

FC	CID: I38VDSL5038GRV
This report conc	erns (check one): ⊠Original Grant
Project No. Equipment Model Name Applicant Address	 1502C148 VDSL2 WIRELESS-AC 4-PORT GATEWAY WITH USB 2.0 HOST VDSL5038GRV(AC) AZTECH TECHNOLOGIES PTE LTD. 31, Ubi Road 1, #09-01, Singapore 408694
Date of Receipt Date of Test Issued Date Tested by	 Feb. 25, 2015 Feb. 25, 2015~ Apr. 07, 2015 Apr. 08, 2015 BTL Inc.
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в	TLINC.
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Declaration

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

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Limitation

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

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REPORT ISSUED HISTORY

Issued No.
BTL-FCCP-1-1502C148

1. CERTIFICATION

	VDSL2 WIRELESS-AC 4-PORT GATEWAY WITH USB 2.0 HOST
Brand Name :	Aztech
	VDSL5038GRV(AC)
	AZTECH TECHNOLOGIES PTE LTD.
	Aztech Technologies Pte Ltd.
	31, Ubi Road 1, #09-01, Singapore 408694
Factory :	Aztech Communication Device (DG) LTD
Address :	JiuJiangshui, Chang Ping town, Dongguan, Guang Dong
Date of Test :	Feb. 25, 2015~ Apr. 07, 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-1-1502C148) 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 FCC	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(d)	Antenna conducted Spurious Emission	PASS	
15.247(a)(2)	6dB Bandwidth	PASS	
15.247(b)(3)	Peak Output Power	PASS	
15.247(e)	Power Spectral Density	PASS	
15.203	Antenna Requirement	PASS	
15.209/15.205	Transmitter Radiated Emissions	PASS	

NOTE:

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

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

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is 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 % $^\circ$

A. Conducted Measurement :

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

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)	Note
		9KHz~30MHz	V	3.79	
		9KHz~30MHz	Н	3.57	
		30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	Н	3.60	
DG-C 03	CISPR	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	H	4.14	

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	VDSL2 WIRELESS-AC 4-PORT GATEWAY WITH USB 2.0 HOST			
Brand Name	Aztech			
Model Name	VDSL5038GRV(AC)			
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 300 Mbps		
	Output Power (Max.)	802.11b: 18.90dBm 802.11g: 23.65dBm 802.11n(20MHz): 24.46dBm 802.11n(40MHz): 25.52dBm		
Power Source	DC Voltage supplied from AC/DC adapter. Brand/Model:AMIGO/AMS3-1202000FU			
Power Rating	I/P: AC 100-240V, 50/60Hz,0.8A O/P:12V/2.0A			

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 Type	Connector	Gain (dBi)	Note
1	Walsin	RFPCA2010-01	Internal	N/A	4.00	TX/RX
2	Walsin	RFPCA2010-01	Internal	N/A	4.00	TX/RX

Note:

(1) The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers (2T2R), all transmit signals are completely uncorrelated, then, **Direction gain = G**_{ANT}, that is Directional gain=4.

4.

Operating Mode TX Mode	1TX	2TX
802.11b	V (ANT 1)	-
802.11g	V (ANT 1)	-
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%.

3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

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

Test software version		N/A	
Frequency (MHz)	2412	2437	2462
802.11b	0E	0E	0F
802.11g	13	17	13
802.11n (20MHz)	0F , 13	13 , 17	13 , 18
Frequency	2422	2437	2452
802.11n (40MHz)	9 , 0E	14,19	12 , 17

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
E-1	Notebook	DELL	INSPIRON 1420	DOC	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	10m	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

The following table is the setting of the receiver

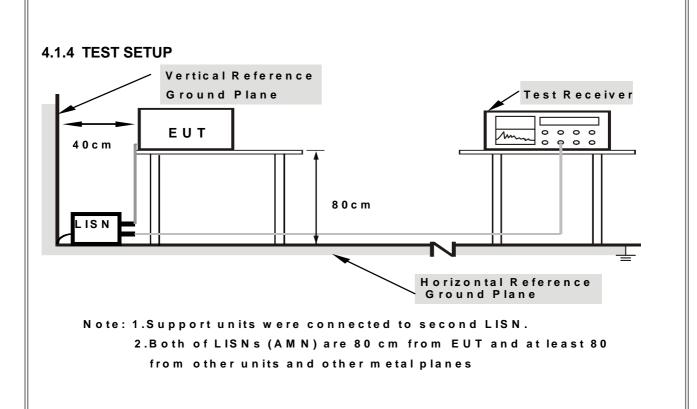
Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

4.1.2 TEST PROCEDURE

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

4.1.3 DEVIATION FROM TEST STANDARD

No deviation



4.1.5 EUT OPERATING CONDITIONS

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

4.1.6 EUT TEST CONDITIONS

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

4.1.7 TEST RESULTS

Please refer to the Attachment A.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS

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

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

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

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

Notes:

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

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

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

 (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

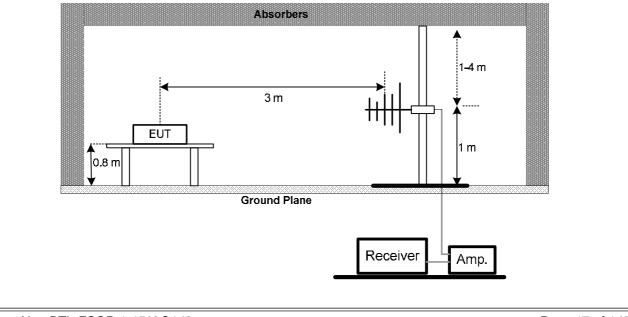
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 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.

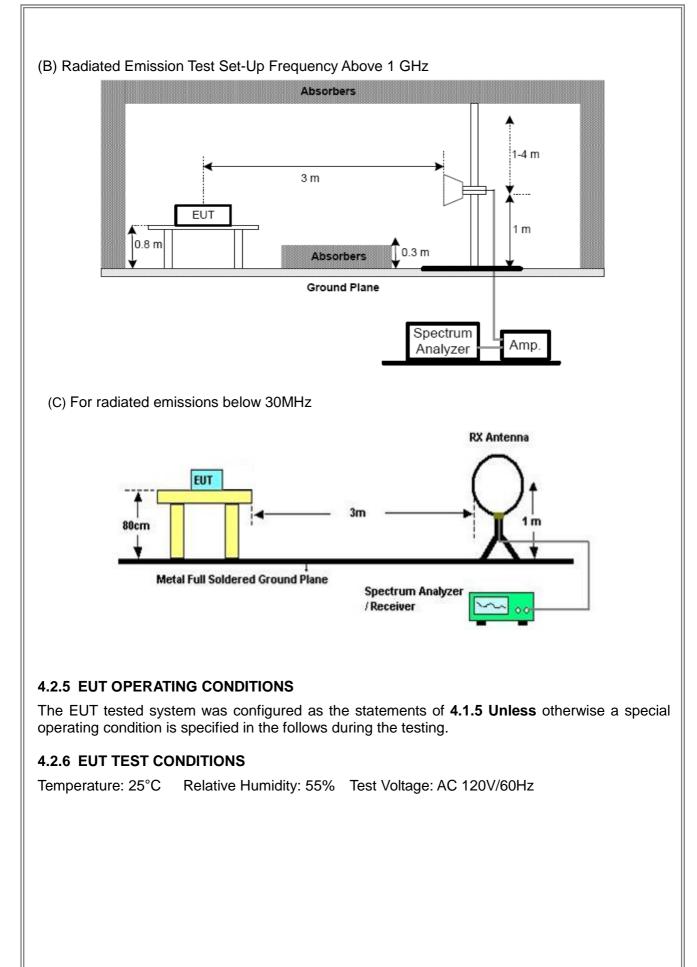
4.2.3 DEVIATION FROM TEST STANDARD

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

6.1.6 TEST RESULTS

Please refer to the Attachment F.

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

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

7.1.1 TEST PROCEDURE

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

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

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

7.1.5 EUT TEST CONDITIONS

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

7.1.6 TEST RESULTS

Please refer to the Attachment G.

8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

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

8.1.1 TEST PROCEDURE

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

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

8.1.4 EUT OPERATION CONDITIONS

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

8.1.5 EUT TEST CONDITIONS

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

8.1.6 TEST RESULTS

Please refer to the Attachment H.

9. MEASUREMENT INSTRUMENTS LIST

	Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	LISN	EMCO	3816/2	00052765	Mar. 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	Mar. 28, 2016		
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	Antenna	ETS	3115	00075789	Mar. 28, 2016		
7	Amplifier	Agilent	8449B	3008A02274	Mar. 28, 2016		
8	Receiver	AGILENT	N9038A	MY5213003 9	Sep. 30, 2015		
9	Test Cable	HUBER+SUHNER	C-48	N/A	Apr. 30, 2015		
10	Controller	СТ	SC100	N/A	N/A		
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Feb. 21, 2016		
12	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Feb. 21, 2016		
13	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Mar. 28, 2016		
14	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A		

	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	P-series Power meter	Agilent	N1911A	MY45100473	Mar. 28, 2016	
2	Wireband Power sensor	Agilent	N1921A	MY51100041	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					
lte	m	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-1-1502C148

Radiated Measurement Photos

9KHz to 30MHz





Radiated Measurement Photos

30MHz to 1000MHz





Radiated Measurement Photos

Above 1000MHz



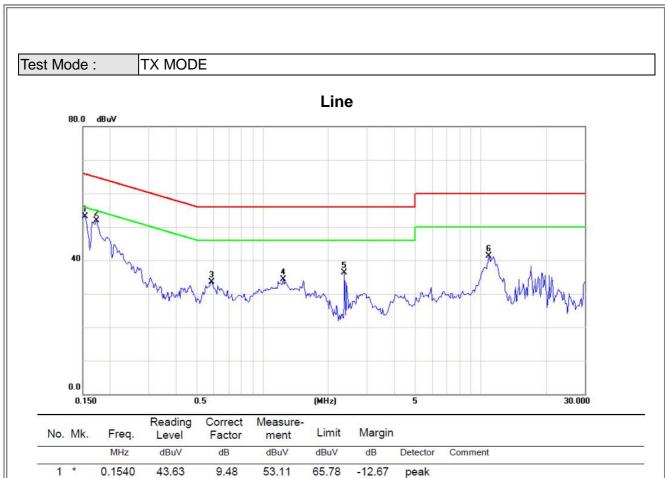


Report No.: BTL-FCCP-1-1502C148

Page 29 of 143



3TL



2

3

4

5

6

42.35

23.93

24.65

26.65

31.52

9.49

9.60

9.63

9.61

9.81

51.84

33.53

34.28

36.26

41.33

64.80

56.00

56.00

56.00

60.00

-12.96

-22.47

-21.72

-19.74

-18.67

peak

peak

peak

peak

peak

0.1734

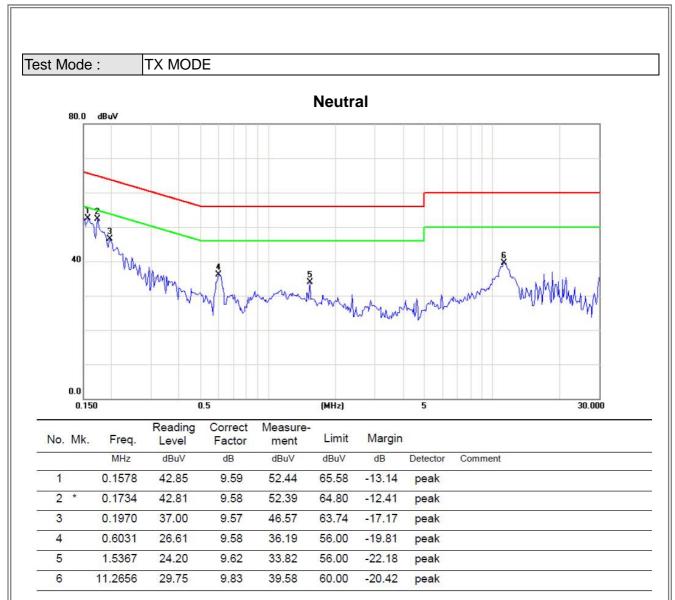
0.5875

1.2477

2.3727

10.8906

3TL



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

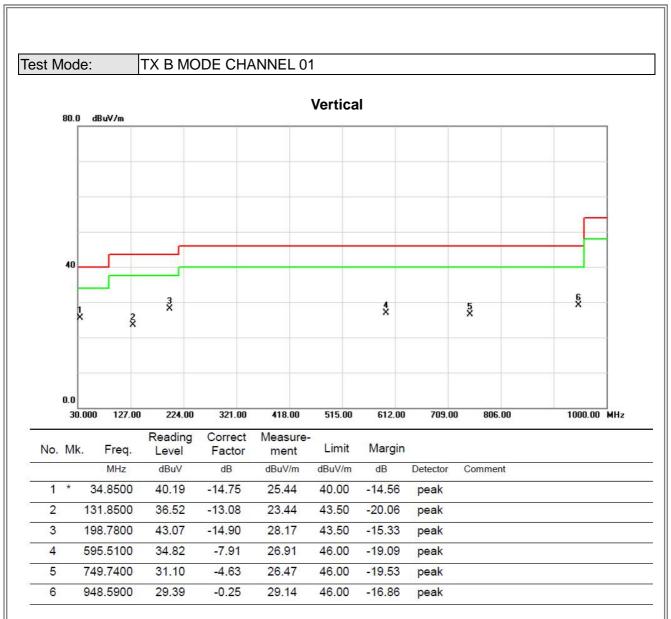
TX Mode 2412MHz

Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.0118	0°	10.06	24.30	34.36	126.20	-91.84	AVG
0.0118	0°	13.52	24.30	37.82	146.20	-108.38	PEAK
0.0283	0°	7.59	23.77	31.36	118.57	-87.20	AVG
0.0283	0°	9.24	23.77	33.01	138.57	-105.55	PEAK
0.0406	0°	5.36	23.00	28.36	115.43	-87.08	AVG
0.0406	0°	6.52	23.00	29.52	135.43	-105.92	PEAK
0.0517	0°	1.72	22.37	24.09	113.33	-89.25	AVG
0.0517	0°	2.58	22.37	24.95	133.33	-108.39	PEAK
0.6019	0°	18.23	20.13	38.36	72.01	-33.66	QP
2.0175	0°	24.19	19.49	43.68	69.54	-25.86	QP

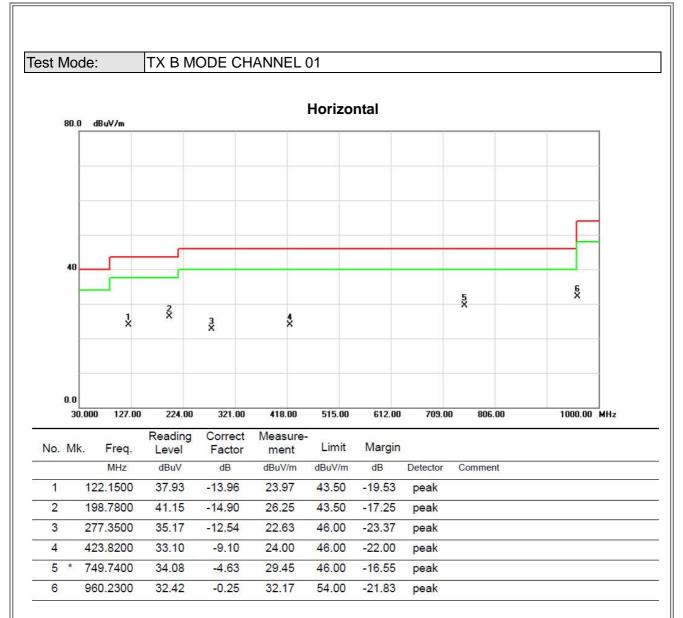
Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.0089	90°	7.26	24.30	31.56	128.62	-97.06	AVG
0.0089	90°	10.13	24.30	34.43	148.62	-114.19	PEAK
0.0185	90°	5.72	24.30	30.02	122.26	-92.24	AVG
0.0185	90°	6.18	24.30	30.48	142.26	-111.78	PEAK
0.0268	90°	2.05	23.87	25.92	119.04	-93.12	AVG
0.0268	90°	3.82	23.87	27.69	139.04	-111.35	PEAK
0.0431	90°	0.13	22.84	22.97	114.91	-91.95	AVG
0.0431	90°	1.52	22.84	24.36	134.91	-110.56	PEAK
0.4752	90°	20.07	19.86	39.93	94.07	-54.14	QP
1.9317	90°	25.36	19.51	44.87	69.54	-24.67	QP

