



# **FCC Radio Test Report** FCC ID: X4YNBL12AC

This report concerns (check one): ⊠Original Grant □Class I Change □Class II Change

: 1702C045 Project No.

Equipment : Dual-Band AC1200 Wireless Router

Model Name : ARN04904U2

Applicant : NEXXT SOLUTIONS

: 3505 N.W 107TH AVE. MIAMI FLORIDA 33178 Address

U.S.A

Date of Receipt : Feb. 10, 2017

Date of Test : Feb. 10, 2017 ~ Mar. 03, 2017 | Issued Date : Mar. 06, 2017 | BTL Inc.

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Report No.: BTL-FCCP-1-1702C045 Page 1 of 159





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

Report No.: BTL-FCCP-1-1702C045 Page 2 of 159





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	13
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TES	STED 14
3.5 DESCRIPTION OF SUPPORT UNITS	14
4 . EMC EMISSION TEST	15
4.1 CONDUCTED EMISSION MEASUREMENT	15
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS	15
4.1.2 TEST PROCEDURE 4.1.3 DEVIATION FROM TEST STANDARD	15 15
4.1.4 TEST SETUP	16
4.1.5 EUT OPERATING CONDITIONS	16
4.1.6 EUT TEST CONDITIONS	16
4.1.7 TEST RESULTS	16 17
4.2 RADIATED EMISSION MEASUREMENT 4.2.1 RADIATED EMISSION LIMITS	17
4.2.2 TEST PROCEDURE	18
4.2.3 DEVIATION FROM TEST STANDARD	18
4.2.4 TEST SETUP 4.2.5 EUT OPERATING CONDITIONS	19 20
4.2.6 EUT TEST CONDITIONS	20
4.2.7 TEST RESULTS (9KHZ TO 30MHZ)	20
4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ) 4.2.9 TEST RESULTS (ABOVE 1000 MHZ)	20 20
,	-
5 . BANDWIDTH TEST	21
5.1 APPLIED PROCEDURES 5.1.1 TEST PROCEDURE	21 21
5.1.2 DEVIATION FROM STANDARD	21
5.1.3 TEST SETUP	21
5.1.4 EUT OPERATION CONDITIONS	21 21
5.1.5 EUT TEST CONDITIONS 5.1.6 TEST RESULTS	21 21
6 . MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST	22





Table of Contents	Page
6.1 APPLIED PROCEDURES / LIMIT 6.1.1 TEST PROCEDURE 6.1.2 DEVIATION FROM STANDARD 6.1.3 TEST SETUP 6.1.4 EUT OPERATION CONDITIONS 6.1.5 EUT TEST CONDITIONS 6.1.6 TEST RESULTS  7 . ANTENNA CONDUCTED SPURIOUS EMISSION 7.1 APPLIED PROCEDURES / LIMIT 7.1.1 TEST PROCEDURE 7.1.2 DEVIATION FROM STANDARD 7.1.3 TEST SETUP 7.1.4 EUT OPERATION CONDITIONS	Page  22 22 22 22 22 22 23 23 23 23 23 23 23
7.1.5 EUT TEST CONDITIONS	23
7.1.6 TEST RESULTS	23
8 . POWER SPECTRAL DENSITY TEST	24 24
8.1 APPLIED PROCEDURES / LIMIT 8.1.1 TEST PROCEDURE 8.1.2 DEVIATION FROM STANDARD 8.1.3 TEST SETUP 8.1.4 EUT OPERATION CONDITIONS 8.1.5 EUT TEST CONDITIONS 8.1.6 TEST RESULTS	24 24 24 24 24 24 24
9. MEASUREMENT INSTRUMENTS LIST	25
10 . EUT TEST PHOTO	27
ATTACHMENT A - CONDUCTED EMISSION	31
ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)	34
ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)	39
ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)	46
ATTACHMENT E - BANDWIDTH	95
ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER	104
ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION	108
ATTACHMENT H - POWER SPECTRAL DENSITY	145

Report No.: BTL-FCCP-1-1702C045 Page 4 of 159





## **REPORT ISSUED HISTORY**

Issued No.	Description	Issued Date
BTL-FCCP-1-1702C045	Original Issue.	Mar. 06, 2017

Report No.: BTL-FCCP-1-1702C045 Page 5 of 159





#### 1. CERTIFICATION

Equipment : Dual-Band AC1200 Wireless Router

Brand Name: NEXXT

Model Name: ARN04904U2

Applicant : NEXXT SOLUTIONS

Date of Test : Feb. 10, 2017 ~ Mar. 03, 2017

Test Sample: Engineering Sample

Standard(s): FCC Part15, Subpart C:(15.247) / ANSI C63.10-2013

Canada RSS-247 Issue 1, May 2015

RSS-GEN Issue 4, Nov 2014

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-1-1702C045) 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).

Report No.: BTL-FCCP-1-1702C045 Page 6 of 159





## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Applied Standard(s): FCC Part15 (15.247) , Subpart C				
Standard(s) Section	Test Item	Judgment	Remark	
15.207	Conducted Emission	PASS		
15.247(d)	Antenna conducted Spurious Emission	PASS		
15.247(a)(2)	6dB Bandwidth	PASS		
15.247(b)(3)	Peak Output Power	PASS		
15.247(e)	Power Spectral Density	PASS		
15.203	Antenna Requirement	PASS		
15.247(d)/ 15.205/ 15.209	Transmitter Radiated Emissions	PASS		

## NOTE:

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

Report No.: BTL-FCCP-1-1702C045 Page 7 of 159





Page 8 of 159

#### 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's test firm number for FCC: 319330

#### 2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2  $U_{cispr}$  requirement.

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

#### A. Conducted Measurement:

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

#### B. Radiated Measurement:

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Test Site	Method	Measurement Frequency	Ant.	U, (dB)	
		Range	H/V	-, (-,	
		9KHz~30MHz	V	3.79	
		9KHz~30MHz	Н	3.57	
		30MHz ~ 200MHz	V	3.82	
DG-CB03 CISPR	30MHz ~ 200MHz	Н	3.78		
	200MHz ~ 1,000MHz	V	4.10		
DG-CB03	IG-CBU3 CISFR	200MHz ~ 1,000MHz	Н	4.06	
		1GHz~18GHz	V	3.12	
		1GHz~18GHz	Н	3.68	
		18GHz~40GHz	V	4.15	
	18GHz~40GHz	Н	4.14		

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





## 3. GENERAL INFORMATION

## 3.1 GENERAL DESCRIPTION OF EUT

Equipment	Dual-Band AC1200 Wireless Router				
Brand Name	NEXXT	NEXXT			
Model Name	ARN04904U2				
Model Difference	N/A	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: 24.17dBm 802.11g: 28.41dBm 802.11n(20MHz): 29.78dBm 802.11n(40MHz): 29.83dBm			
PowerSource	DC voltage supplied from AC/DC adapter.  Manufacturer: SHENZHEN HEWEISHUN NETWORK TECHNOLOGY CO.,LTD Model Name:BN036-A12012U-NEXXT				
Power Rating	IP: 100-240V~50/60Hz0.4A OP:12V===1.0A				

## 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		

Report No.: BTL-FCCP-1-1702C045Page 9 of 159





## 3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	Tenda	N/A	Dipole	N/A	5	TX/RX
2	Tenda	N/A	Dipole	N/A	5	TX/RX

Note: 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 = Gant, that is Directional gain=5.

