



FCC R	adio Test Report
FCC ID: 0	QWHDEEPMIND12D
This report concerns (check one):	⊠Original Grant □Class I Change □Class II Change
Model Name : DEEF Applicant : MUS	C115 nesizers and Samplers PMIND 12D IC Group Manufacturing PH Ltd. Brunswick Street Hamilton HM 10 Bermuda
Date of Test : Nov.	23, 2016 23, 2016 ~ Apr. 26, 2017 27, 2017 Inc.
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#### Limitation

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



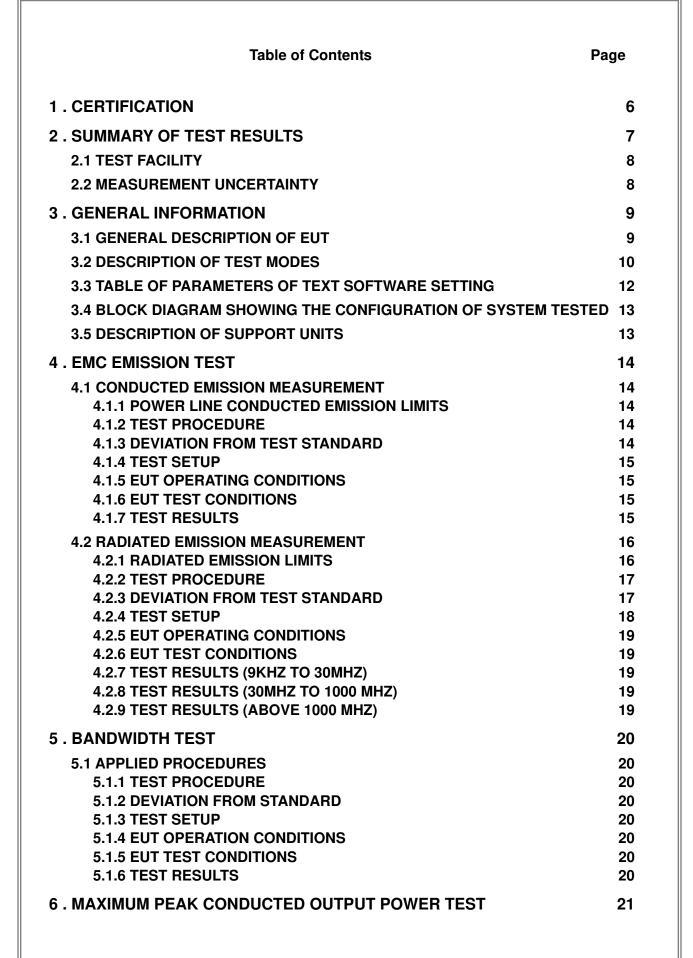








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# **REPORT ISSUED HISTORY**

Issued No.	Description	Issued Date
BTL-FCCP-1-1704C115	Original Issue.	Apr. 27, 2017



# **1. CERTIFICATION**

Equipment : Brand Name :	Synthesizers and Samplers BEHRINGER
	DEEPMIND 12D
Applicant :	MUSIC Group Manufacturing PH Ltd.
	MUSIC Group Manufacturing PH Ltd.
Address :	17A Brunswick Street Hamilton HM 10 Bermuda
Factory :	Zhongshan Eurotec Electronics Ltd.
Address :	Eurotec Industrial Park, No.1 Junjing Road, Panzhong Road Side, Minzhong
	Town, Zhongshan City, Guangdong Province 528441 ,P.R. China.
Date of Test :	Apr. 10, 2017 ~ Apr. 26, 2017
Test Sample :	Engineering Sample
Standard(s) :	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-1-1704C115) 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	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				
15.209/15.205	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
		30MHz ~ 200MHz	V	3.82
		30MHz ~ 200MHz	H	3.78
DG-CB03	CISPR	200MHz ~ 1,000MHz	V	4.10
DG-CD03	UISEN	200MHz ~ 1,000MHz	Н	4.06
		1GHz~18GHz	V	3.12
			1GHz~18GHz	Н
	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	Synthesizers and Sample	Synthesizers and Samplers		
Brand Name	BEHRINGER			
Model Name	DEEPMIND 12D			
Model Difference	N/A			
	Operation Frequency	2412~2462 MHz		
Product Description	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM		
	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 150 Mbps		
	Body         State         State <ths< td=""></ths<>			
Power Source	AC Mains.			
Power Rating	I/P: 100-240V~50-60Hz 55W			

#### 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)						
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (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. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	molex	0479502001	Internal	N/A	3.07



# 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 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 4	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	

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	





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	

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	

Antenna Conducted Spurious Emission		
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 01/0611	

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	

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) For radiated emission tests, the highest output powers were set for final test.
  (3) For radiated below 1G test, the 802 11b is found to be the worst case and recorded
- (3) 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

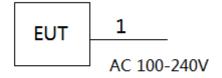
During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final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

Test software version	Radio Tool GUI		
Frequency (MHz)	2412	2437	2462
802.11b	0	0	0
802.11g	0	0	0
802.11n (20MHz)	1	2	0





#### 3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



#### **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	1.5m	AC Cable





# 4. EMC EMISSION TEST

#### 4.1 CONDUCTED EMISSION MEASUREMENT

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

Frequency 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

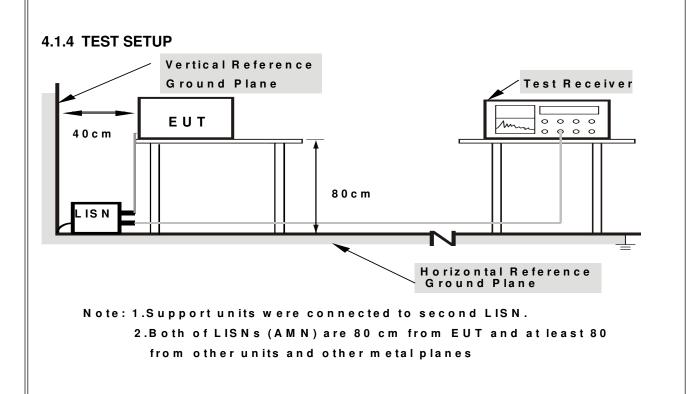
- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.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







#### 4.1.5 EUT OPERATING CONDITIONS

The EUT was placed on the test table and programmed in normal function.

#### 4.1.6 EUT TEST CONDITIONS

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

#### 4.1.7 TEST RESULTS

Please refer to the Attachment A.



## 4.2 RADIATED EMISSION MEASUREMENT

#### **4.2.1 RADIATED EMISSION LIMITS**

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 (dBµV/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

(5)

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

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



Setting
Auto
1000 MHz
10th carrier harmonic
1MHz / 3MHz for Peak,
1MHz / 1/T for Average

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

#### 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.

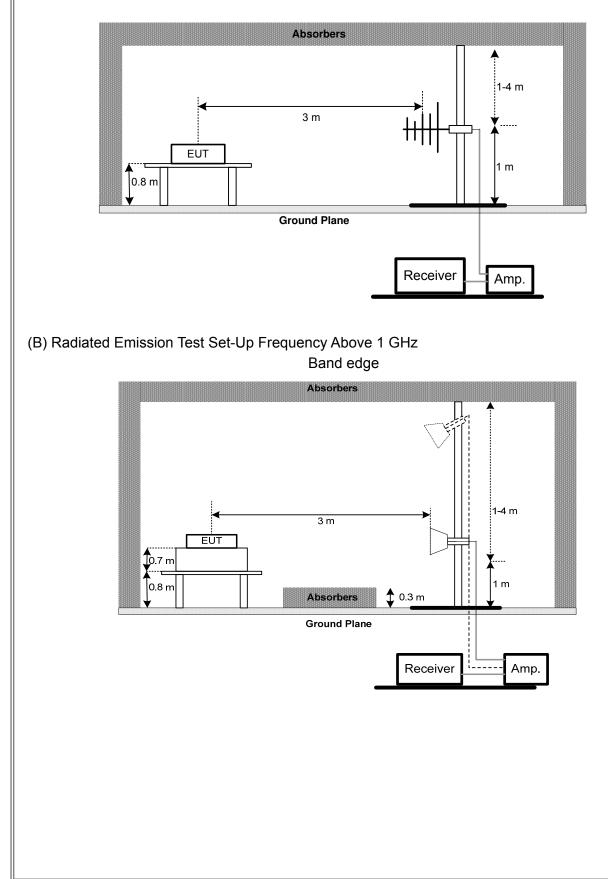
#### 4.2.3 DEVIATION FROM TEST STANDARD

No deviation



# 4.2.4 TEST SETUP

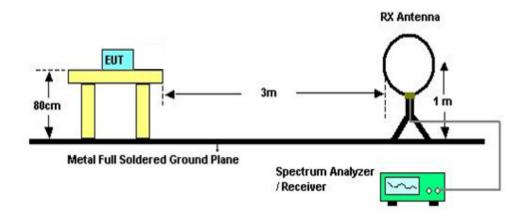
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz







(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

FC	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



#### 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.



# 9. MEASUREMENT INSTRUMENTS LIST

	Conducted Emission Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	LISN	EMCO	3816/2	0052765	Mar. 26, 2018		
2	LISN	R&S	ENV216	101447	Mar. 26, 2018		
3	Test Cable	emci	RG223(9KHz -30MHz)	C_17	Mar. 07, 2018		
4	EMI Test Receiver	R&S	ESCI	100382	Mar. 26, 2018		
5	50Ω Terminator	SHX	TF2-3G-A	08122901	Mar. 26, 2018		
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. 26, 2018	
2	Amplifier	HP	8447D	2944A09673	Oct. 20, 2017	
3	Receiver	AGILENT	N9038A	MY5213003 9	Sep. 04, 2017	
4	Test Cable	emci	LMR-400(30MH z-1GHz)	C-01	Jun. 26, 2017	
5	Control	СТ	SC100	N/A	N/A	
6	Position Control	MF	MF-7802	MF78020841 6	N/A	
7	Antenna	ETS	3115	00075789	Mar. 26, 2018	
8	Amplifier	Agilent	8449B	3008A02274	Feb. 22, 2018	
9	Test Cable	emci	EMC104-SM-S M-10000(1GHz - 26.5GHz)	C-68	Jun. 26, 2017	
10	Controller	СТ	SC100	N/A	N/A	
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Apr. 22, 2018	
12	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 26, 2018	
13	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Sep. 06, 2017	
14	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	





	6dB Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	R&S	FSP 40	100185	Sep. 04, 2017	

	Peak Output Power Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	P-series Power meter	Agilent	N1911A	MY45100473	Sep. 04, 2017		
2	Wireband Power sensor	Agilent	N1921A	MY51100041	Sep. 04, 2017		

	Antenna Conducted Spurious Emission Measurement					
ltem	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	R&S	FSP 40	100185	Sep. 04, 2017	

		Power Spectral Density Measurement				
I	tem	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
	1	Spectrum Analyzer	R&S	FSP 40	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.