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

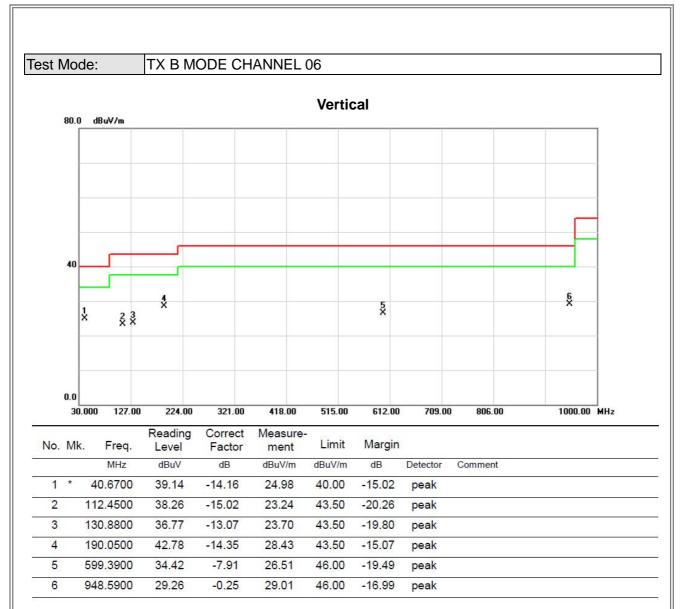
3ĩL



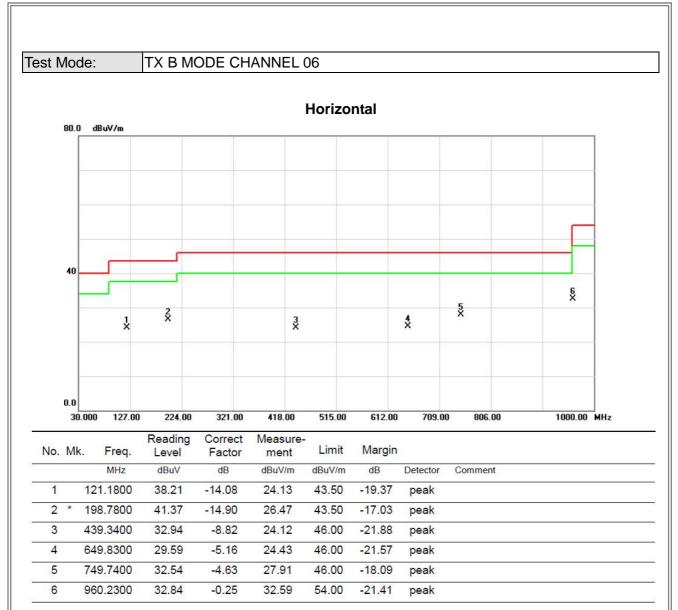




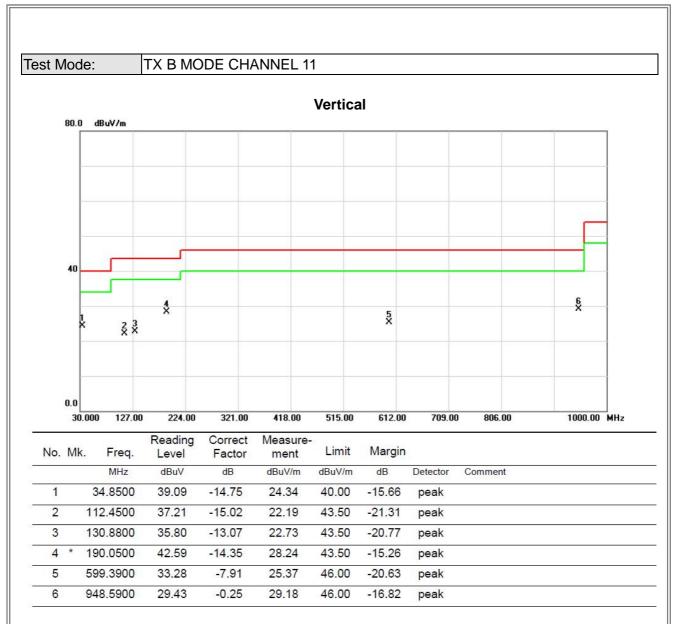
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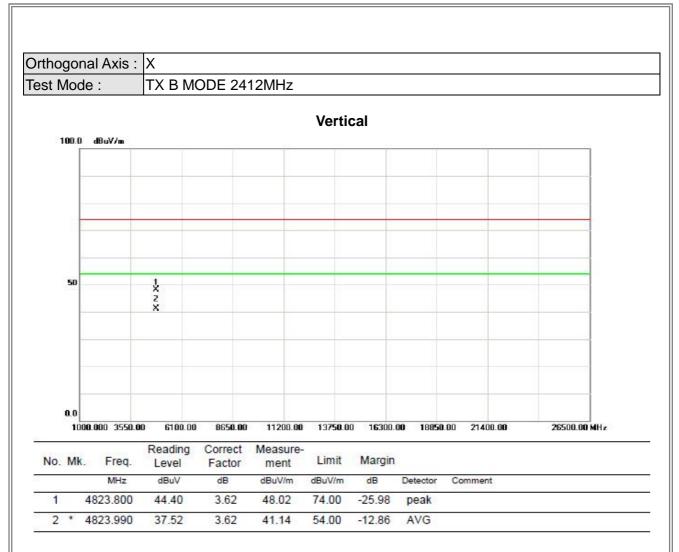