4.

Operating Mode	1TX	2TX
TX Mode	1170	217
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)

ANT 1 for 1TX was found to be the worst case and recorded





#### 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:

j was s	For Conducted Test
Final Test Mode	Description
Mode 5	TX MODE

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

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

Report No.: BTL-FCCP-1-1702C045 Page 11 of 159





6dB Spectrum Bandwidth		
Final Test Mode	Description	
Mode 1	TX B MODE CHANNEL 01/06/11	
Mode 2	TX G MODE CHANNEL 01/06/11	
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11	
Mode 4	TX N-40MHZ MODE CHANNEL 03/06/09	

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

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

## Note:

- (1) The measurements are performed at the high, middle, low available channels.
- (2) 802.11b mode: DBPSK (1Mbps)
  - 802.11g mode: OFDM (6Mbps)
  - 802.11n HT20 mode: BPSK (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%.

Report No.: BTL-FCCP-1-1702C045 Page 12 of 159





#### 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

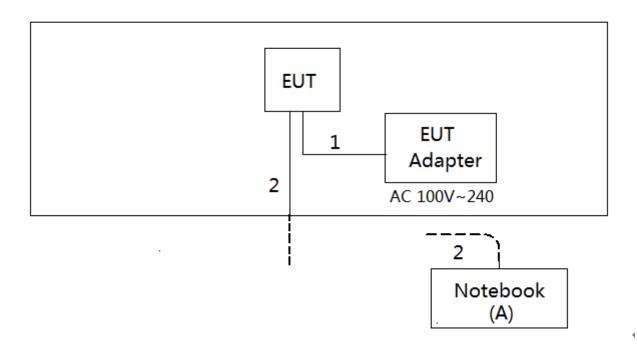
Test software version	MTool_2.0.1.7		
Frequency (MHz)	2412	2437	2462
802.11b	78	74	70
802.11g	76	86	64
802.11n (20MHz)	54	50	50
Frequency	2422	2437	2452
802.11n (40MHz)	50	54	54

Report No.: BTL-FCCP-1-1702C045 Page 13 of 159





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



#### 3.5 DESCRIPTION OF SUPPORT UNITS

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

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
Α	Notebook	Dell 745	DCSM	DOC	G7K832X

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.2m	DC Cable
2	NO	NO	10m	RJ45 Cable

Report No.: BTL-FCCP-1-1702C045 Page 14 of 159





#### 4. EMC EMISSION TEST

#### 4.1 CONDUCTED EMISSION MEASUREMENT

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

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

#### Note

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

The following table is the setting of the receiver

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

#### **4.1.2 TEST PROCEDURE**

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

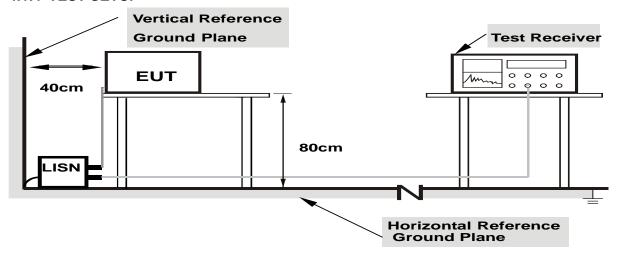
#### 4.1.3 DEVIATION FROM TEST STANDARD

No deviation





#### 4.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

#### **4.1.5 EUT OPERATING CONDITIONS**

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

#### **4.1.6 EUT TEST CONDITIONS**

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

## 4.1.7 TEST RESULTS

Please refer to the Attachment A.





Page 17 of 159

#### 4.2 RADIATED EMISSION MEASUREMENT

#### 4.2.1 RADIATED EMISSION LIMITS

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

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

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

## LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

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

#### Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C/RSS-247.
- (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	1MHz / 3MHz for Peak,
(Emission in restricted band)	1MHz / 1/T for Average

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

#### 4.2.2 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation (above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 4.2.3 DEVIATION FROM TEST STANDARD

No deviation

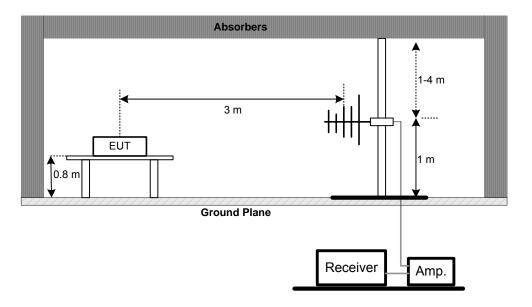
Report No.: BTL-FCCP-1-1702C045 Page 18 of 159



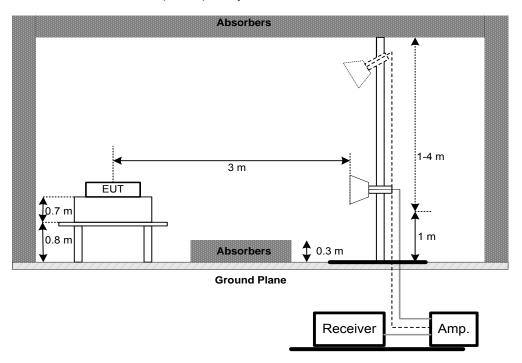


## 4.2.4 TEST SETUP

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



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz

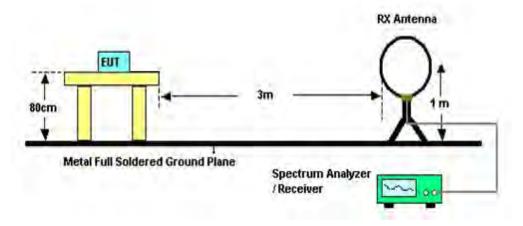


Report No.: BTL-FCCP-1-1702C045 Page 19 of 159





#### (C) For Radiated Emissions Below 30MHz



#### 4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 4.2.6 EUT TEST CONDITIONS

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

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

Please refer to the Attachment B

#### Remark:

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

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

Please refer to the Attachment C.