# **10. EUT TEST PHOTO**

# **Conducted Measurement Photos**









# **Radiated Measurement Photos**

9KHz to 30MHz







# **Radiated Measurement Photos**

30MHz to 1000MHz



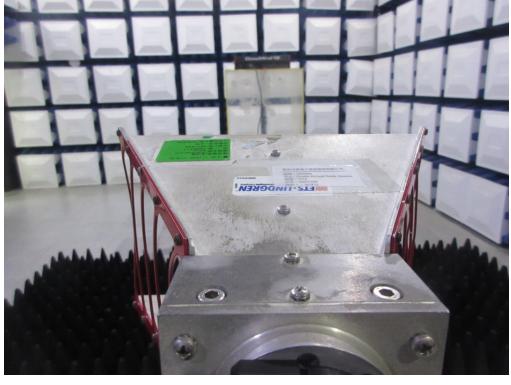




# **Radiated Measurement Photos**

Above 1GHz





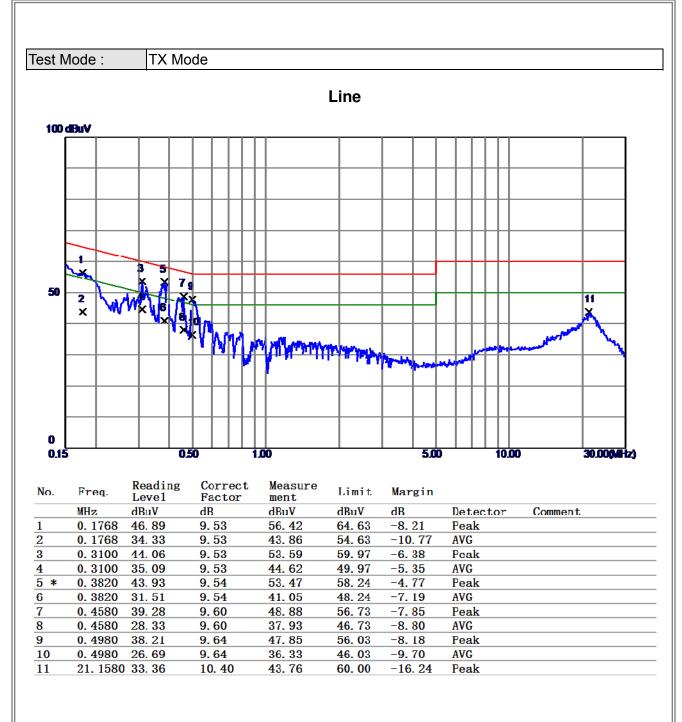


# **ATTACHMENT A - CONDUCTED EMISSION**

Report No.: BTL-FCCP-1-1704C115

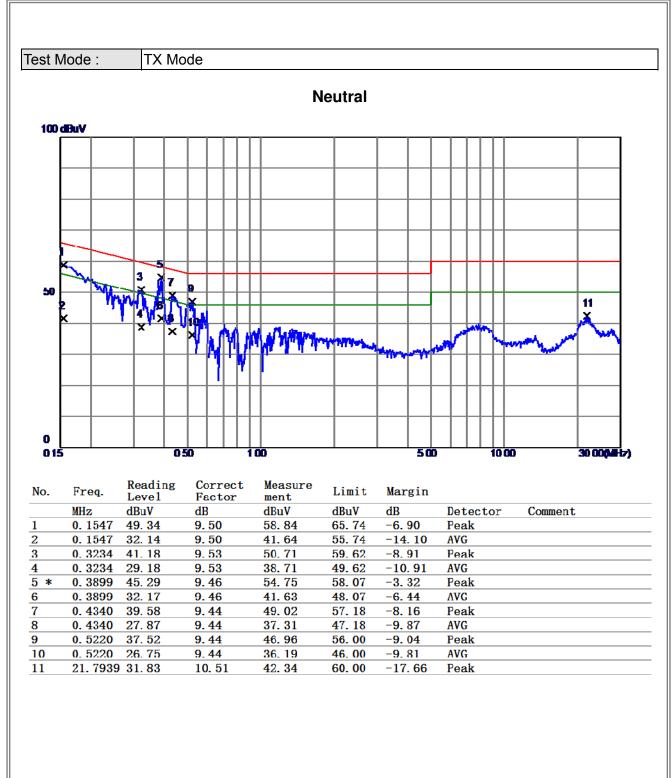
# **J**TL





# **J**TL





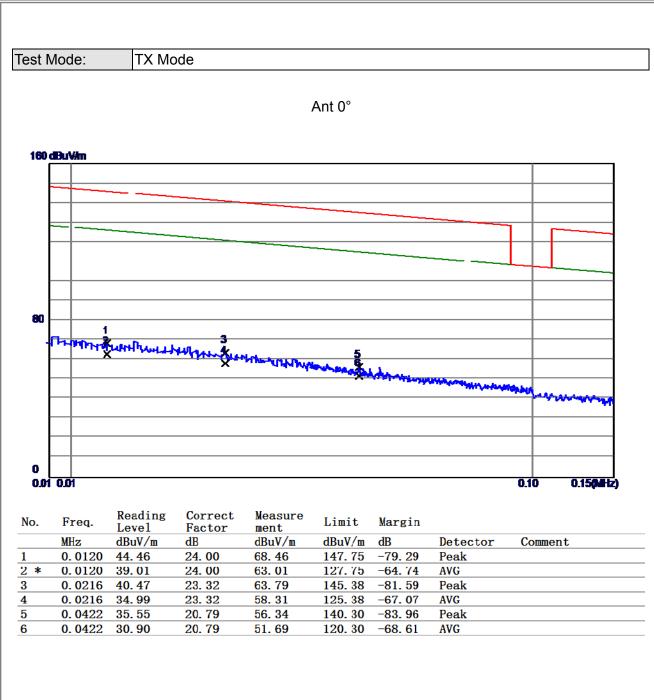




# ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)

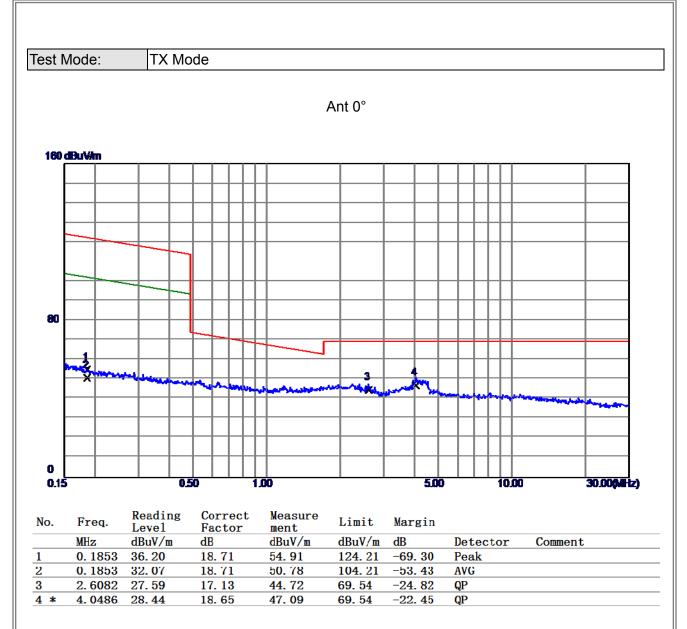
# **J**TL





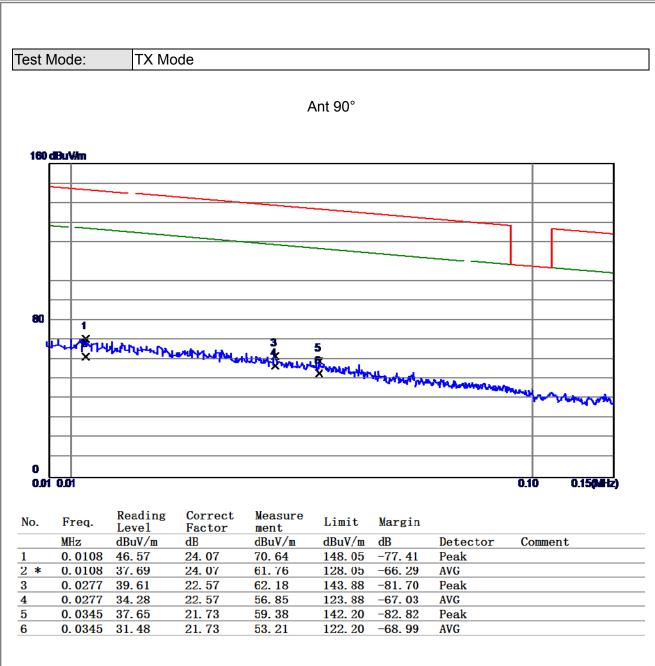
# **3**TL





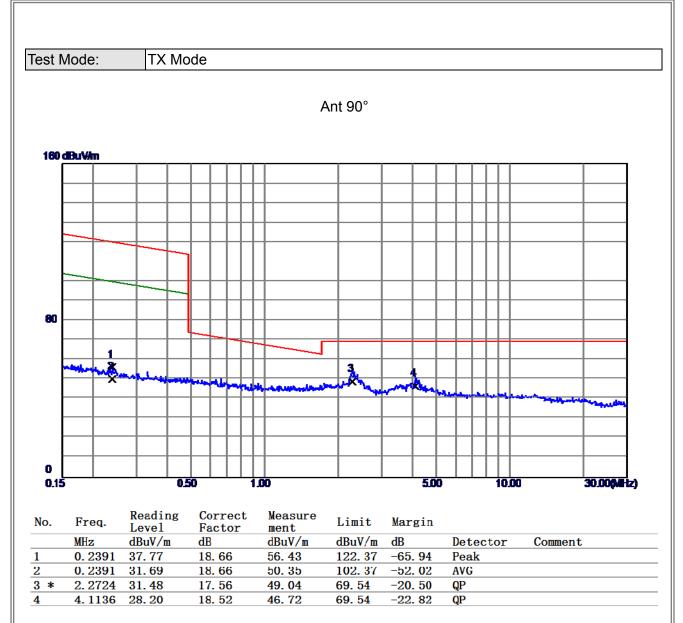
# **J**TL





## **3**TL





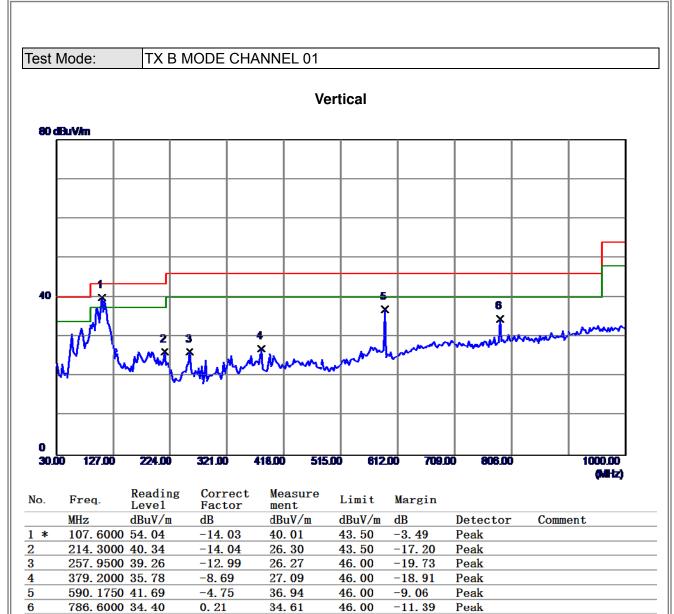




## ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

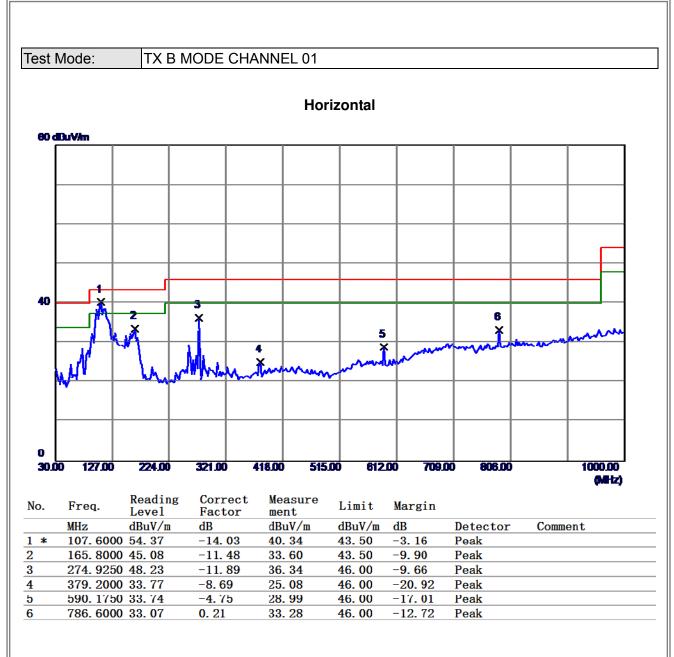














6



Test Mode: TX B MODE CHANNEL 06 Vertical **80 dBuV/m** 1 40 R ¥ ¥ s.A I.Xm ž 0 30.00 127.00 224.00 321.00 418.00 515.00 612.00 709.00 806.00 1000.00 (MHz) Reading Correct Measure Limit No. Freq. Margin Leve1 Factor ment MHz dBuV/m dB dBuV/m dBuV/m dB Detector Comment 107.6000 52.86 1 \* -14.03 38.83 43.50 -4.67 Peak 2 170.6500 36.83 -10.80 26.03 43.50 -17.47Peak 3 323. 4250 34. 89 -10. 33 24.56 46.00 -21.44 Peak 393.7500 34.37 -7.65 26.72 46.00 -19.28 4 Peak 590.1750 41.95 -4.75 37.20 46.00 5 -8.80 Peak

