



FCC Radio Test Report					
FCC ID: QISCRO-LX3					
This report concerns (check one): ⊠Original Grant ⊡Class I Change ⊡Class II Change					
Project No.: 1701C155AEquipment: Smart PhoneModel Name: CRO-L03,CRO-L23Applicant: Huawei Technologies Co.,Ltd.Address: Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District Shenzhen China					
Date of Receipt : Jan. 18, 2017 Date of Test : Jan. 18, 2017 ~ Feb. 27, 2017 Issued Date : Mar. 23, 2017 Tested by : BTL Inc.					
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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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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-3-1701C155	Original Report.	Feb. 28, 2017
	Compared with the original report (BTL-FCCP-3-1701C155), the model CRO-L23 is added and differences please see the below table. According to the differences description below table, CRO-L23 shares the same test data of CRO-L03 of the same bands which does not affect the test results of the test report.	Mar. 23, 2017

Model	CRO-L03	CRO-L23
Brand	HUAWEI	HUAWEI
2G Frequency	GSM/GPRS/EDEG 850//1900	GSM/GPRS/EDEG 850//1900
3G Frequency	UMTS: B2/B5	UMTS: B2/B5
4G Frequency	FDD-LTE:B2/B4/B5/B7	FDD-LTE:B2/B4/B5/B7
Hardware version	The same	The same
Software version	The difference	The difference
SIM Card	Single (Hardware GPIO level is tested by software to identify odd and even cards.)	Double Hardware GPIO level is tested by software to identify odd and even cards. The dual-slot is added through the hardware, others are the same; The only difference between CRO-L03 and CRO-L23 is: CRO-L03 is single SIM point, and the CRO-L23 is double SIM points.
Dimensions	The same	The same
Appearance	The same	The same
main antenna	The same	The same
BT/Wi-Fi antenna	The same	The same
GPS antenna	The same	The same
PA(GSM)	The same	The same
PA(UMTS/FDD)	The same	The same



1. CERTIFICATION

Equipment : Brand Name :	
	CRO-L03,CRO-L23
	Huawei Technologies Co.,Ltd.
Manufacturer :	Huawei Technologies Co.,Ltd.
Address :	Administration Building, Headquarters of Huawei Technologies Co., Ltd.,
	Bantian, Longgang District Shenzhen China
Factory :	Huawei Technologies Co.,Ltd.
Address :	Administration Building, Headquarters of Huawei Technologies Co., Ltd.,
	Bantian, Longgang District Shenzhen China
Date of Test :	Jan. 18, 2017 ~ Feb. 27, 2017
Test Sample :	Engineering Sample
	FCC Part15, Subpart C:(15.247) / ANSI C63.10-2013

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-3-1701C155A) 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	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					
15.247(d)/ 15.205/ 15.209	Transmitter Radiated Emissions	PASS					

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 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 BTL measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.

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

A. Conducted Measurement:

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

B. Radiated Measurement:

Test Site	Method Measurement Frequency Range		Ant. H / V	U, (dB)		
		9KHz~30MHz	V	3.79		
		9KHz~30MHz	Н	3.57		
	CISPR	30MHz ~ 200MHz	V	3.82		
		30MHz ~ 200MHz	Н	3.78		
DG-CB03		200MHz ~ 1,000MHz	V	4.10		
DG-CB03		200MHz ~ 1,000MHz	H	4.06		
		1GHz~18GHz	V	3.12		
		1GHz~18GHz	H	3.68		
		18GHz~40GHz	V	4.15		
		18GHz~40GHz	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	Smart Phone			
Brand Name	HUAWEI			
Model Name	CRO-L03,CRO-L23			
Model Difference	Please refer to page 5.			
	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: 19.72dBm 802.11g: 24.35dBm 802.11n(20MHz): 22.11dBm 802.11n(40MHz): 22.39dBm		
Power Source	#1 DC Voltage supplied from AC/DC adapter. #2 Battery Supplied.			
Power Rating	#1:AC 100–240V 50/60Hz DC 5V 1A #2:DC 3.82V 2200mAh			
HW Version	HL1CROM			
SW Version	CRO-L03:Cairo-L03C469B015 CRO-L23:Cairo-L23C469B022			

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(20MHz) CH03 – CH09 for 802.11n(40MHz)						
Channel	Channel Frequency (MHz) Channel Frequency (MHz) Channel Frequency (MHz) Channel (MHz) Channel (MHz) Channel (MHz)					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. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Internal	N/A	2.6



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	

For Band Edge 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	



6dB Spectrum Bandwidth		
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	

Maximum Conducted Output Power		
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	

Power Spectral Density		
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 (6.5Mbps) 802.11n HT40 mode : BPSK (13.5Mbps)
 - 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.
- (4) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.



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		N/A	
Frequency (MHz)	2412	2437	2462
802.11b	17	17	17
802.11g	15	16	15
802.11n (20MHz)	12	12	12
Frequency	2422	2437	2452
802.11n (40MHz)	12	12	12



3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED EUT 1 EUT Adapter AC 100-240V

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	Series No.
-	-	-	-	-	-

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.2m	USB Cable



4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

Fraguanov of Emission (MHz)	Conducted Limit (dBµV)		
Frequency of Emission (MHz)	Quasi-peak	Average	
0.15 -0.50	66 to 56*	56 to 46*	
0.50 -5.0	56	46	
5.0 -30.0	60	50	

Note:

- (1) The limit of " * " decreases with the logarithm of the frequency
- (2) The test result calculated as following:
 - Measurement Value = Reading Level + Correct Factor
 - Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use) Margin Level = Measurement Value - Limit Value

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

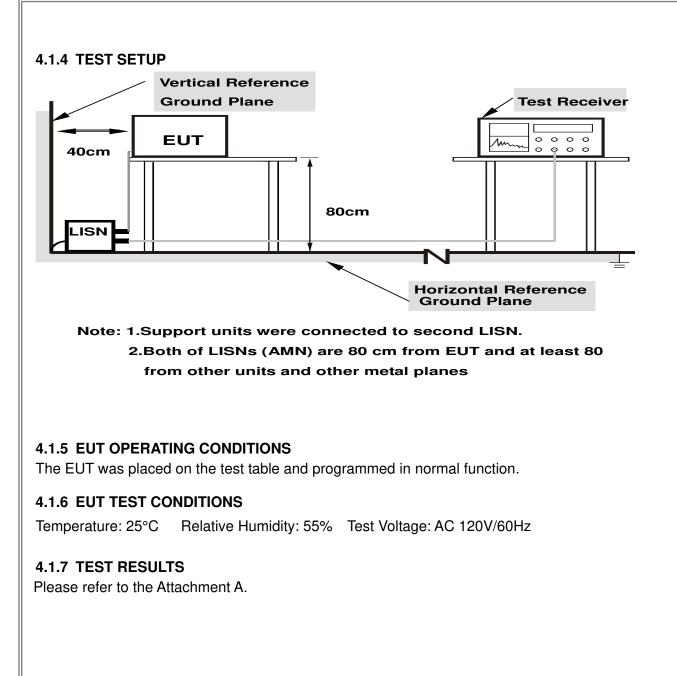
- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- 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









4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS

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 (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)

	Band edge at 3m (dB μ V/m)		Harmonic at 1.5m (dBµV/m)	
Frequency (MHz)	Peak	Average	Peak	Average
Above 1000	74	54	80 (Note 5)	60(Note 5)

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).

 (4) The test result calculated as following: Measurement Value = Reading Level + Correct Factor Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use) Margin Level = Measurement Value - Limit Value

1

7

(5)

$$FS_{\text{limit}} = FS_{\text{max}} - 20\log\left(\frac{a_{\text{limit}}}{a_{\text{measure}}}\right)$$

20log d limit/d measure=20log 3/1.5=6dB.



Spectrum Parameter	Setting	
Attenuation	Auto	
Start Frequency	1000 MHz	
Stop Frequency	10th carrier harmonic	
RBW / VBW	RBW / VBW 1MHz / 3MHz for Peak,	
(Emission in restricted band)	(Emission in restricted band) 1MHz / 1/T for Average	
Receiver Parameter	Setting	

ector
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ector

4.2.2 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 1GHz)
- b. The measuring distance of 3 m or 1.5m 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 1GHz)
- 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 1GHz.
- 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 1GHz)
- 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 1GHz)
- i. For the actual test configuration, please refer to the related Item -EUT Test Photos.

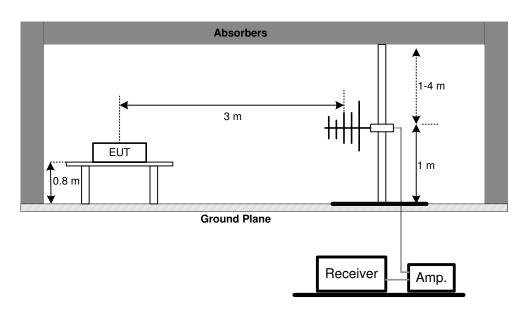
4.2.3 DEVIATION FROM TEST STANDARD

No deviation

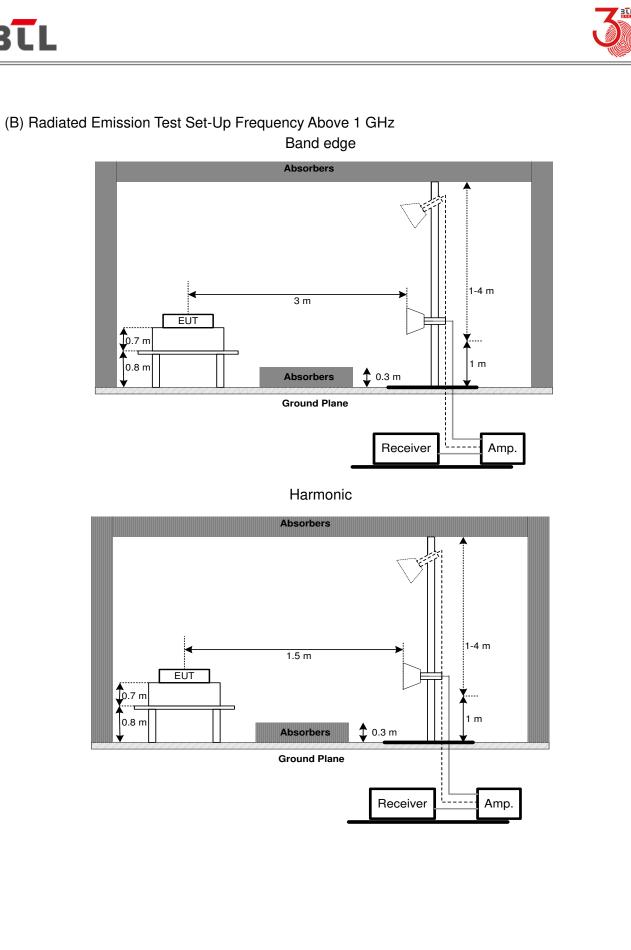


4.2.4 TEST SETUP

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



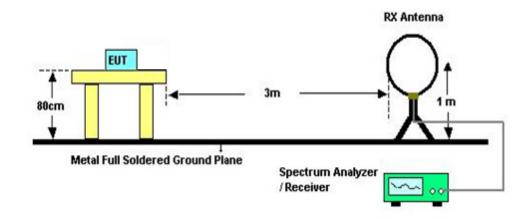








(C) For Radiated Emissions Below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.2.6 EUT TEST CONDITIONS

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

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 (30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

Remark:

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



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 was programmed to be in continuously transmitting mode.

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 PEAK CONDUCTED 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 9.1.2 of FCC KDB 558074 D01 DTS Meas Guidance.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

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 device is operating, the RF power that is produced 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 that 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.
- c. Offset=antenna gain+cable loss

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

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 was programmed to be in continuously transmitting mode.

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.

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9. MEASUREMENT INSTRUMENTS LIST

	Conducted Emission Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	EMI Test Receiver	R&S	ESCI	100382	Mar. 27, 2017		
2	LISN	EMCO	3816/2	52765	Mar. 27, 2017		
3	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 27, 2017		
4	TWO-LINE V-NETWORK	R&S	ENV216	101447	Mar. 27, 2017		
5	Cable	emci	RG223(9KHz-30 MHz)(5m)	N/A	Mar. 10, 2017		
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A		

	Radiated Emission Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 27, 2017		
2	Amplifier	HP	8447D	2944A09673	Oct. 20, 2017		
3	Receiver	Agilent	N9038A	MY52130039	Sep. 04, 2017		
4	Cable	emci	LMR-400(30MH z-1GHz)(8m+5m)	N/A	Jun. 27, 2017		
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		
8	Amplifier	Agilent	8449B	3008A02274	Mar. 09, 2018		
9	Receiver	Agilent	N9038A	MY52130039	Sep. 04, 2017		
10	Antenna	EM	EM-6876-1	230	Jul. 08, 2017		
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Apr. 23, 2017		
12	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Sep. 16, 2017		
13	Controller	MF	MF-7802	MF780208416	N/A		
14	Cable	emci	EMC104-SM-S M-12000(12m)	N/A	Jul. 06, 2017		



	6dB Bandwidth Measurement					
ltem	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017	

Peak Output Power Measurement							
ltem	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Power Meter	ANRITSU	ML2495A	1128009	Apr. 26, 2017		
2	Pulse Power Sensor	ANRITSU	MA 2411B	1027500	Apr. 26, 2017		

Antenna Conducted Spurious Emission Measurement						
ltem	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017	

	Power Spectral Density Measurement							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until			
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017			

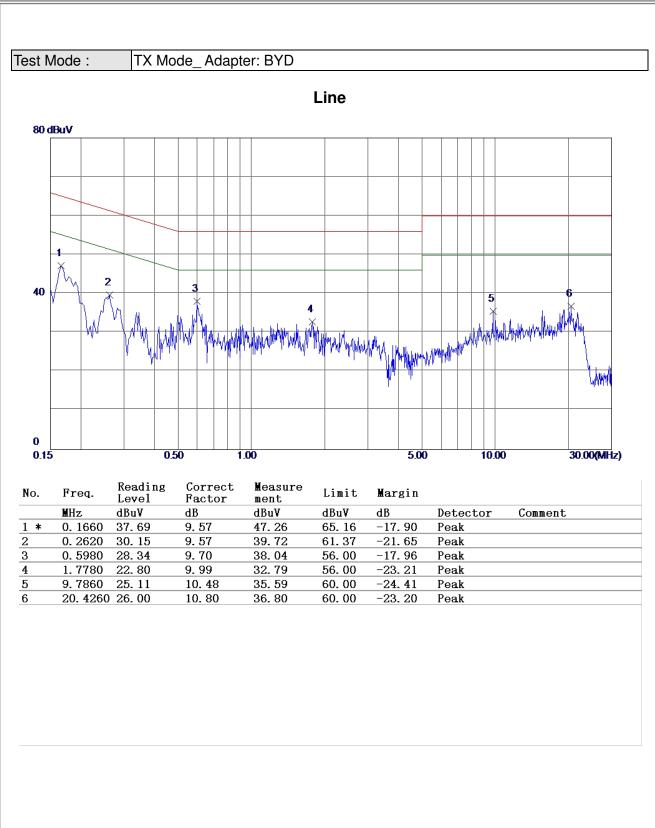
Remark: "N/A" denotes no model name, serial no. or calibration specified. All calibration period of equipment list is one year.





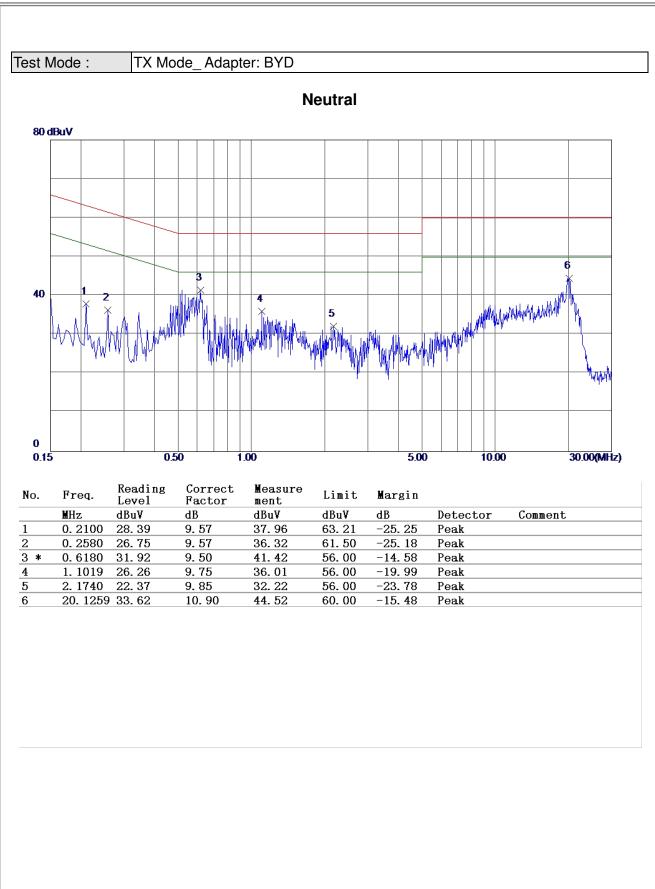






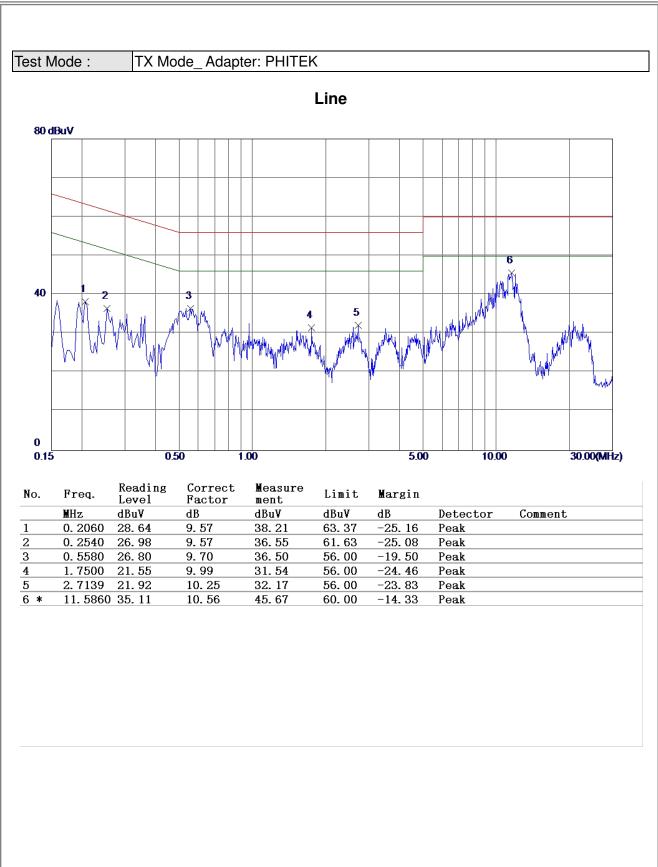






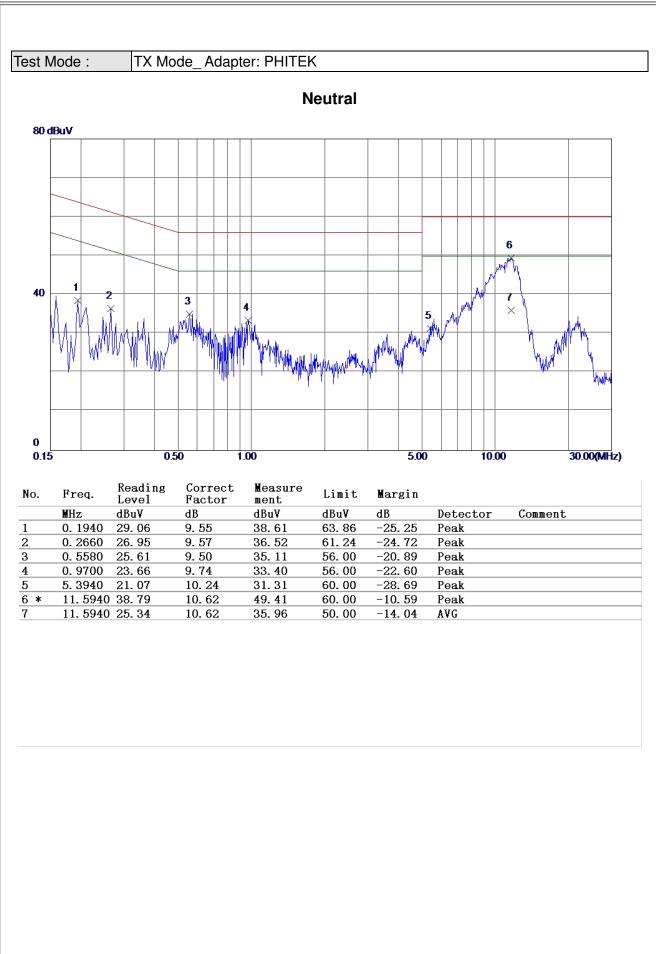






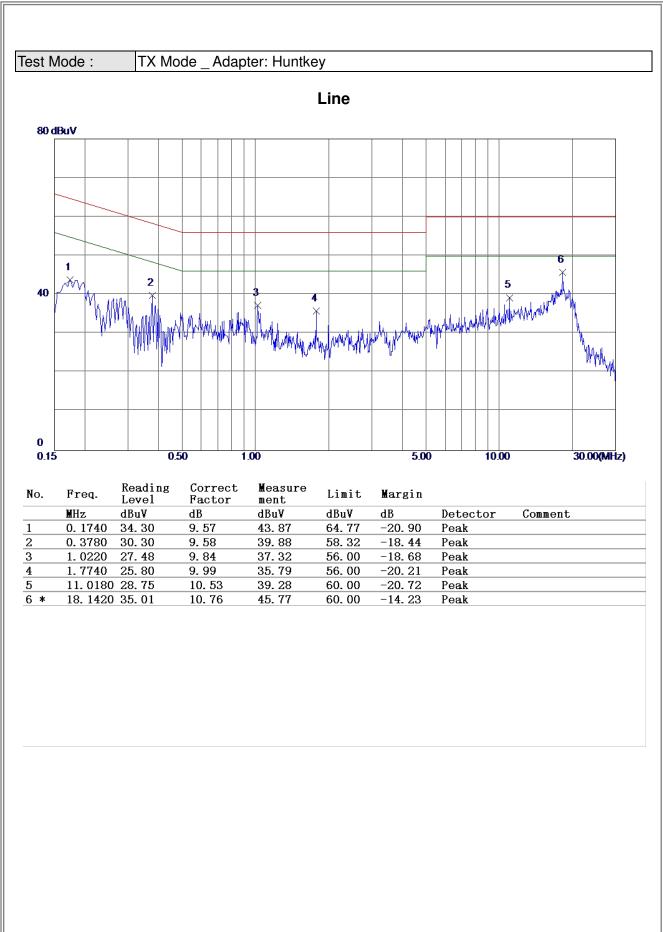






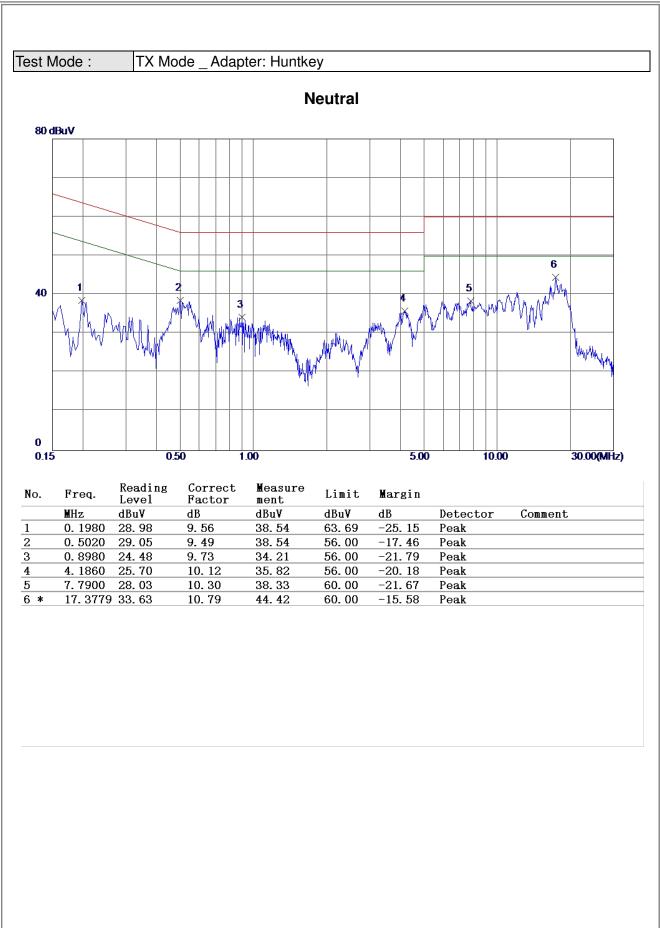










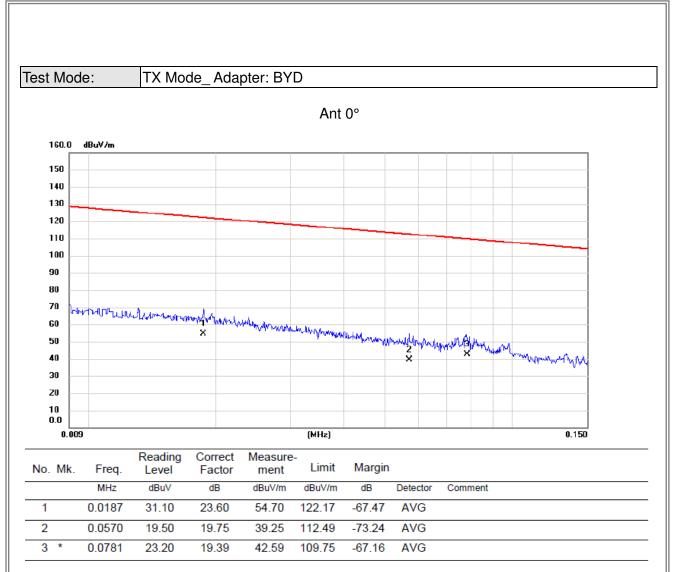




ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)

