This report concerns (c	heck one): ⊠Original Grant ⊡Class II Chang
Equipment: ALModel Name: RPApplicant: Ho	03C264 L-IN-1 FILEHUB P-WD03 otoo.com Inc 80 Zanker Road STE 203 San Jose, CA95134
Date of Receipt:ApDate of Test:ApIssued Date:ApTested by:BT	r. 03, 2015 ~ Apr. 15, 2015 r. 16, 2015
Testing Engineer	: David Mao (David Mao)
Technical Manager	:(Leo Hung)
Authorized Signatory	: Seenen In (Steven Lu)

#### Declaration

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

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#### Limitation

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

Table of Contents	Page
1. CERTIFICATION	6
2 . SUMMARY OF TEST RESULTS	7
2.1 TEST FACILITY	8
2.2 MEASUREMENT UNCERTAINTY	8
3 . GENERAL INFORMATION	9
3.1 GENERAL DESCRIPTION OF EUT	9
3.2 DESCRIPTION OF TEST MODES	11
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	12
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TE	STED 13
3.5 DESCRIPTION OF SUPPORT UNITS	13
4 . EMC EMISSION TEST	14
4.1 CONDUCTED EMISSION MEASUREMENT	14
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS 4.1.2 TEST PROCEDURE	14 14
4.1.3 DEVIATION FROM TEST STANDARD	14
4.1.4 TEST SETUP 4.1.5 EUT OPERATING CONDITIONS	15 15
4.1.6 EUT TEST CONDITIONS	15
4.1.7 TEST RESULTS	15
4.2 RADIATED EMISSION MEASUREMENT	16
4.2.1 RADIATED EMISSION LIMITS 4.2.2 TEST PROCEDURE	16 17
4.2.3 DEVIATION FROM TEST STANDARD	17
4.2.4 TEST SETUP	17
4.2.5 EUT OPERATING CONDITIONS 4.2.6 EUT TEST CONDITIONS	18 18
4.2.7 TEST RESULTS (9KHZ TO 30MHZ)	19
4.2.8 TEST RESULTS (BETWEEN 30MHZ TO 1000 MHZ)	19
4.2.9 TEST RESULTS (ABOVE 1000 MHZ)	19
5 . BANDWIDTH TEST	20
5.1 APPLIED PROCEDURES 5.1.1 TEST PROCEDURE	20 20
5.1.2 DEVIATION FROM STANDARD	20
5.1.3 TEST SETUP	20
5.1.4 EUT OPERATION CONDITIONS 5.1.5 EUT TEST CONDITIONS	20 20
5.1.6 TEST RESULTS	20

# ЗĨL

Table of Contents	Page
6 . MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST	21
6.1 APPLIED PROCEDURES / LIMIT	21
6.1.1 TEST PROCEDURE	21
6.1.2 DEVIATION FROM STANDARD	21
6.1.3 TEST SETUP 6.1.4 EUT OPERATION CONDITIONS	21 21
6.1.5 EUT TEST CONDITIONS	21
6.1.6 TEST RESULTS	21
7 . ANTENNA CONDUCTED SPURIOUS EMISSION	22
7.1 APPLIED PROCEDURES / LIMIT	22
7.1.1 TEST PROCEDURE	22
7.1.2 DEVIATION FROM STANDARD	22
7.1.3 TEST SETUP 7.1.4 EUT OPERATION CONDITIONS	22 22
7.1.5 EUT TEST CONDITIONS	22
7.1.6 TEST RESULTS	22
8 . POWER SPECTRAL DENSITY TEST	23
8.1 APPLIED PROCEDURES / LIMIT	23
8.1.1 TEST PROCEDURE	23
8.1.2 DEVIATION FROM STANDARD 8.1.3 TEST SETUP	23 23
8.1.4 EUT OPERATION CONDITIONS	23
8.1.5 EUT TEST CONDITIONS	23
8.1.6 TEST RESULTS	23
9 . MEASUREMENT INSTRUMENTS LIST	24
10 . EUT TEST PHOTO	26
ATTACHMENT A - CONDUCTED EMISSION	30
ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)	33
ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)	35
ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)	42
ATTACHMENT E - BANDWIDTH	91
ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER	100
ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION	105
ATTACHMENT H - POWER SPECTRAL DENSITY	138

## **REPORT ISSUED HISTORY**

Issued No.	Description	Issued Date
BTL-FCCP-1-1503C264	Original Issue.	Apr. 16, 2015

# **1. CERTIFICATION**

Equipment : Brand Name :	ALL-IN-1 FILEHUB RAVPOWER
Model Name :	RP-WD03
Applicant :	Hootoo.com Inc
Manufacturer :	Power7 Technology(Dongguan)Co., Ltd
Address :	No.28 Binjiang St.shishuikou Village, Qiaotou Town, Dongguan
	City,GuangDong Province P.R.China
,	Power7 Technology(Dongguan)Co., Ltd
Address :	No.28 Binjiang St.shishuikou Village, Qiaotou Town, Dongguan
	City,GuangDong Province P.R.China
	Apr. 03, 2015 ~ Apr. 15, 2015
Test Sample :	ENGINEERING SAMPLE
Standard(s) :	FCC Part15, Subpart C: 2014 (15.247) / ANSI C63.4-2009

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

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1503C264) 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: 2014

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

#### 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is 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 reported uncertainty of measurement  $y \pm U$ , where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

A. Conducted Measurement :

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

#### B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)	NOTE
		9KHz~30MHz	V	3.79	
		9KHz~30MHz	Н	3.57	
		30MHz ~ 200MHz	V	3.82	
	DG-C 03 CISPR	30MHz ~ 200MHz	Н	3.60	
		200MHz ~ 1,000MHz	V	3.86	
DG-C 03		200MHz ~ 1,000MHz	Н	3.94	
		1GHz~18GHz	V	3.12	
		1GHz~18GHz	Н	3.68	
		18GHz~40GHz	V	4.15	
		18GHz~40GHz	Н	4.14	

# **3. GENERAL INFORMATION**

#### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	ALL-IN-1 FILEHUB	ALL-IN-1 FILEHUB				
Brand Name	RAVPOWER					
Model Name	RP-WD03	RP-WD03				
Model Difference	N/A					
	Operation Frequency	2412~2462 MHz				
	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM				
Product Description	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n up to 300 Mbps				
	Peak Output Power (Max.)	802.11b: 20.19dBm 802.11g: 22.06dBm 802.11n(20MHz): 22.69dBm 802.11n(40MHz): 22.54dBm				
	Average Output Power (Max.)	802.11b: 16.73dBm 802.11g: 14.56dBm 802.11n(20MHz): 14.69dBm 802.11n(40MHz): 14.56dBm				
Power Source	#1 Supplied from Battery. Brand / Model: SAMSUNG / ICR18650-30B #2 Supplied from USB port for charging. #3 DC voltage supplied from AC/DC adapter.(support unit)					
Power Rating	#1 DC 3.7V / 1A #2 DC 5V / 1A #3 EUT I/P DC 5V					

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	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	Connect	Gain	Note
1	RIMON TECHNOLOGY CO., LTD	WAN3216F2 45C04	Internal	N/A	2.00	TX/RX
2	DONGGUAN SENLING INDUSTRIAL CO.,	2G4321612C	Internal	N/A	0.50	TX/RX

#### Note:

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

4.

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

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

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

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

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

	For Conducted Test
Final Test Mode	Description
Mode 5	TX MODE

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

Note:

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

(2) 802.11b mode: DBPSK (1Mbps) 802.11g mode: OFDM (6Mbps) 802.11n HT20 mode : BPSK (13Mbps) 802.11n HT40 mode : BPSK (27Mbps)

For radiated emission tests, the highest output powers were set for final test.

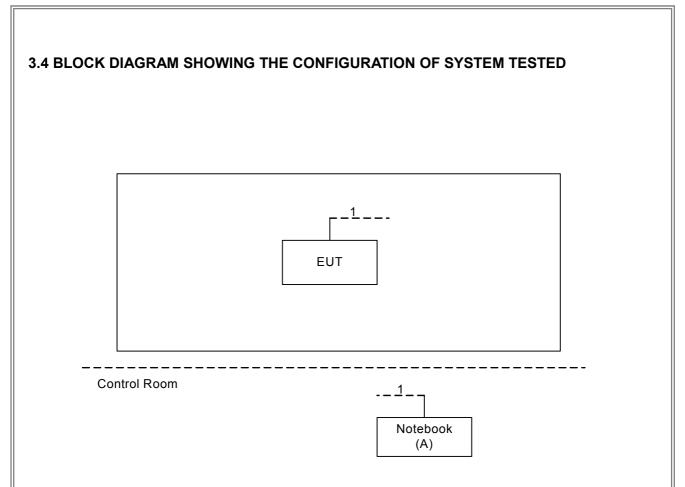
(3) For radiated below 1G test, the 802.11b is found to be the worst case and recorded.

- (4) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.
- (5) Radiated testing mode: Keeping MIMO TX mode.

#### 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		RT5x7xQA	
Frequency (MHz)	2412	2437	2462
802.11b	6,12	6,12	6,12
802.11g	0,0A	0,0A	0,0A
802.11n (20MHz)	0,0B	0,0B	0,0B
Frequency	2422	2437	2452
802.11n (40MHz)	3,0E	3,0E	3,0E



## **3.5 DESCRIPTION OF SUPPORT UNITS**

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

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID/IC	Series No.	Note
А	Notebook	DELL	Inspiron 14-3437	DOC	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	8m	RJ45 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 -0.5	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
- Margin Level = Measurement value Limit V

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

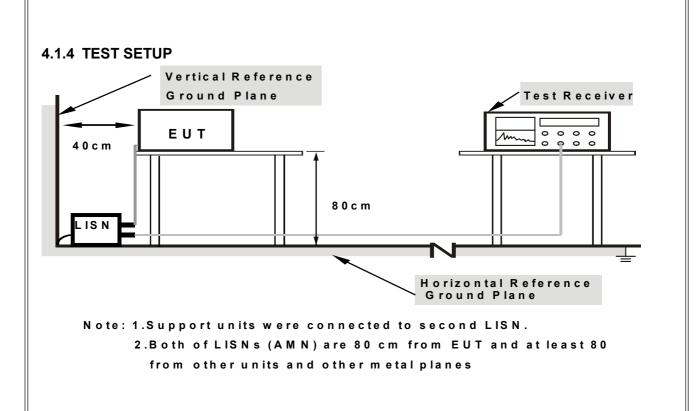
Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

#### 4.1.2 TEST PROCEDURE

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

#### 4.1.3 DEVIATION FROM TEST STANDARD

No deviation



## 4.1.5 EUT OPERATING CONDITIONS

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

#### 4.1.6 EUT TEST CONDITIONS

Temperature: 21°C Relative Humidity: 51% Test Voltage: AC 120V/60Hz

#### 4.1.7 TEST RESULTS

Please refer to the Attachment A.

#### 4.2 RADIATED EMISSION MEASUREMENT

#### 4.2.1 RADIATED EMISSION LIMITS

20dB in any 100 KHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), 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)

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

Notes:

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

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

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

 (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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW	RBW 1MHz VBW 3MHz peak detector for Pk value
(Emission in restricted band)	RMS detector for AV value

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

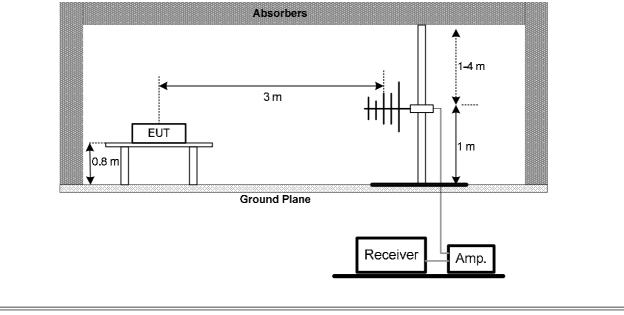
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at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

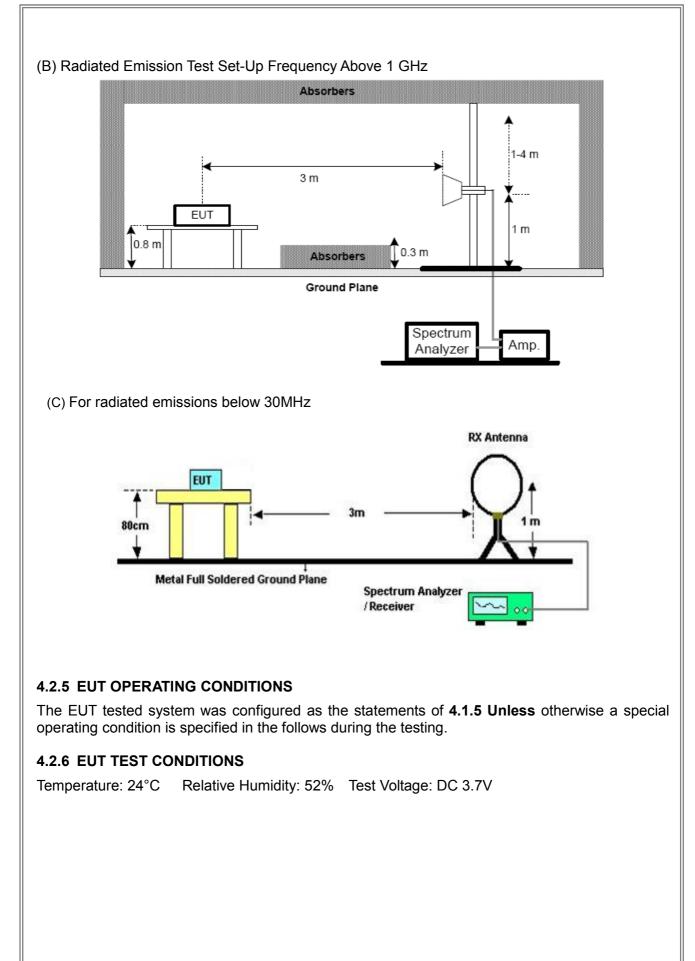
#### 4.2.3 DEVIATION FROM TEST STANDARD

No deviation

## 4.2.4 TEST SETUP

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





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

Please refer to the Attachment B

Remark:

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

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

Please refer to the Attachment C.

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

Please refer to the Attachment D.

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 tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 5.1.5 EUT TEST CONDITIONS

Temperature: 24°C Relative Humidity: 52% Test Voltage: DC 3.7V

#### 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 v03r02.

#### 6.1.2 DEVIATION FROM STANDARD

No deviation.

#### 6.1.3 TEST SETUP



#### 6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

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

#### 6.1.5 EUT TEST CONDITIONS

Temperature: 24°C Relative Humidity: 52% Test Voltage: DC 3.7V

#### 6.1.6 TEST RESULTS

Please refer to the Attachment F.

# 7. ANTENNA CONDUCTED SPURIOUS EMISSION

#### 7.1 APPLIED PROCEDURES / LIMIT

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

#### 7.1.1 TEST PROCEDURE

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

#### 7.1.2 DEVIATION FROM STANDARD

No deviation.

## 7.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### 7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 7.1.5 EUT TEST CONDITIONS

Temperature: 24°C Relative Humidity: 52% Test Voltage: DC 3.7V

#### 7.1.6 TEST RESULTS

Please refer to the Attachment G.

# 8. POWER SPECTRAL DENSITY TEST

#### 8.1 APPLIED PROCEDURES / LIMIT

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

#### 8.1.1 TEST PROCEDURE

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

#### 8.1.2 DEVIATION FROM STANDARD

No deviation.

#### 8.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### 8.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 8.1.5 EUT TEST CONDITIONS

Temperature: 24°C Relative Humidity: 52% Test Voltage: DC 3.7V

#### 8.1.6 TEST RESULTS

Please refer to the Attachment H.

# 9. MEASUREMENT INSTRUMENTS LIST

	Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	LISN	EMCO	3816/2	00052765	Mar. 28, 2016	
2	LISN	R&S	ENV216	101447	Mar. 28, 2016	
3	Test Cable	N/A	C_17	N/A	Mar.13, 2016	
4	EMI TEST RECEIVER	R&S	ESCS30	833364/017	Mar. 28, 2016	
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 28, 2016	
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. 28, 2016		
2	Amplifier	HP	8447D	2944A09673	Nov. 17, 2015		
3	Receiver	AGILENT	N9038A	MY5213003 9	Sep. 30, 2015		
4	Test Cable	N/A	C-01_CB03	N/A	Jul. 01, 2015		
5	Controller	СТ	SC100	N/A	N/A		
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A		
7	Antenna	ETS	3115	00075789	Mar. 28, 2016		
8	Amplifier	Agilent	8449B	3008A02274	Nov. 02, 2015		
9	Receiver	AGILENT	N9038A	MY5213003 9	Sep. 30, 2015		
10	Test Cable	HUBER+SUHNER	C-48	N/A	Apr. 30, 2015		
11	Controller	СТ	SC100	N/A	N/A		
12	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Mar. 28, 2016		
13	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 28, 2016		
14	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Aug. 16, 2015		

6dB Bandwidth Measurement					
ltem	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

	Peak Output Power Measurement					
ltem	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	power Meter	ANRITSU	ML2495A	1128009	Mar. 28, 2016	
2	Pulse Power Sensor	ANRITSU	MA 2411B	1027500	Mar. 28, 2016	

	Antenna Conducted Spurious Emission Measurement				
ltem	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

	Power Spectral Density Measurement				
ltem	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

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**





Report No.: BTL-FCCP-1-1503C264

# **Radiated Measurement Photos**

9KHz to 30MHz





# **Radiated Measurement Photos**

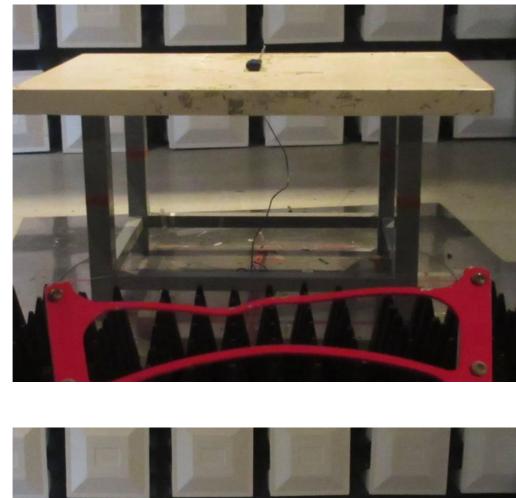
30MHz to 1000MHz

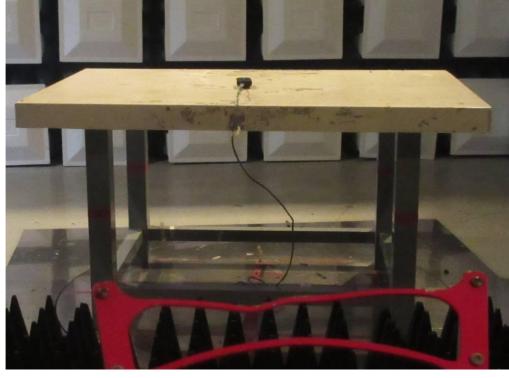




# **Radiated Measurement Photos**

Above 1000MHz

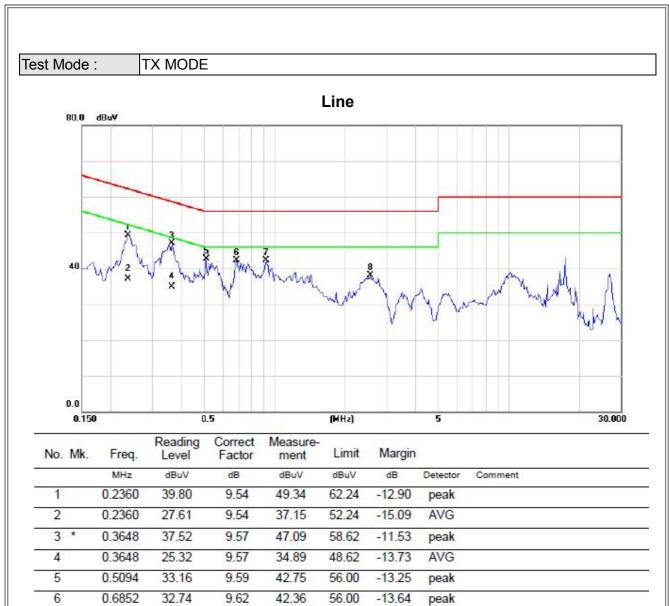




Report No.: BTL-FCCP-1-1503C264



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0.9195

2.5602

7

8

32.58

28.26

9.64

9.76

42.22

38.02

56.00

56.00

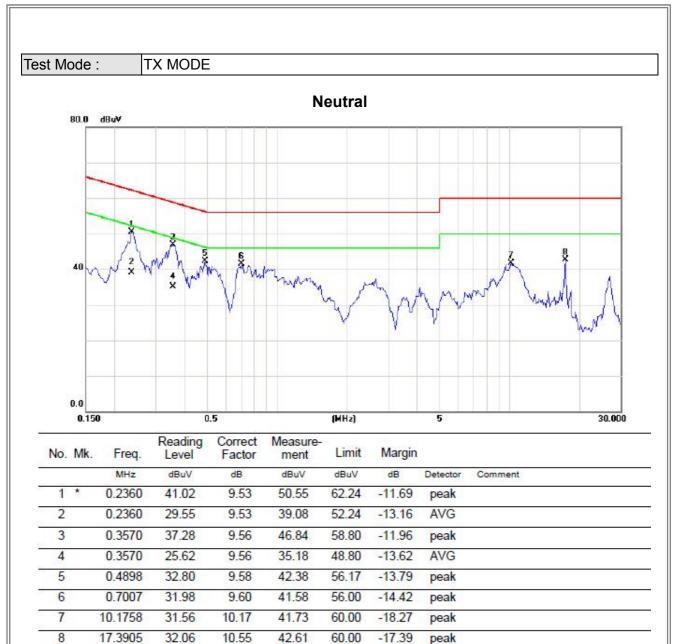
-13.78

-17.98

peak

peak

# ЗĩL



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

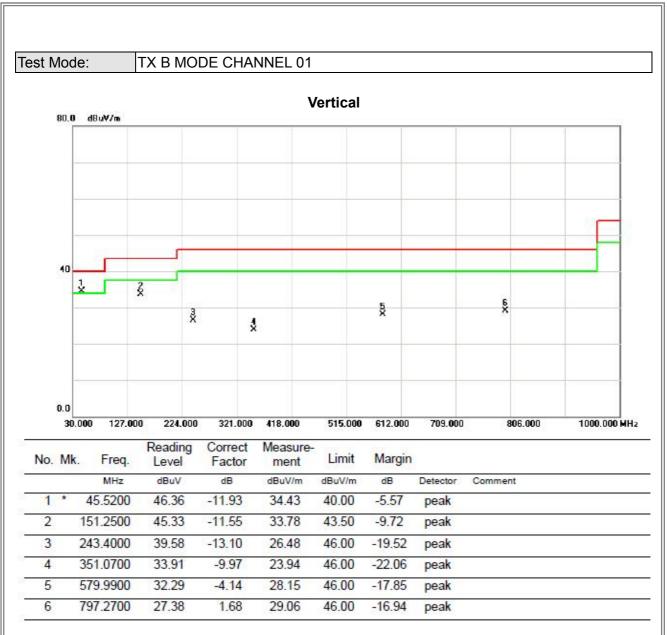
Test Mode:

TX Mode 2412MHz

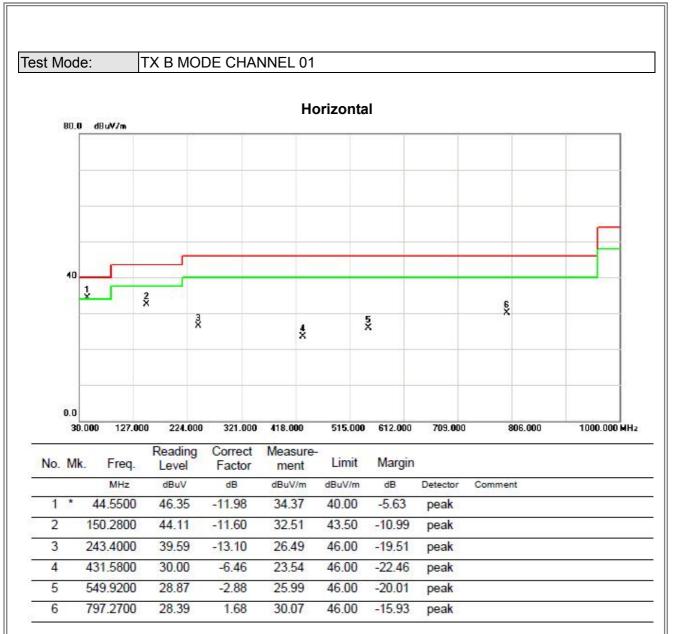
			<b>–</b> (				1
Frequency	Ant	Read level	Factor	Measured(FS)	Limit	Margin	Note
(MHz)	0°/90°	dBuV/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
0.0046	0°	11.83	25.28	37.11	114.35	-77.24	AVG
0.0046	0°	13.56	25.28	38.84	134.35	-95.51	PEAK
0.0357	0°	5.37	23.31	28.68	96.55	-67.88	AVG
0.0357	0°	6.85	23.31	30.16	116.55	-86.40	PEAK
0.0526	0°	4.32	22.35	26.67	93.18	-66.52	AVG
0.0526	0°	4.88	22.35	27.23	113.18	-85.96	PEAK
0.0752	0°	0.95	21.90	22.85	90.08	-67.23	AVG
0.0752	0°	3.18	21.90	25.08	110.08	-85.00	PEAK
0.4960	0°	29.25	19.81	49.06	73.69	-24.63	QP
1.8340	0°	21.79	19.52	41.31	69.54	-28.23	QP
Frequency	Ant	Read level	Factor	Measured(FS)	Limit	Margin	Noto
Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
						-	Note AVG
(MHz)	0°/90°	dBuV/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
(MHz) 0.0037	0°/90° 90°	dBuV/m 11.52	(dB) 24.30	(dBuV/m) 35.82	(dBuV/m) 136.24	(dB) -100.42	AVG
(MHz) 0.0037 0.0037	0°/90° 90° 90°	dBuV/m 11.52 13.86	(dB) 24.30 24.30	(dBuV/m) 35.82 38.16	(dBuV/m) 136.24 156.24	(dB) -100.42 -118.08	AVG PEAK
(MHz) 0.0037 0.0037 0.0147	0°/90° 90° 90°	dBuV/m 11.52 13.86 7.01	(dB) 24.30 24.30 24.30	(dBuV/m) 35.82 38.16 31.31	(dBuV/m) 136.24 156.24 124.26	(dB) -100.42 -118.08 -92.95	AVG PEAK AVG
(MHz) 0.0037 0.0037 0.0147 0.0147	0°/90° 90° 90° 90°	dBuV/m 11.52 13.86 7.01 9.03	(dB) 24.30 24.30 24.30 24.30 24.30	(dBuV/m) 35.82 38.16 31.31 33.33	(dBuV/m) 136.24 156.24 124.26 144.26	(dB) -100.42 -118.08 -92.95 -110.93	AVG PEAK AVG PEAK
(MHz) 0.0037 0.0037 0.0147 0.0147 0.0343	0°/90° 90° 90° 90° 90°	dBuV/m 11.52 13.86 7.01 9.03 4.25	(dB) 24.30 24.30 24.30 24.30 23.39	(dBuV/m) 35.82 38.16 31.31 33.33 27.64	(dBuV/m) 136.24 156.24 124.26 144.26 116.90	(dB) -100.42 -118.08 -92.95 -110.93 -89.25	AVG PEAK AVG PEAK AVG
(MHz) 0.0037 0.0037 0.0147 0.0147 0.0343 0.0343	0°/90° 90° 90° 90° 90° 90°	dBuV/m 11.52 13.86 7.01 9.03 4.25 5.42	(dB) 24.30 24.30 24.30 24.30 23.39 23.39	(dBuV/m) 35.82 38.16 31.31 33.33 27.64 28.81	(dBuV/m) 136.24 156.24 124.26 144.26 116.90 136.90	(dB) -100.42 -118.08 -92.95 -110.93 -89.25 -108.08	AVG PEAK AVG PEAK AVG PEAK
(MHz) 0.0037 0.0037 0.0147 0.0147 0.0343 0.0343 0.0343	0°/90° 90° 90° 90° 90° 90° 90°	dBuV/m 11.52 13.86 7.01 9.03 4.25 5.42 1.21	(dB) 24.30 24.30 24.30 24.30 23.39 23.39 23.39 22.96	(dBuV/m) 35.82 38.16 31.31 33.33 27.64 28.81 24.17	(dBuV/m) 136.24 156.24 124.26 144.26 116.90 136.90 115.31	(dB) -100.42 -118.08 -92.95 -110.93 -89.25 -108.08 -91.14	AVG PEAK AVG PEAK AVG PEAK AVG

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

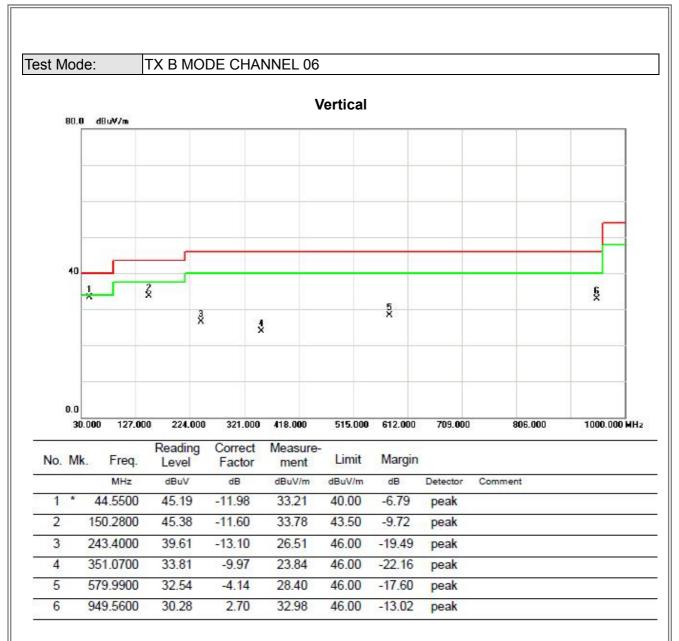








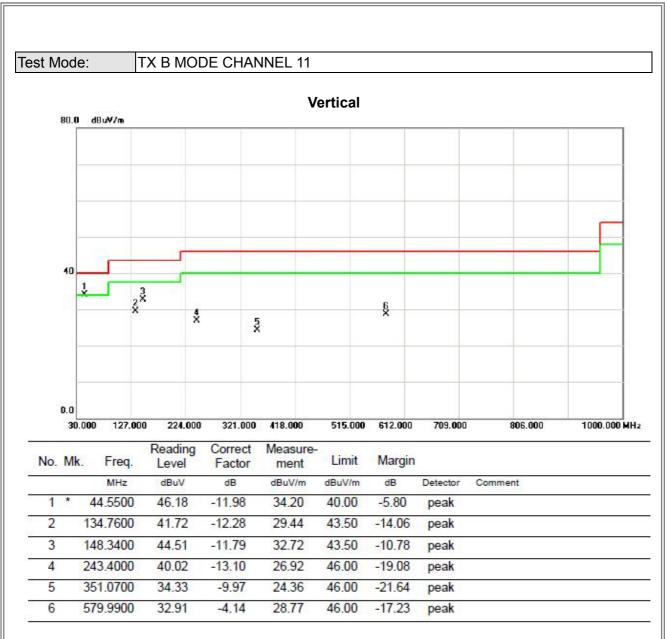
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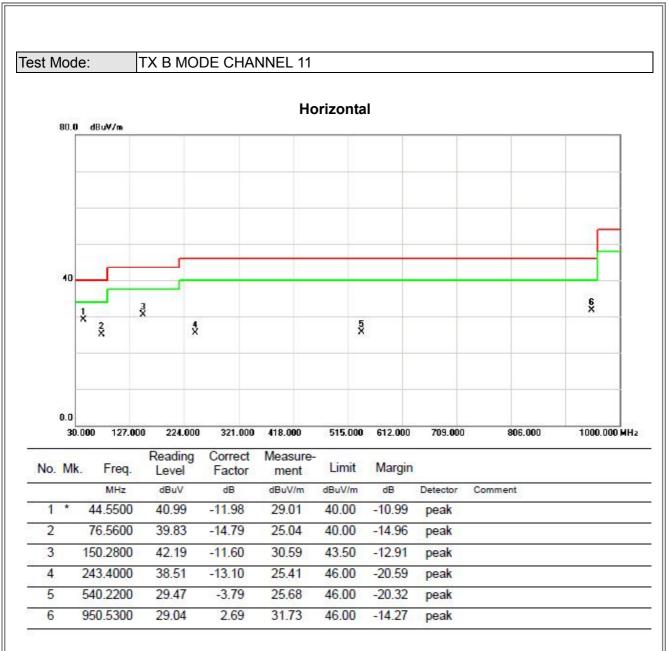