-10. 32

Peak

46.00

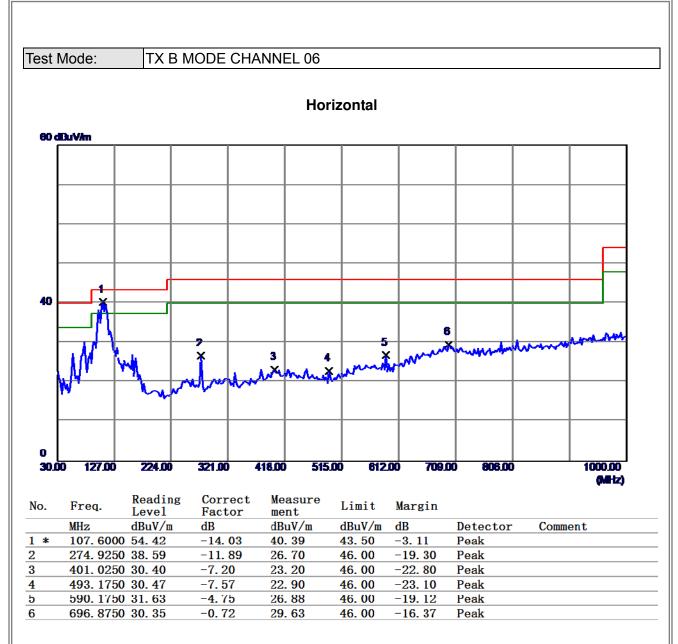
786. 6000 35. 47

0.21

35.68

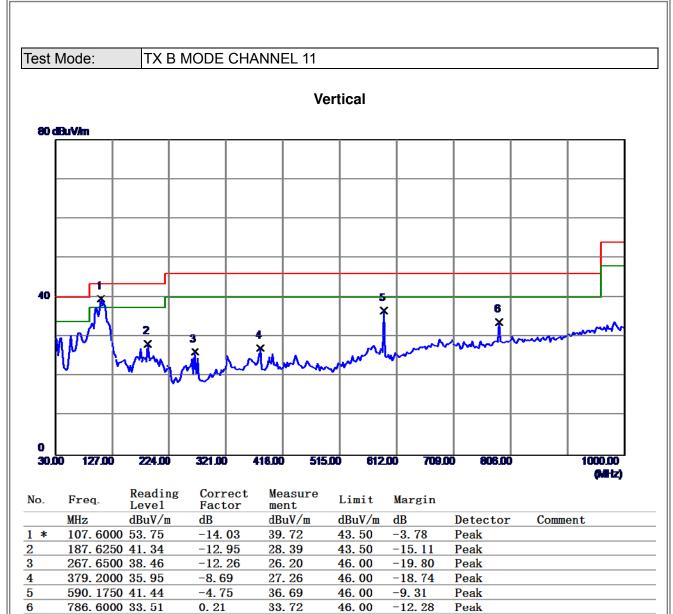






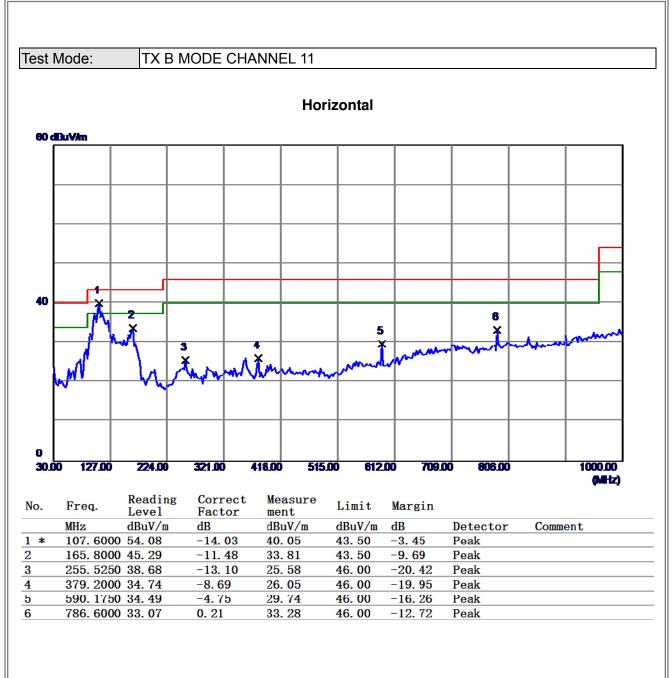










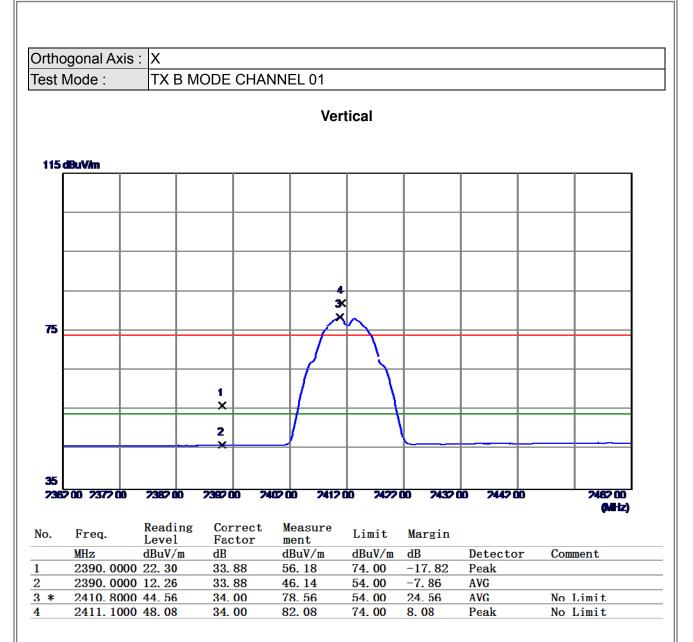




## ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

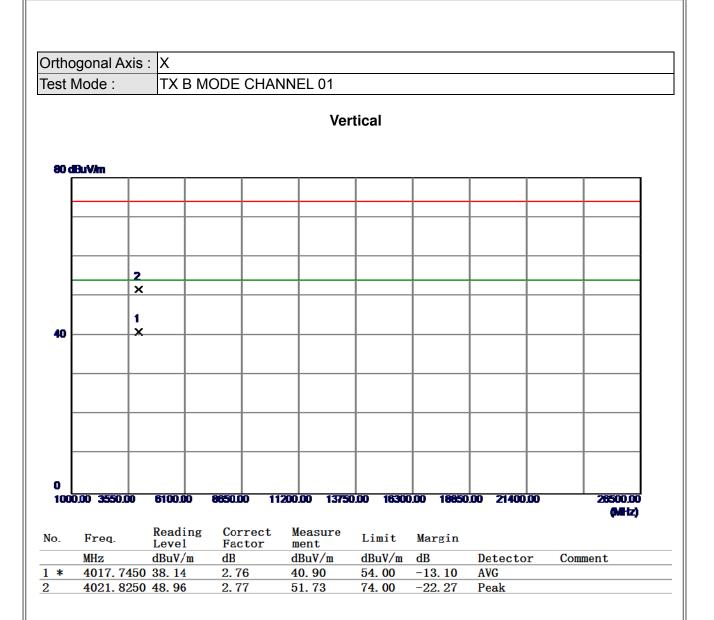






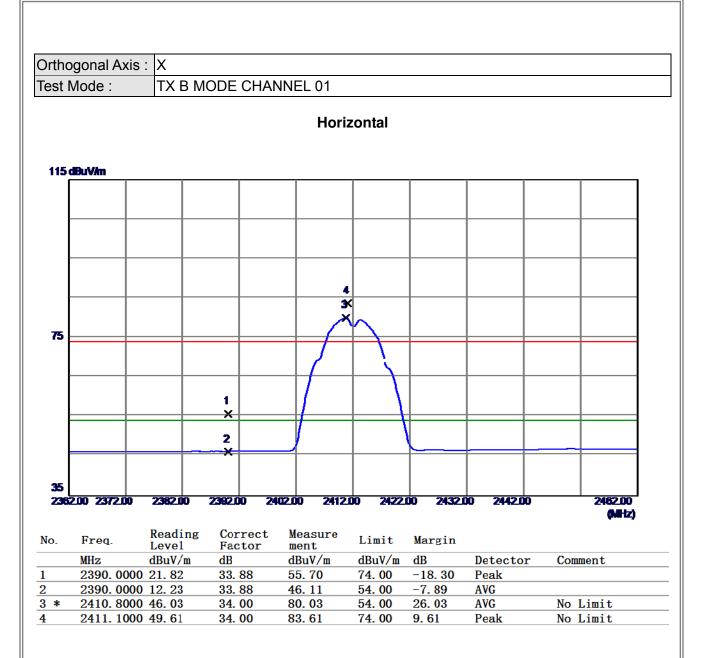






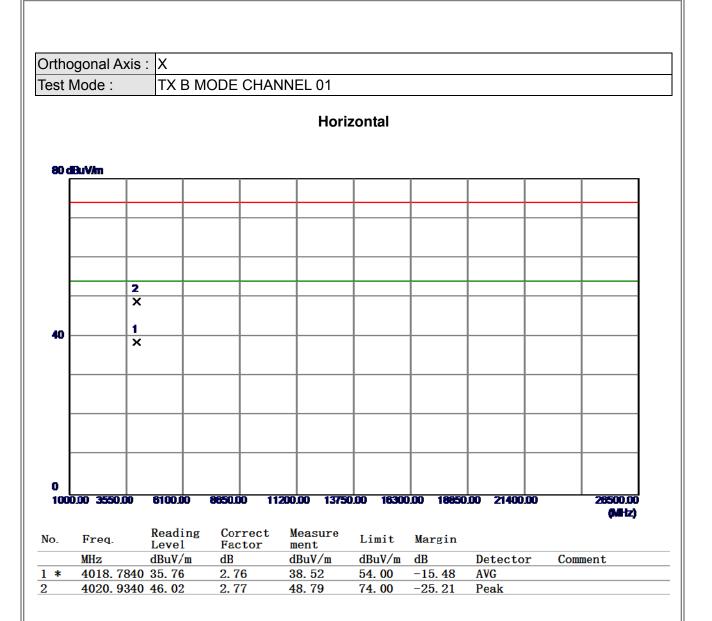






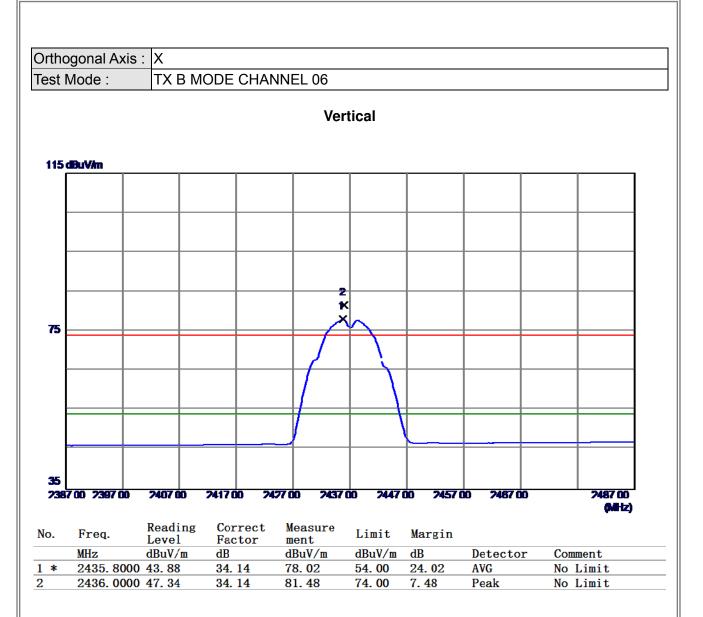






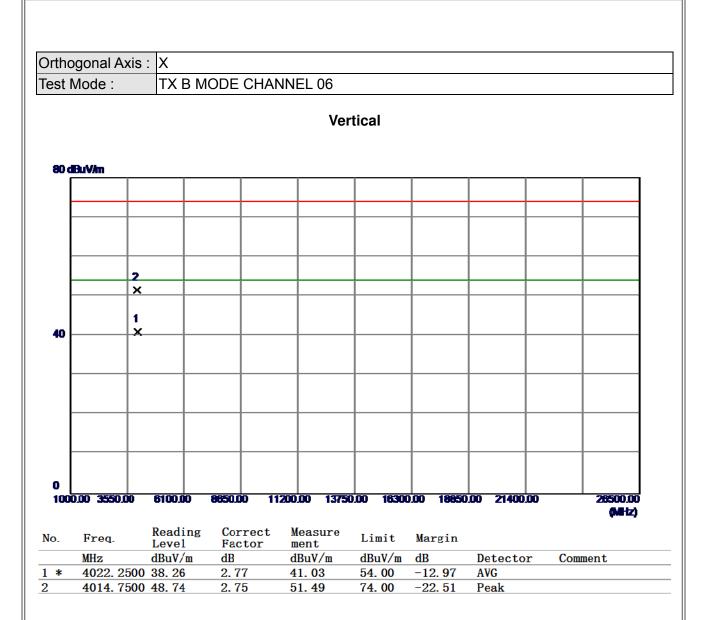






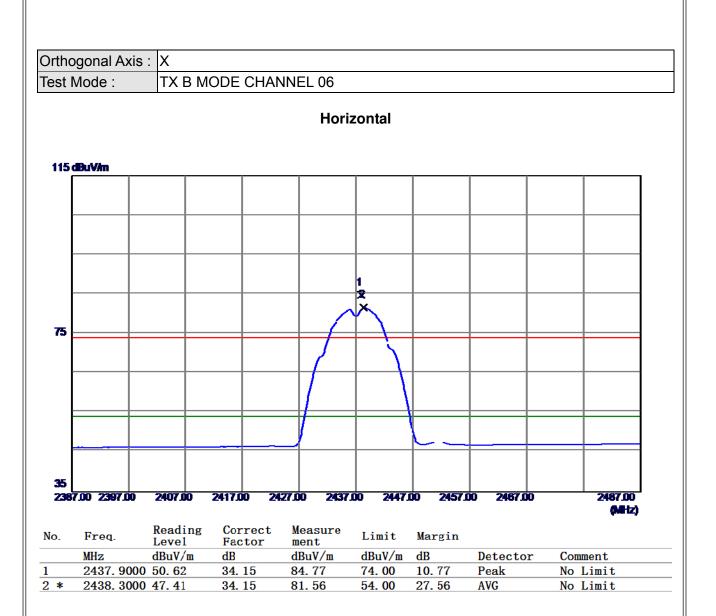






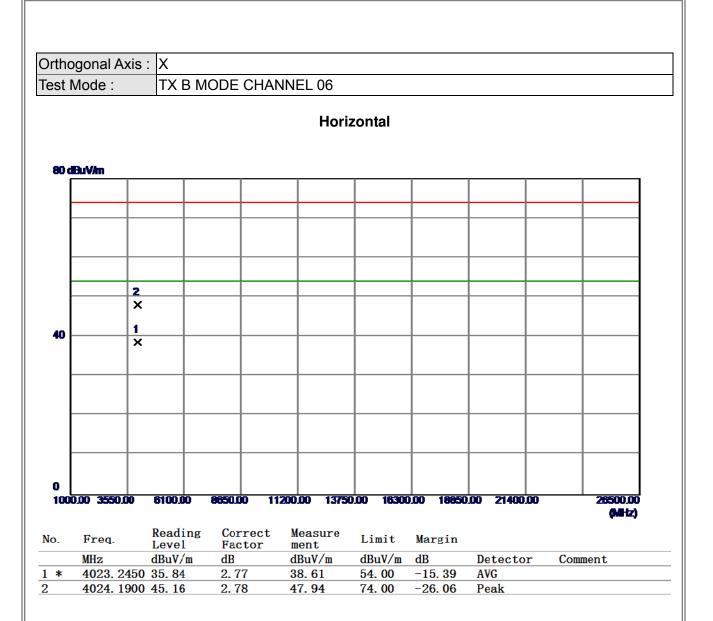






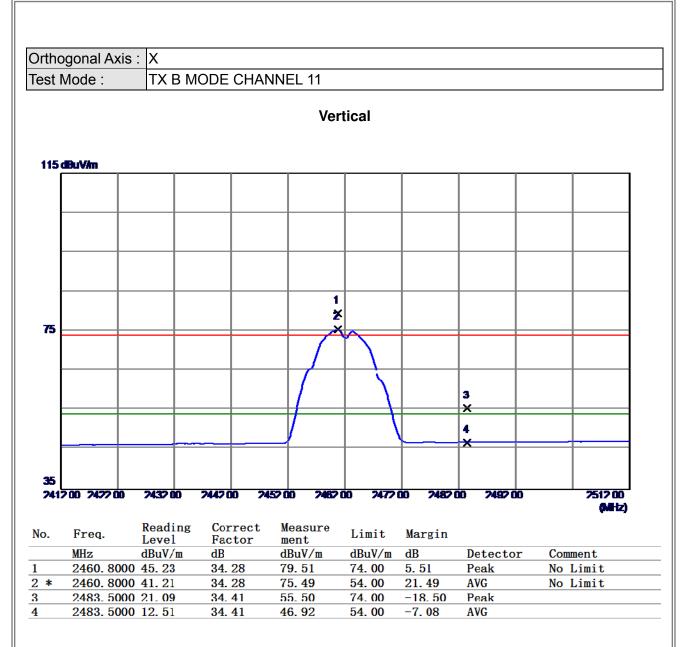






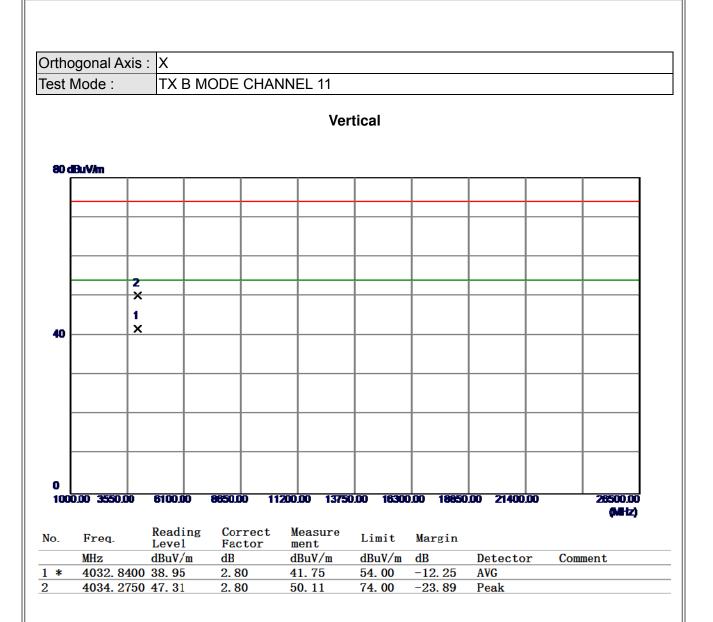






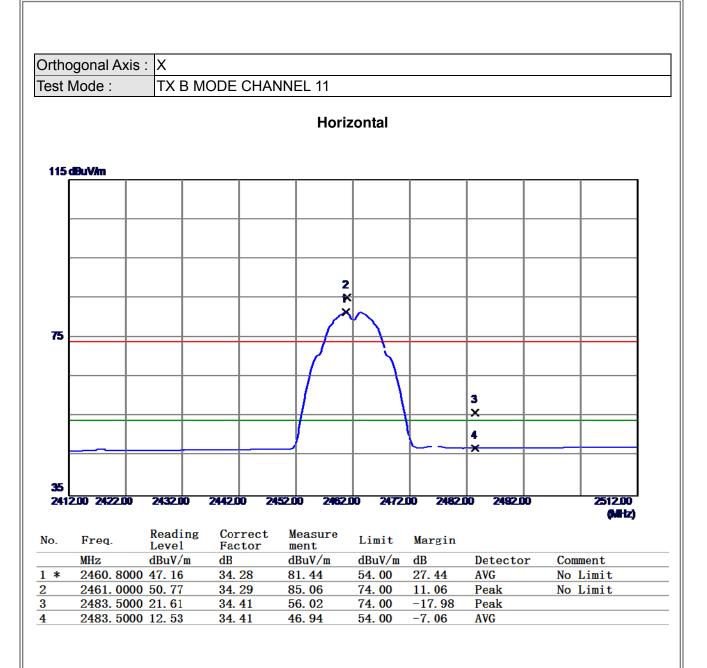






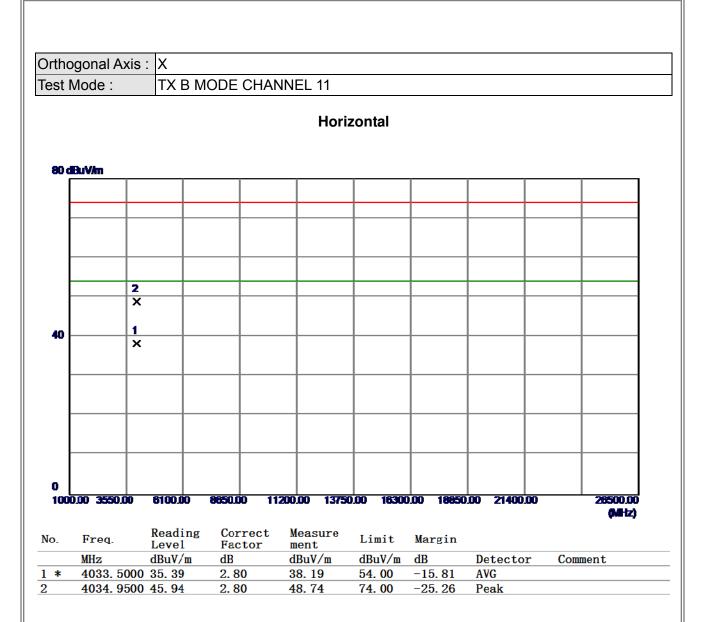






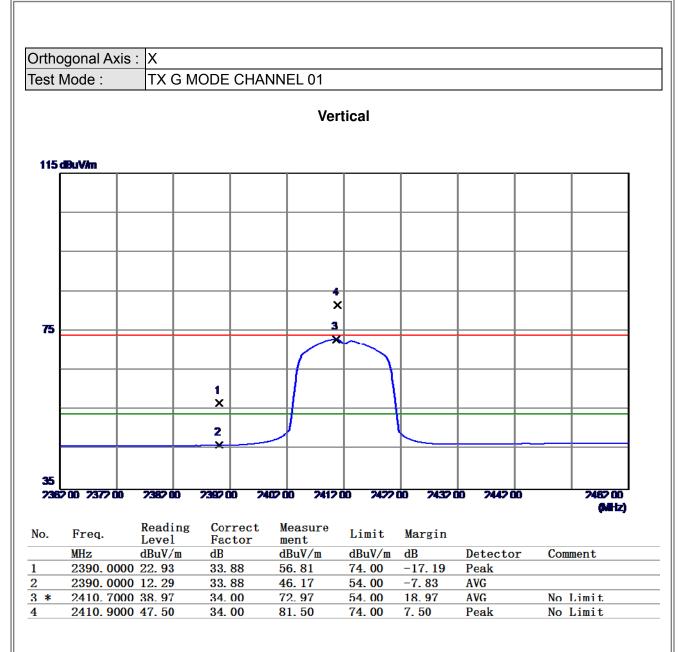






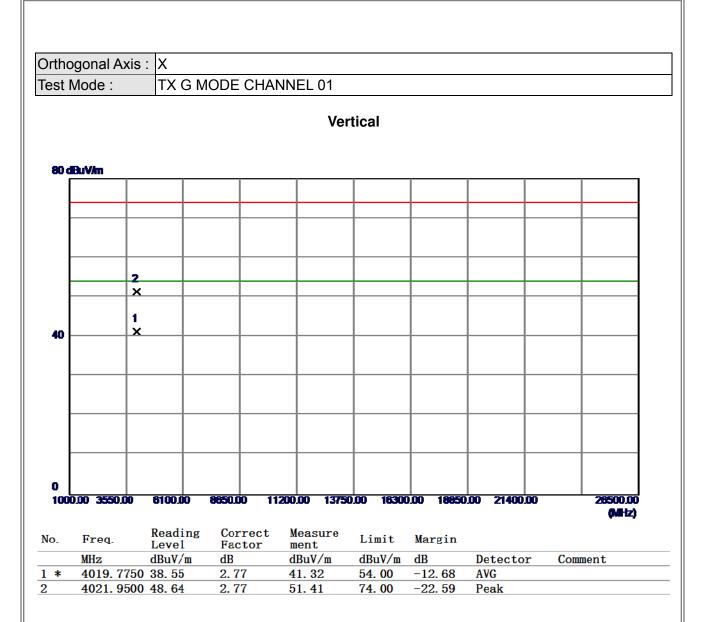