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

Please refer to the Attachment D.

#### Remark:

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

Report No.: BTL-FCCP-1-1702C045 Page 20 of 159





#### 5. BANDWIDTH TEST

#### **5.1 APPLIED PROCEDURES**

FCC Part15 (15.247) , Subpart C					
Section Test Item Frequency Range (MHz) Result					
15.247(a)(2) Bandwidth 2400-2483.5 PASS					

#### **5.1.1 TEST PROCEDURE**

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = 2.5 ms.

#### **5.1.2 DEVIATION FROM STANDARD**

No deviation.

#### 5.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### **5.1.4 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

#### **5.1.5 EUT TEST CONDITIONS**

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

#### **5.1.6 TEST RESULTS**

Please refer to the Attachment E.

Report No.: BTL-FCCP-1-1702C045 Page 21 of 159





#### 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 and FC C KDB 662911 D01 Multiple Transmitter Output.

#### **6.1.2 DEVIATION FROM STANDARD**

No deviation.

#### 6.1.3 TEST SETUP

EUT	Power Meter
	1 0 11 01 11 10 10 1

#### **6.1.4 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

#### **6.1.5 EUT TEST CONDITIONS**

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

## 6.1.6 TEST RESULTS

Please refer to the Attachment F.

Report No.: BTL-FCCP-1-1702C045 Page 22 of 159





#### 7. ANTENNA CONDUCTED SPURIOUS EMISSION

#### 7.1 APPLIED PROCEDURES / LIMIT

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

#### 7.1.1 TEST PROCEDURE

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

#### 7.1.2 DEVIATION FROM STANDARD

No deviation.

#### 7.1.3 TEST SETUP

EUT	SPECTRUM	
	ANALYZER	

#### 7.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 7.1.5 EUT TEST CONDITIONS

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

#### 7.1.6 TEST RESULTS

Please refer to the Attachment G.

Report No.: BTL-FCCP-1-1702C045 Page 23 of 159





#### 8. POWER SPECTRAL DENSITY TEST

#### 8.1 APPLIED PROCEDURES / LIMIT

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

#### **8.1.1 TEST PROCEDURE**

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

#### **8.1.2 DEVIATION FROM STANDARD**

No deviation.

#### 8.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### **8.1.4 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

#### **8.1.5 EUT TEST CONDITIONS**

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

#### 8.1.6 TEST RESULTS

Please refer to the Attachment H.

Report No.: BTL-FCCP-1-1702C045 Page 24 of 159





## 9. MEASUREMENT INSTRUMENTS LIST

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

	Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 27, 2017	
2	Amplifier	HP	8447D	2944A09673	Oct. 20, 2017	
3	Receiver	Agilent	N9038A	MY5213003 9	Sep. 04, 2017	
4	Cable	emci	LMR-400(30MH z-1GHz)(8m+5m )	N/A	Jun. 27, 2017	
5	Controller	СТ	SC100	N/A	N/A	
6	Controller	MF	MF-7802	MF78020841 6	N/A	
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	
8	Amplifier	Agilent	8449B	3008A02274	Mar. 10, 2017	
9	Receiver	Agilent	N9038A	MY5213003 9	Sep. 04, 2017	
10	Antenna	EM	EM-6876-1	230	Jul. 08, 2017	
11	Controller	СТ	SC100	N/A	N/A	
12	Controller	MF	MF-7802	MF78020841 6	N/A	
13	Cable	emci	EMC104-SM-S M-12000(12m)	N/A	Jul. 06, 2017	
14	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 27, 2017	
15	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Apr. 23, 2017	
16	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 27, 2017	

Report No.: BTL-FCCP-1-1702C045 Page 25 of 159





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

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

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

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

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

All calibration period of equipment list is one year.

Report No.: BTL-FCCP-1-1702C045 Page 26 of 159





## **10. EUT TEST PHOTO**







Report No.: BTL-FCCP-1-1702C045 Page 27 of 159





## **Radiated Measurement Photos**







Report No.: BTL-FCCP-1-1702C045 Page 28 of 159





## **Radiated Measurement Photos**





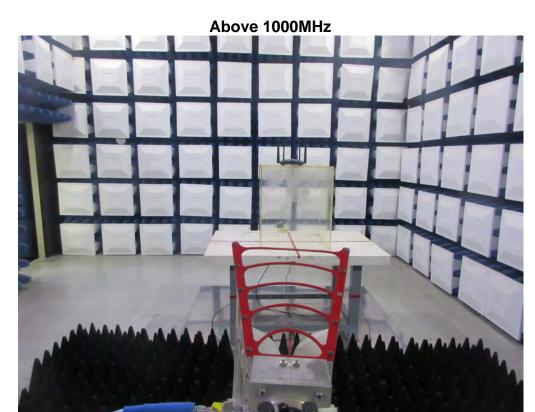


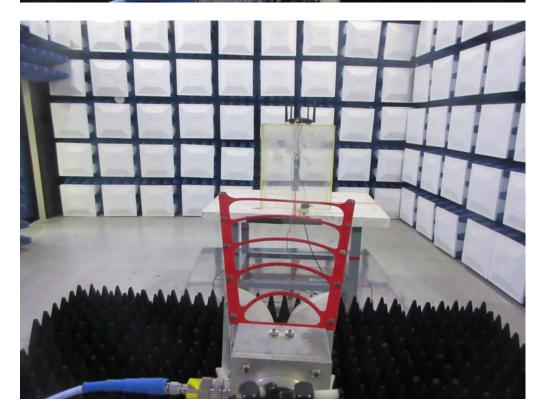
Report No.: BTL-FCCP-1-1702C045 Page 29 of 159





## **Radiated Measurement Photos**





Report No.: BTL-FCCP-1-1702C045 Page 30 of 159





ATTACHMENT A - CONDUCTED EMISSION

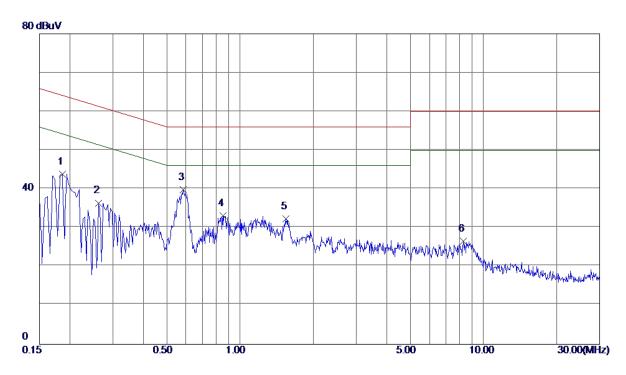
Report No.: BTL-FCCP-1-1702C045 Page 31 of 159