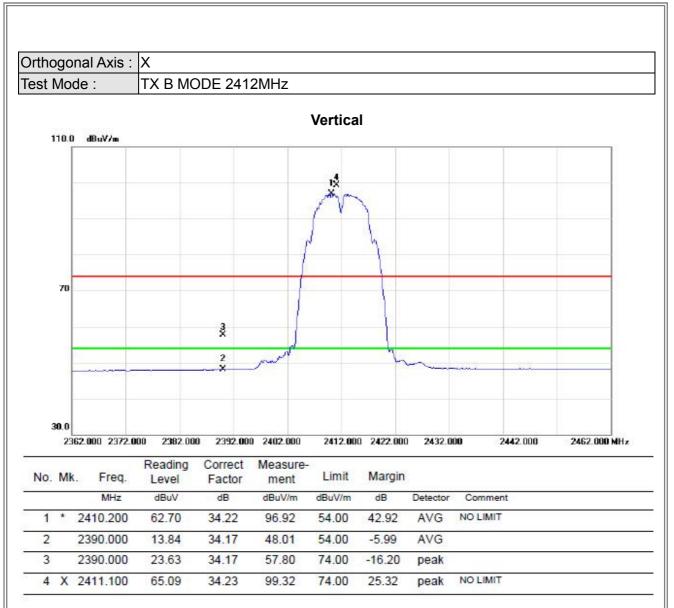




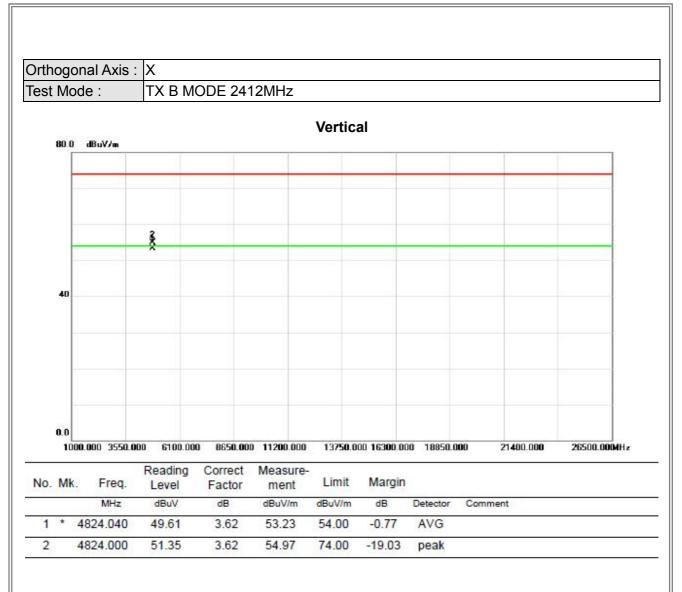


## ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

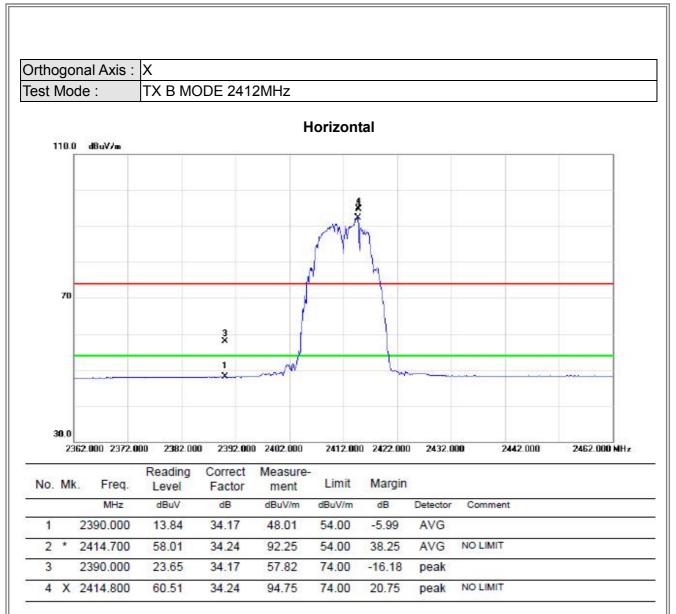




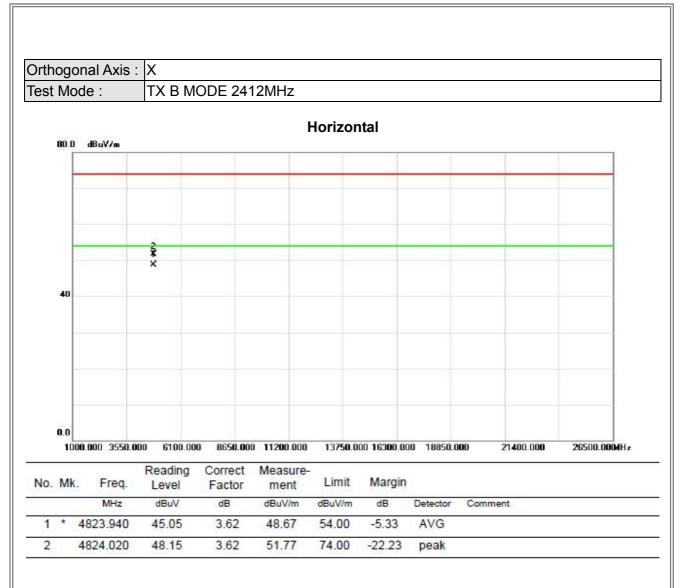




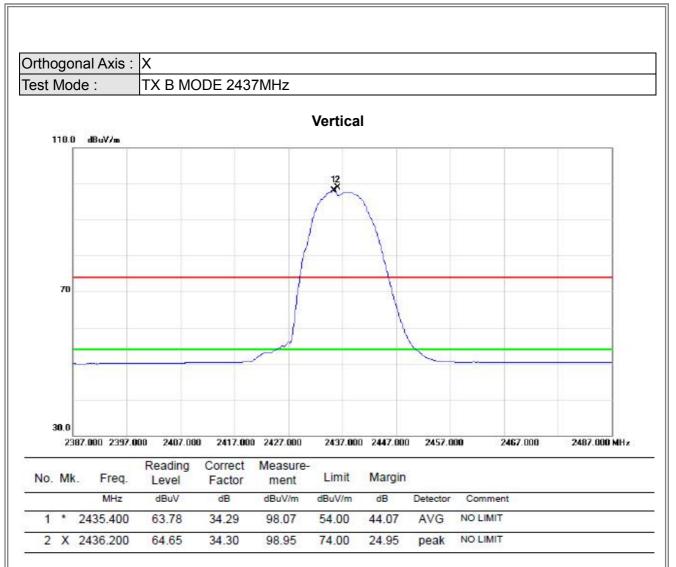




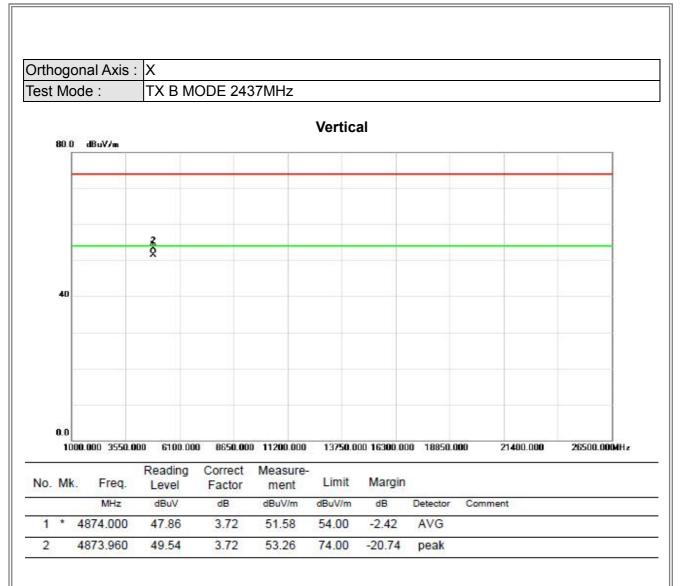




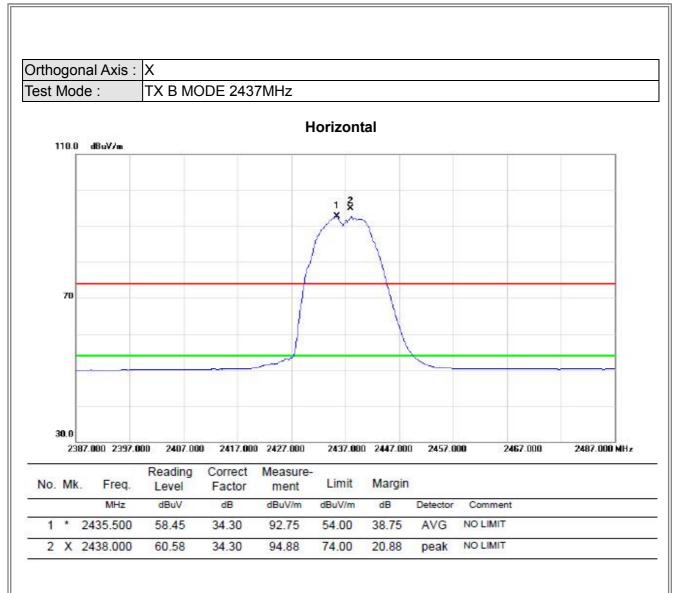




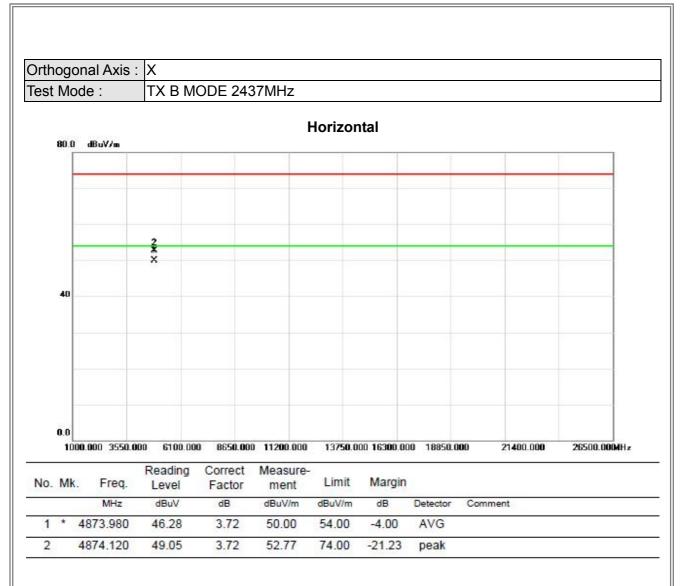




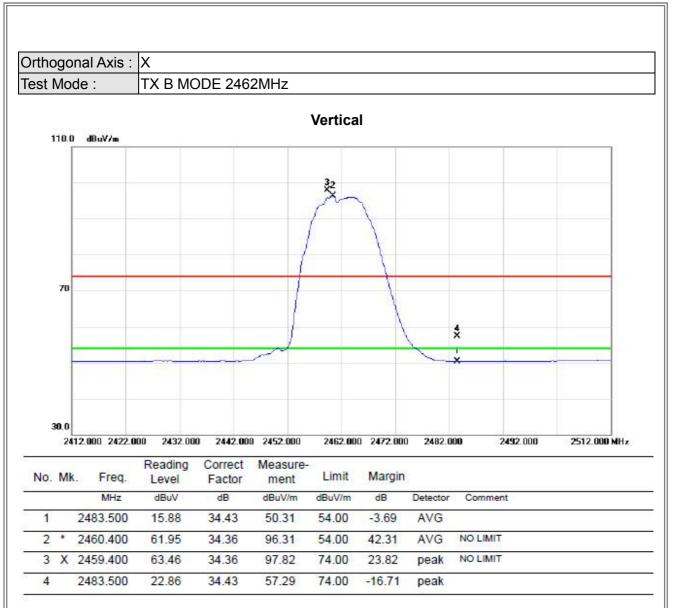




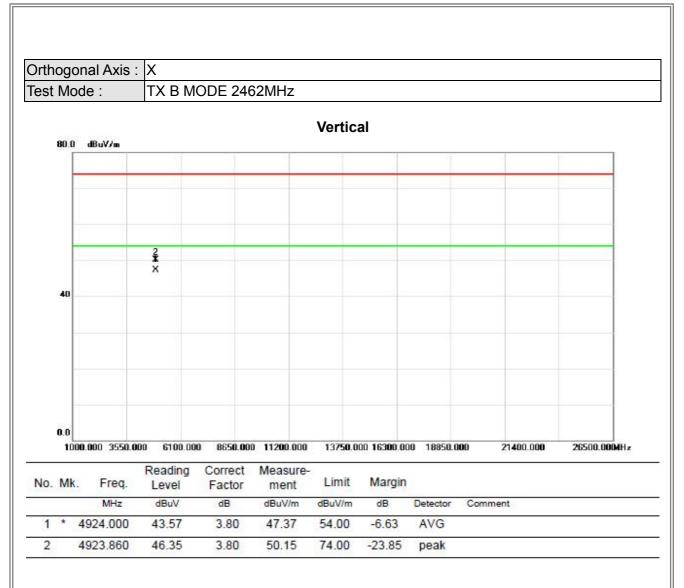




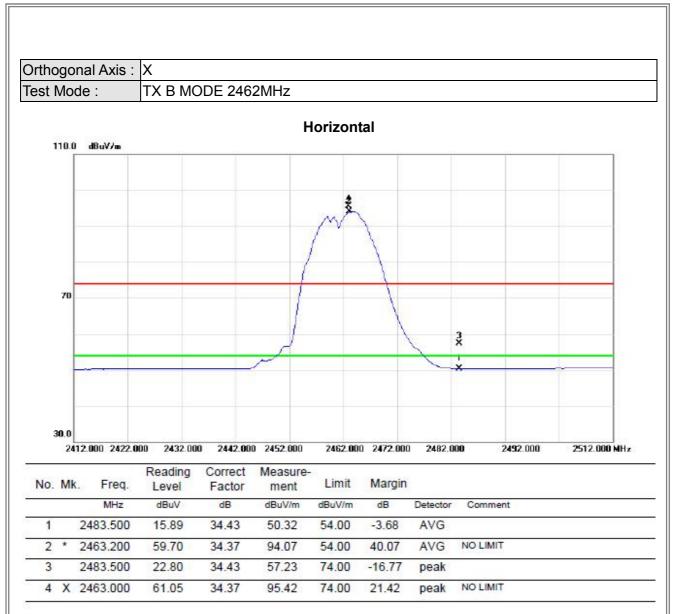








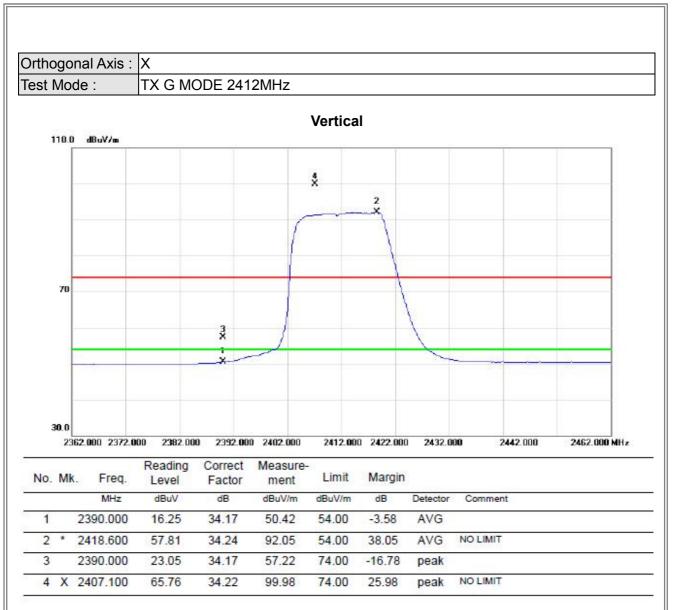




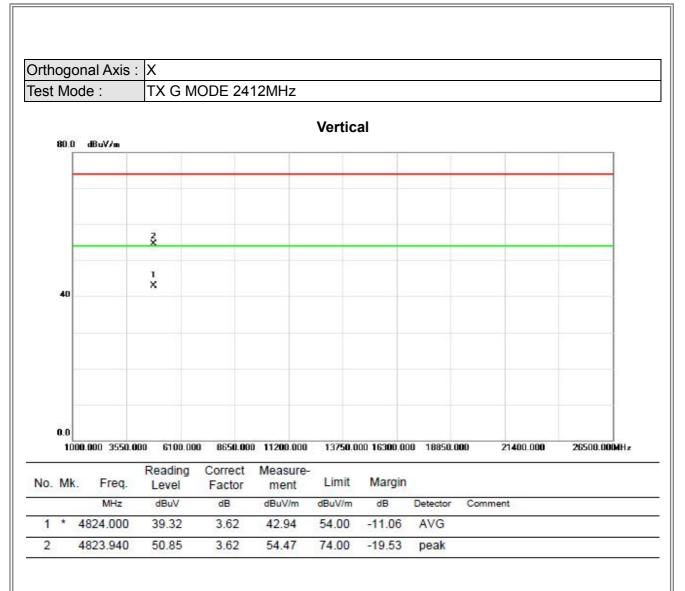




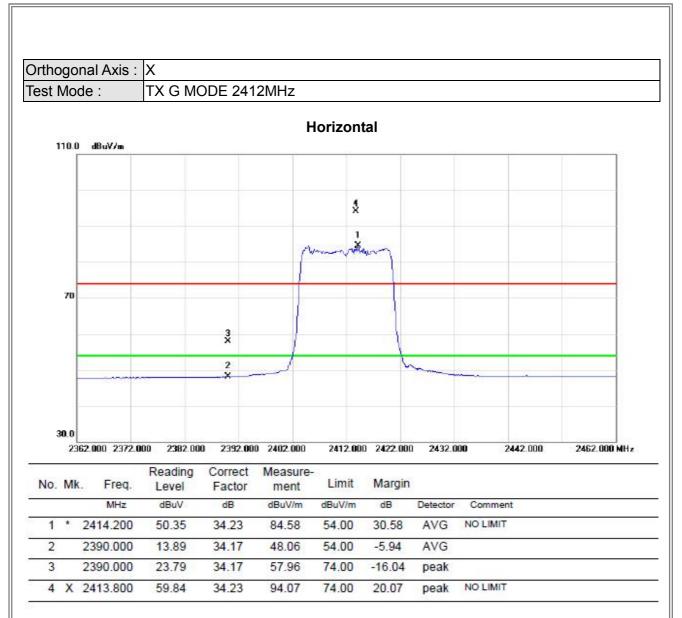








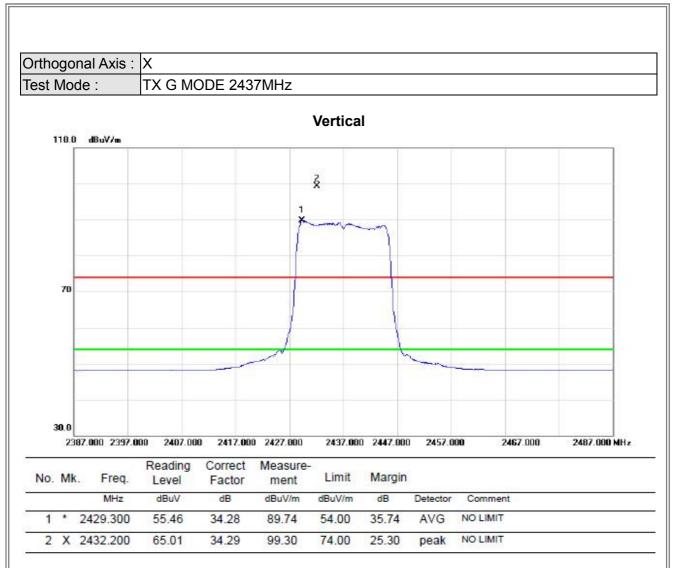




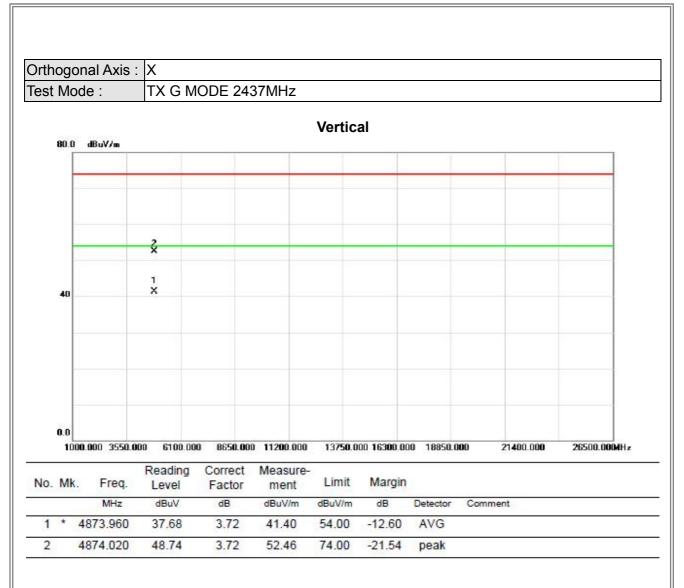




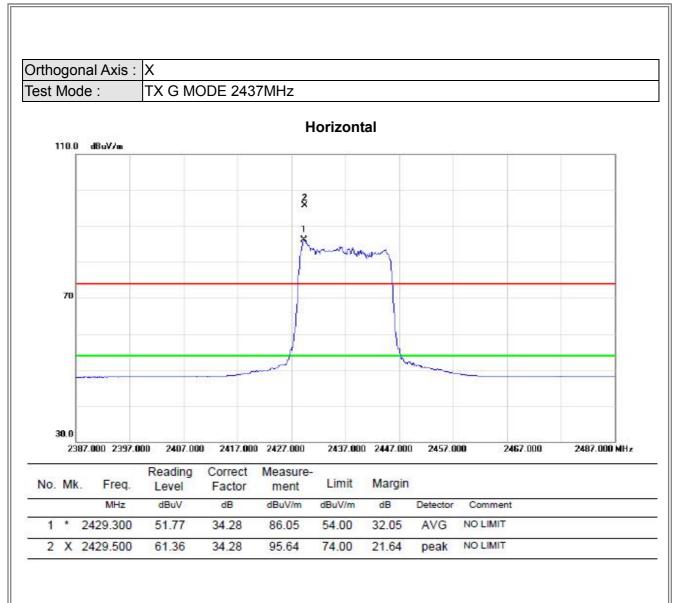








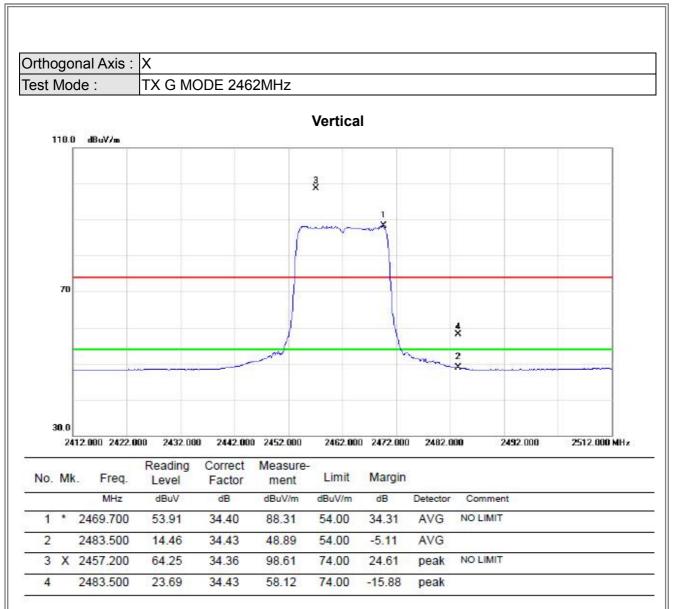




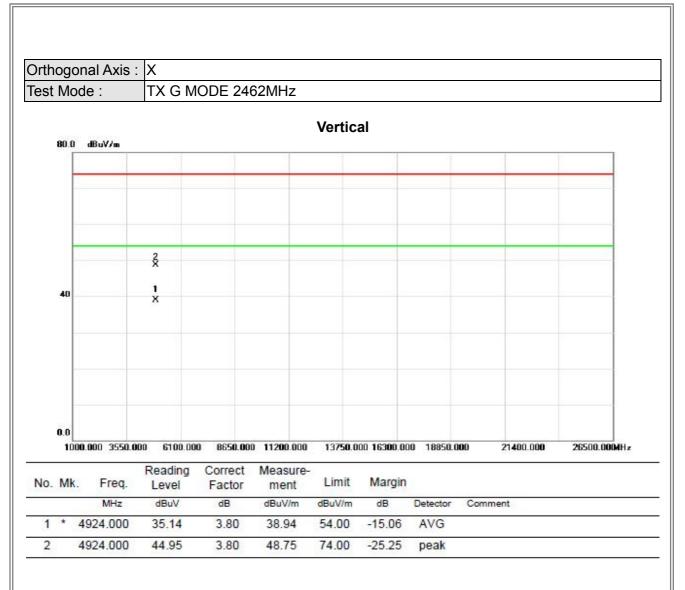




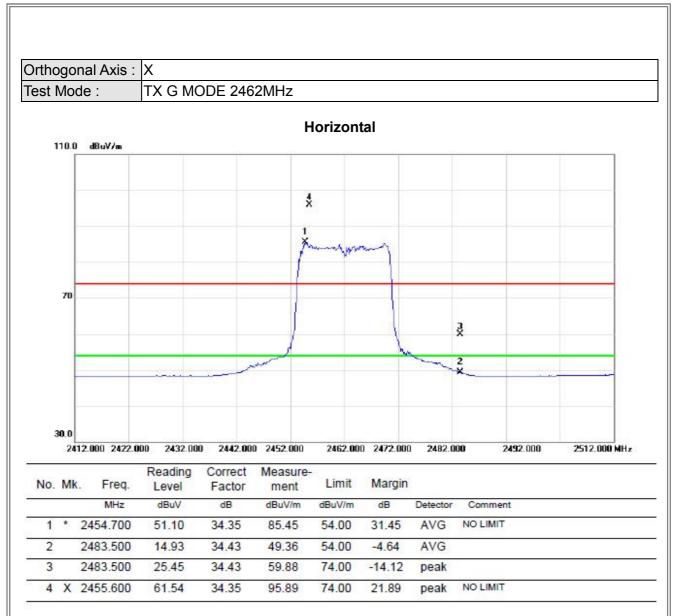




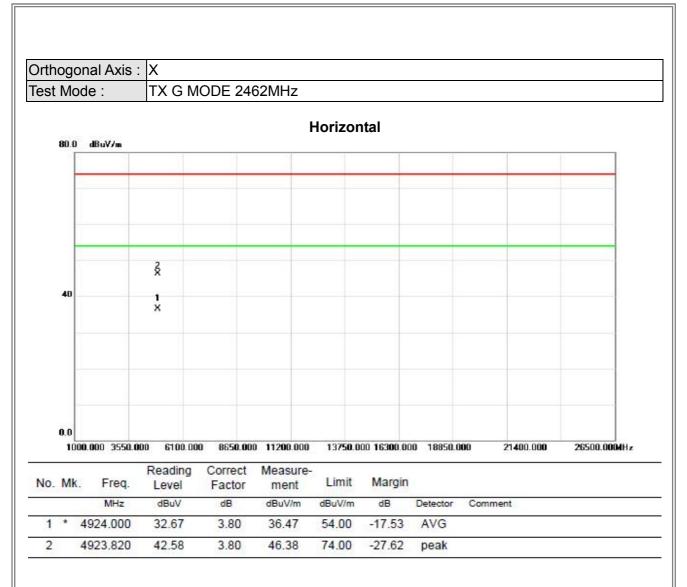




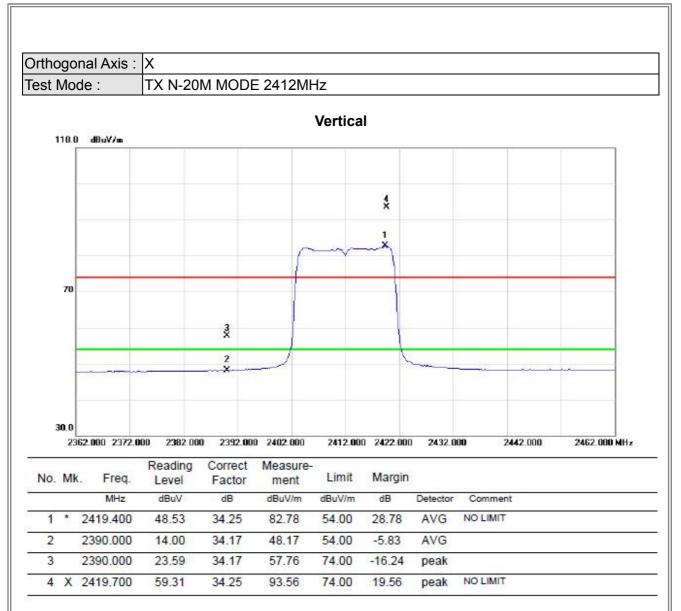




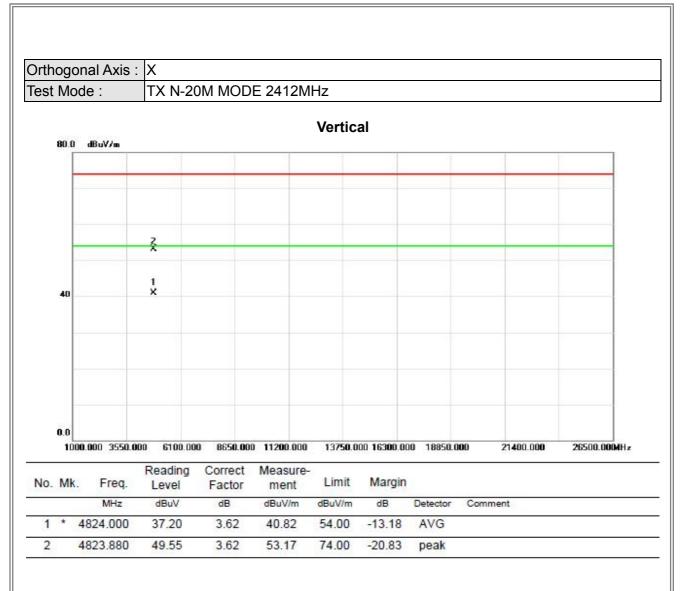




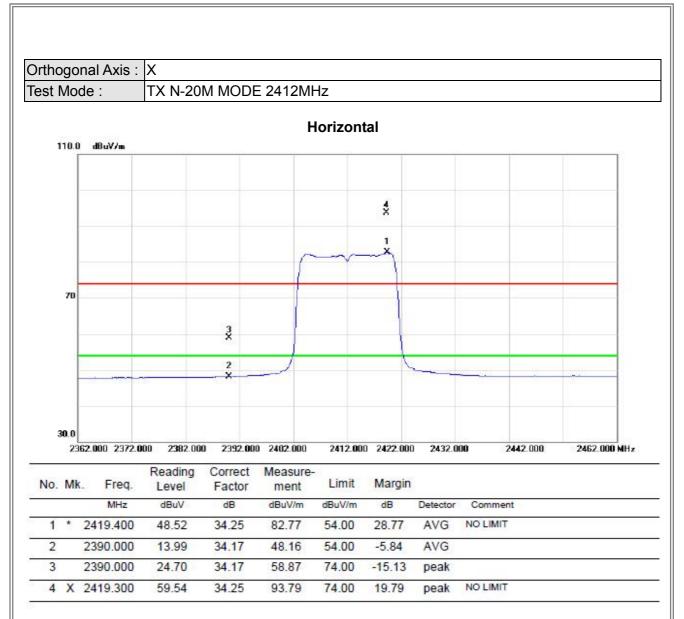




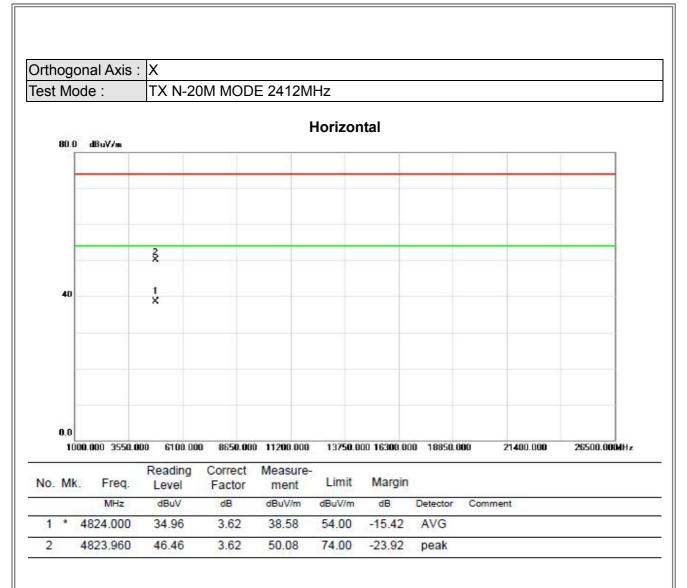




