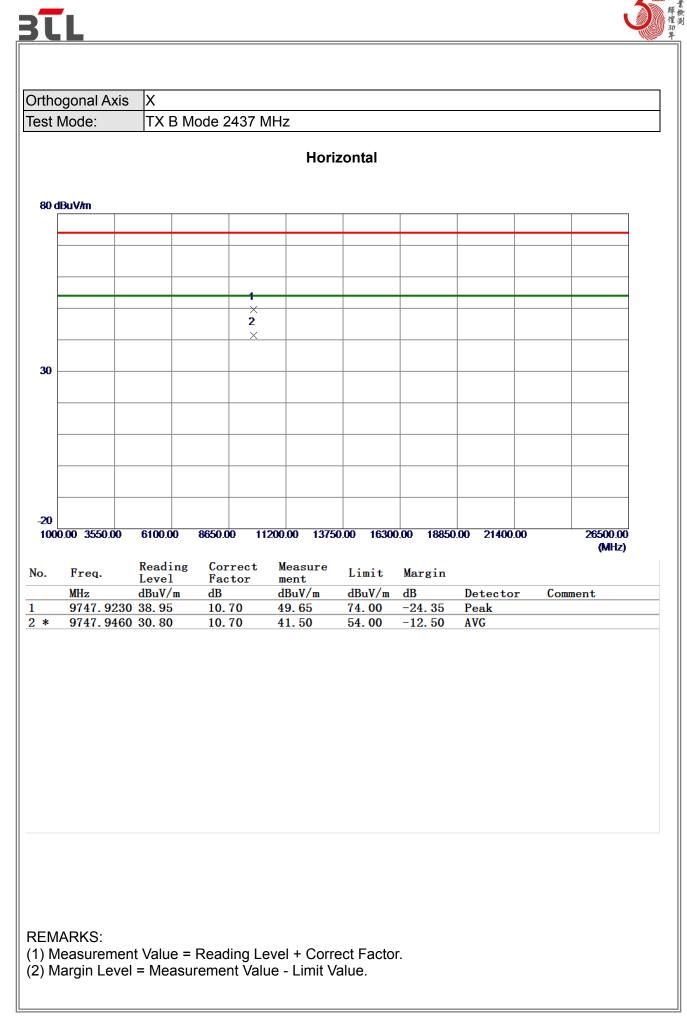


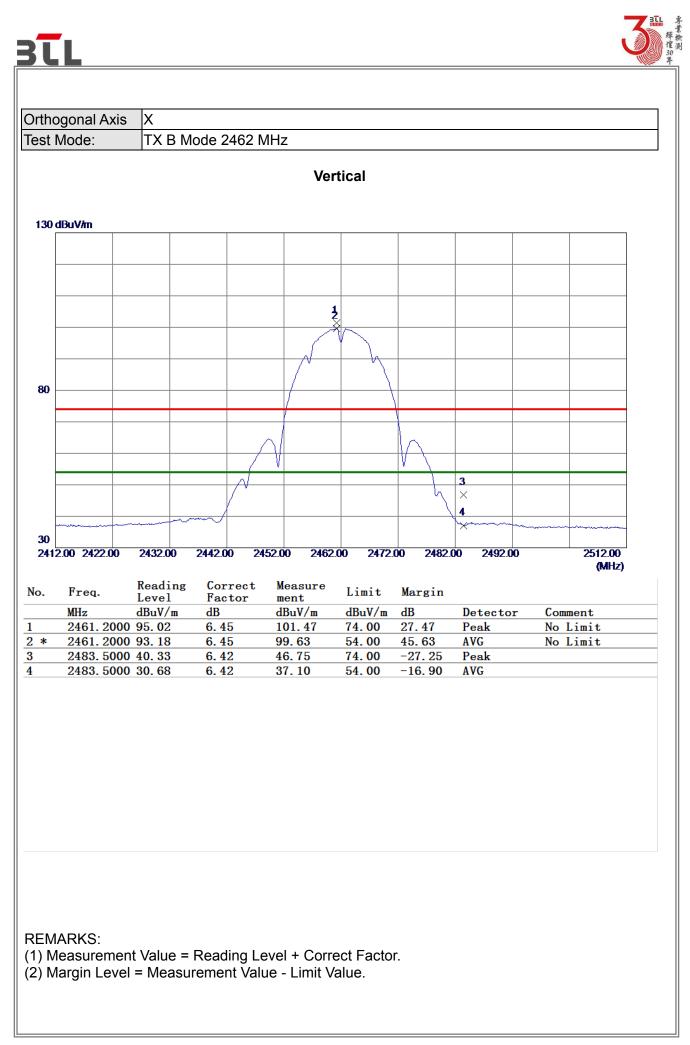


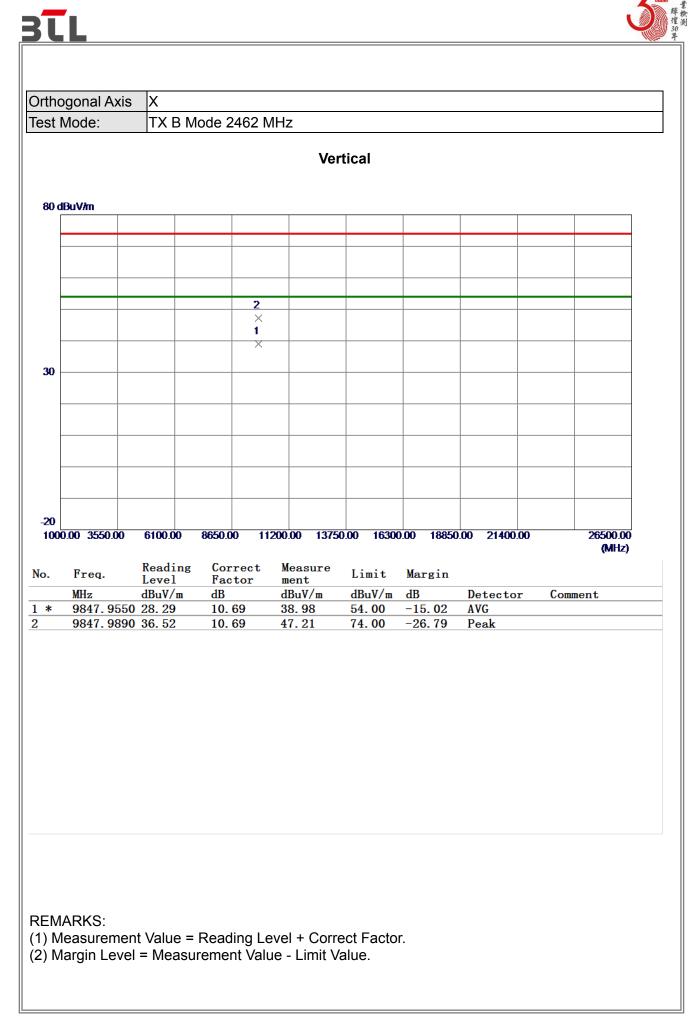


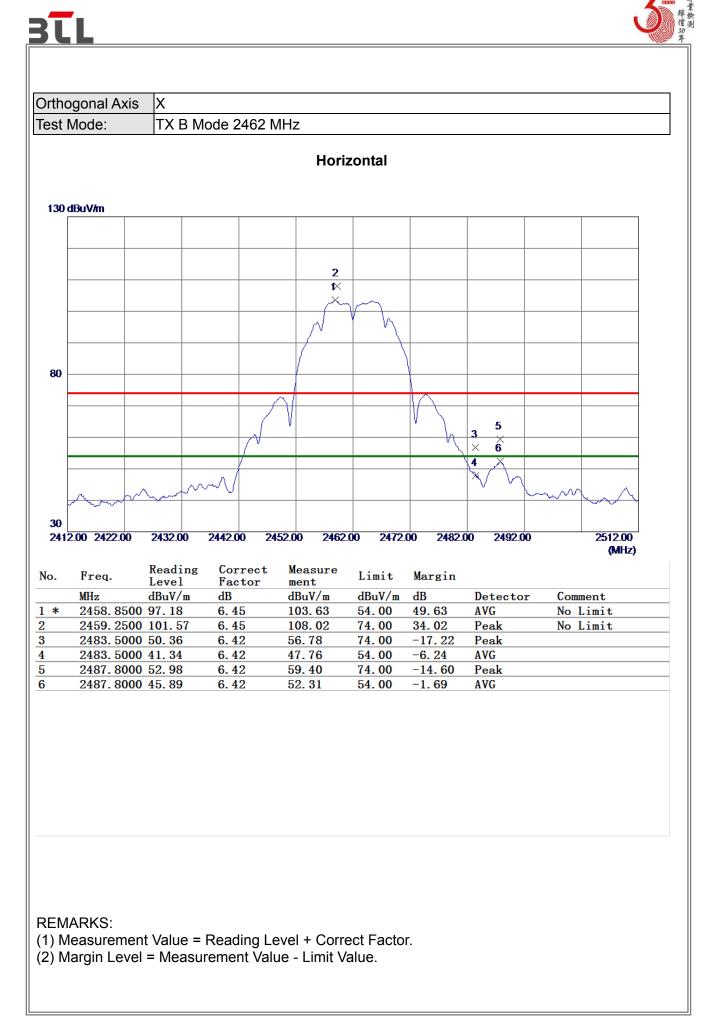


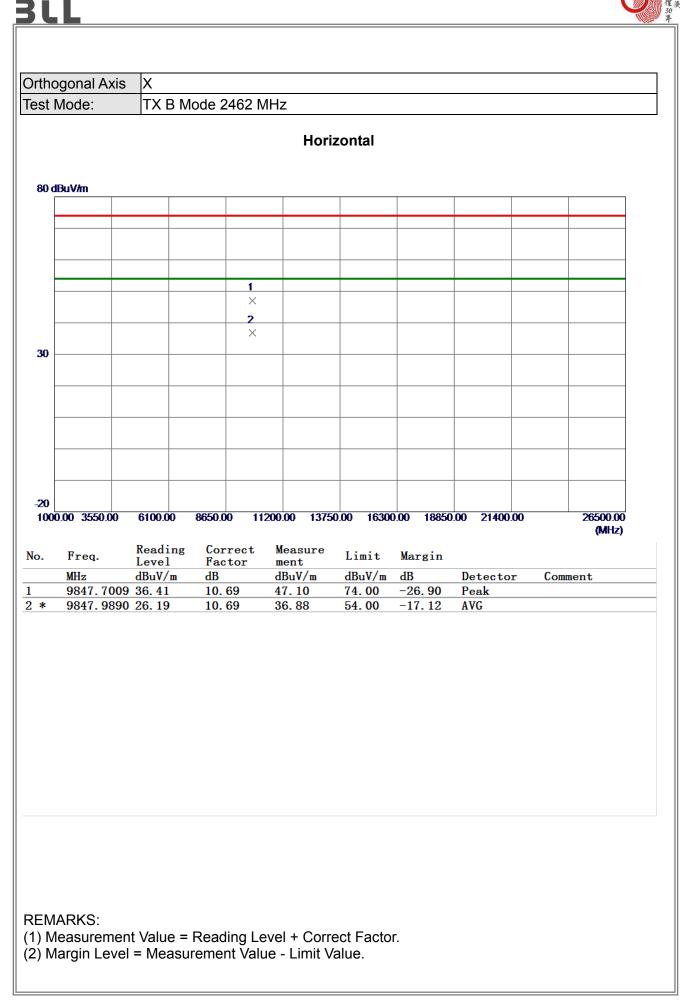


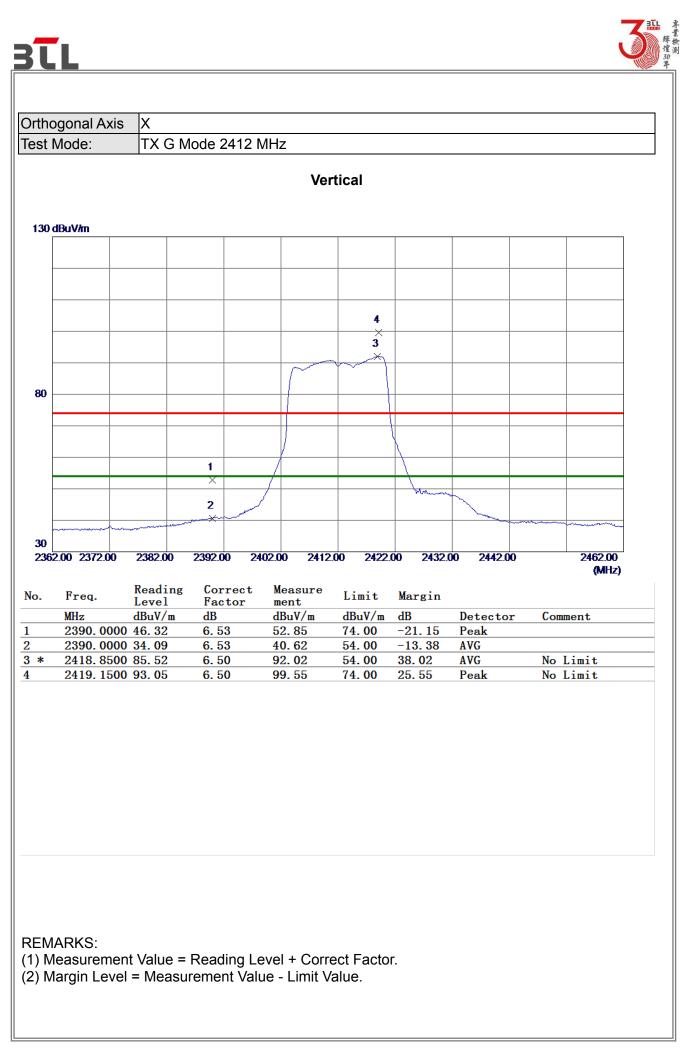


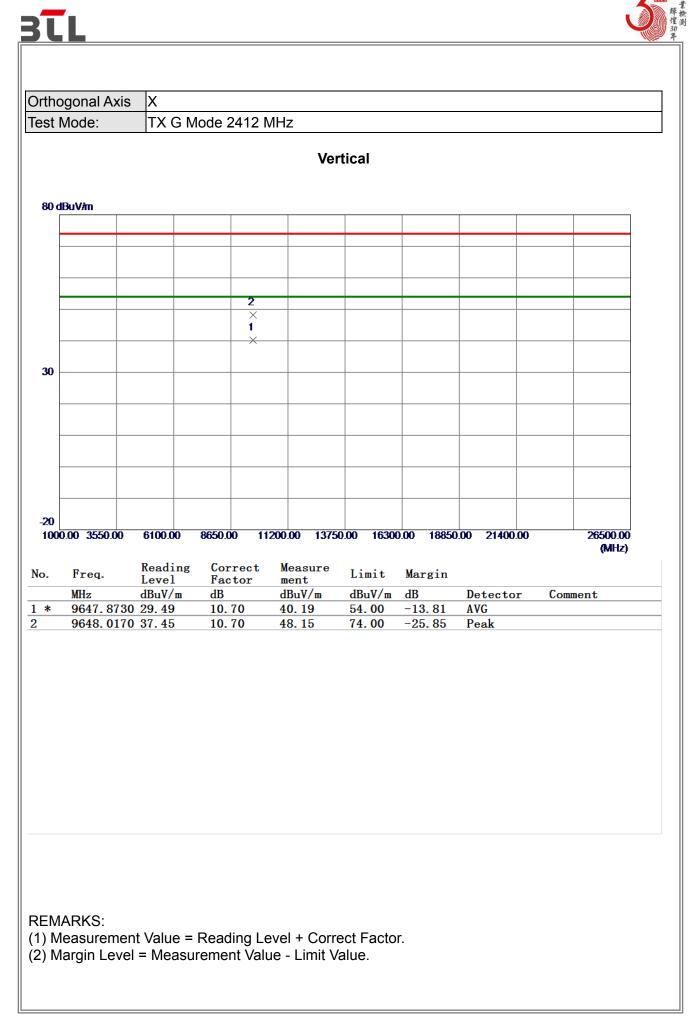


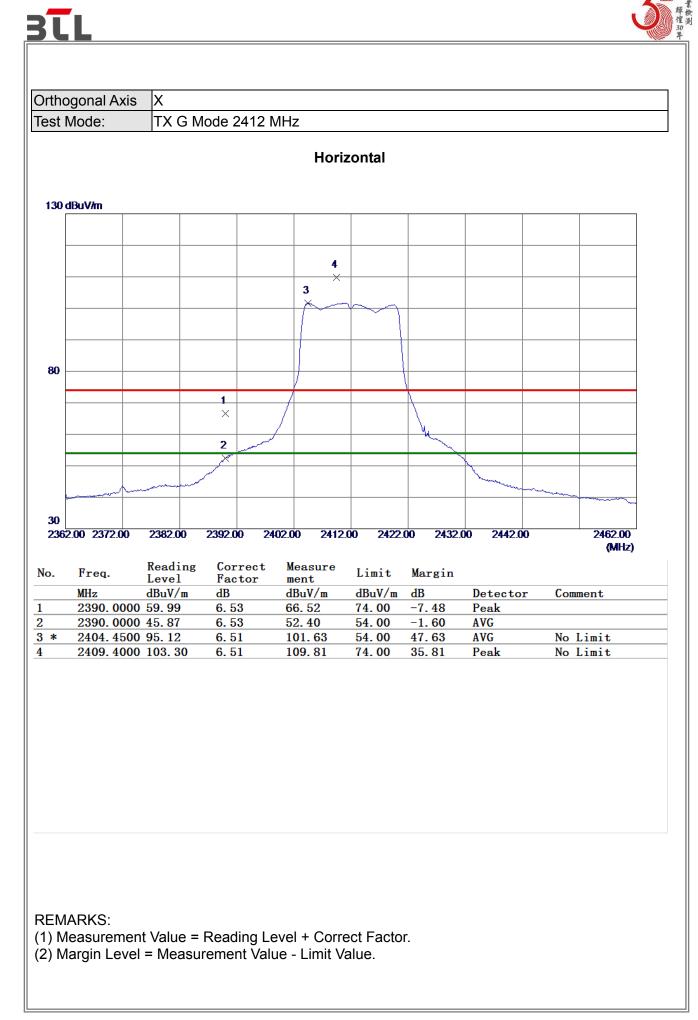


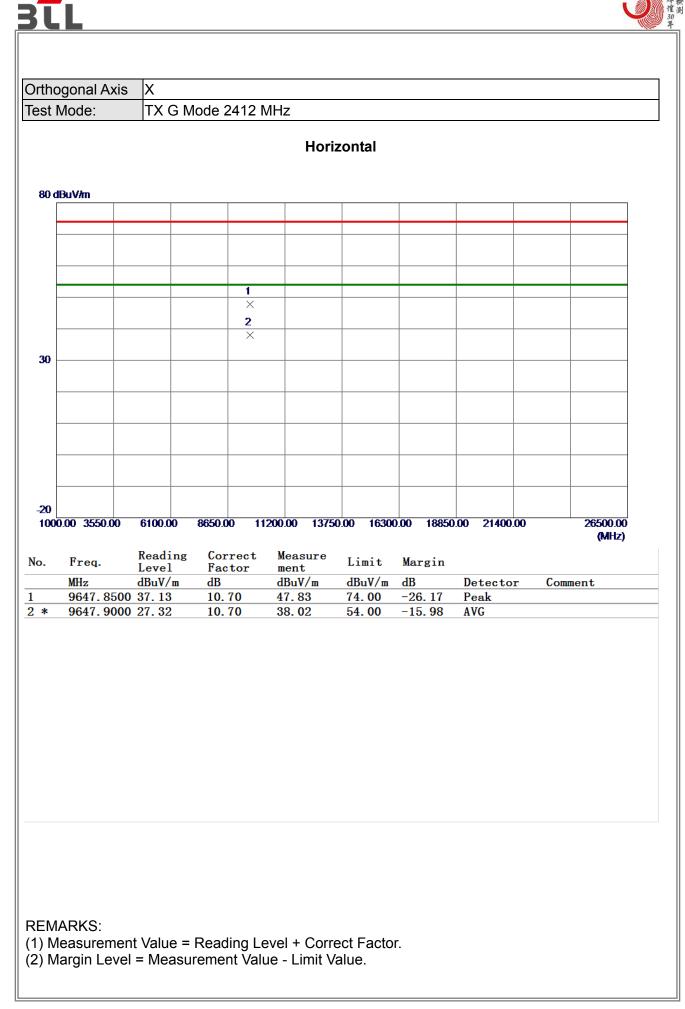


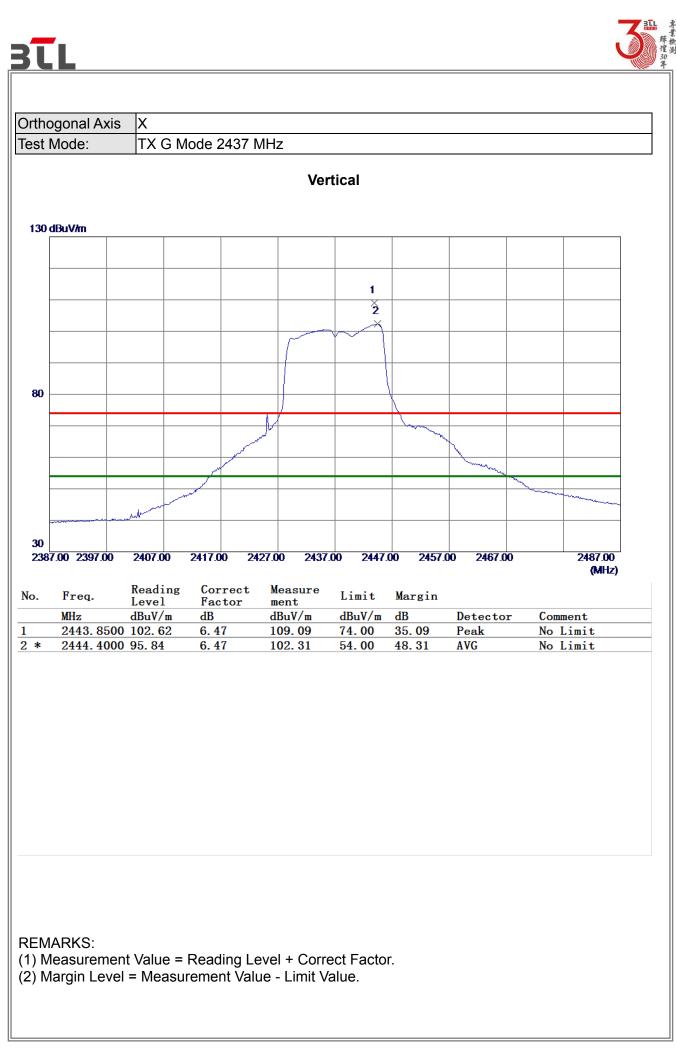


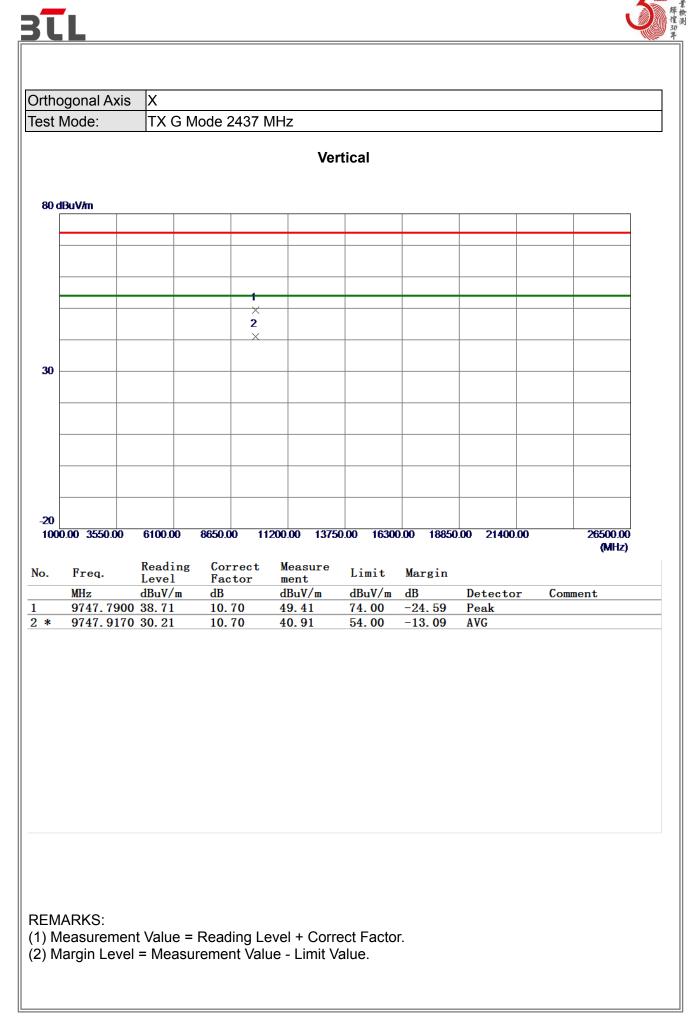