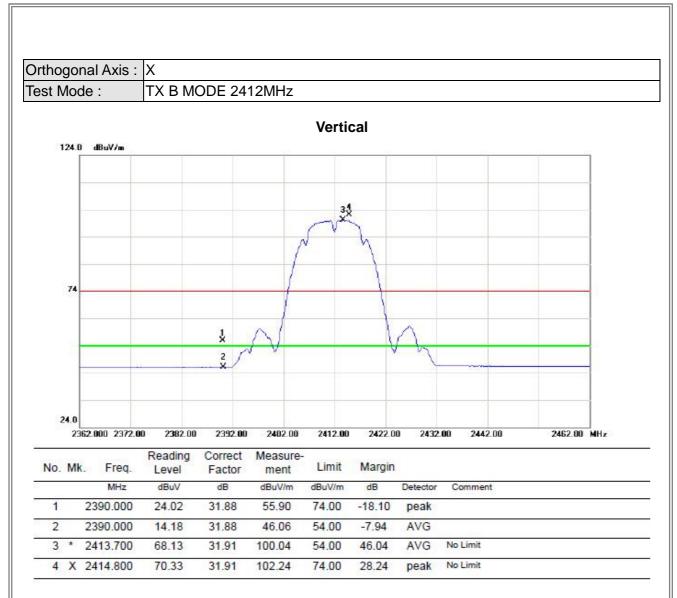


ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

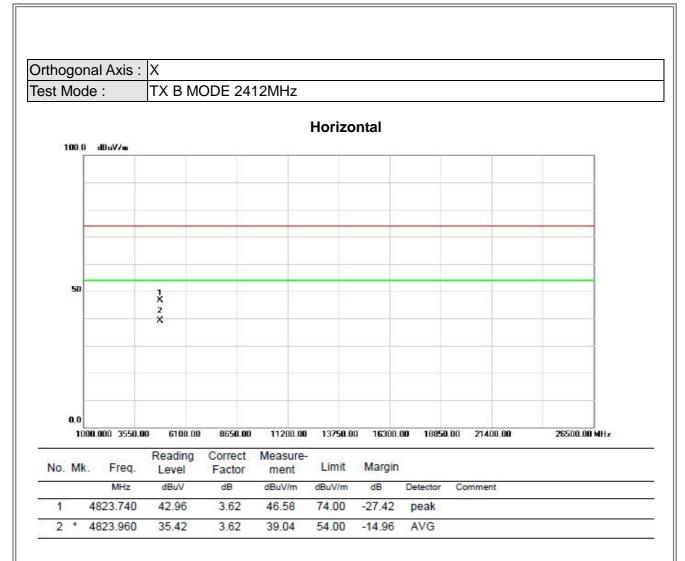




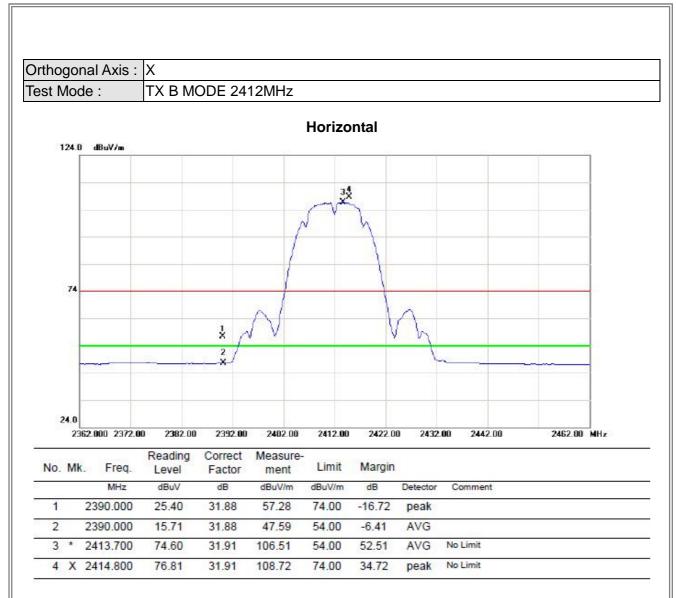




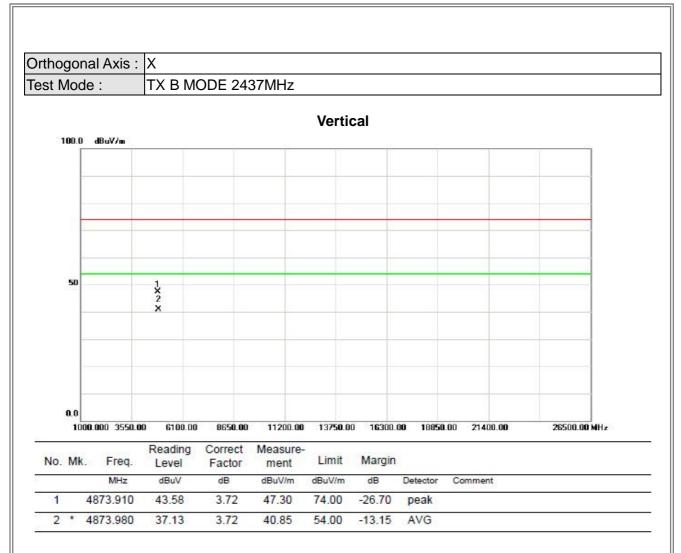




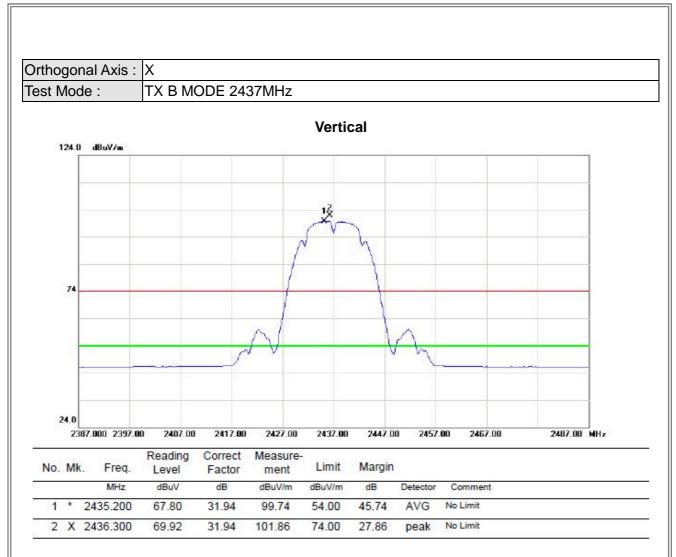




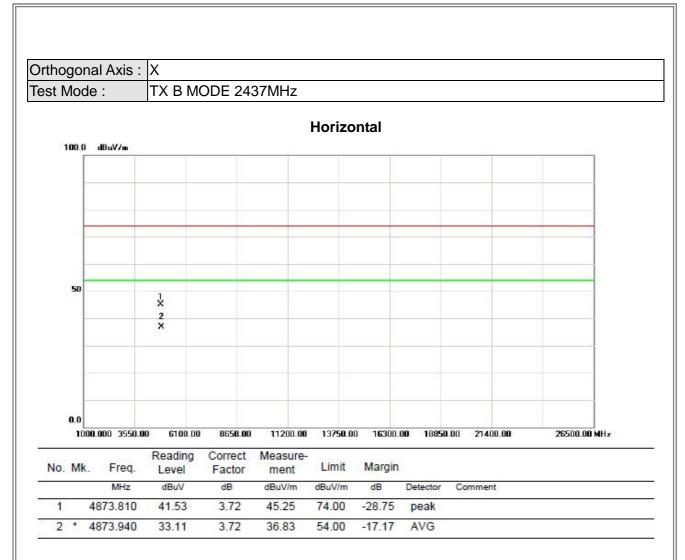




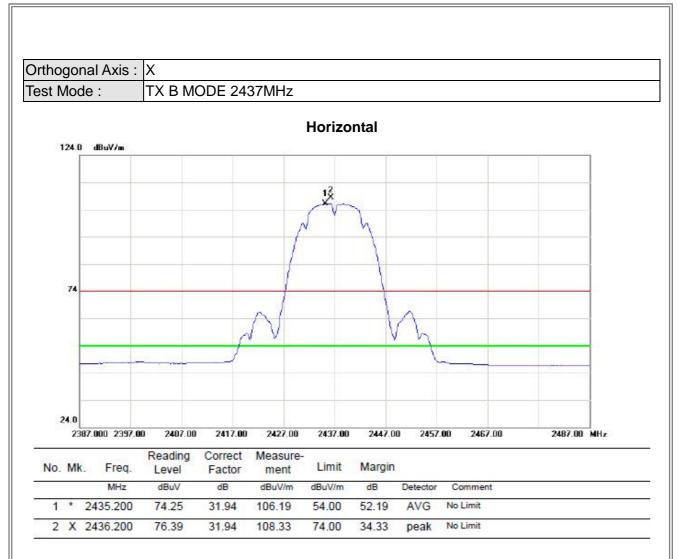




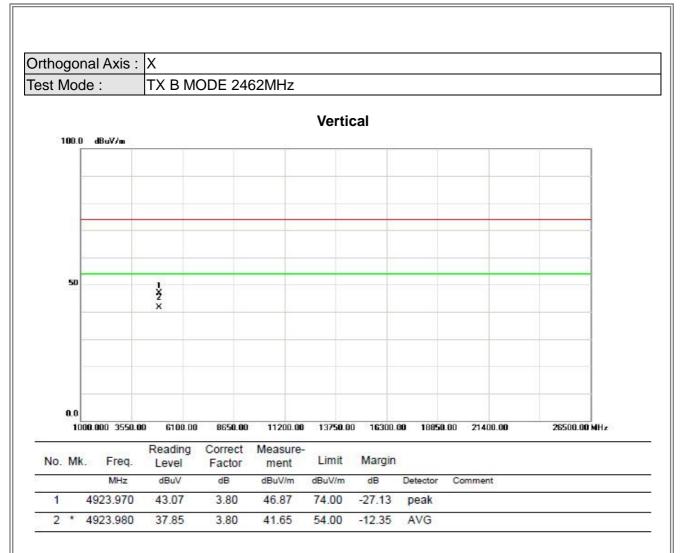




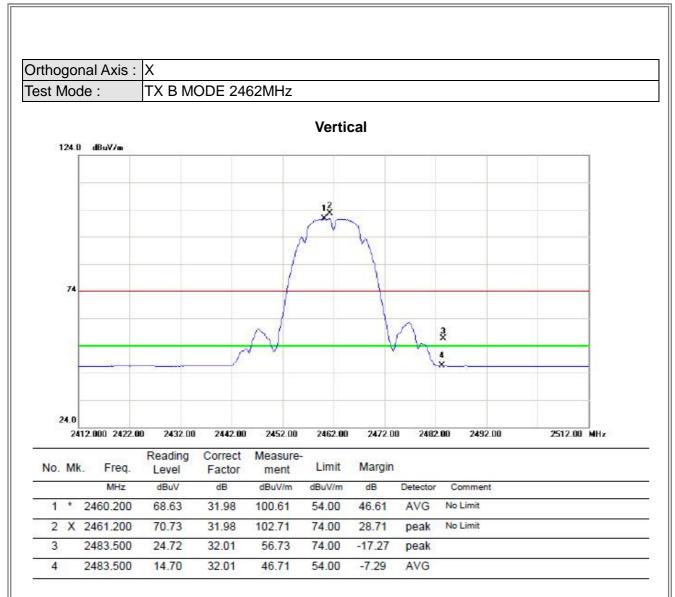




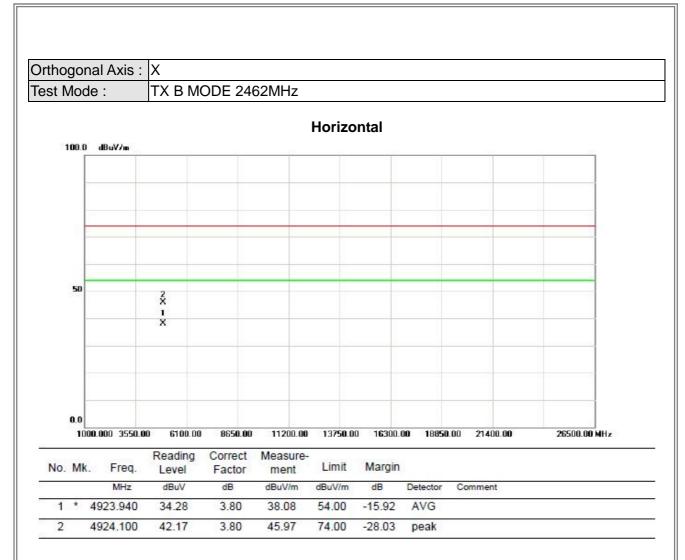




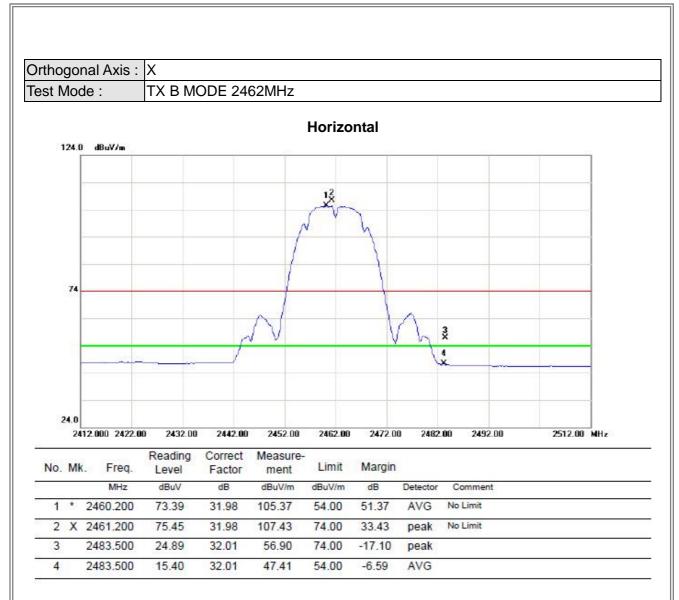




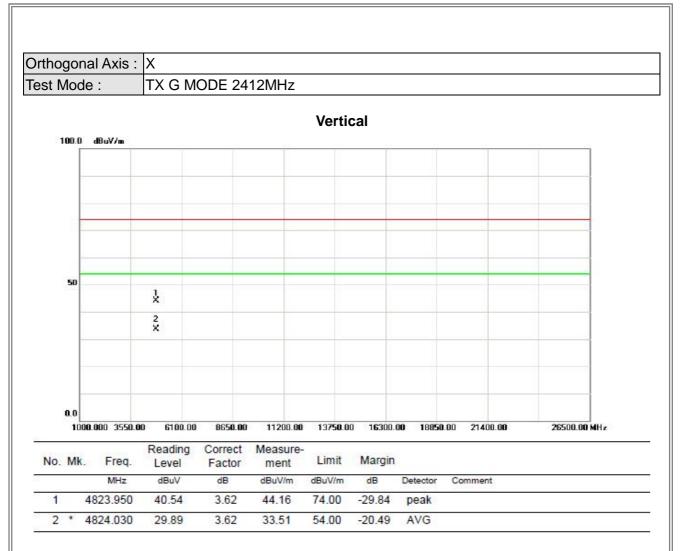




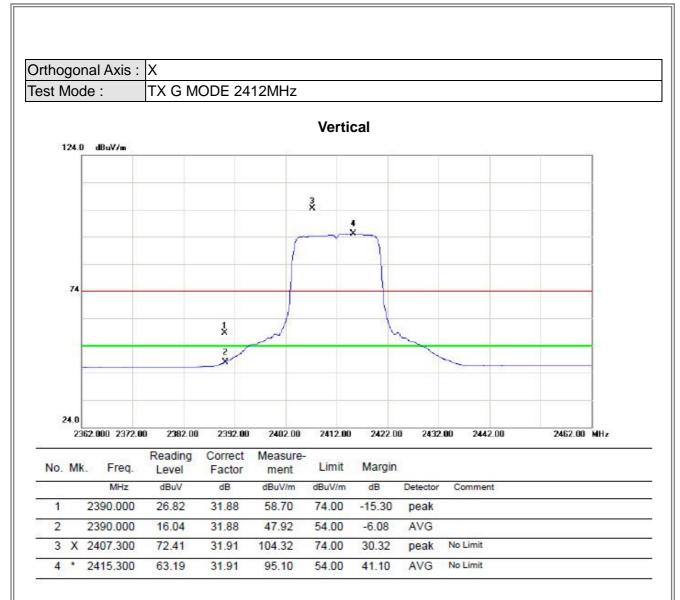




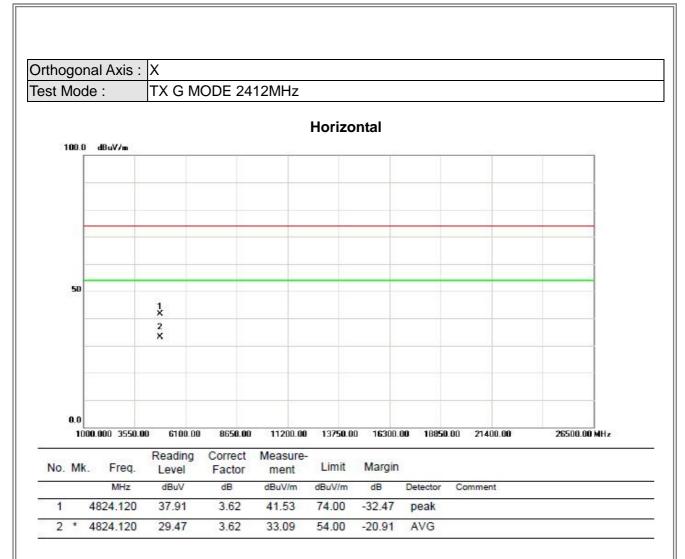




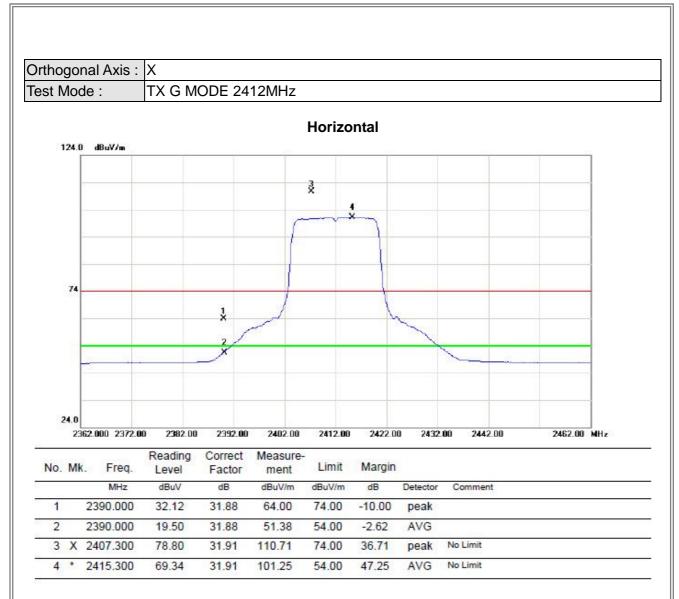




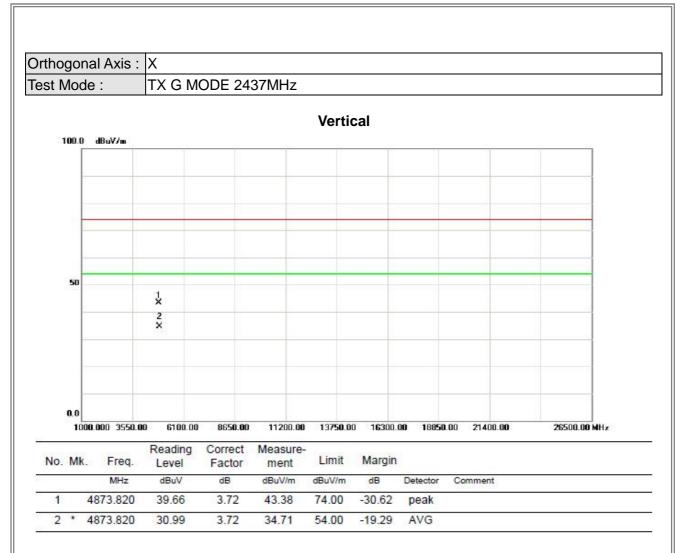




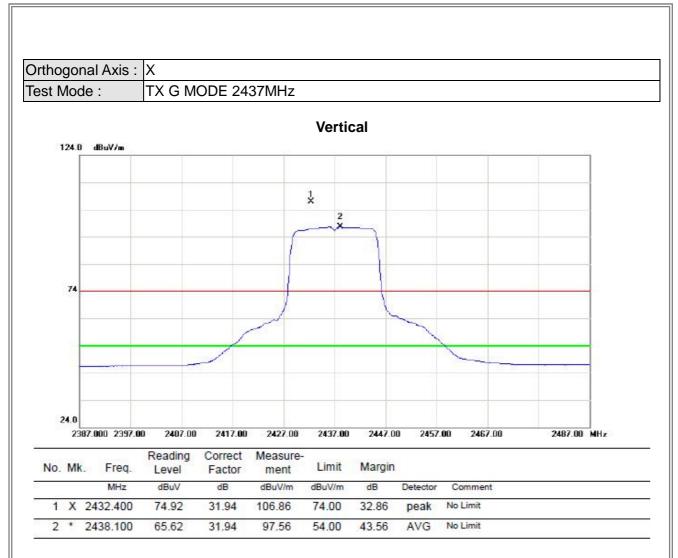




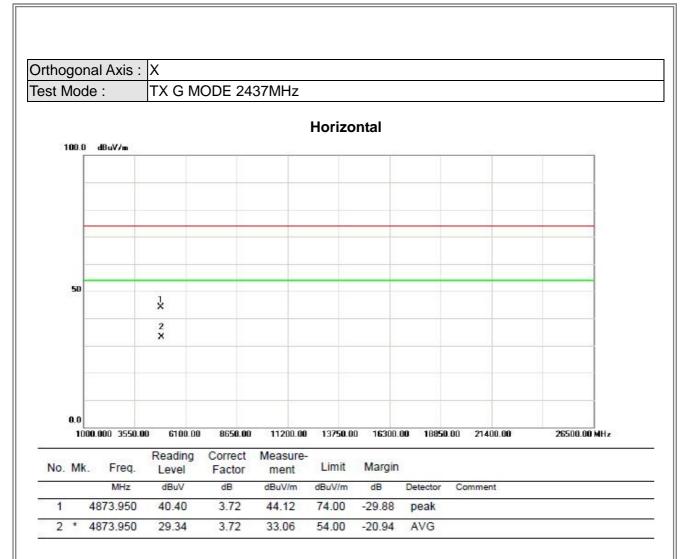




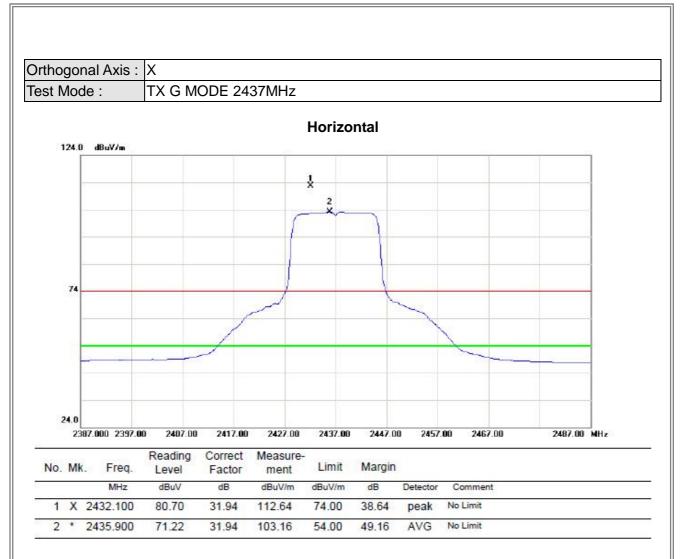




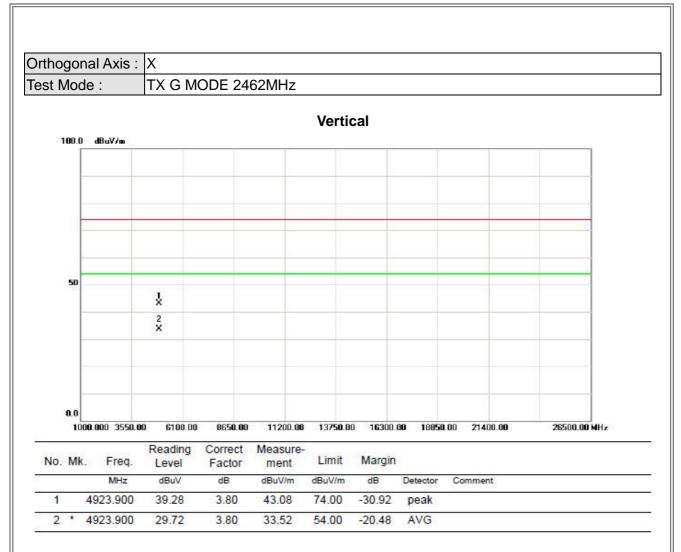




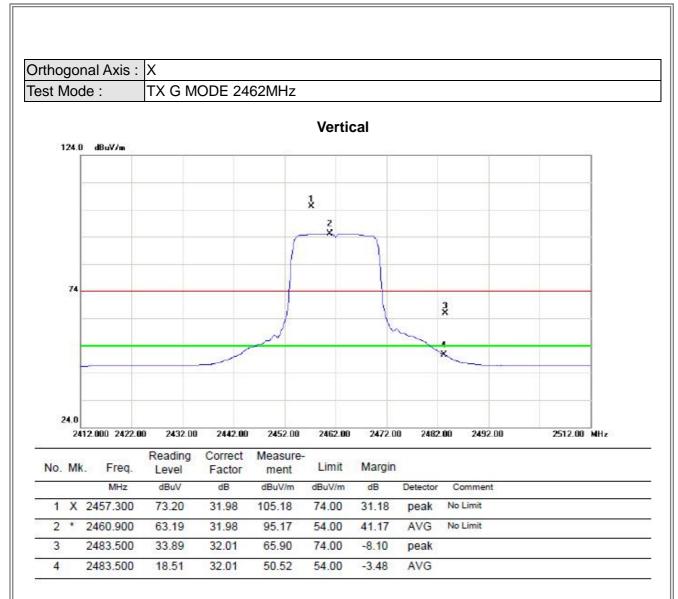




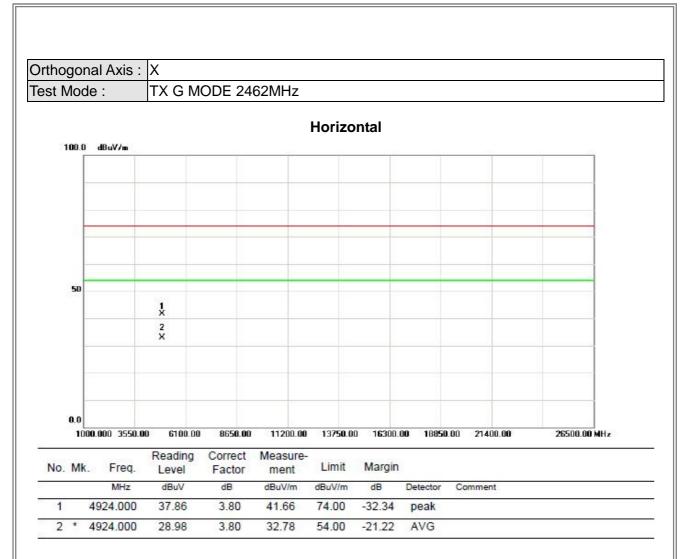




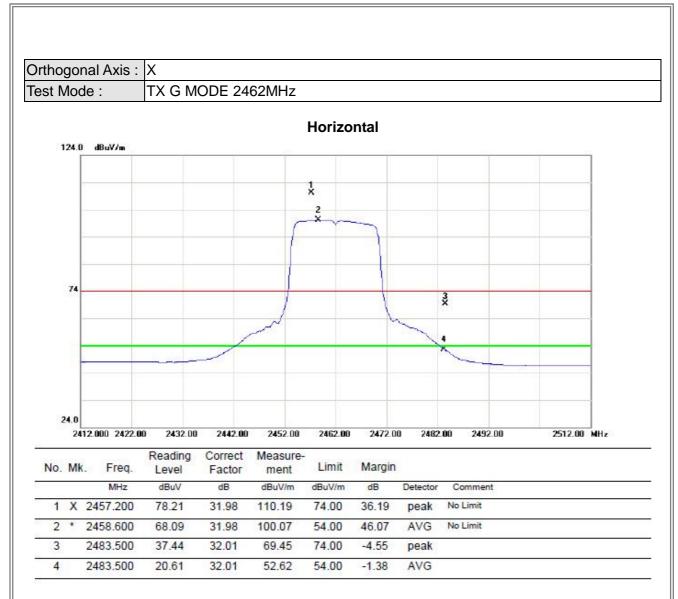




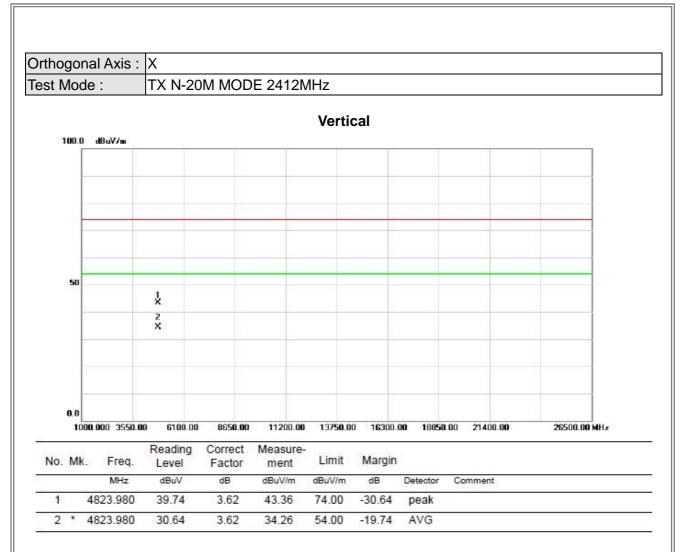




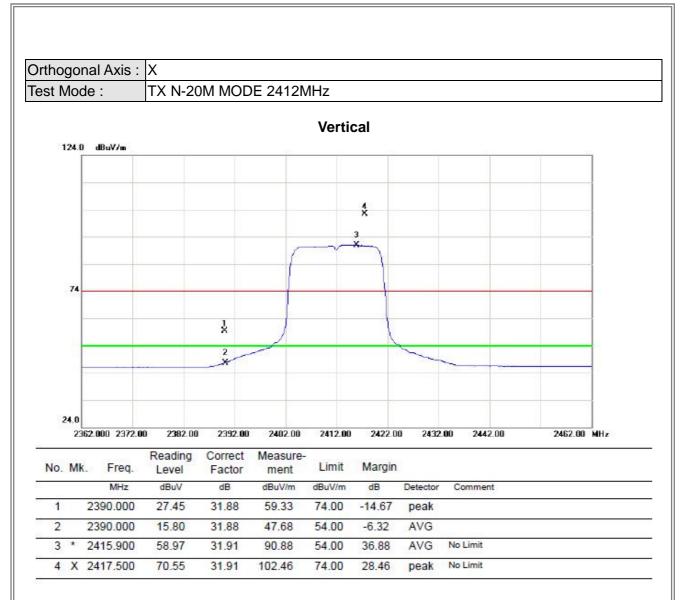




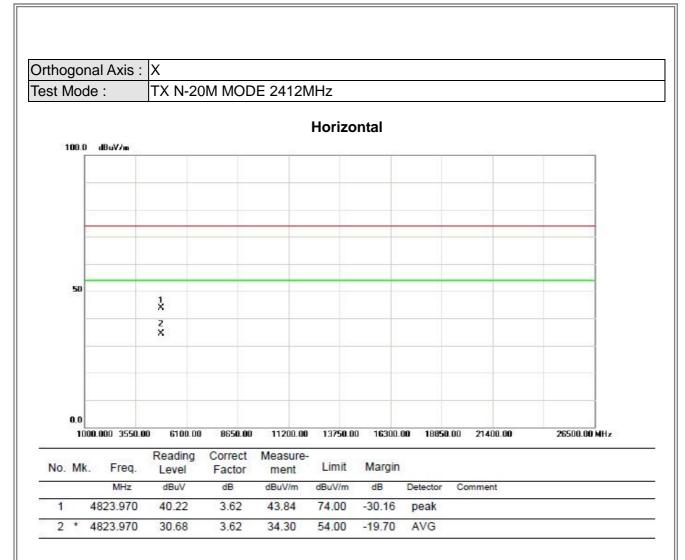




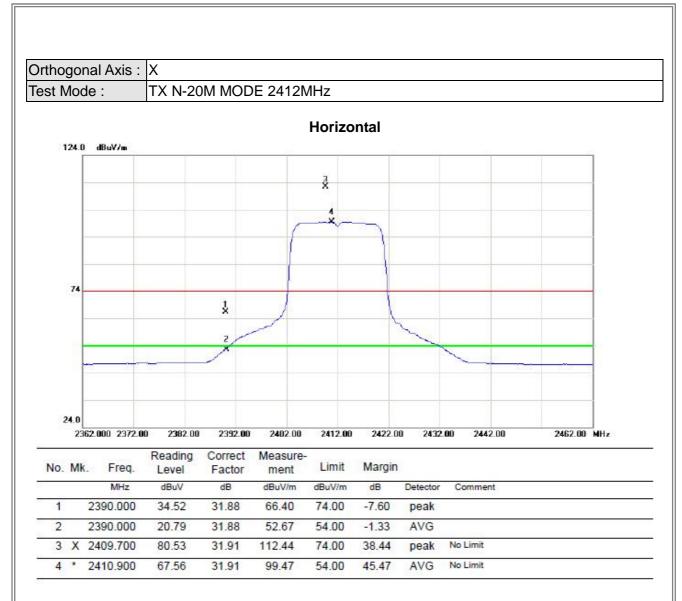




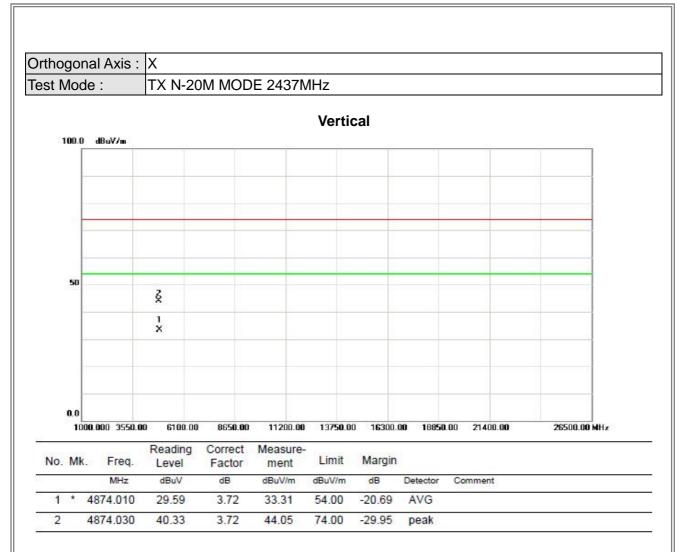




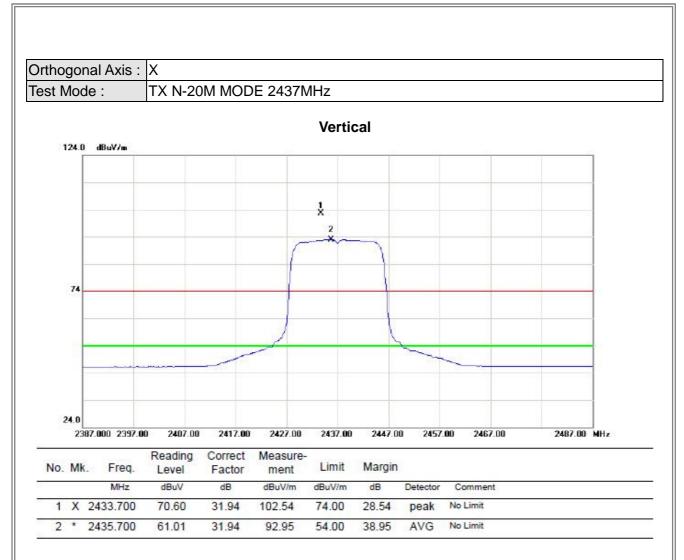




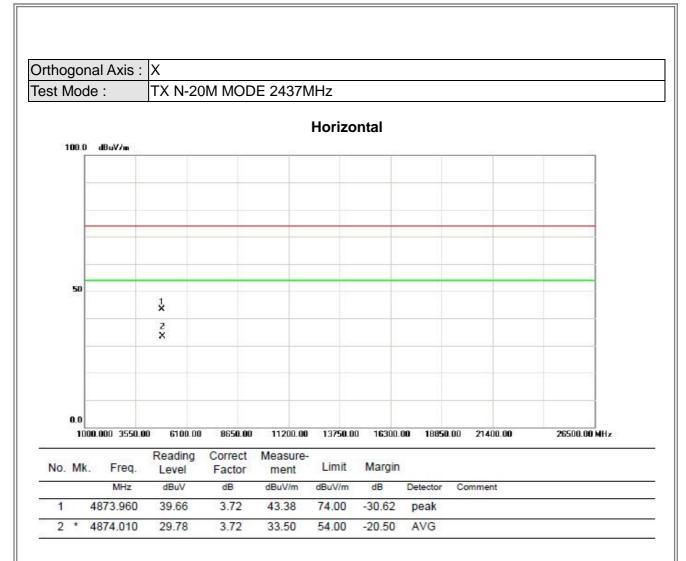




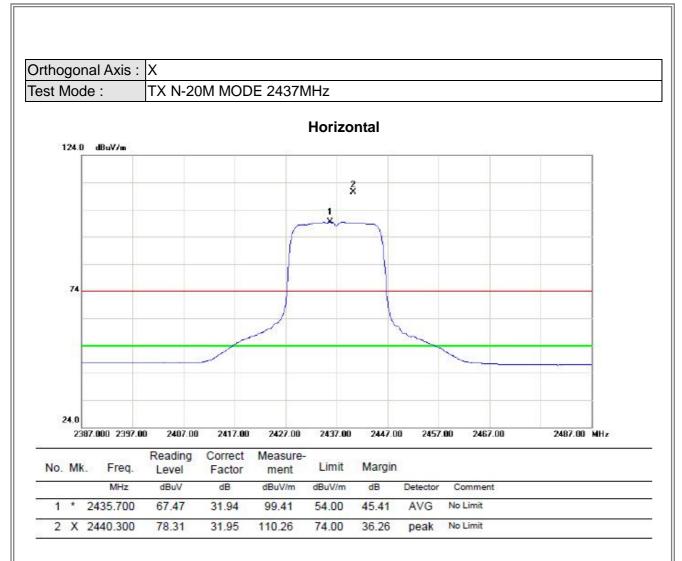




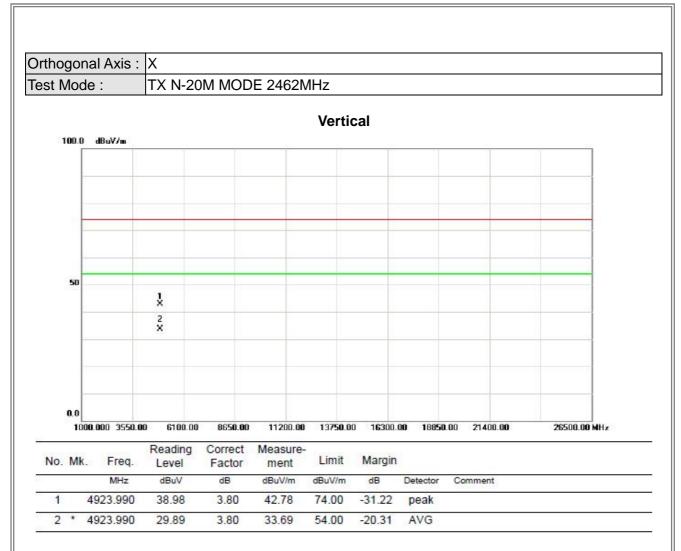




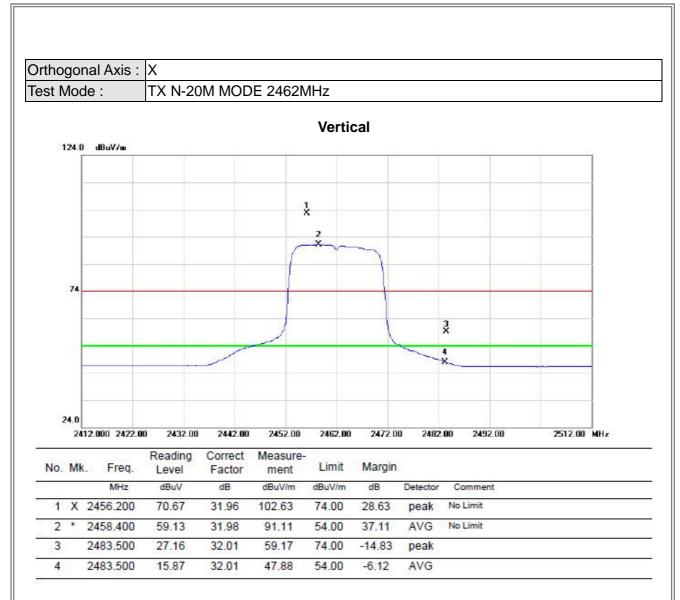




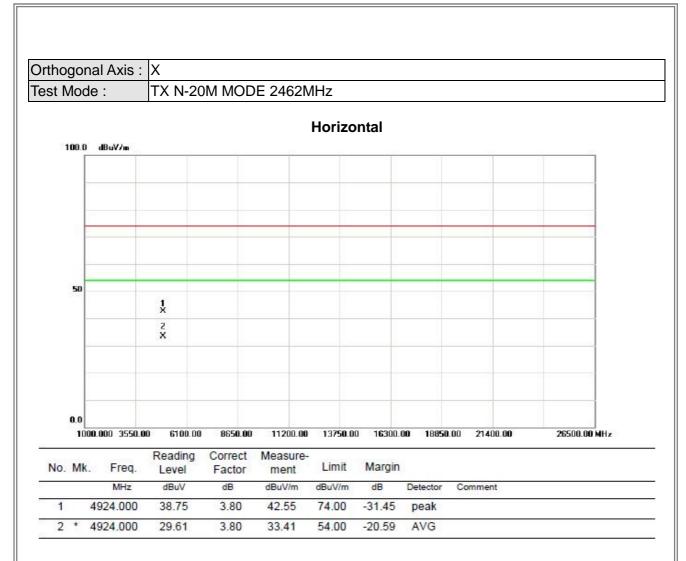




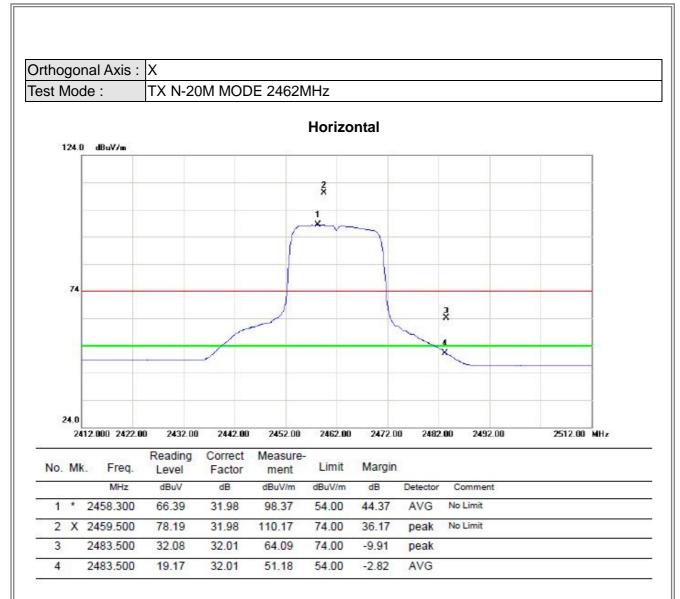




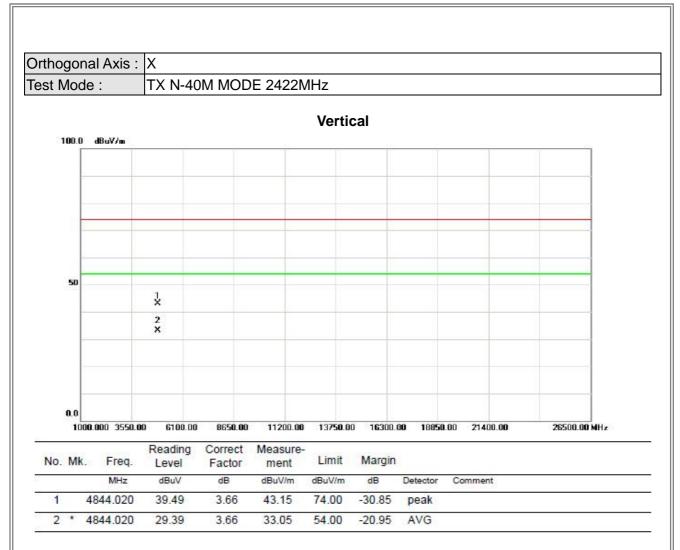