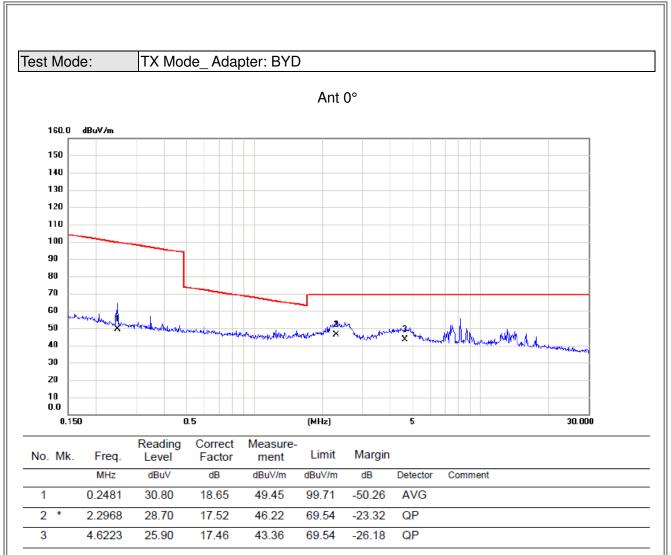






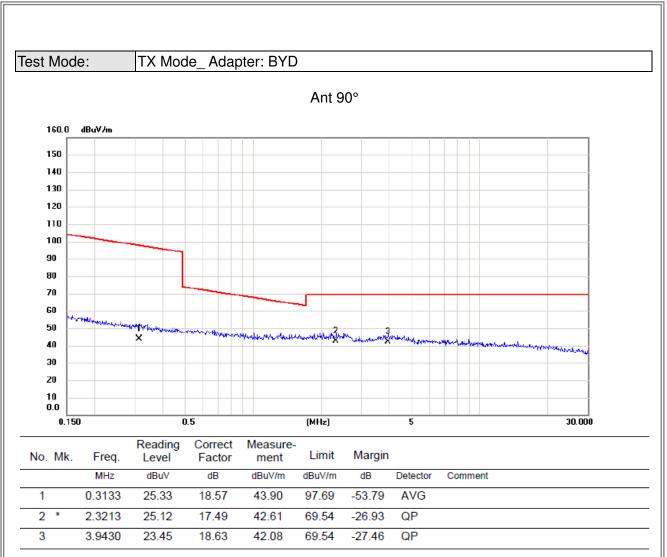






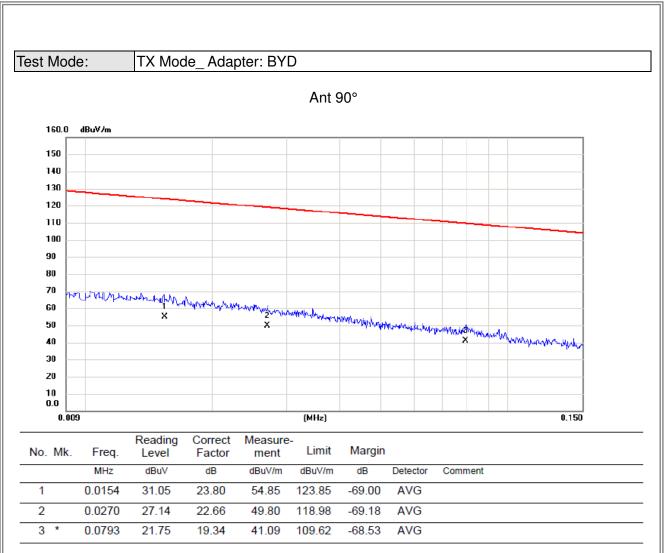






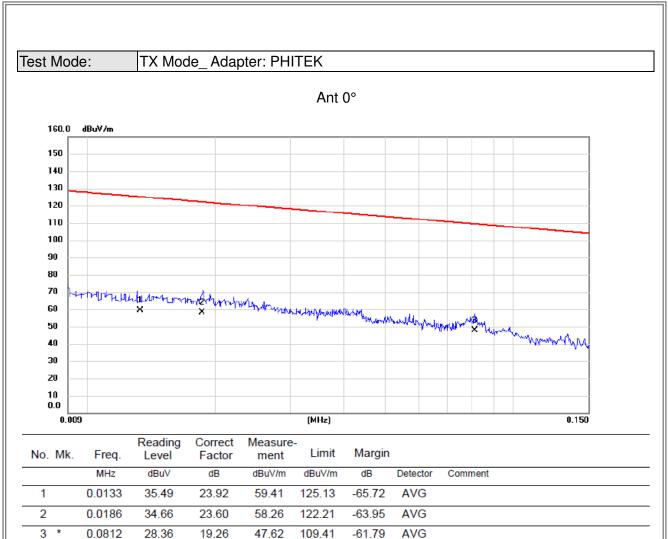






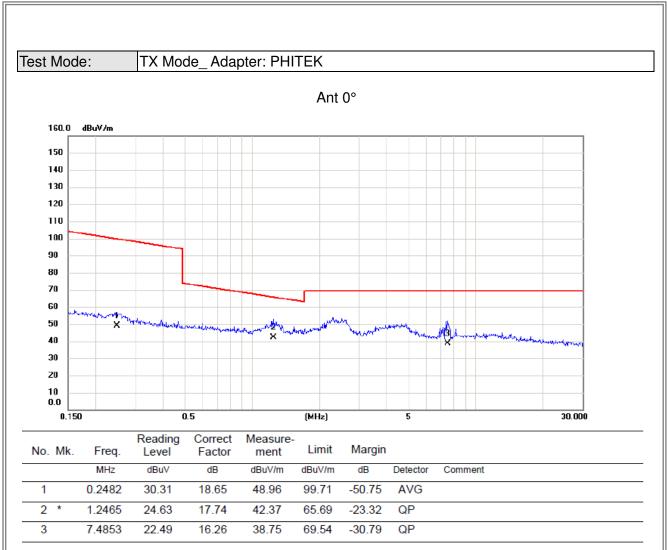






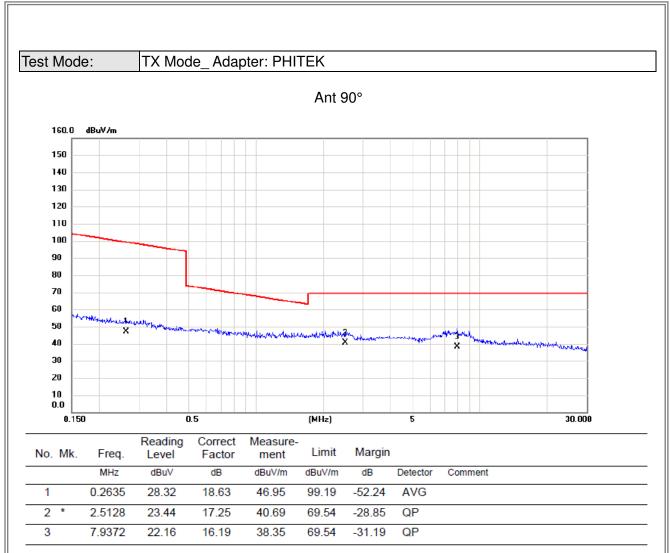






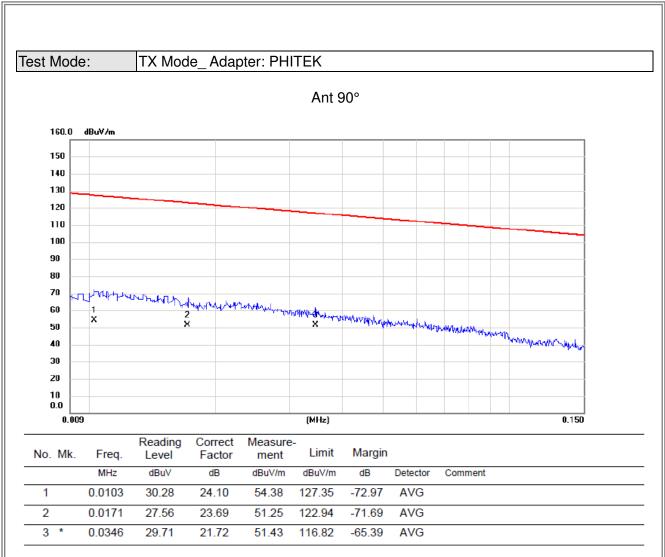






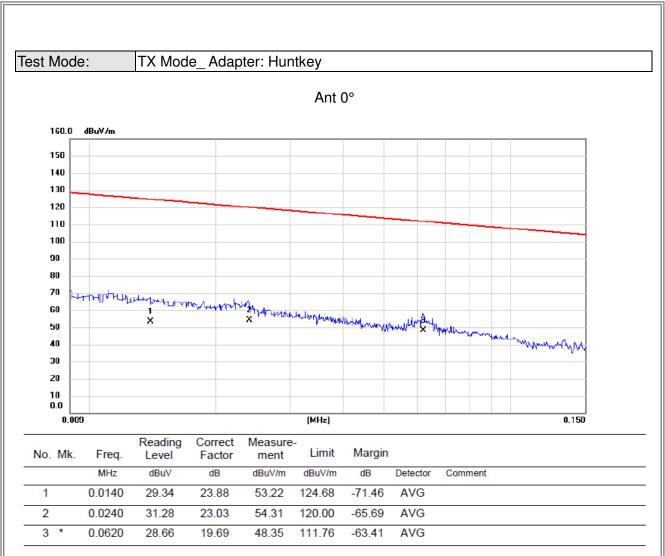






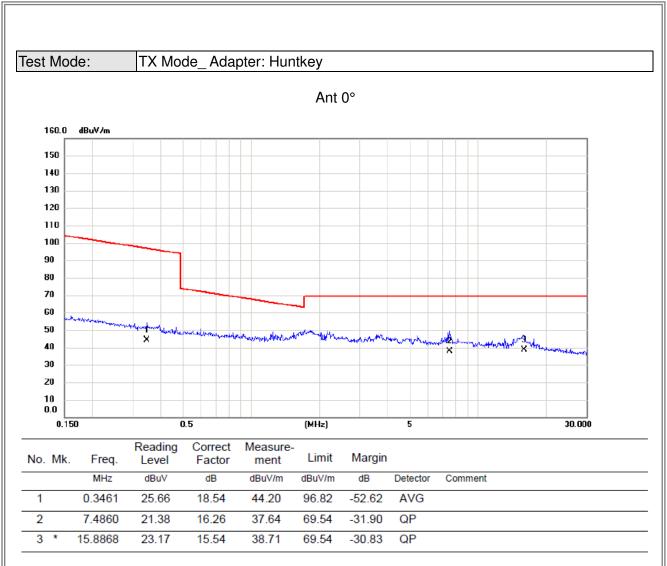






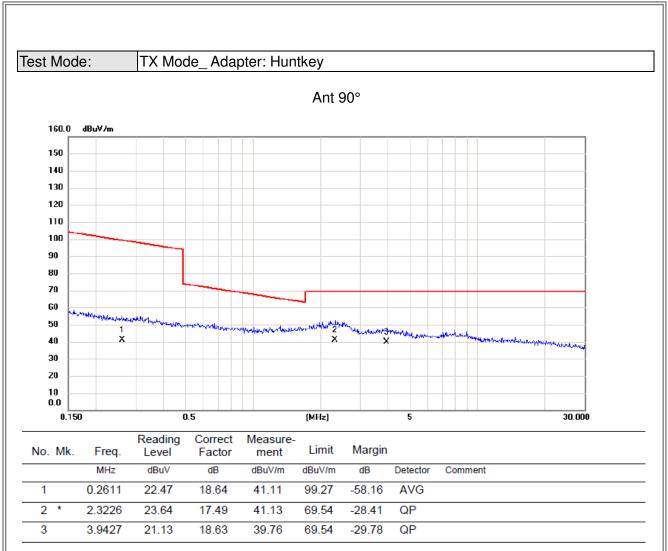






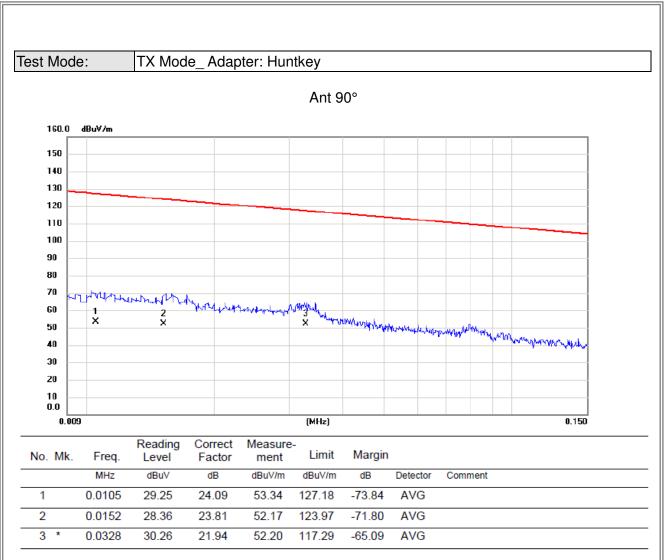










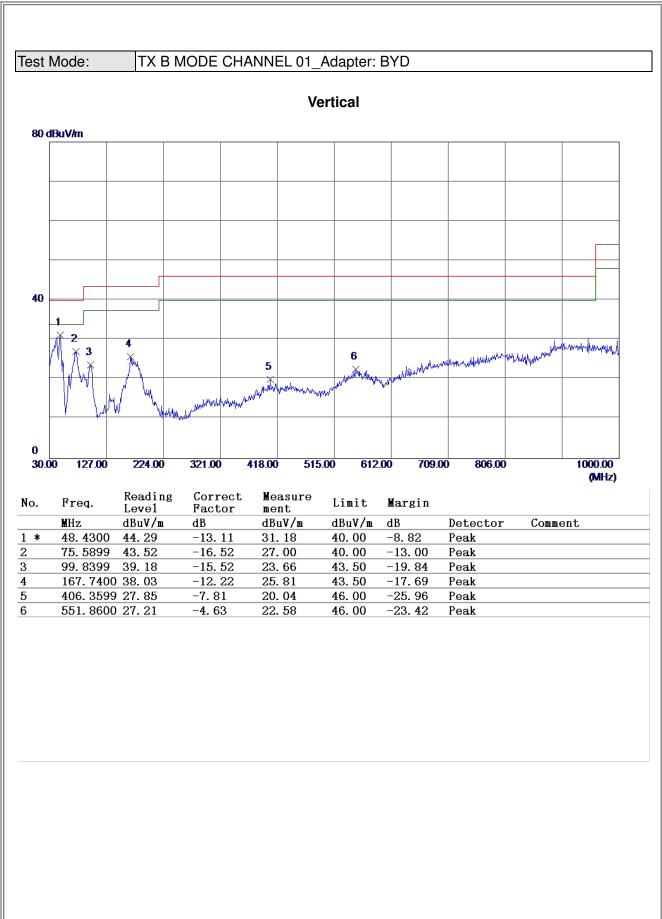




ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

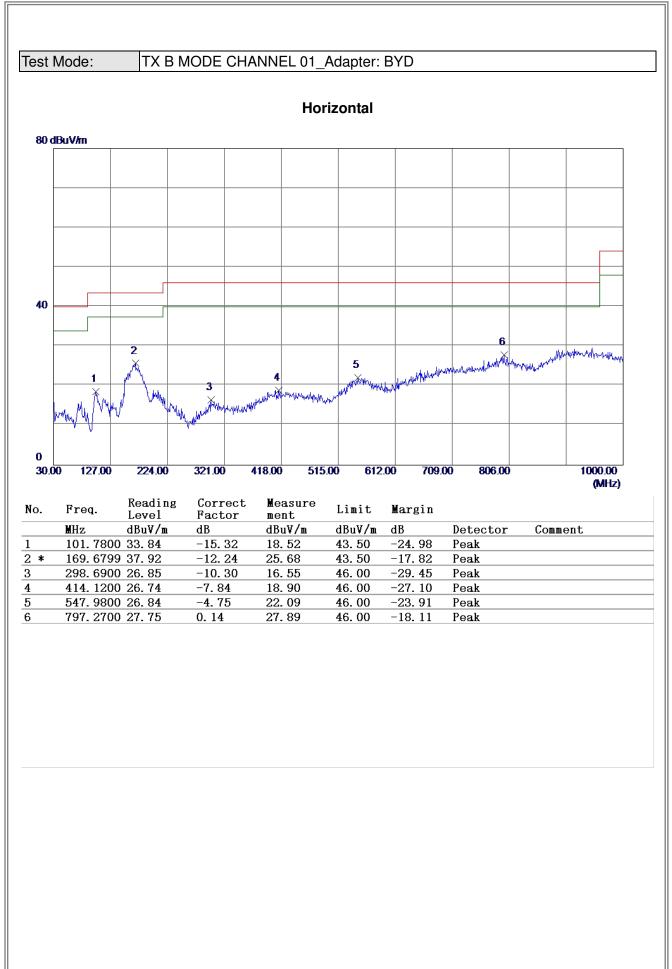






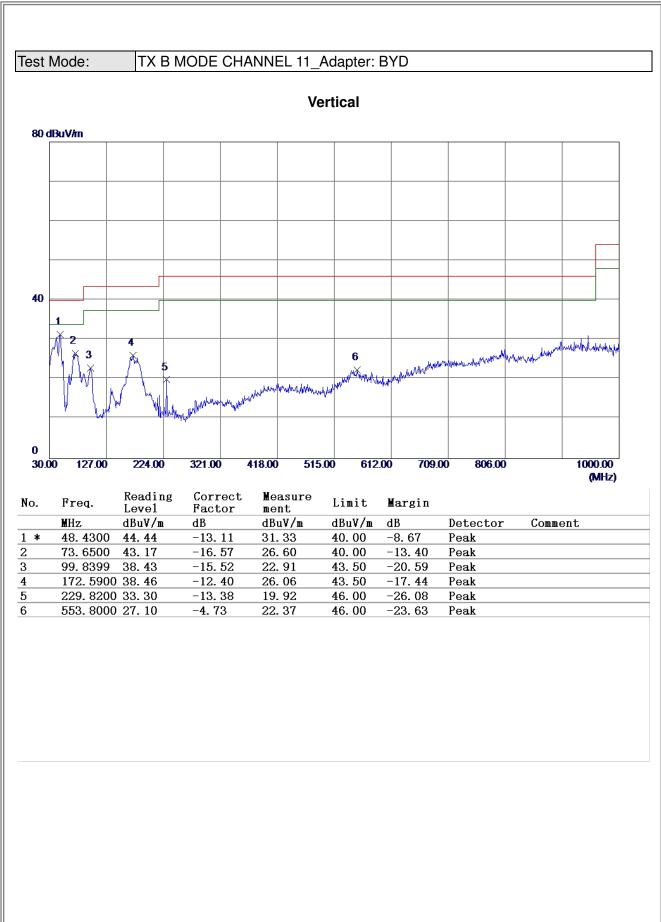






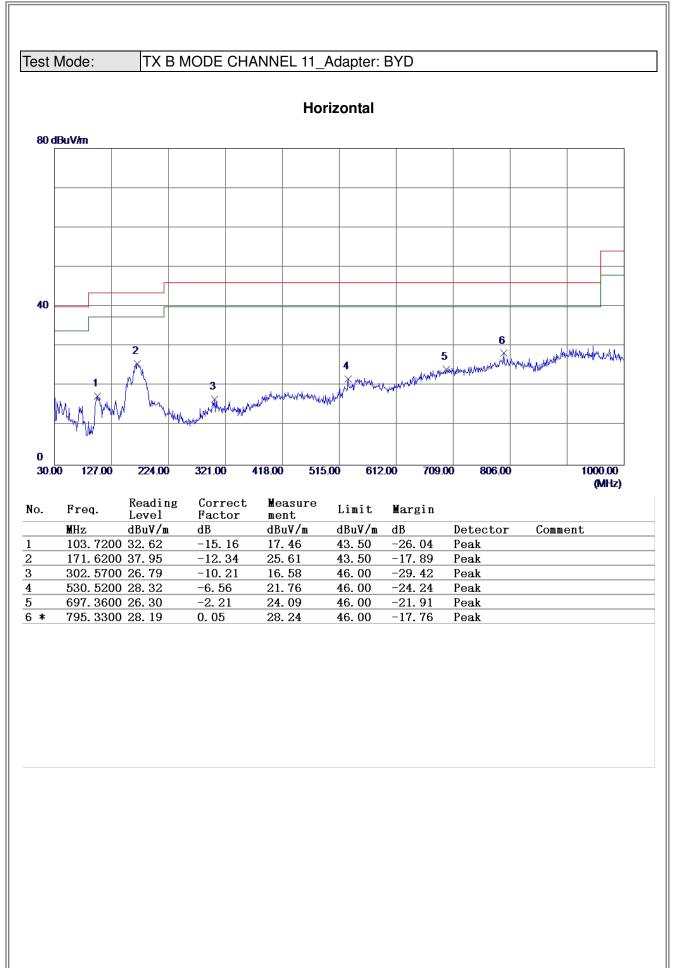






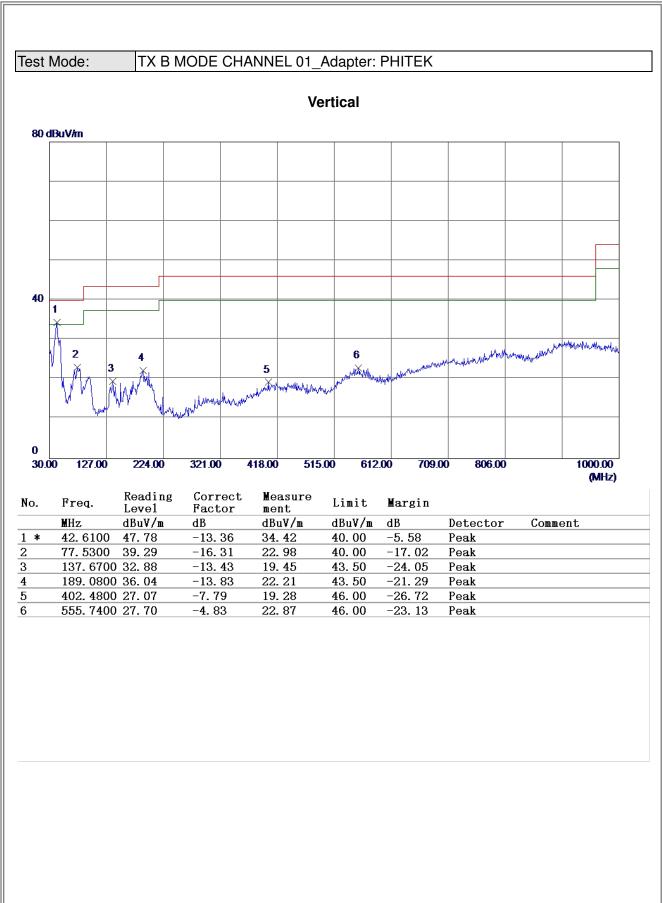






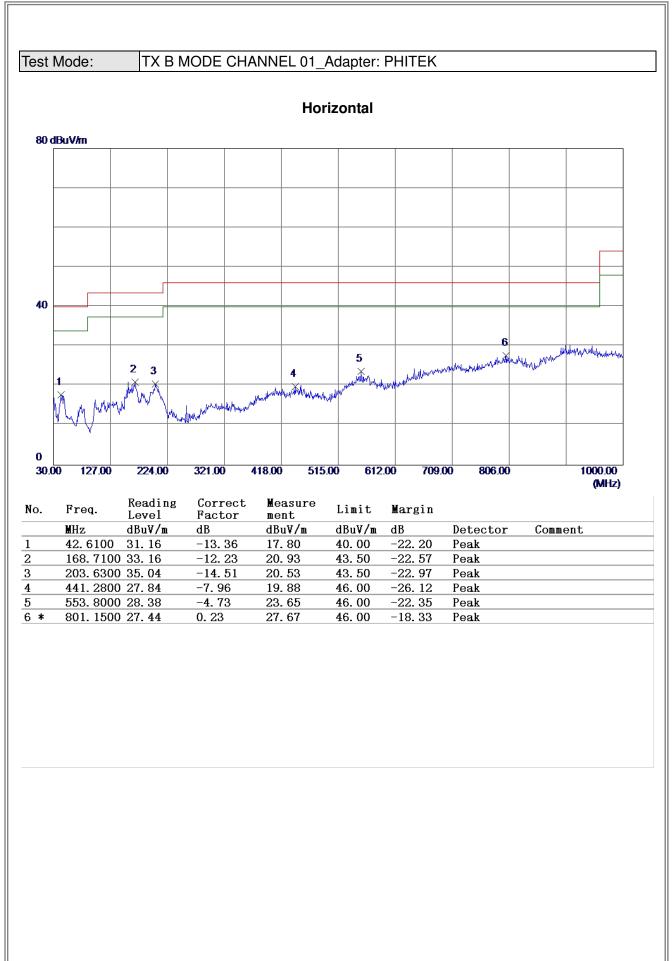