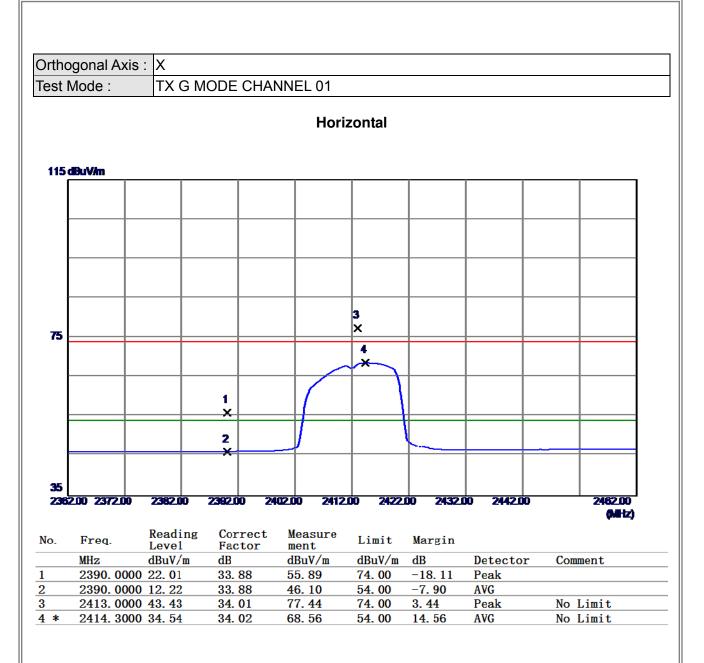






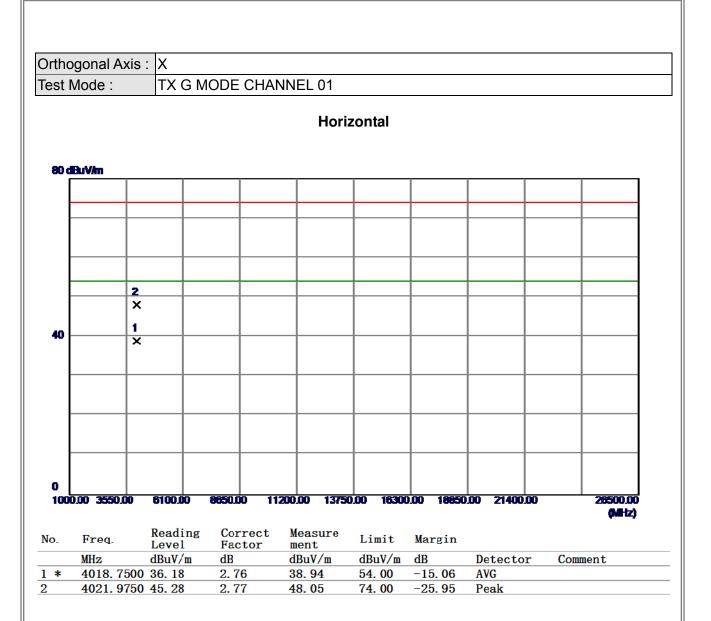






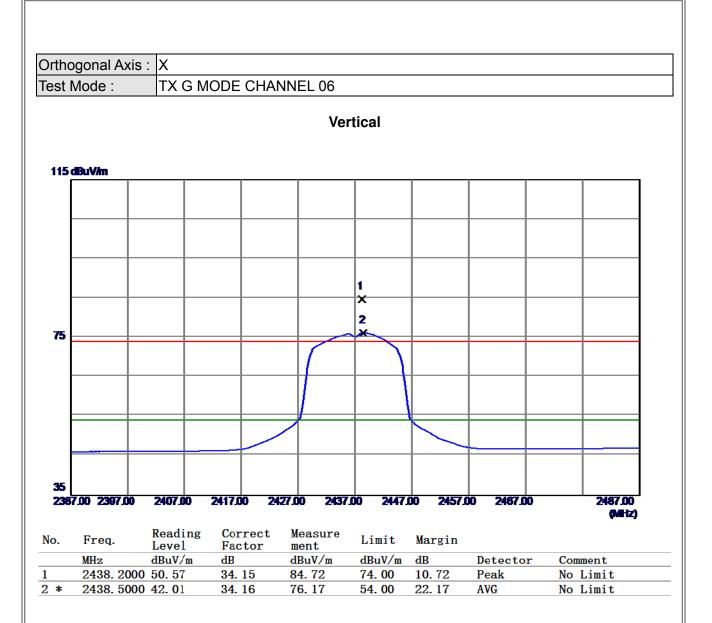






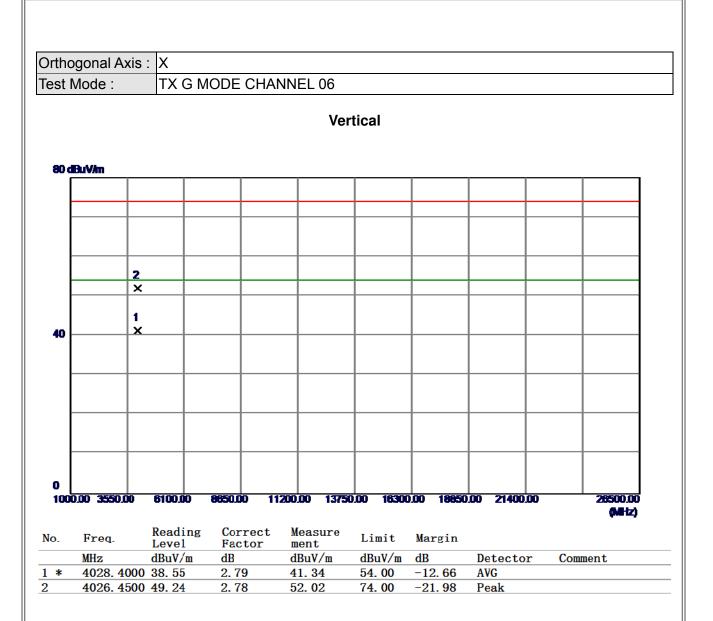






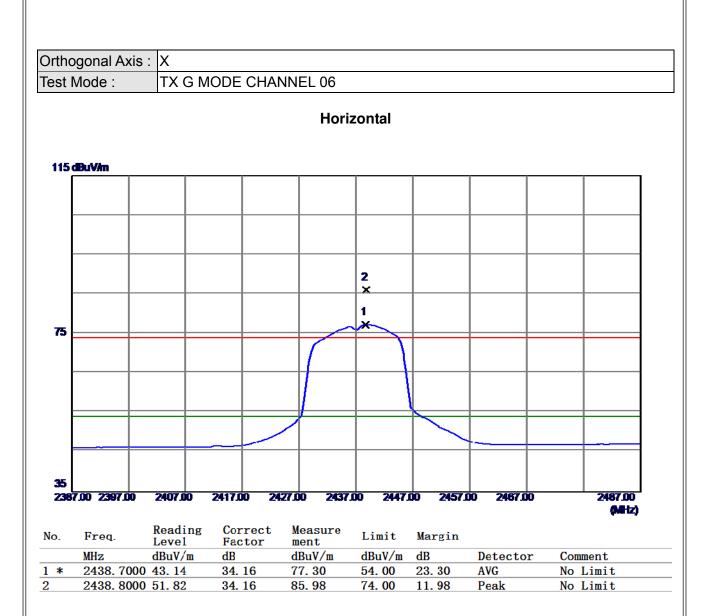






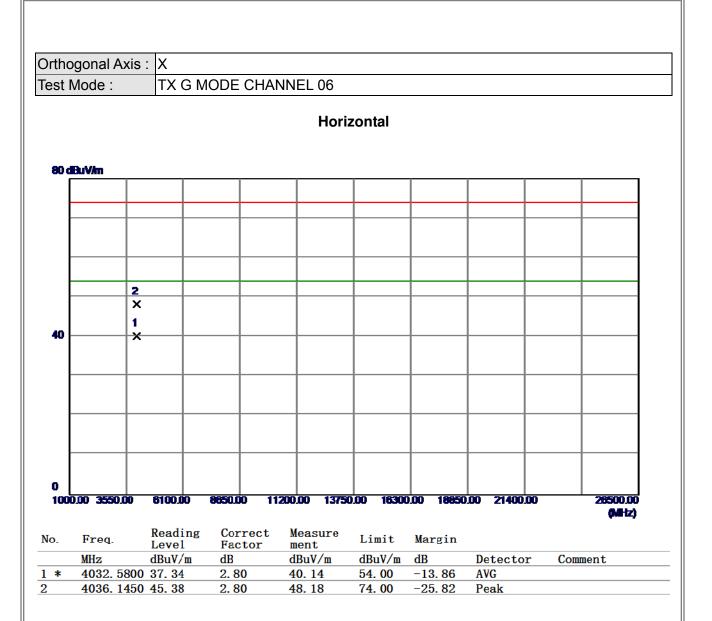






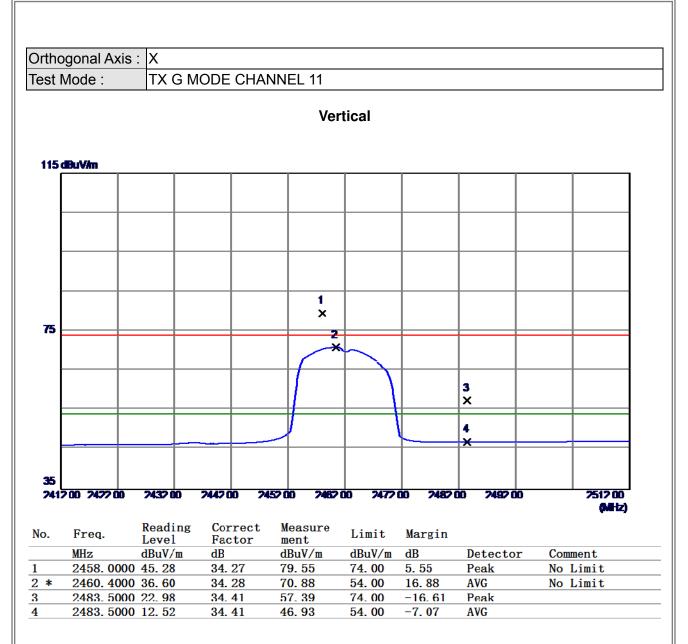






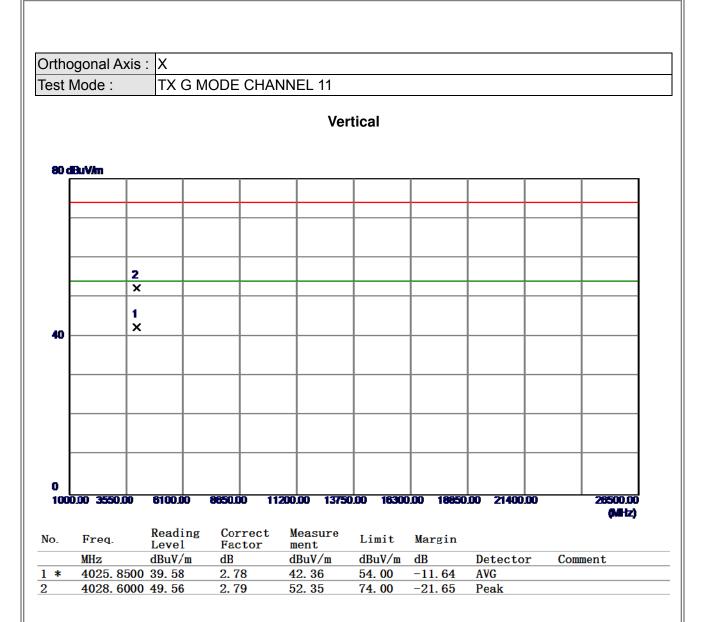






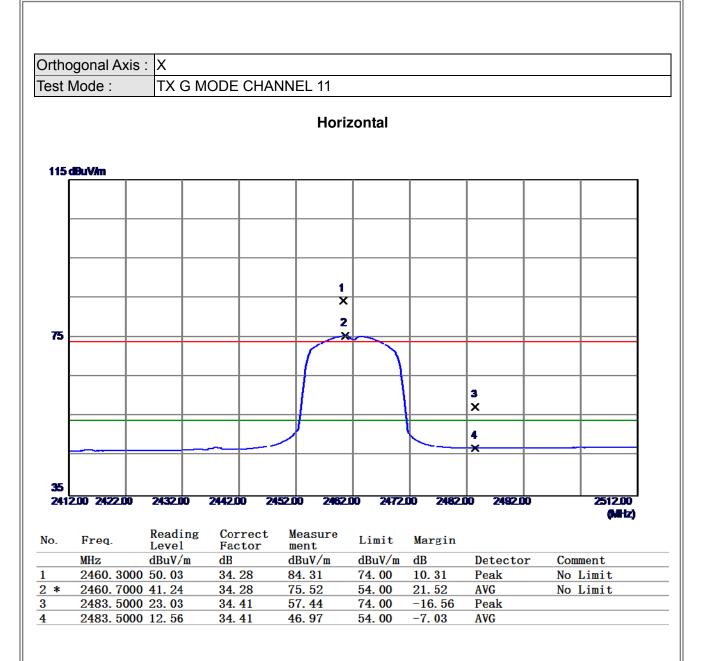






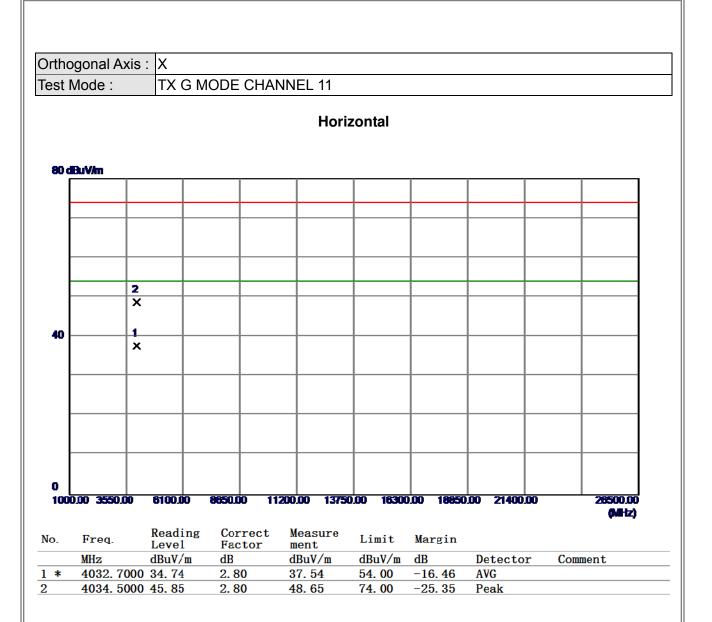






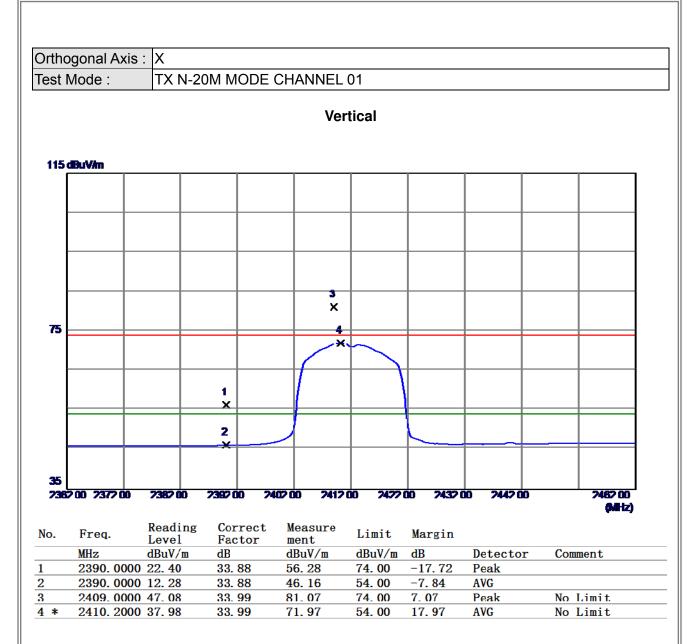






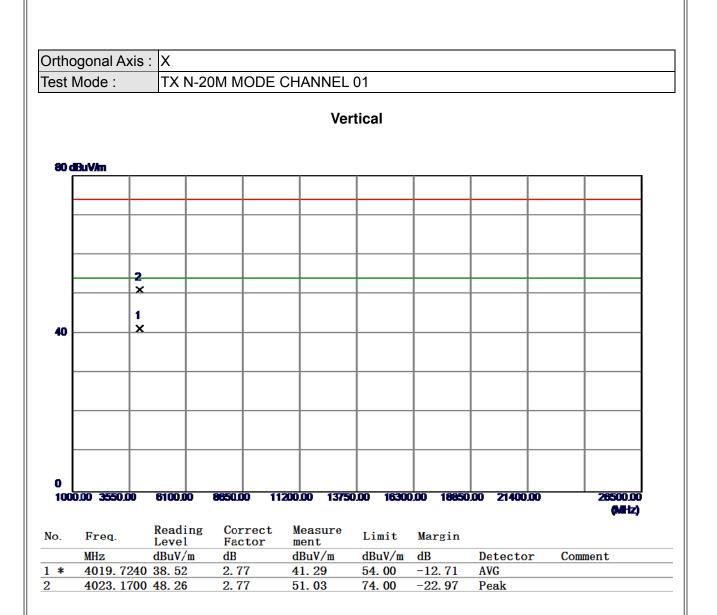






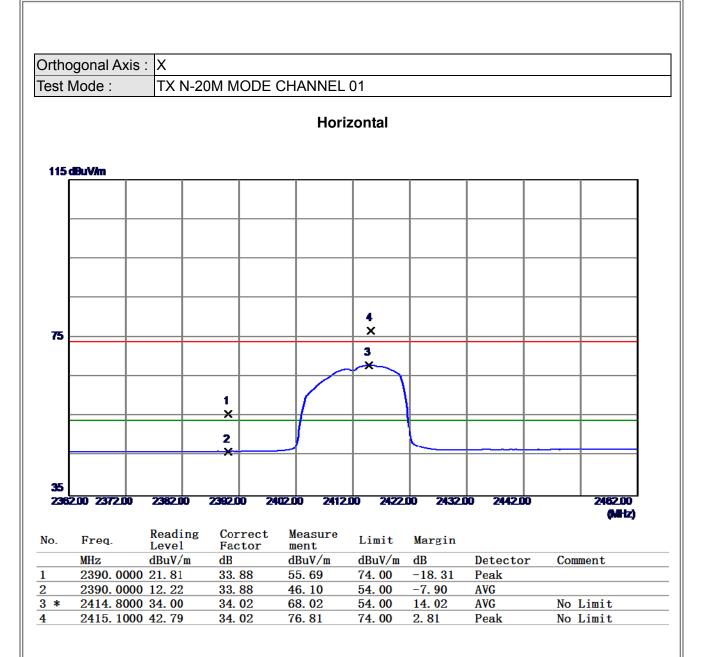






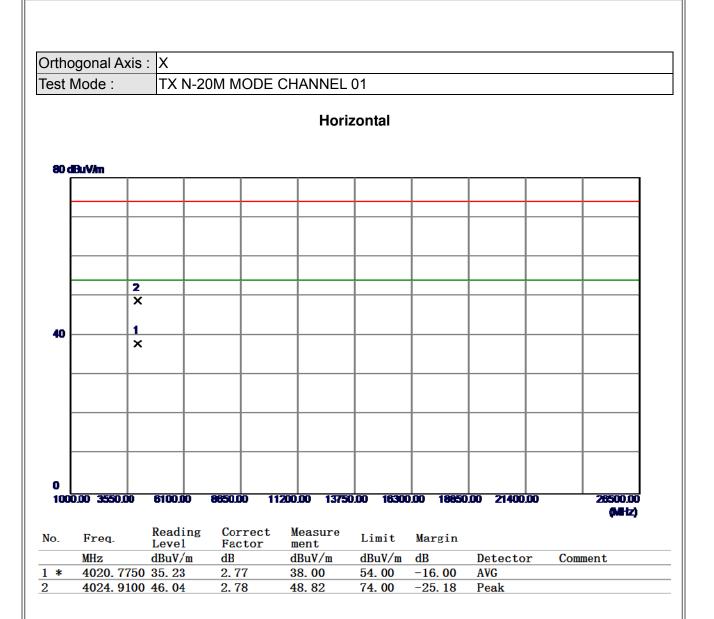






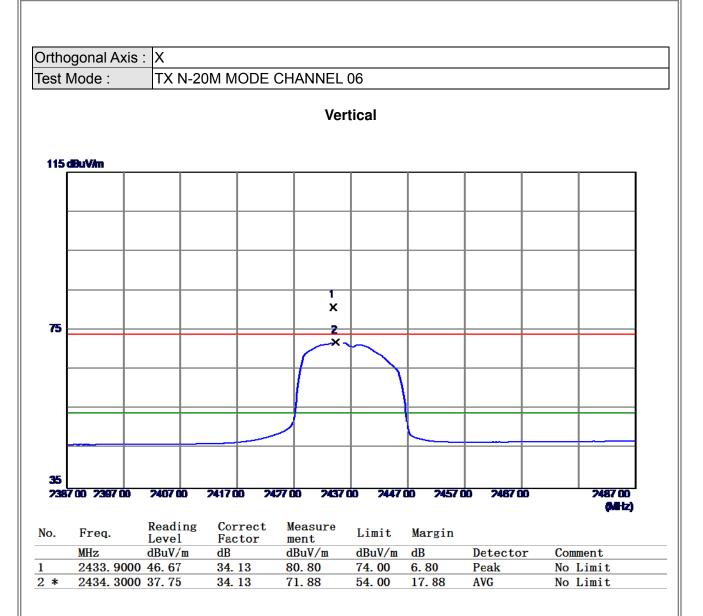






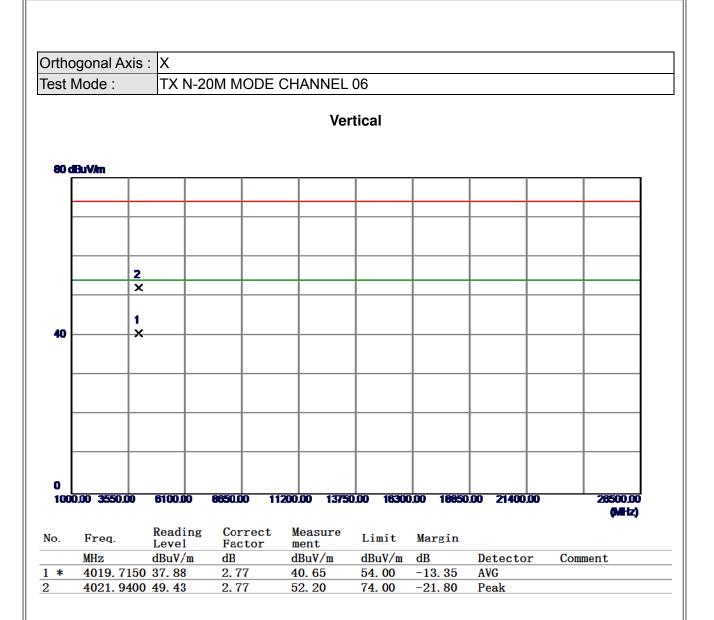






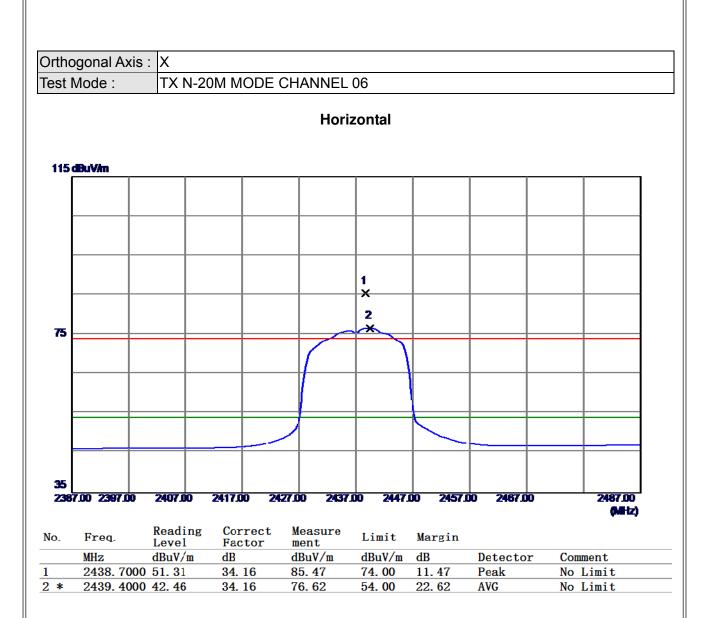






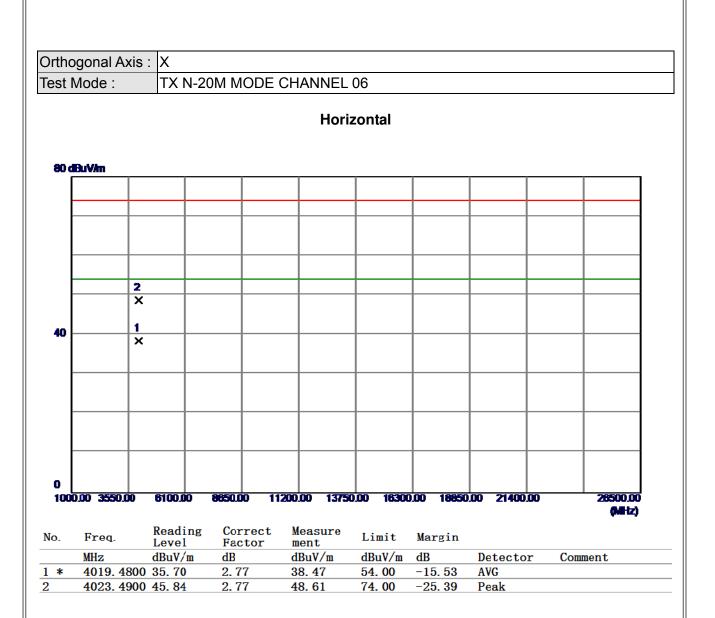






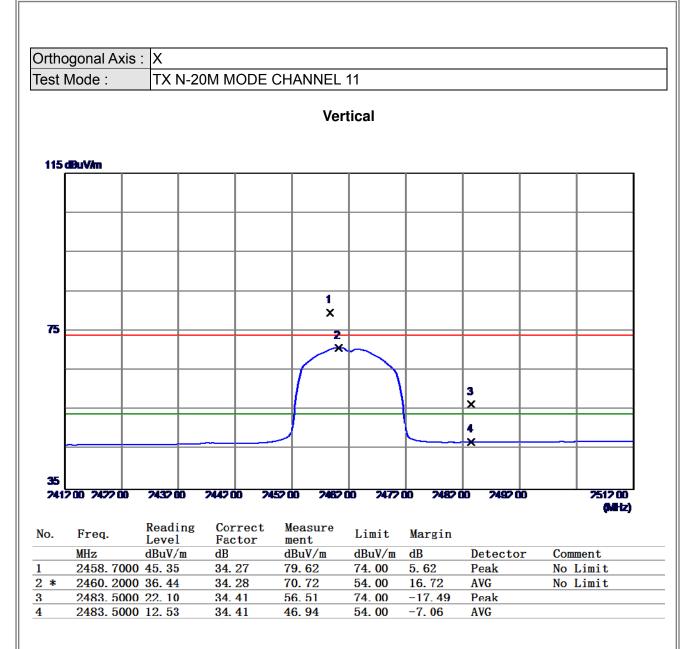






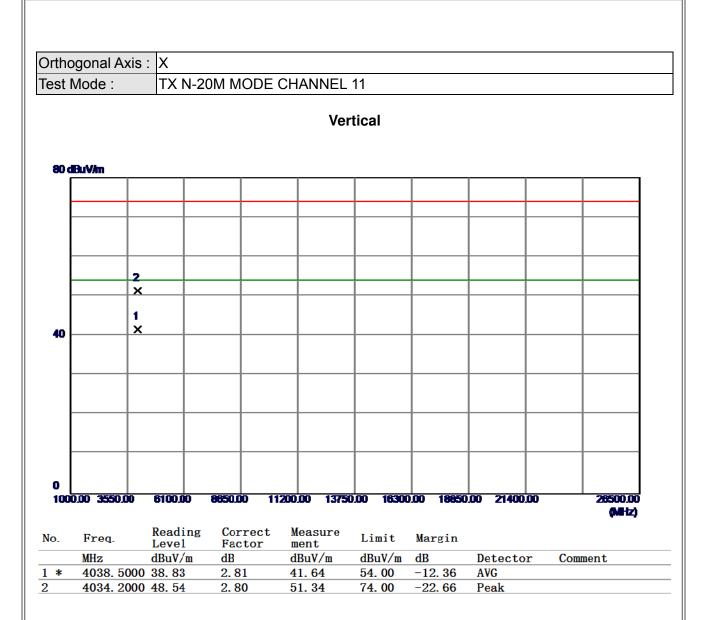