Test Mode : TX Mode

## Line



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0. 1860	34. 21	9. 57	43. 78	64. 21	-20. 43	Peak	
2	0. 2620	26. 83	9. 57	36. 40	61. 37	-24. 97	Peak	
3 *	0. 5860	30. 16	9. 70	39. 86	56.00	-16. 14	Peak	
4	0.8500	23. 29	9. 82	33. 11	56.00	-22. 89	Peak	
5	1. 5420	22. 37	9. 98	32. 35	56. 00	-23. 65	Peak	
6	8. 2540	16. 05	10. 44	26. 49	60.00	-33. 51	Peak	

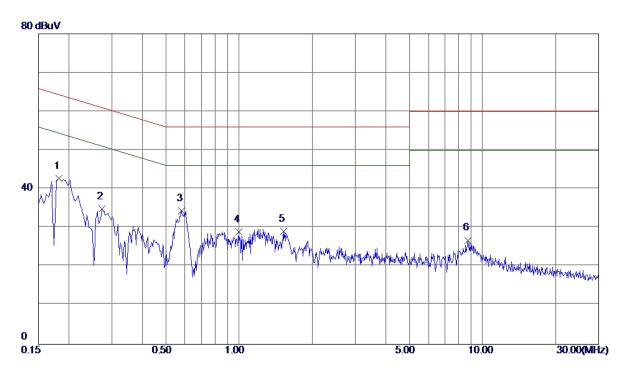
Report No.: BTL-FCCP-1-1702C045 Page 32 of 159





Test Mode : TX Mode

## **Neutral**



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0. 1819	33. 23	9. 51	42. 74	64. 40	-21. 66	Peak	
2	0. 2740	25. 26	9. 57	34. 83	61.00	-26. 17	Peak	
3 *	0.5820	24. 88	9. 50	34. 38	56.00	-21.62	Peak	
4	0. 9980	19. 21	9. 74	28. 95	56.00	<b>-27. 05</b>	Peak	
5	1. 5260	19. 33	9. 78	29. 11	56. 00	-26. 89	Peak	
6	8. 6899	16. 38	10. 42	26. 80	60.00	-33. 20	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 33 of 159





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

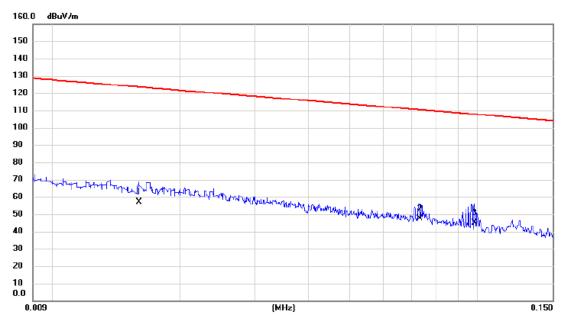
Report No.: BTL-FCCP-1-1702C045 Page 34 of 159





Test Mode: TX B MODE CHANNEL 01

## Ant 0°



No. Mk.	Freq.	Reading Level		Measure ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.0160	33.06	23.76	56.82	123.52	-66.70	AVG	
2	0.0730	27.75	19.55	47.30	110.34	-63.04	AVG	
3 *	0.0984	26.51	18.50	45.01	107.75	-62.74	AVG	

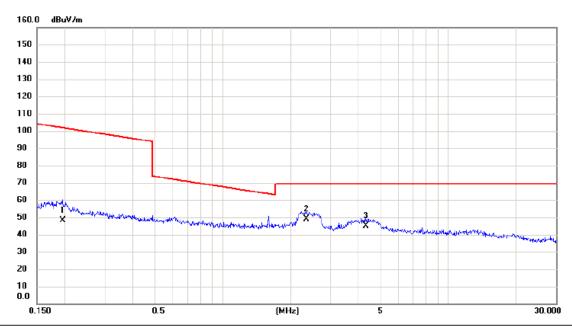
Report No.: BTL-FCCP-1-1702C045 Page 35 of 159





Test Mode: TX B MODE CHANNEL 01

## Ant 0°



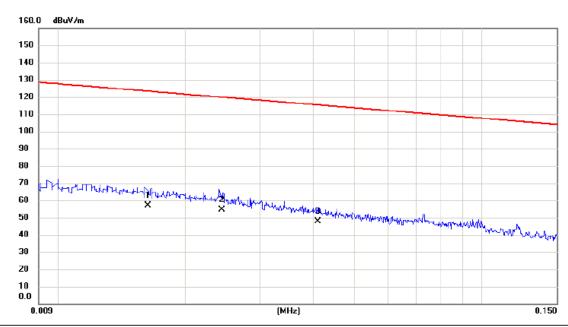
No. Mk.	Freq.		Correct Factor	Measure- ment	Limit	Margin		
,	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.1954	29.57	18.69	48.26	101.79	-53.53	AVG	
2 *	2.3460	31.65	17.46	49.11	69.54	-20.43	QP	
3	4.3146	27.02	18.10	45.12	69.54	-24.42	QP	

Report No.: BTL-FCCP-1-1702C045 Page 36 of 159





# Ant 90°



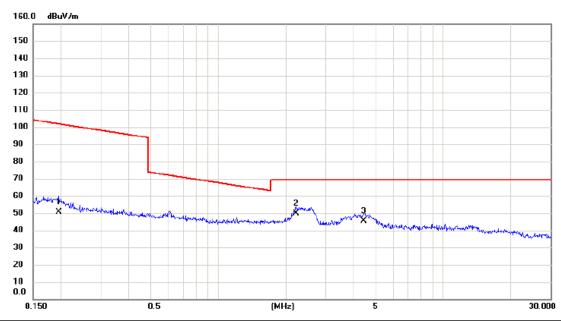
No. Mk.	Freq.			Measure- ment		Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.0163	33.10	23.74	56.84	123.36	-66.52	AVG	
2 *	0.0244	31.70	22.98	54.68	119.86	-65.18	AVG	
3	0.0411	27.04	20.92	47.96	115.33	-67.37	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 37 of 159