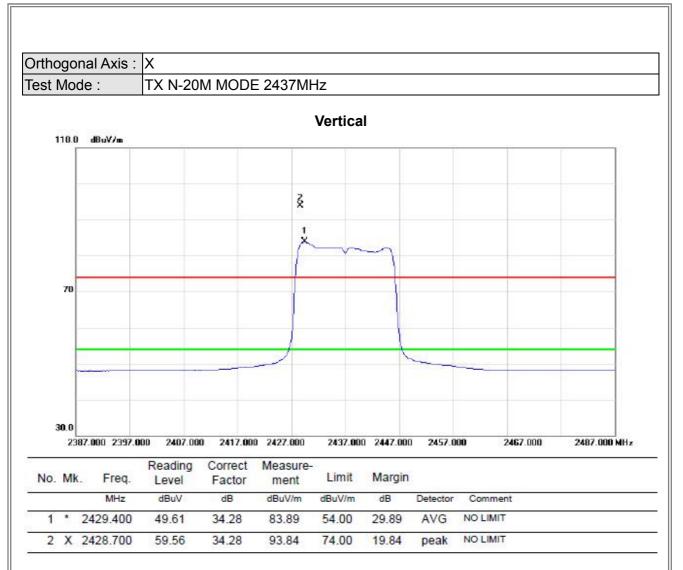




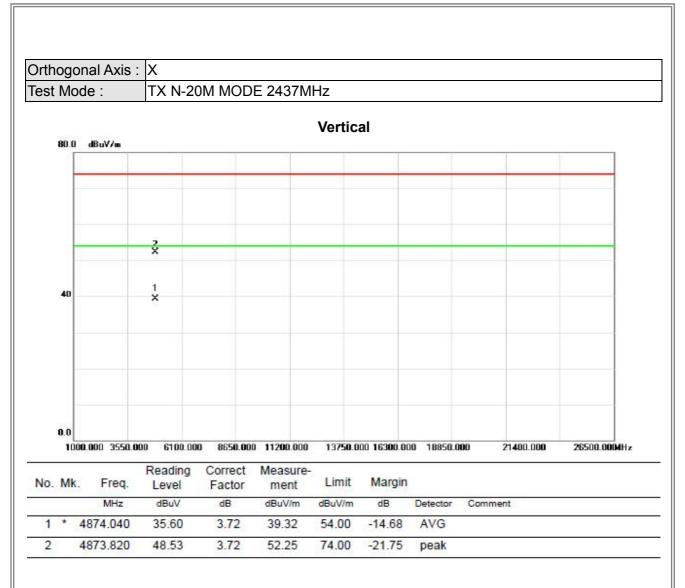




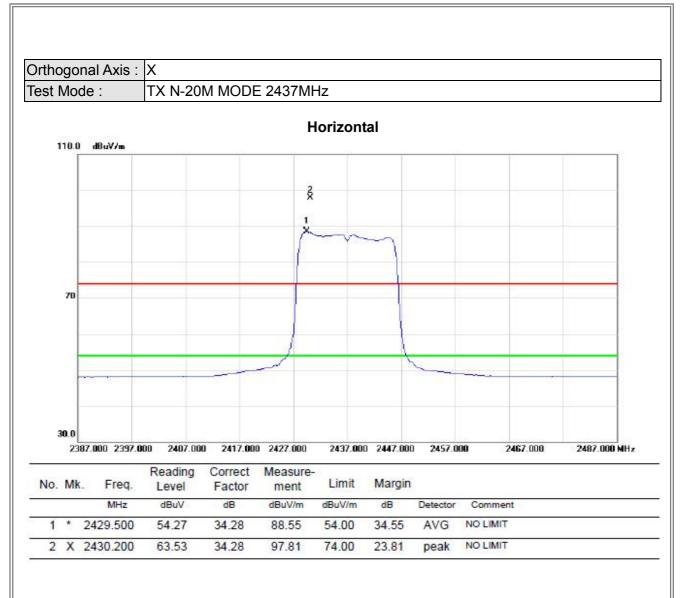




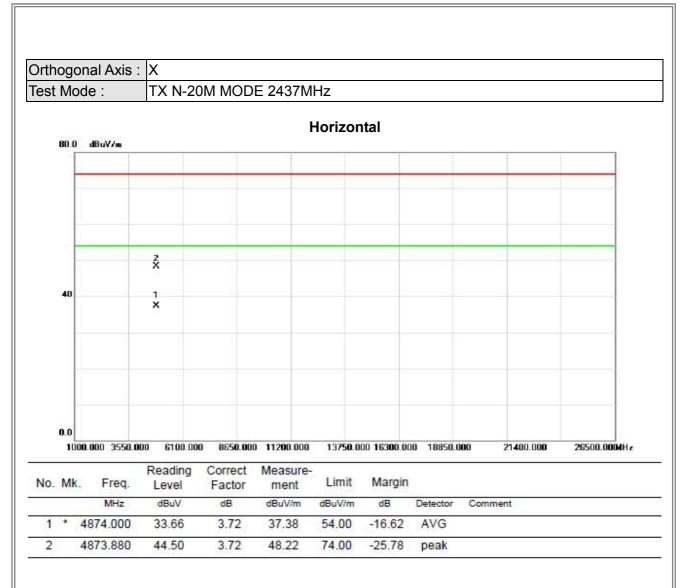




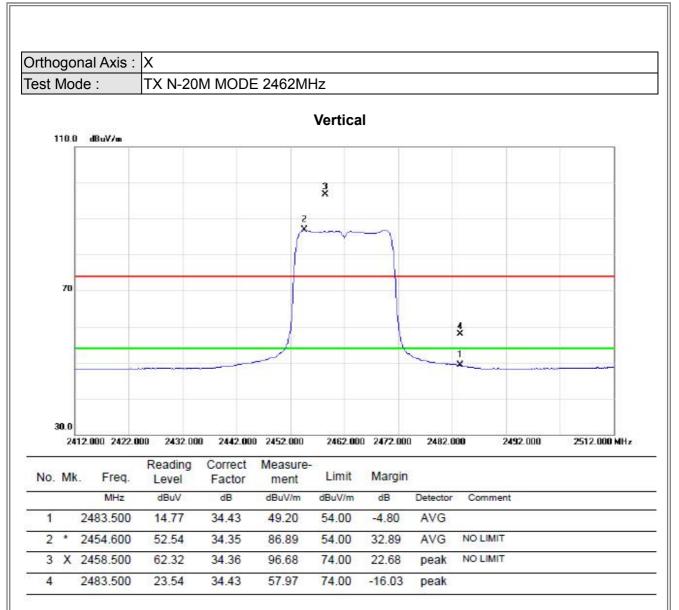




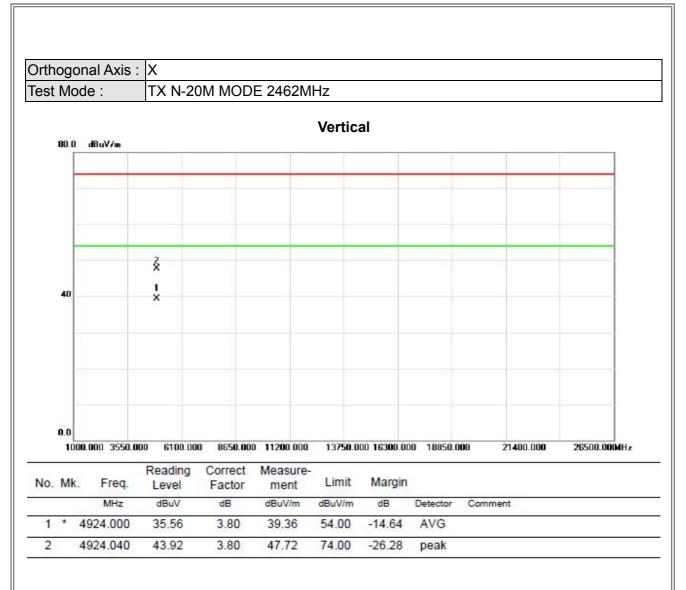




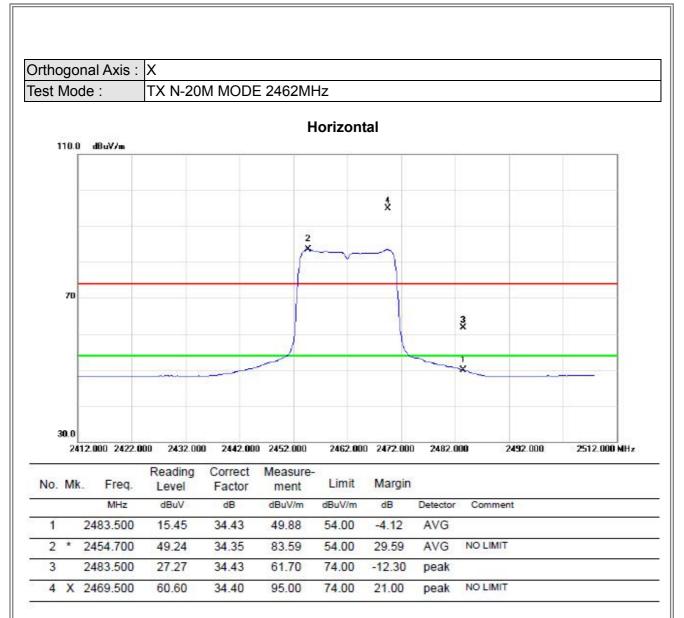




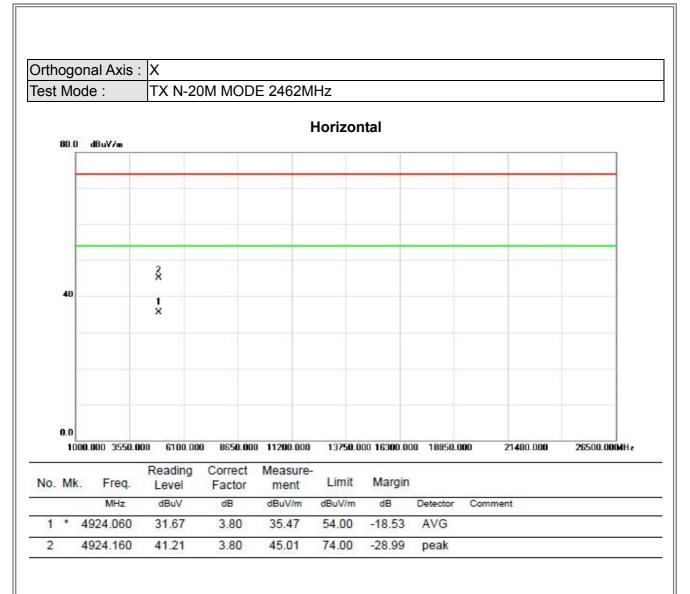




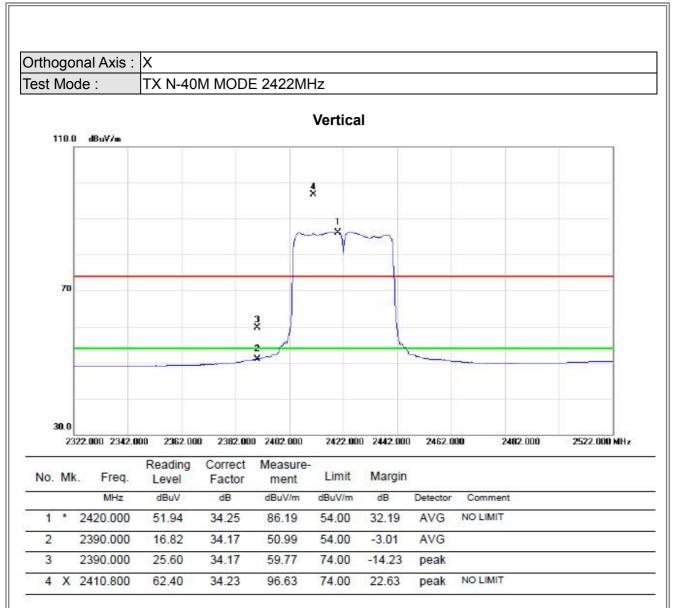




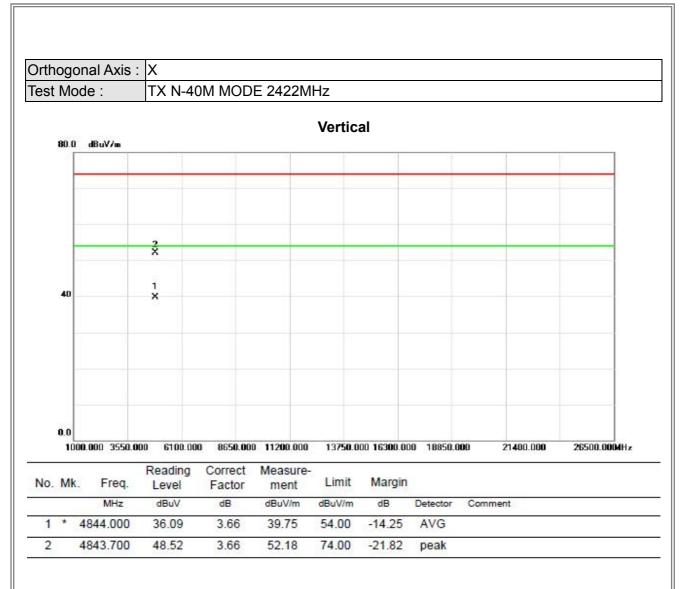




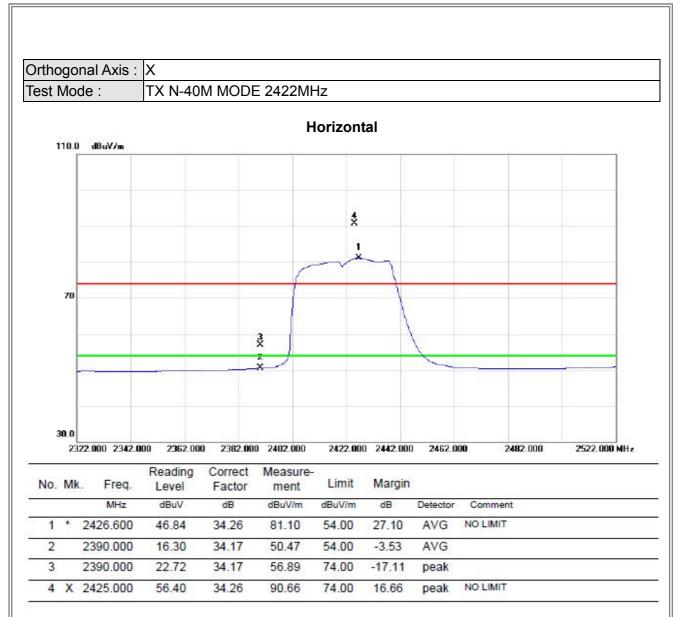




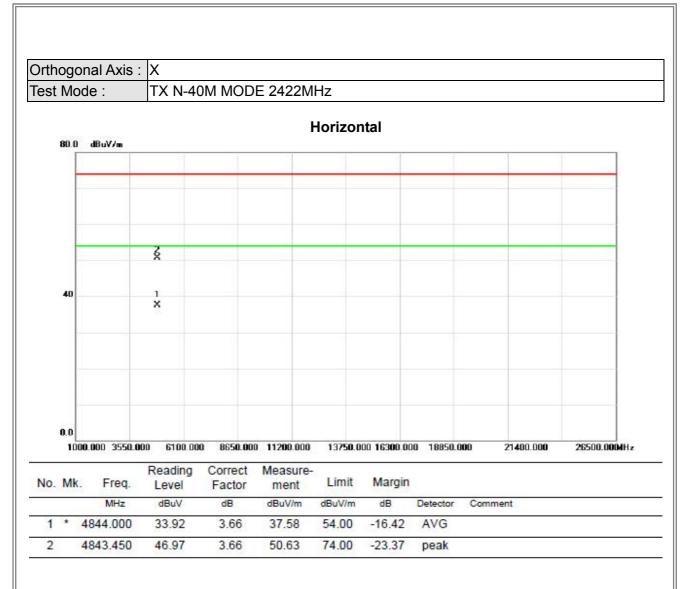




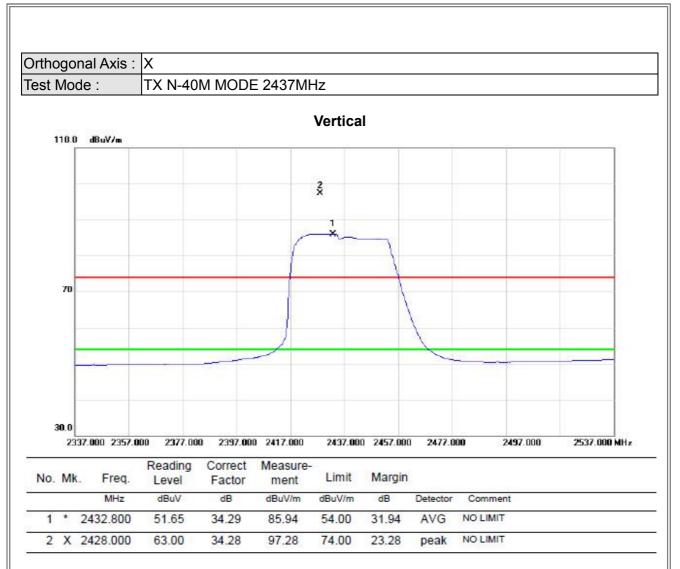




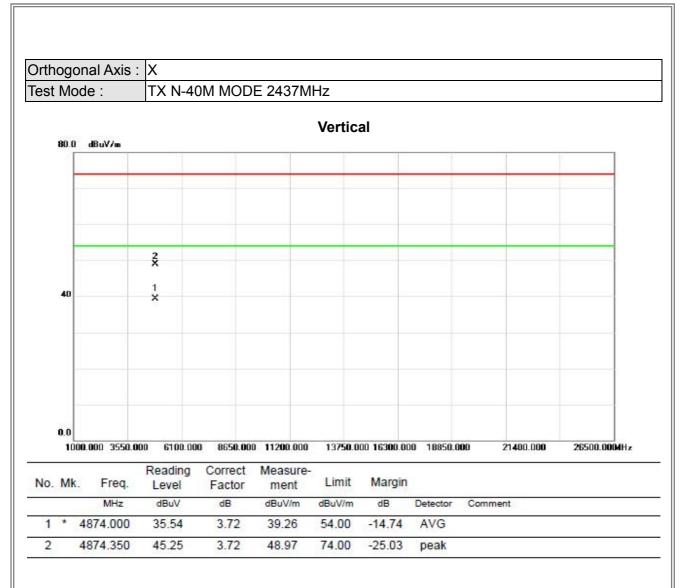




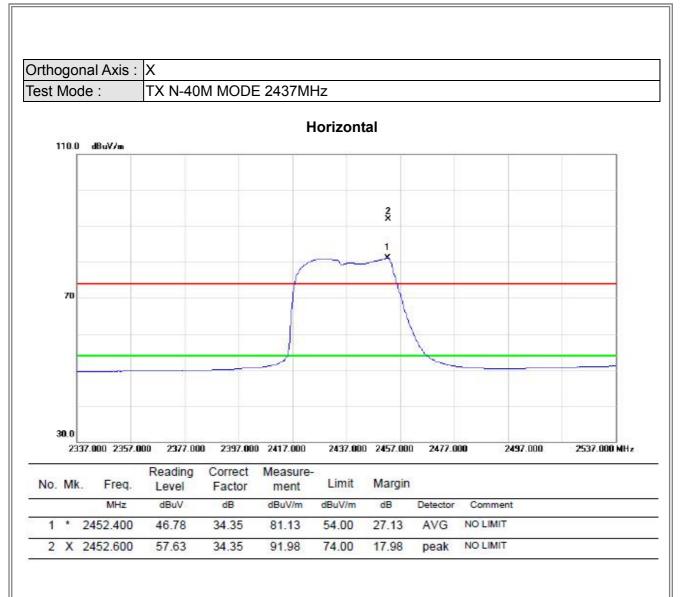




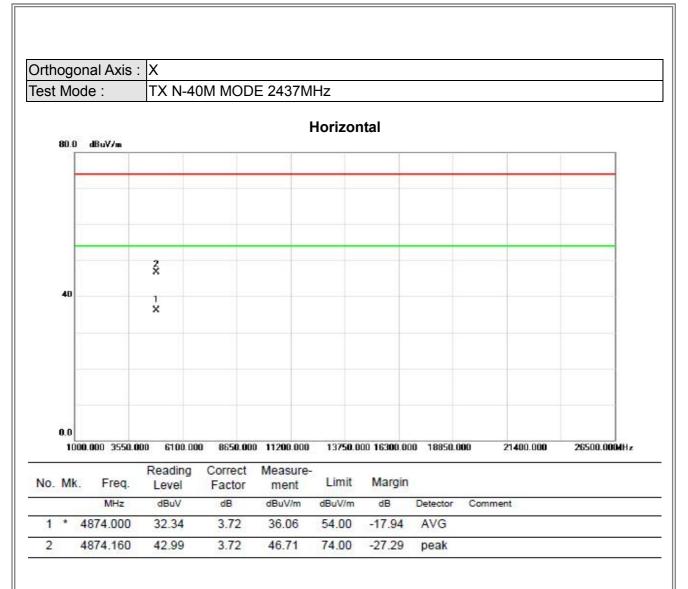




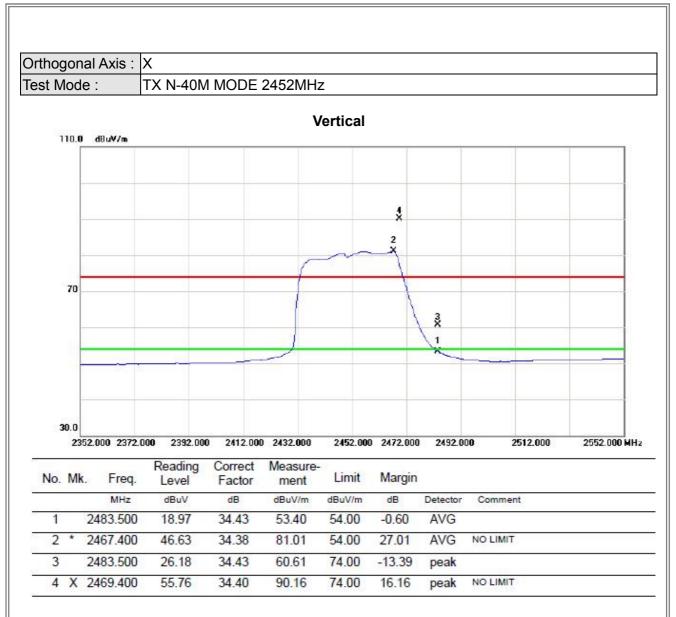




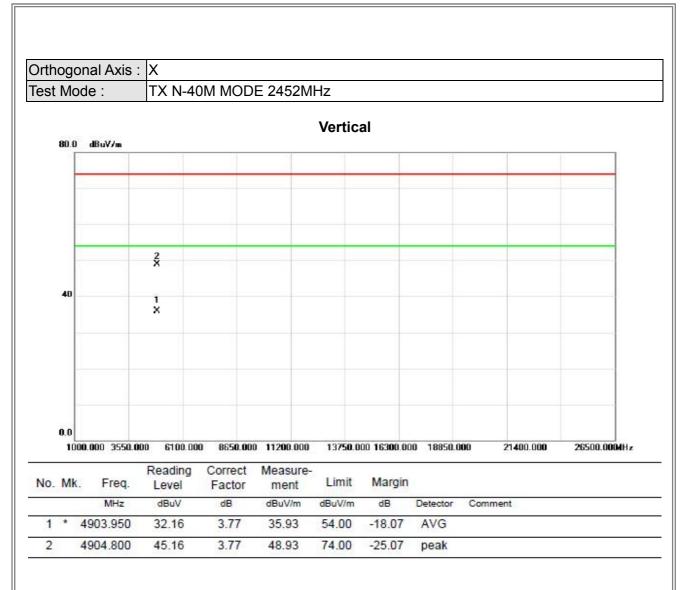




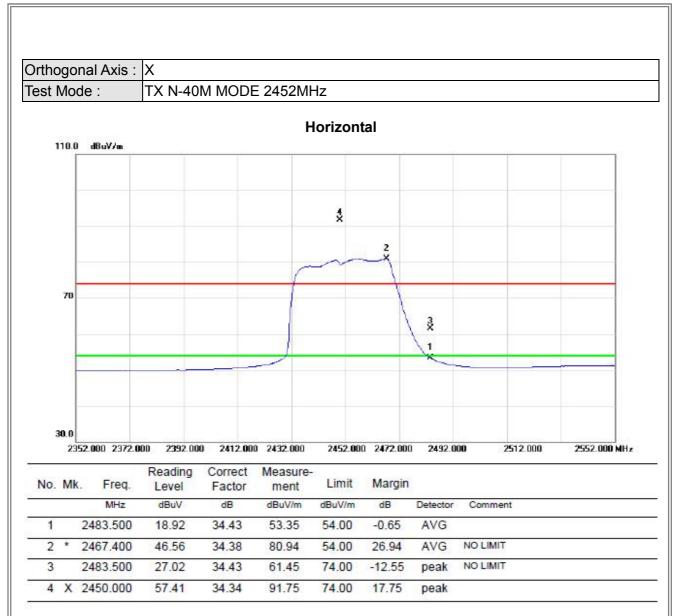




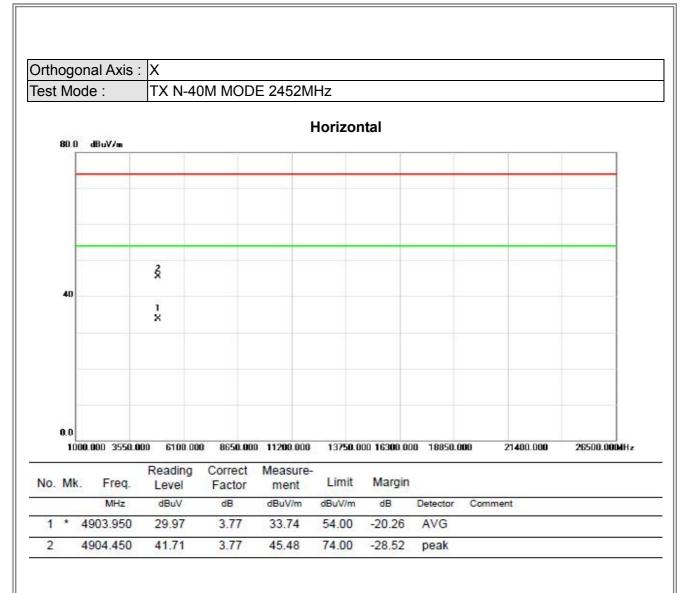








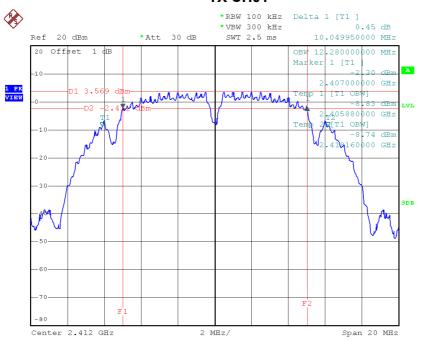




# ATTACHMENT E - BANDWIDTH

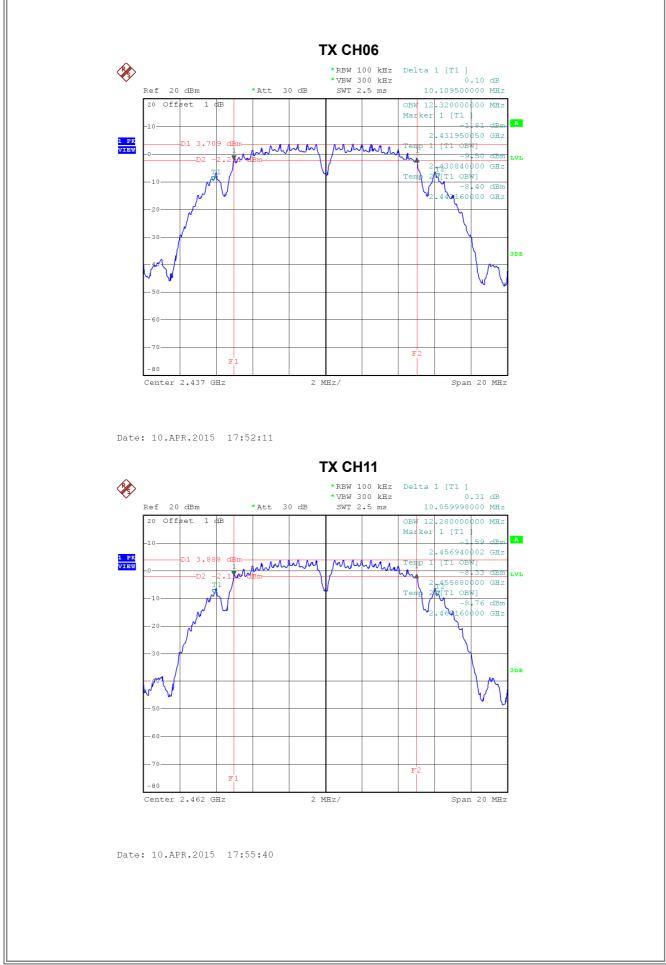
Test Mode : TX B Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min.Limit (kHz)	Test Result
2412	10.04	12.28	500	Complies
2437	10.10	12.32	500	Complies
2462	10.05	12.28	500	Complies