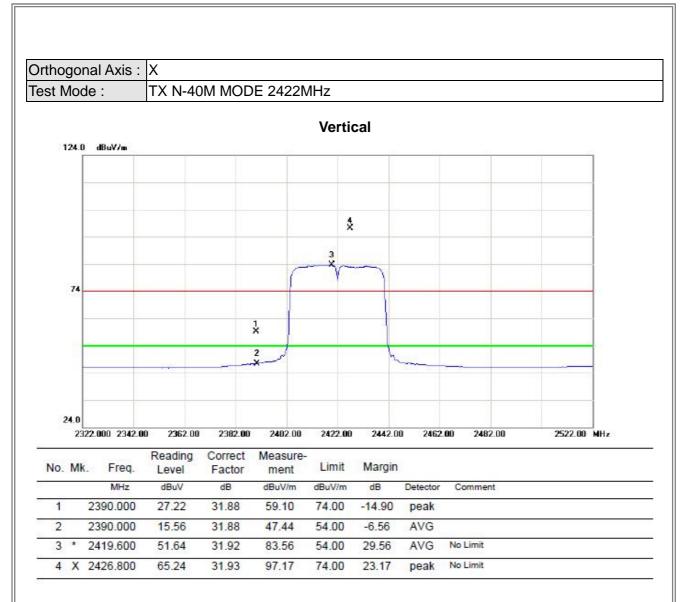




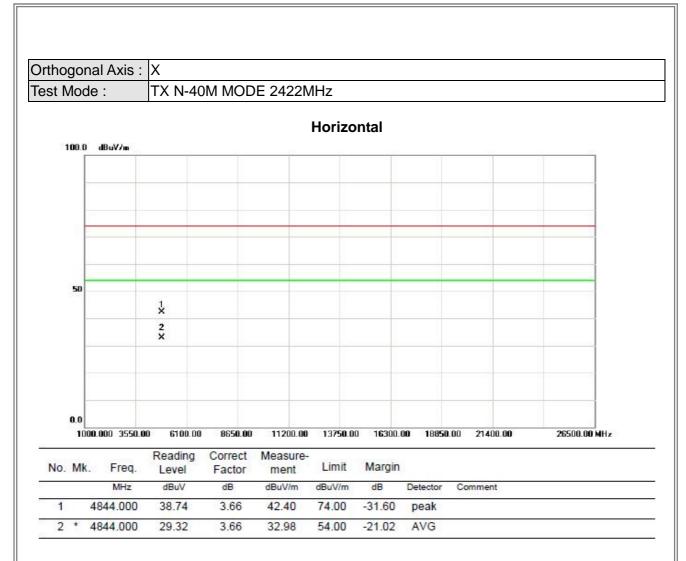




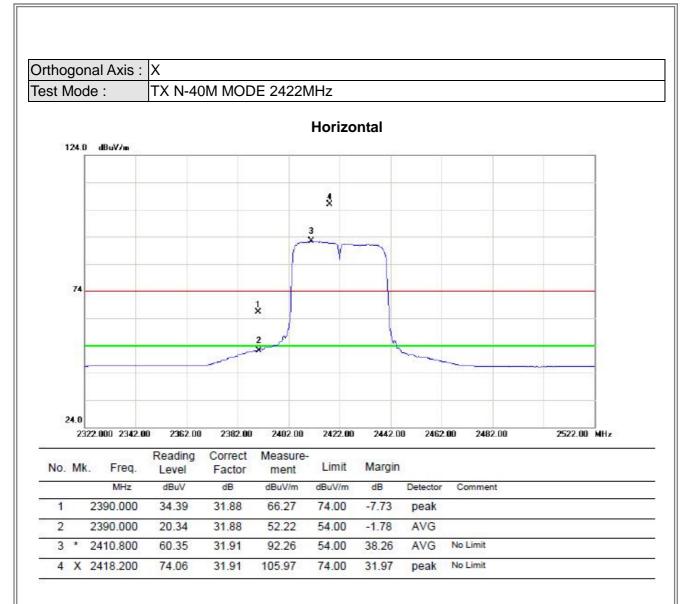




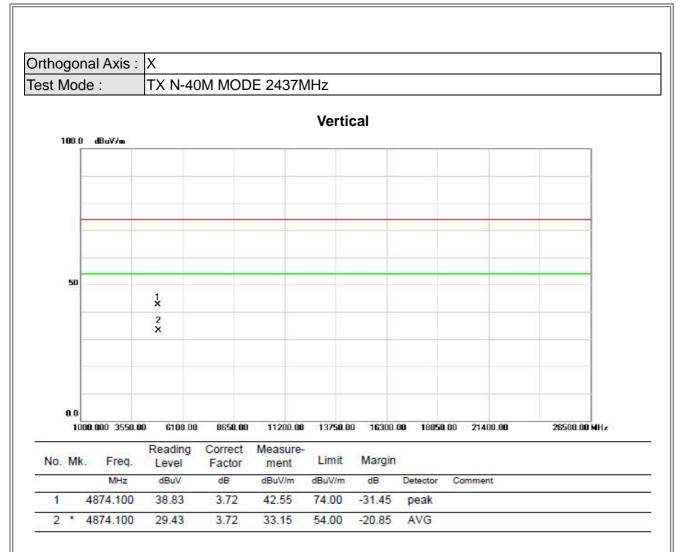




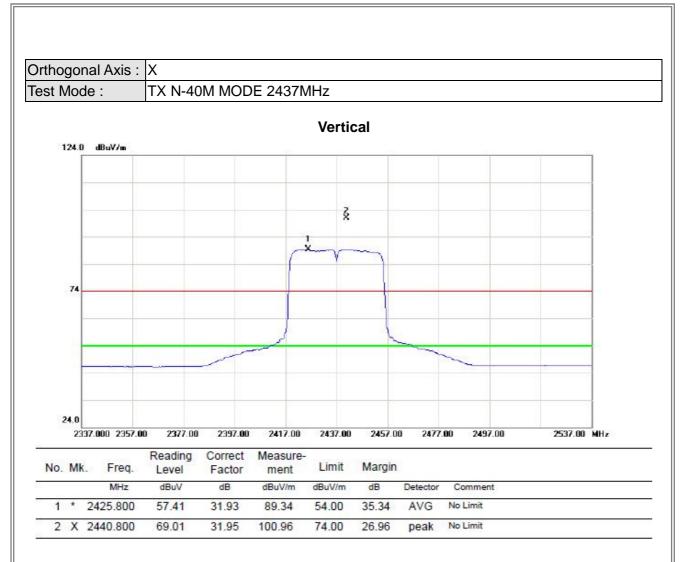




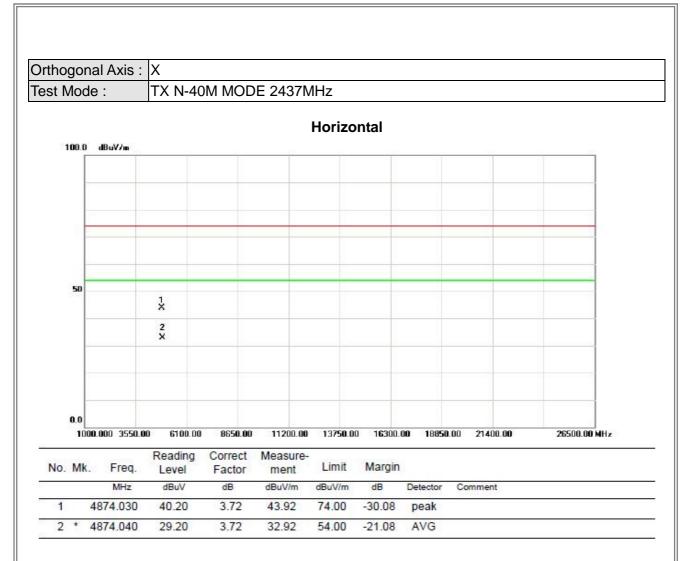




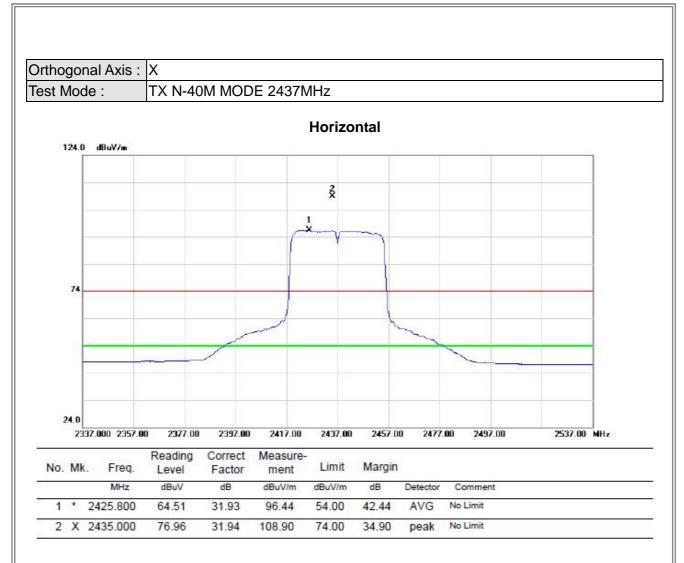




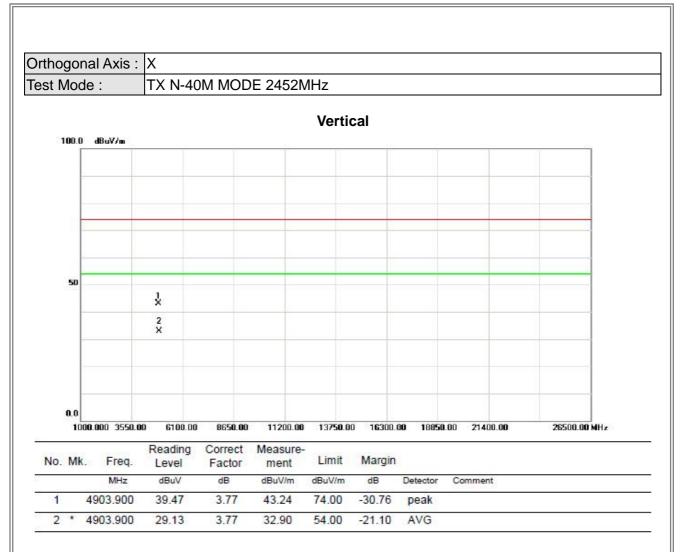




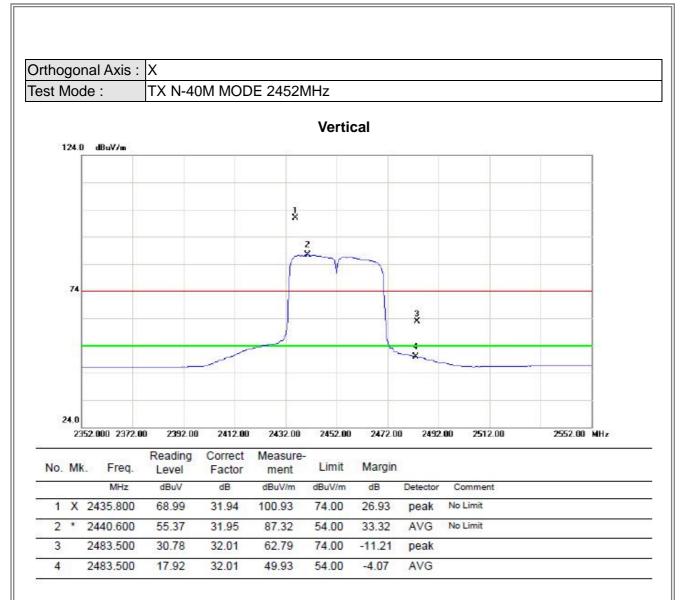




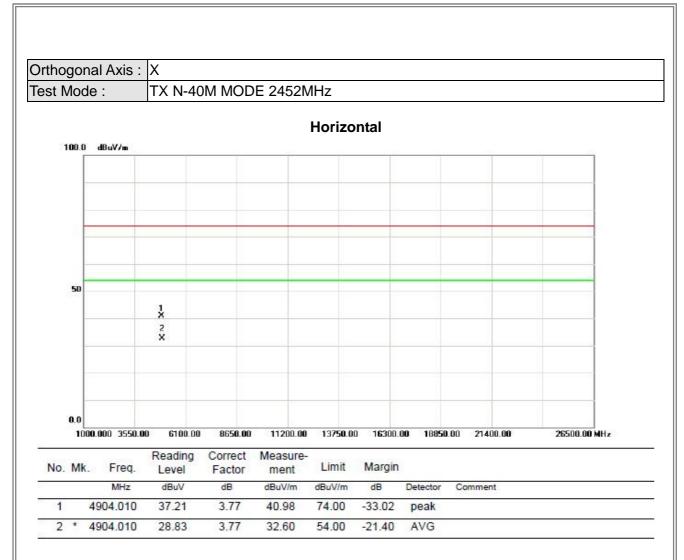




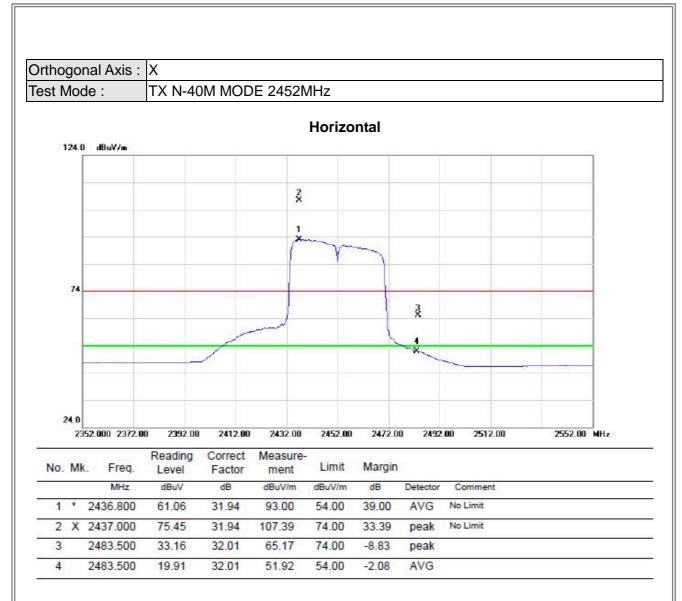








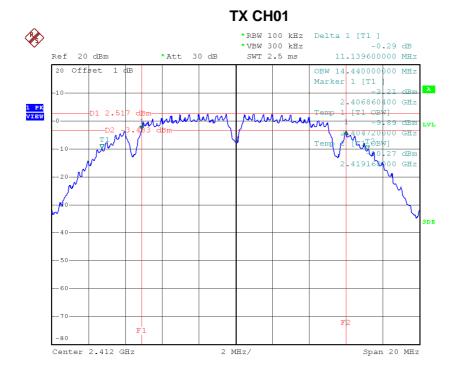




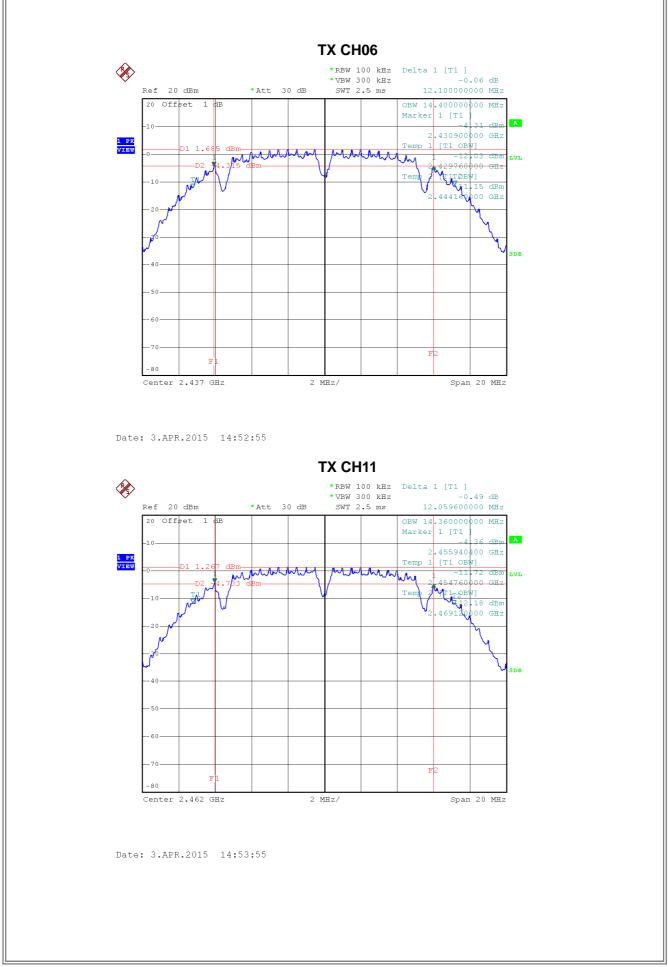
ATTACHMENT E - BANDWIDTH

Test Mode : TX B Mode_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min.Limit (kHz)	Test Result
2412	11.14	14.44	500	Complies
2437	12.10	14.40	500	Complies
2462	12.06	14.36	500	Complies

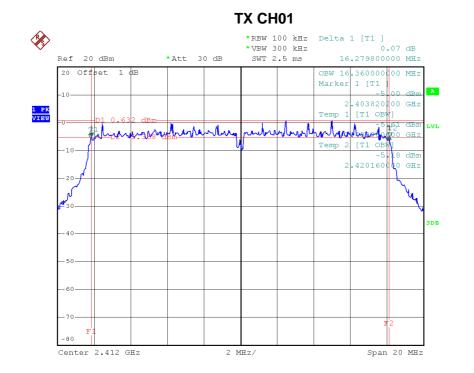


Date: 3.APR.2015 14:51:49

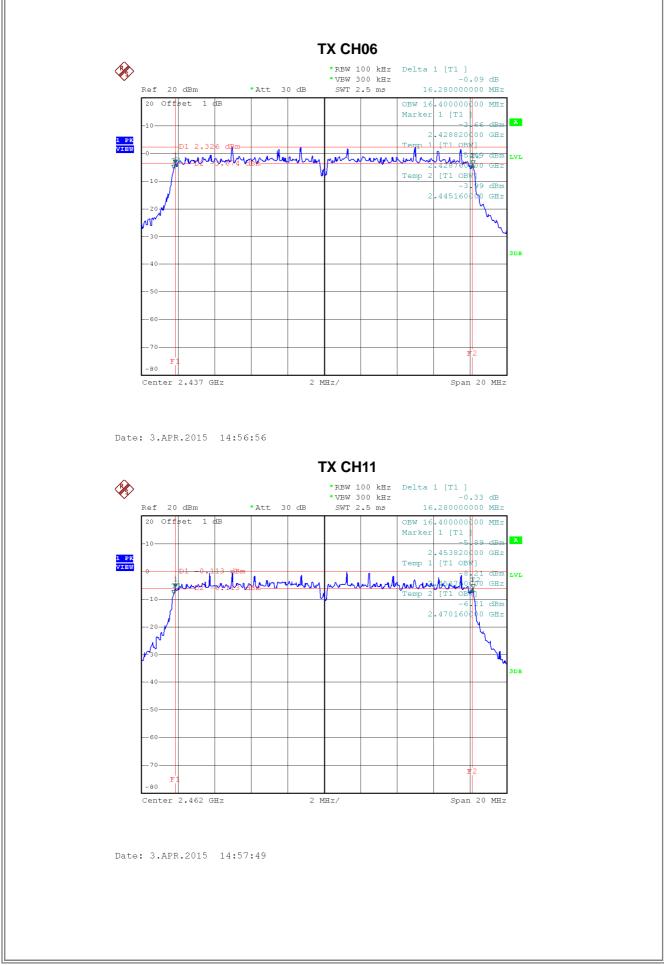


Test Mode: TX G Mode_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.28	16.36	500	Complies
2437	16.28	16.40	500	Complies
2462	16.28	16.40	500	Complies

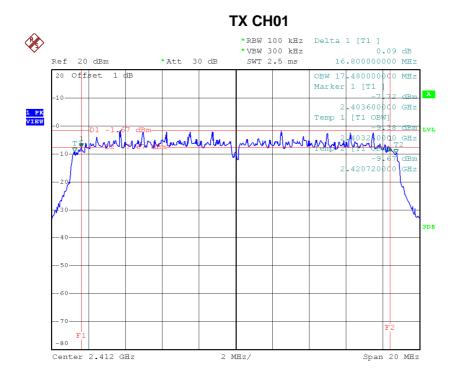


Date: 3.APR.2015 14:55:47

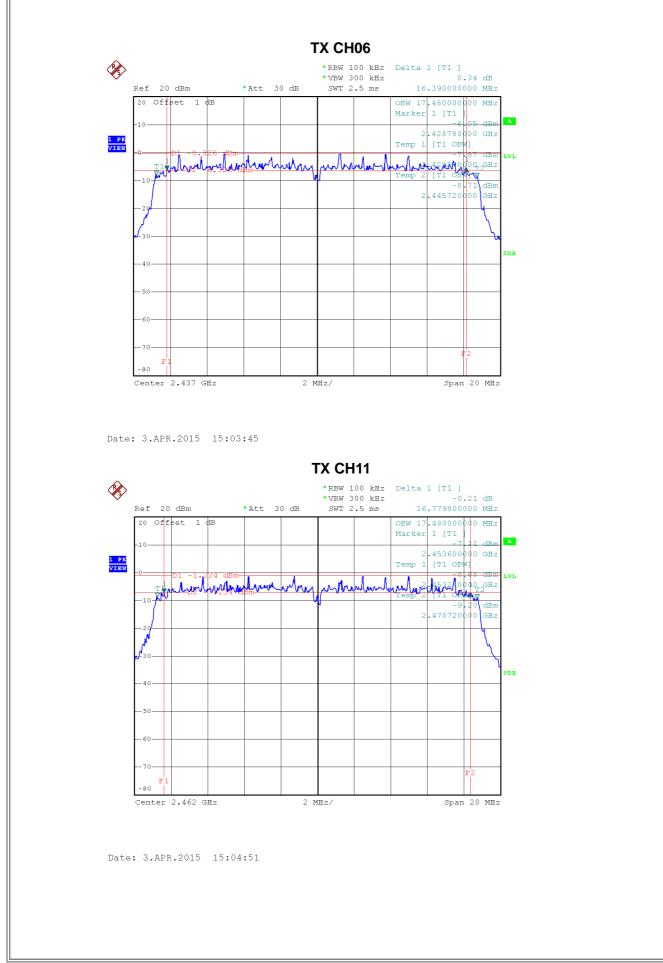


Test Mode : TX N-20MHz Mode_	_CH01/06/11
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Frequency (MHz)	6dB Bandwidth 99% Occupied BW (MHz) (MHz)		Min.Limit (kHz)	Test Result
2412	16.80	17.48	500	Complies
2437	16.39	17.48	500	Complies
2462	16.78	17.48	500	Complies

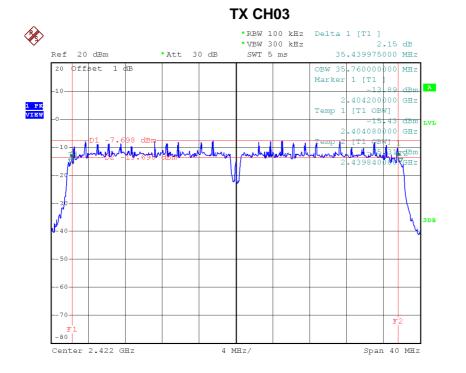


Date: 3.APR.2015 15:02:24

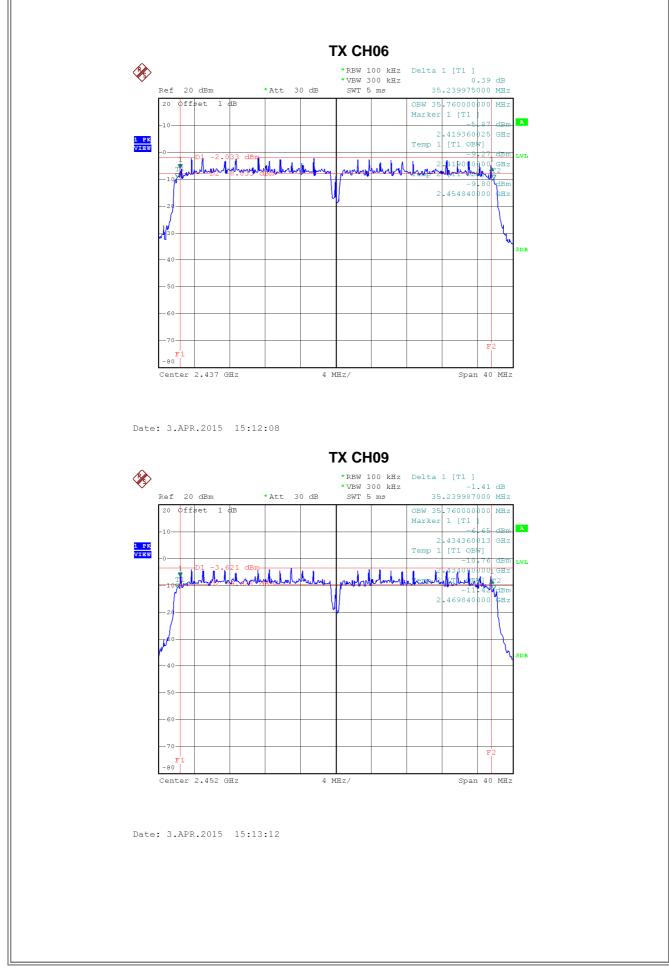


Test Mode : TX N-40MHz Mode	_CH03/06/09