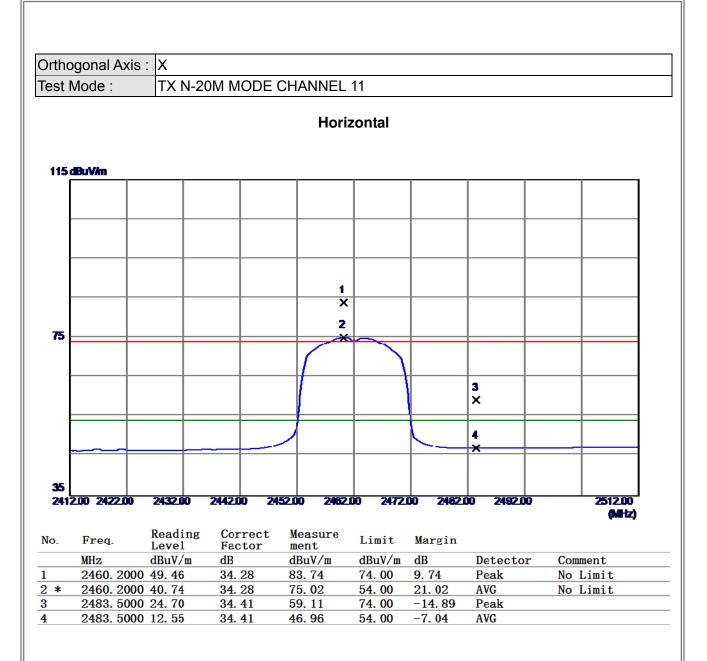






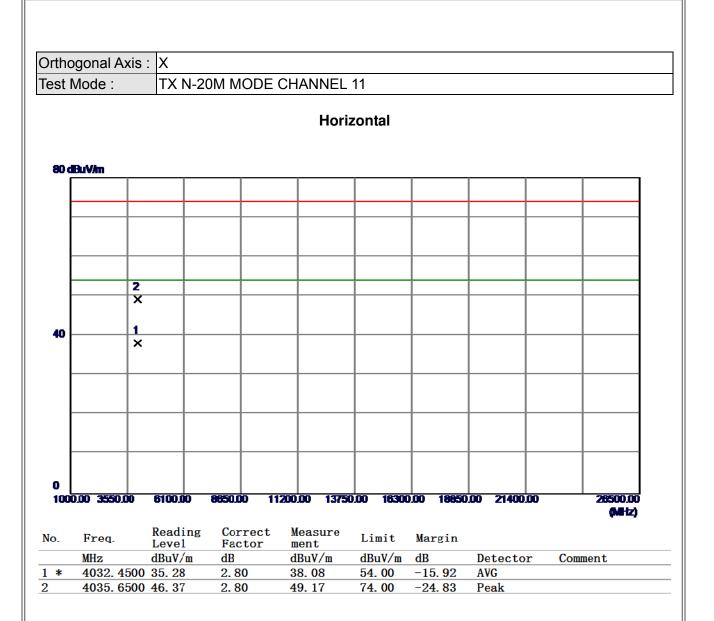














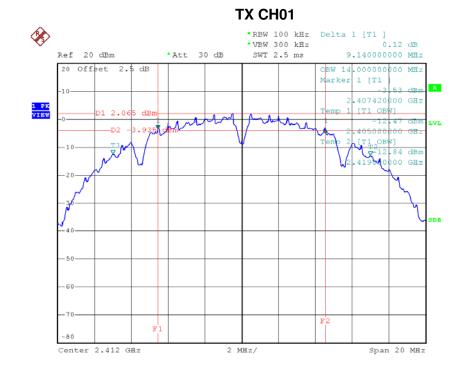
#### **ATTACHMENT E - BANDWIDTH**

Report No.: BTL-FCCP-1-1704C115



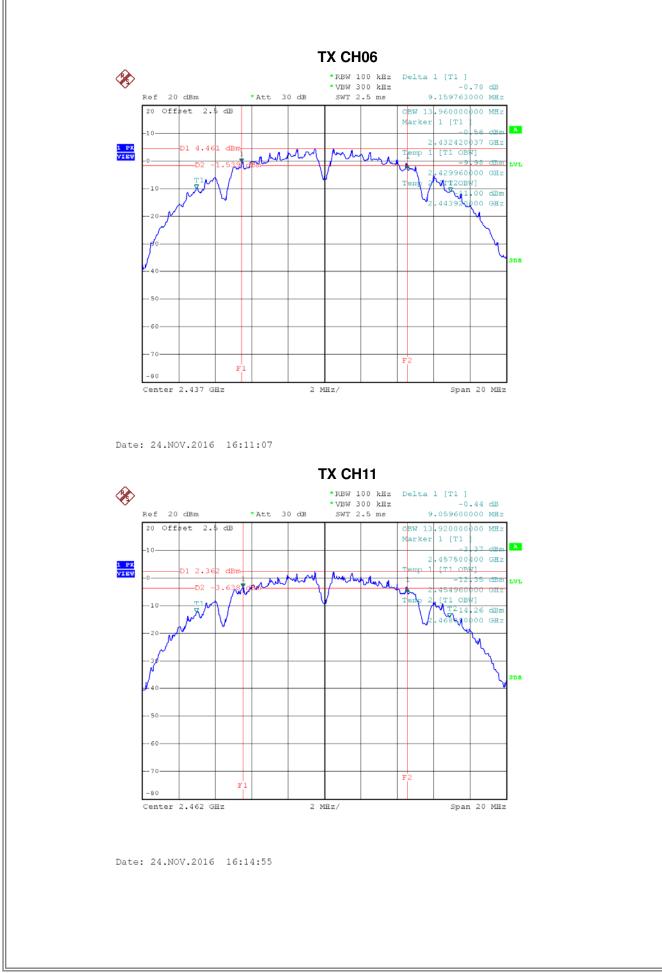
#### Test Mode : TX B MODE CHANNEL 01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	9.14	14	500	Complies
2437	9.16	13.96	500	Complies
2462	9.06	13.92	500	Complies



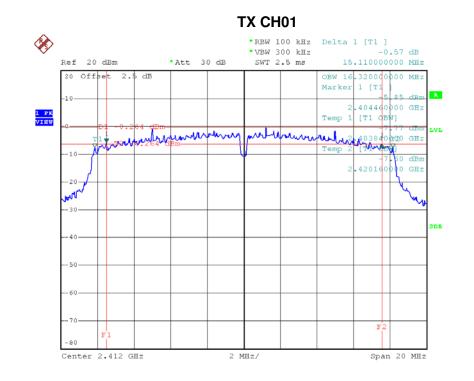
Date: 24.NOV.2016 16:08:29







	Test Mode: TX G MODE CHANNEL 01/06/11					
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result		
2412	15.11	16.32	500	Complies		
2437	13.8	16.36	500	Complies		
2462	15.12	16.28	500	Complies		

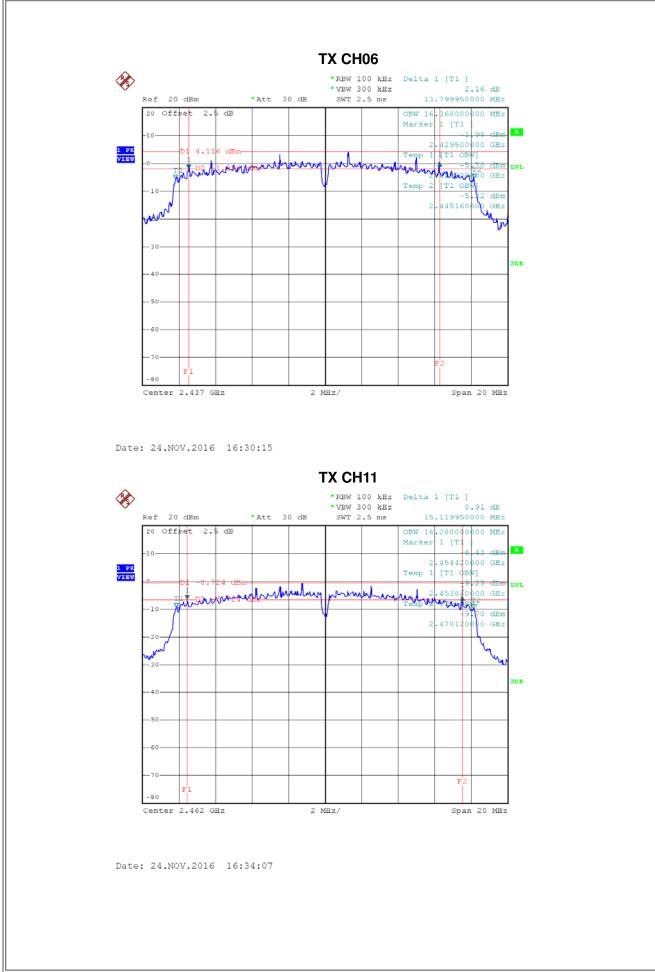


Date: 24.NOV.2016 16:17:41

#### Report No.: BTL-FCCP-1-1704C115

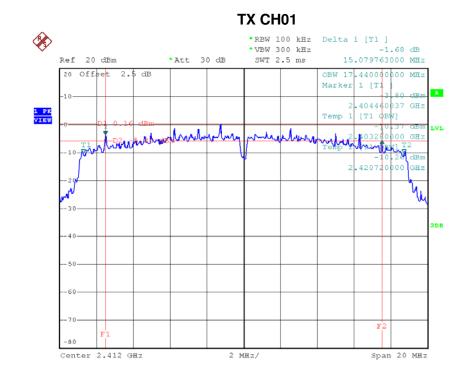
## **J**TL





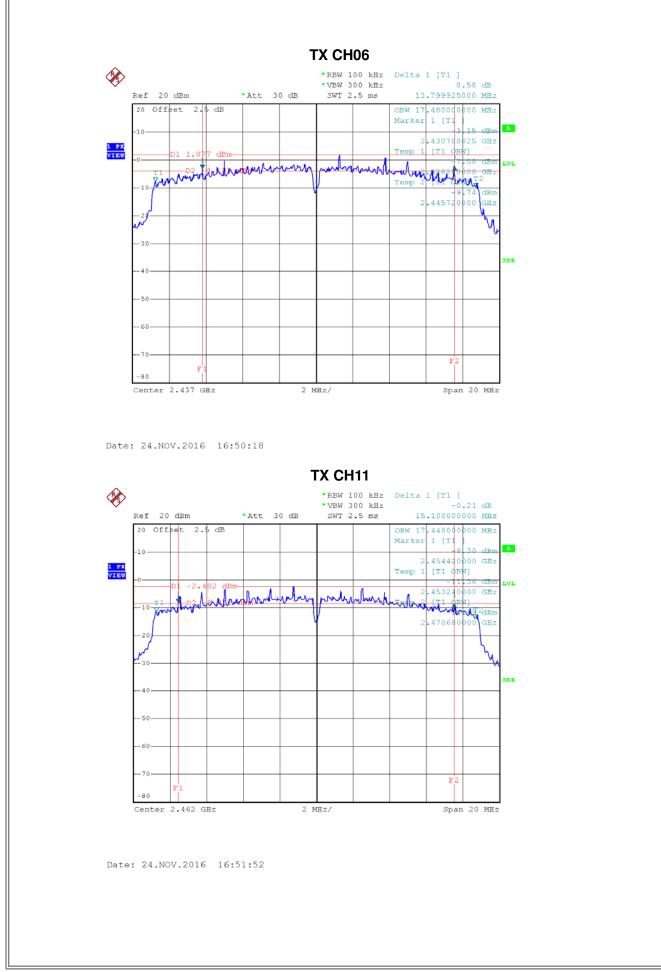


Test Mode : TX N-20M MODE CHANNEL 01/06/11					
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result	
2412	15.08	17.44	500	Complies	
2437	13.8	17.48	500	Complies	
2462	15.1	17.44	500	Complies	



Date: 24.NOV.2016 16:36:05









## ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER



Test Mode :TX B MODE CHANNEL 01/06/11					
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result
2412	15.35	0.03	30.00	1.00	Complies
2437	15.93	0.04	30.00	1.00	Complies
2462	14.66	0.03	30.00	1.00	Complies

Test Mode :TX G MODE CHANNEL 01/06/11					
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result
2412	19.27	0.08	30.00	1.00	Complies
2437	19.33	0.09	30.00	1.00	Complies
2462	18.14	0.07	30.00	1.00	Complies

Test Mode :TX N-20M MODE CHANNEL 01/06/11					
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result
2412	19.17	0.08	30.00	1.00	Complies
2437	18.83	0.08	30.00	1.00	Complies
2462	18.12	0.06	30.00	1.00	Complies