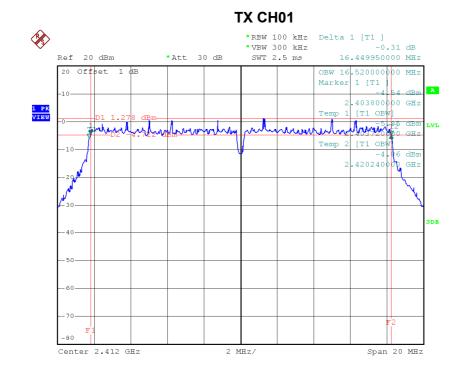
Date: 10.APR.2015 17:49:27

# **TX CH01**

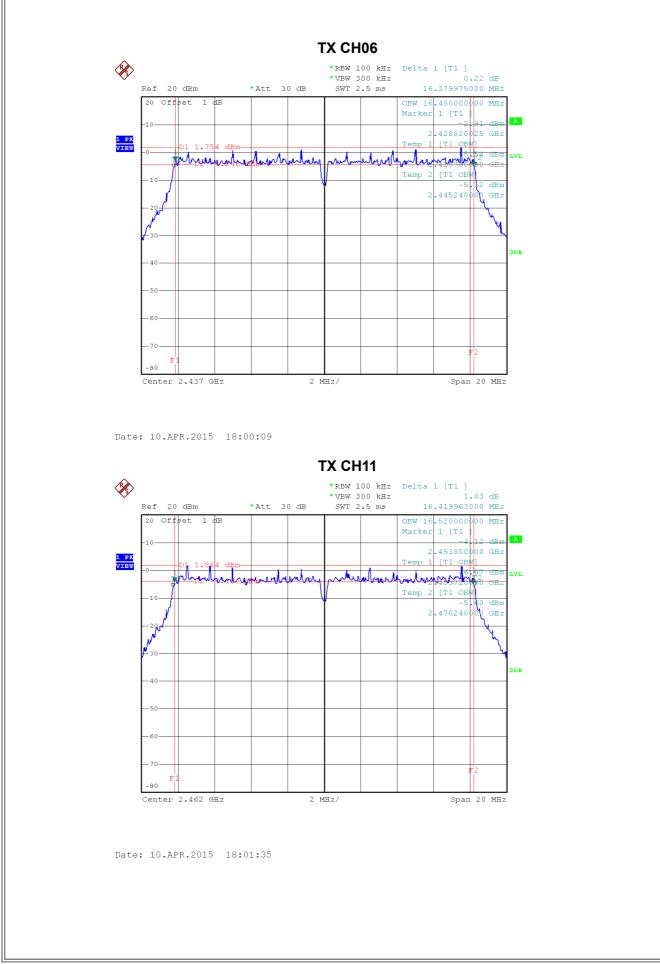


Test Mode: TX G Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.44	16.52	500	Complies
2437	16.37	16.48	500	Complies
2462	16.41	16.52	500	Complies

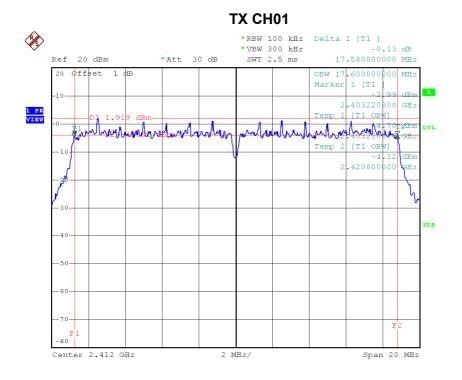


Date: 10.APR.2015 17:57:32

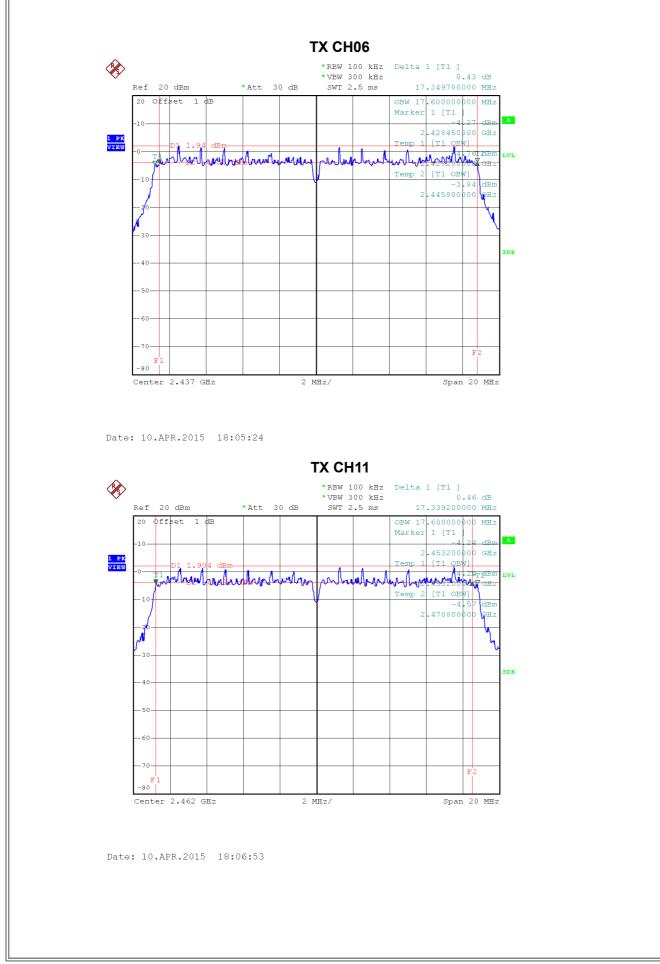


Test Mode : TX N-20MHz Mode_CH0	)1/06/11
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Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.58	17.60	500	Complies
2437	17.34	17.60	500	Complies
2462	17.33	17.60	500	Complies

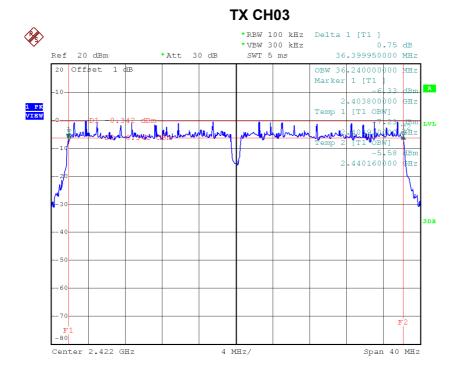


Date: 10.APR.2015 18:03:49

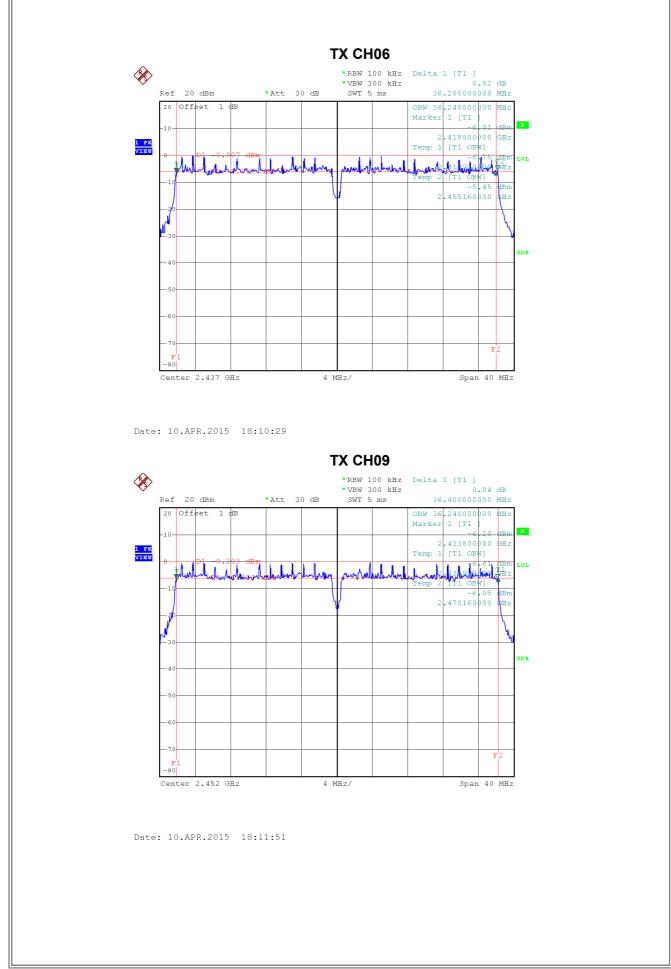


Test Mode : TX N-40MHz Mode_CI	H03/06/09
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Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	36.39	36.24	500	Complies
2437	36.20	36.24	500	Complies
2452	36.40	36.24	500	Complies



Date: 10.APR.2015 18:08:52



# ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER

#### Test Mode :TX B Mode\_CH01/06/11\_ANT 1

Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	16.62	13.37	30.00	1.00	Complies
2437	17.38	13.62	30.00	1.00	Complies
2462	16.67	13.41	30.00	1.00	Complies

# Test Mode :TX B Mode\_CH01/06/11\_ANT 2

Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	17.22	13.68	30.00	1.00	Complies
2437	16.96	13.82	30.00	1.00	Complies
2462	17.34	13.78	30.00	1.00	Complies

#### Test Mode :TX B Mode\_CH01/06/11\_Total

Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.94	16.54	30.00	1.00	Complies
2437	20.19	16.73	30.00	1.00	Complies
2462	20.03	16.61	30.00	1.00	Complies

#### Test Mode :TX G Mode\_CH01/06/11\_ANT 1

Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	18.98	11.31	30.00	1.00	Complies
2437	19.38	11.73	30.00	1.00	Complies
2462	18.71	11.43	30.00	1.00	Complies

# Test Mode :TX G Mode\_CH01/06/11\_ANT 2

Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	18.89	10.72	30.00	1.00	Complies
2437	18.11	11.37	30.00	1.00	Complies
2462	19.36	10.84	30.00	1.00	Complies

#### Test Mode :TX G Mode\_CH01/06/11\_Total

Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	21.95	14.04	30.00	1.00	Complies
2437	21.80	14.56	30.00	1.00	Complies
2462	22.06	14.16	30.00	1.00	Complies

#### Test Mode :TX N20 Mode\_CH01/06/11\_ANT 1

Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.68	11.27	30.00	1.00	Complies
2437	19.05	11.53	30.00	1.00	Complies
2462	19.35	11.73	30.00	1.00	Complies

# Test Mode :TX N20 Mode\_CH01/06/11\_ANT 2

Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.67	11.82	30.00	1.00	Complies
2437	19.07	11.58	30.00	1.00	Complies
2462	19.34	11.63	30.00	1.00	Complies

### Test Mode :TX N20 Mode\_CH01/06/11\_Total

Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	22.69	14.56	30.00	1.00	Complies
2437	22.07	14.57	30.00	1.00	Complies
2462	22.36	14.69	30.00	1.00	Complies

#### Test Mode :TX N40 Mode\_CH03/06/09\_ANT 1

Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	19.34	11.59	30.00	1.00	Complies
2437	19.24	11.74	30.00	1.00	Complies
2452	19.66	11.34	30.00	1.00	Complies

# Test Mode :TX N40 Mode\_CH03/06/09\_ANT 2

Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	19.71	11.48	30.00	1.00	Complies
2437	19.16	11.36	30.00	1.00	Complies
2452	19.06	11.51	30.00	1.00	Complies

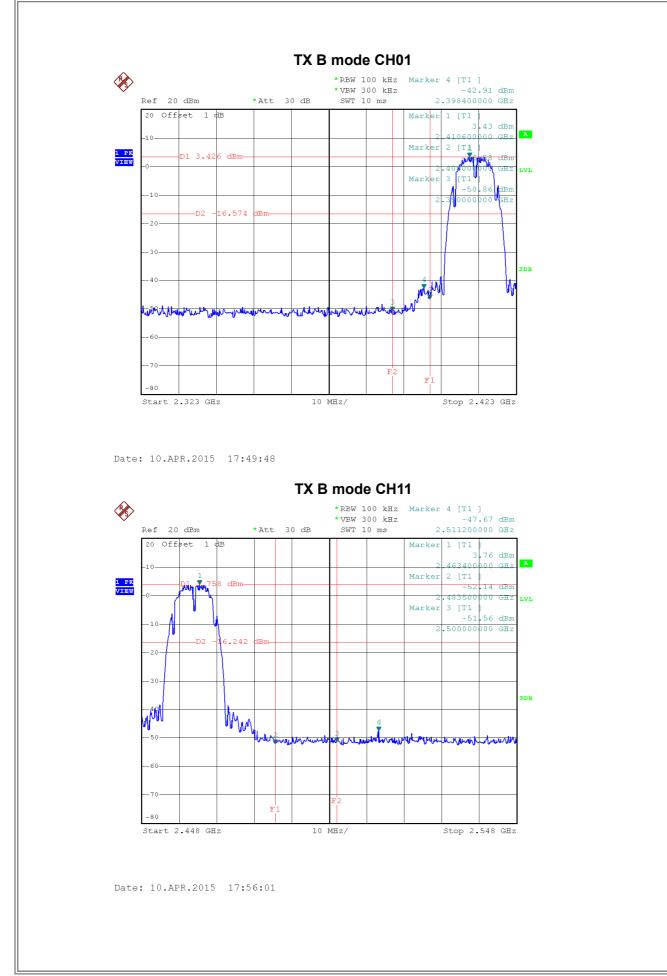
### Test Mode :TX N40 Mode\_CH03/06/09\_Total

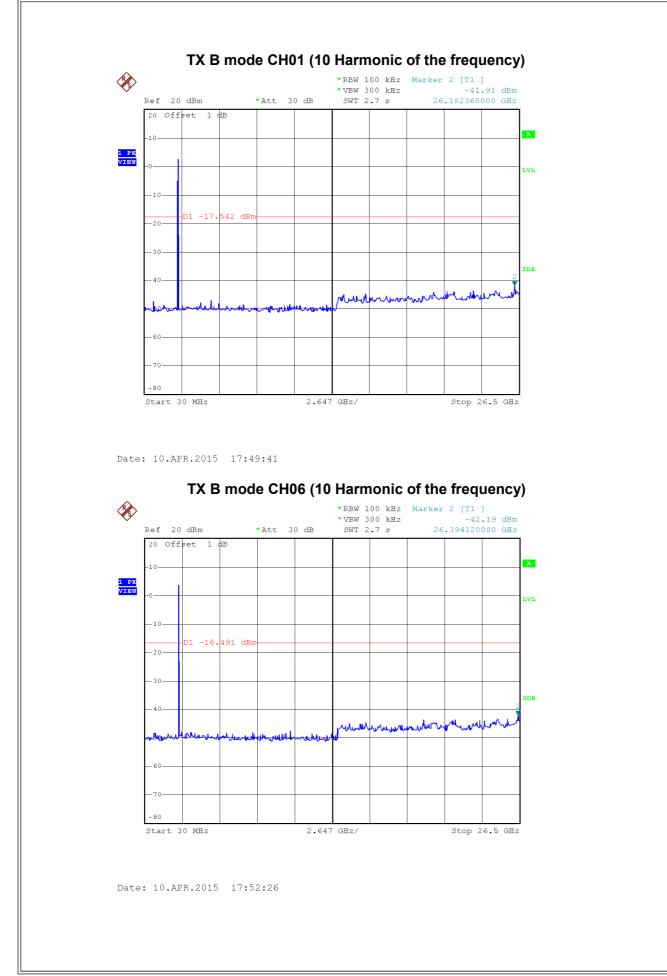
Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	22.54	14.55	30.00	1.00	Complies
2437	22.21	14.56	30.00	1.00	Complies
2452	22.38	14.44	30.00	1.00	Complies

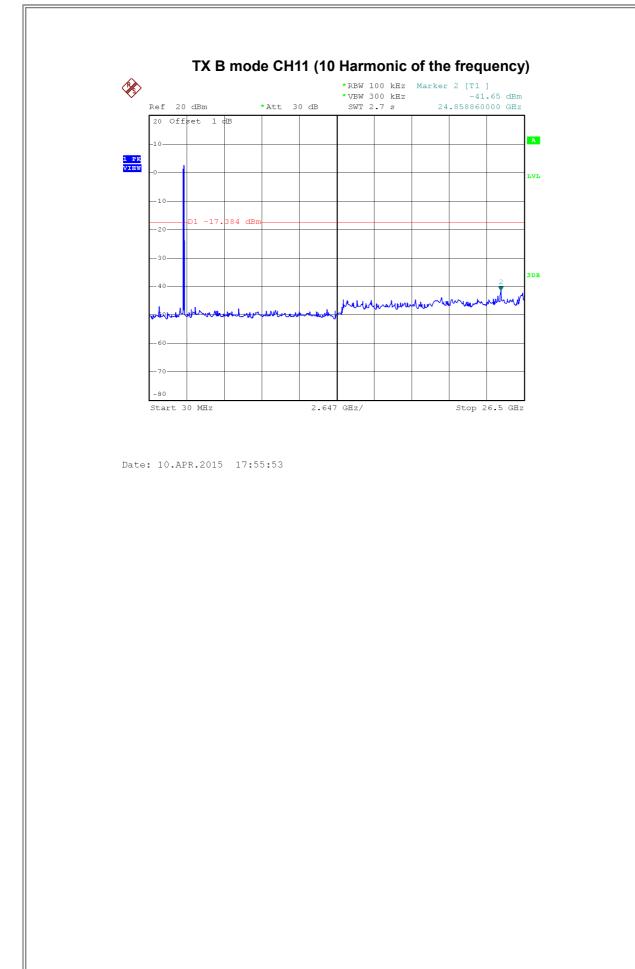
# ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION