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Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	35.44	35.76	500	Complies
2437	35.24	35.76	500	Complies
2452	35.24	35.76	500	Complies



Date: 3.APR.2015 15:10:38



ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER

Test Mode :TX B Mode_CH01/06/11

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	18.90	0.08	30.00	1.00	Complies
2437	18.71	0.07	30.00	1.00	Complies
2462	18.74	0.07	30.00	1.00	Complies

Test Mode :TX G Mode_CH01/06/11

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	18.86	0.08	30.00	1.00	Complies
2437	23.65	0.23	30.00	1.00	Complies
2462	17.75	0.06	30.00	1.00	Complies

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	17.15	0.05	30.00	1.00	Complies
2437	20.83	0.12	30.00	1.00	Complies
2462	20.88	0.12	30.00	1.00	Complies

Test Mode :TX N20 Mode_CH01/06/11_ANT 2

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	17.30	0.05	30.00	1.00	Complies
2437	21.65	0.15	30.00	1.00	Complies
2462	21.96	0.16	30.00	1.00	Complies

Test Mode :TX N20 Mode_CH01/06/11_Total

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	20.24	0.11	30.00	1.00	Complies
2437	24.27	0.27	30.00	1.00	Complies
2462	24.46	0.28	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH	03/06/09 ANT 1
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Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	15.29	0.03	30.00	1.00	Complies
2437	22.12	0.16	30.00	1.00	Complies
2452	18.76	0.08	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09_ANT 2

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	15.82	0.04	30.00	1.00	Complies
2437	22.86	0.19	30.00	1.00	Complies
2452	17.93	0.06	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09_Total