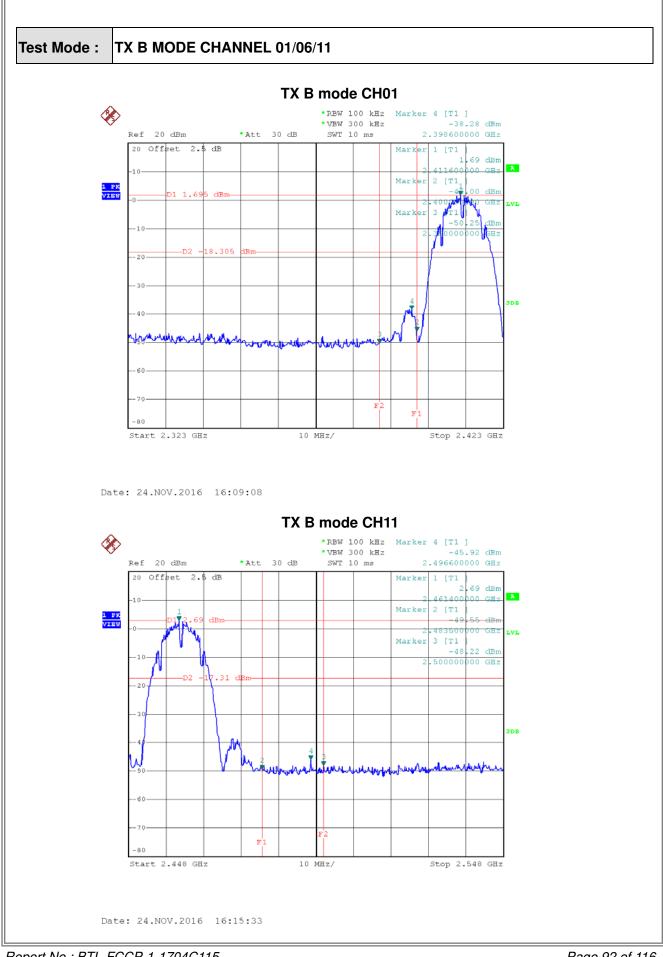




#### ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

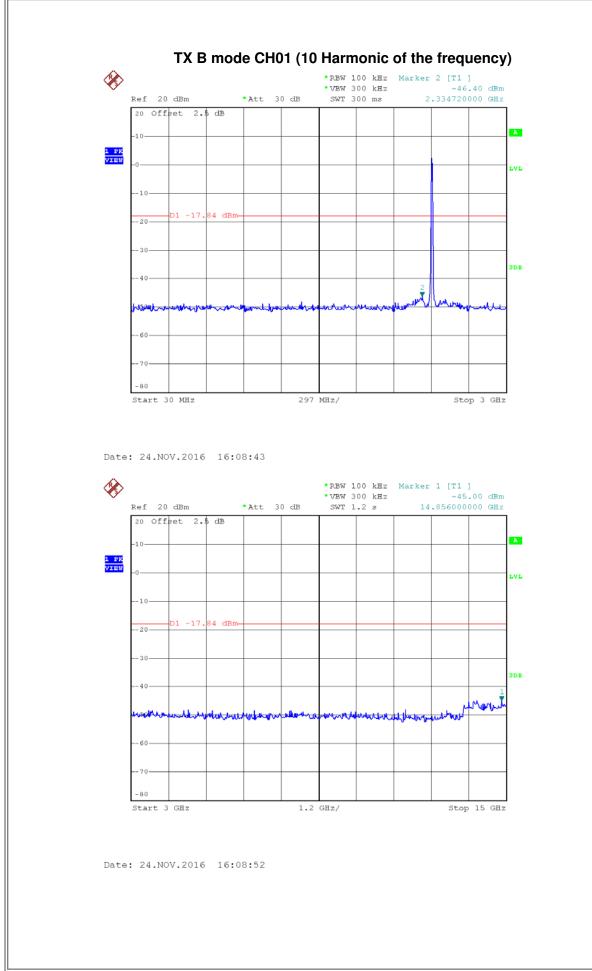




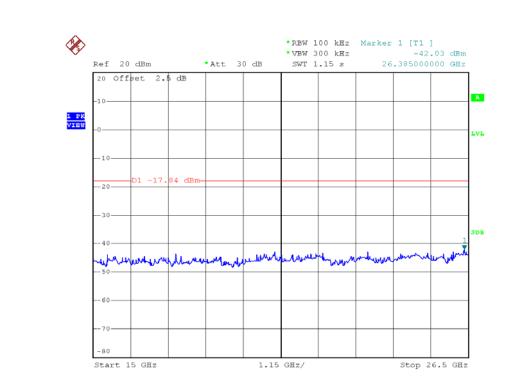


# 3ĨL

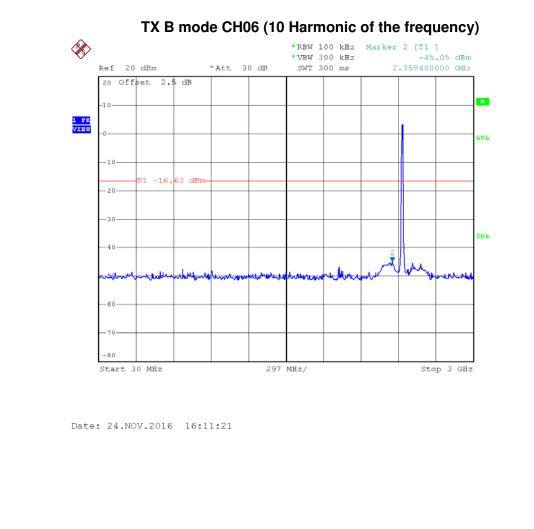




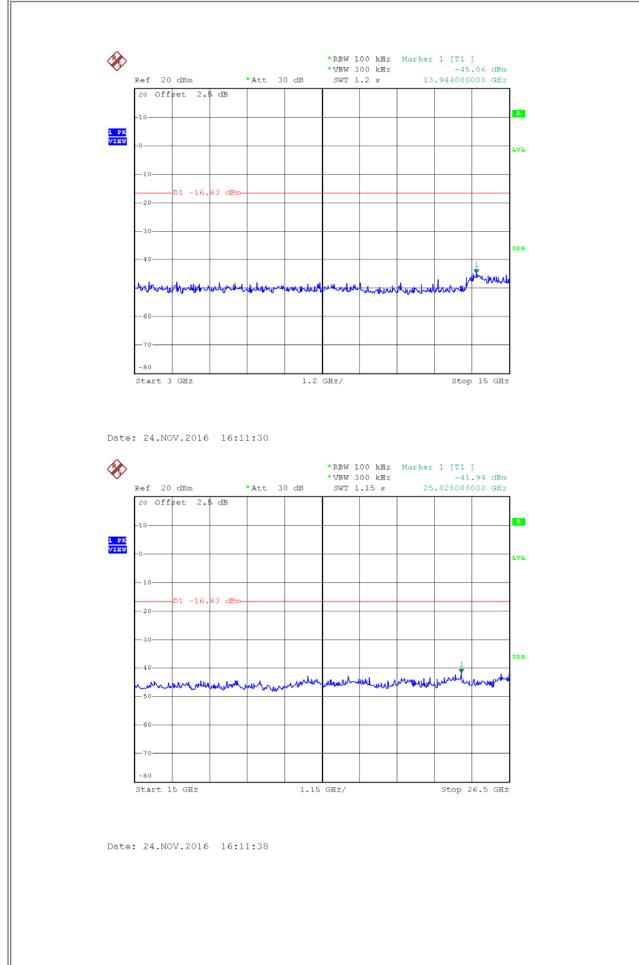




Date: 24.NOV.2016 16:09:00

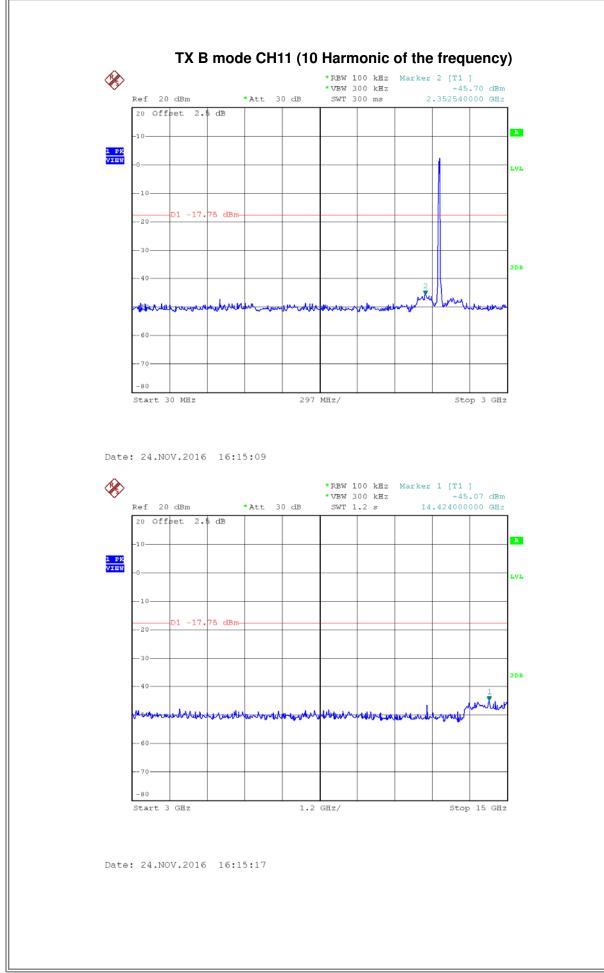






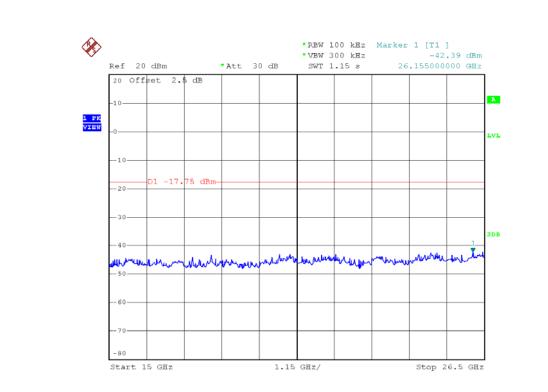
# <u>3TL</u>





## **3TL**

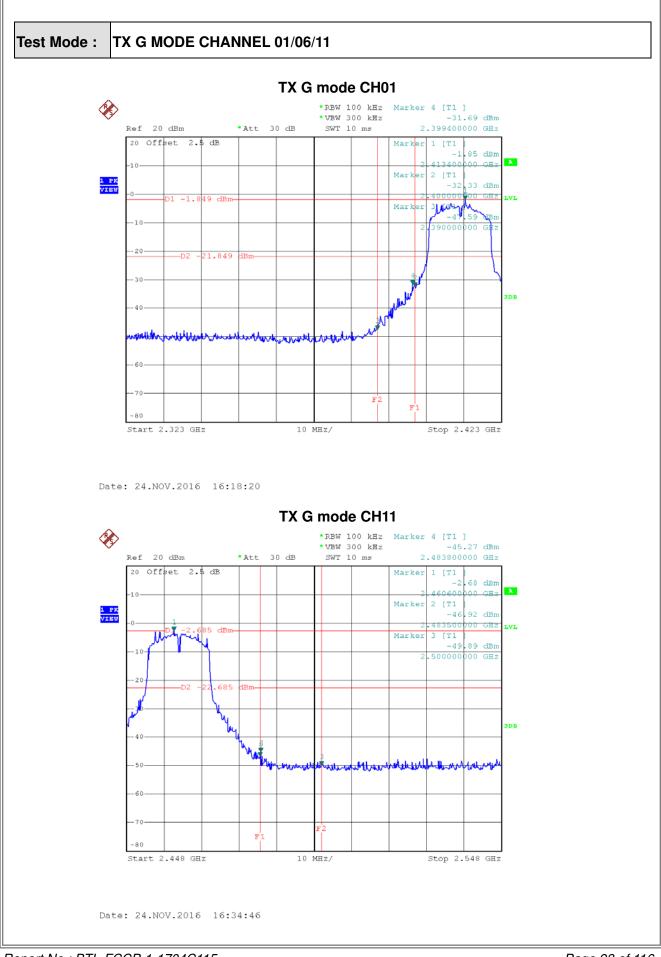




Date: 24.NOV.2016 16:15:26

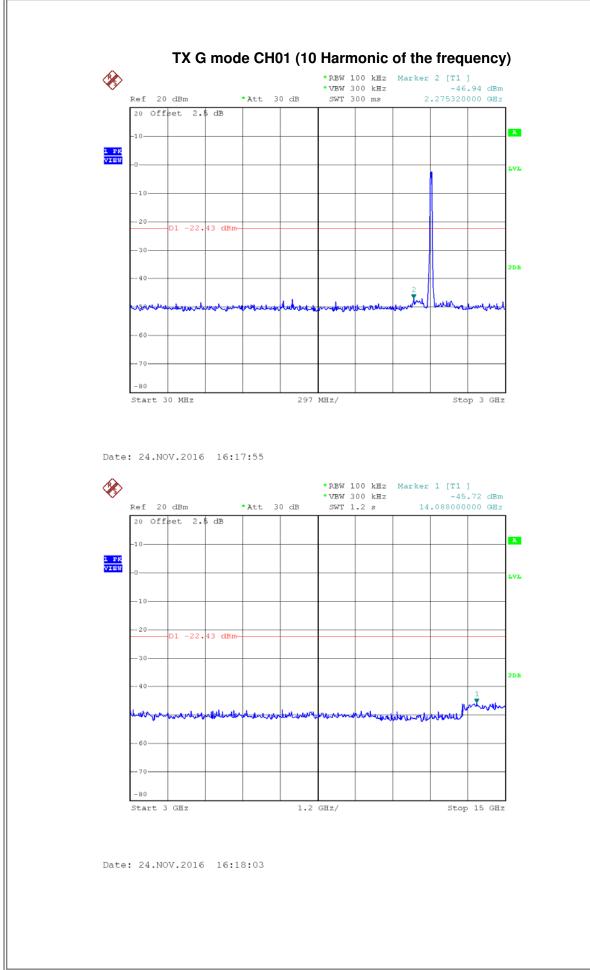




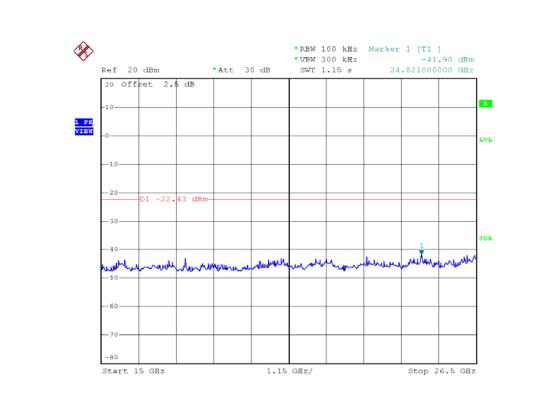


# 3ĨL

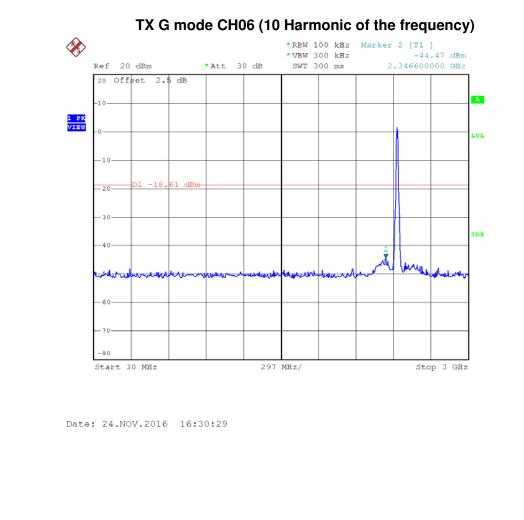




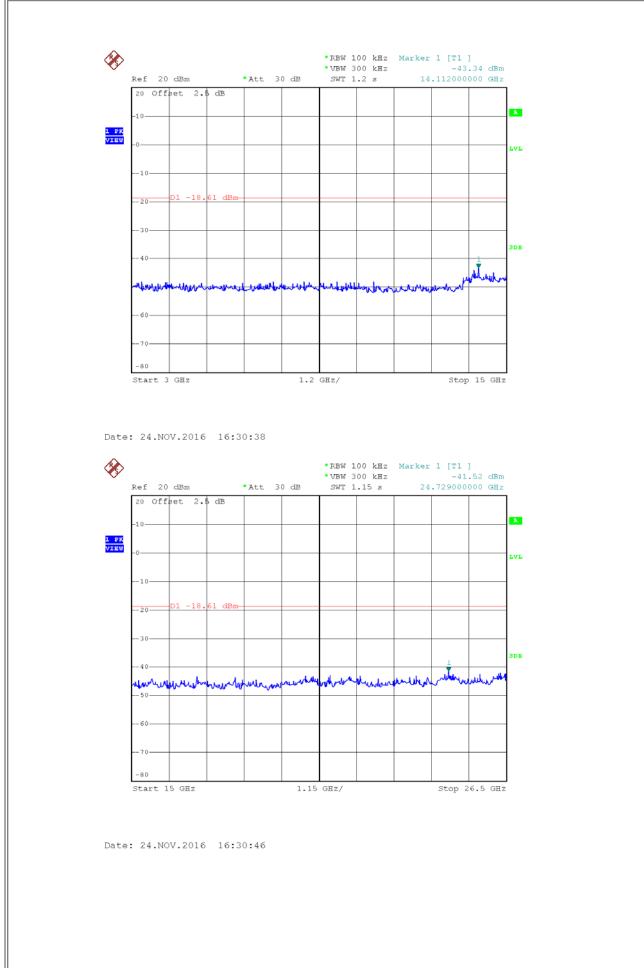




Date: 24.NOV.2016 16:18:12

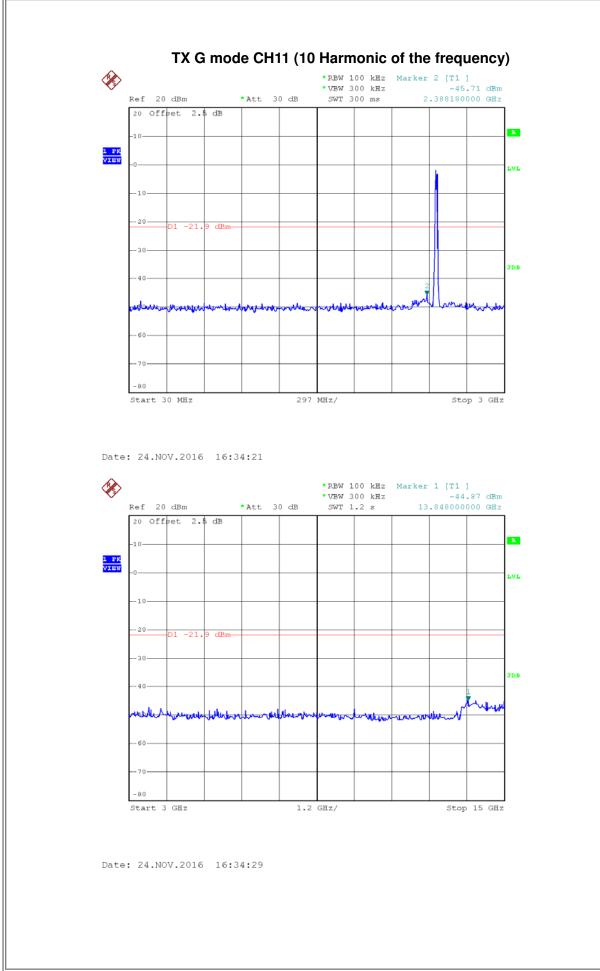






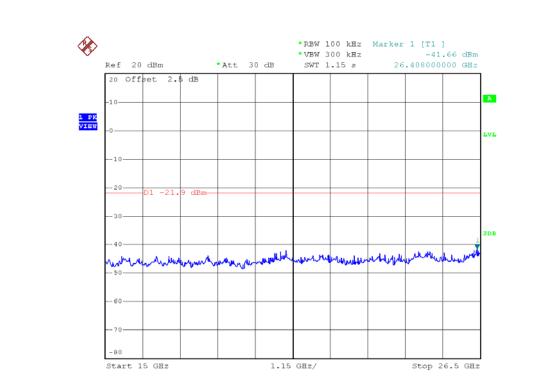
# **3TL**





## **3TL**

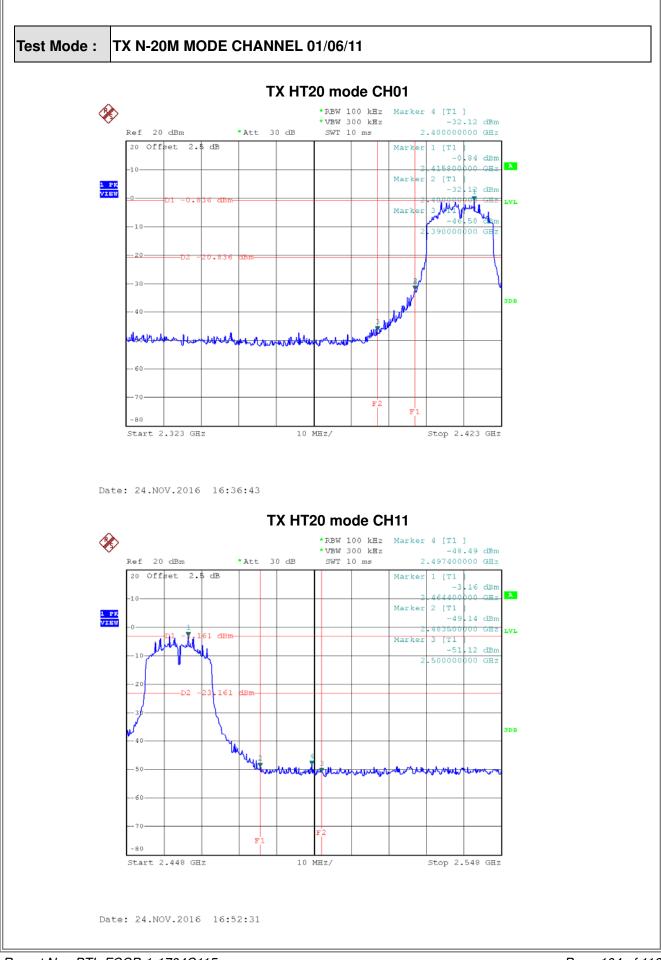




Date: 24.NOV.2016 16:34:38

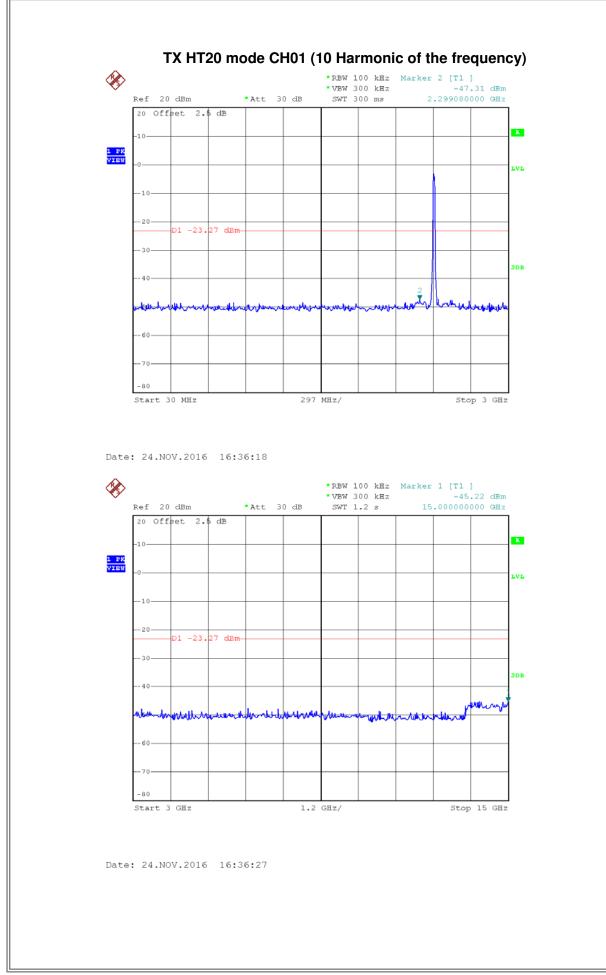




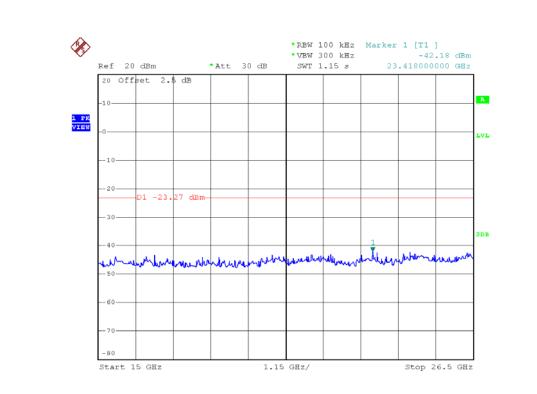


# <u>3TL</u>

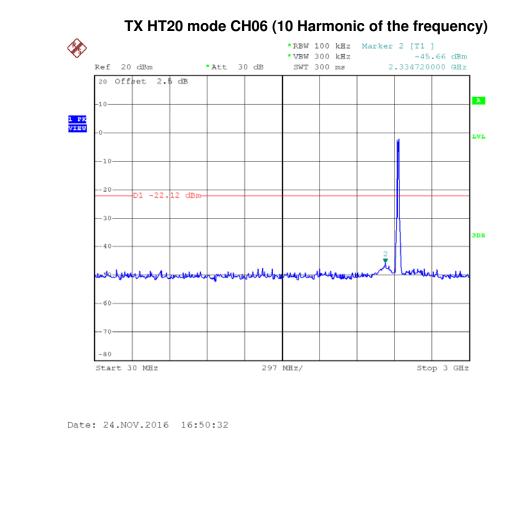




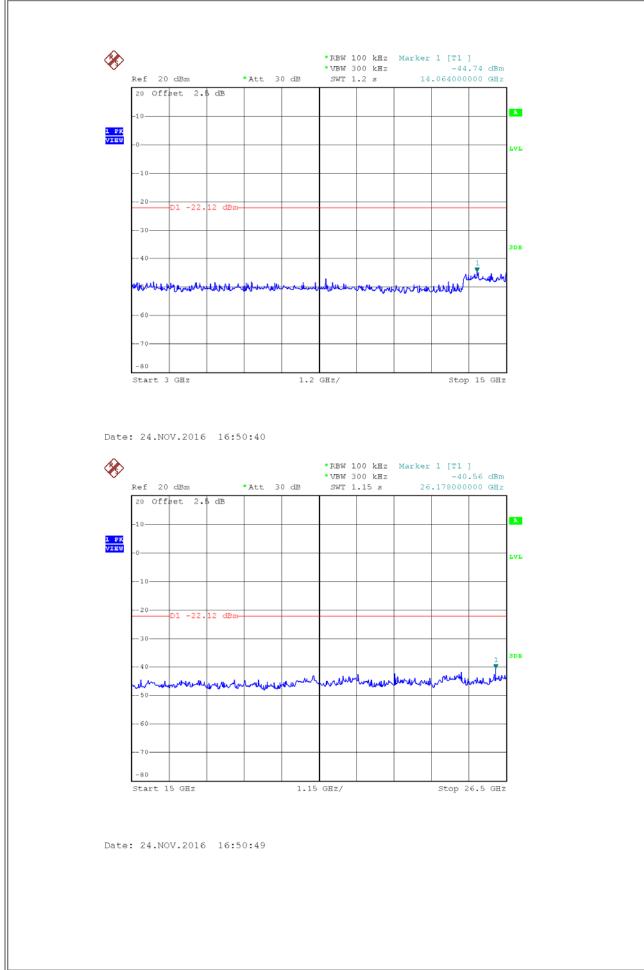




Date: 24.NOV.2016 16:36:35