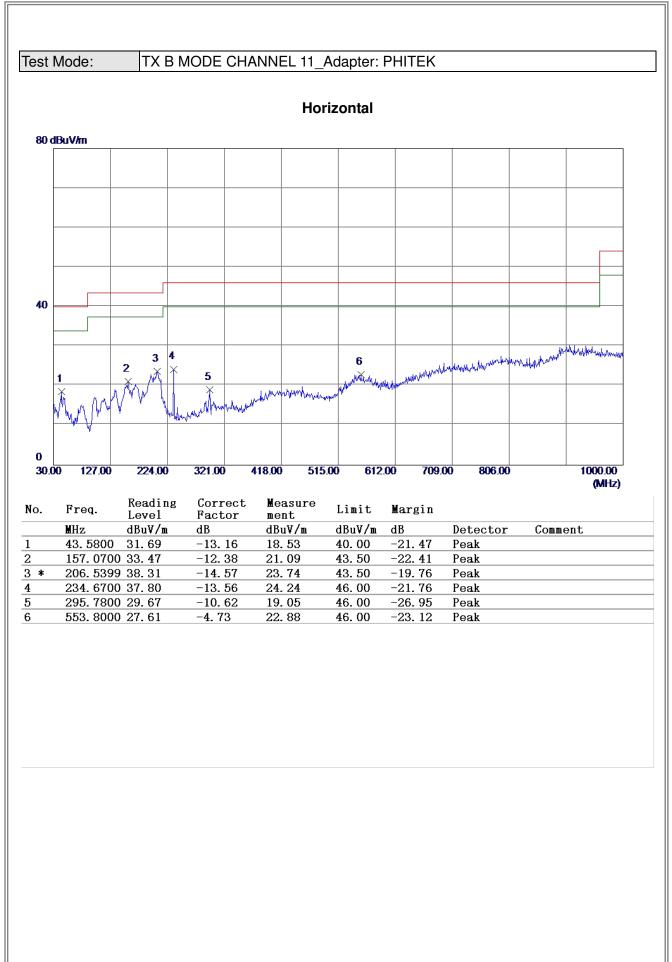






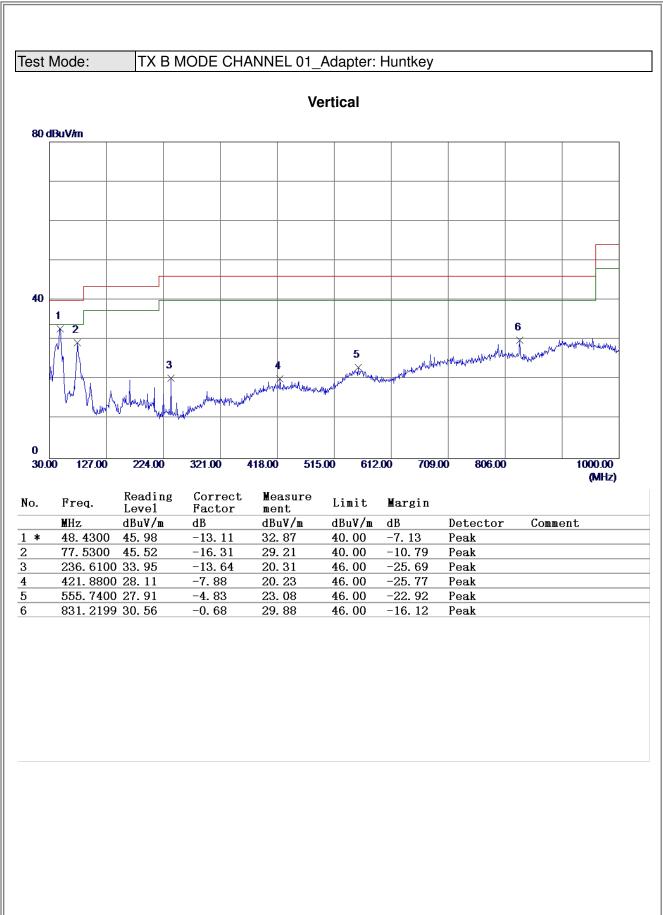






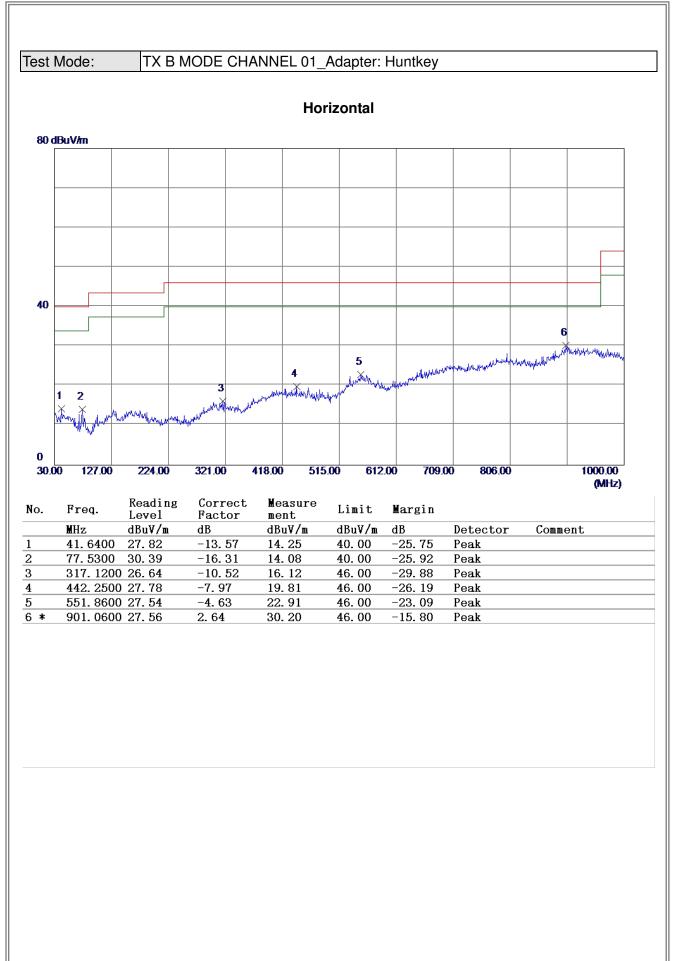






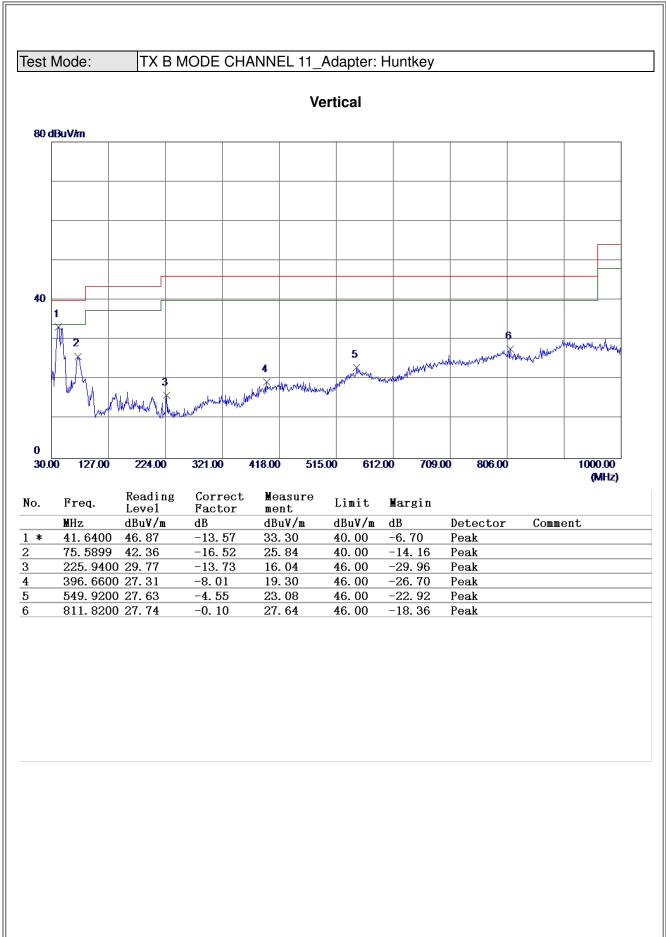






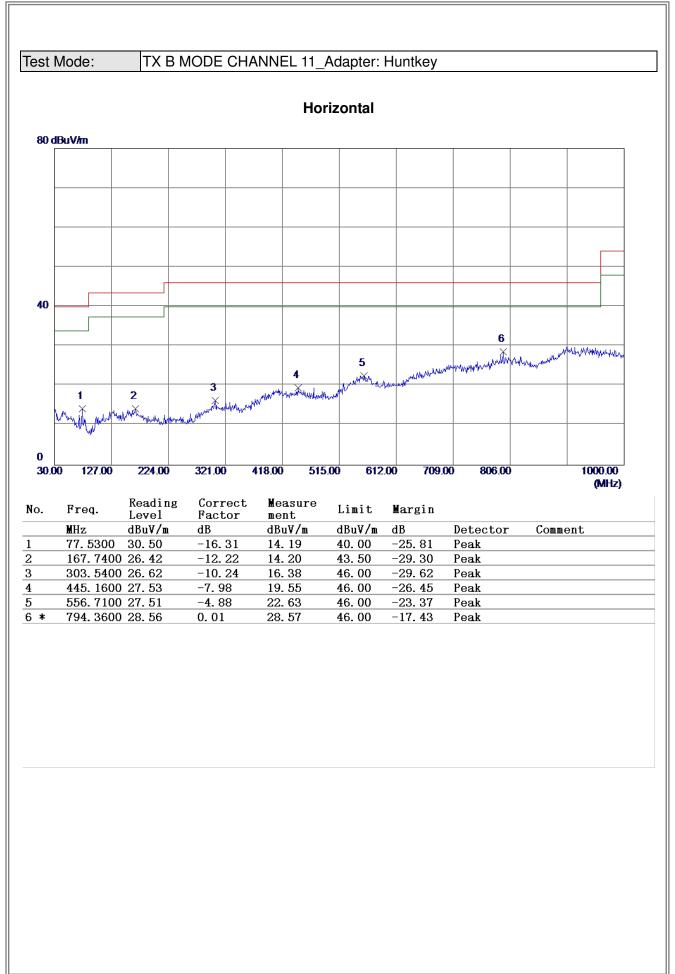










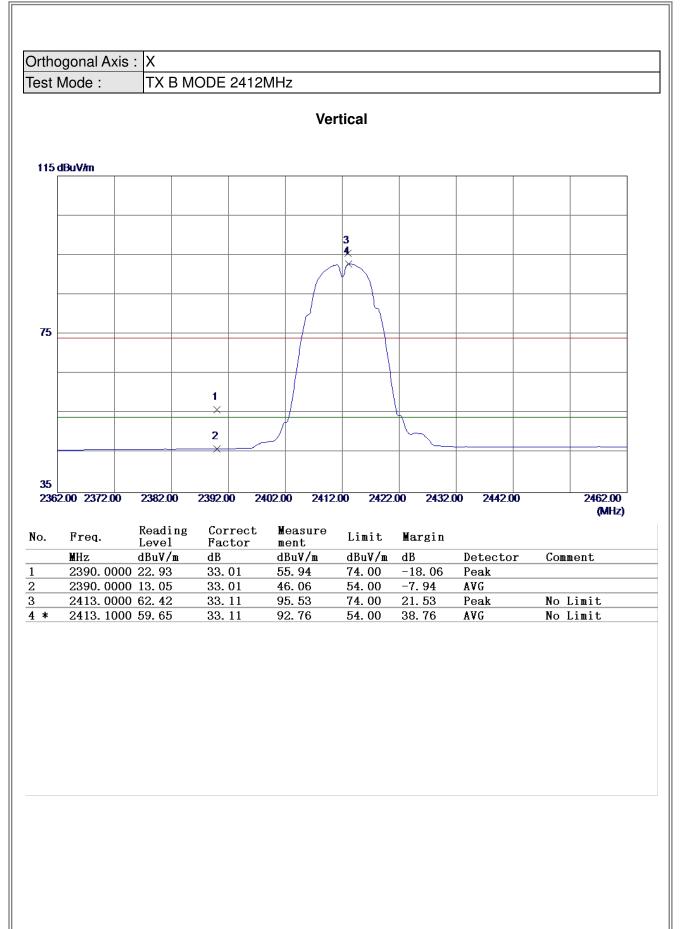




ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

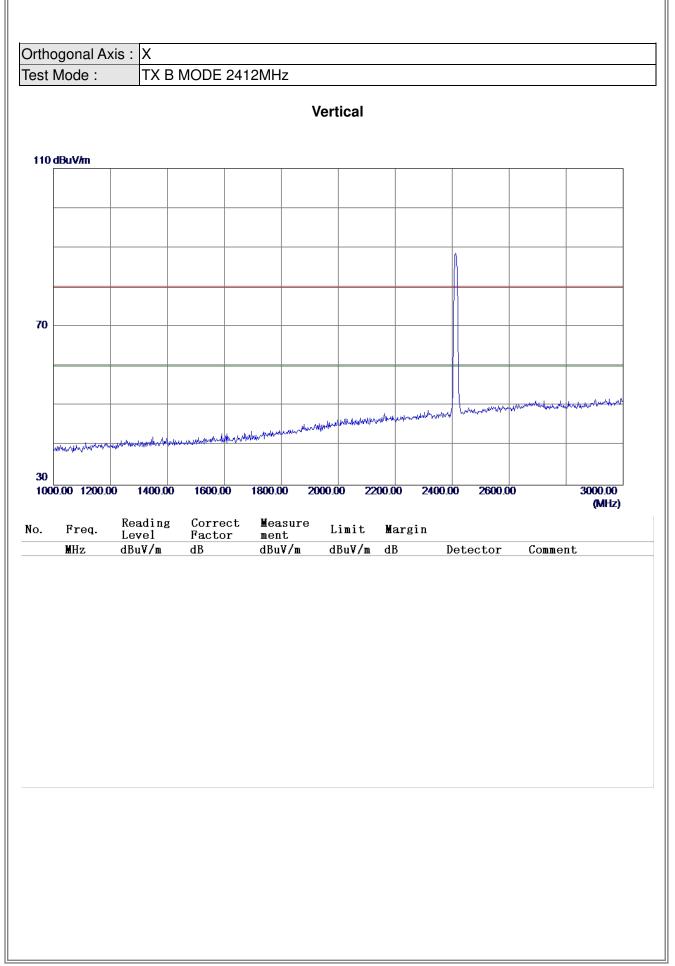






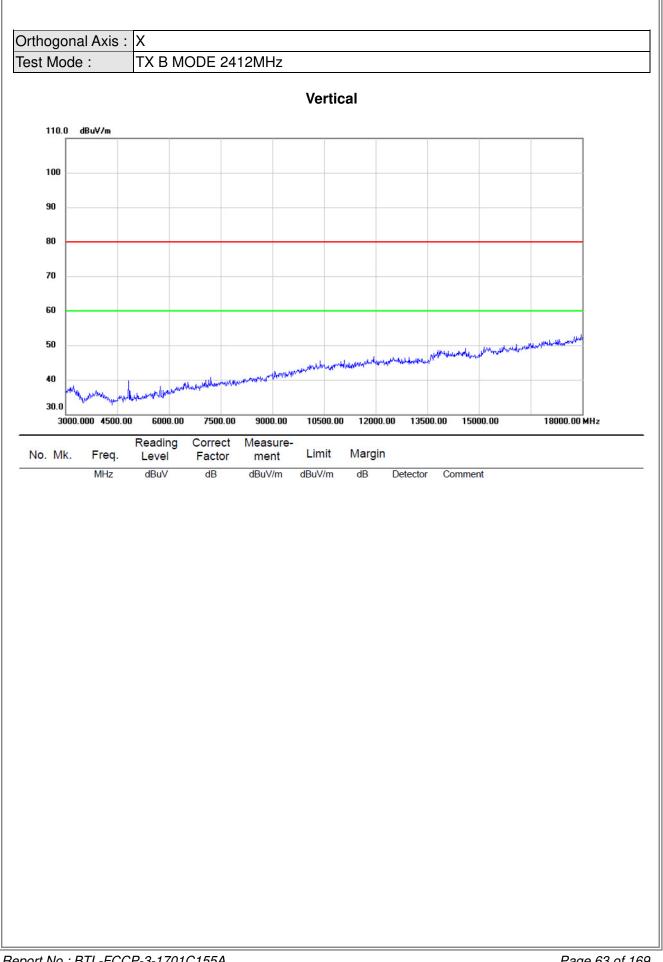






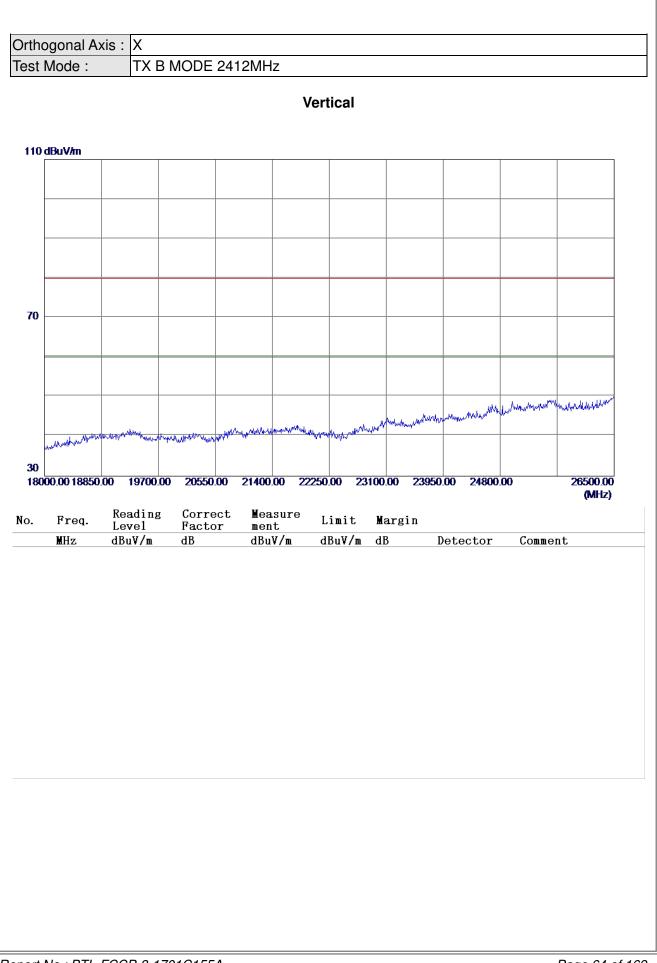






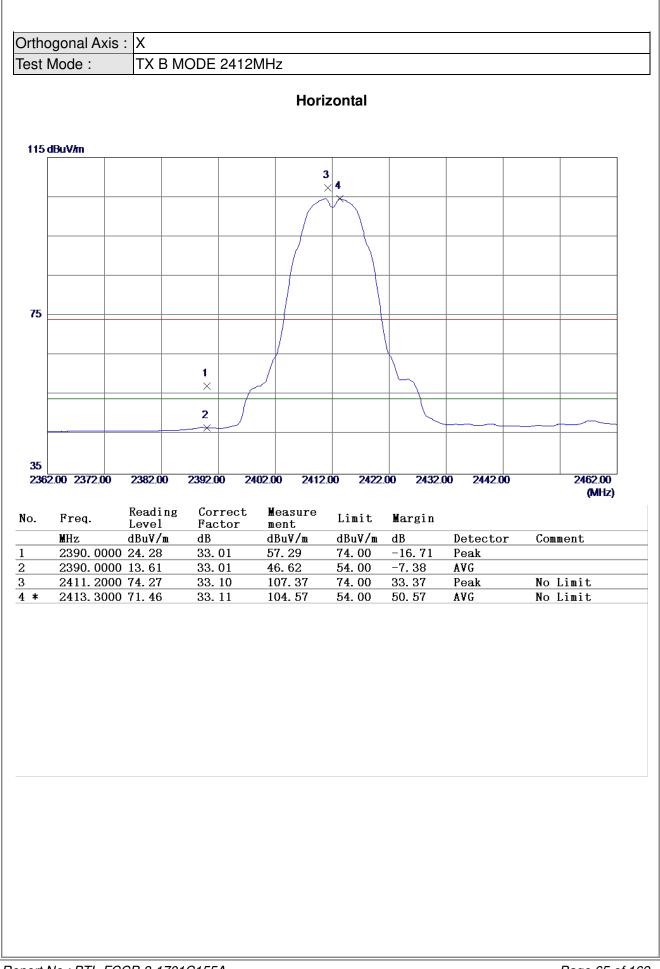






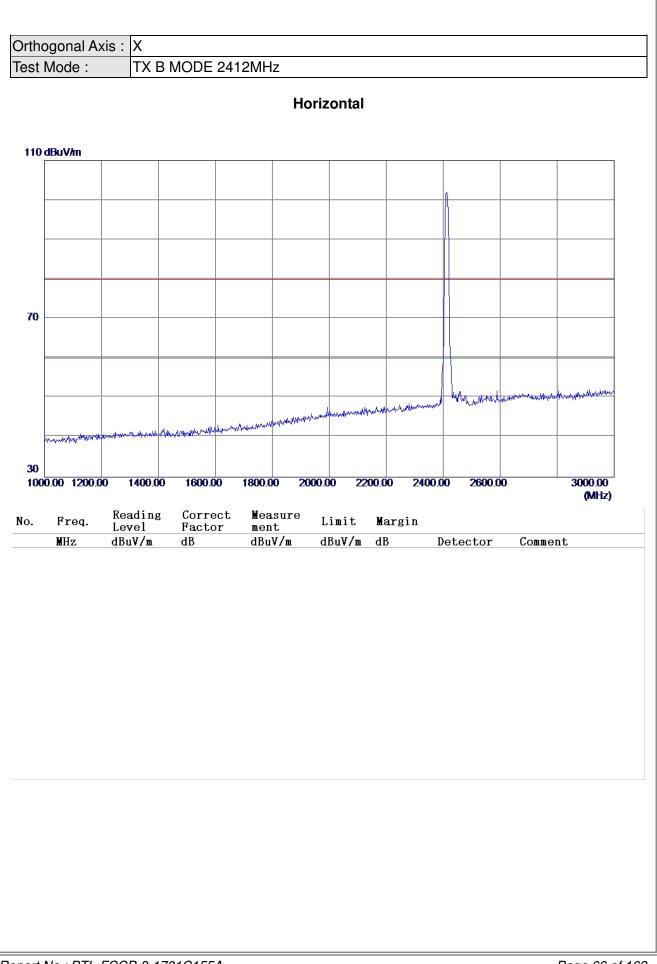






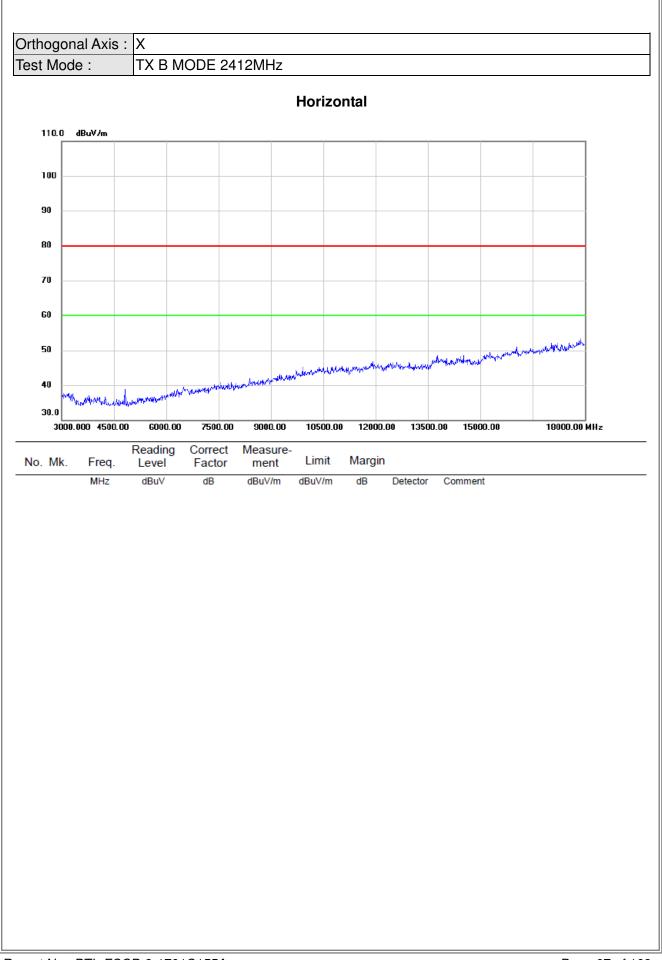






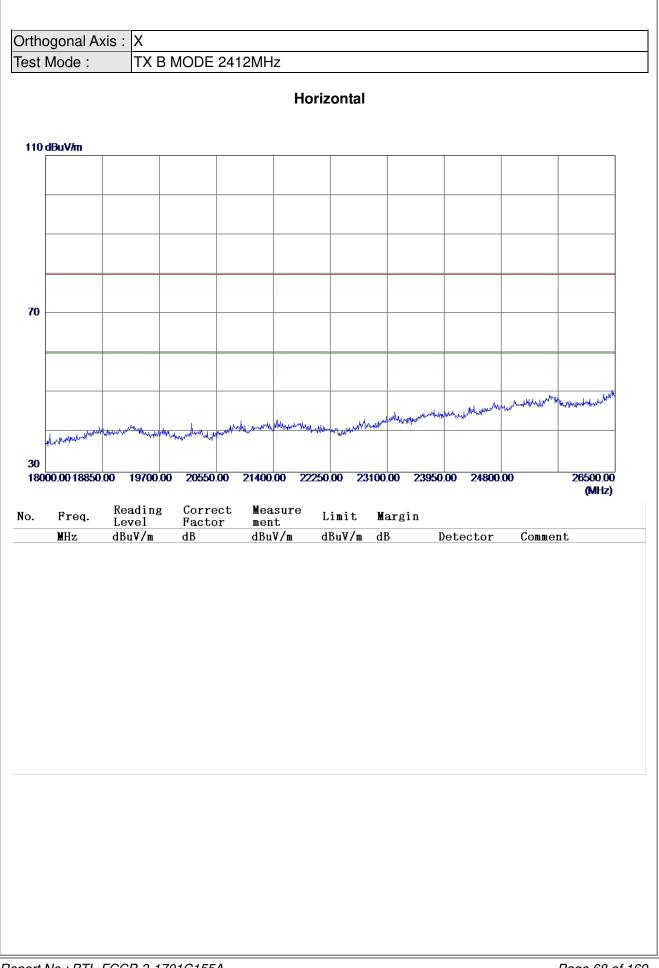






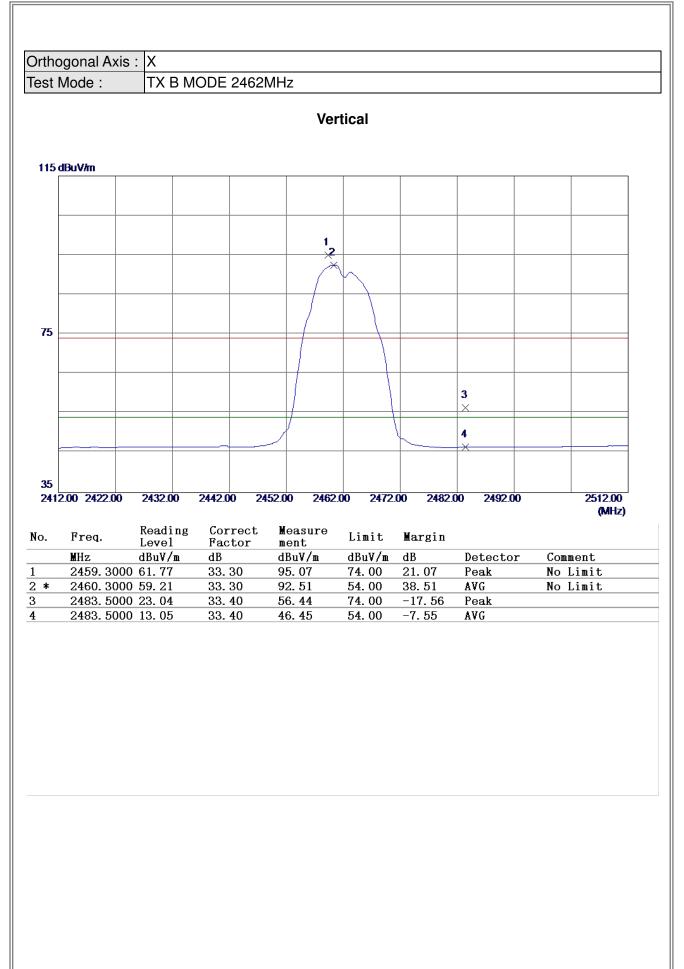






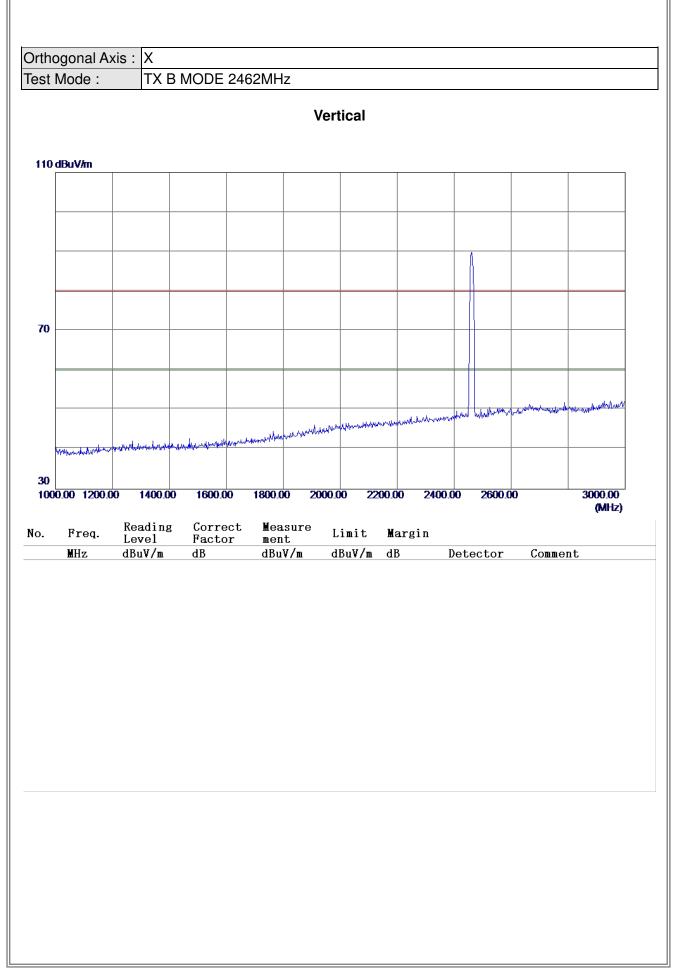






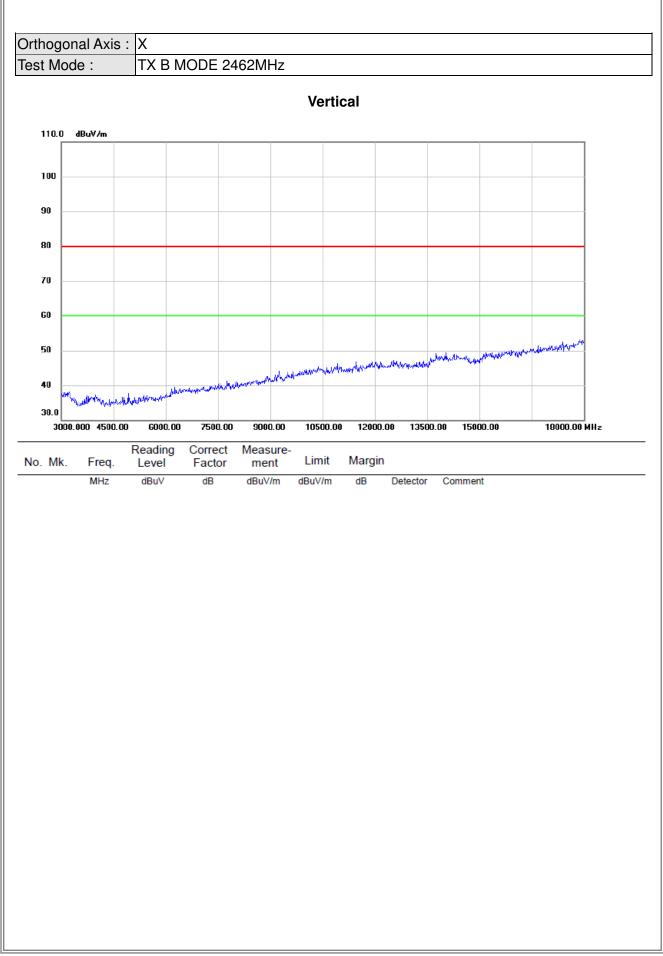






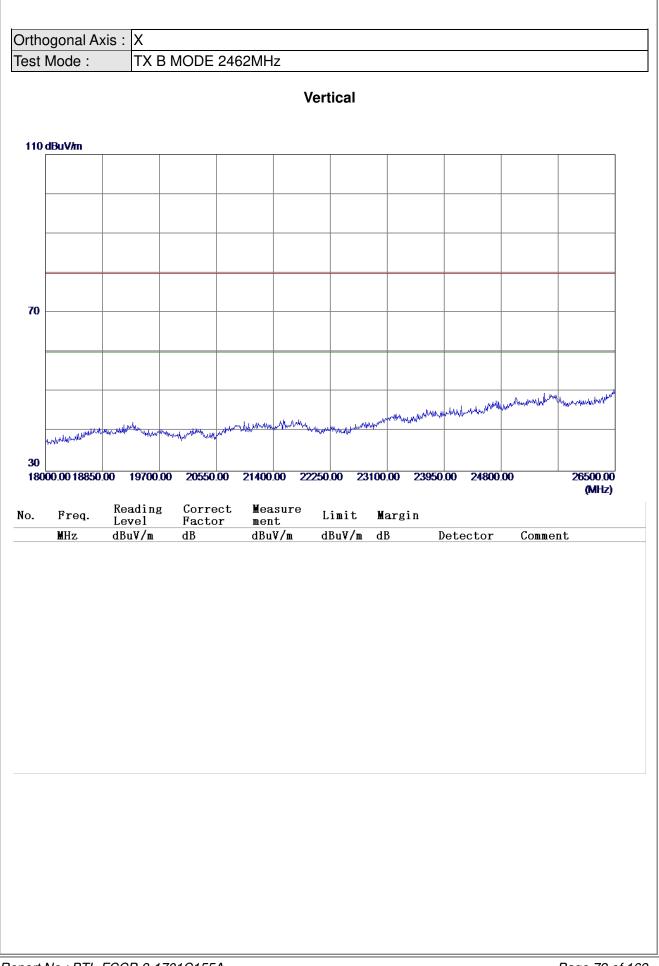






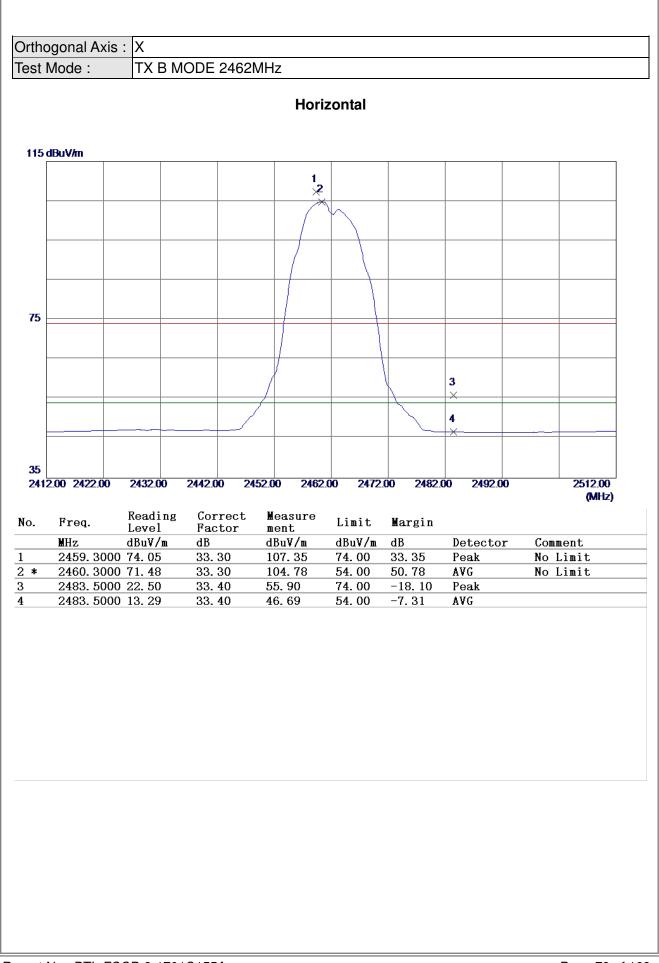