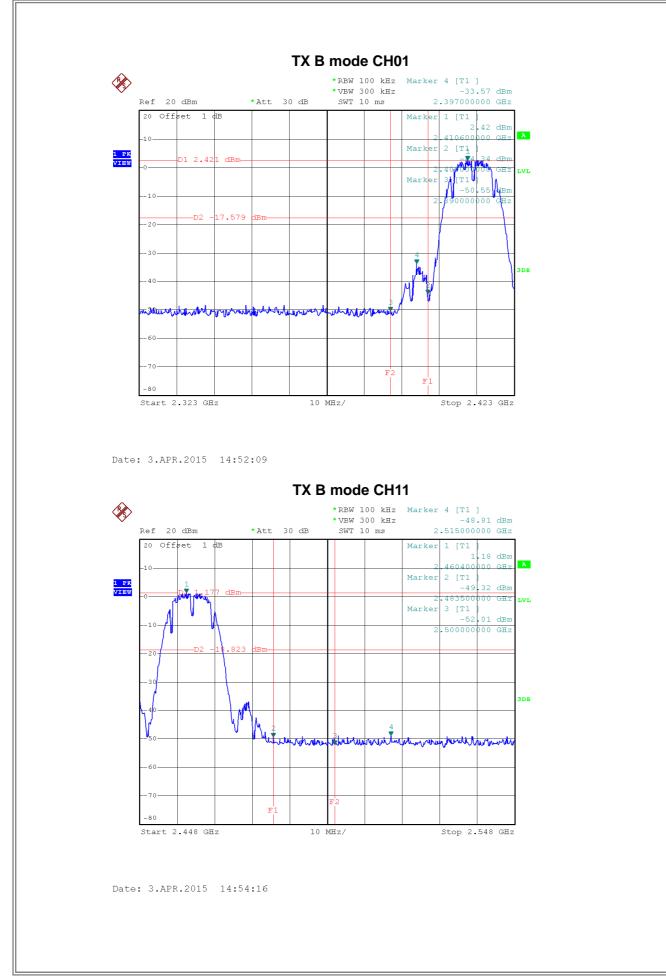
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result	
2422	18.57	0.07	30.00	1.00	Complies	
2437	25.52	0.36	30.00	1.00	Complies	
2452	21.38	0.14	30.00	1.00	Complies	

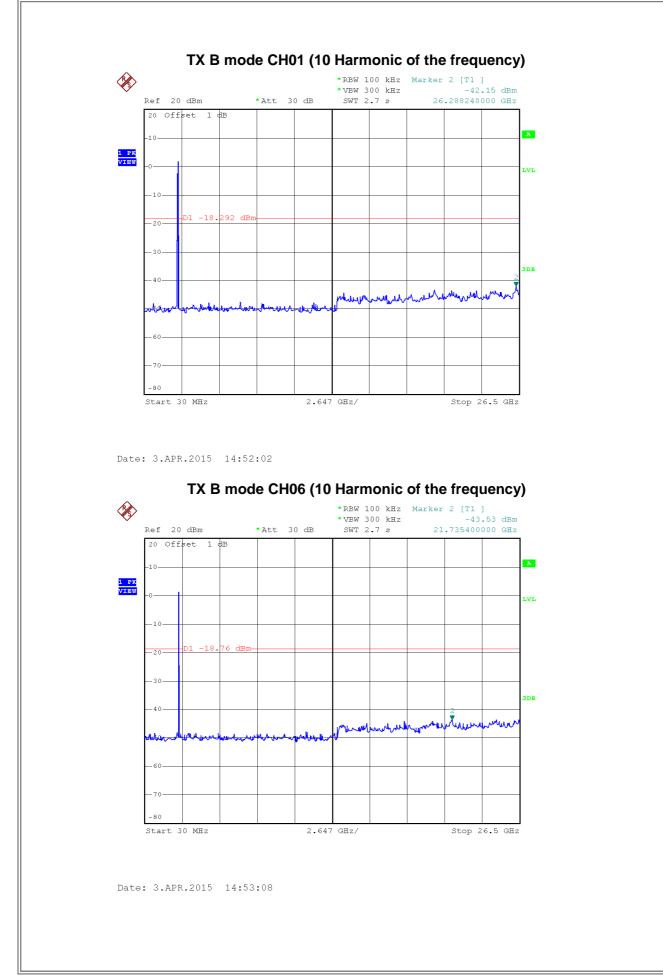
ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

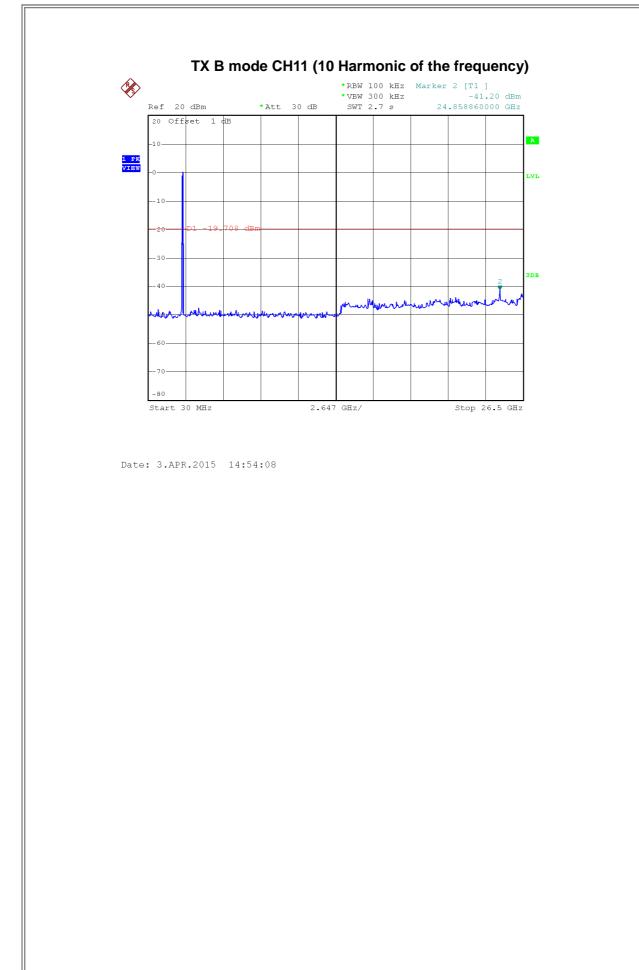


Test Mode :	TX B Mode		

IF.



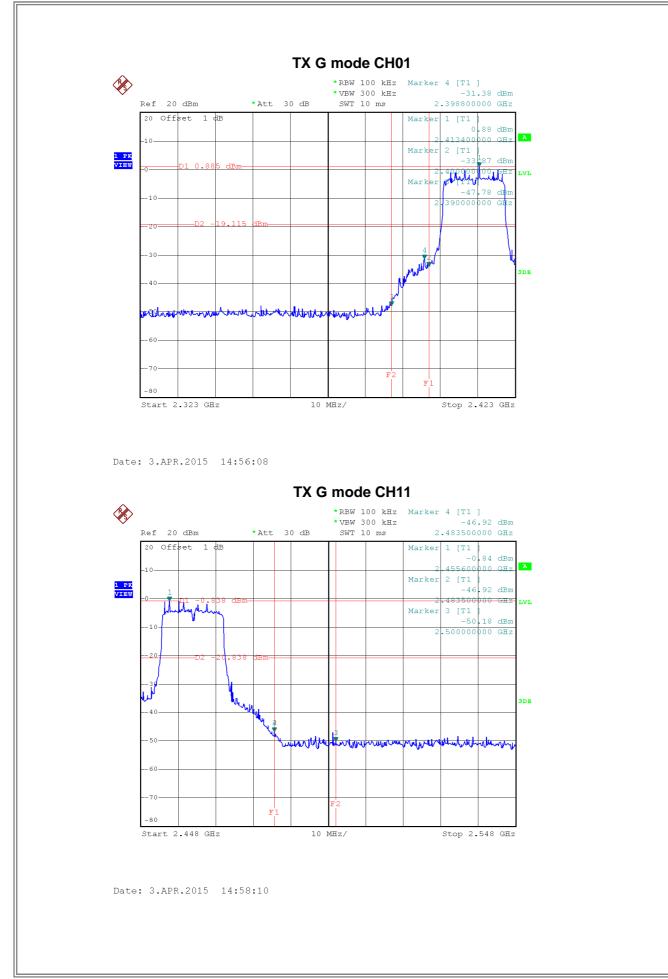


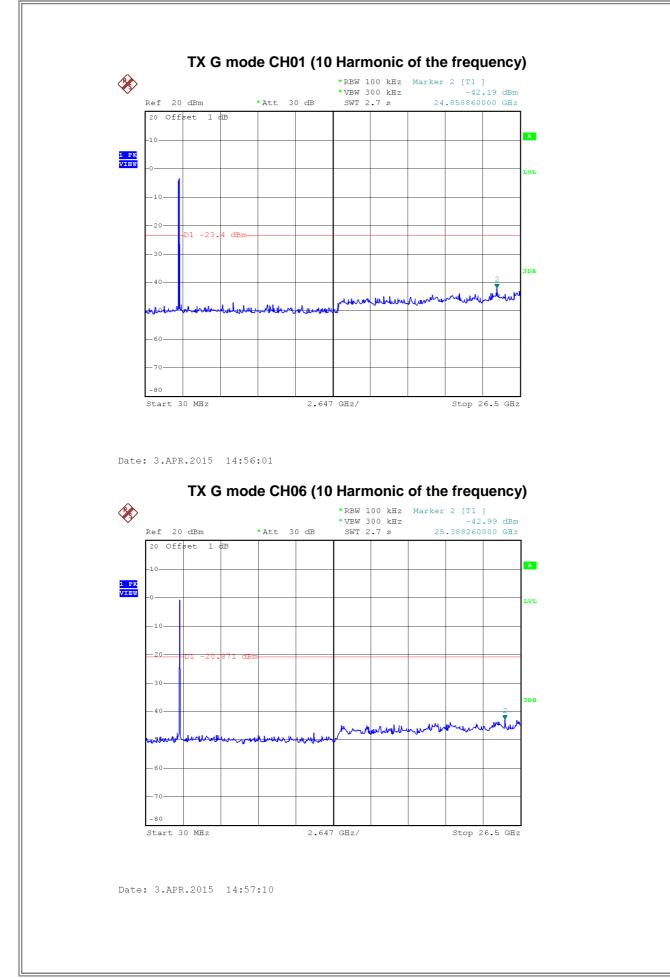


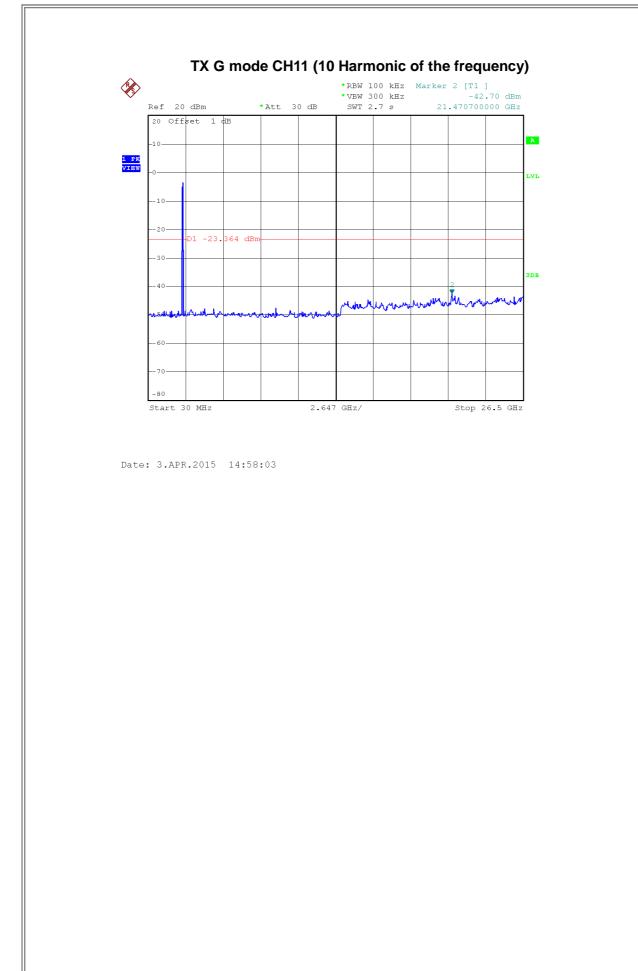


Test Mode :	TX G Mode

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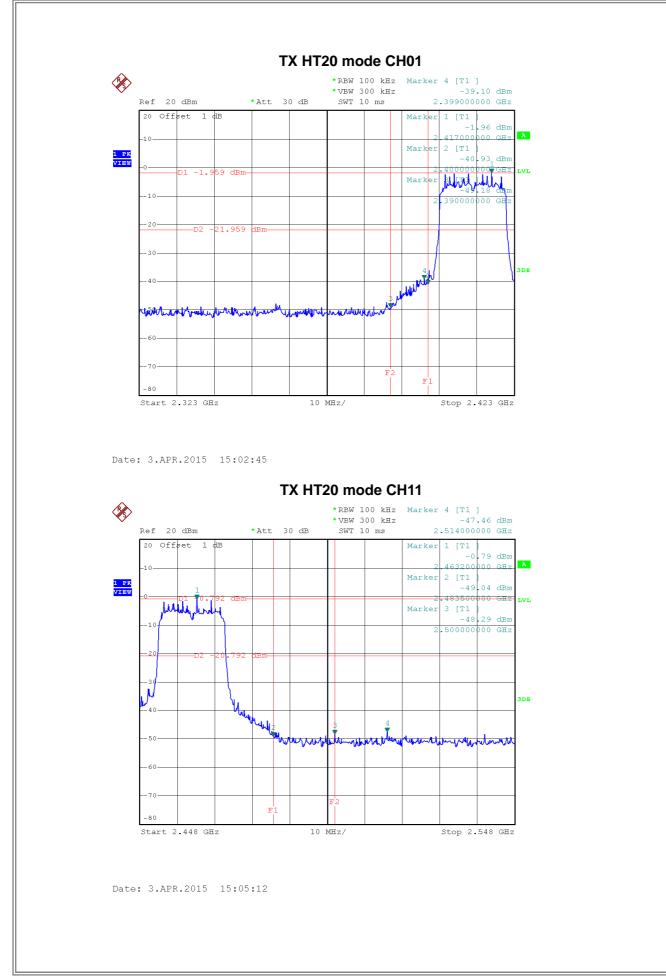