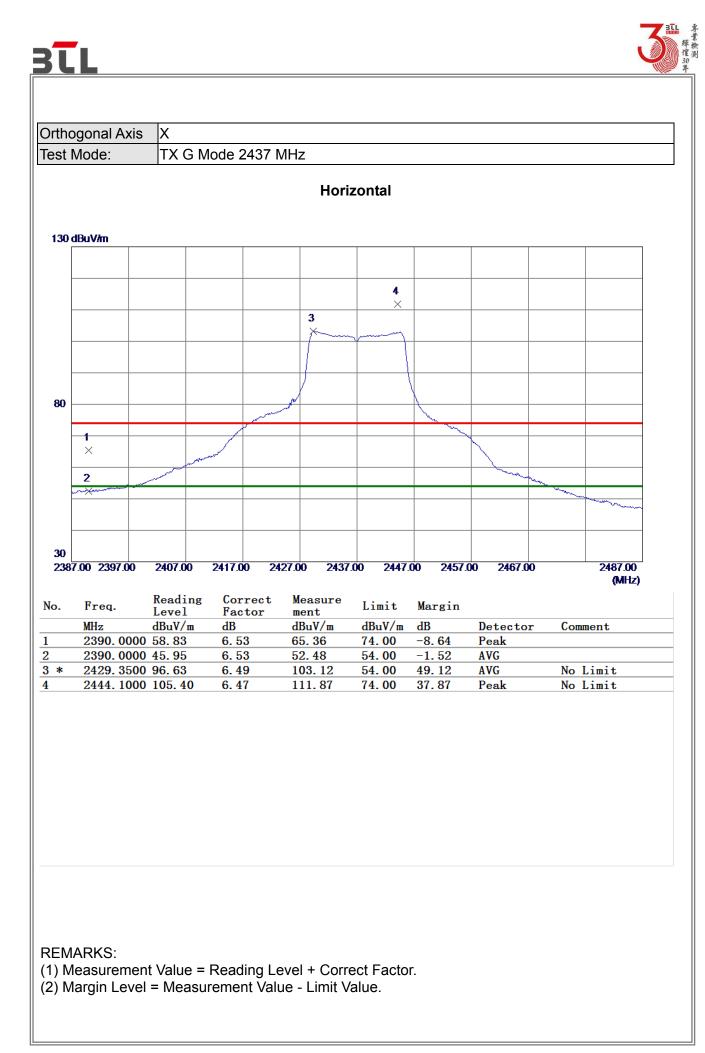




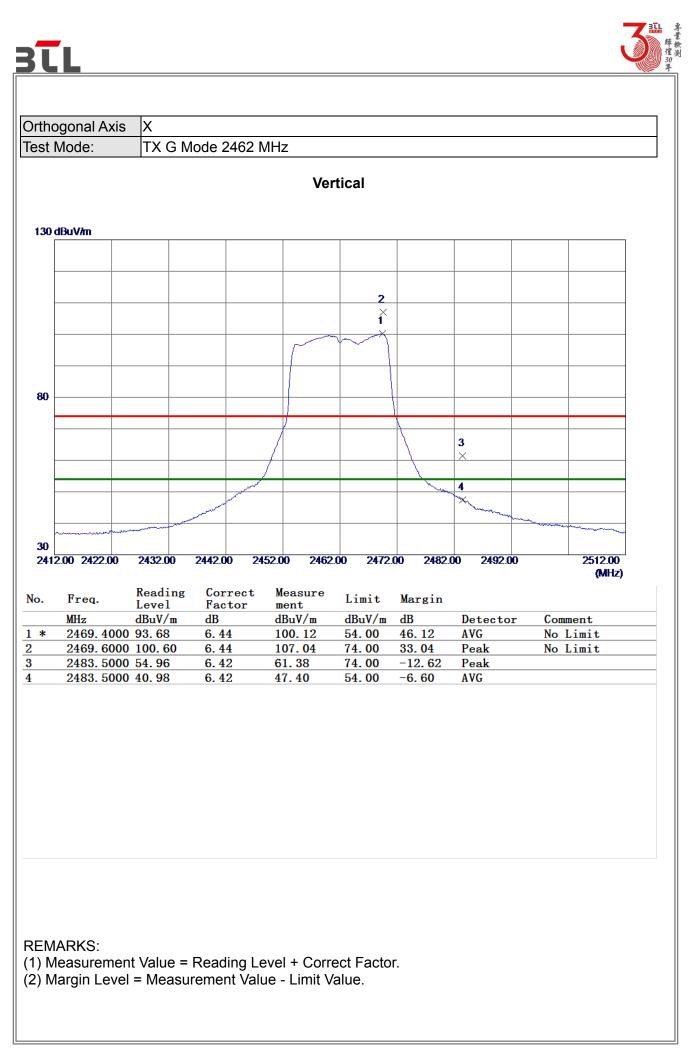


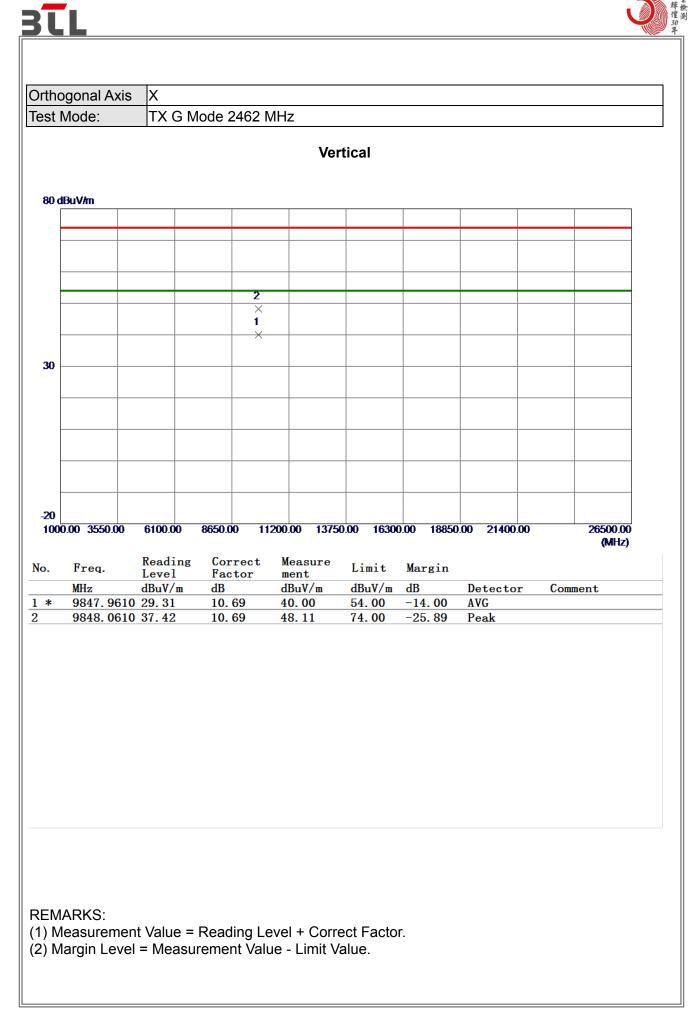






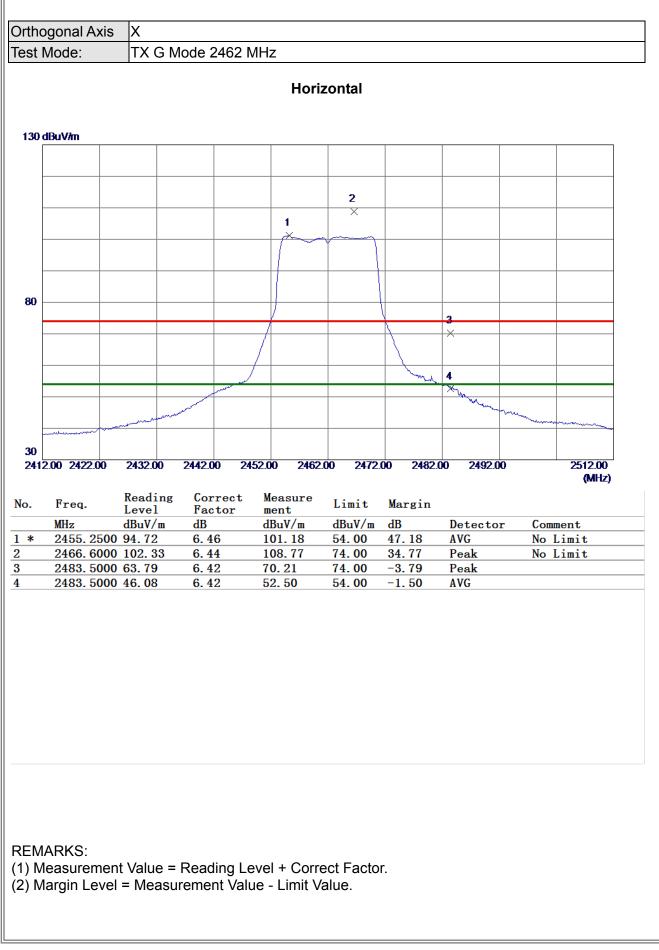


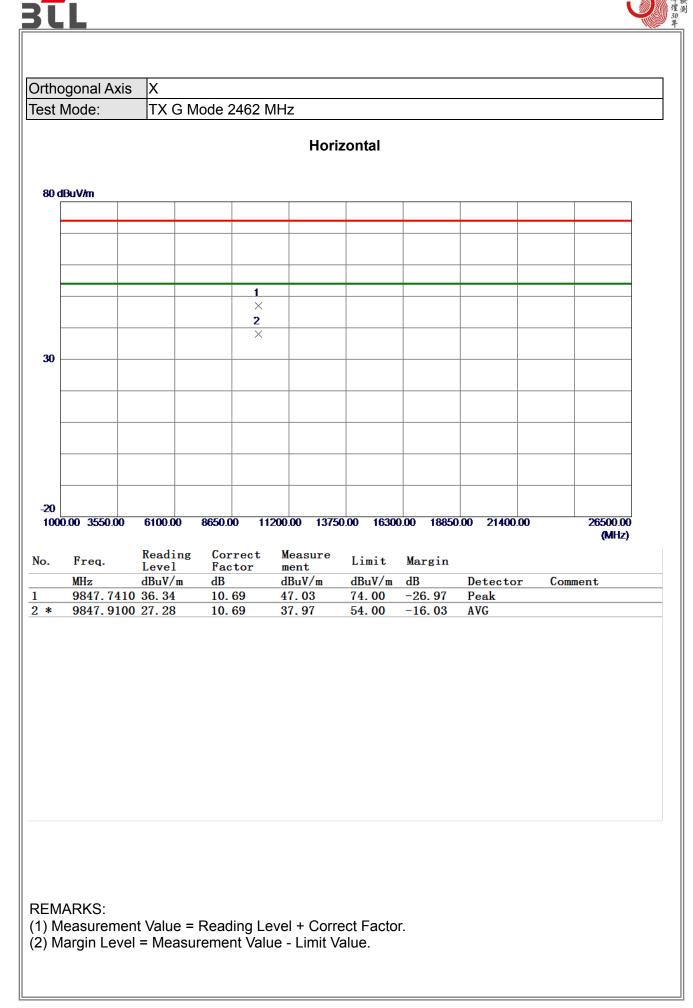






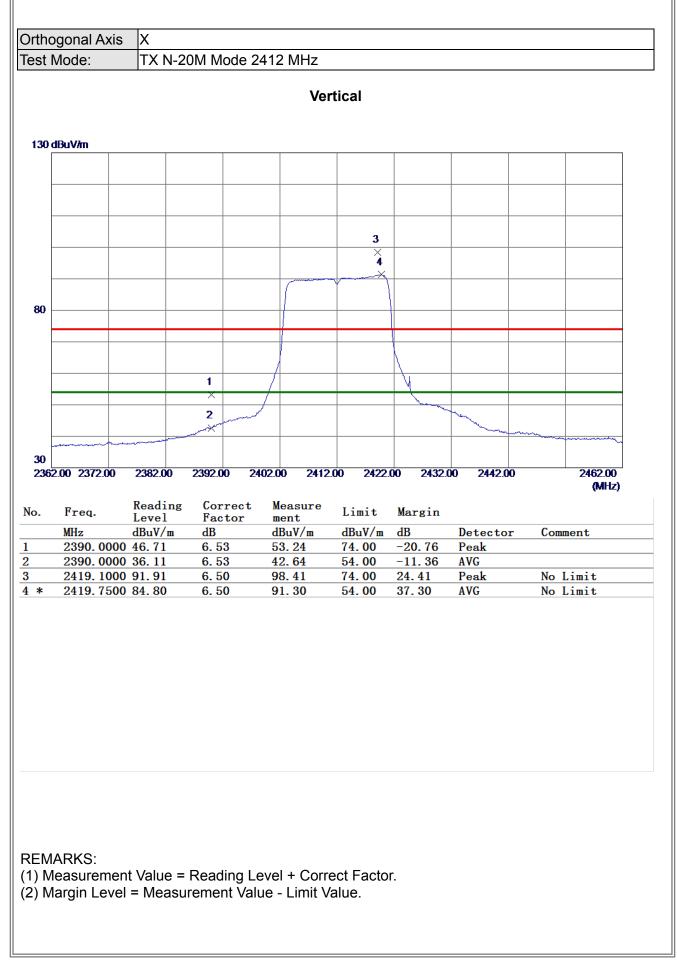


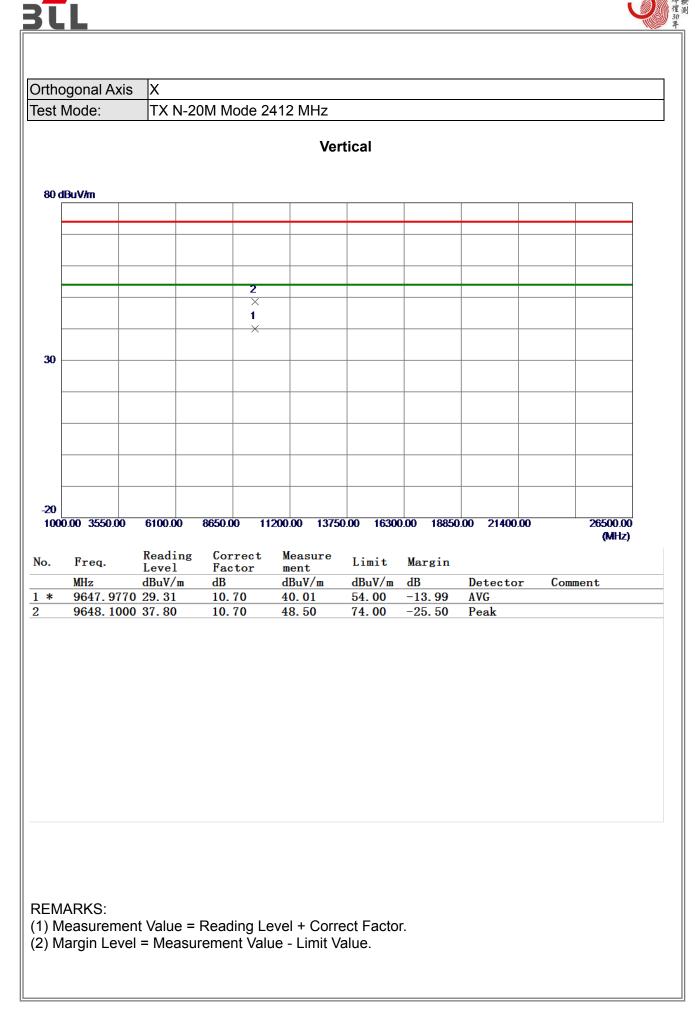






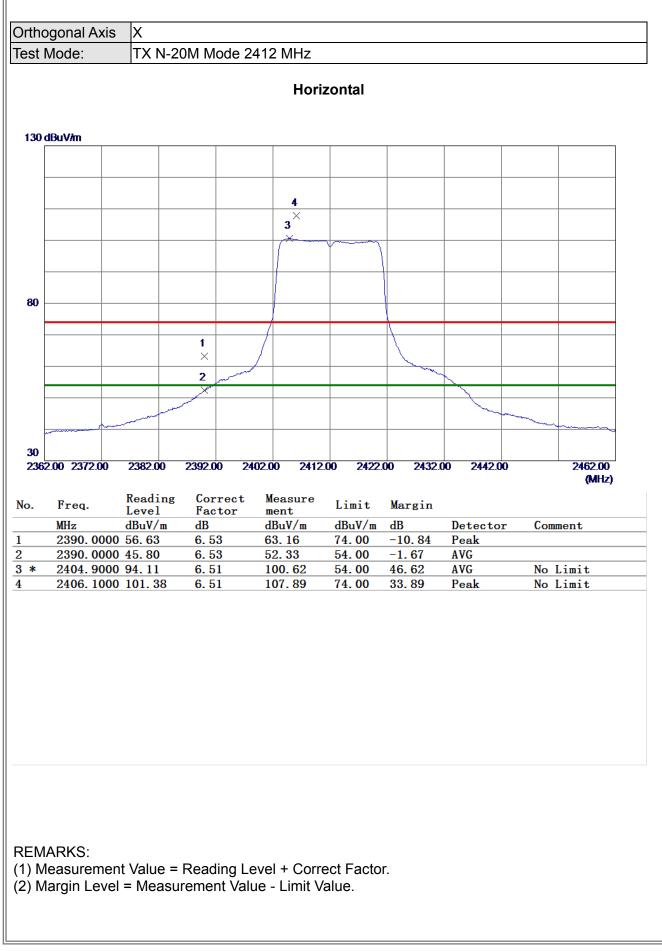


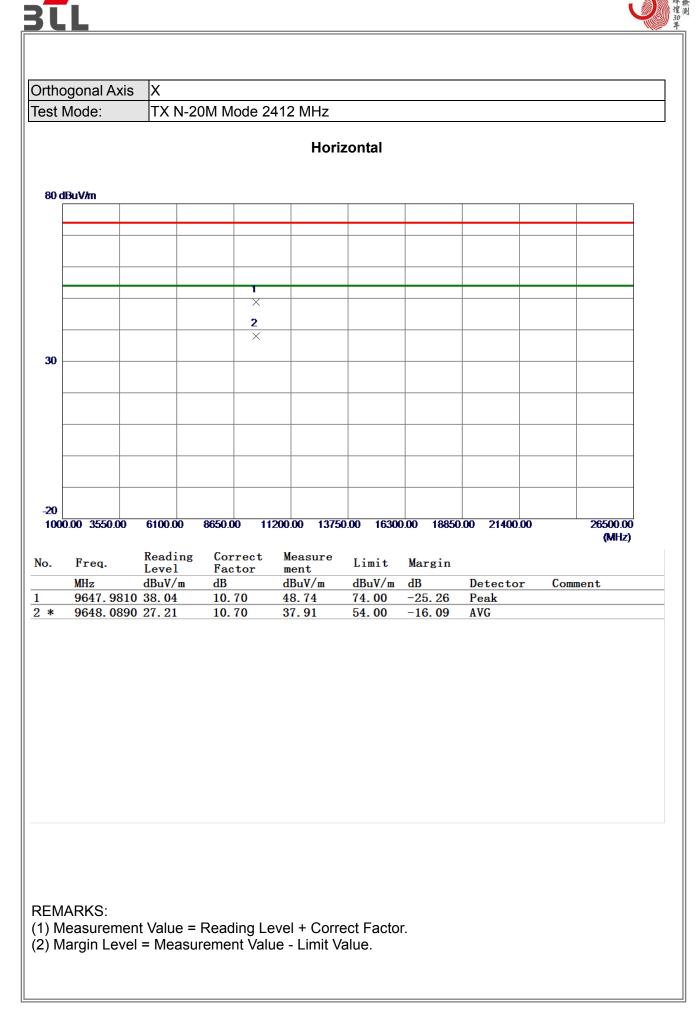


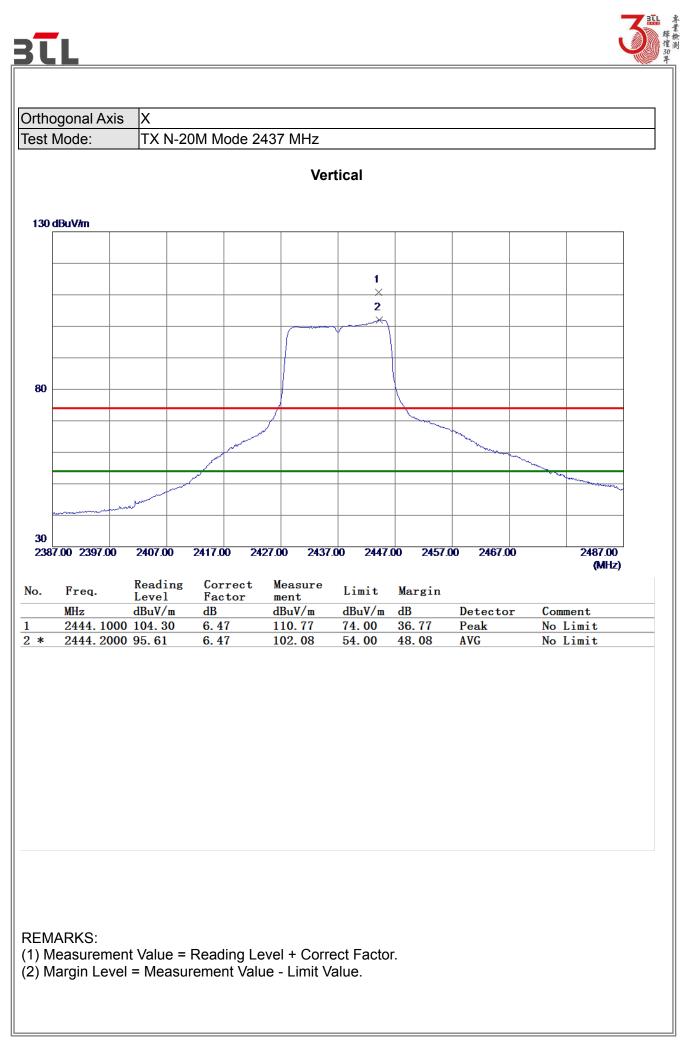