# Ant 90°



No. Mk.	Freq.	Reading Level		Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.1955	32.11	18.69	50.80	101.78	-50.98	AVG	
2 *	2.2250	32.13	17.62	49.75	69.54	-19.79	QP	
3	4.4540	27.39	17.82	45.21	69.54	-24.33	QP	

Report No.: BTL-FCCP-1-1702C045 Page 38 of 159





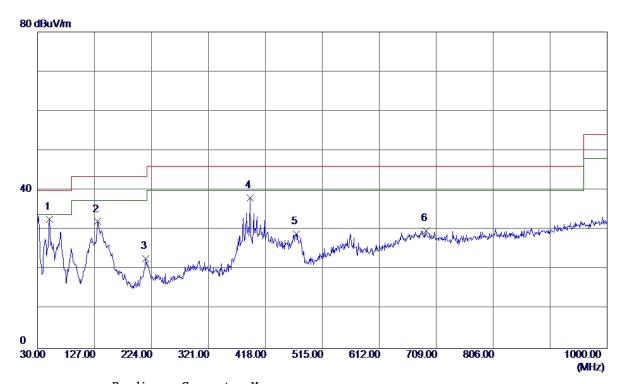
ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

Report No.: BTL-FCCP-1-1702C045 Page 39 of 159





### Vertical



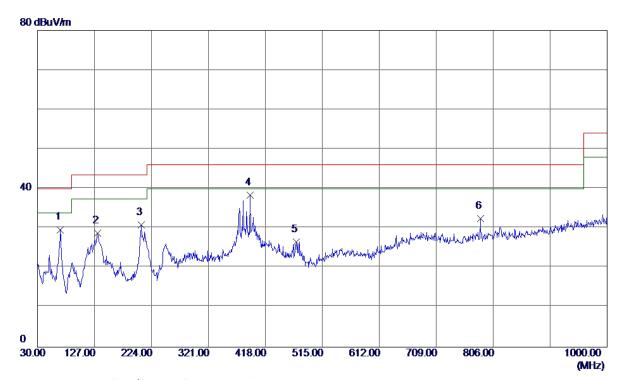
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	50. 3700	44. 70	-12. 12	32. 58	40.00	-7. 42	Peak	
2	132. 8200	43. 43	-11. 35	32. 08	43. 50	-11. 42	Peak	
3	213.8150	36. 75	-14. 05	22. 70	43. 50	-20. 80	Peak	
4	391.8100	45. 91	-7. 78	38. 13	46.00	-7. 87	Peak	
5	470.8650	36. 32	-7. 31	29. 01	46.00	-16. 99	Peak	
6	692. 0250	30. 62	-0.82	29. 80	46. 00	-16. 20	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 40 of 159





# Horizontal



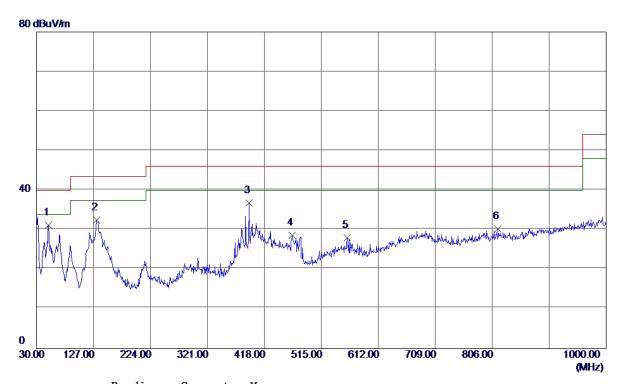
No.	Freq.	Reading Leve1	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	68. 8000	44. 54	-14. 86	29. 68	40.00	-10. 32	Peak	
2	132. 3350	40. 10	-11. 31	28. 79	43. 50	-14. 71	Peak	
3	207. 0250	44. 86	-13. 96	30. 90	43. 50	-12. 60	Peak	
4 *	391.8100	46. 24	-7. 78	38. 46	46.00	<b>−7. 54</b>	Peak	
5	470.8650	33. 85	-7. 31	26. 54	46.00	-19. 46	Peak	
6	784. 1750	32. 39	0. 14	32. 53	46.00	-13. 47	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 41 of 159





### Vertical

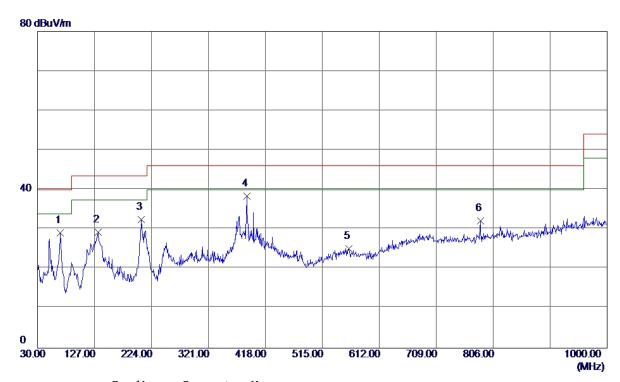


Report No.: BTL-FCCP-1-1702C045 Page 42 of 159





# Horizontal



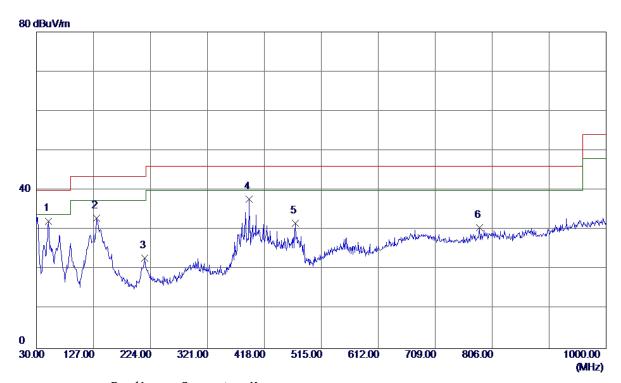
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	68. 8000	43. 97	-14. 86	29. 11	40.00	-10.89	Peak	
2	133. 3049	40.63	-11. 38	29. 25	43. 50	-14. 25	Peak	
3	207. 0250	46. 48	-13. 96	32. 52	43. 50	<b>−10. 98</b>	Peak	
4 *	386. 4750	46. 50	-8. 17	38. 33	46.00	-7. 67	Peak	
5	560. 1050	29. 67	-4. 52	25. 15	46.00	-20. 85	Peak	
6	784. 1750	32. 00	0. 14	32. 14	46. 00	-13. 86	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 43 of 159