Test Mode :	TX B Mode_ANT 1	

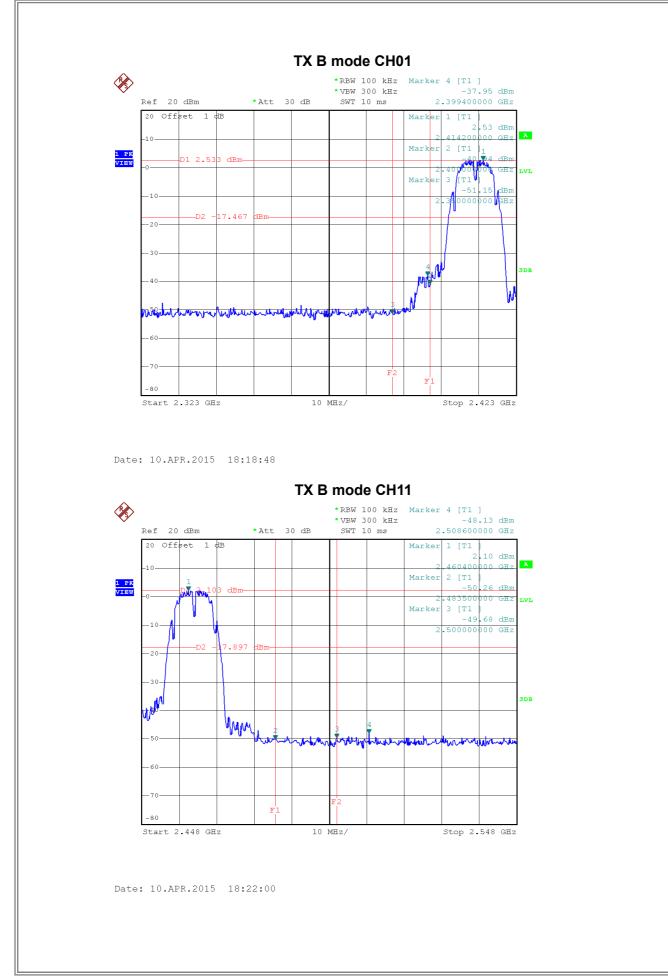


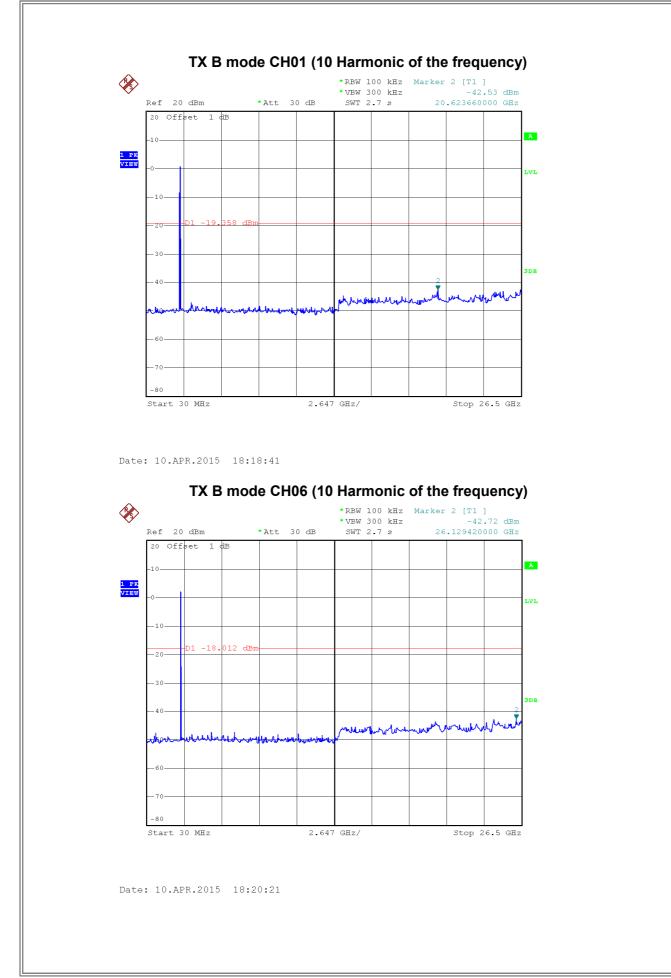


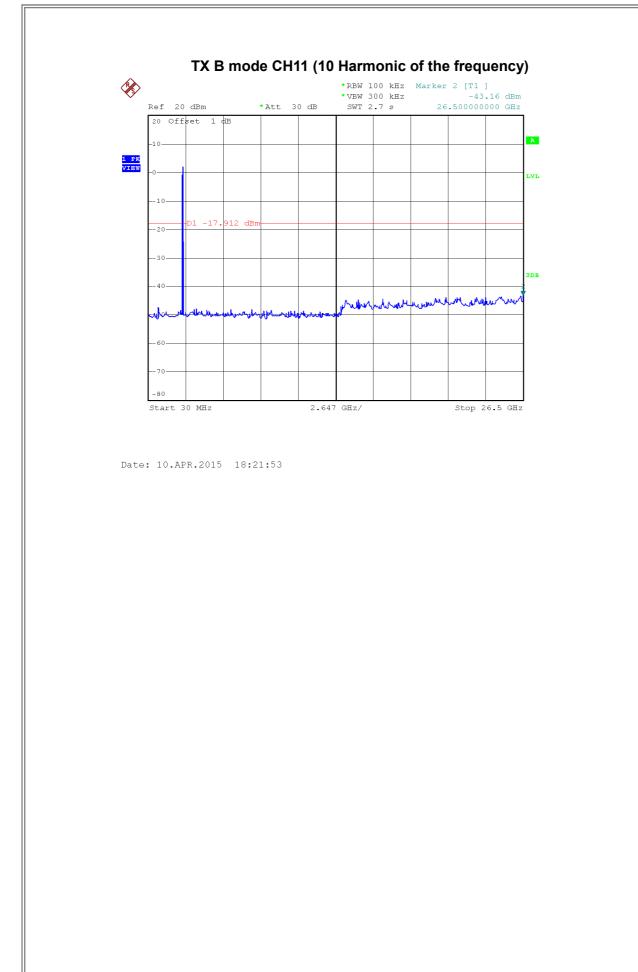




Test Mode :	TX B Mode_ANT 2

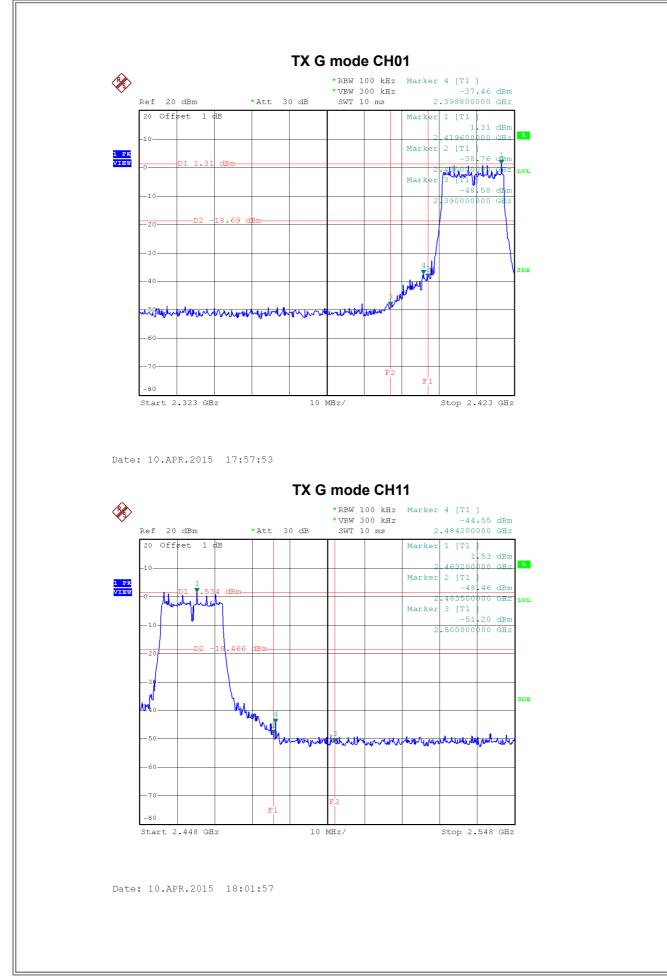


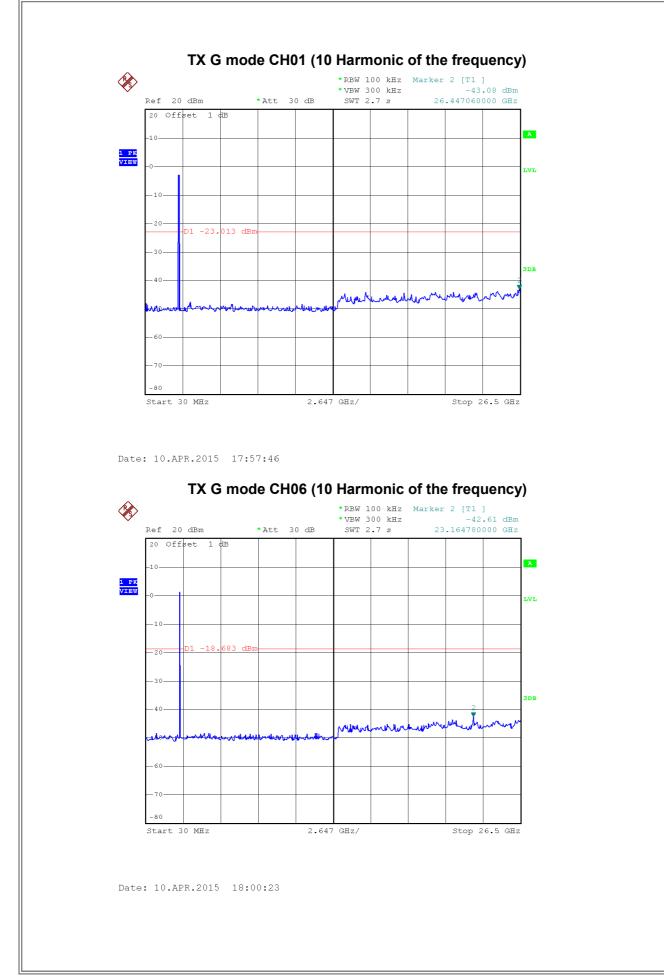




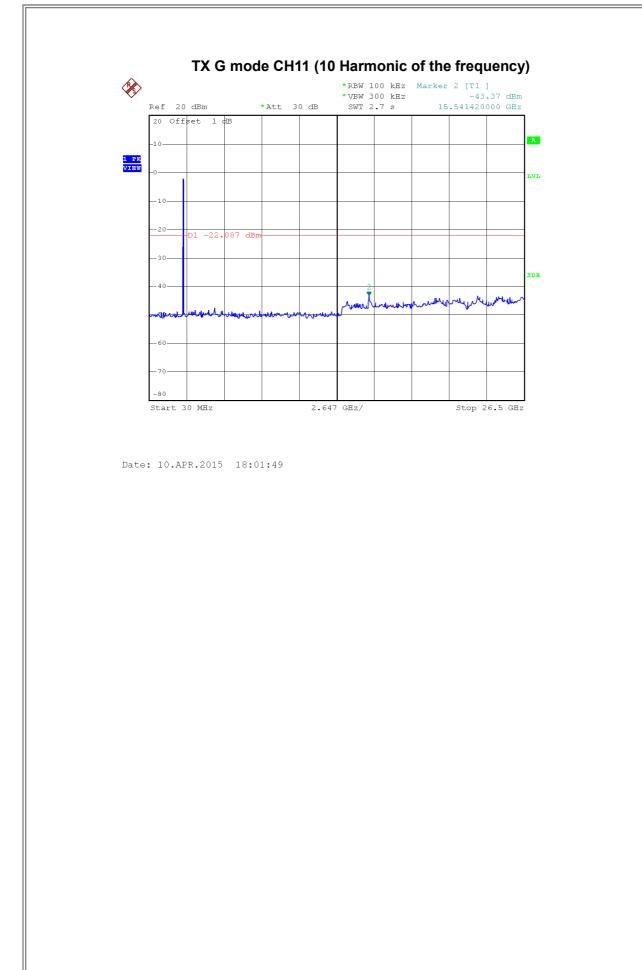


Test Mode :	TX G Mode_ANT 1



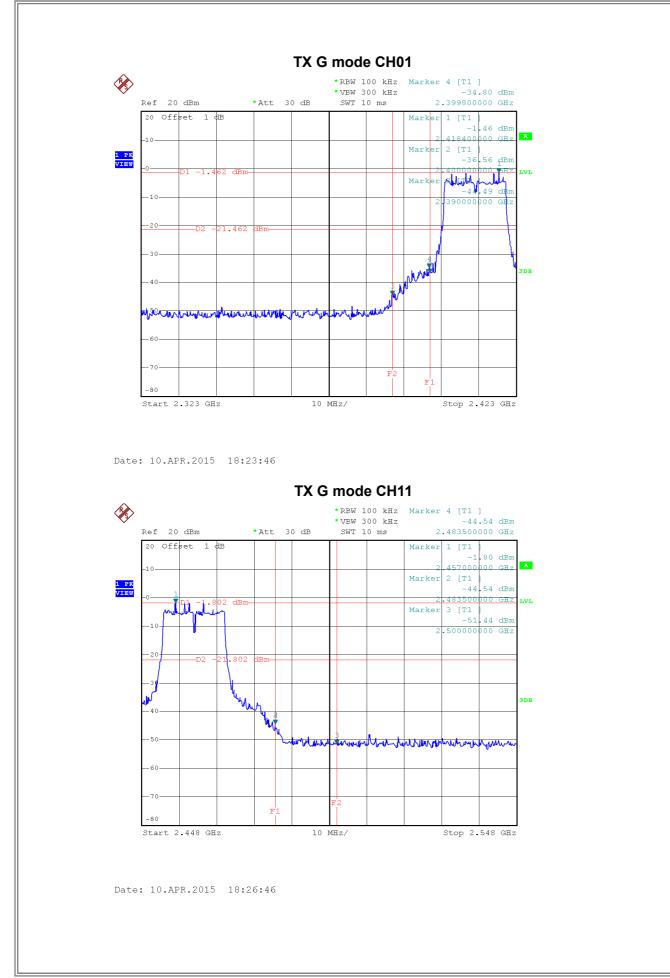


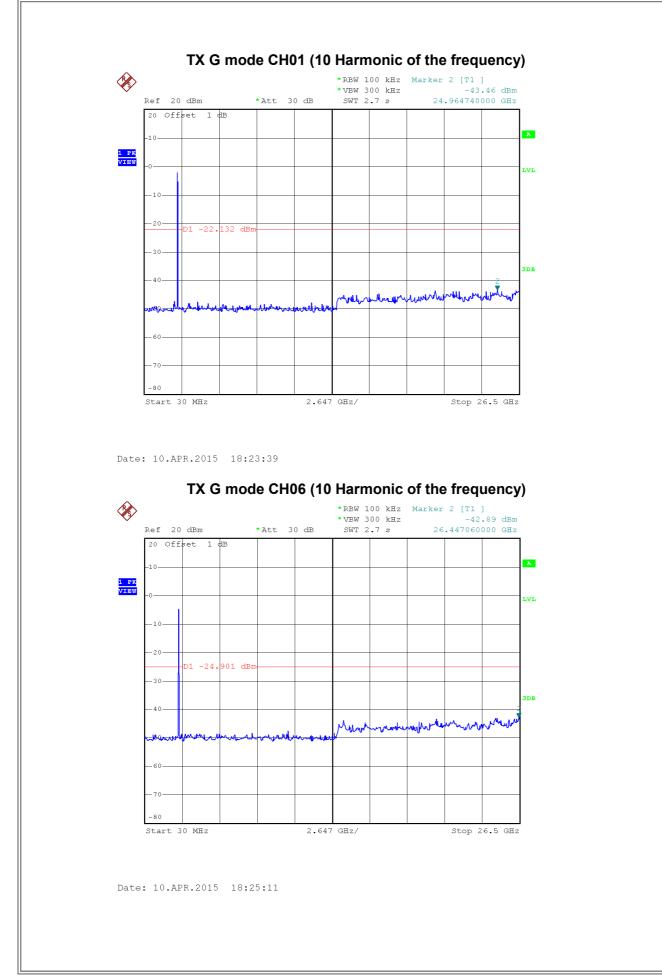
Report No.: BTL-FCCP-1-1503C264

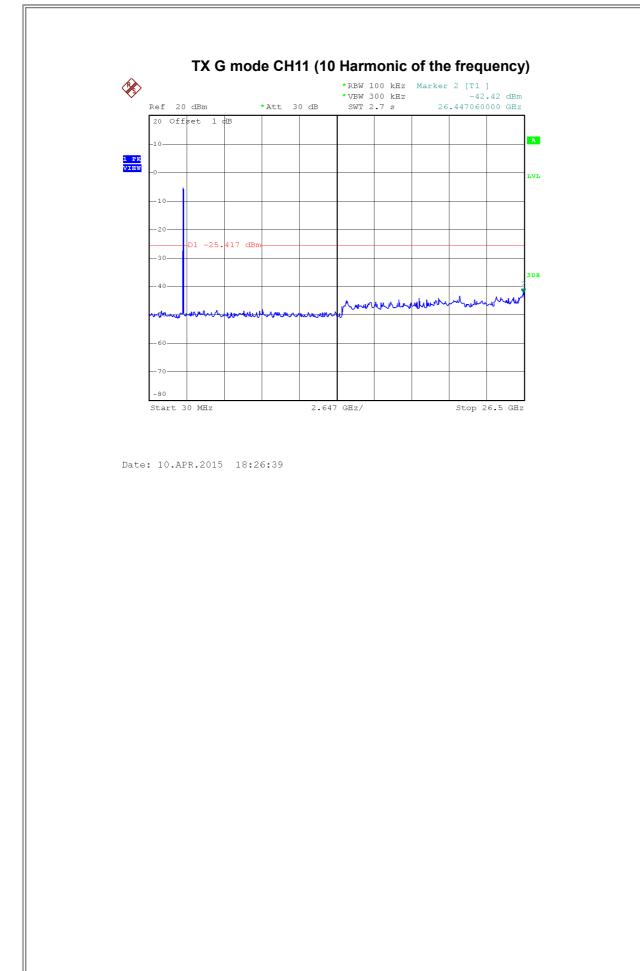




Test Mode :	TX G Mode_ANT 2	
<u> </u>		

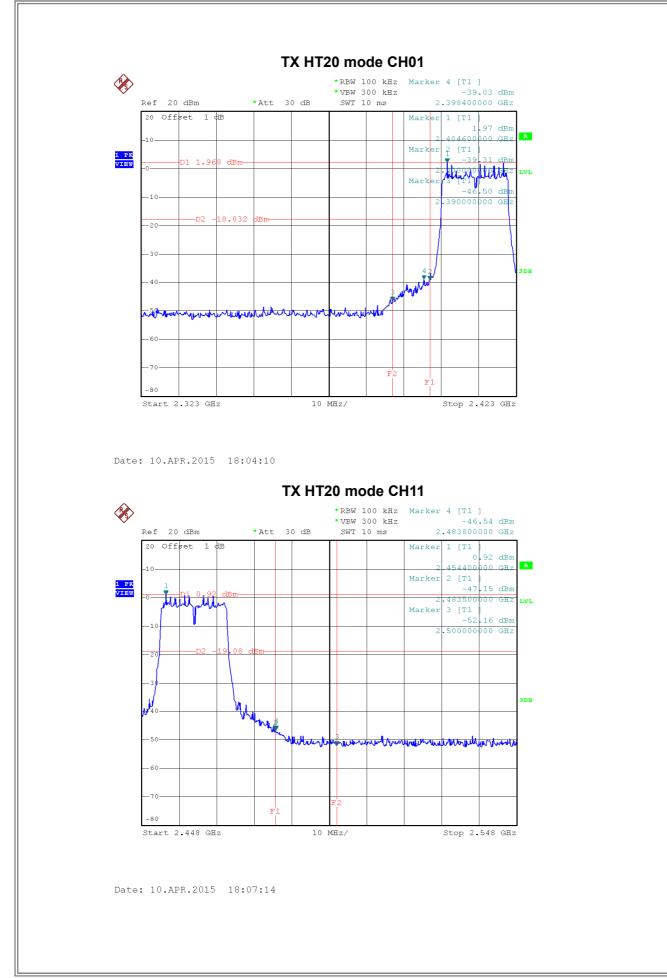


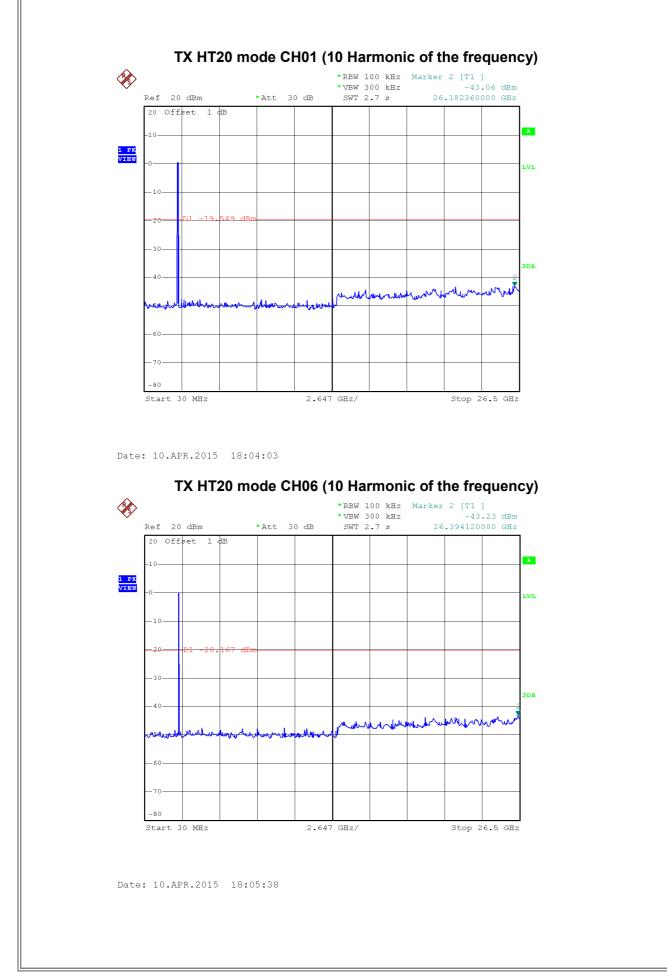


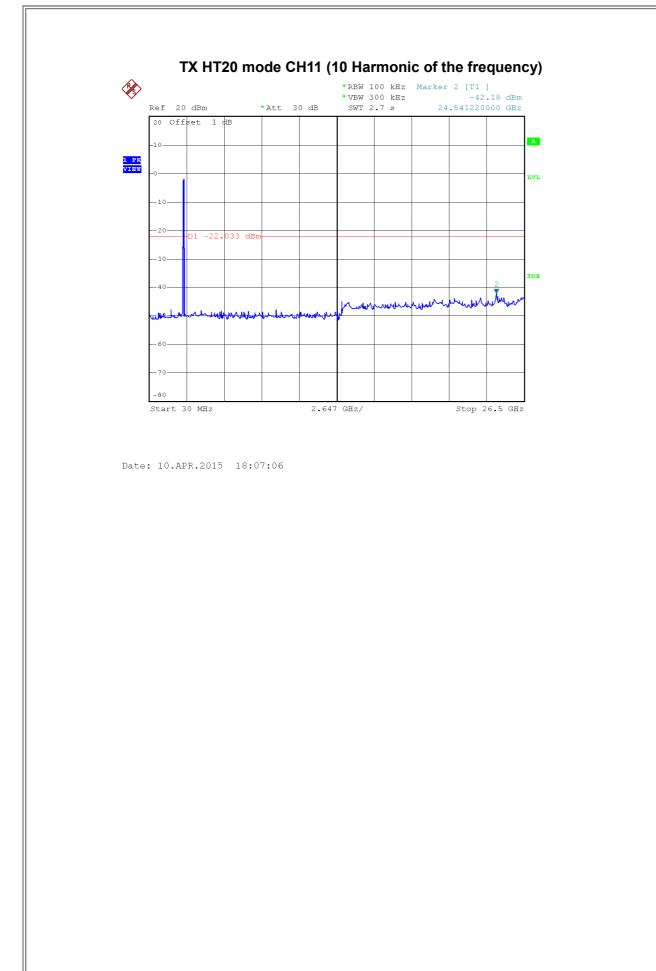




Test Mode :	TX N-20M Mode_ANT 1

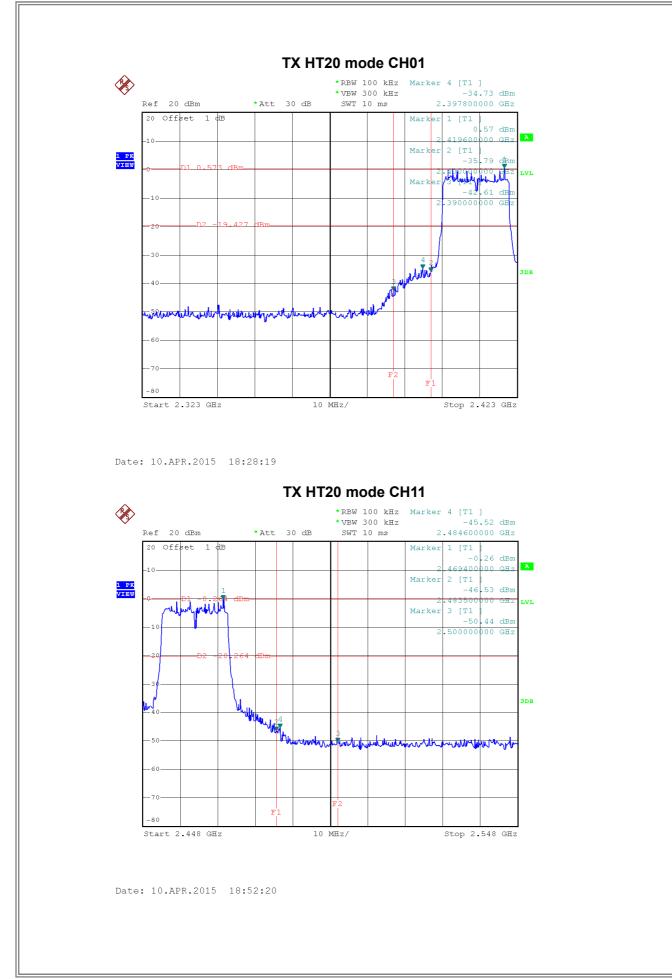


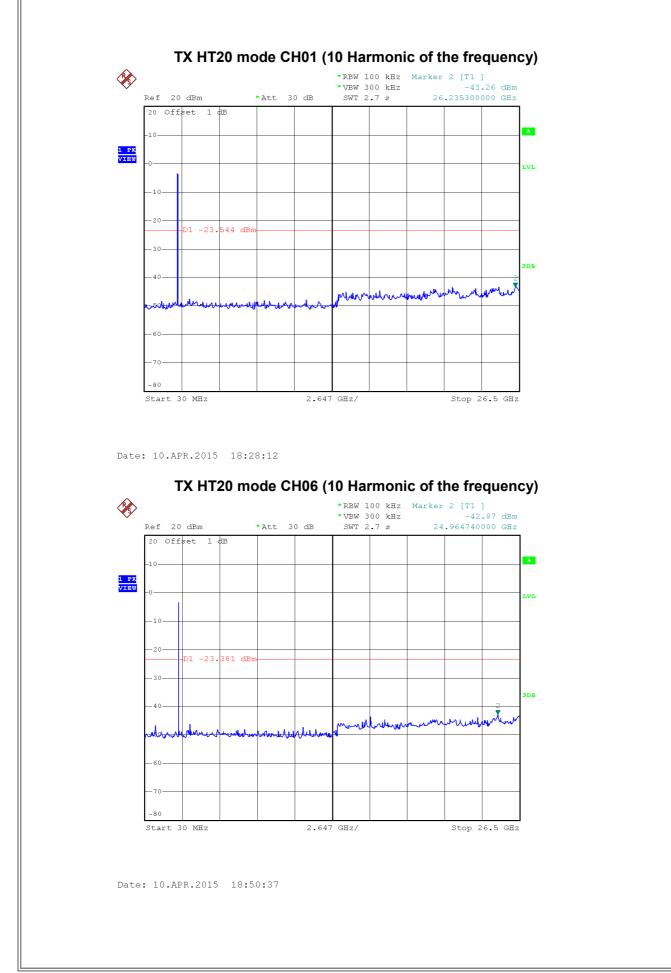


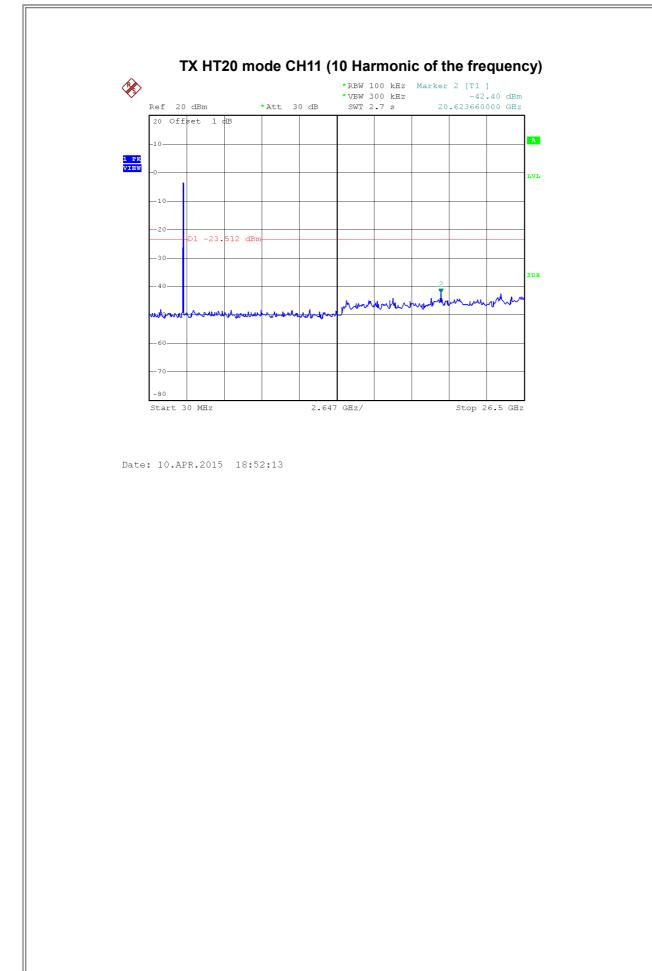




Test Mode :	TX N-20M Mode_ANT 2	

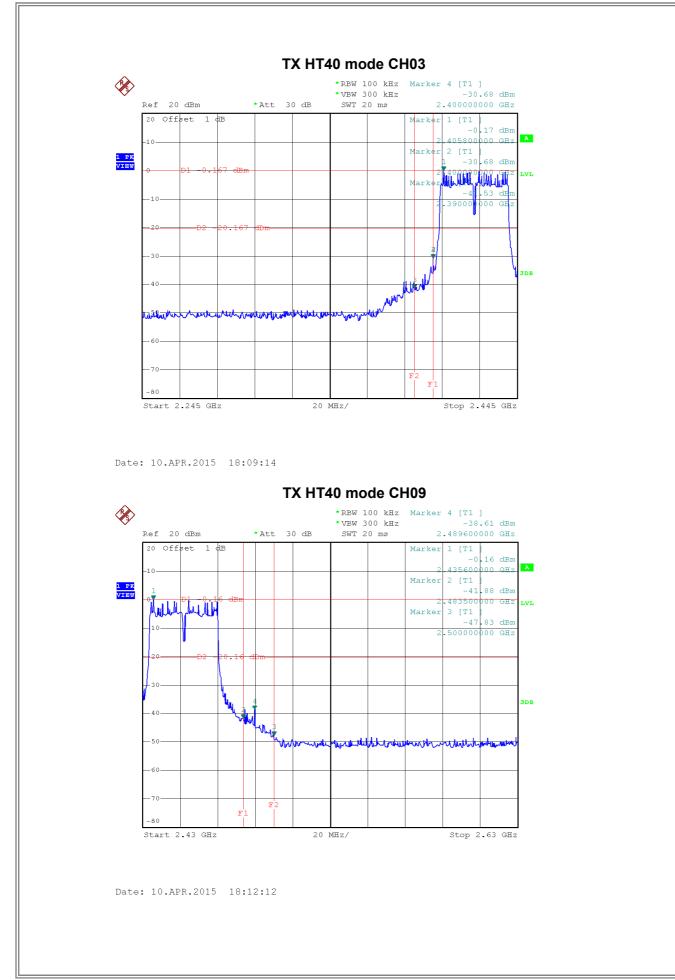