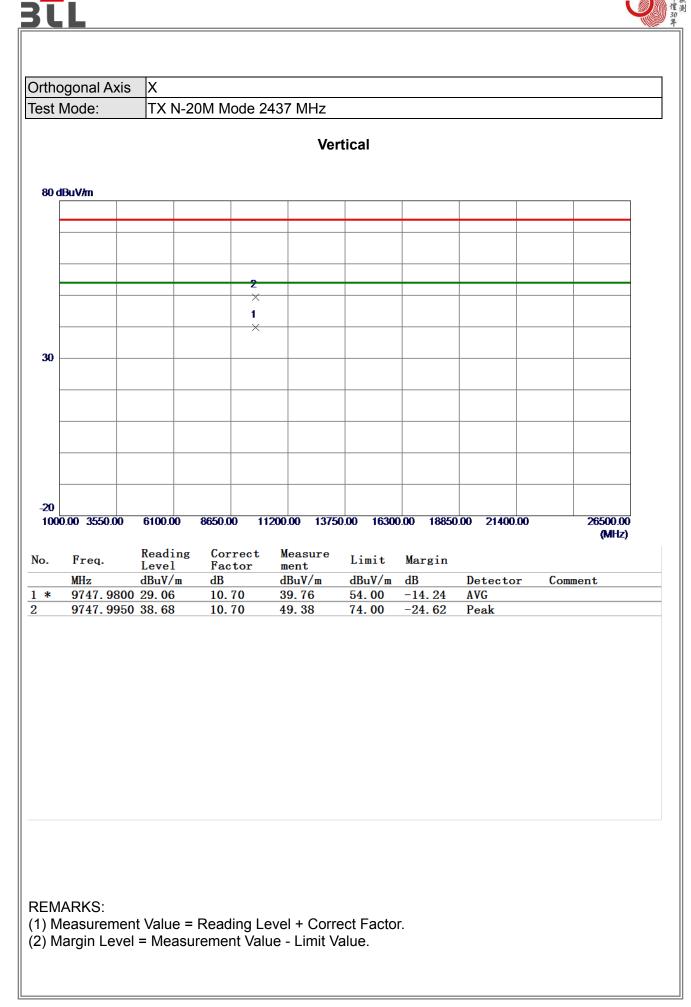






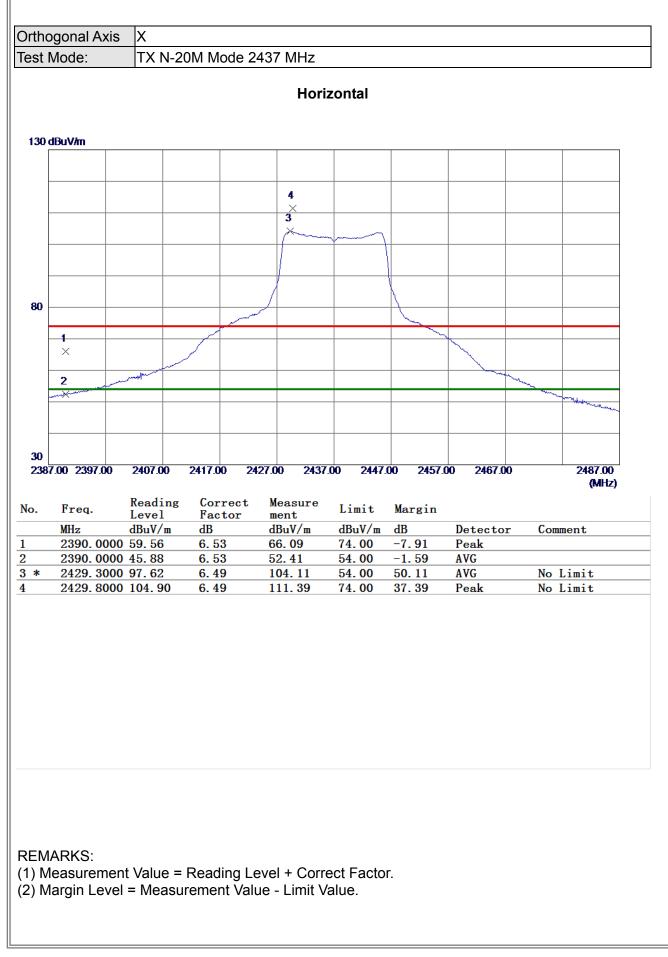


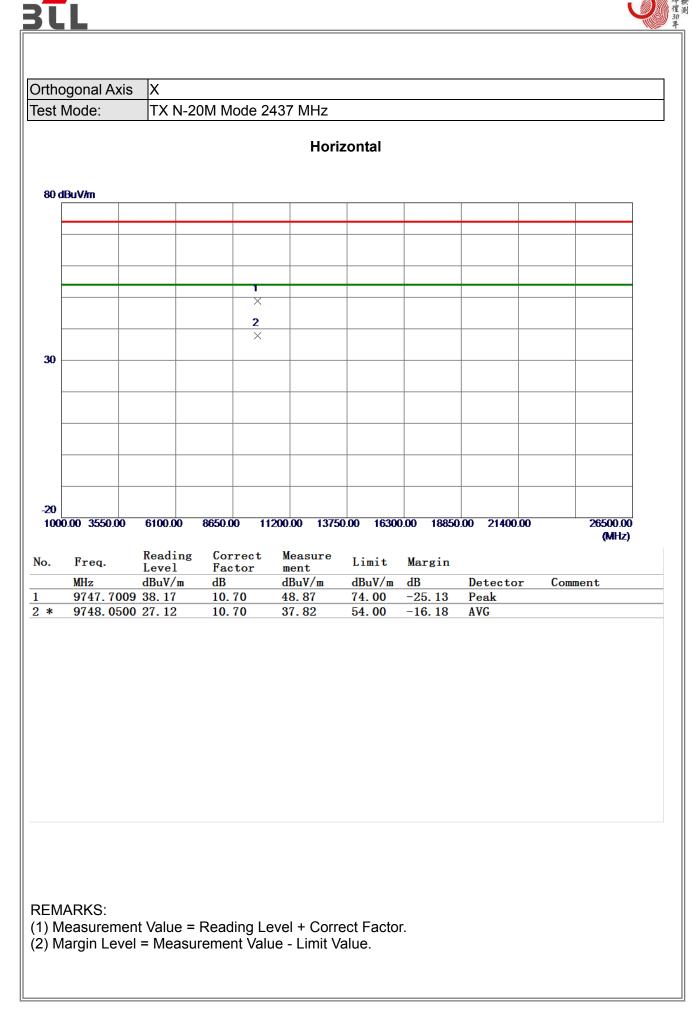


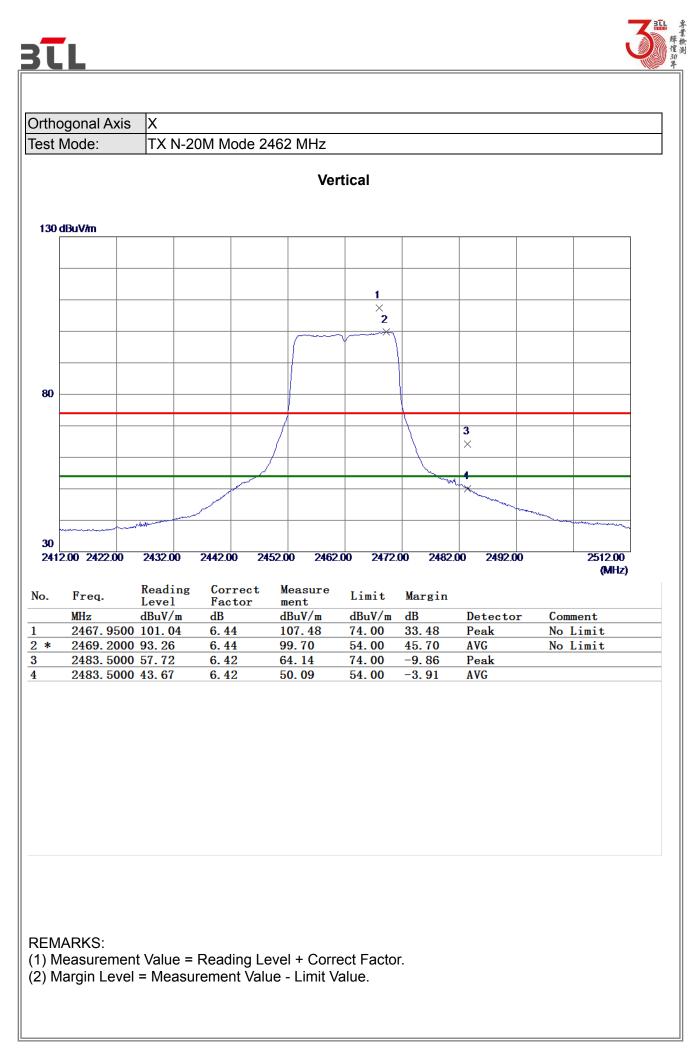


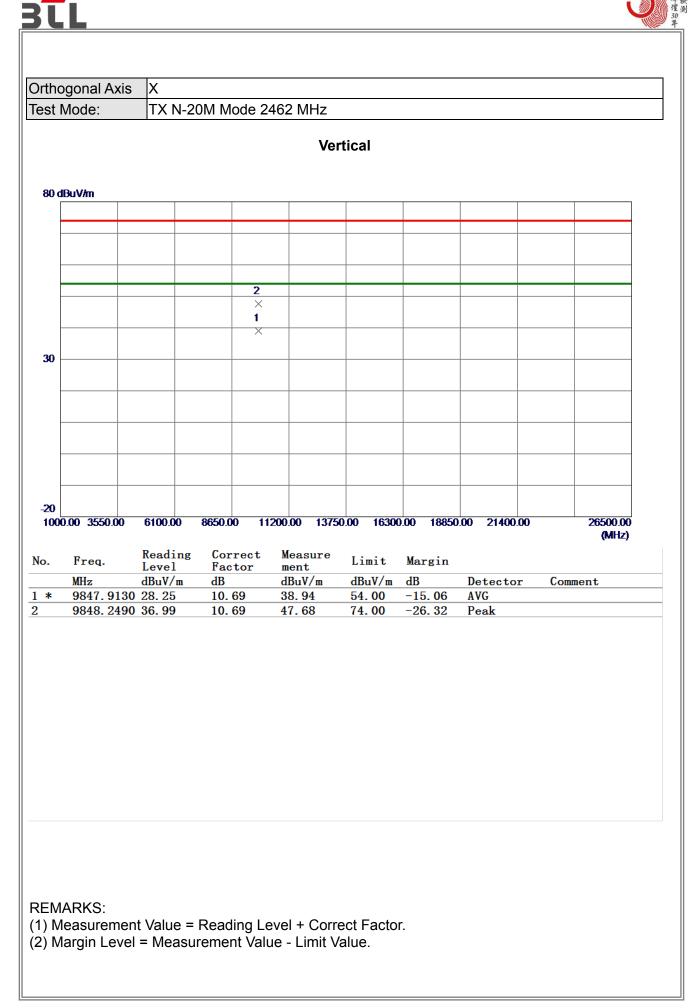






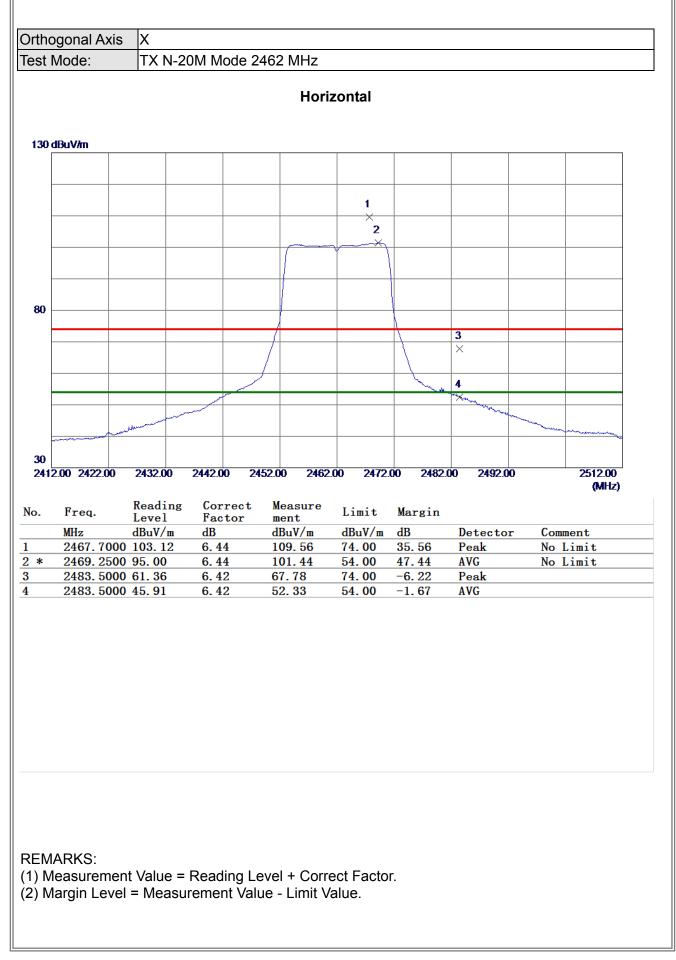


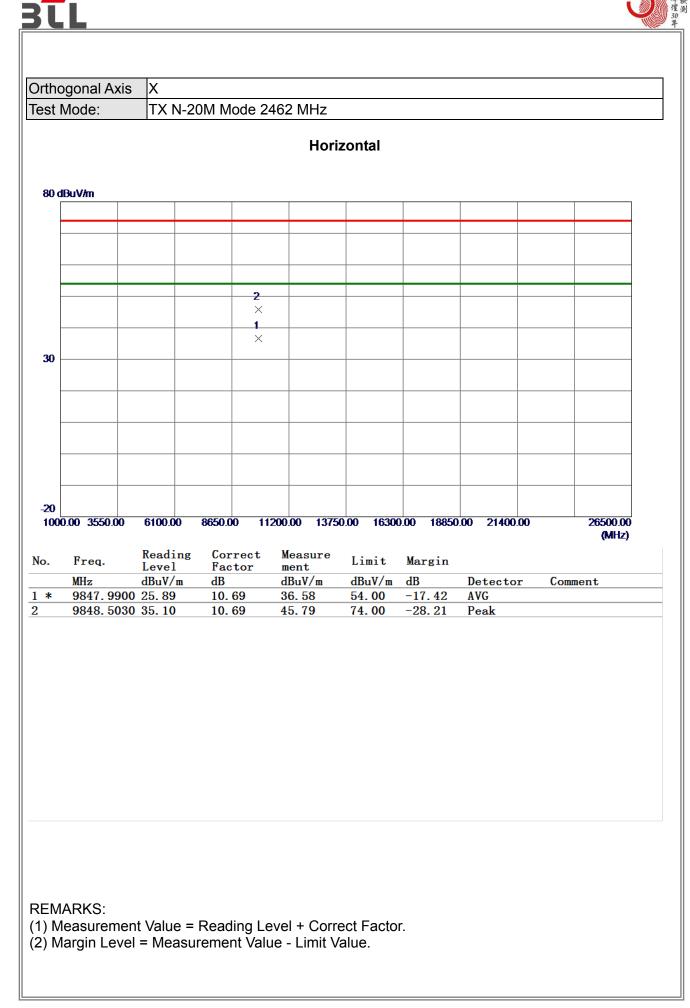


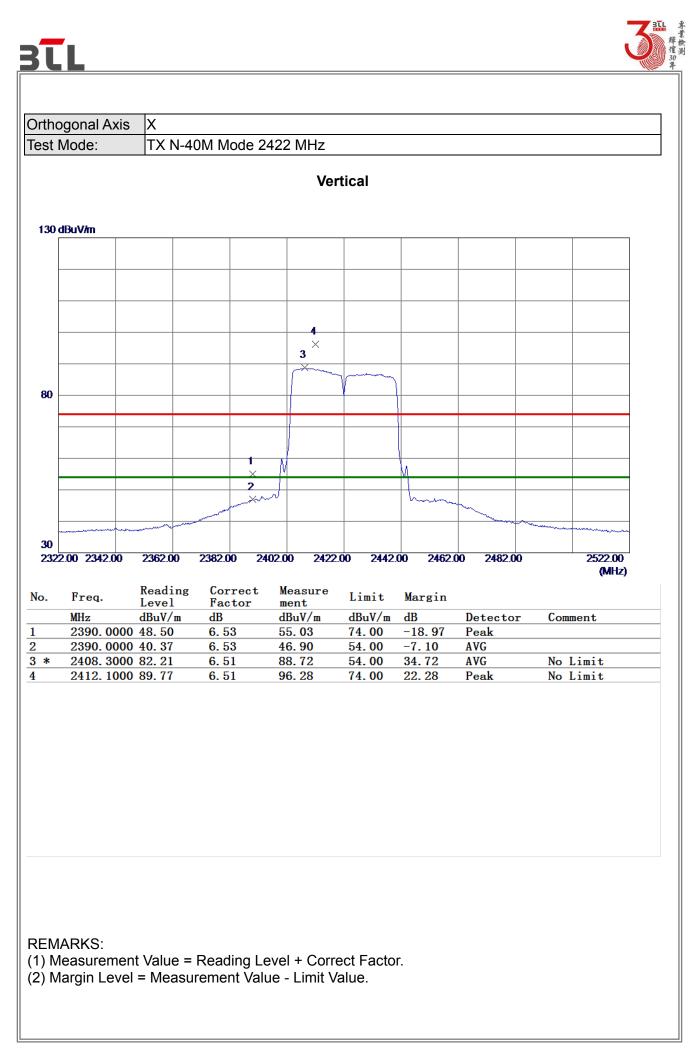








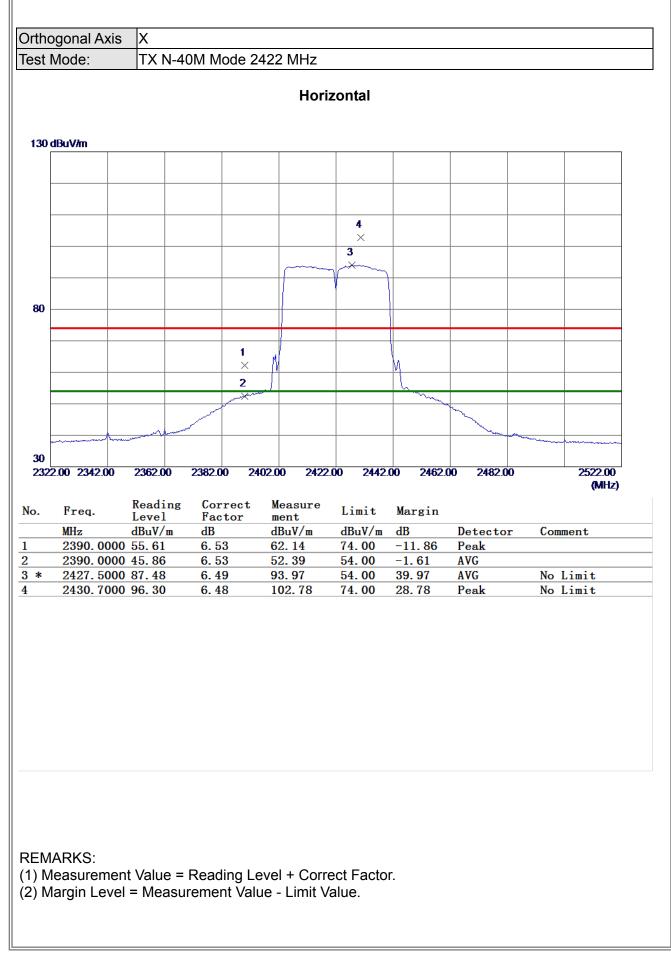




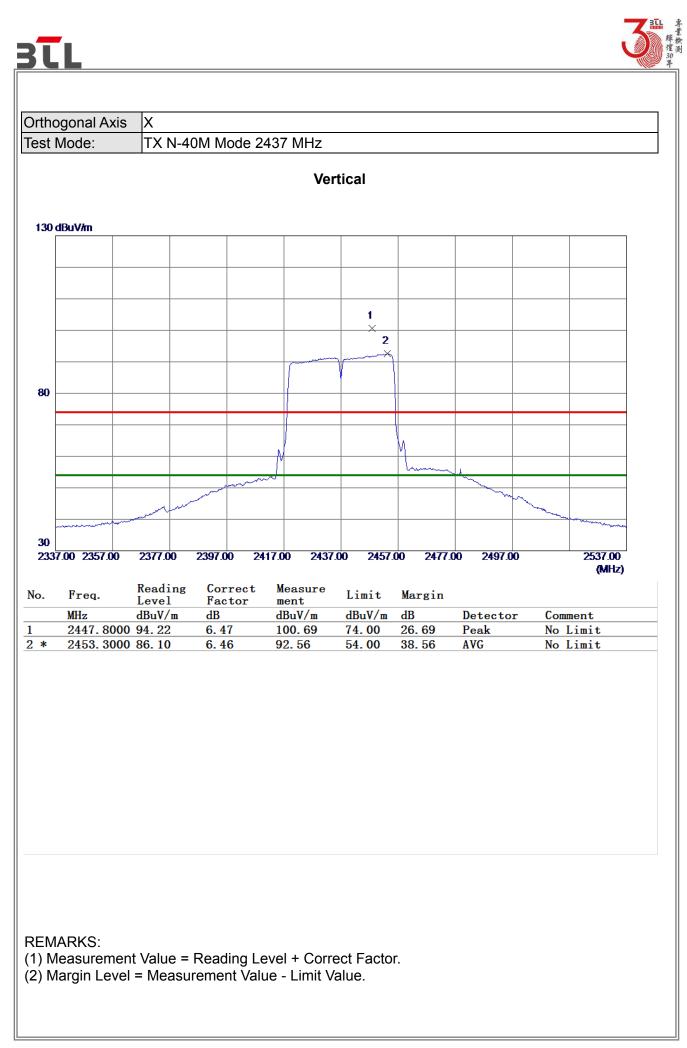