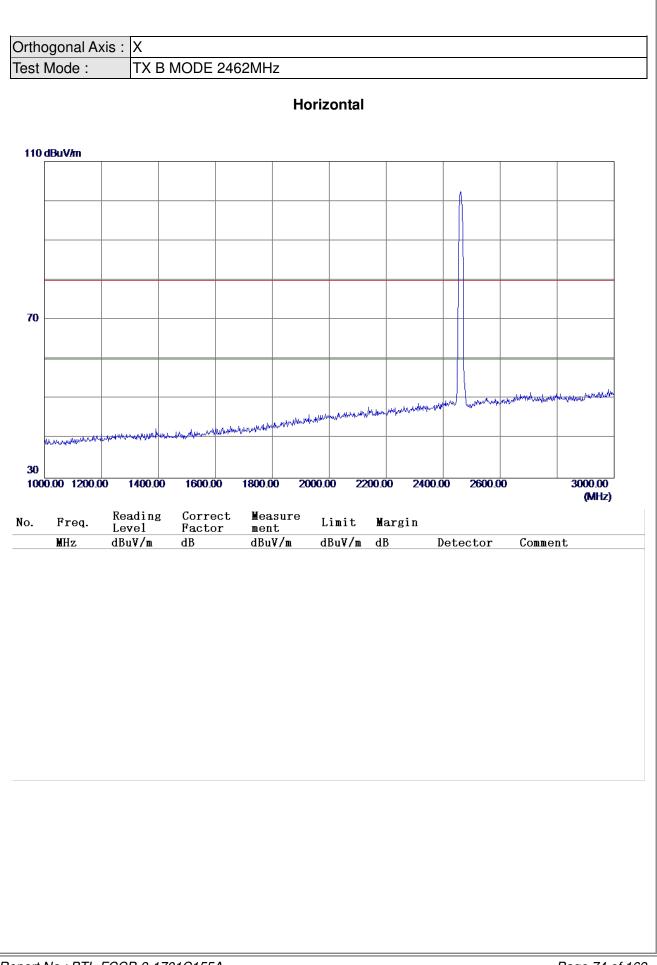






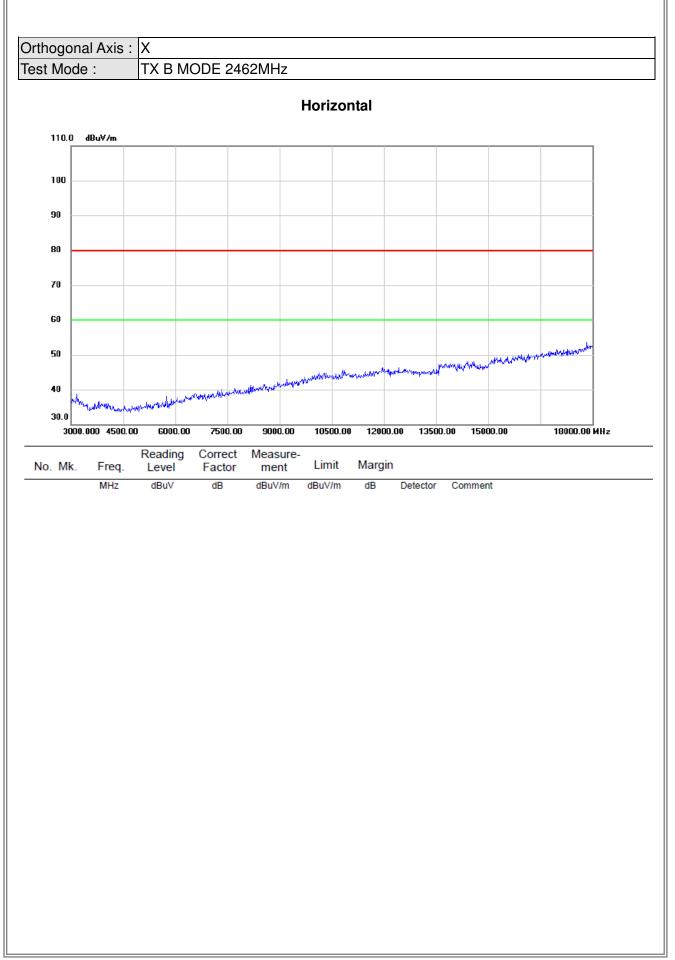






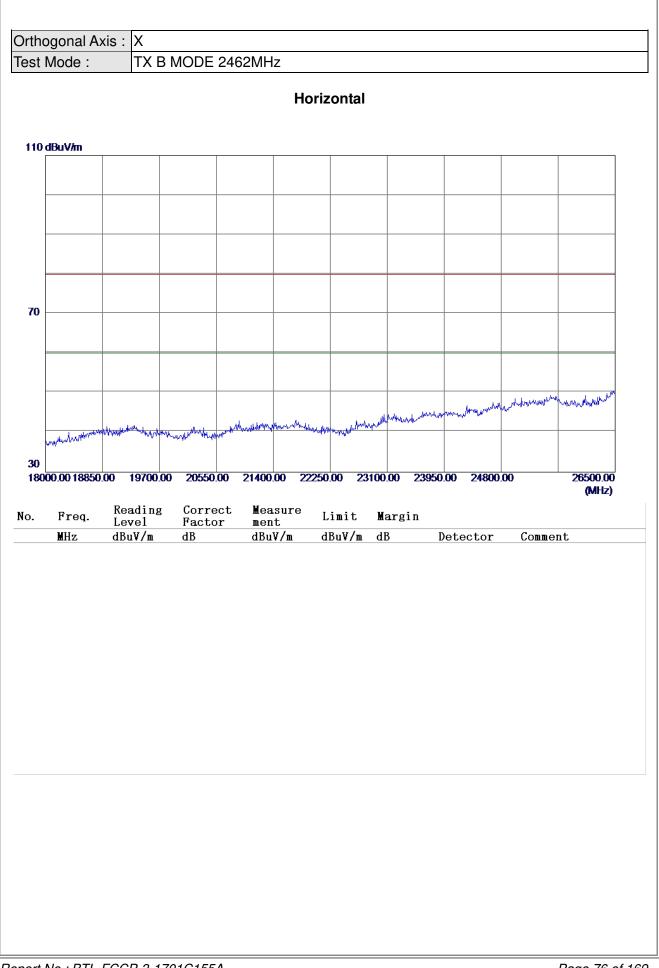






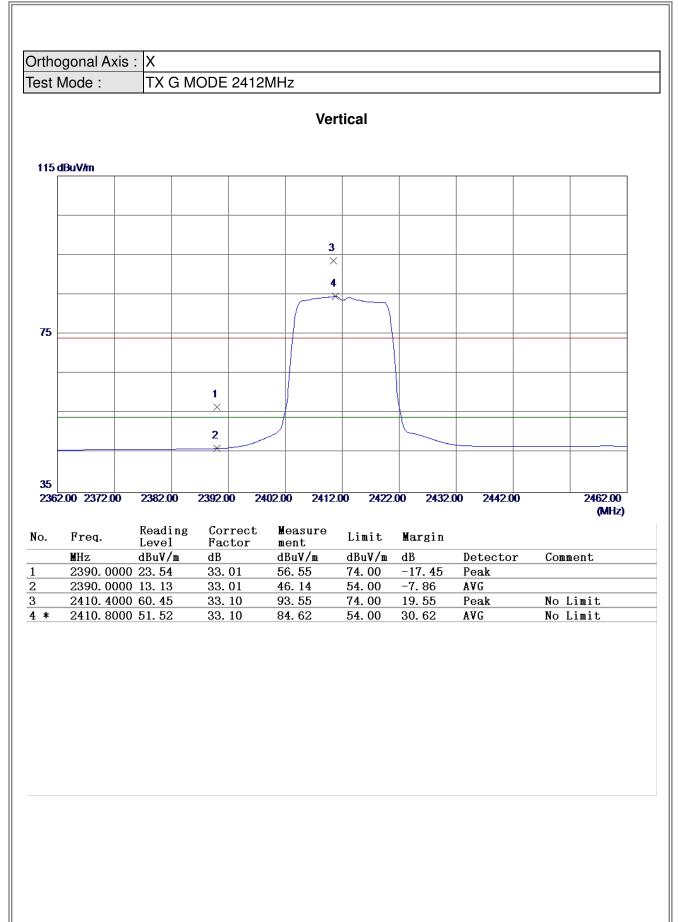






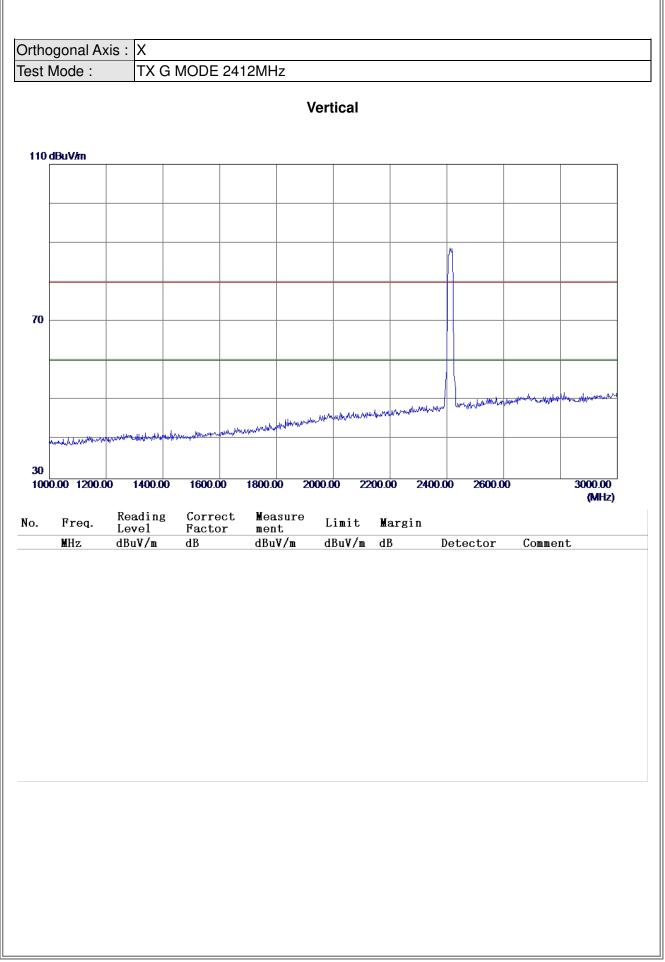






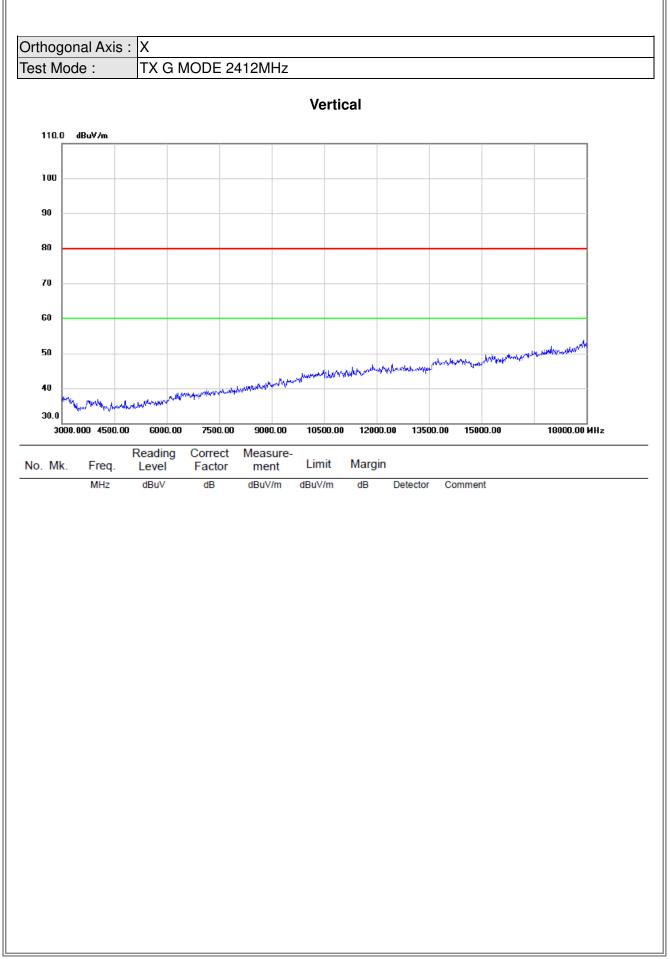






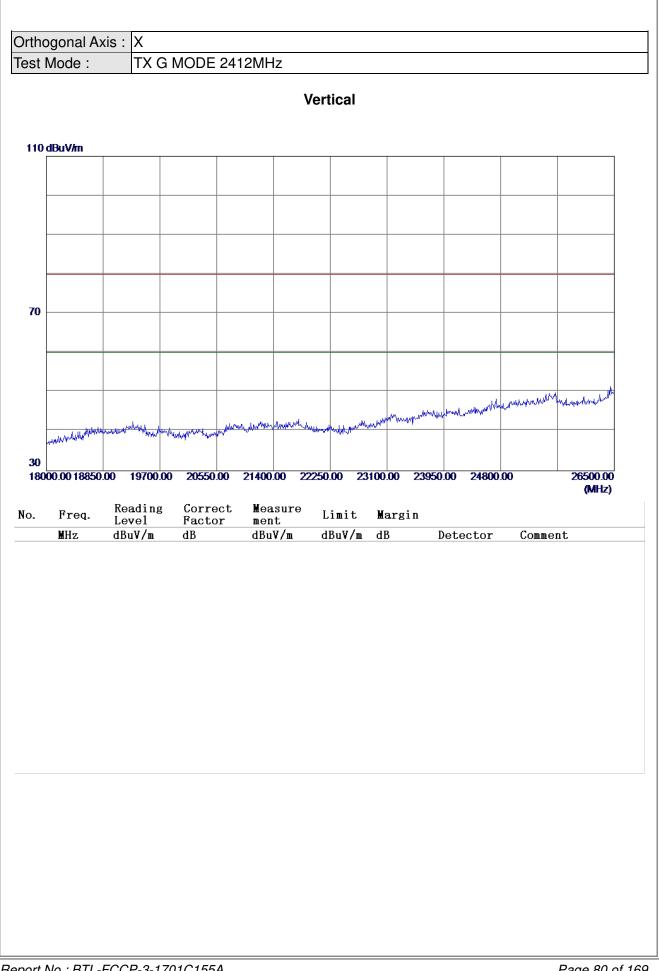






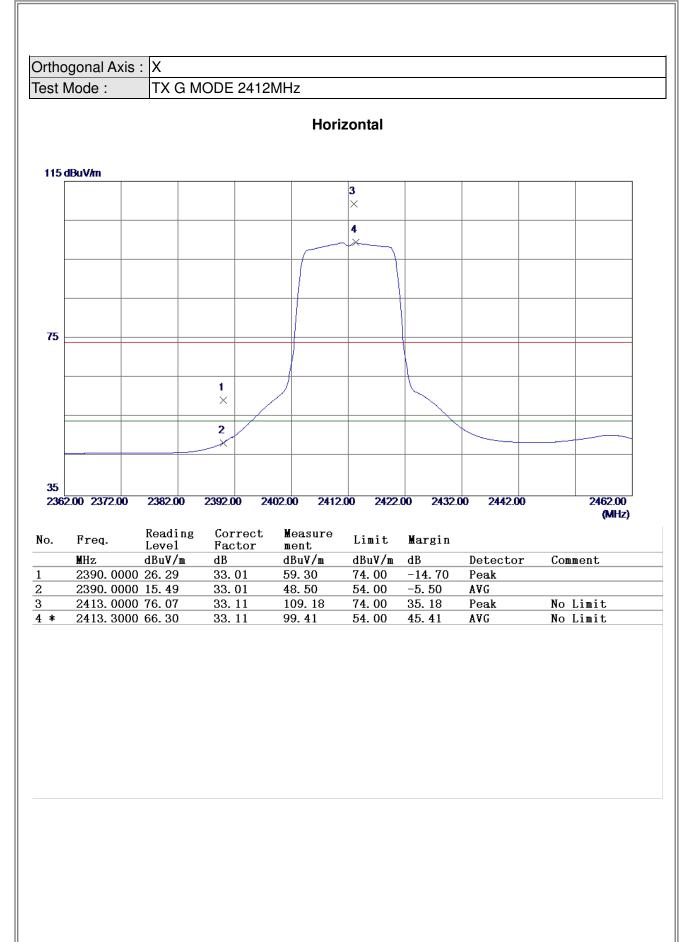






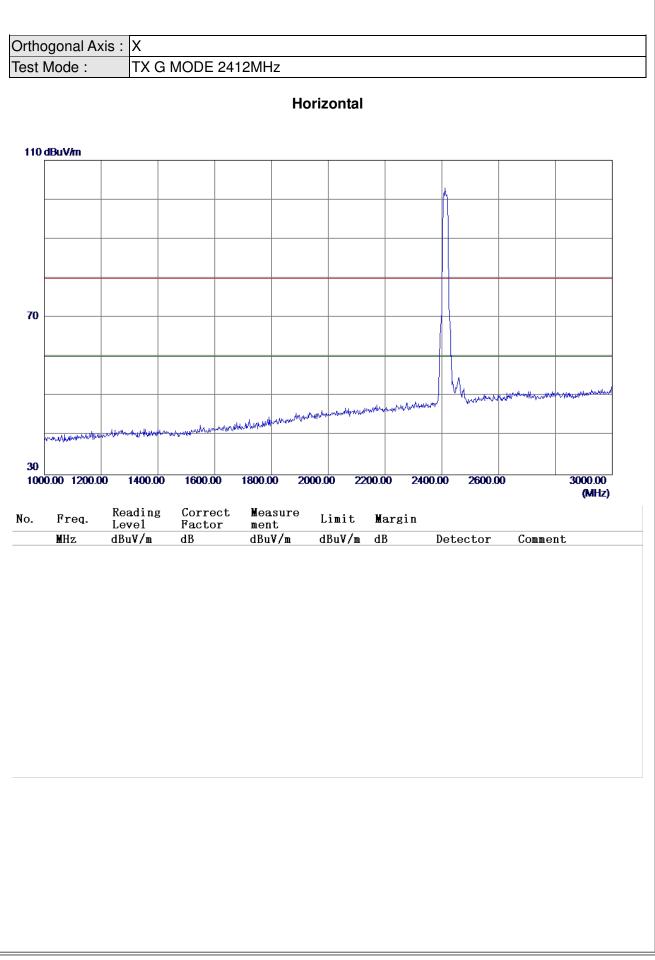






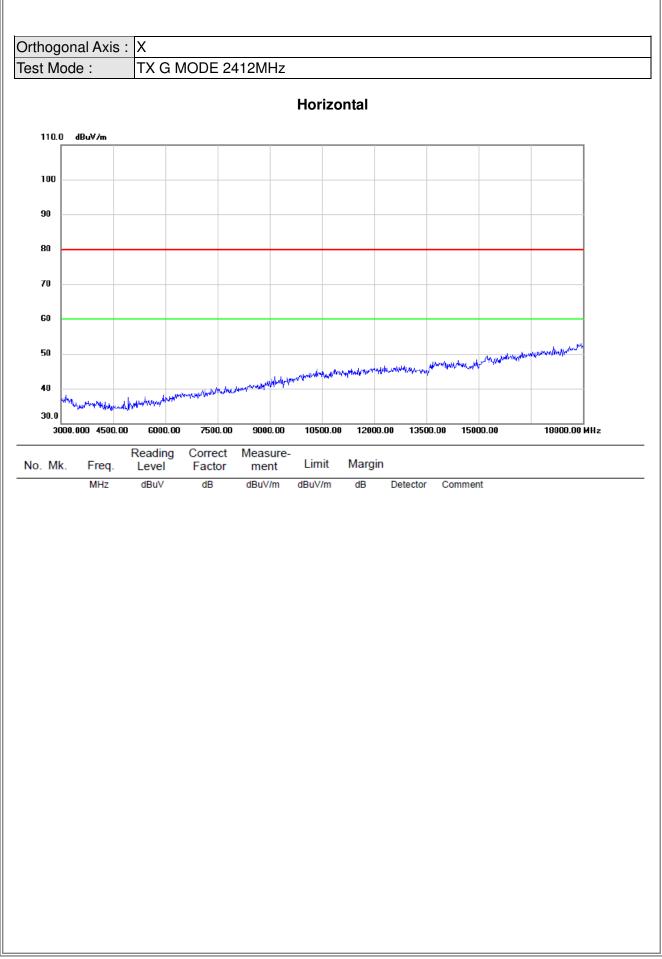






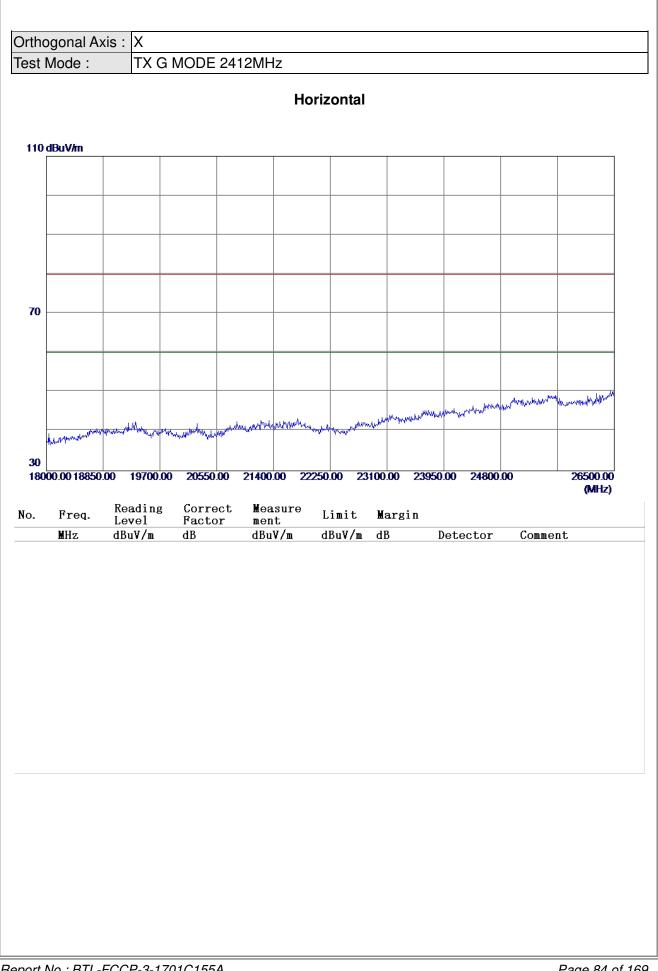






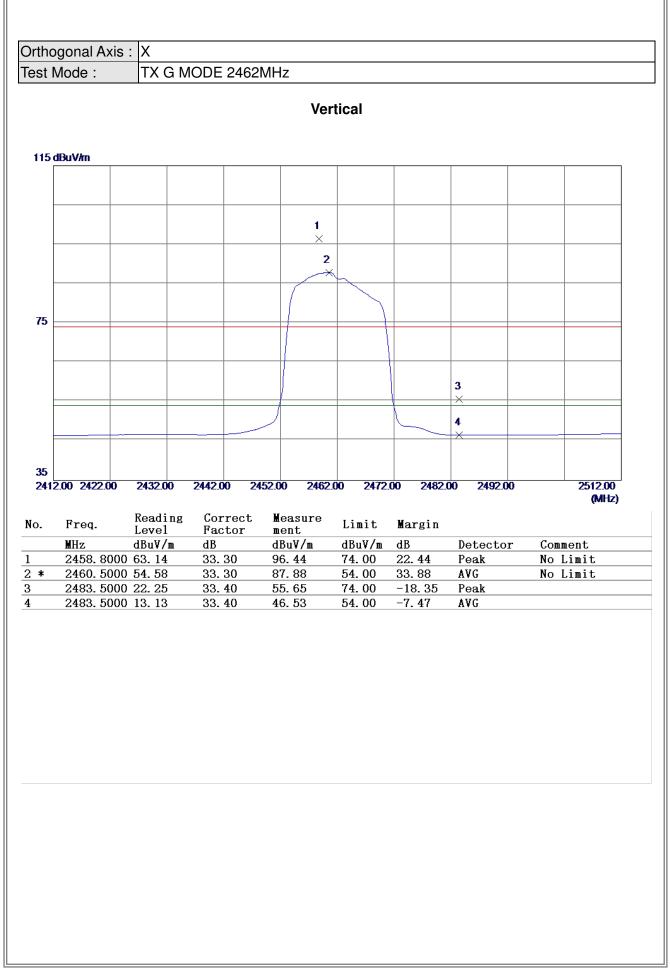






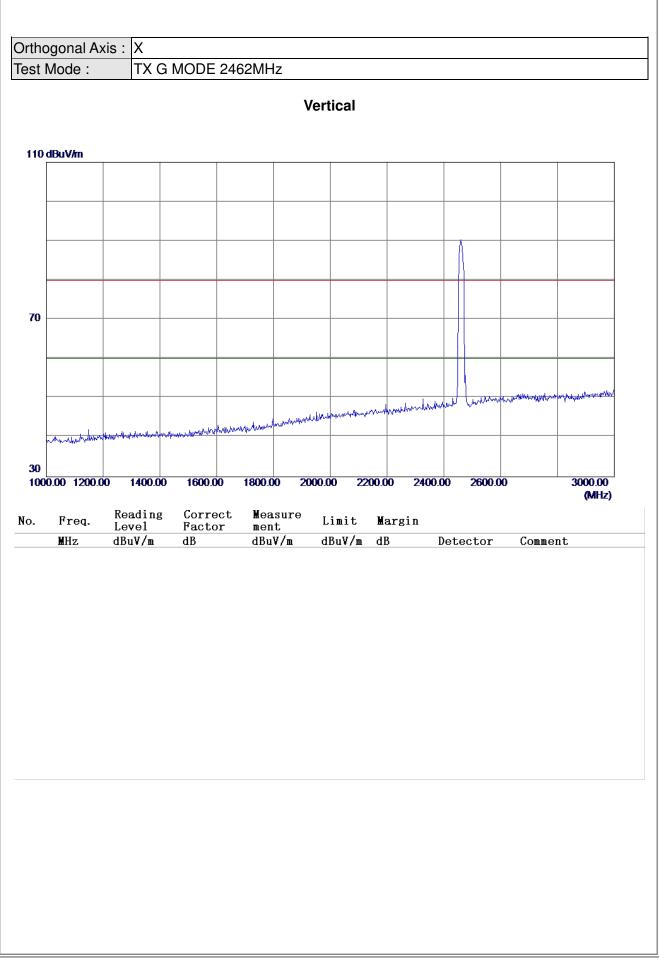






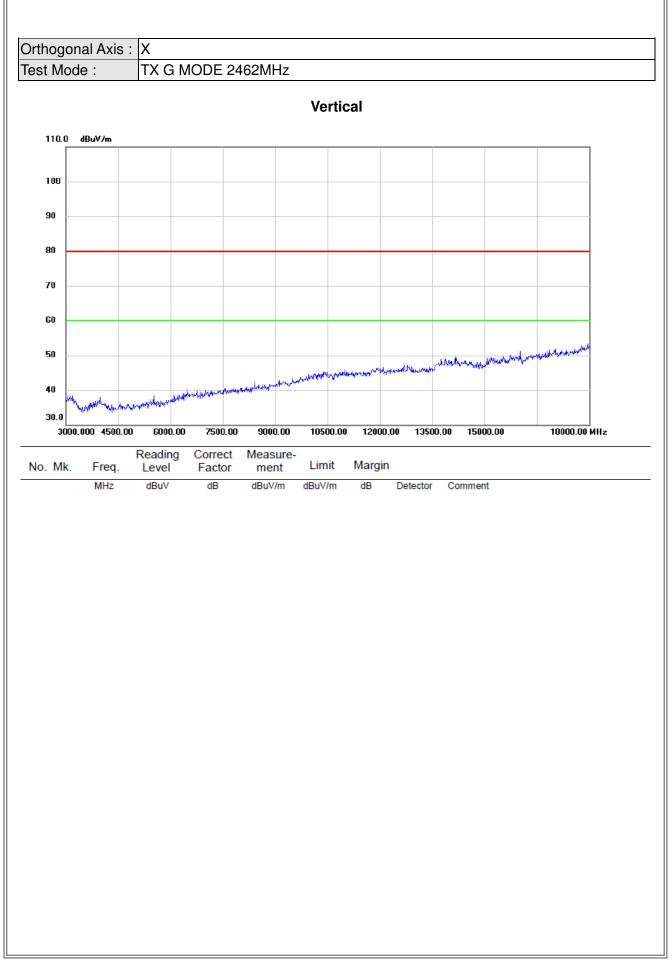






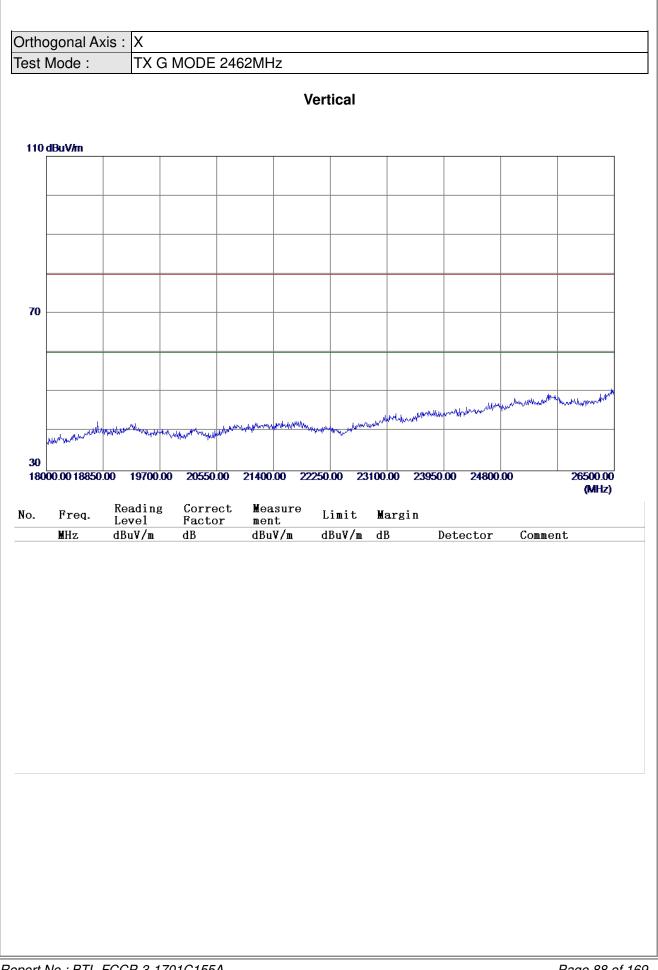






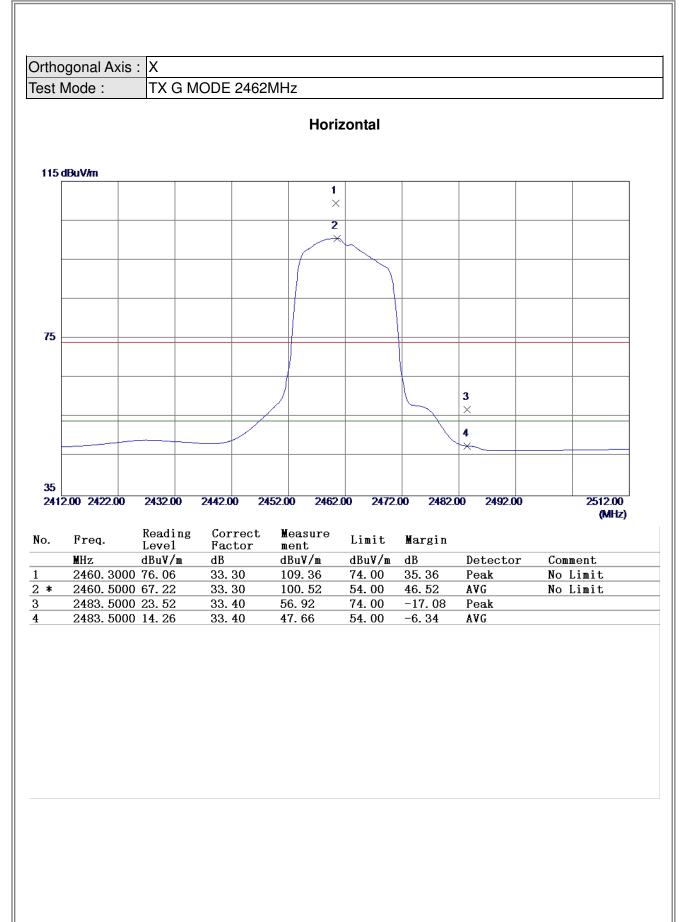












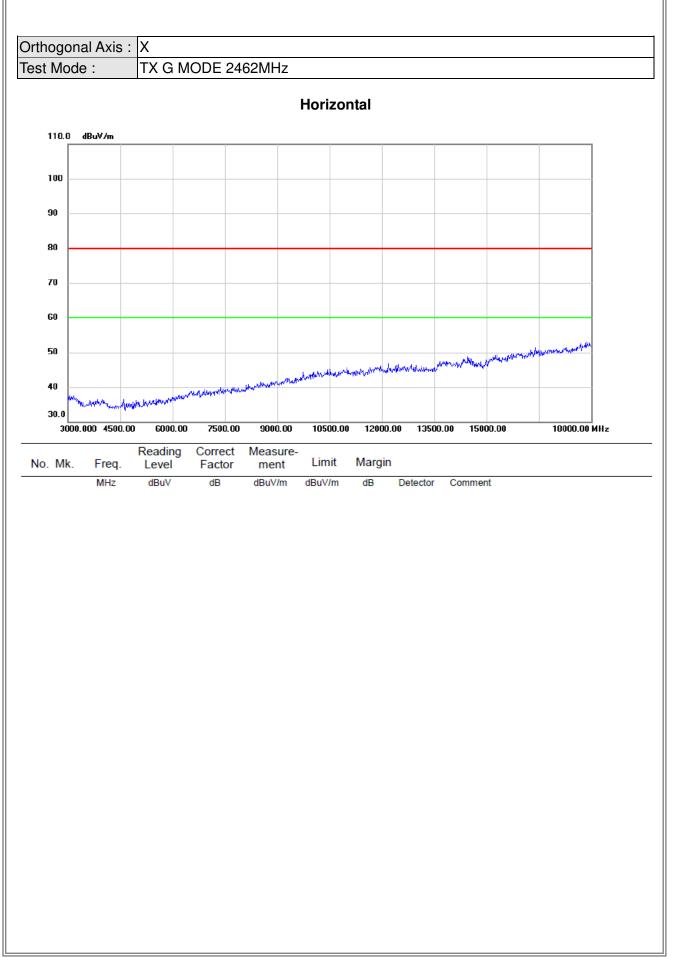






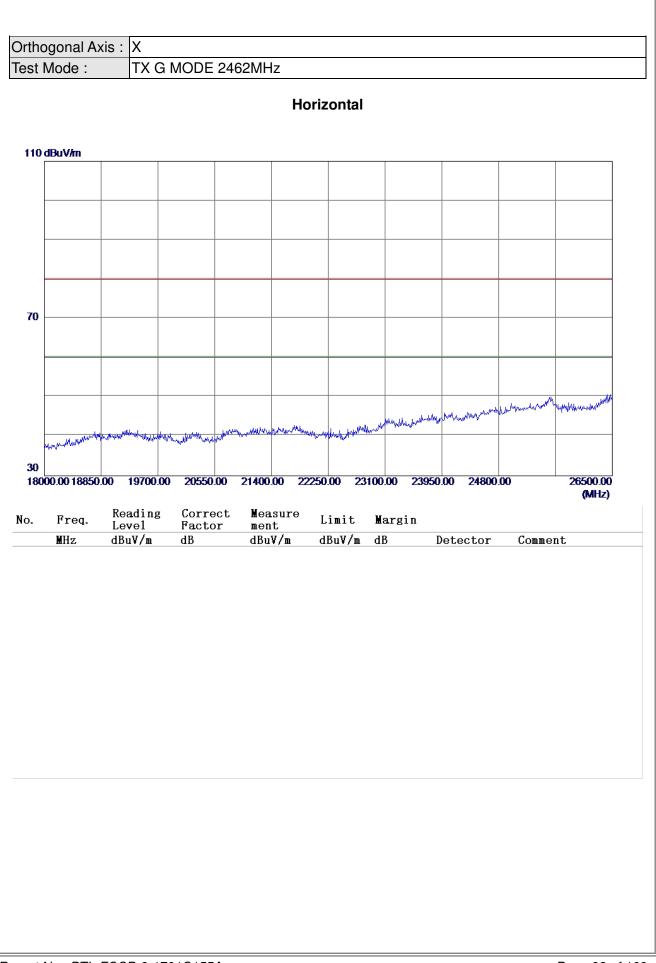