### Vertical



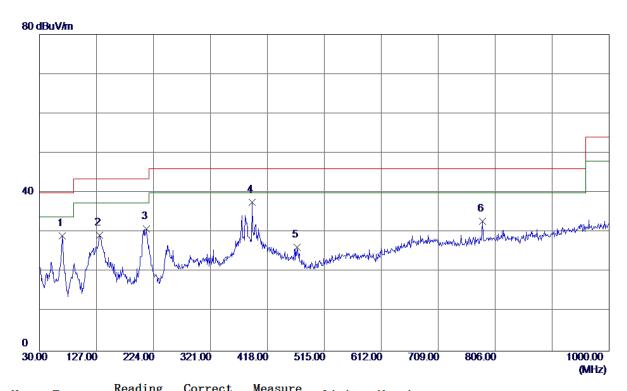
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	50. 3700	44. 36	-12. 12	32. 24	40.00	-7. 76	Peak	
2	132. 8200	44. 30	-11. 35	32. 95	43. 50	-10. 55	Peak	
3	214. 7850	36. 96	-14. 03	22. 93	43. 50	-20. 57	Peak	
4	391.8100	45. 50	-7. 78	37. 72	46.00	-8. 28	Peak	
5	470. 3800	38. 97	-7. 31	31. 66	46. 00	-14. 34	Peak	
6	784. 1750	30. 42	0. 14	30. 56	46.00	-15. 44	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 44 of 159





# Horizontal



No.	Freq.	keading Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	68. 8000	44. 03	-14. 86	29. 17	40.00	-10.83	Peak	
2	132. 3350	40. 59	-11. 31	29. 28	43. 50	-14. 22	Peak	
3	211.8750	44. 99	<b>-14.07</b>	30. 92	43. 50	-12. 58	Peak	
4 *	391.8100	45. 39	-7. 78	37. 61	46.00	-8. 39	Peak	
5	468. 4400	33. 56	-7. 29	26. 27	46.00	-19. 73	Peak	
6	784. 1750	32. 69	0. 14	32. 83	46. 00	-13. 17	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 45 of 159





ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

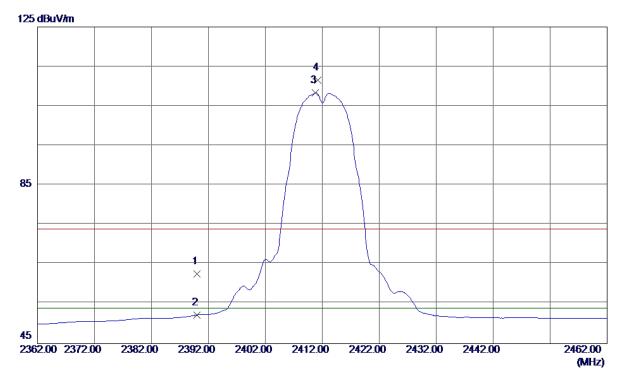
Report No.: BTL-FCCP-1-1702C045 Page 46 of 159





Orthogonal Axis:	X
Test Mode :	TX B MODE 2412MHz

# Vertical



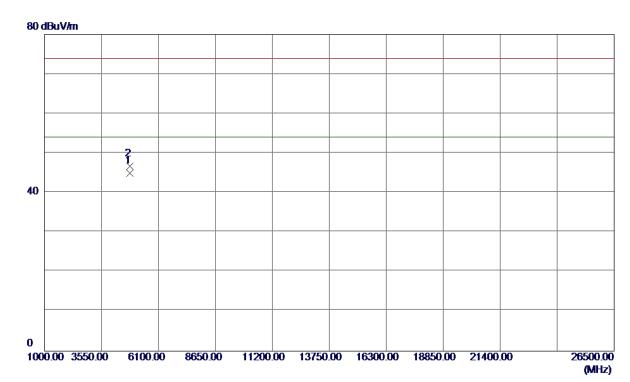
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	28. 79	33. 88	62. 67	74.00	-11. 33	Peak	
2	2390. 0000	18. 35	33. 88	52. 23	54.00	-1.77	AVG	
3 *	2410. 8000	74. 31	34. 00	108. 31	54.00	54. 31	AVG	No Limit
4	2411. 2000	77. 57	34. 00	111. 57	74. 00	37. 57	Peak	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 47 of 159





### **Vertical**



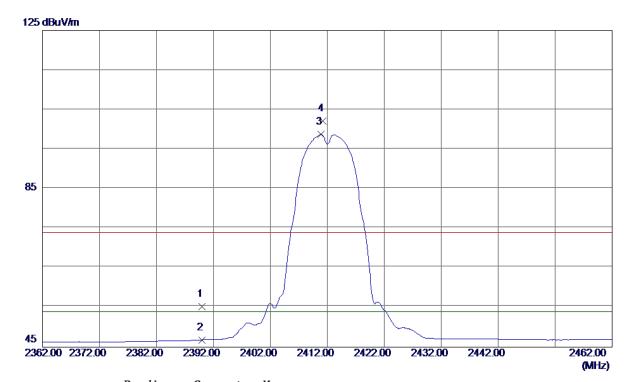
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4823. 9200	39. 52	5. 45	44. 97	54.00	-9. 03	AVG	
2	4824. 0500	41. 24	5. 45	46. 69	74. 00	-27. 31	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 48 of 159





### Horizontal



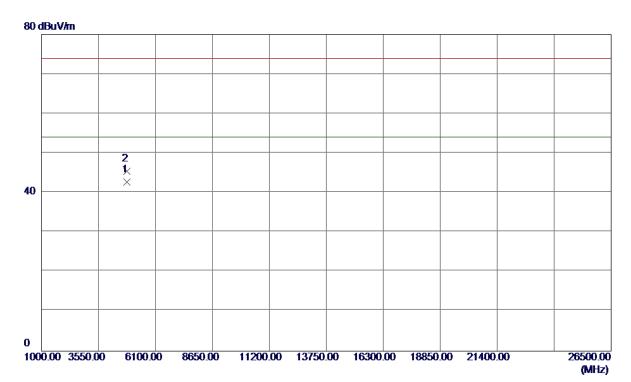
Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
2390. 0000	21. 38	33. 88	55. 26	74.00	-18. 74	Peak	
2390.0000	12. 95	33. 88	46. 83	54.00	-7. 17	AVG	
2410. 9000	64. 70	34. 00	98. 70	54. 00	44. 70	AVG	No Limit
2411. 2000	68. 09	34. 00	102. 09	74. 00	28. 09	Peak	No Limit
	MHz 2390. 0000 2390. 0000 2410. 9000	Freq. Level	Hz dBuV/m dB 2390.0000 21.38 33.88 2390.0000 12.95 33.88 2410.9000 64.70 34.00	Hreq.         Level         Factor         ment           MHz         dBuV/m         dB         dBuV/m           2390.0000         21.38         33.88         55.26           2390.0000         12.95         33.88         46.83           2410.9000         64.70         34.00         98.70	Hreq.         Level         Factor         ment         Limit           MHz         dBuV/m         dB         dBuV/m         dBuV/m           2390.0000         21.38         33.88         55.26         74.00           2390.0000         12.95         33.88         46.83         54.00           2410.9000         64.70         34.00         98.70         54.00	MHz         dBuV/m         dB         dBuV/m         dB         Margin           2390.0000 21.38         33.88         55.26         74.00         -18.74           2390.0000 12.95         33.88         46.83         54.00         -7.17           2410.9000 64.70         34.00         98.70         54.00         44.70	MHz         dBuV/m         dB         dBuV/m         dB uV/m         dB uV/m </td