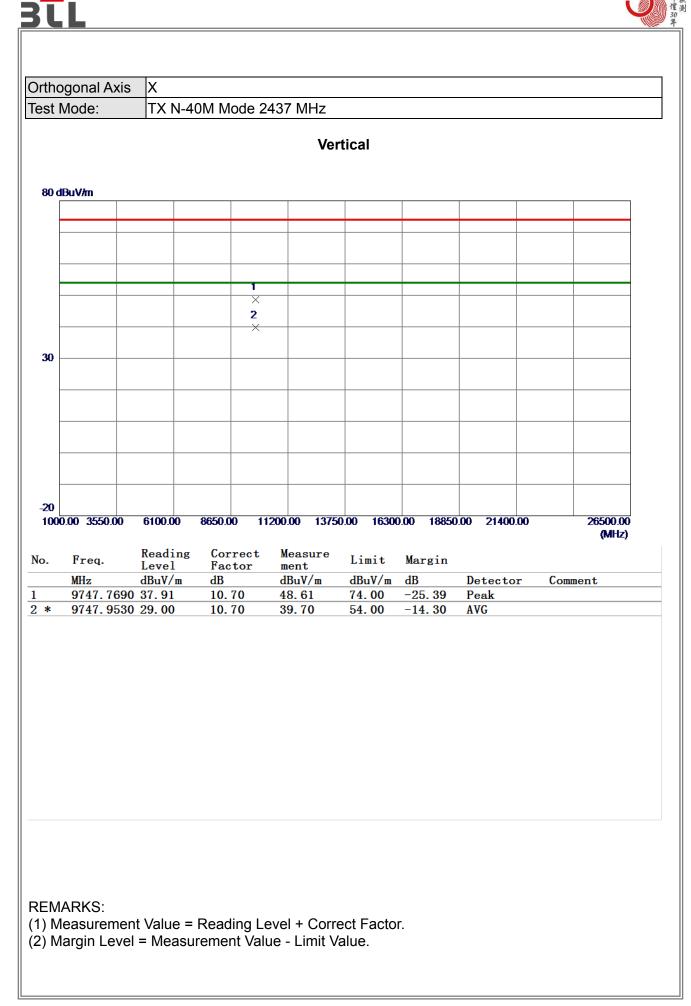






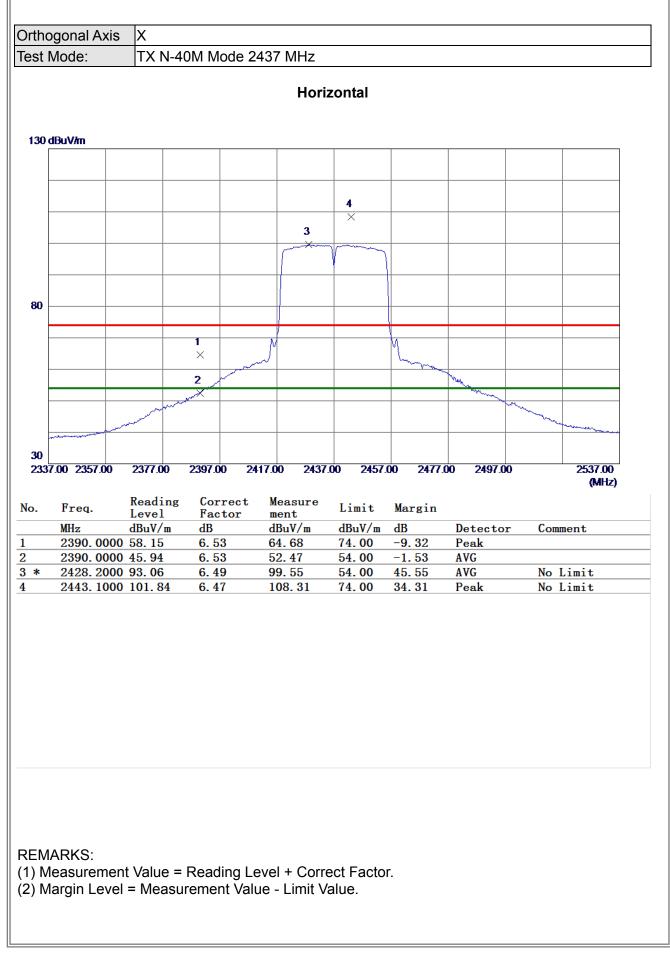


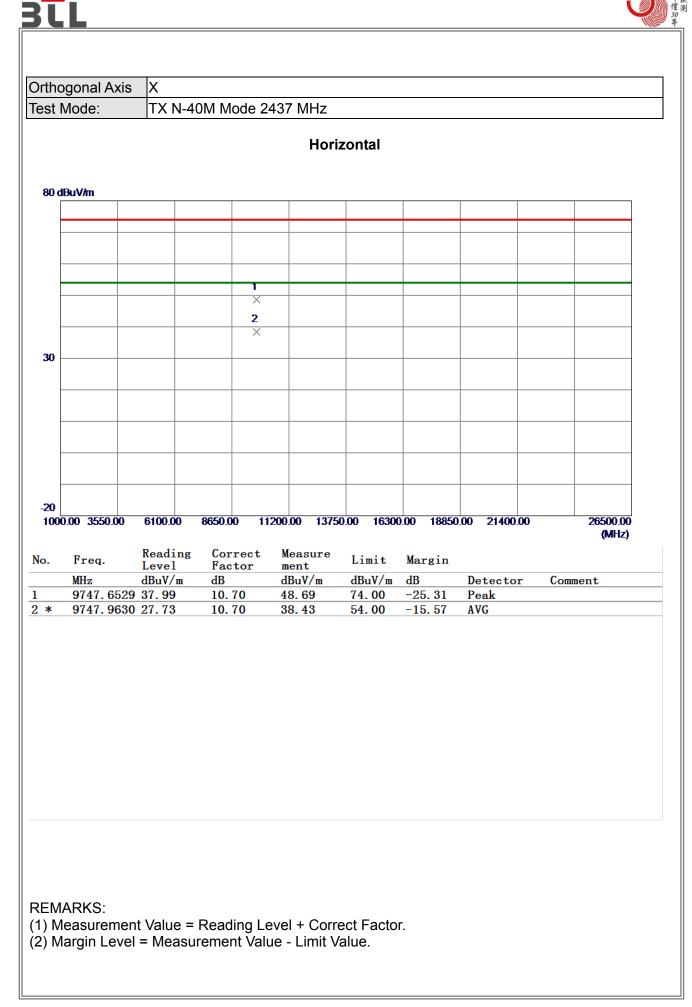






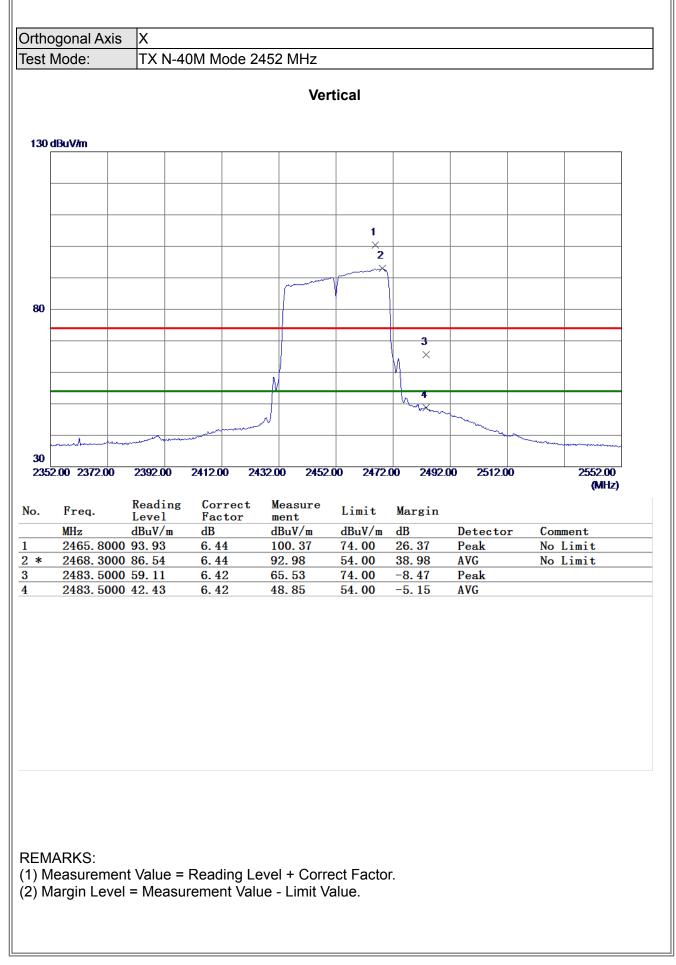


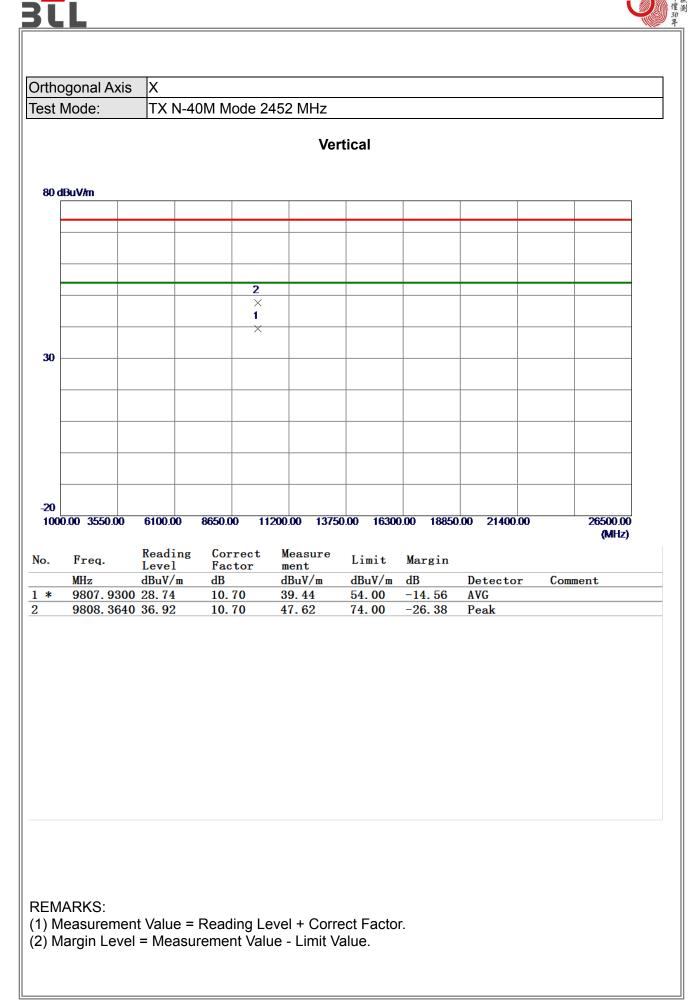






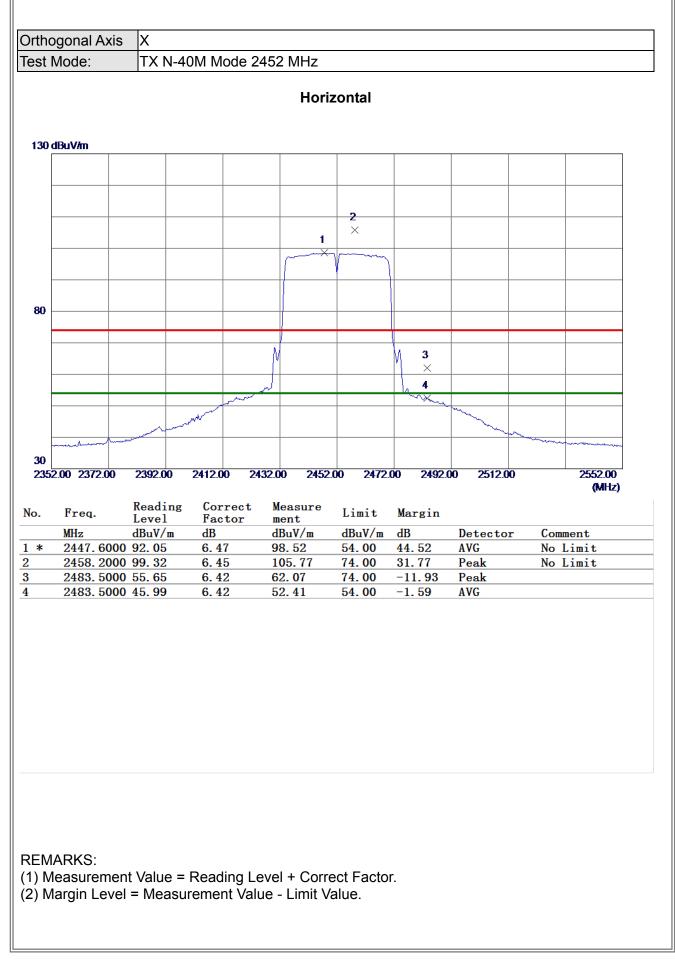


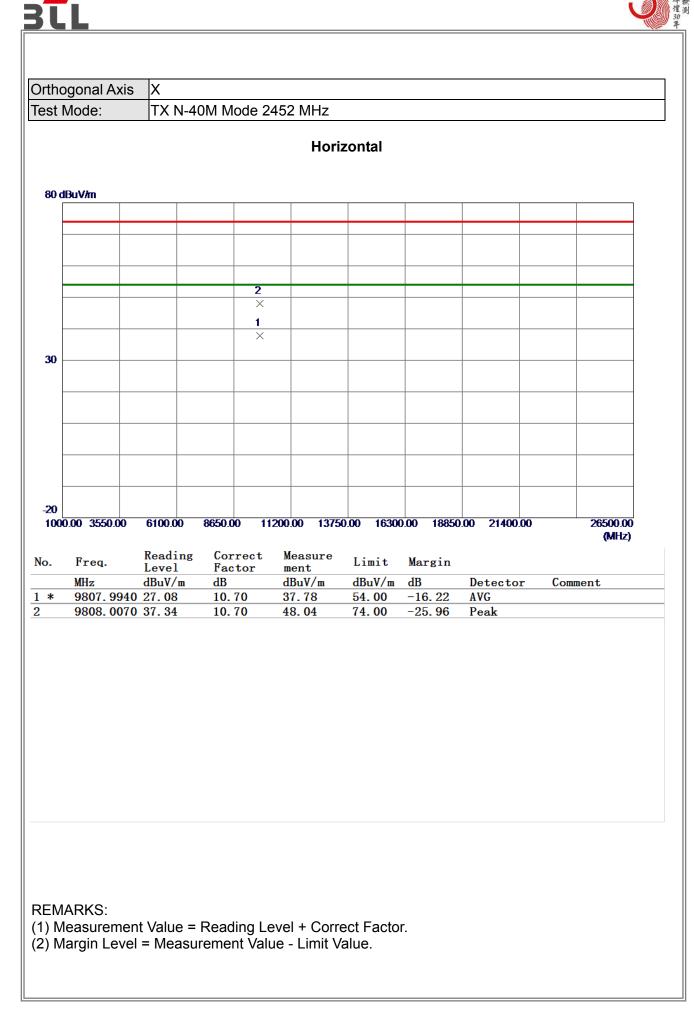










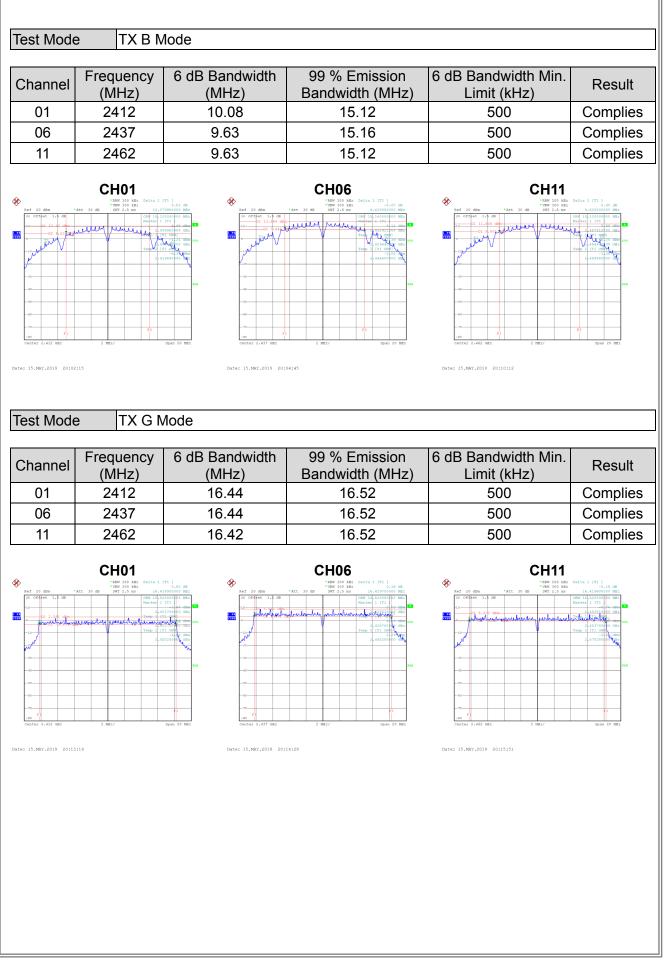




APPENDIX E - BANDWIDTH

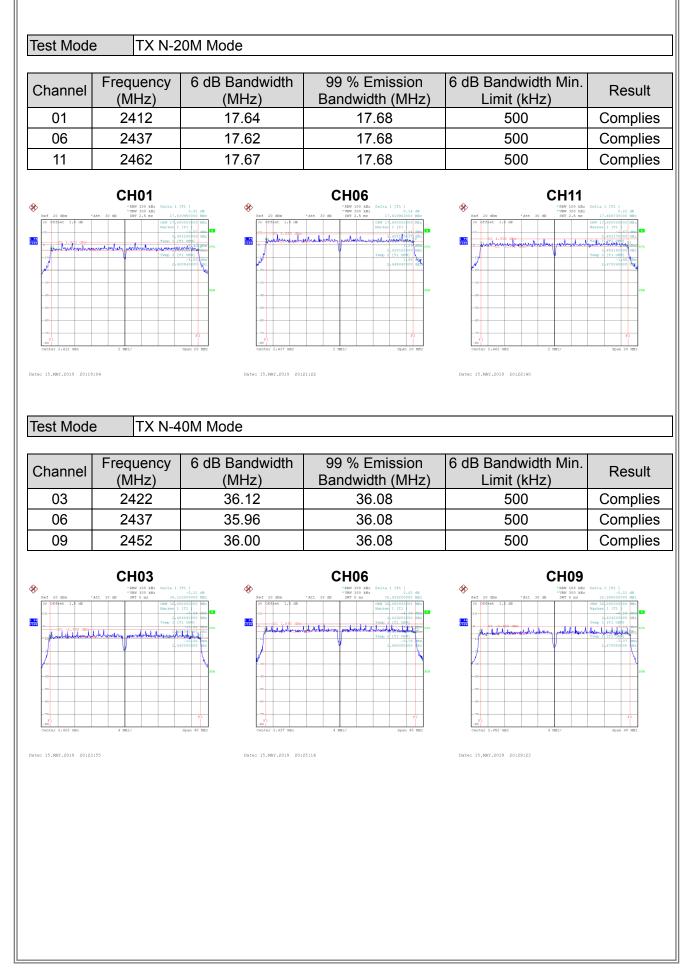
















APPENDIX F - MAXIMUM OUTPUT POWER