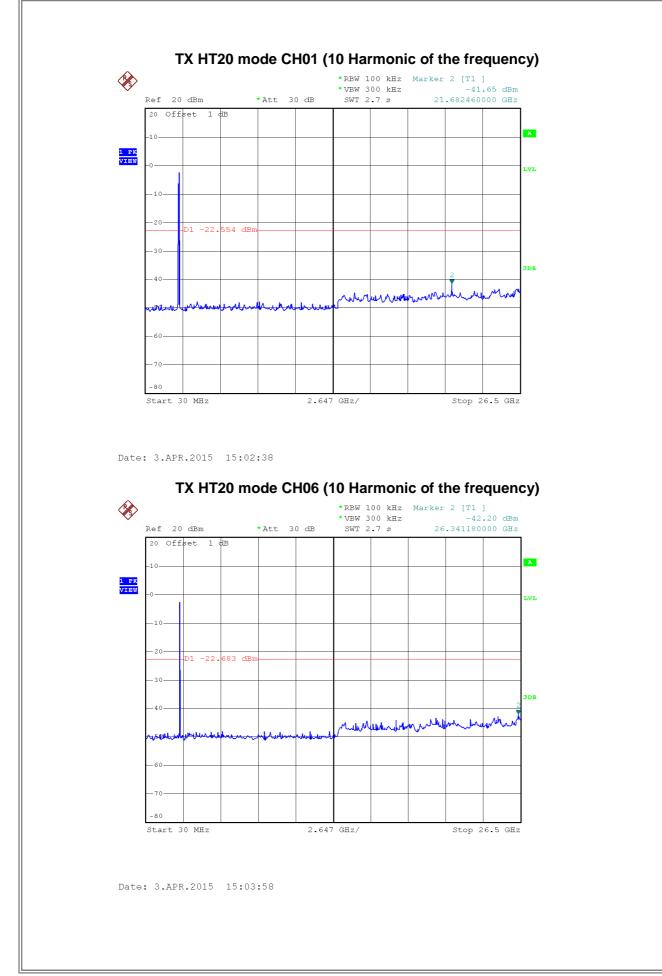


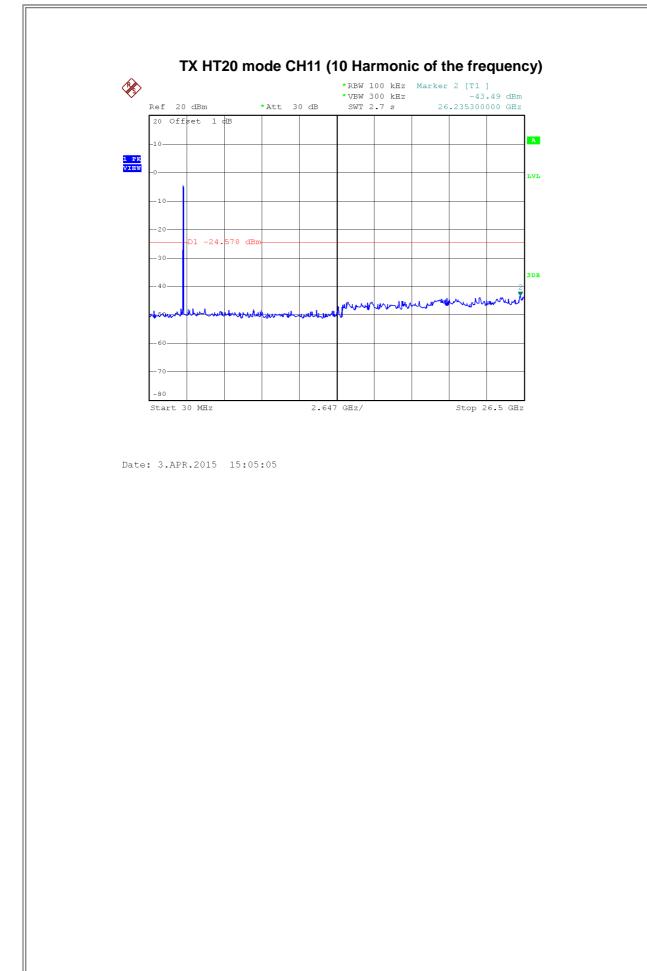




Test Mode : TX N-20M Mode_ANT 1	

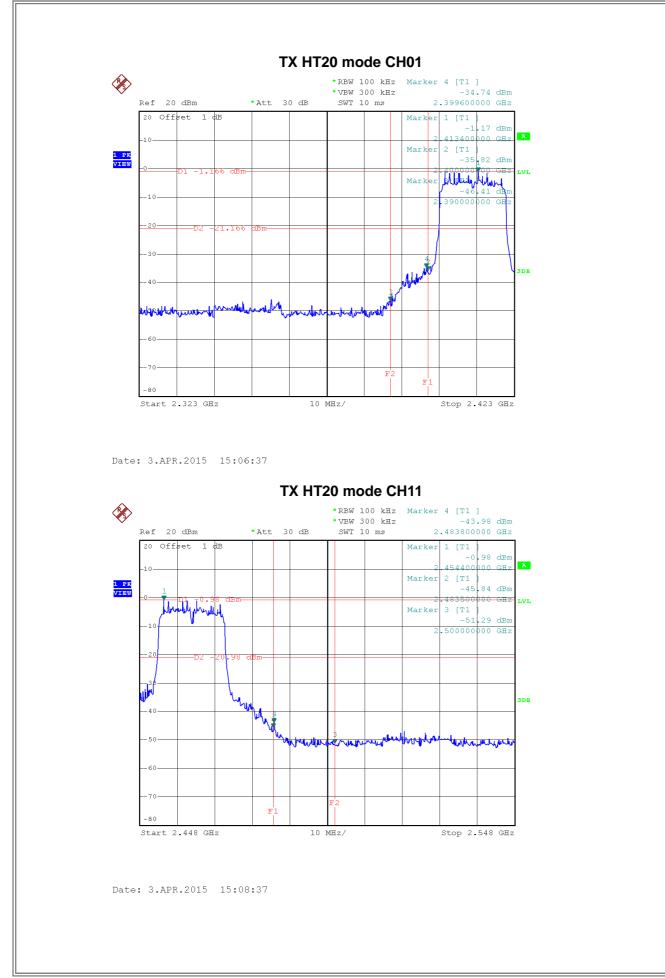


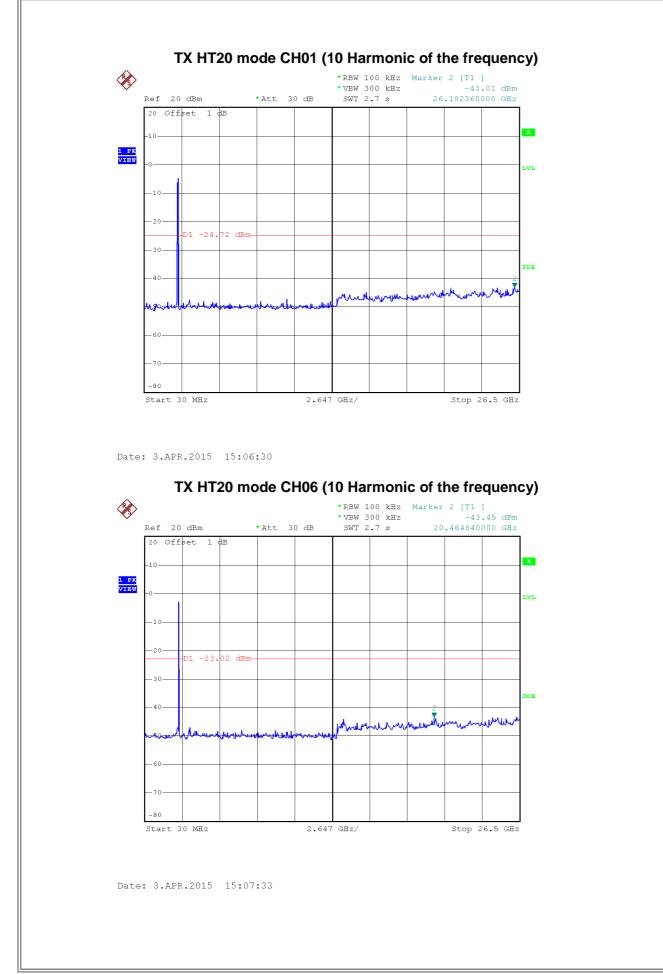


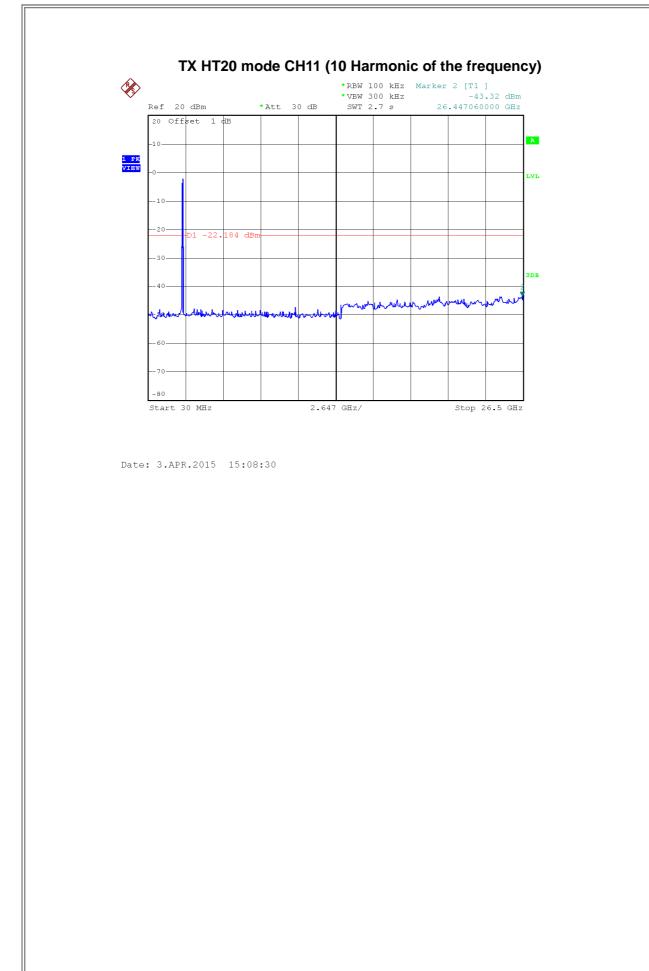




Test Mode :	TX N-20M Mode_ANT 2	
	500D / / 5000 / /0	

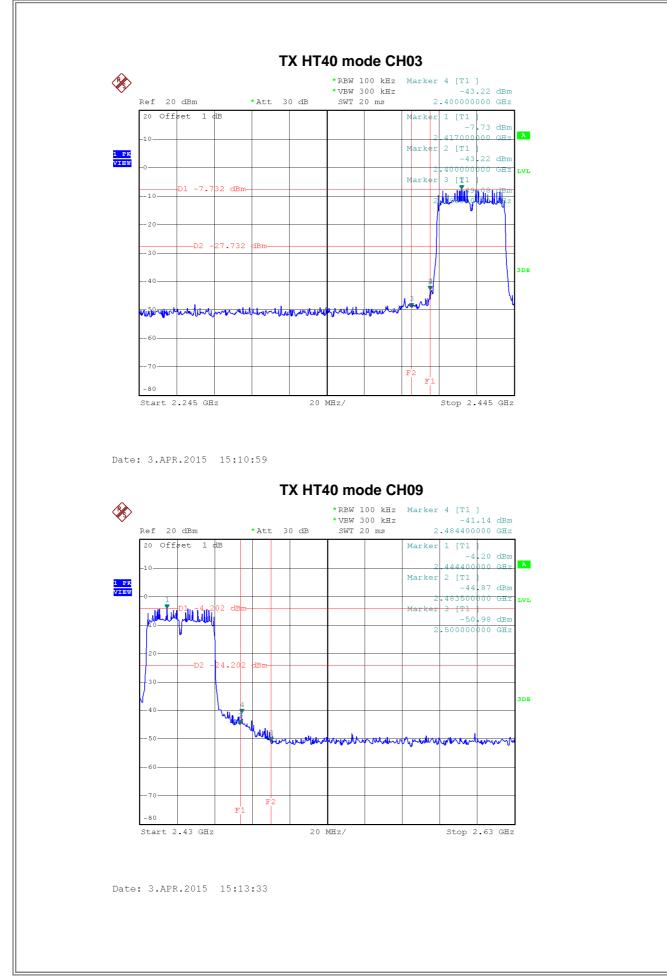


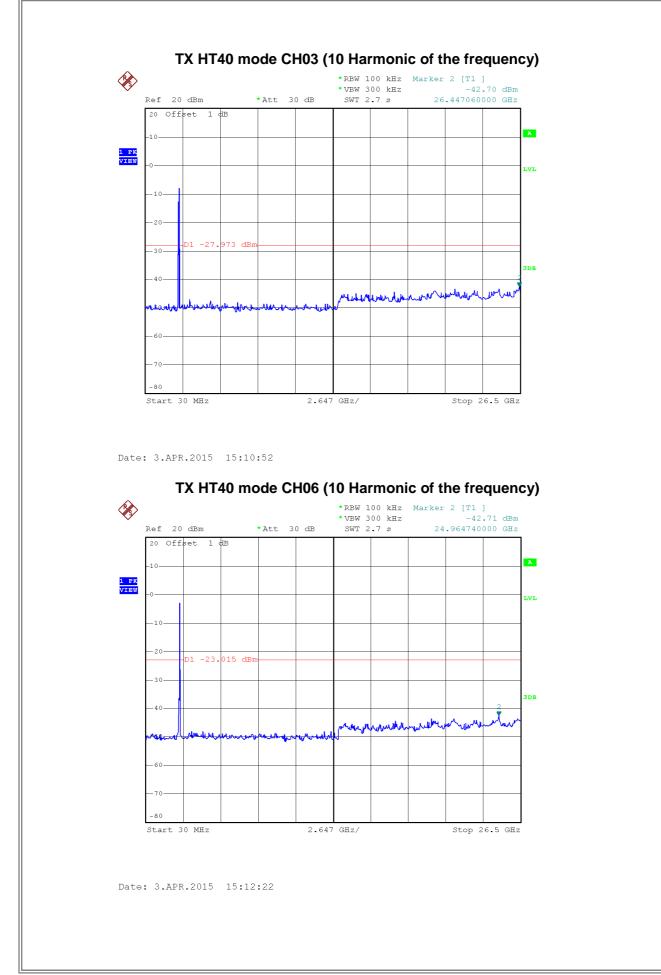


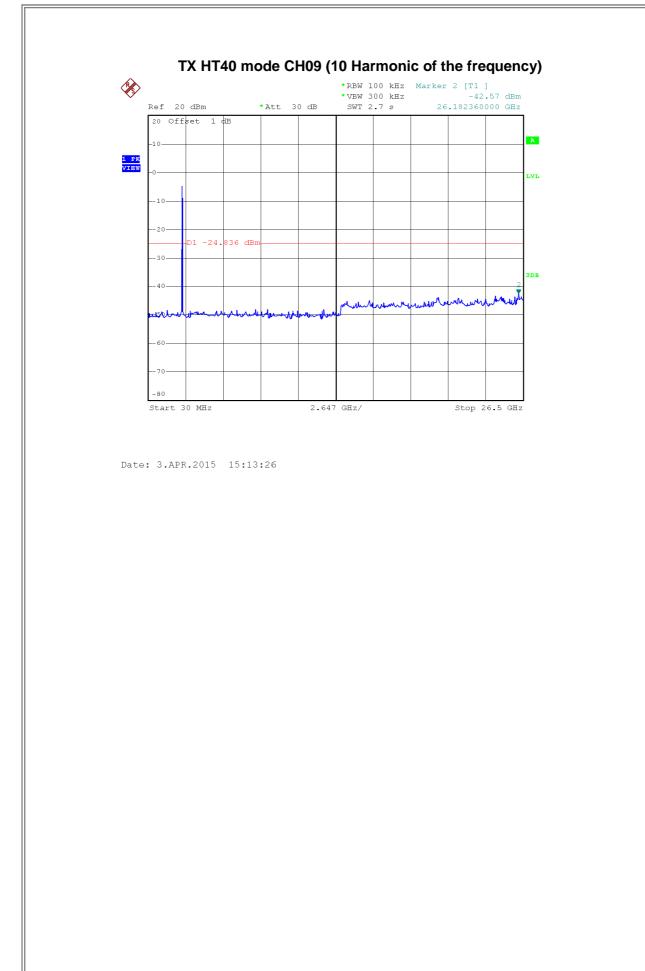




Test Mode :	TX N-40M Mode_ANT 1	

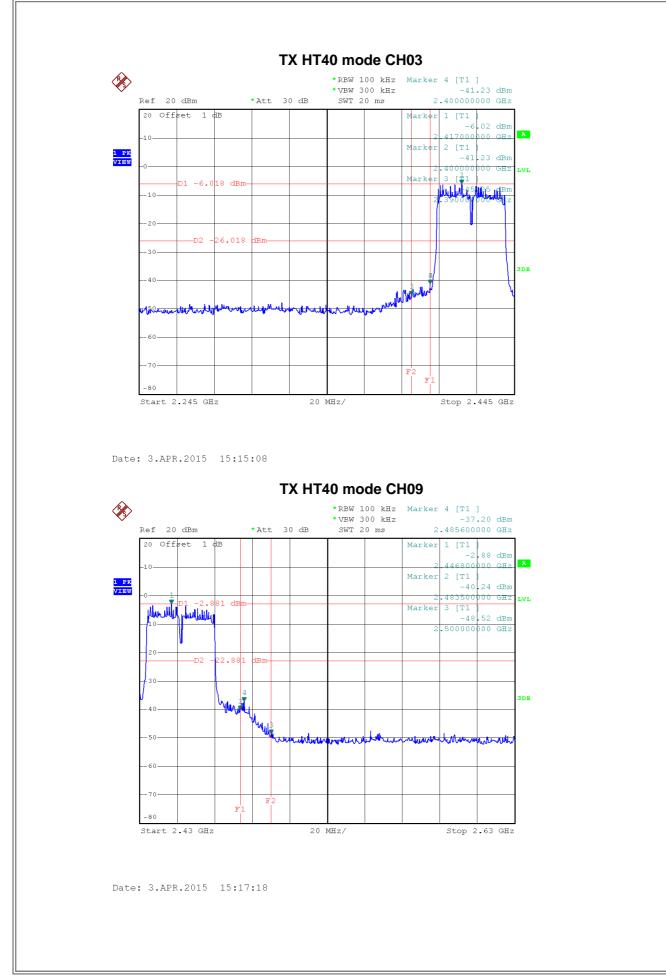


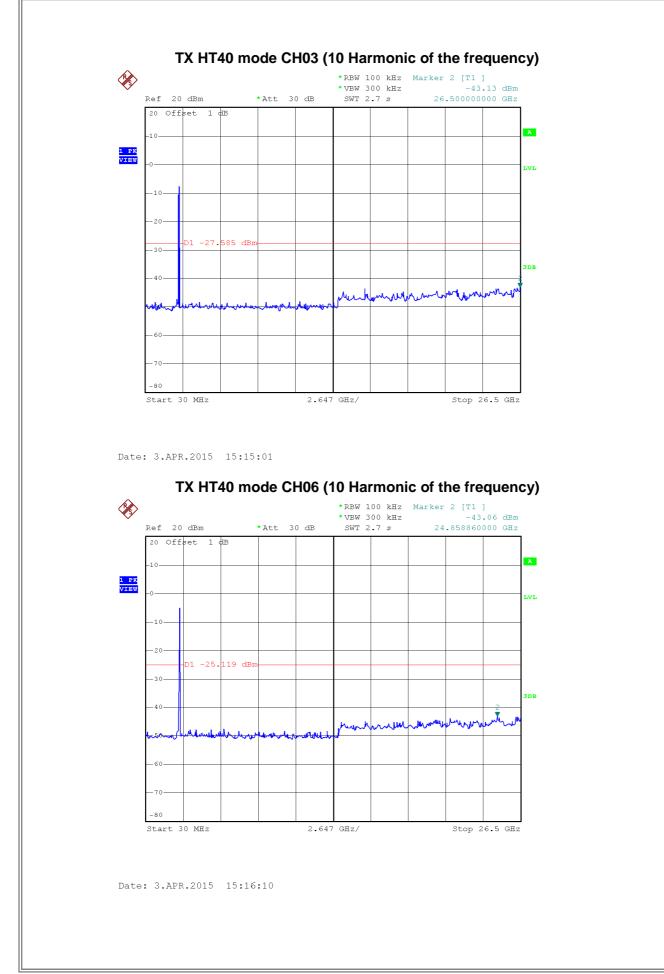




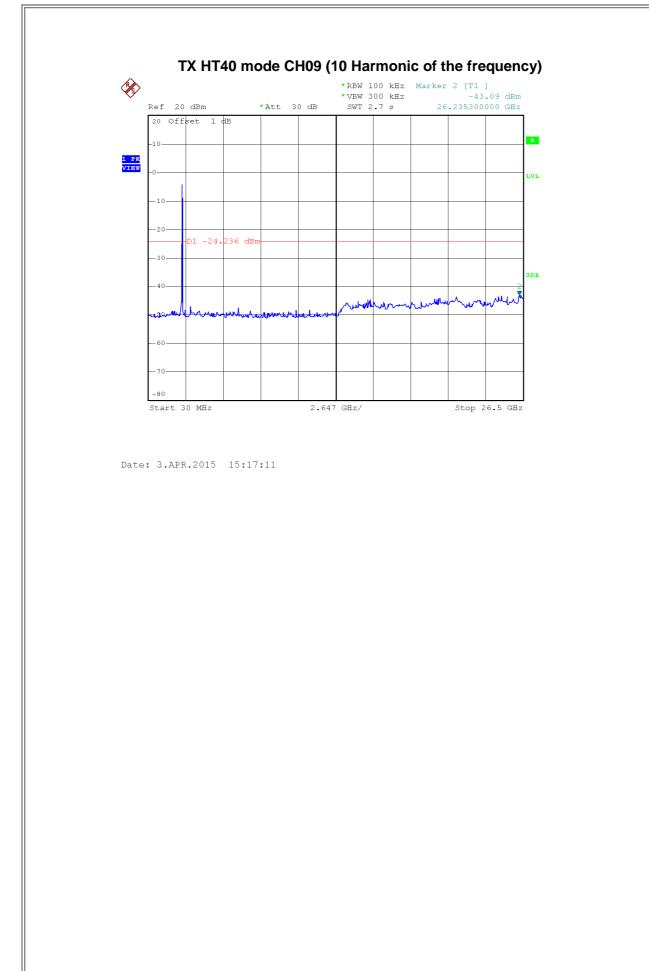


Test Mode :	TX N-40M Mode_ANT 2	
	500D 4 45000440	





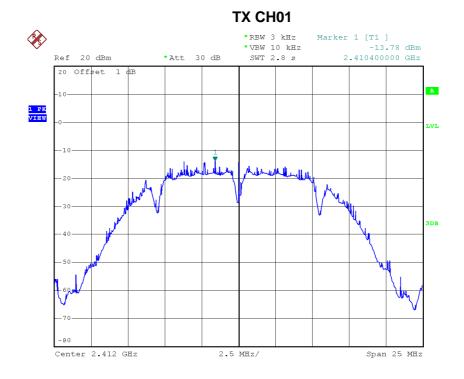
Report No.: BTL-FCCP-1-1502C148



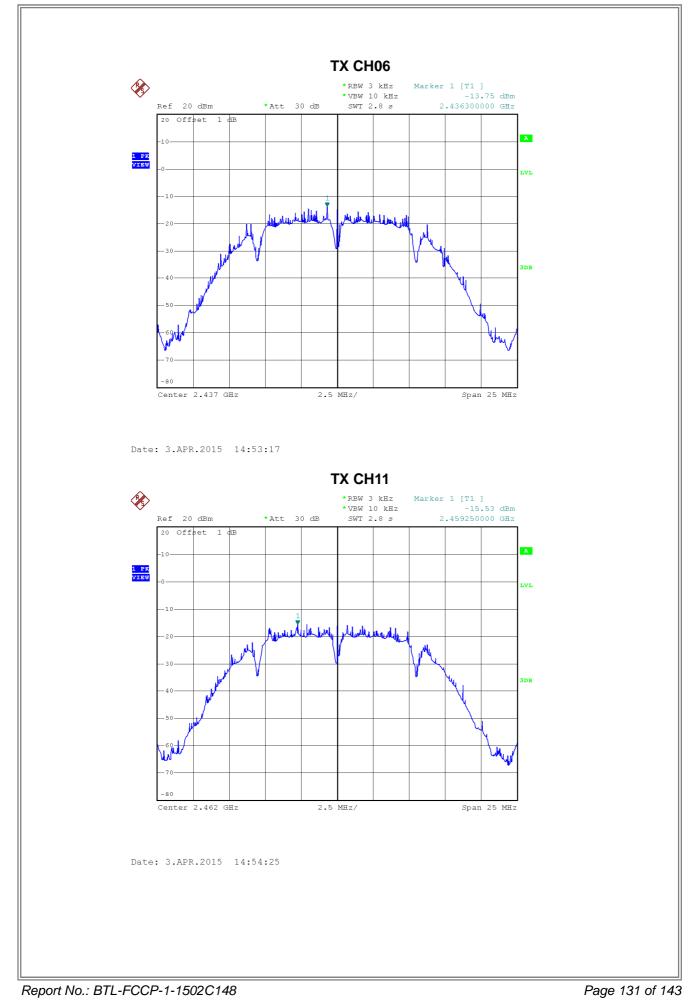
ATTACHMENT H - POWER SPECTRAL DENSITY

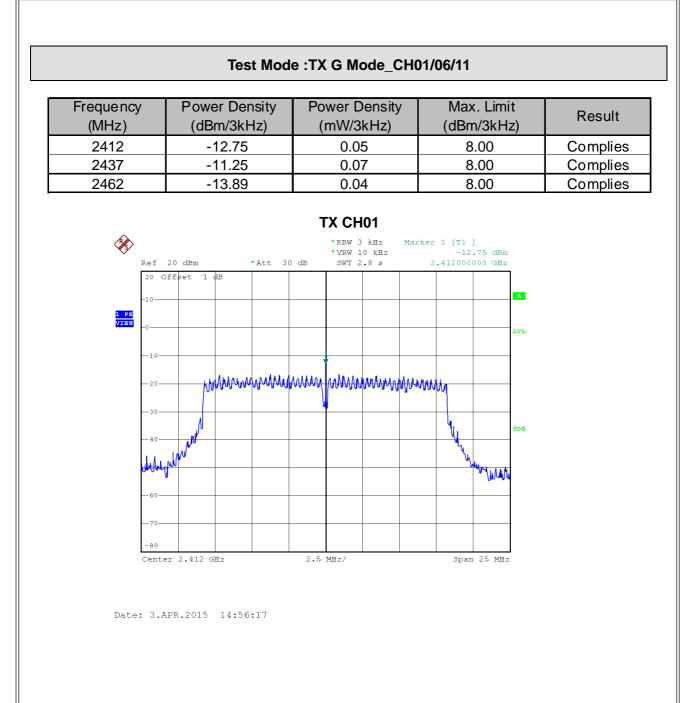
Test Mode :TX B Mode_CH01/06/11

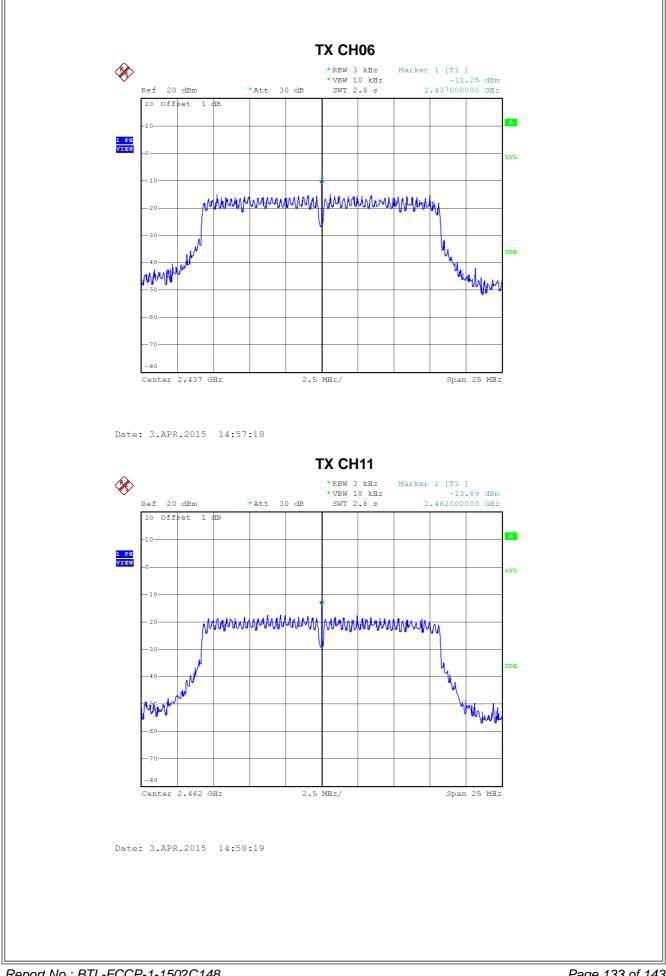
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.78	0.04	8.00	Complies
2437	-13.75	0.04	8.00	Complies
2462	-15.53	0.03	8.00	Complies



Date: 3.APR.2015 14:52:18