Report No.: BTL-FCCP-1-1702C045 Page 49 of 159





### Horizontal



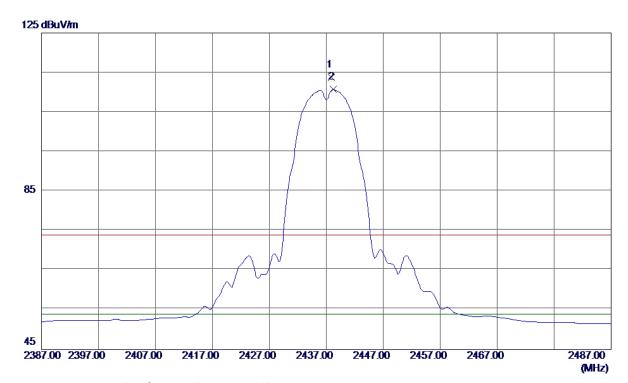
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4824. 9500	37. 21	5. 46	42.67	54.00	-11. 33	AVG	
2	4824. 9790	40. 02	5. 46	45. 48	74. 00	-28. 52	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 50 of 159





# Vertical



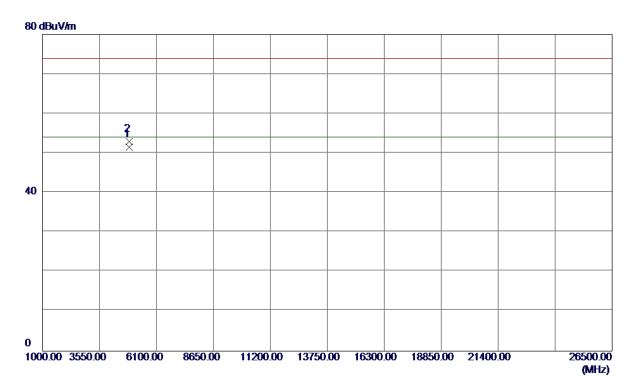
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2437. 9000	79. 72	34. 15	113. 87	74.00	39. 87	Peak	No Limit
2 *	2438. 2000	76. 57	34. 15	110. 72	54.00	56. 72	AVG	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 51 of 159





### **Vertical**



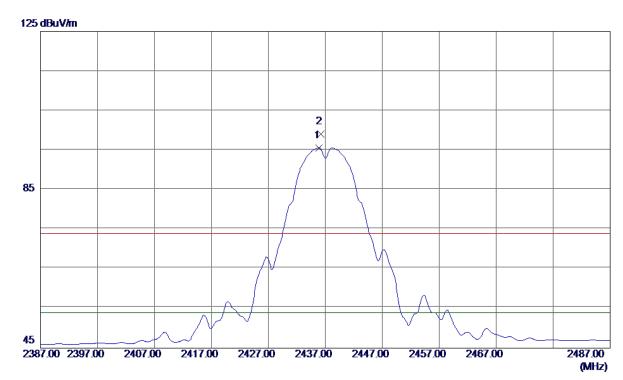
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4873. 9350	45. 88	5. 70	51. 58	54.00	-2.42	AVG	
2	4874. 0400	47. 33	5. 70	53. 03	74. 00	-20. 97	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 52 of 159





### Horizontal



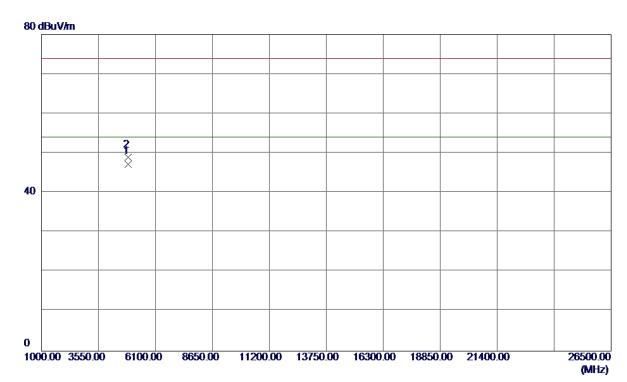
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2435. 9000	61. 46	34. 14	95. 60	54.00	41.60	AVG	No Limit
2	2436. 2000	64. 87	34. 14	99. 01	74. 00	25. 01	Peak	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 53 of 159





### Horizontal



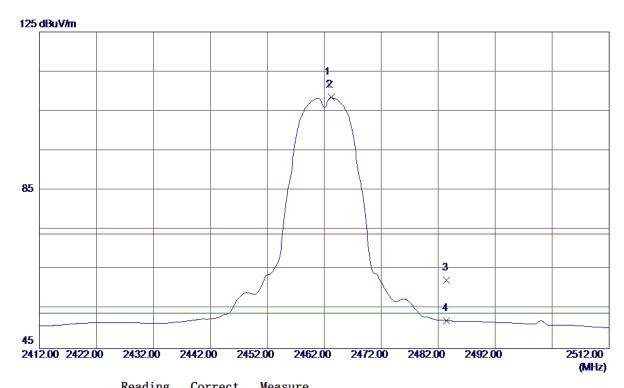
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4874. 2850	41. 58	5. 70	47. 28	54.00	-6. 72	AVG	
2	4874. 3350	43. 21	5. 70	48. 91	74. 00	-25. 09	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 54 of 159