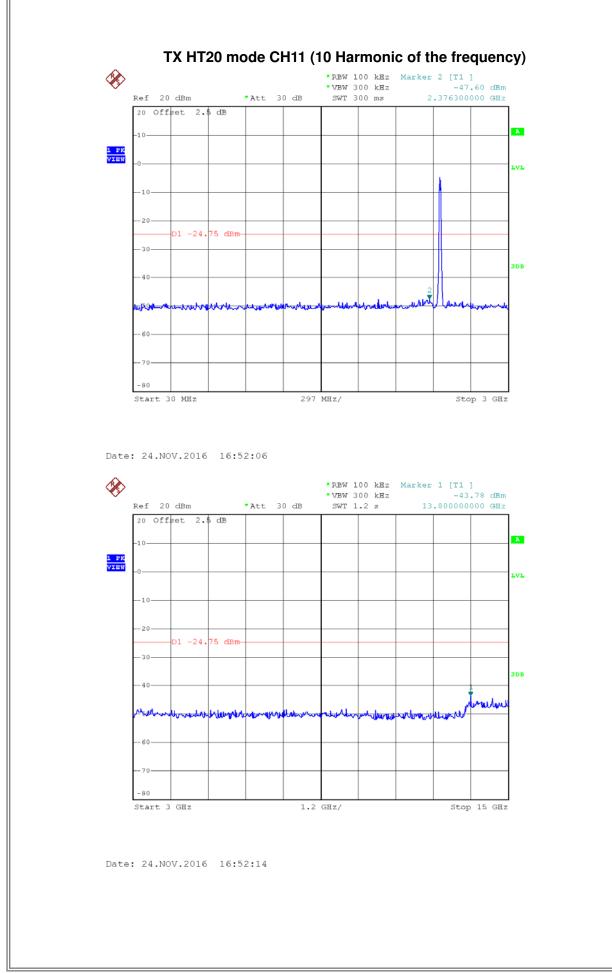






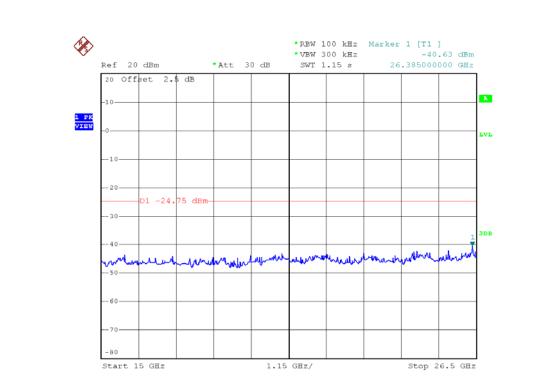
# <u>3TL</u>





## **3TL**





Date: 24.NOV.2016 16:52:23



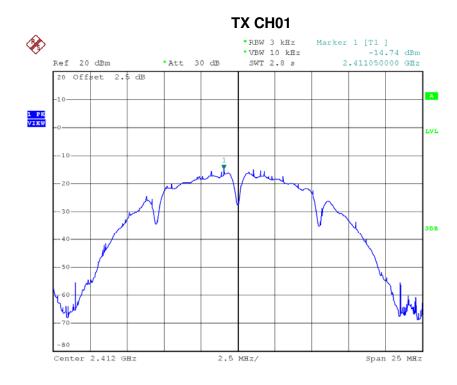


#### **ATTACHMENT H - POWER SPECTRAL DENSITY**



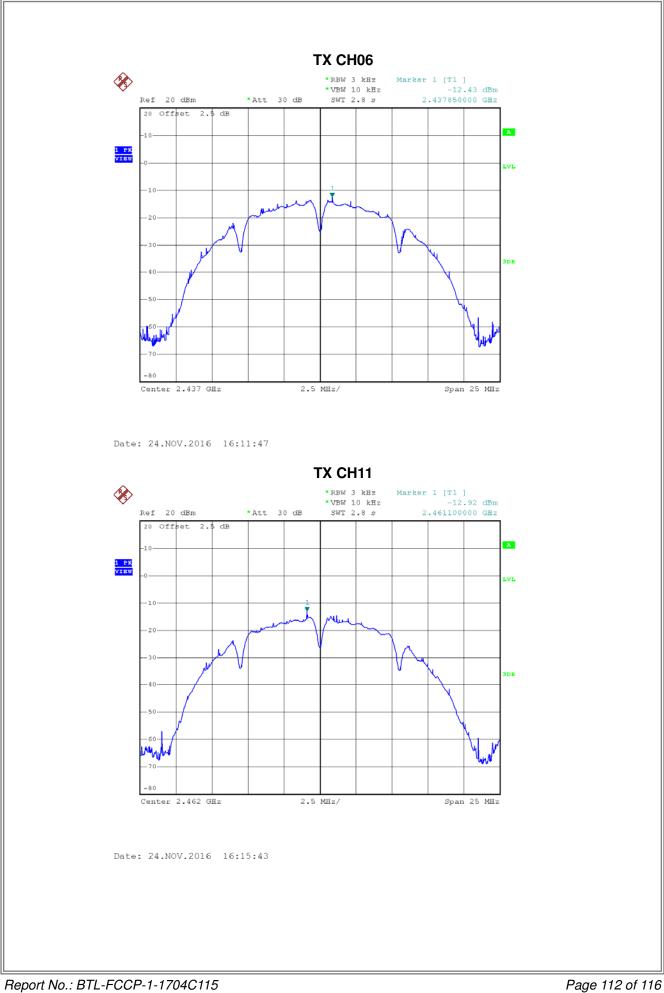
#### Test Mode :TX B MODE CHANNEL 01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-14.74	0.0336	8.00	Complies
2437	-12.43	0.0571	8.00	Complies
2462	-12.92	0.0511	8.00	Complies



Date: 24.NOV.2016 16:09:17

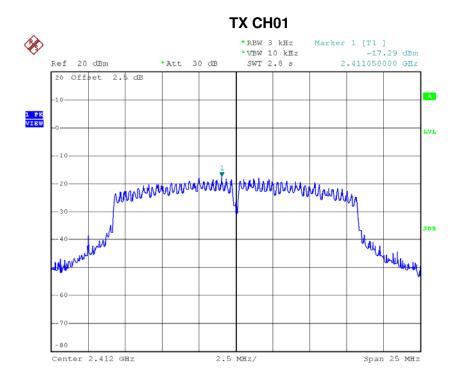






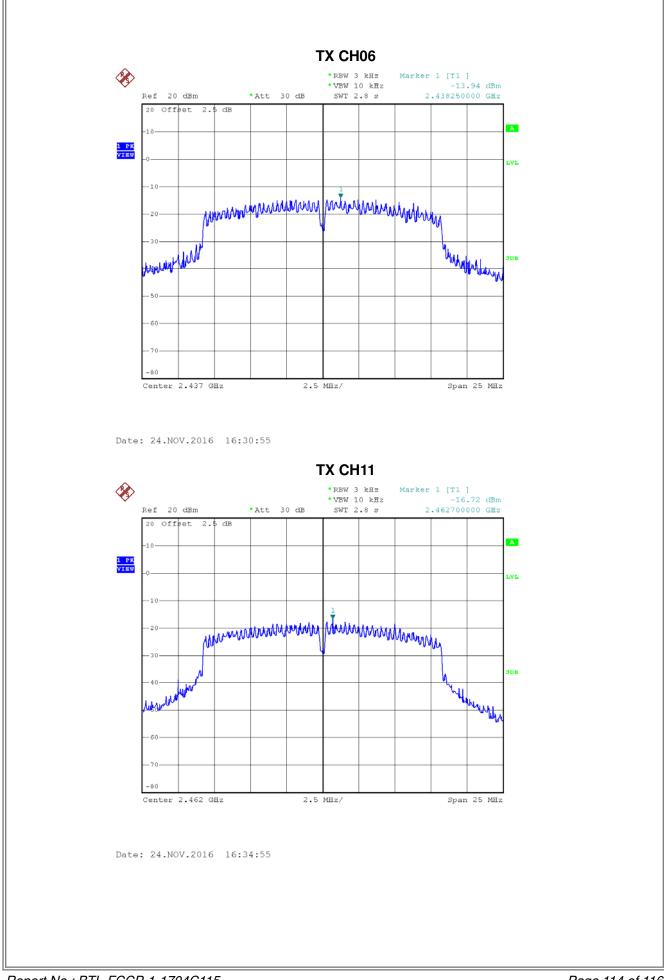
#### Test Mode :TX G MODE CHANNEL 01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-17.29	0.0187	8.00	Complies
2437	-13.94	0.0404	8.00	Complies
2462	-16.72	0.0213	8.00	Complies



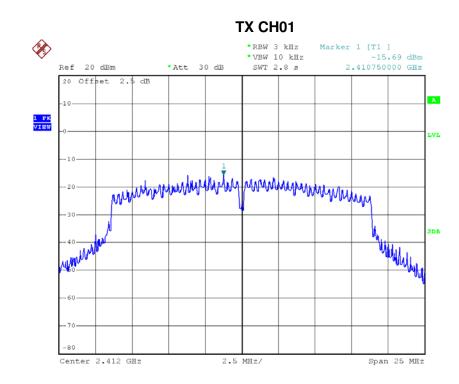
Date: 24.NOV.2016 16:18:29







Test Mode : TX N-20M MODE CHANNEL 01/06/11					
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result	
2412	-15.69	0.0270	8.00	Complies	
2437	-16.35	0.0232	8.00	Complies	
2462	-18.55	0.0140	8.00	Complies	



Date: 24.NOV.2016 16:36:52

## **3ĨL**