Test Mode TX B Mode

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	24.89	0.3083	30.00	1.0000	Complies
06	2437	26.34	0.4305	30.00	1.0000	Complies
11	2462	23.65	0.2317	30.00	1.0000	Complies

Test Mode TX G Mode

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	16.09	0.0406	30.00	1.0000	Complies
06	2437	21.83	0.1524	30.00	1.0000	Complies
11	2462	17.71	0.0590	30.00	1.0000	Complies



11



Complies

Test Mode TX N-20M Mode Ant. 1 Frequency Max. Limit Max. Limit Output Power Output Power (W) Channel Result (MHz) (dBm) (dBm) (W) 01 2412 17.22 0.0527 30.00 1.0000 Complies 22.83 0.1919 Complies 06 2437 30.00 1.0000

17.96

Test Mode TX N-20M Mode_Ant. 2

2462

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	15.31	0.0340	30.00	1.0000	Complies
06	2437	21.56	0.1432	30.00	1.0000	Complies
11	2462	17.17	0.0521	30.00	1.0000	Complies

0.0625

30.00

1.0000

Test Mode TX N-20M Mode_Total

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	19.38	0.0867	30.00	1.0000	Complies
06	2437	25.25	0.3350	30.00	1.0000	Complies
11	2462	20.59	0.1146	30.00	1.0000	Complies





Test Mode TX N-40M Mode_Ant. 1								
Channel	Frequency	Output Power	Output Power (W)		Max. Limit	Result		
onanner	(MHz)	(dBm)		(dBm)	(W)			
03	2422	15.31	0.0340	30.00	1.0000	Complies		
06	2437	19.27	0.0845	30.00	1.0000	Complies		
09	2452	16.96	0.0497	30.00	1.0000	Complies		

Test Mode TX N-40M Mode_Ant. 2

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	13.75	0.0237	30.00	1.0000	Complies
06	2437	19.20	0.0832	30.00	1.0000	Complies
09	2452	15.97	0.0395	30.00	1.0000	Complies

Test Mode TX N-40M Mode_Total

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	17.61	0.0577	30.00	1.0000	Complies
06	2437	22.25	0.1679	30.00	1.0000	Complies
09	2452	19.51	0.0893	30.00	1.0000	Complies



APPENDIX G - CONDUCTED SPURIOUS EMISSIONS