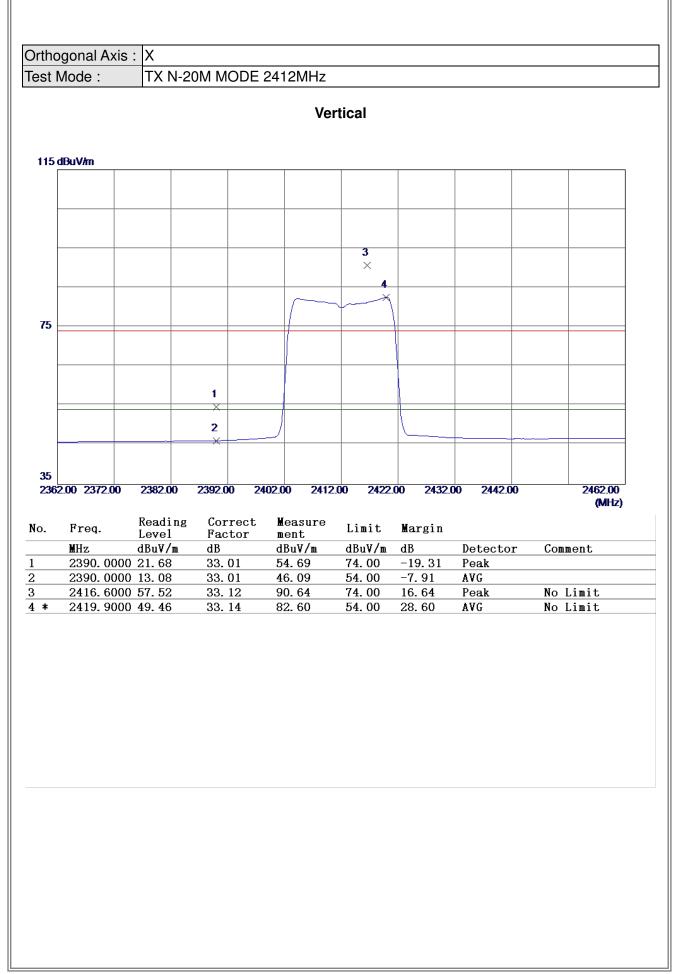






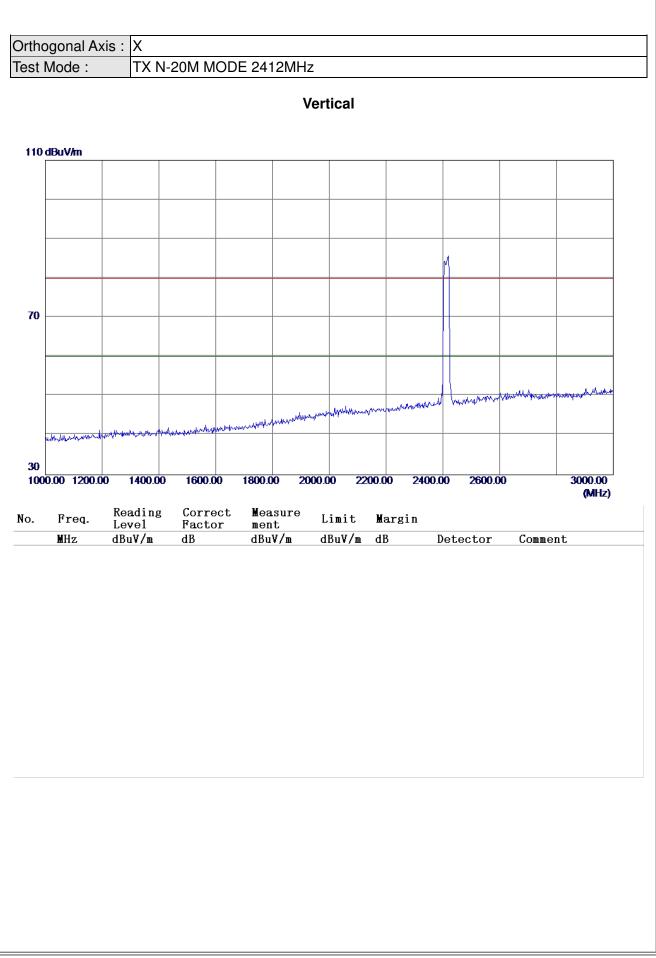






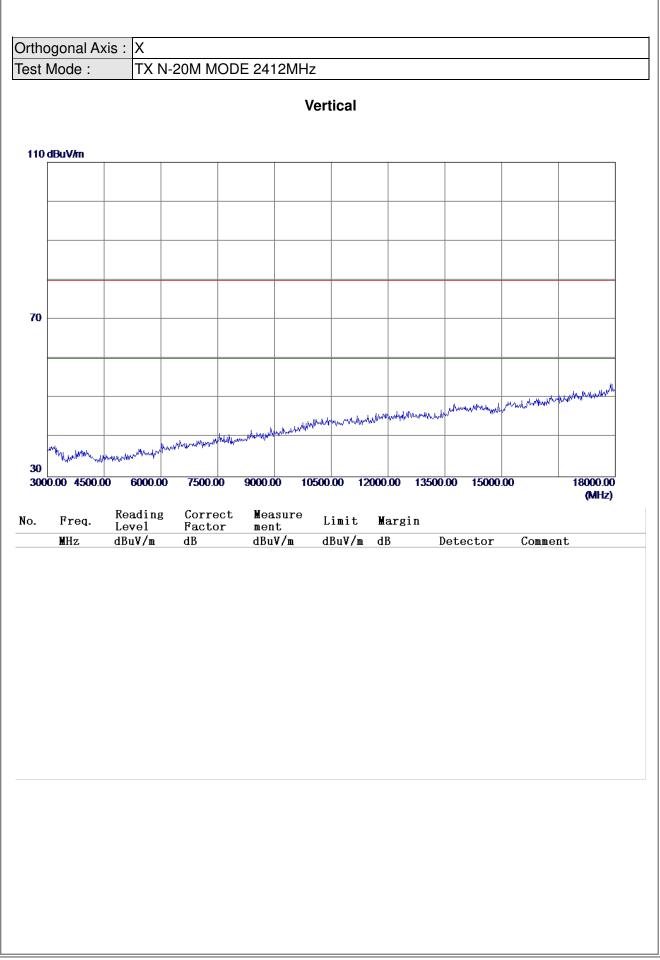






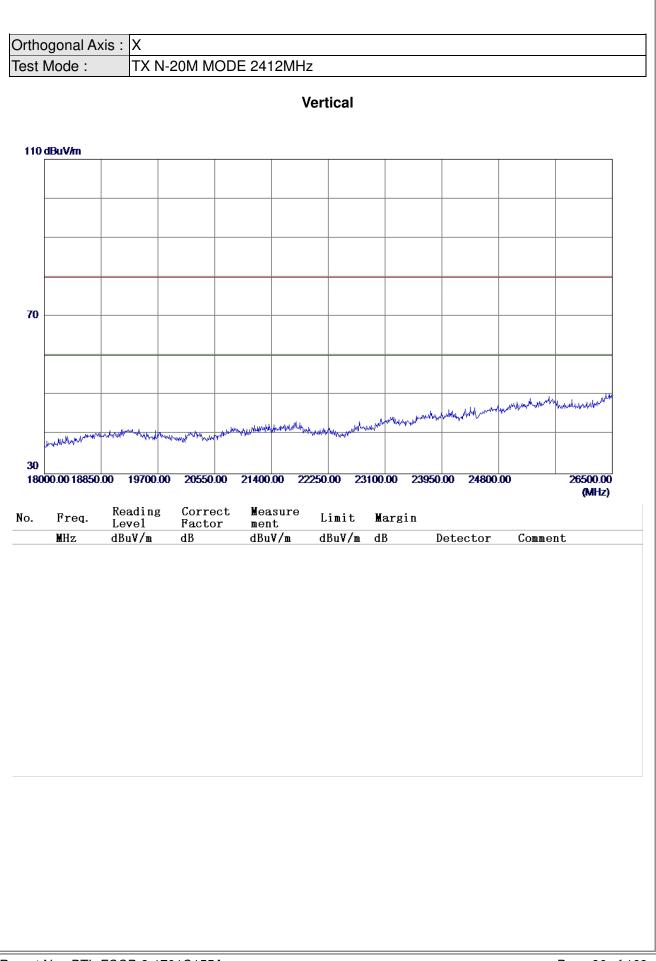






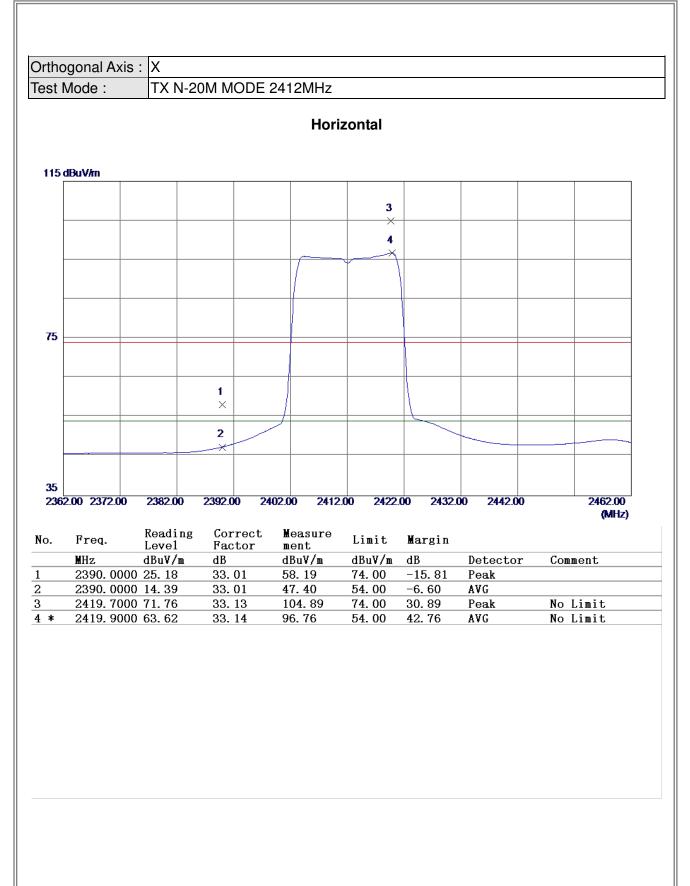






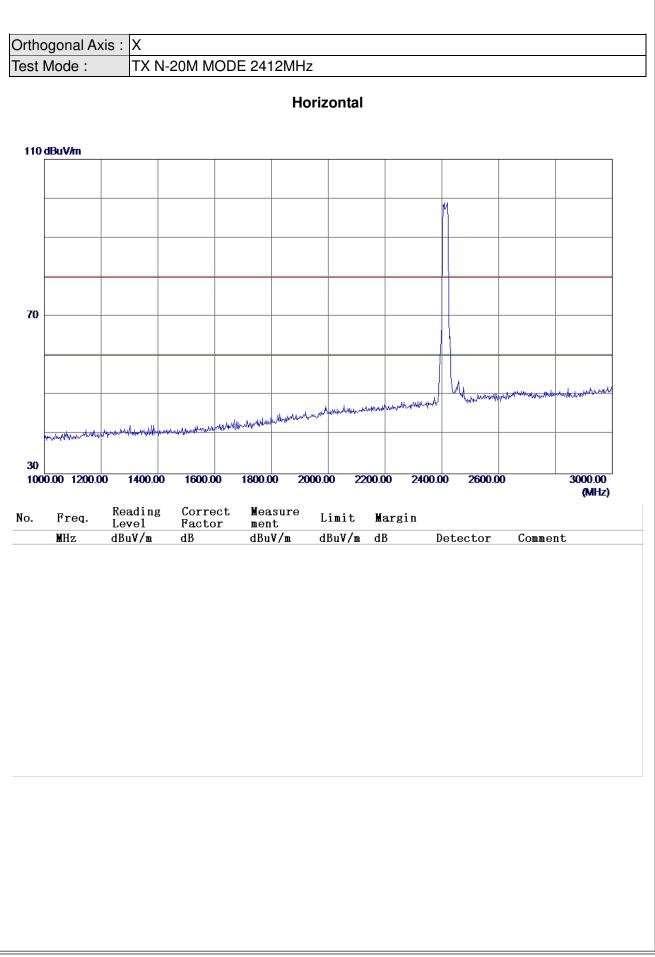






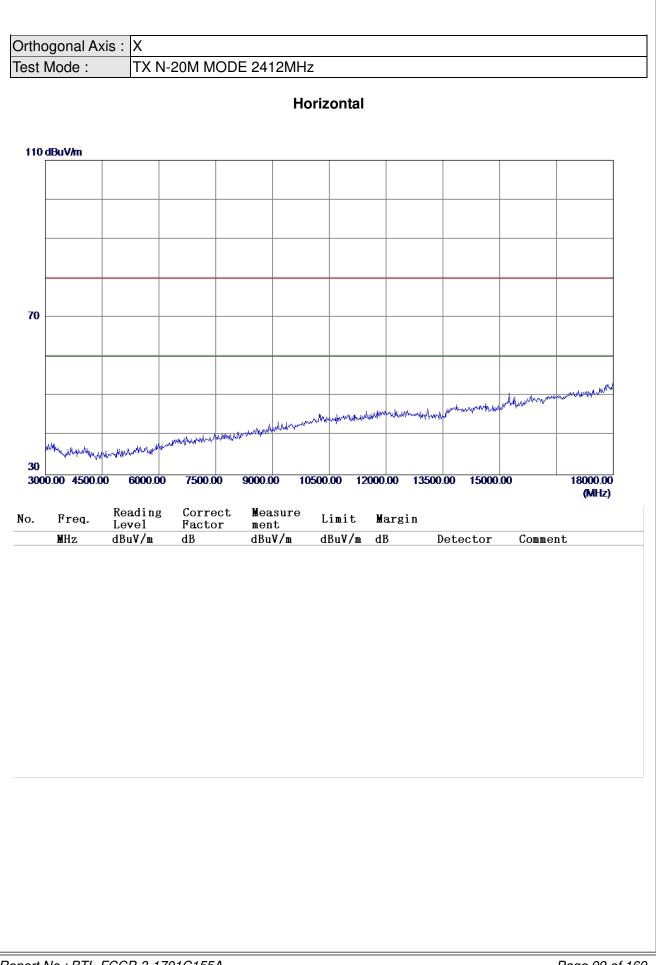






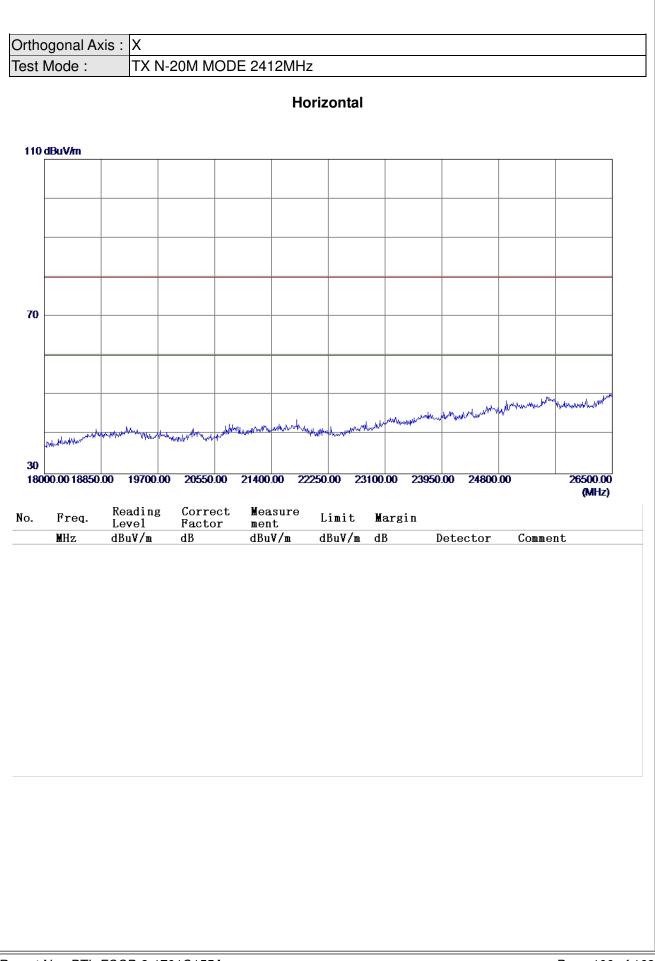






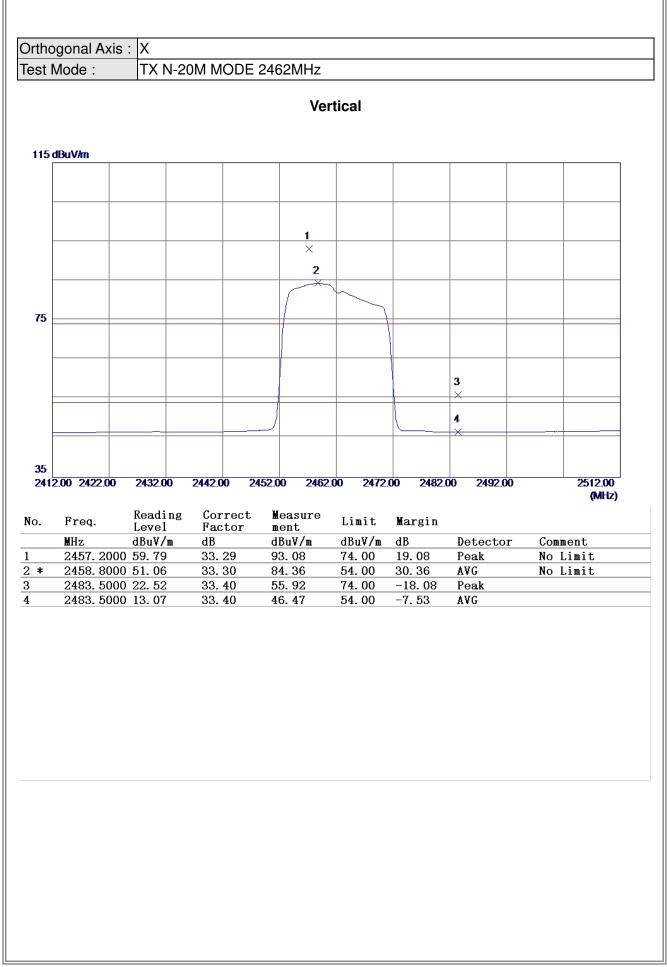






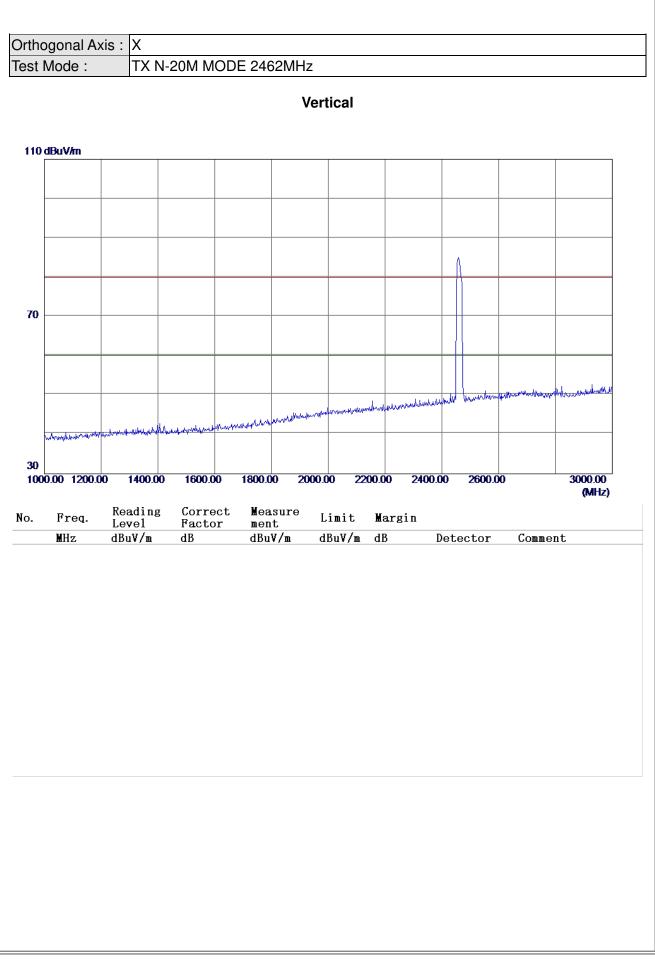






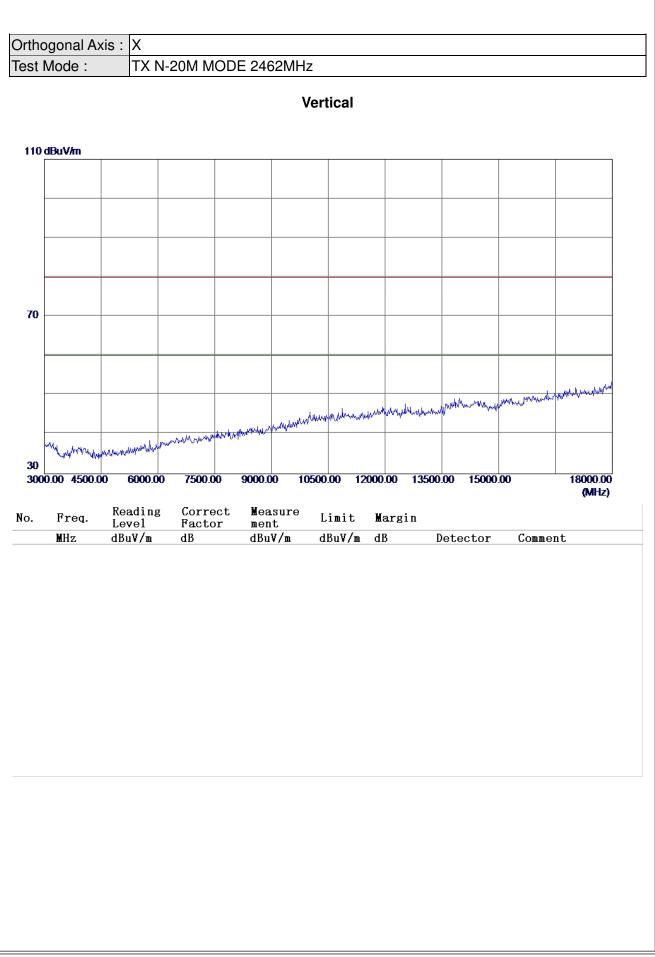






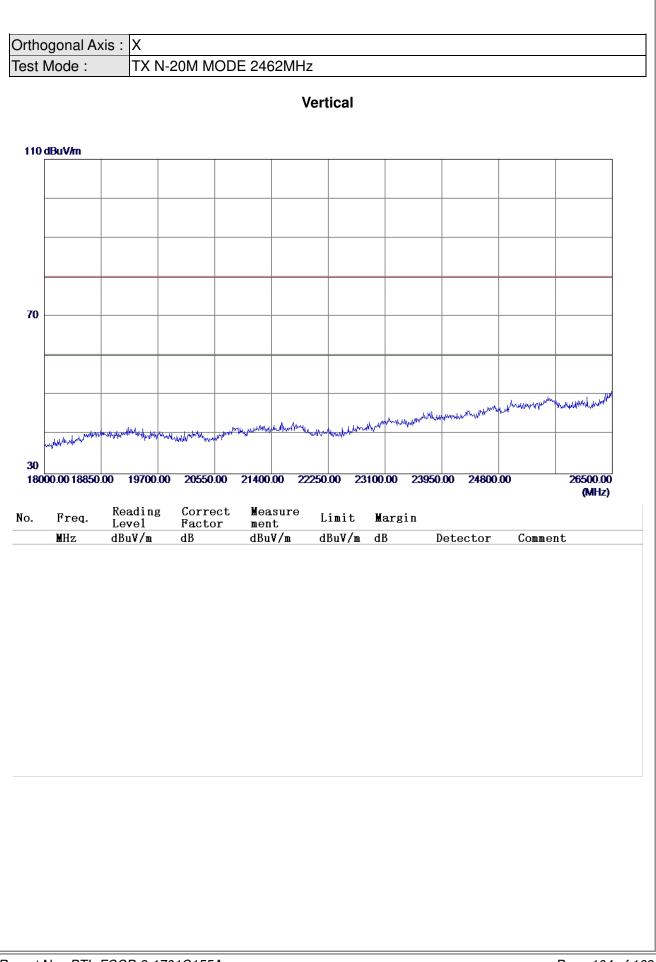






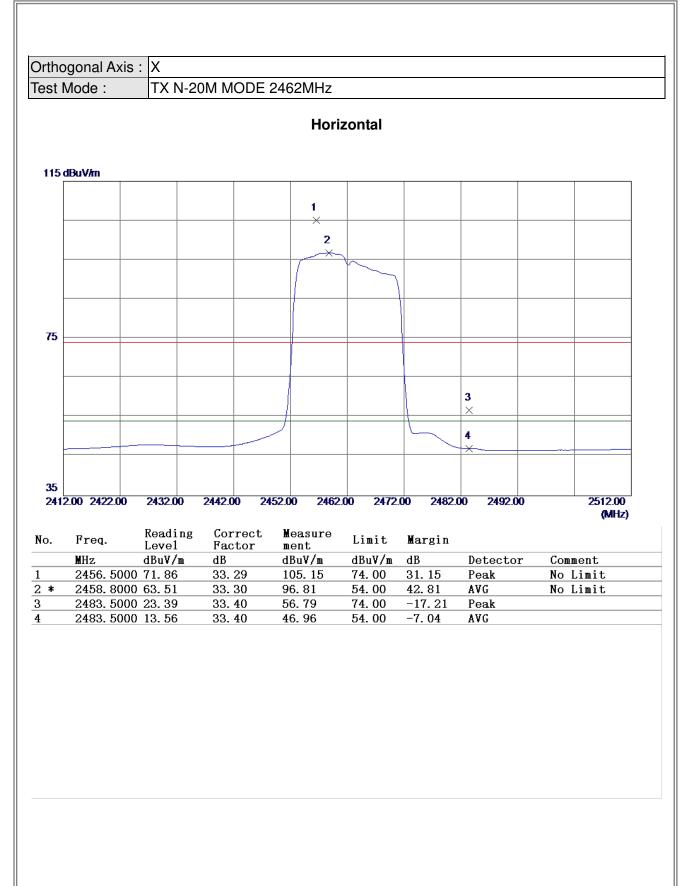






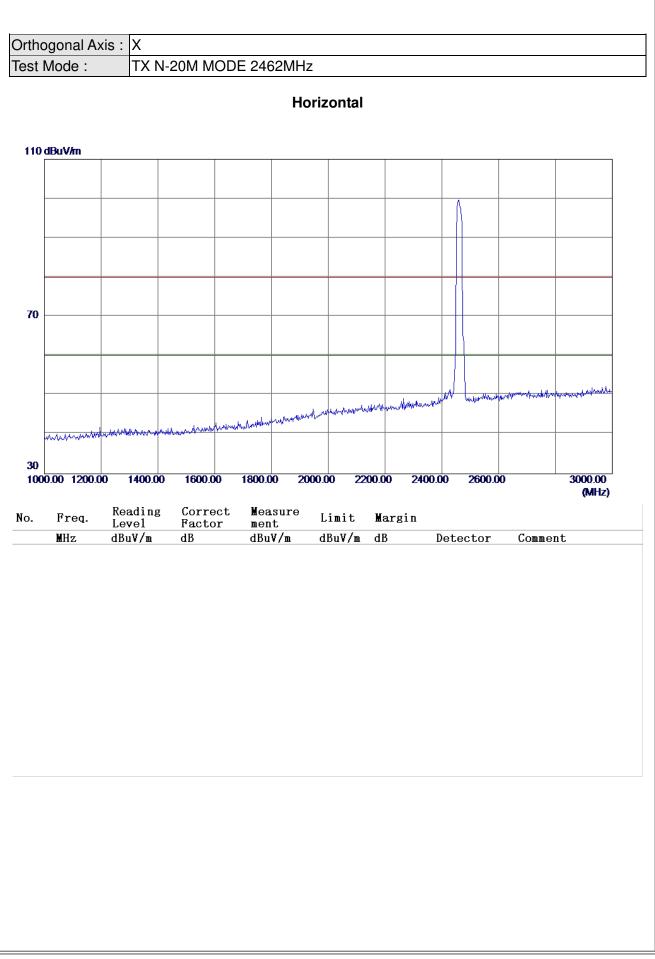






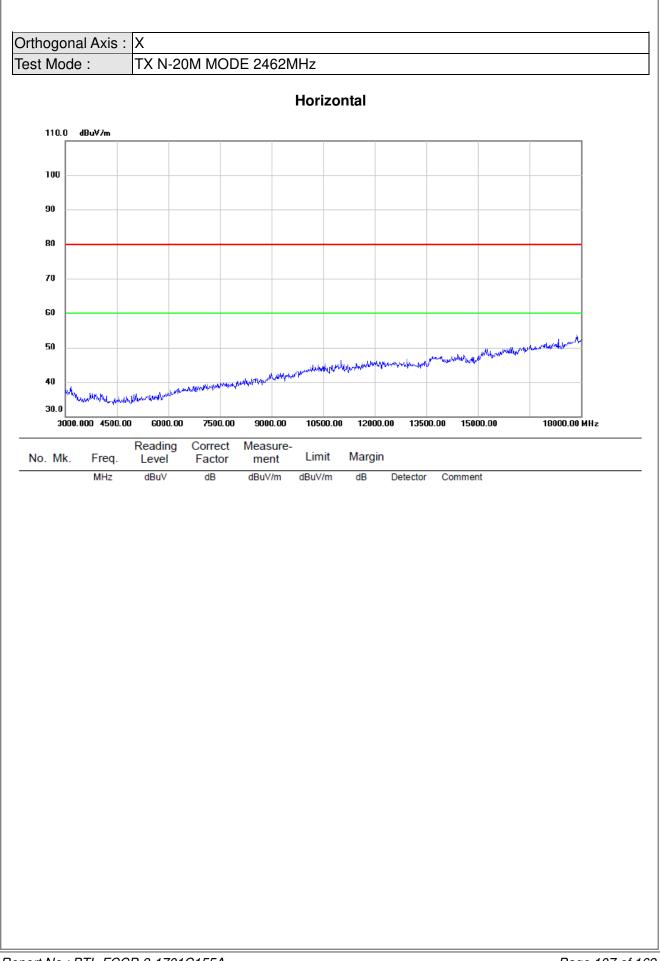






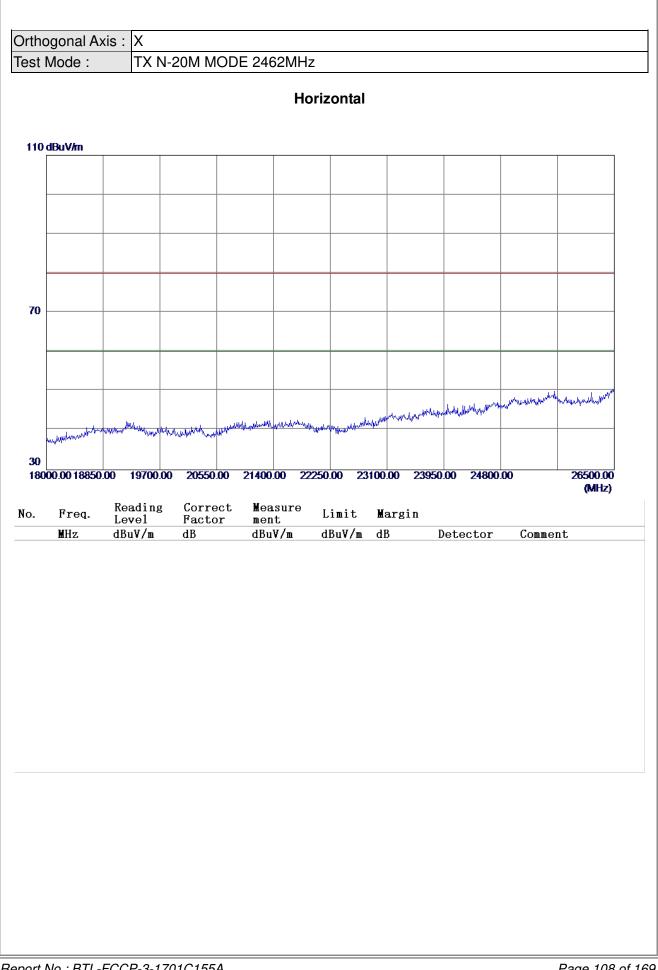






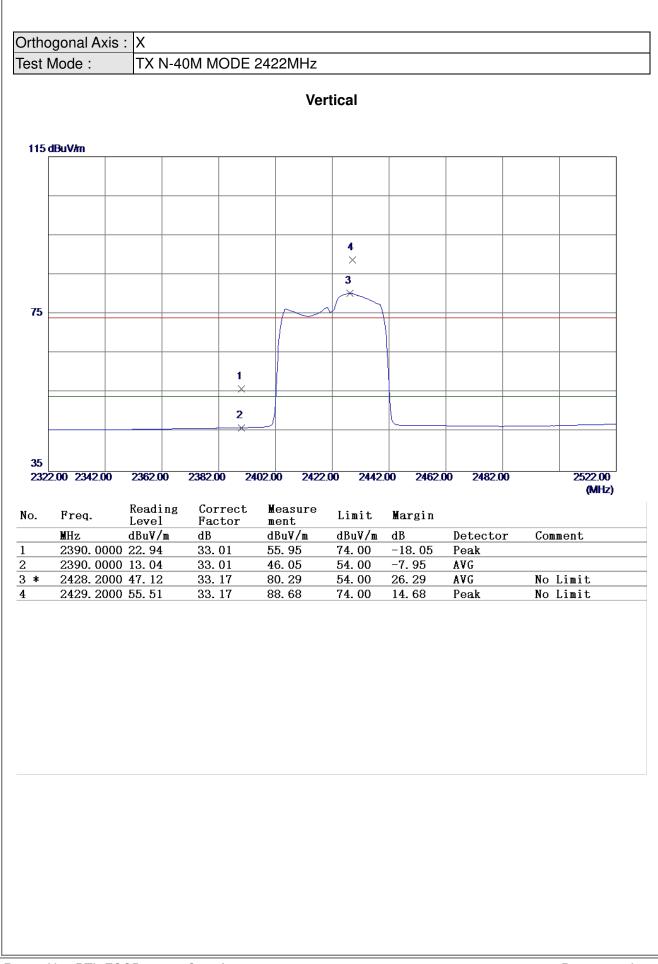






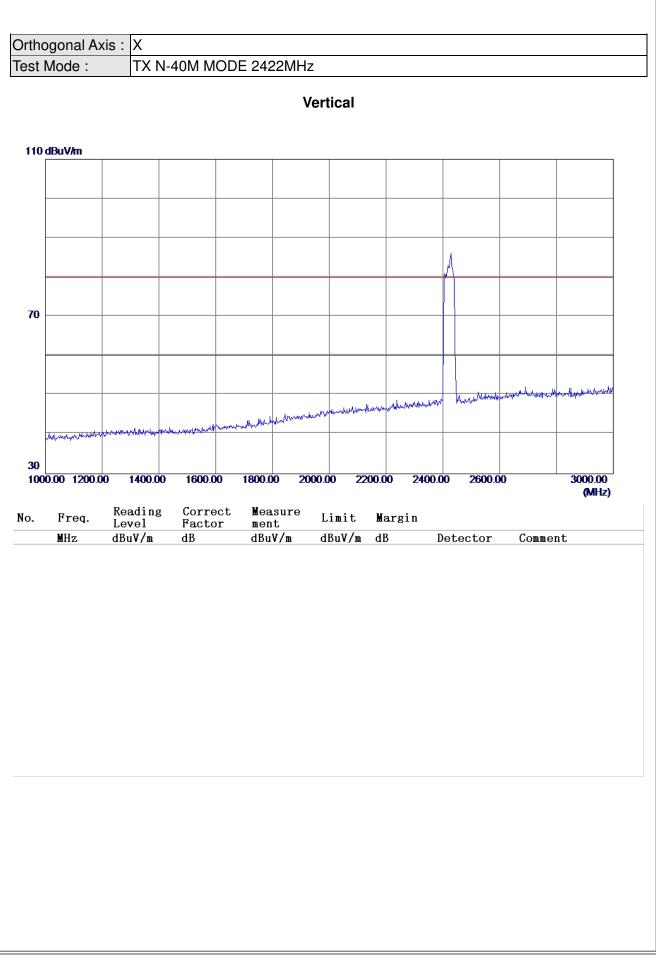






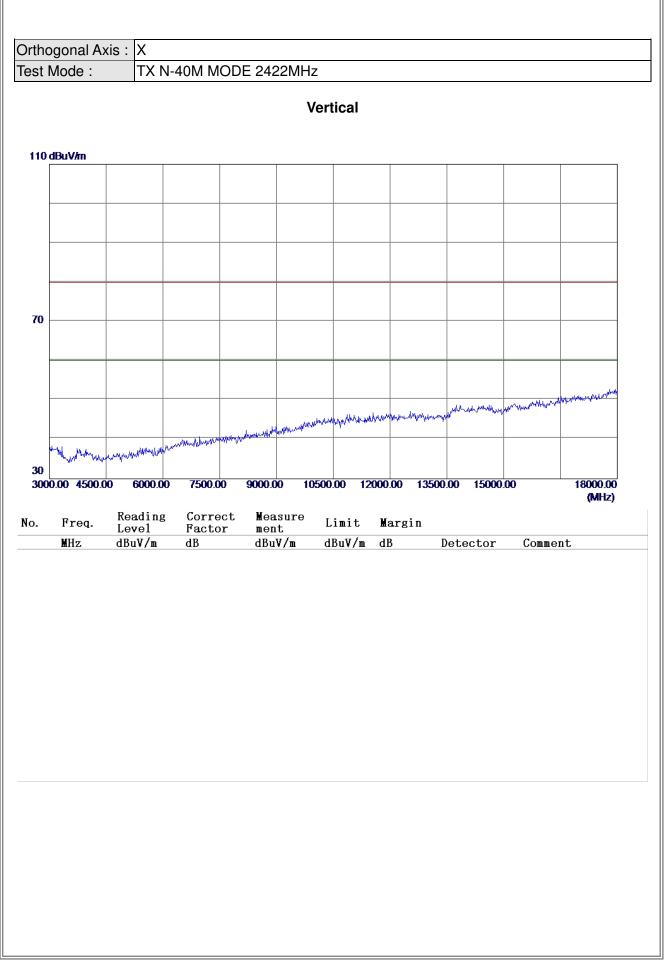