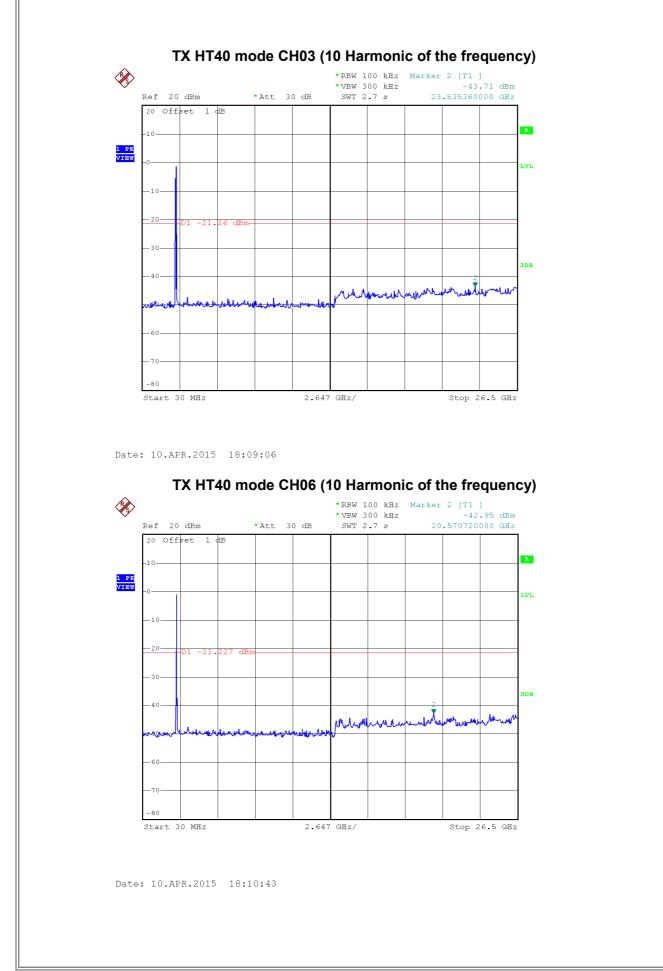


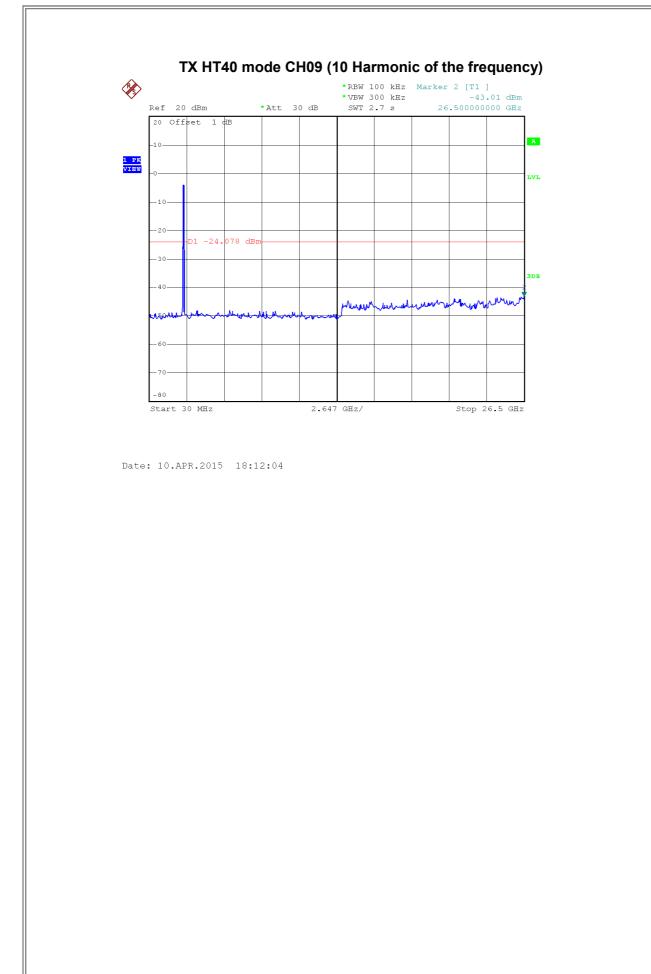




Test Mode :	TX N-40M Mode_ANT 1	

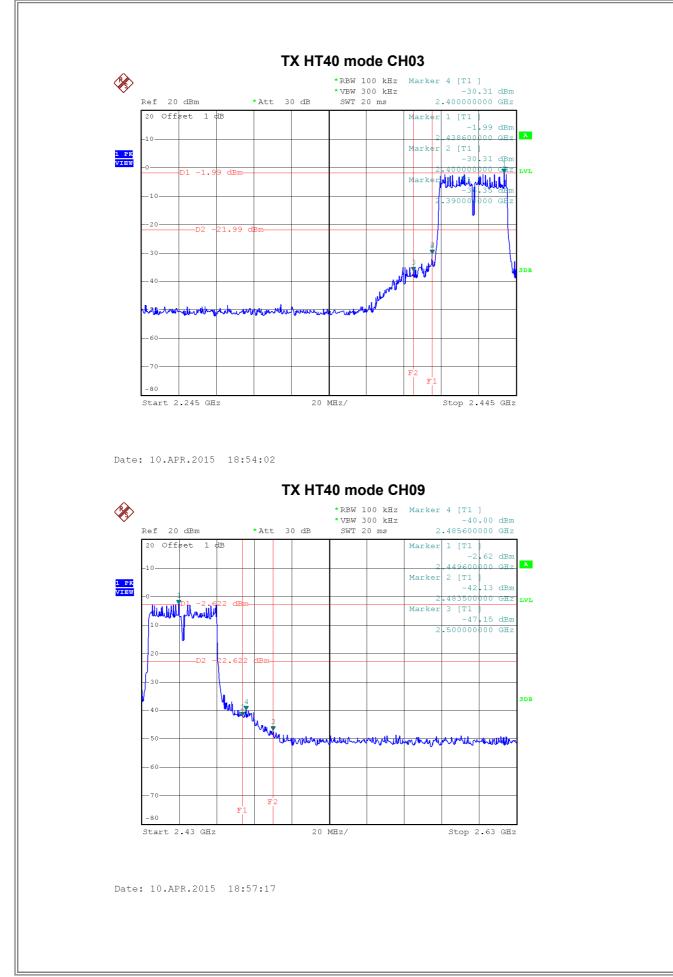


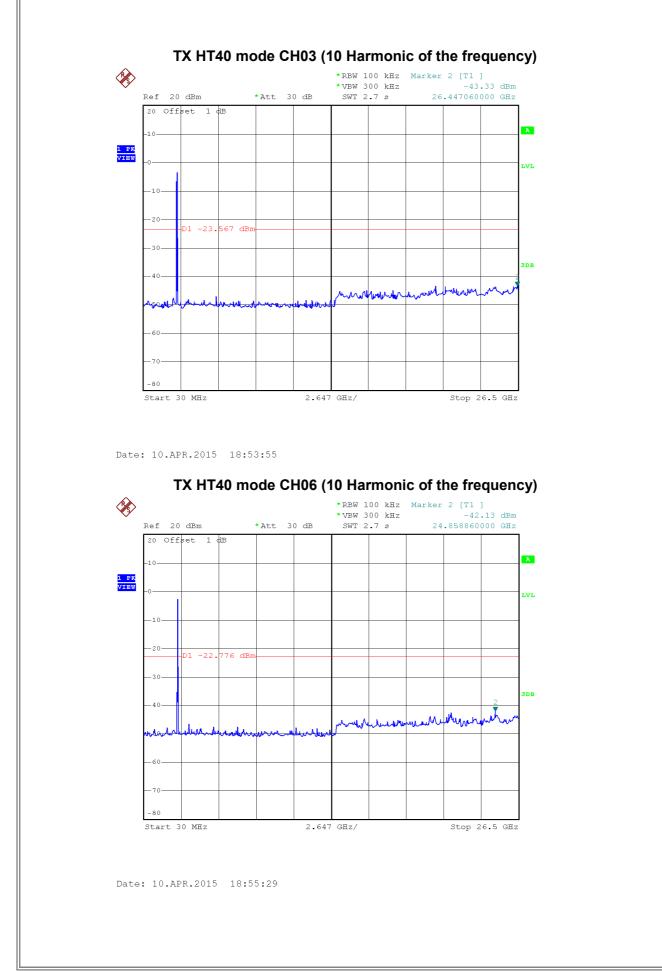


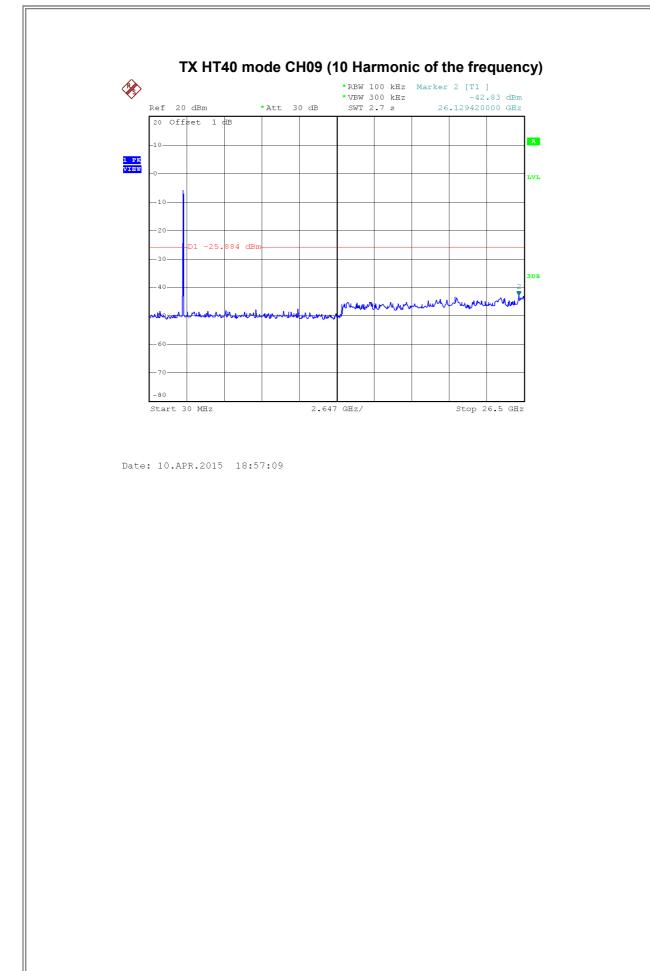




Test Mode :	TX N-40M Mode_ANT 2	



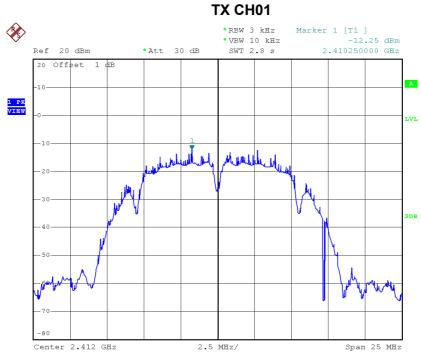




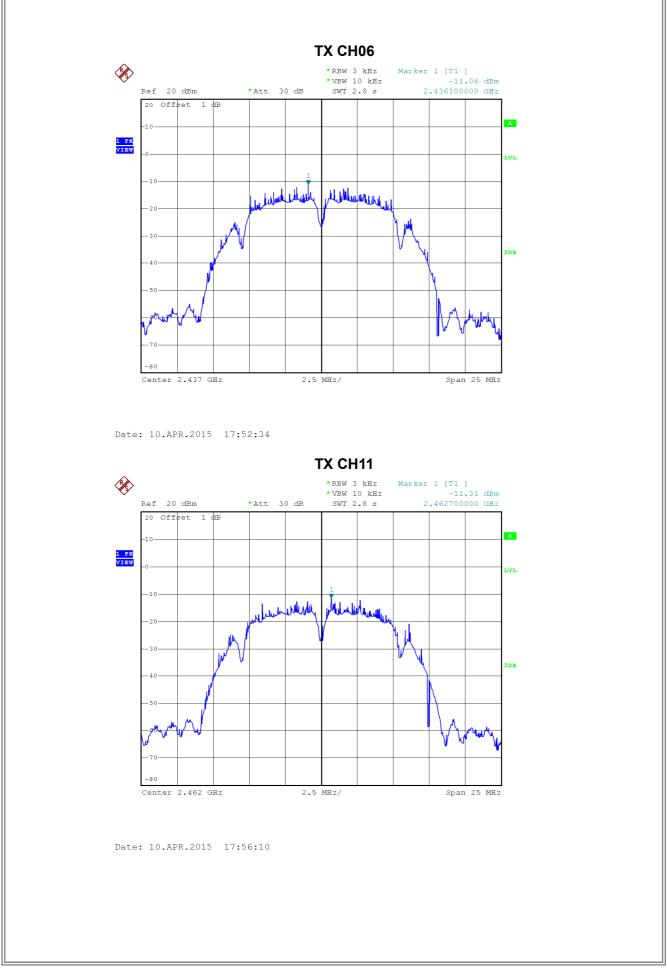
## **ATTACHMENT H - POWER SPECTRAL DENSITY**

Test Mode :TX B Mode\_CH01/06/11\_ANT 1

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-12.25	0.06	8.00	Complies
2437	-11.06	0.08	8.00	Complies
2462	-11.31	0.07	8.00	Complies



Date: 10.APR.2015 17:49:57

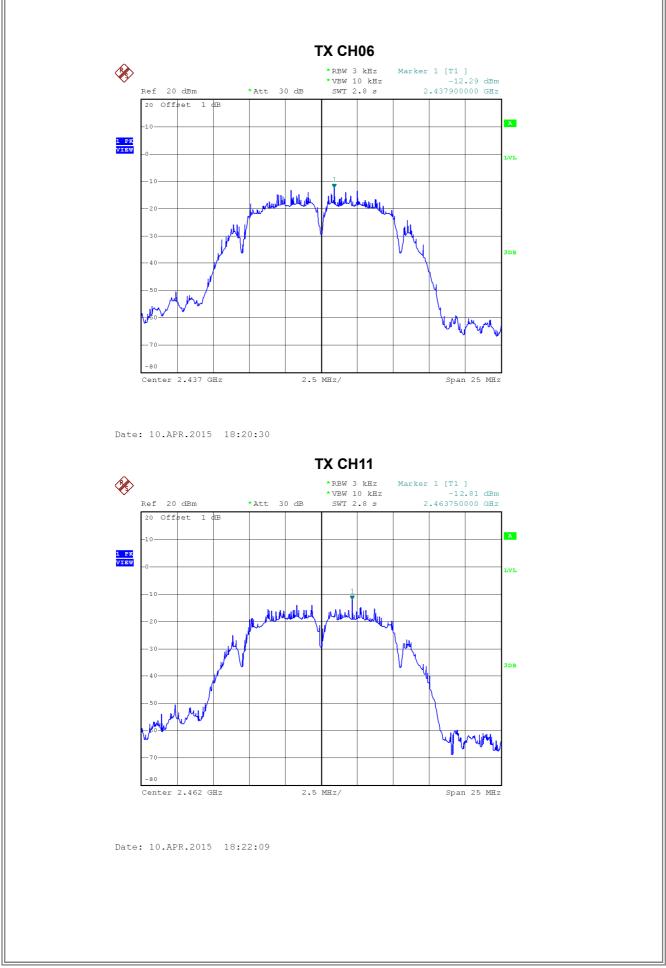


Test Mode :TX B Mode\_CH01/06/11\_ANT 2

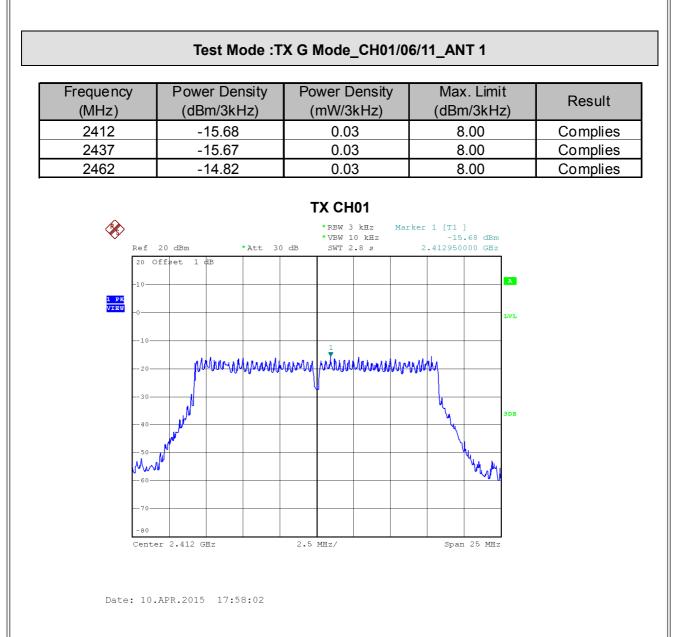
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-11.75	0.07	8.00	Complies
2437	-12.29	0.06	8.00	Complies
2462	-12.81	0.05	8.00	Complies