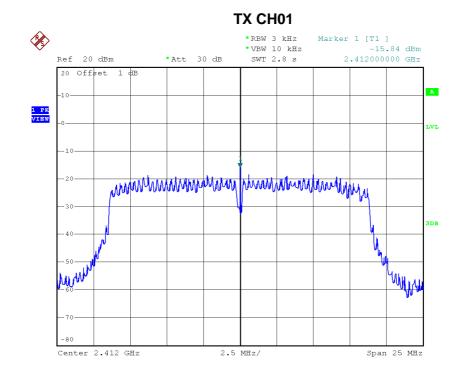




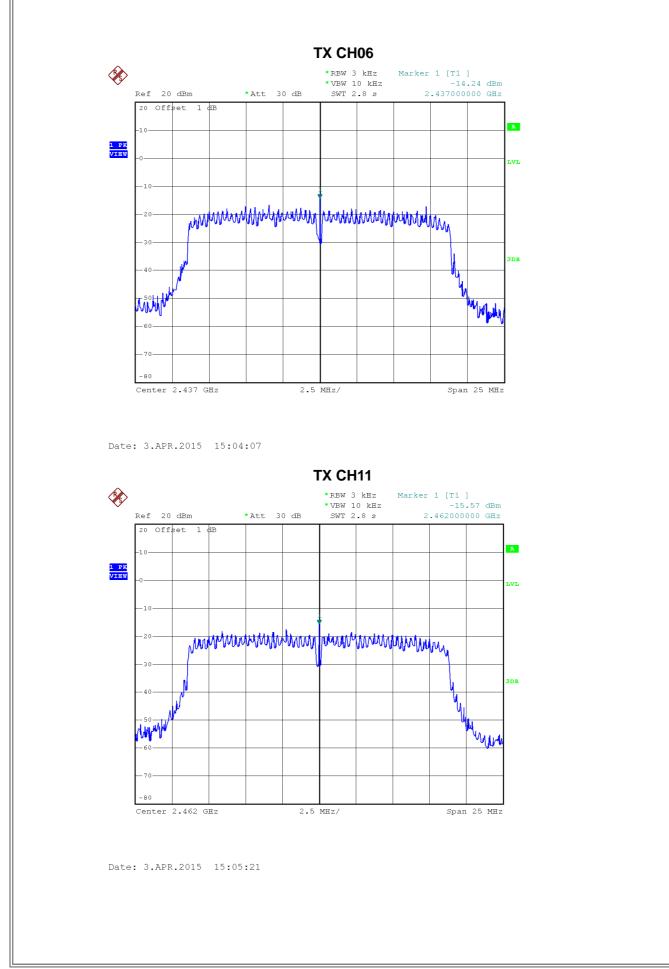


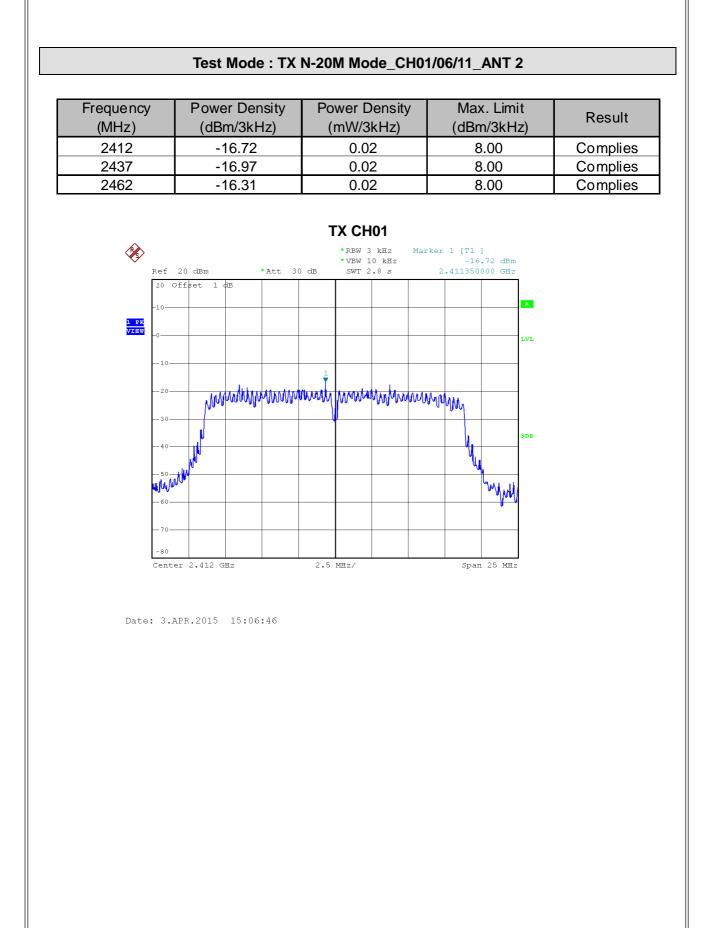


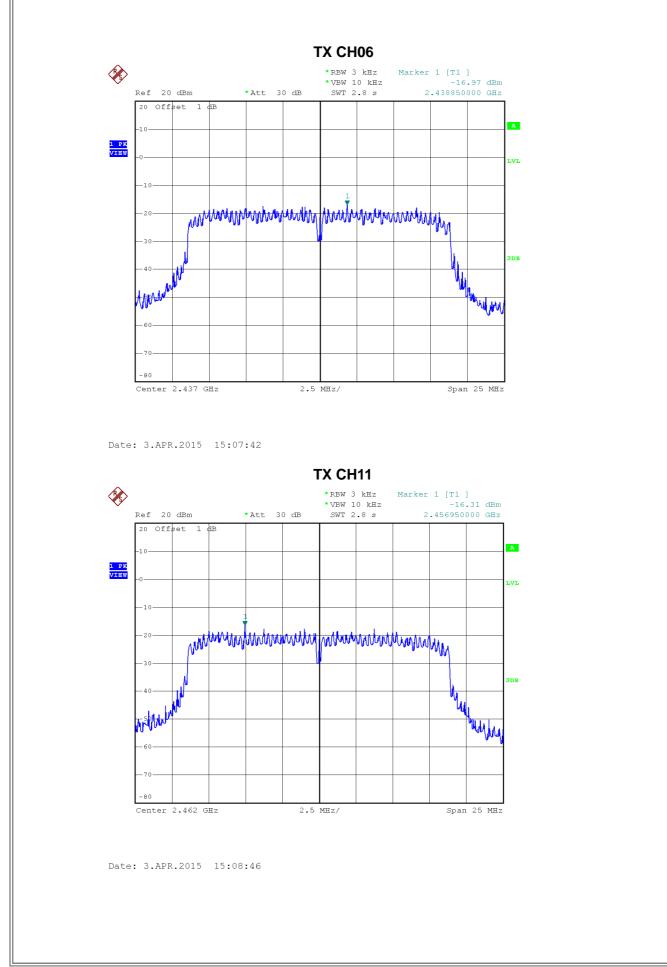
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-15.84	0.03	8.00	Complies
2437	-14.24	0.04	8.00	Complies
2462	-15.57	0.03	8.00	Complies



Date: 3.APR.2015 15:02:54

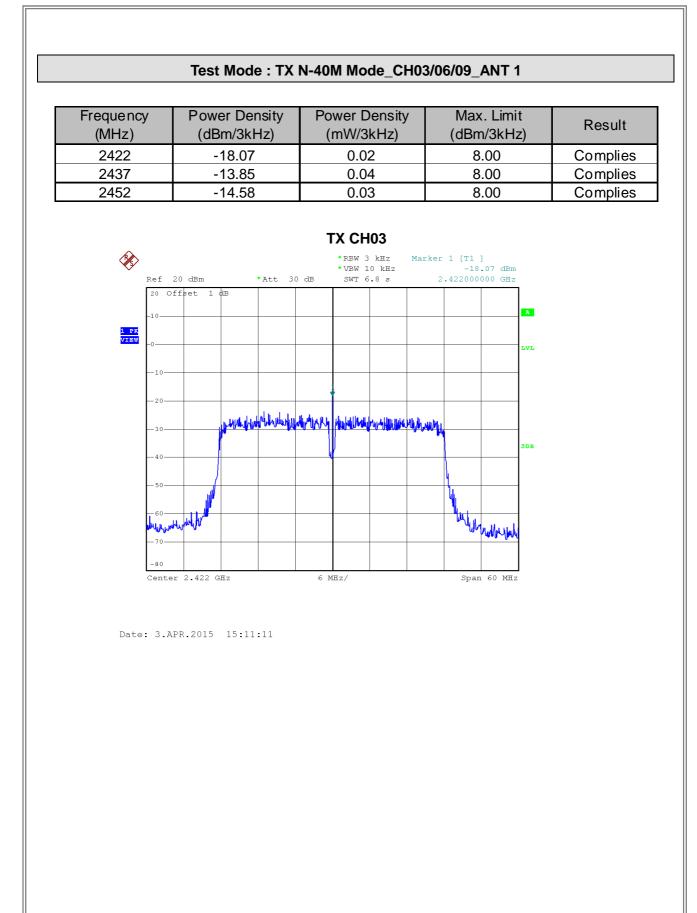


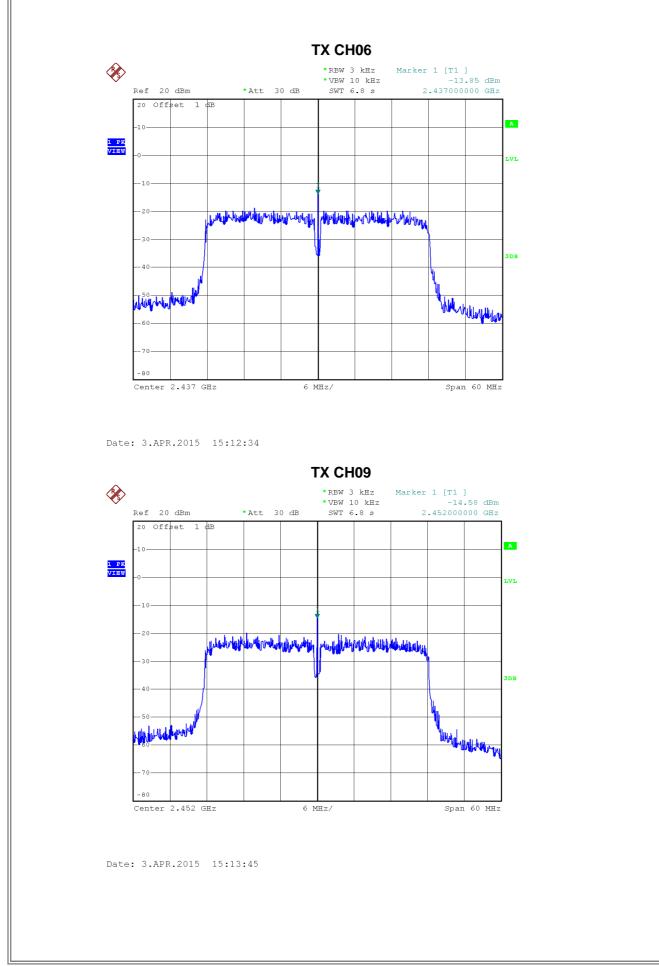




Test Mode : TX N-20M Mode	_CH01/06/11_Total
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Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.25	0.05	8.00	Complies
2437	-12.38	0.06	8.00	Complies
2462	-12.92	0.05	8.00	Complies

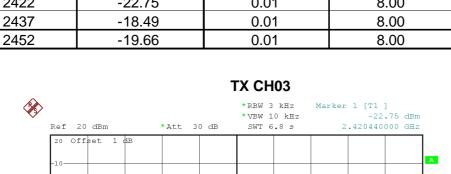


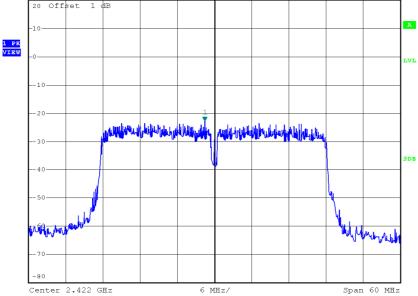


Complies

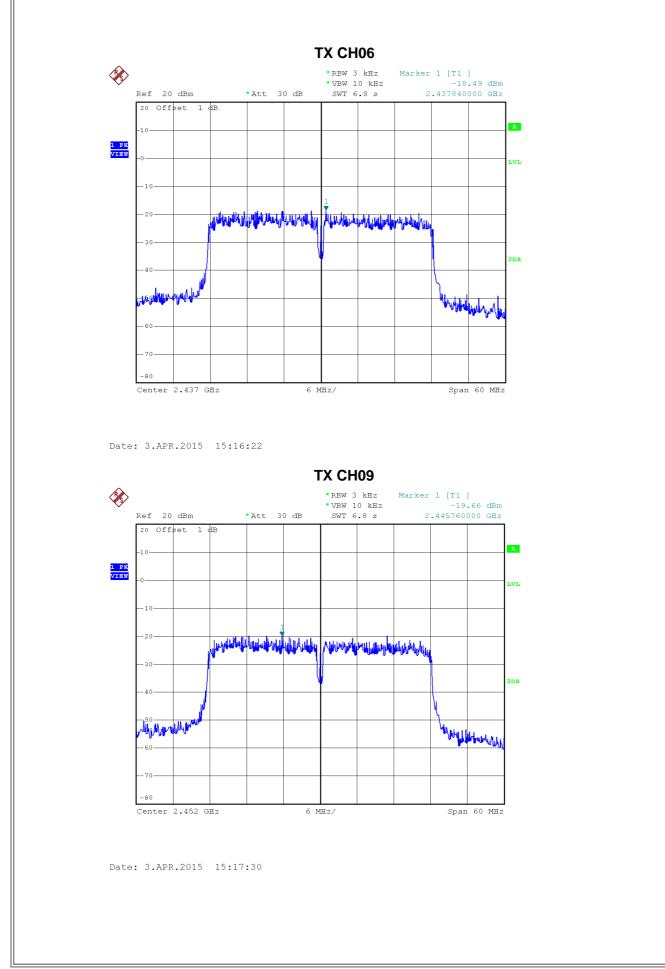
Complies

Test Mode : TX N-40M Mode_CH03/06/09_ANT 2						
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result		
2422	-22.75	0.01	8.00	Complies		





Date: 3.APR.2015 15:15:20



Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-16.80	0.02	8.00	Complies
2437	-12.57	0.06	8.00	Complies
2452	-13.41	0.05	8.00	Complies