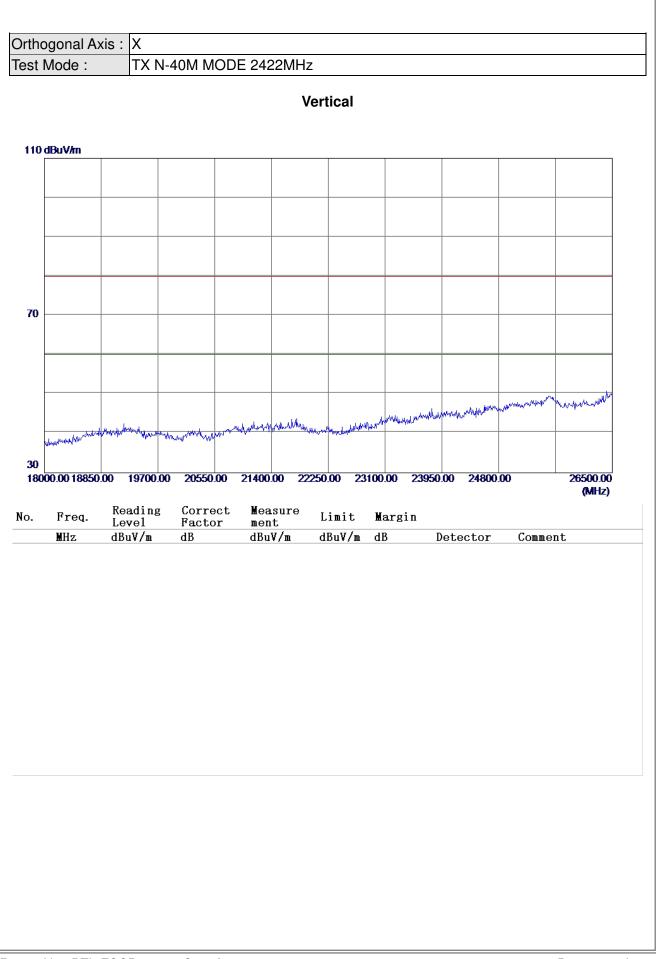






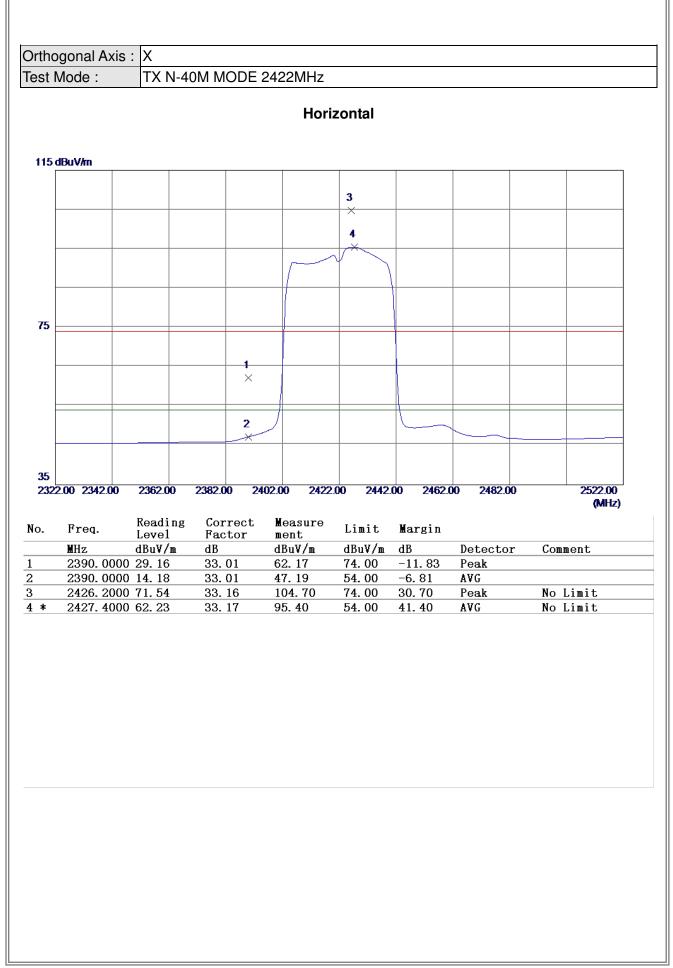






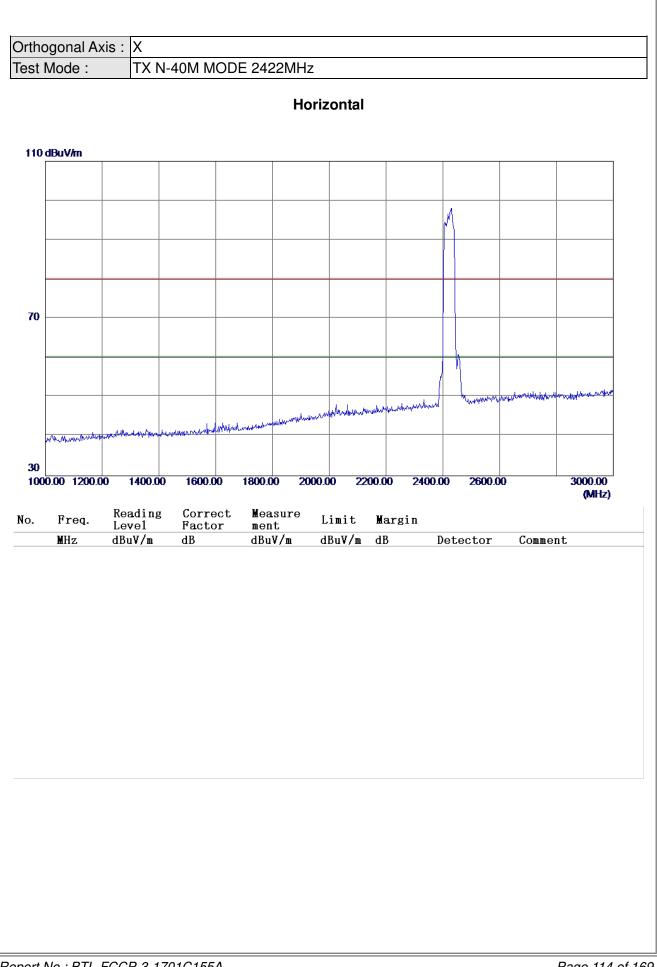






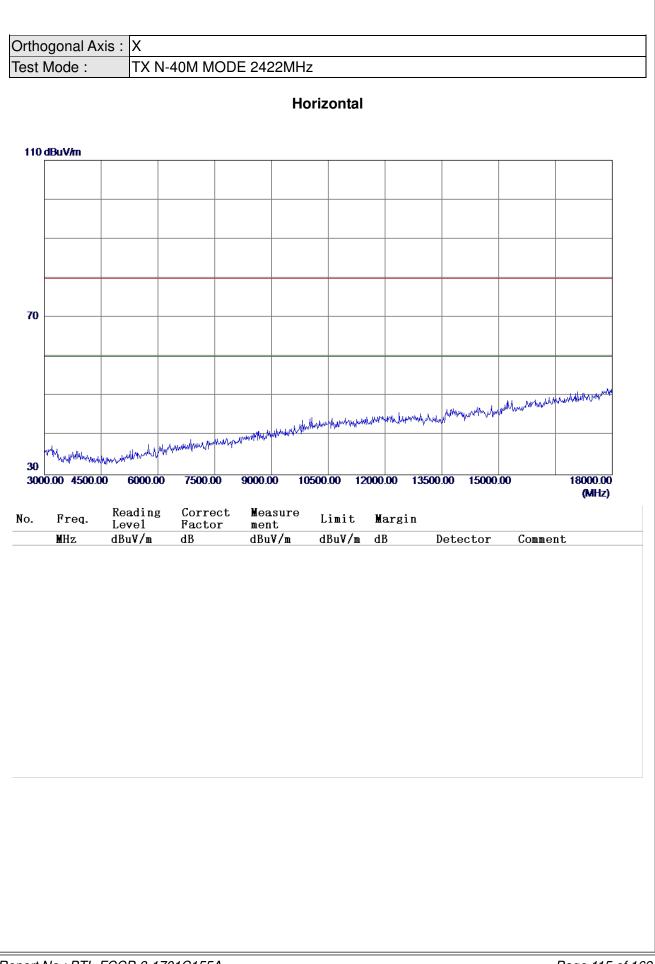






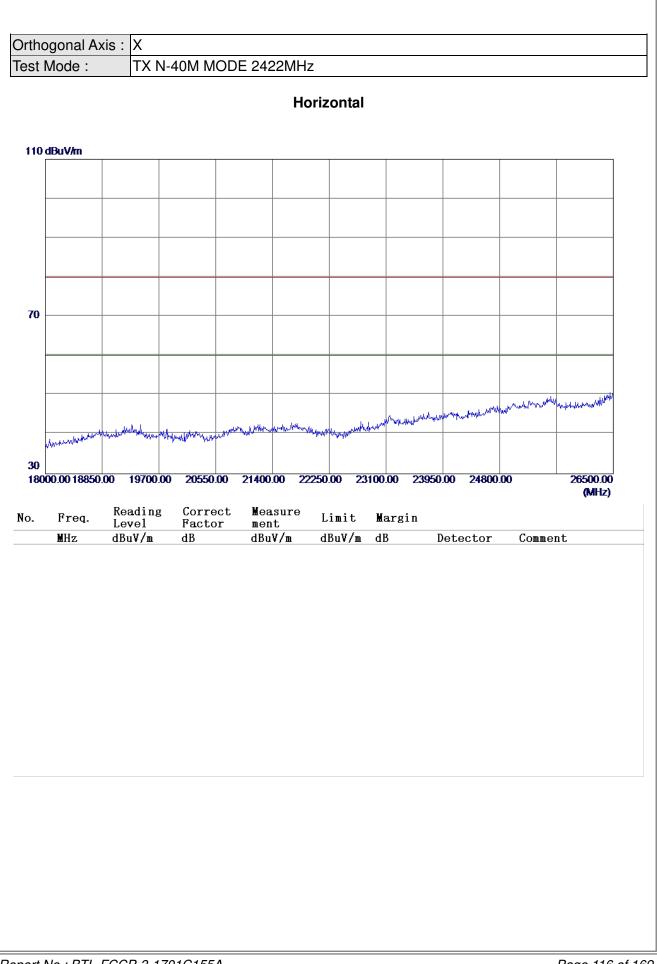






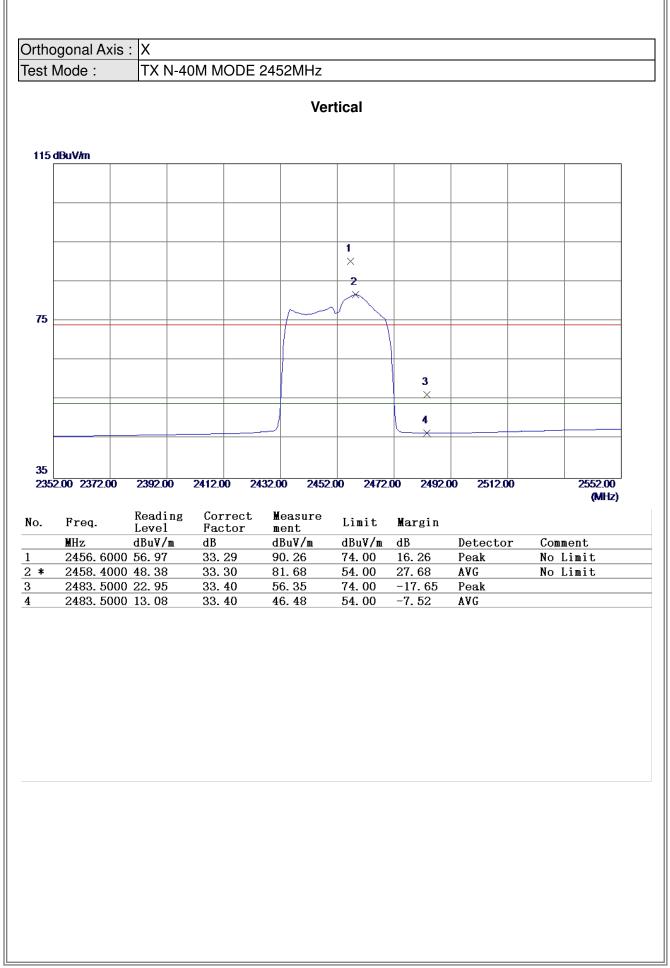






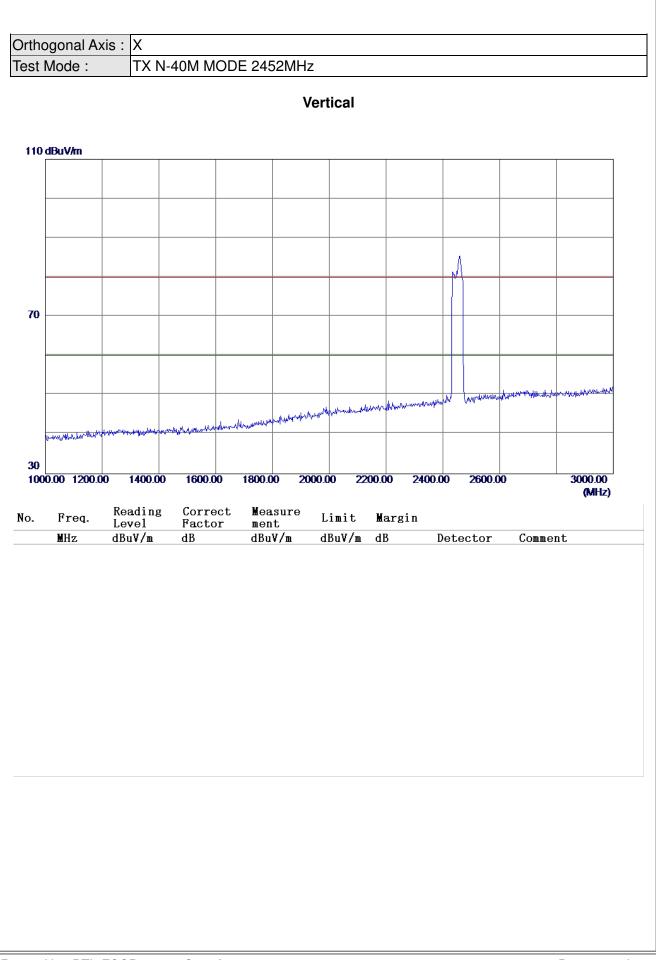






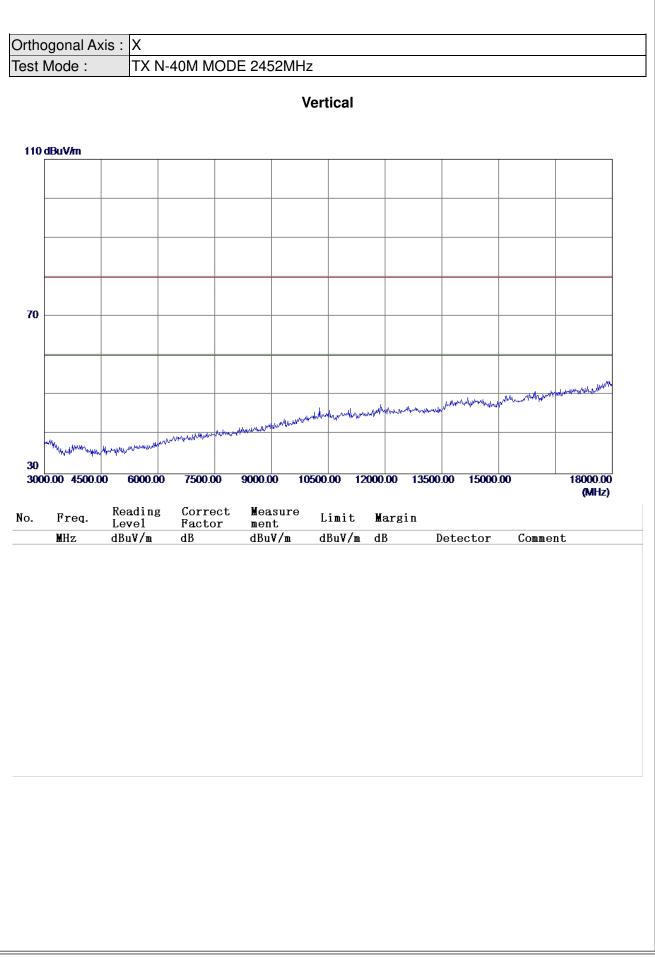






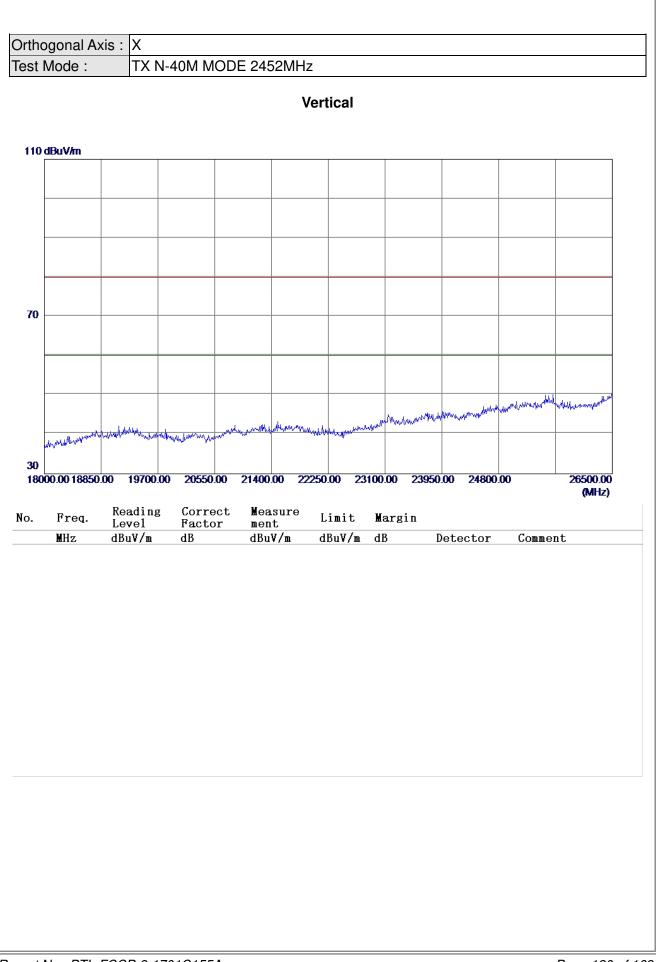






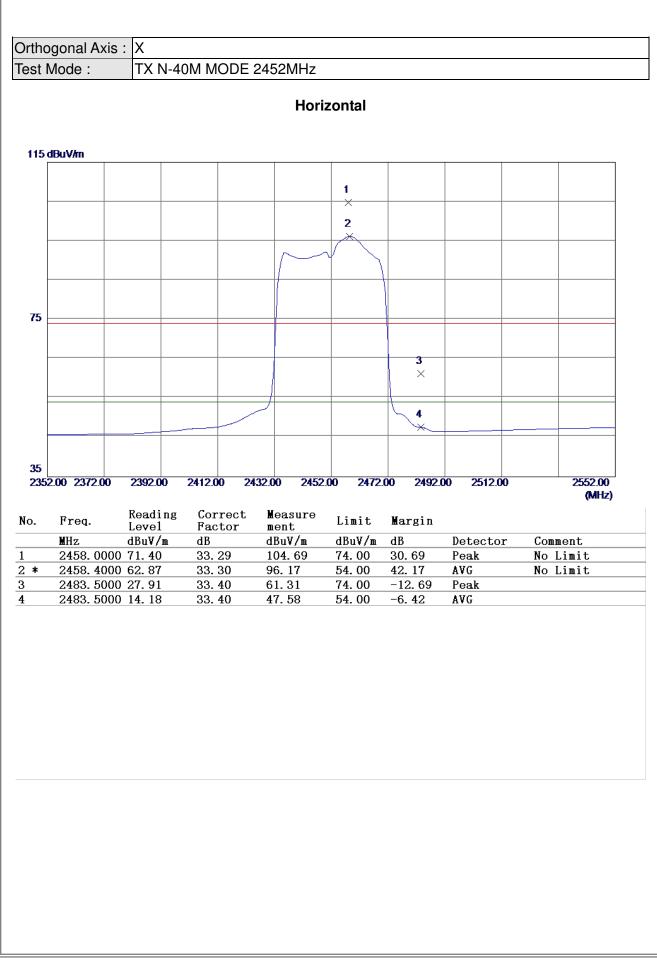






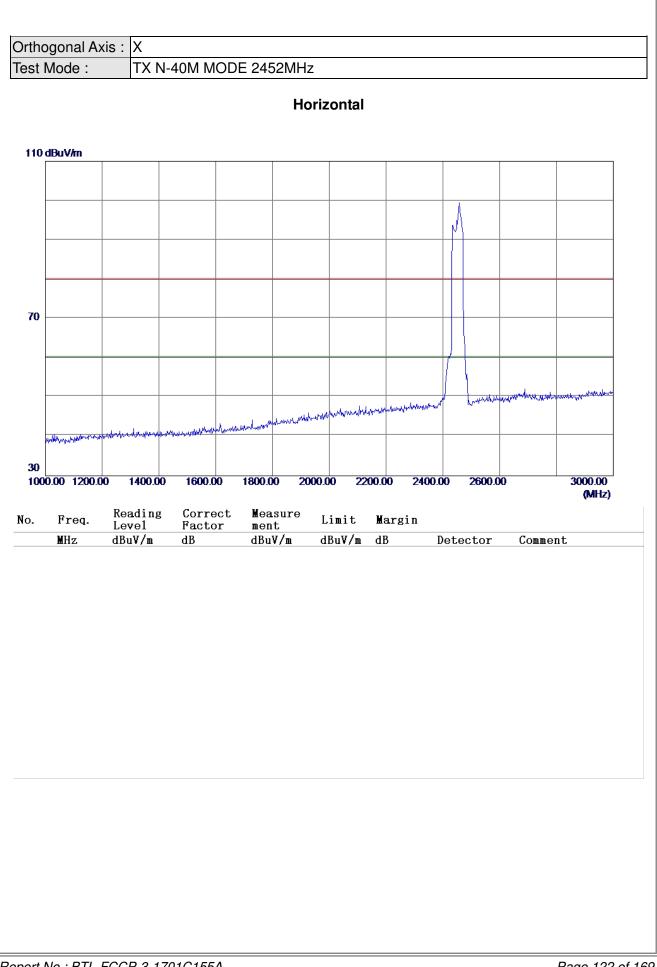






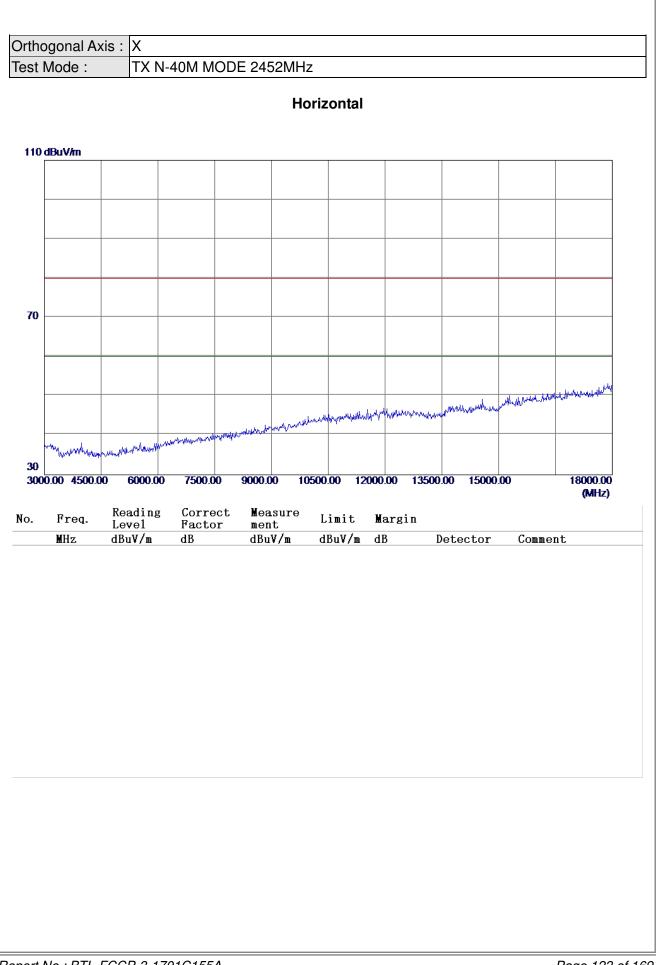






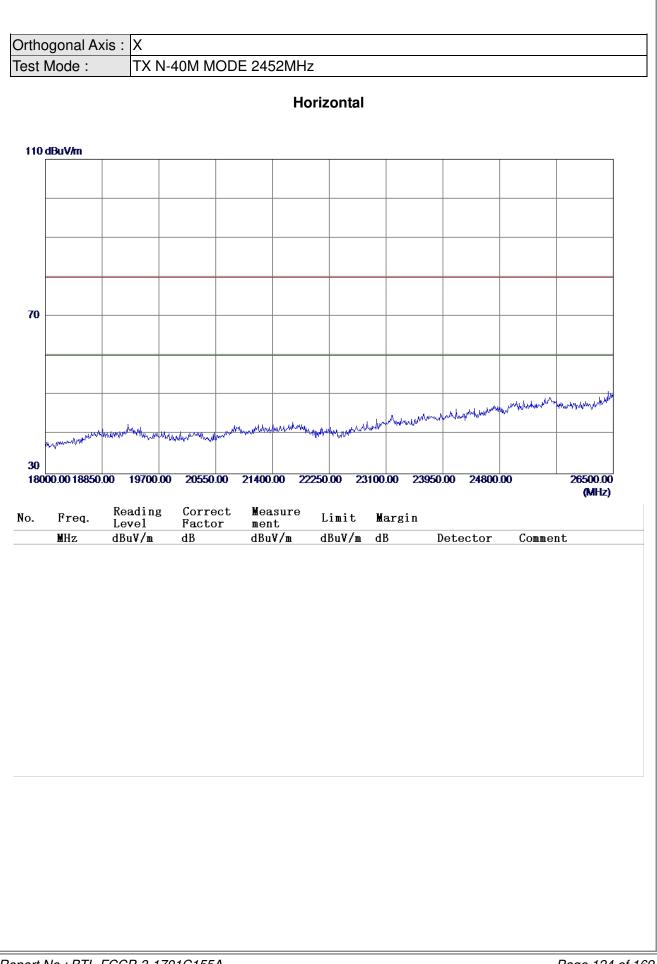












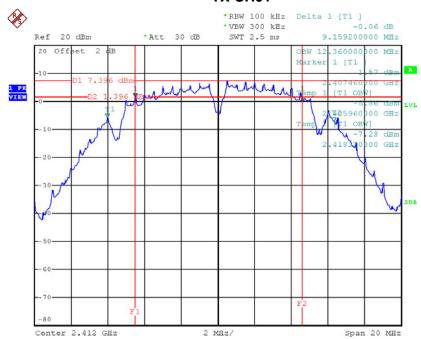


ATTACHMENT E - BANDWIDTH



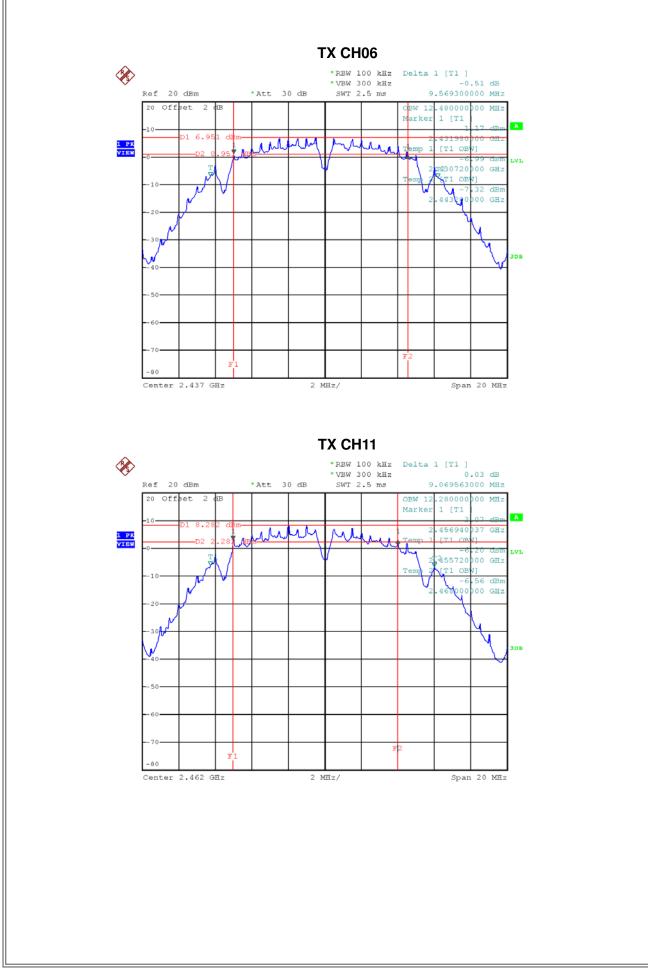
Test Mode : TX B Mode_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	9.16	12.36	500	Complies
2437	9.57	12.48	500	Complies
2462	9.07	12.28	500	Complies