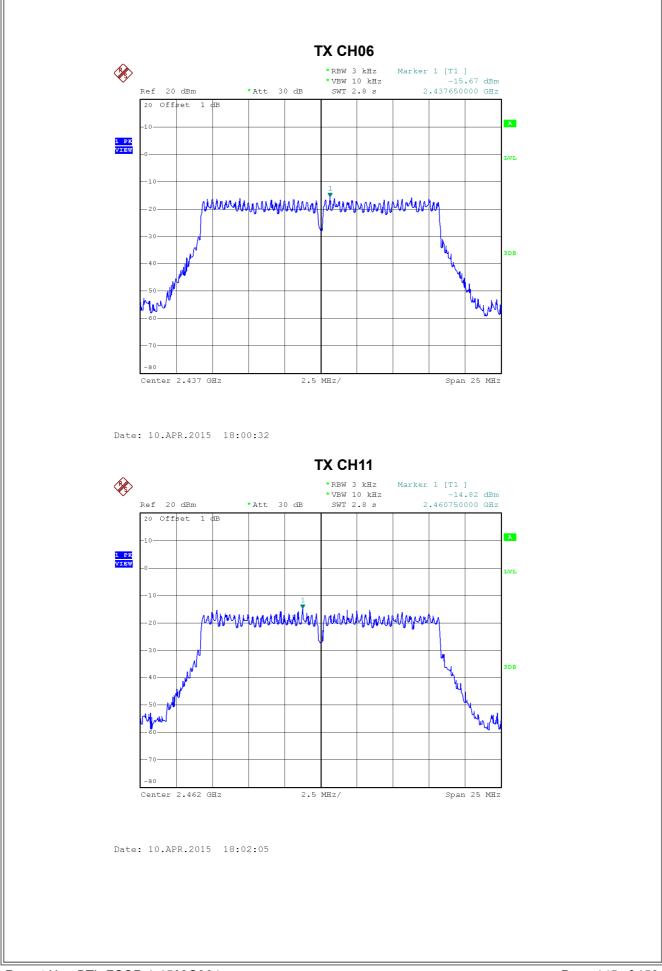


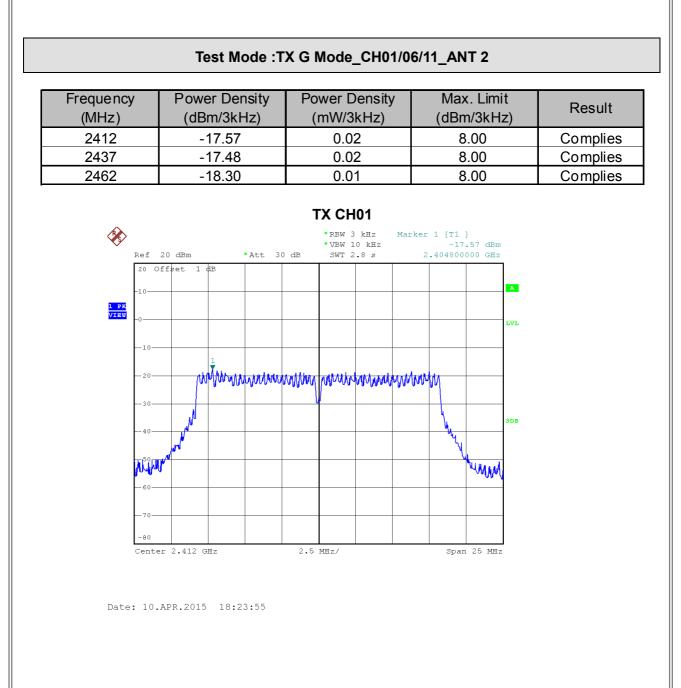
Date: 10.APR.2015 18:18:57



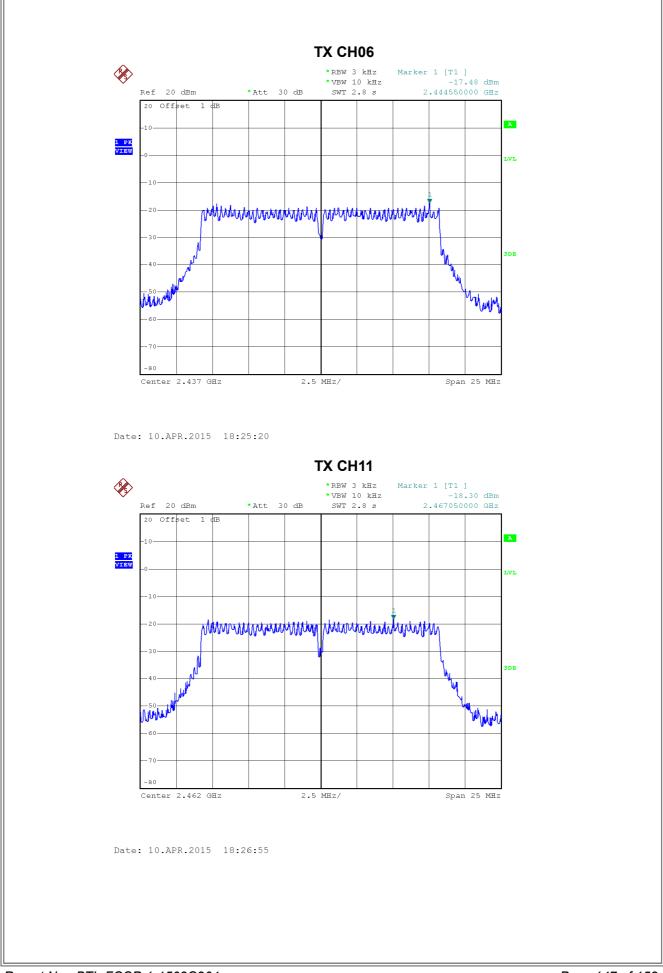
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-8.98	0.13	8.00	Complies
2437	-8.62	0.14	8.00	Complies
2462	-8.99	0.13	8.00	Complies





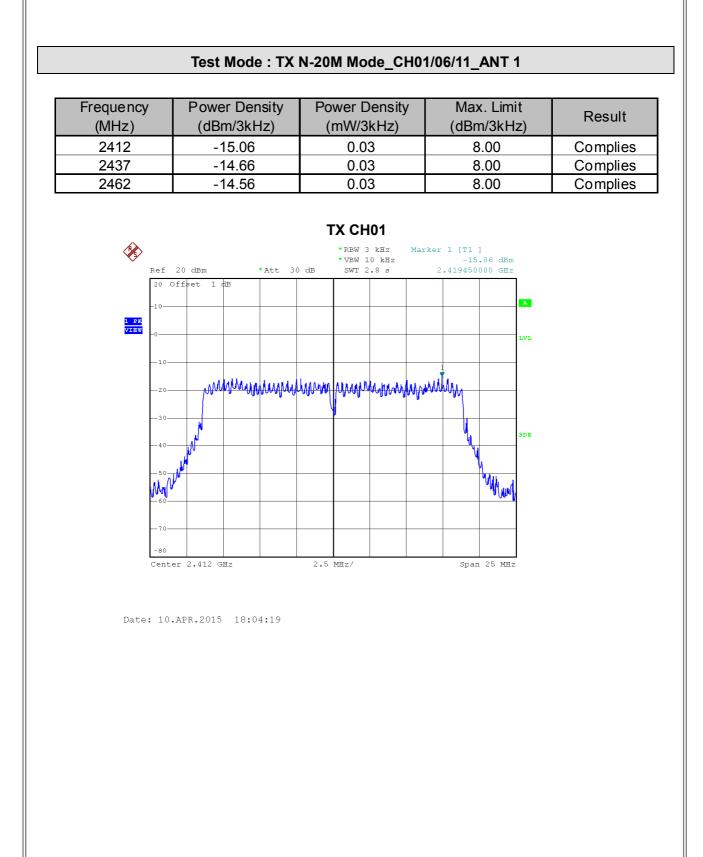


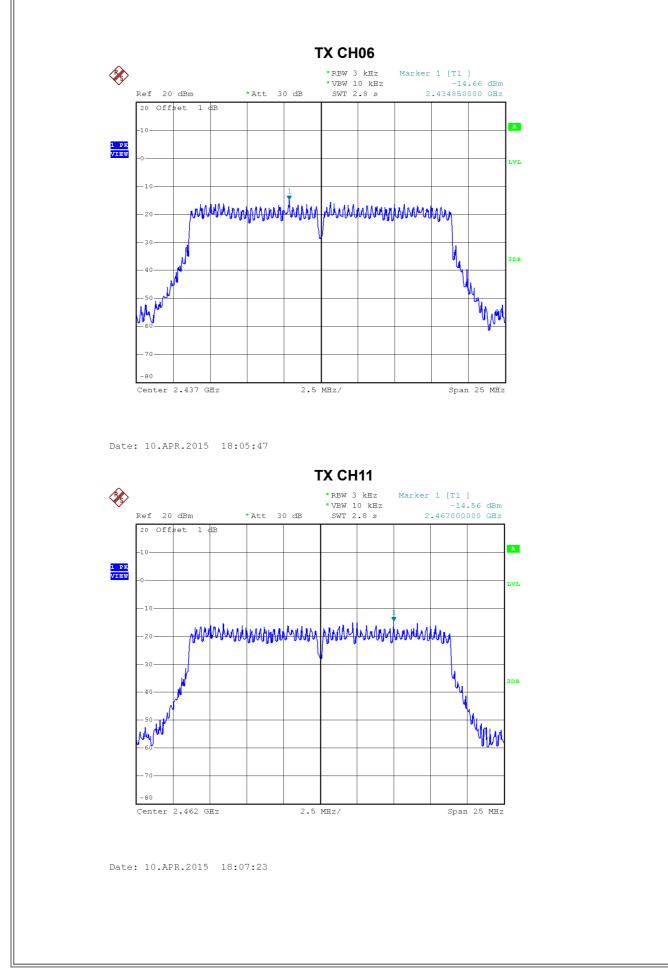
Report No.: BTL-FCCP-1-1503C264

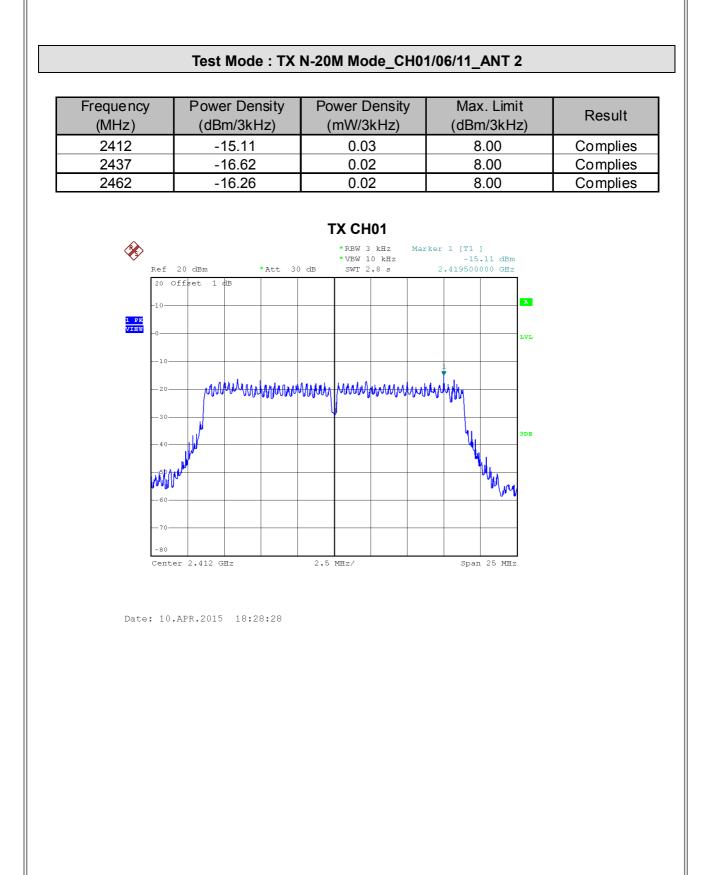


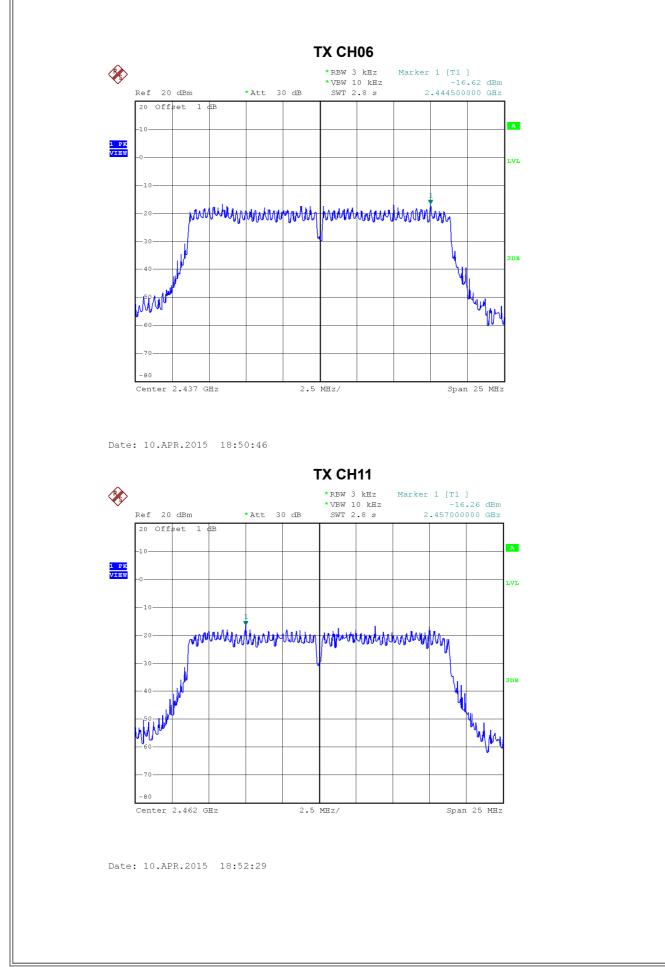
Test Mode :TX G Mode_CH01/06/11	_Total
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Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.51	0.04	8.00	Complies
2437	-13.47	0.04	8.00	Complies
2462	-13.21	0.05	8.00	Complies



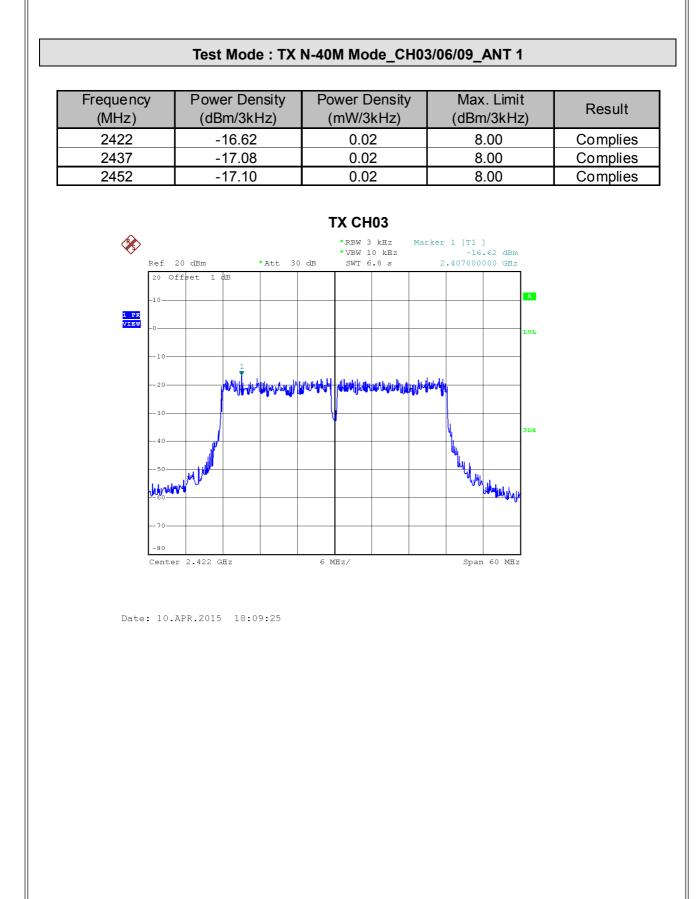


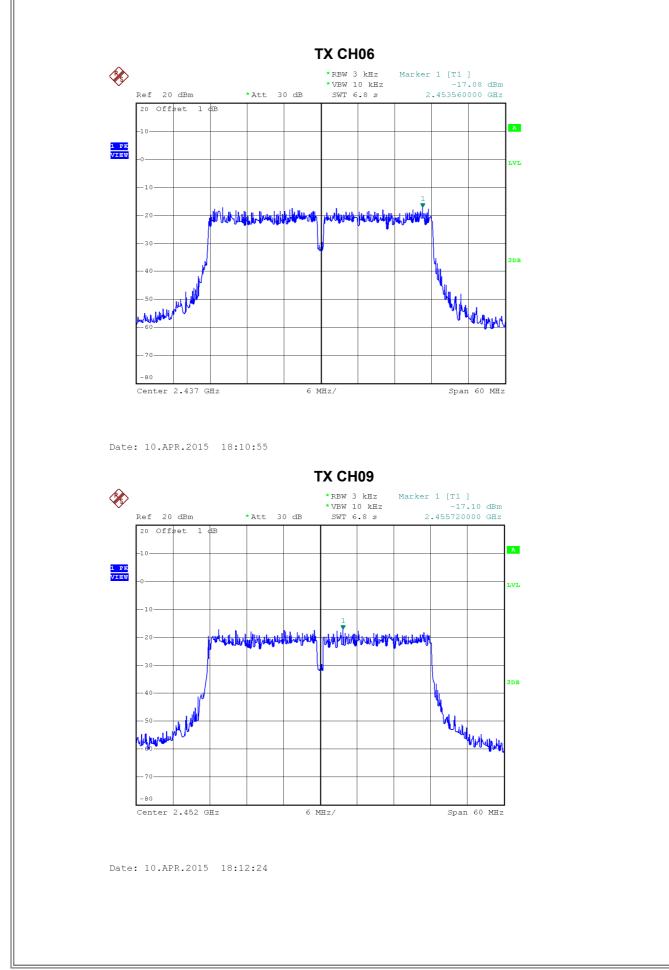




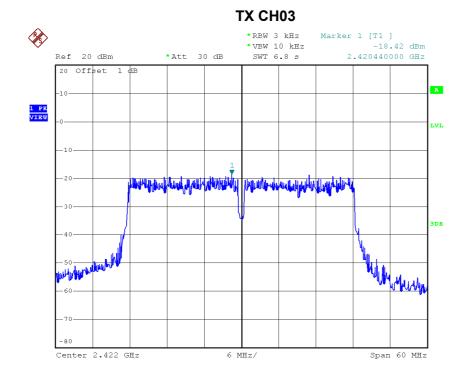
Test Mode : TX N-20M Mode	_CH01/06/11_Total
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Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-12.07	0.06	8.00	Complies
2437	-12.52	0.06	8.00	Complies
2462	-12.32	0.06	8.00	Complies

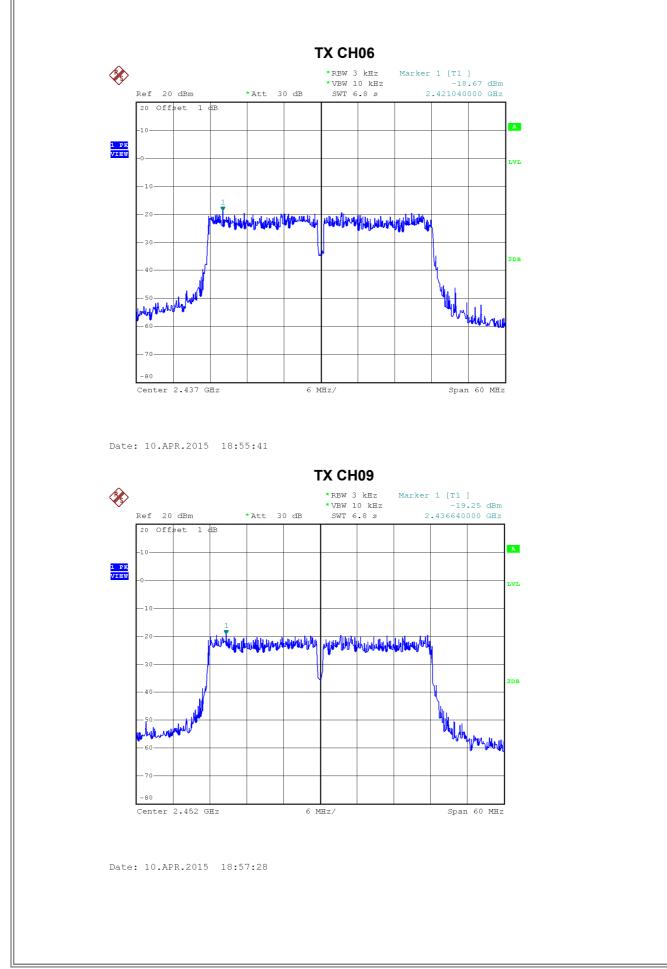




Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-18.42	0.01	8.00	Complies
2437	-18.67	0.01	8.00	Complies
2452	-19.25	0.01	8.00	Complies



Date: 10.APR.2015 18:54:14



Test Mode : TX N-40M Mode_0	CH03/06/09_Total
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Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-14.42	0.04	8.00	Complies
2437	-14.79	0.03	8.00	Complies
2452	-15.03	0.03	8.00	Complies