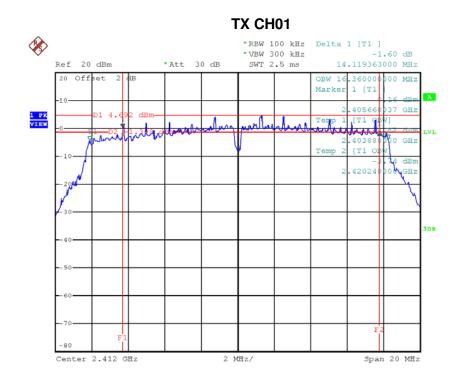
TX CH01



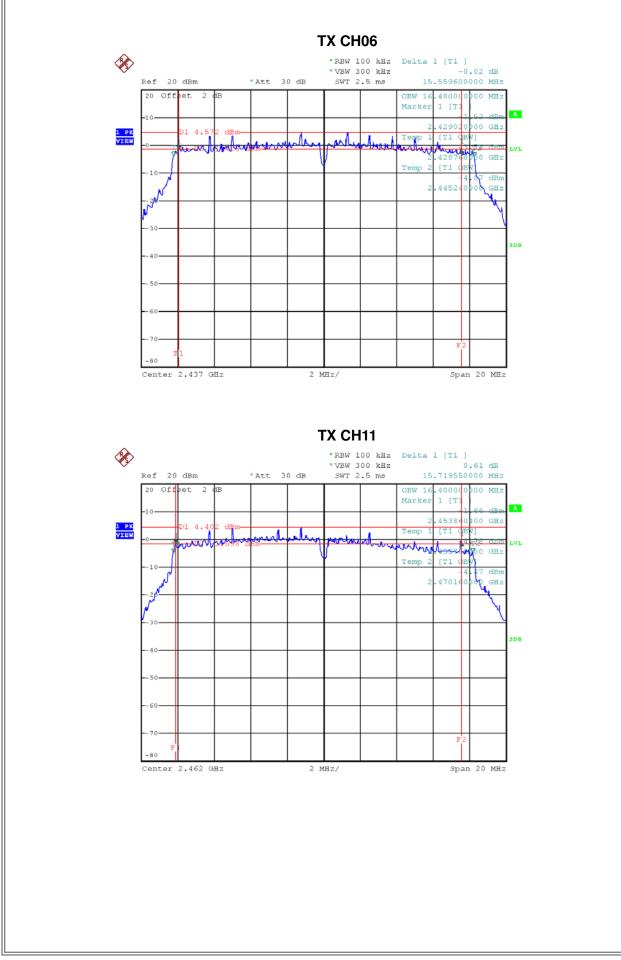




	Test Mode: TX G Mode_CH01/06/11						
Frequency (MHz)	I bub bandwidth 99% Occupied BW mini Linne Test Result						
2412	14.12	16.36	500	Complies			
2437	15.56	16.48	500	Complies			
2462	15.72	16.4	500	Complies			

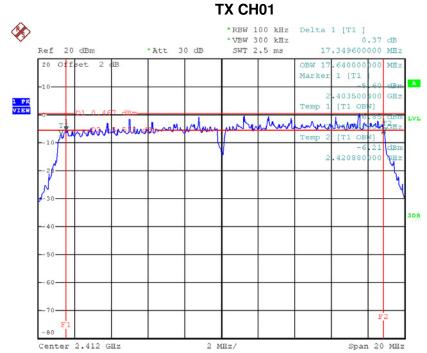




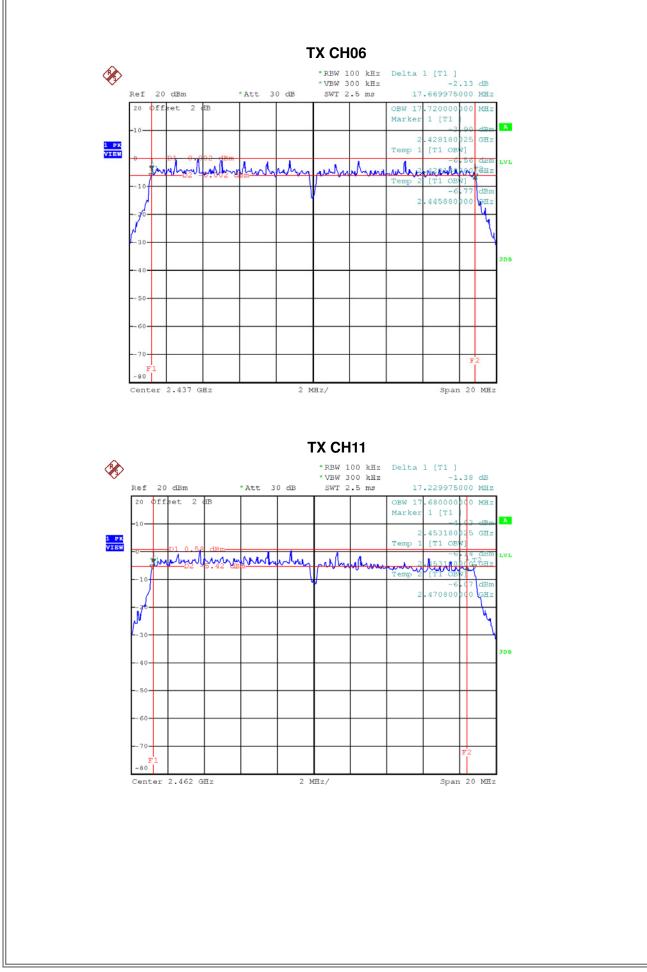




Test Mode : TX N-20MHz Mode_CH01/06/11					
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result	
2412	17.35	17.64	500	Complies	
2437	17.67	17.72	500	Complies	
2462	17.23	17.68	500	Complies	



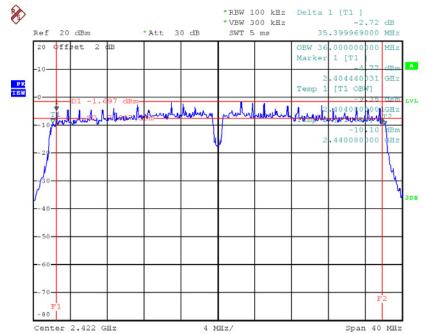




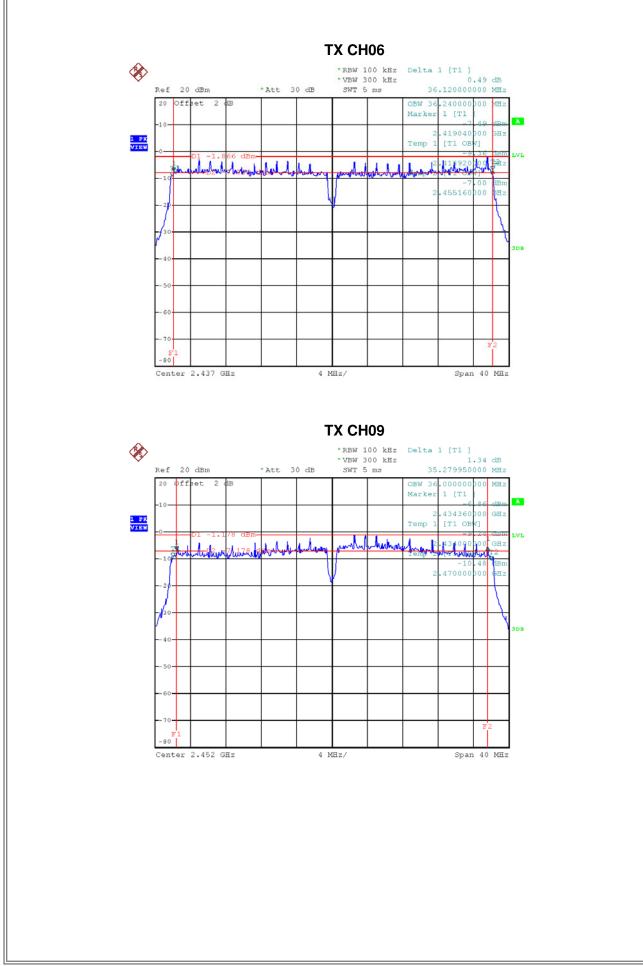


	Test Mode : TX N-40MHz Mode_CH03/06/09							
Frequency (MHz)	I bub bandwidth 99% Occupied BW think _ list Result							
2422	35.4	36	500	Complies				
2437	36.12	36.24	500	Complies				
2452	35.28	36	500	Complies				











ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER



Test Mode :TX B Mode_CH01/06/11						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	nesuit	
2412	19.59	0.09	30.00	1.00	Complies	
2437	19.36	0.09	30.00	1.00	Complies	
2462	19.72	0.09	30.00	1.00	Complies	

Test Mode :TX G Mode_CH01/06/11						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	nesuit	
2412	24.05	0.25	30.00	1.00	Complies	
2437	24.35	0.27	30.00	1.00	Complies	
2462	23.75	0.24	30.00	1.00	Complies	

Test Mode :TX N20 Mode_CH01/06/11						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	nesuit	
2412	21.80	0.15	30.00	1.00	Complies	
2437	21.62	0.15	30.00	1.00	Complies	
2462	22.11	0.16	30.00	1.00	Complies	

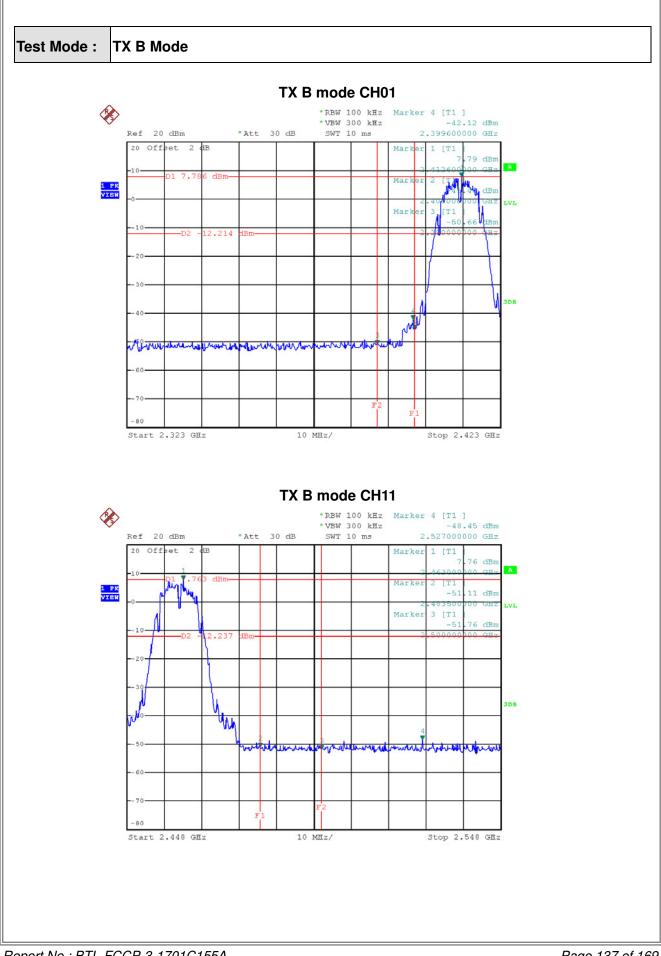
Test Mode :TX N40 Mode_CH03/06/09						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Popult	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result	
2422	22.10	0.16	30.00	1.00	Complies	
2437	22.39	0.17	30.00	1.00	Complies	
2452	21.89	0.15	30.00	1.00	Complies	



ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

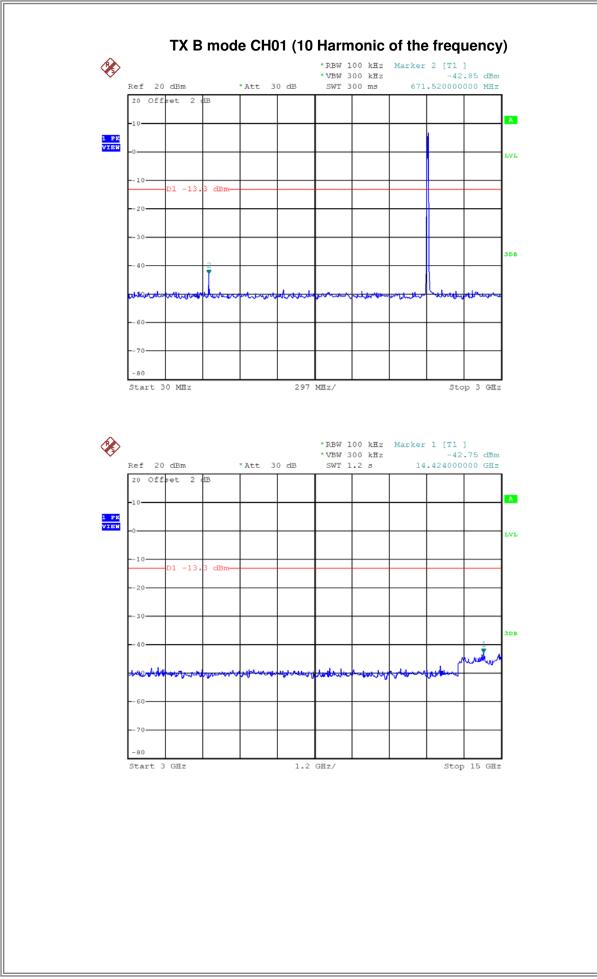




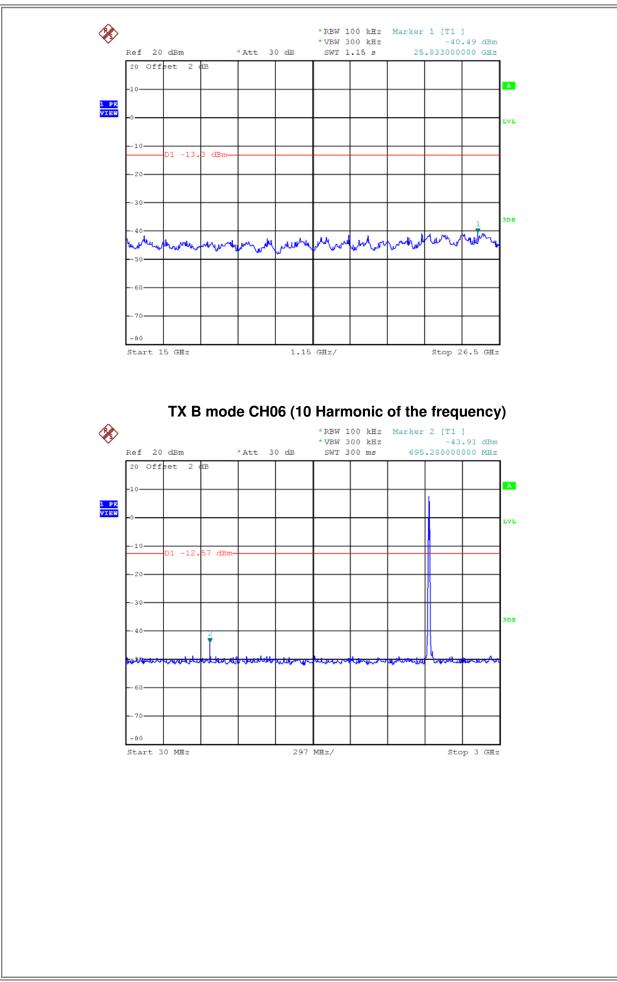


ΒĪL

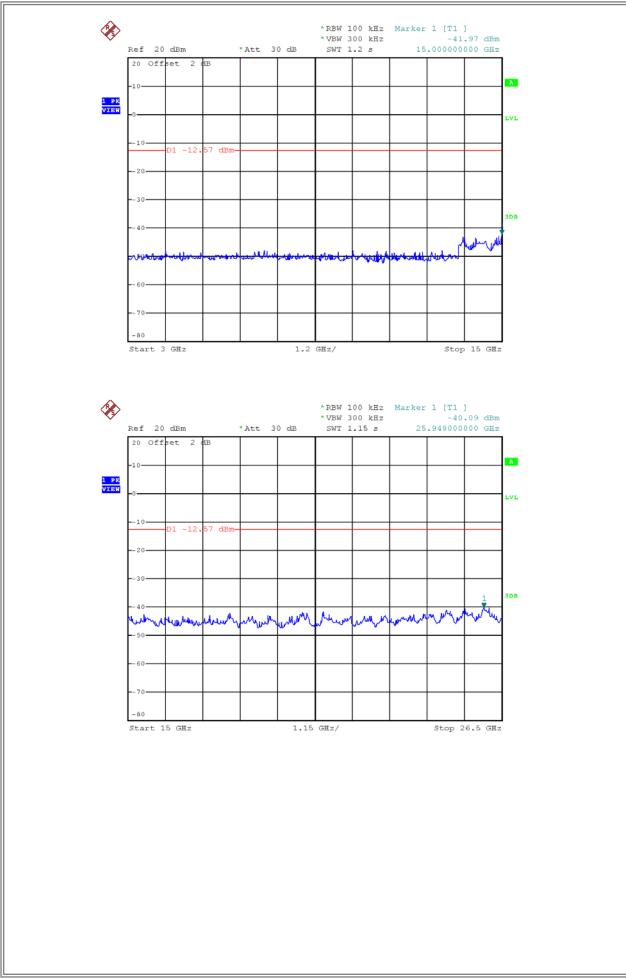






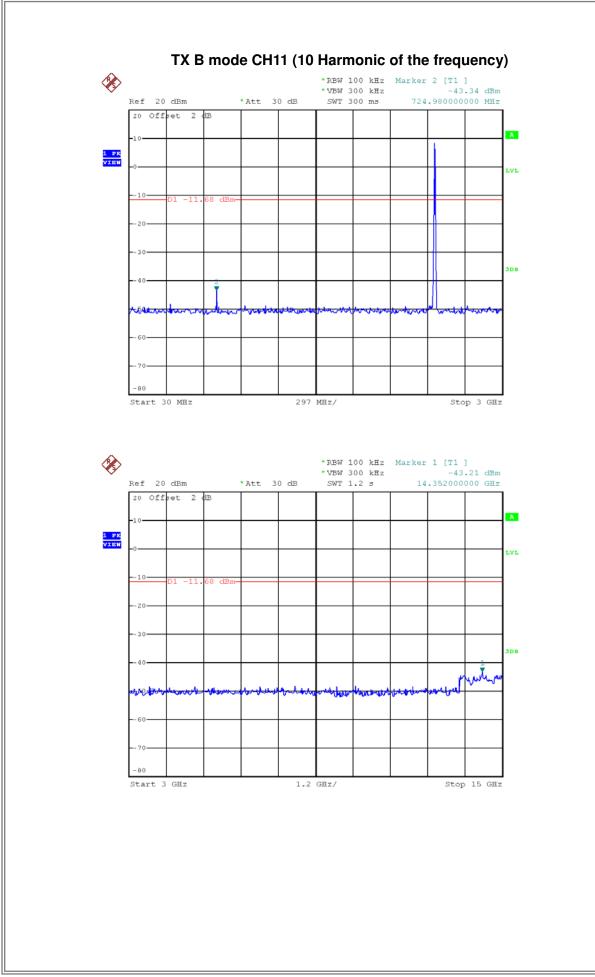




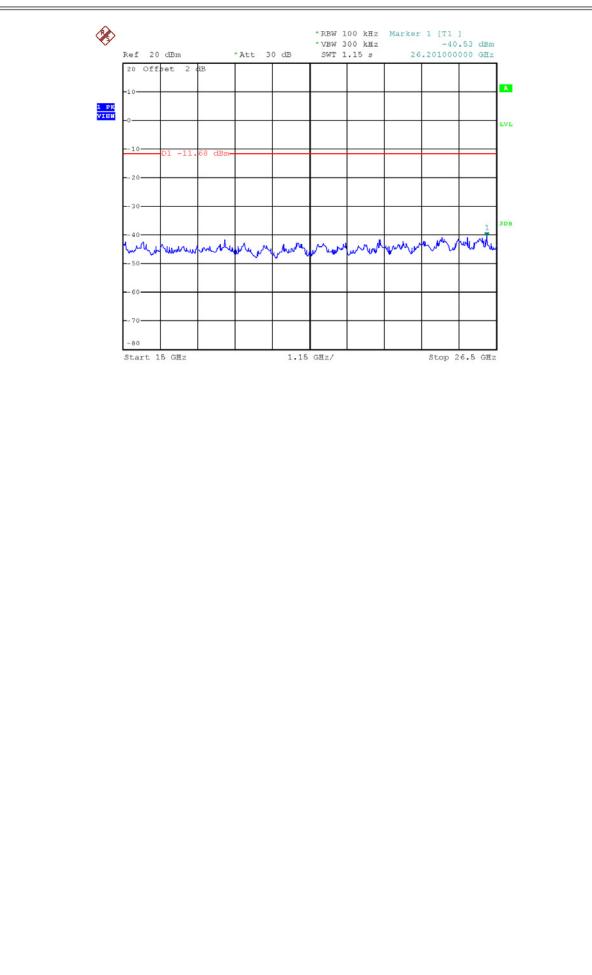


ЗĪL



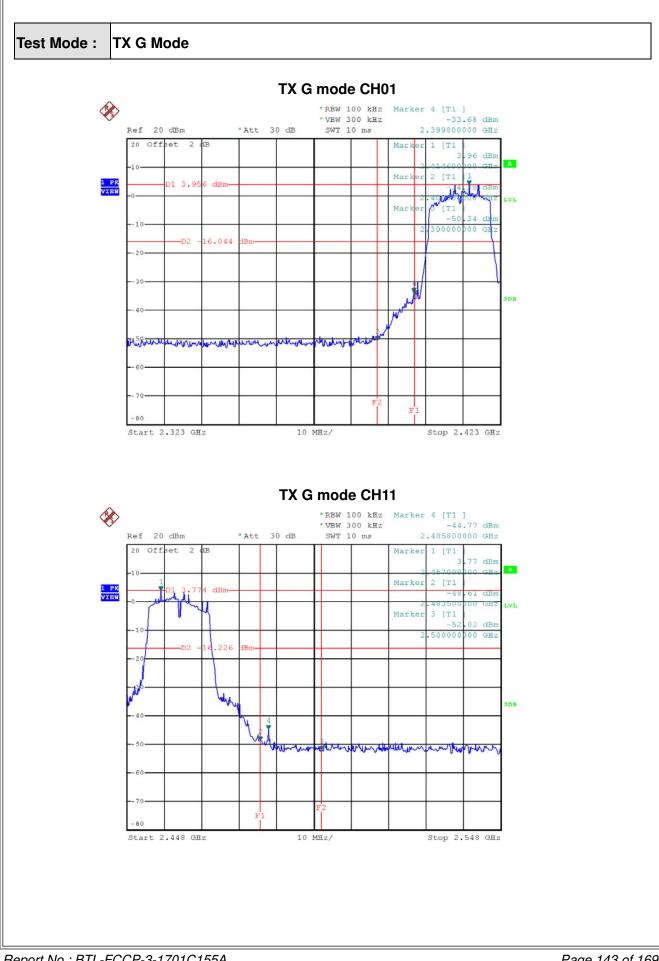




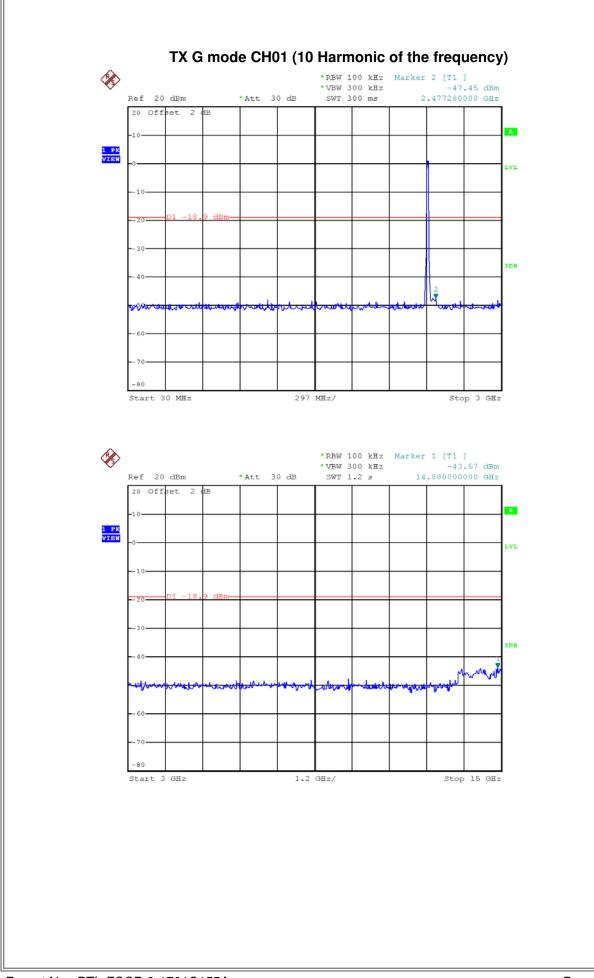




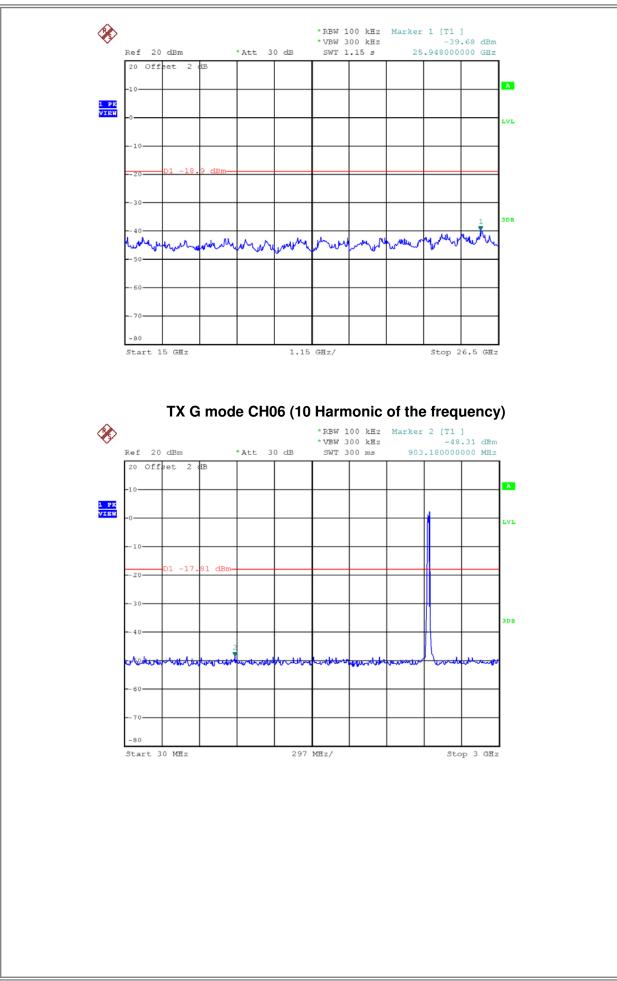




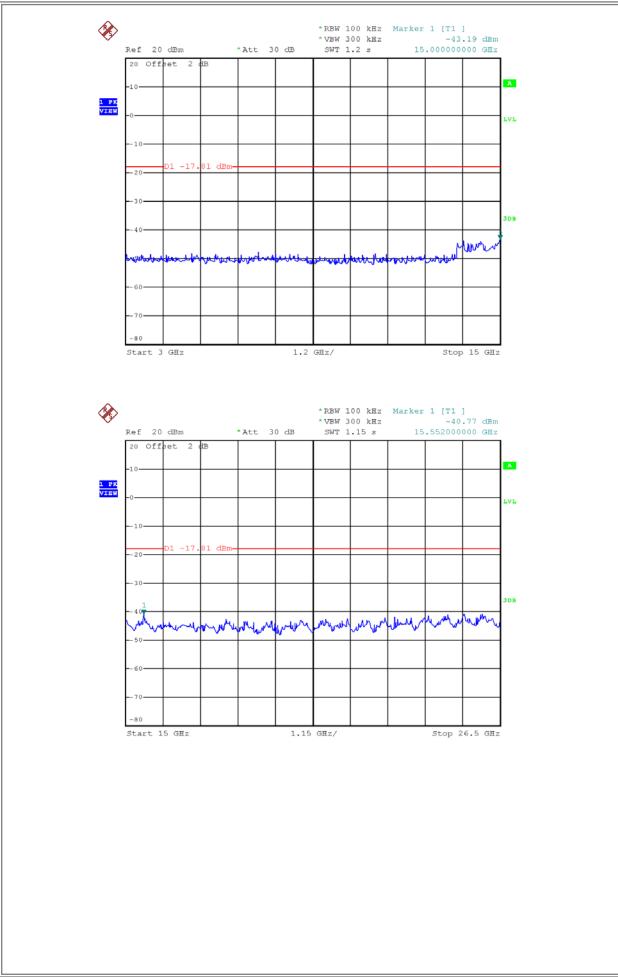




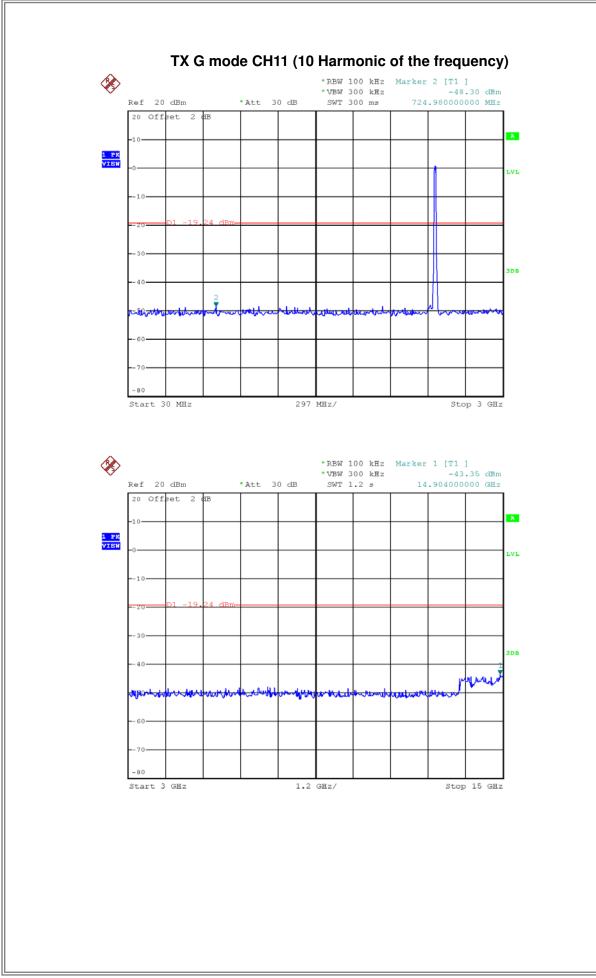




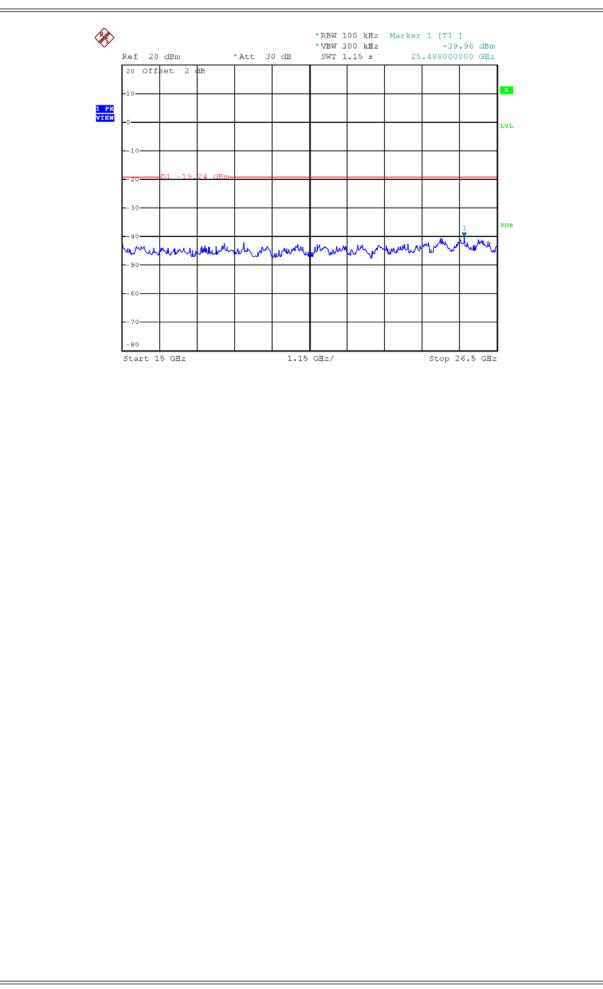






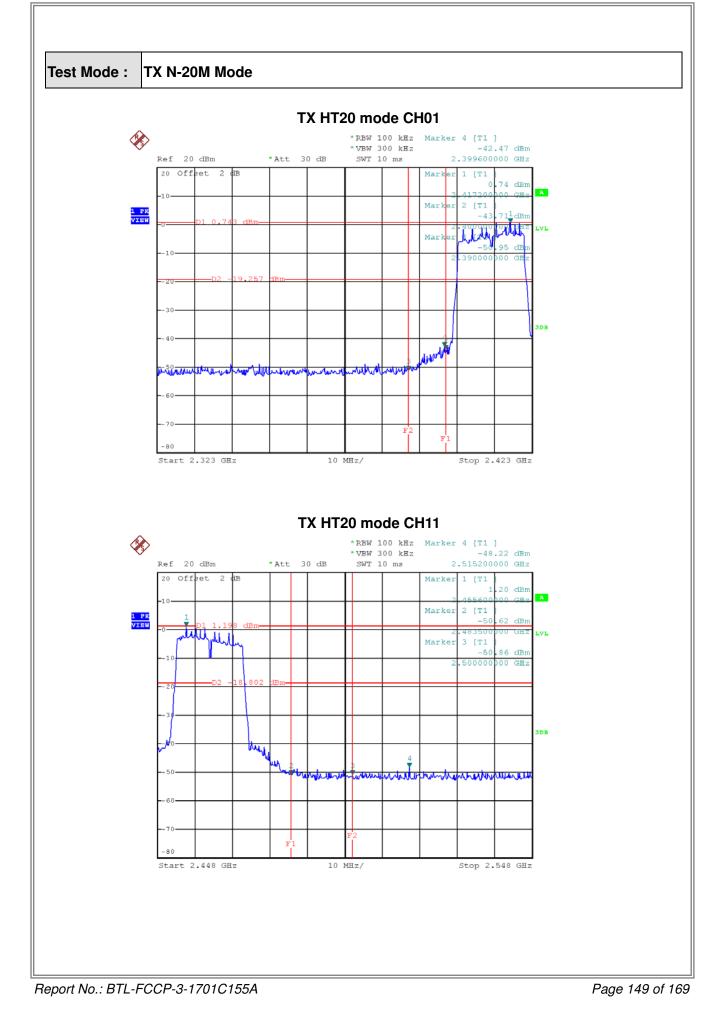




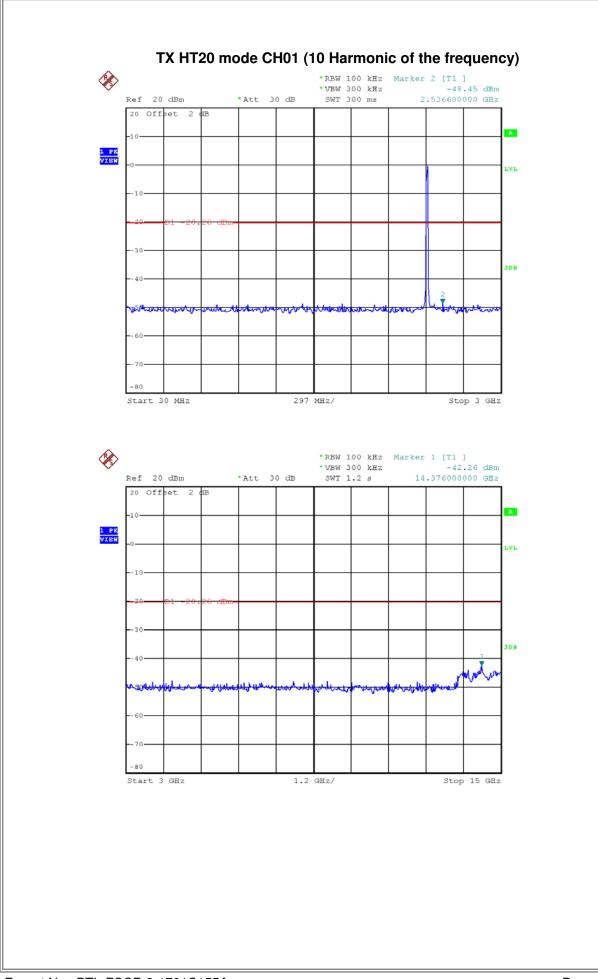




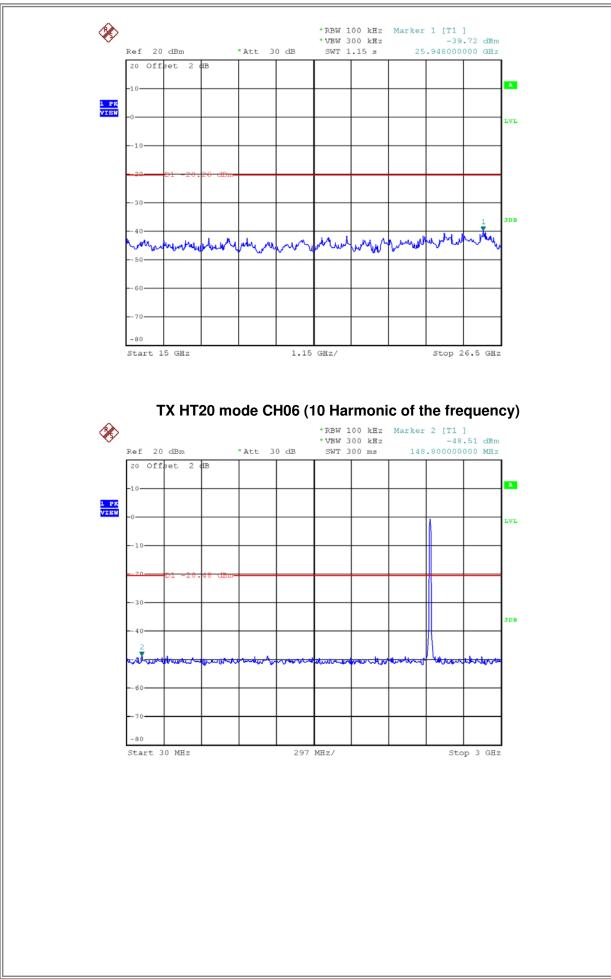




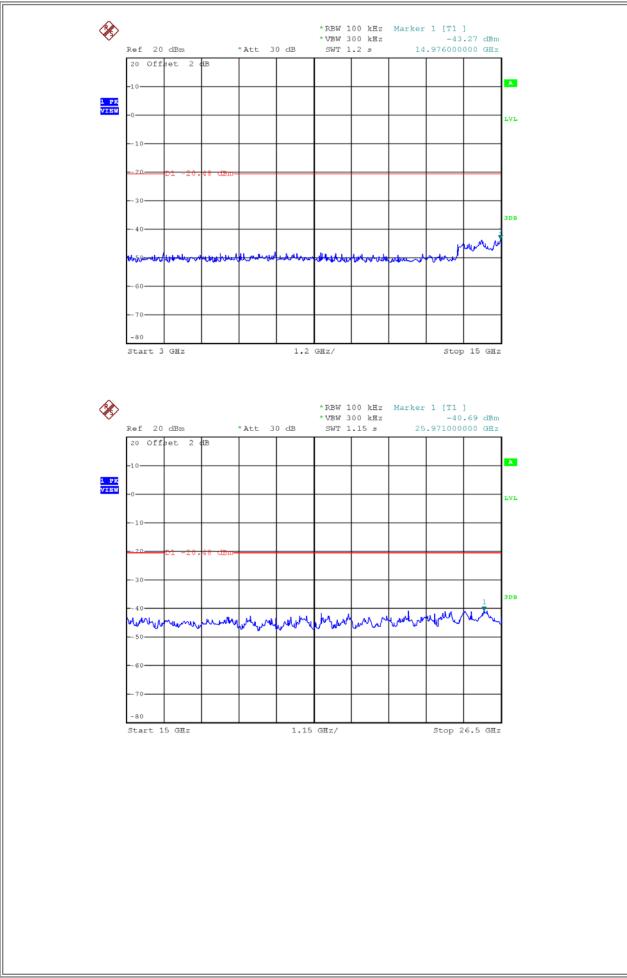




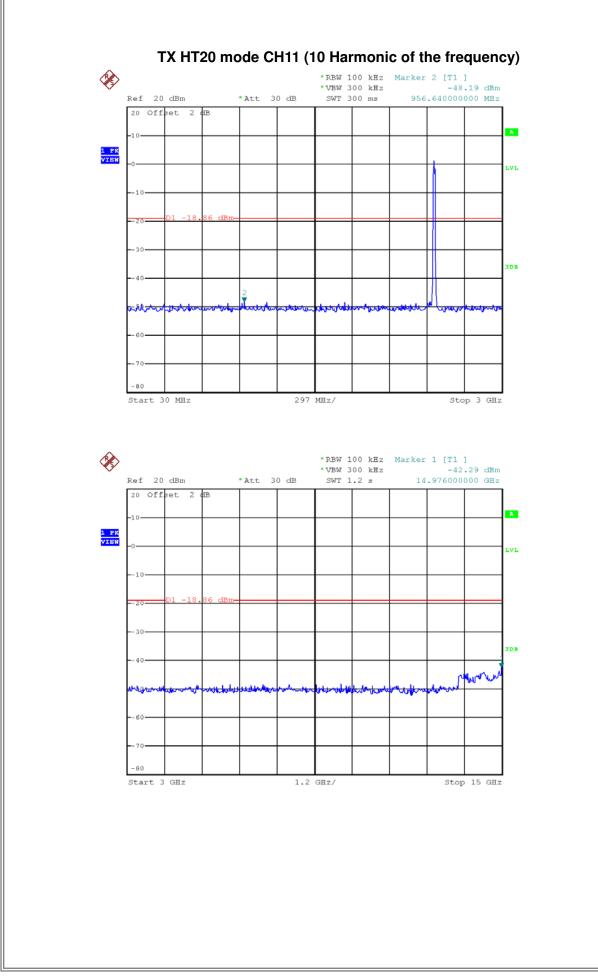




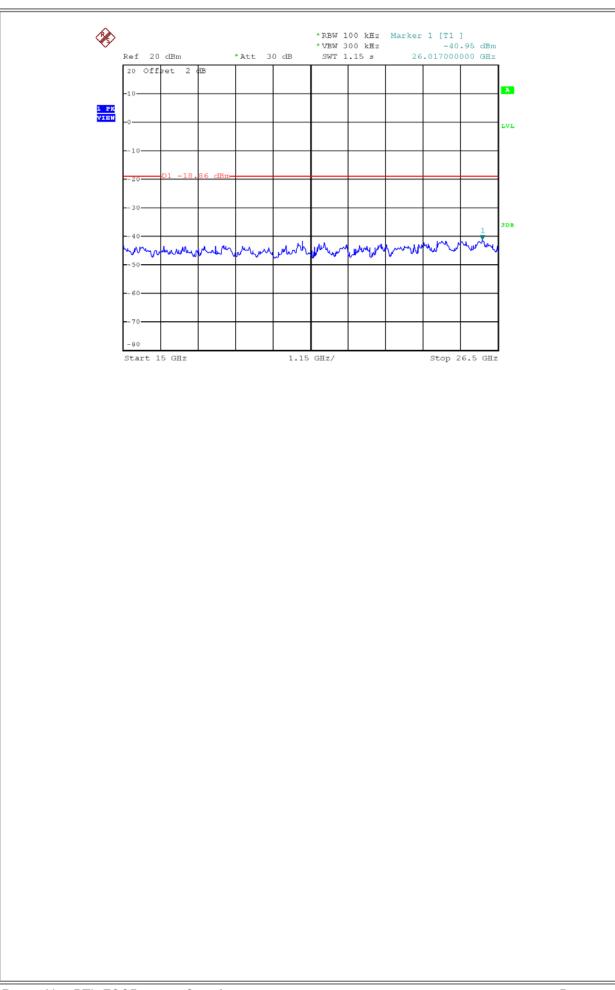






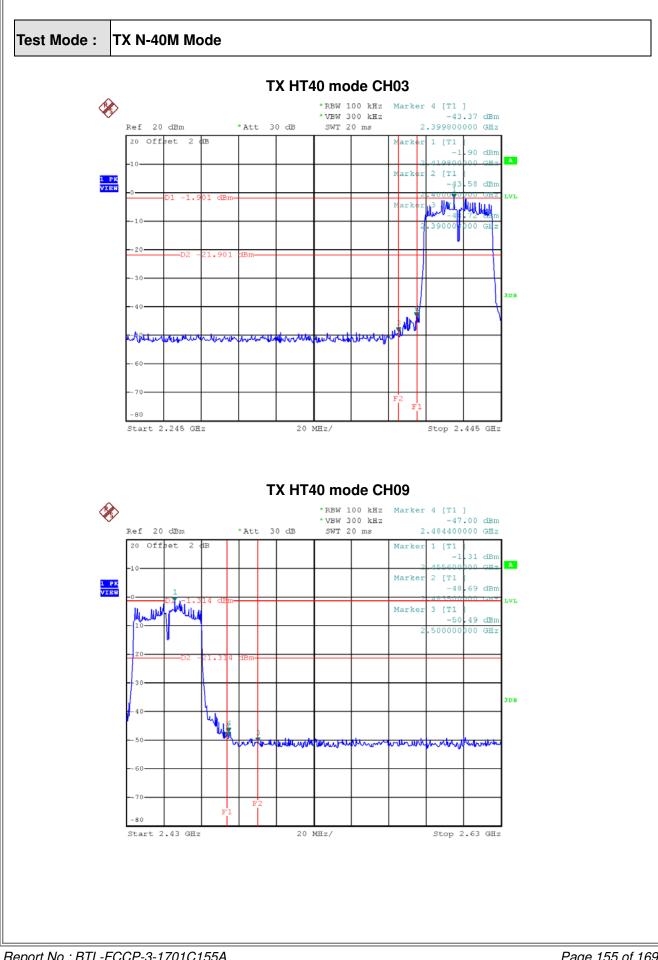




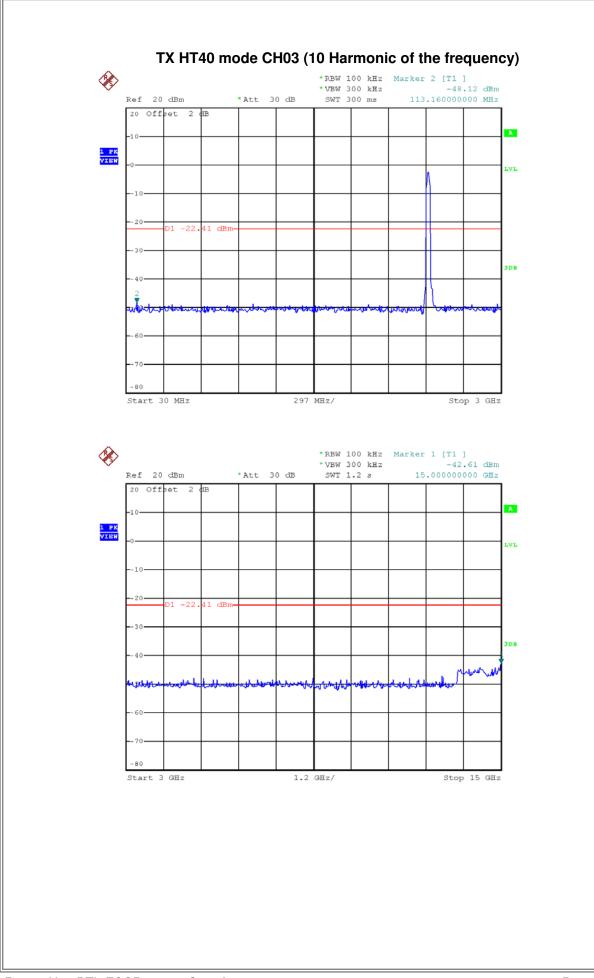




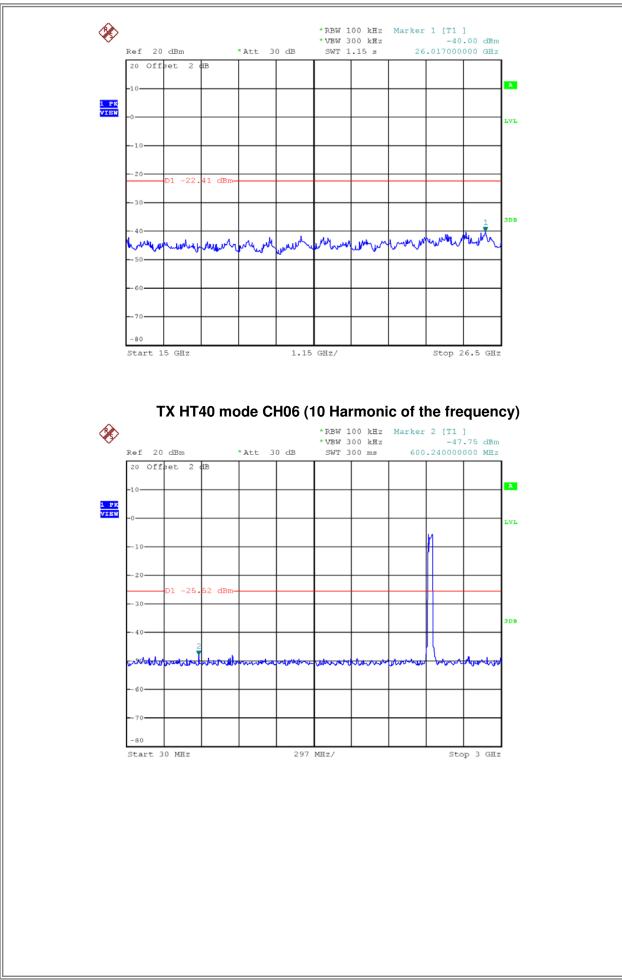




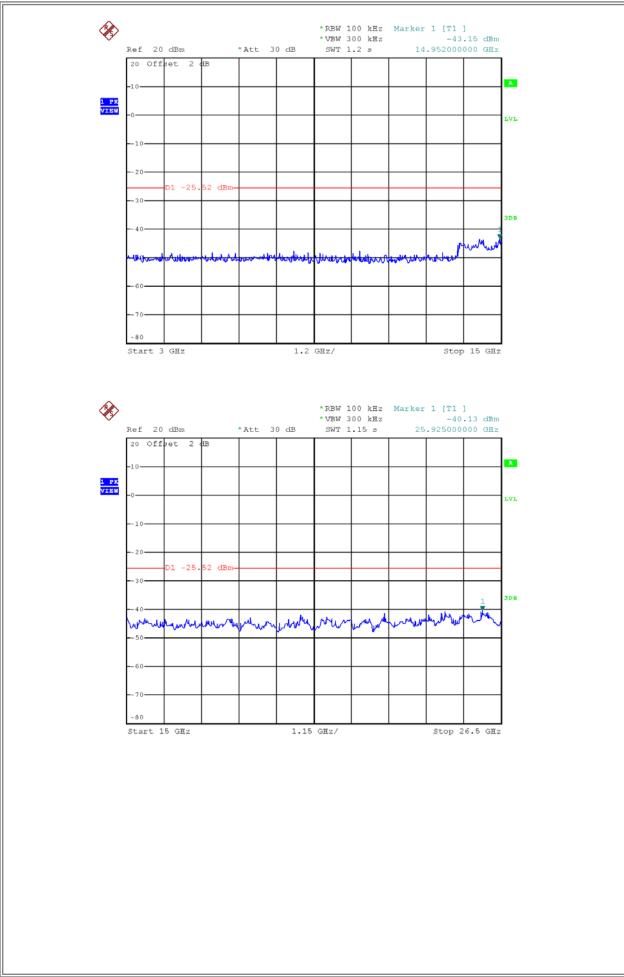




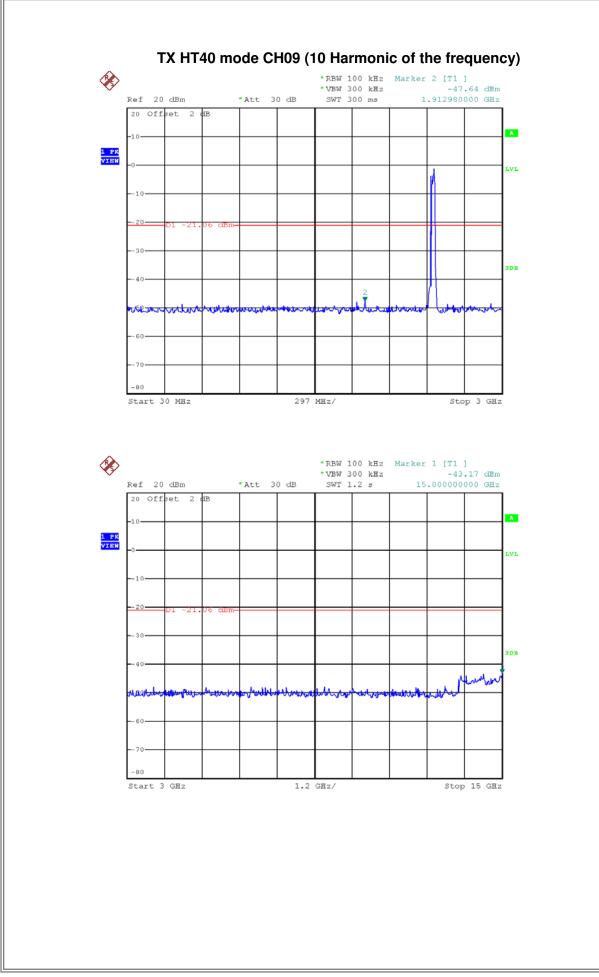




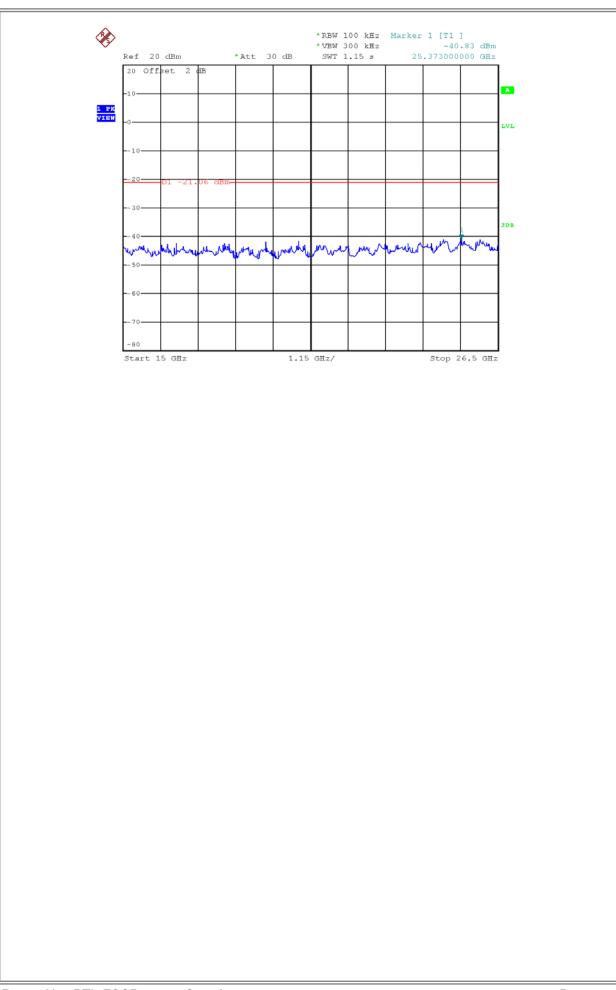












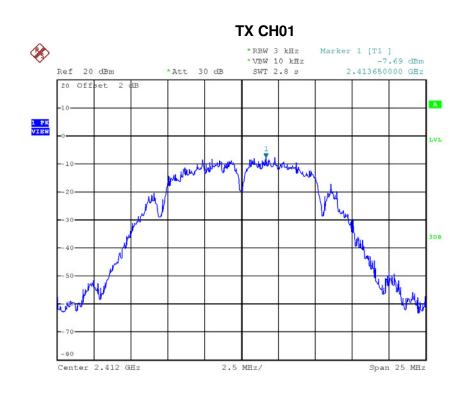


ATTACHMENT H - POWER SPECTRAL DENSITY

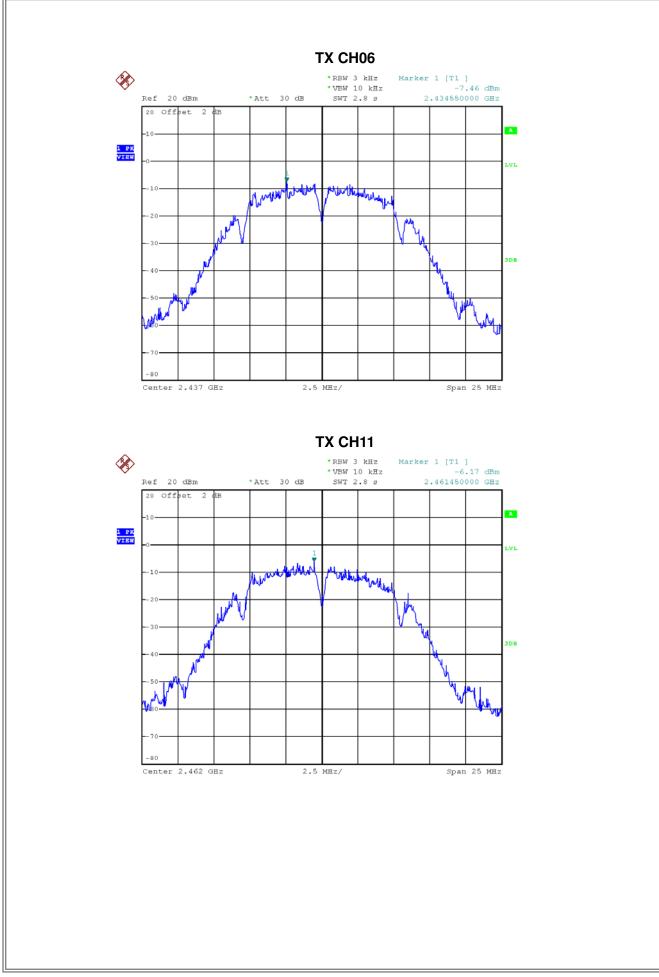
Report No.: BTL-FCCP-3-1701C155A



Test Mode :TX B Mode_CH01/06/11					
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result	
2412	-7.69	0.1702	8.00	Complies	
2437	-7.46	0.1795	8.00	Complies	
2462	-6.17	0.2415	8.00	Complies	



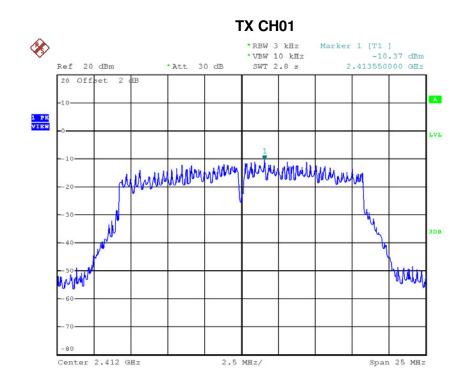






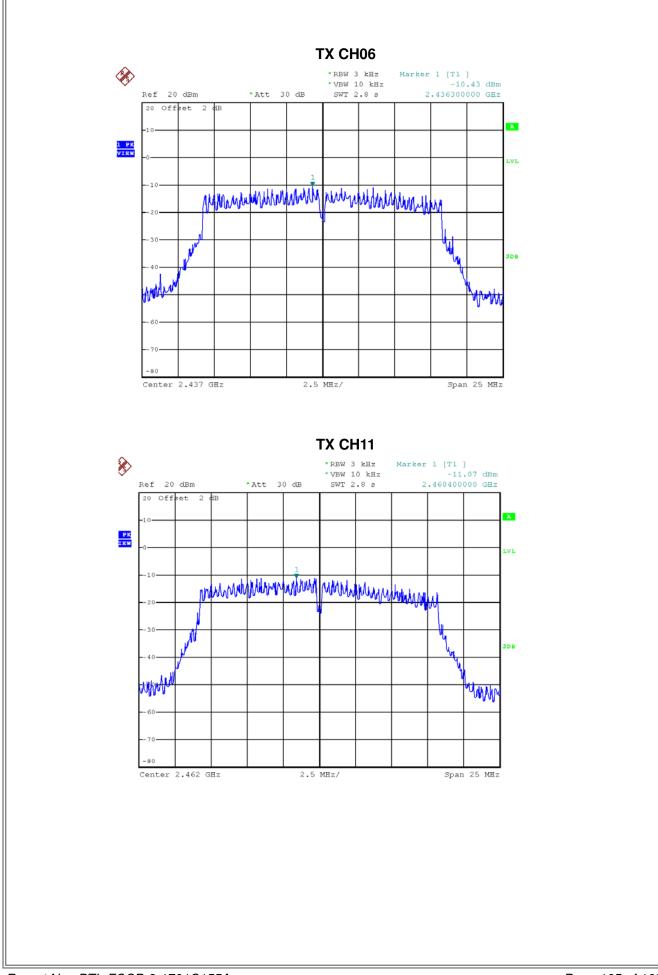
Test Mode :TX G Mode_CH01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-10.37	0.0918	8.00	Complies
2437	-10.43	0.0906	8.00	Complies
2462	-11.07	0.0782	8.00	Complies



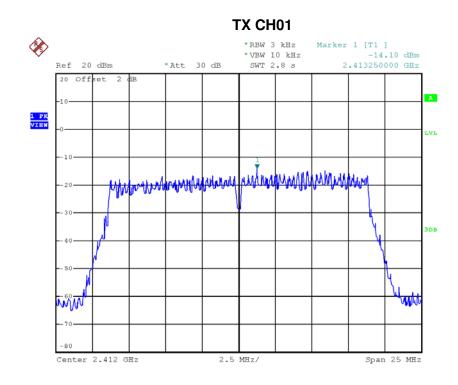
Report No.: BTL-FCCP-3-1701C155A



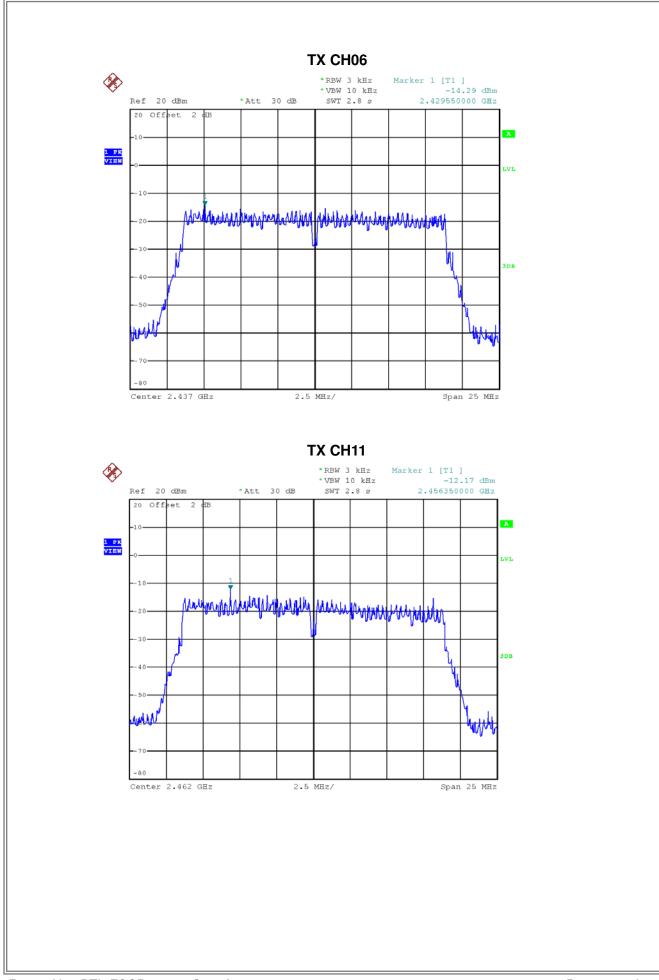




Test Mode : TX N-20M Mode_CH01/06/11					
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result	
2412	-14.10	0.0389	8.00	Complies	
2437	-14.29	0.0372	8.00	Complies	
2462	-12.17	0.0607	8.00	Complies	









Test Mode : TX N-40M Mode_CH03/06/09					
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result	
2422	-14.58	0.0348	8.00	Complies	
2437	-17.44	0.0180	8.00	Complies	
2452	-15.96	0.0254	8.00	Complies	