### Vertical



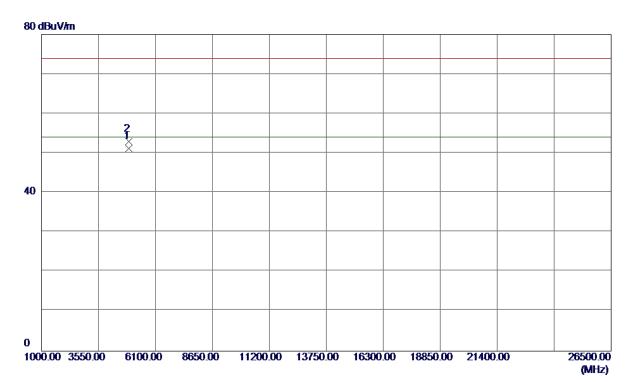
No.	Freq.	Reading Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2462. 9000	77. 39	34. 30	111. 69	74.00	37. 69	Peak	No Limit
2 *	2463. 2000	74. 15	34. 30	108. 45	54.00	54. 45	AVG	No Limit
3	2483. 5000	27. 92	34. 41	62. 33	74.00	-11. 67	Peak	
4	2483. 5000	17. 68	34. 41	52. 09	54.00	-1. 91	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 55 of 159





### **Vertical**



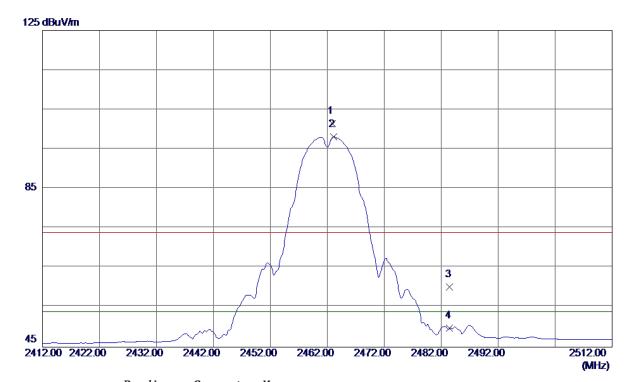
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4923. 9300	45. 29	5. 94	51. 23	54.00	-2. 77	AVG	
2	4923. 9900	47. 07	5. 94	53. 01	74. 00	-20. 99	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 56 of 159





### Horizontal



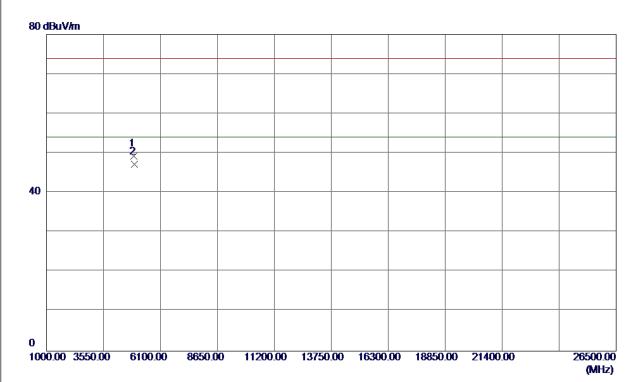
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2462. 9000	67. 22	34. 30	101. 52	74.00	27. 52	Peak	No Limit
2 *	2463. 1000	63. 78	34. 30	98. 08	54.00	44. 08	AVG	No Limit
3	2483. 5000	25. 77	34. 41	60. 18	74.00	-13.82	Peak	
4	2483. 5000	15. 37	34. 41	49. 78	54.00	-4. 22	AVG	
3	2463. 1000 2483. 5000	63. 78 25. 77	34. 30 34. 41	98. 08 60. 18	54. 00 74. 00	44. 08 -13. 82	AVG Peak	

Report No.: BTL-FCCP-1-1702C045 Page 57 of 159





### Horizontal



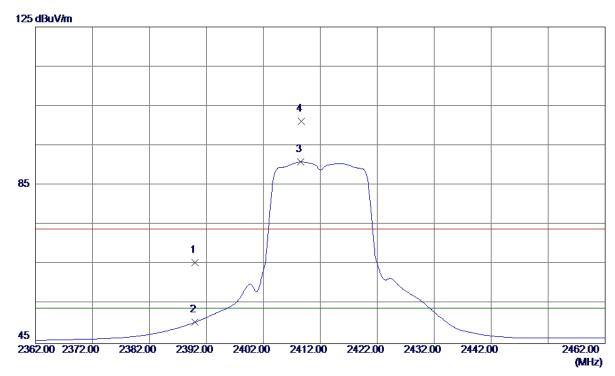
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4923. 7500	43. 28	5. 94	49. 22	74.00	-24. 78	Peak	
2 *	4924. 6349	41. 31	5. 94	47. 25	54. 00	-6. 75	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 58 of 159





# Vertical



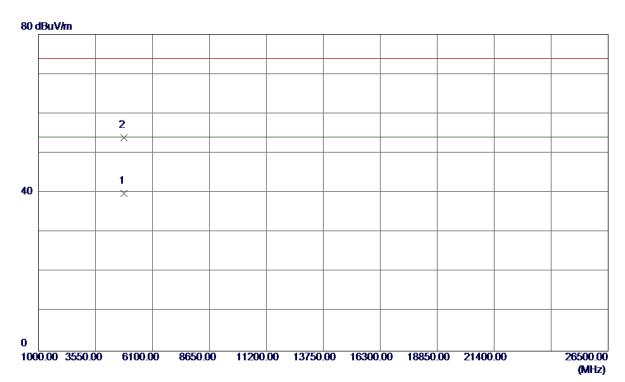
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	31. 65	33. 88	65. 53	74.00	-8. 47	Peak	
2	2390. 0000	16. 52	33. 88	50. 40	54.00	-3. 60	AVG	
3 *	2408.6000	56. 91	33. 98	90. 89	54.00	36. 89	AVG	No Limit
4	2408. 7000	67. 11	33. 98	101. 09	74. 00	27. 09	Peak	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 59 of 159





### Vertical



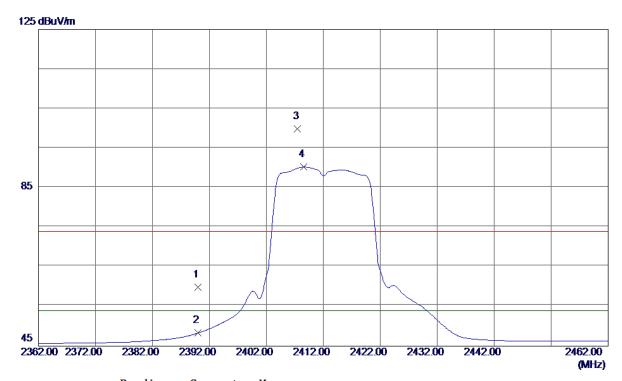
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4824. 0500	34. 46	5. 45	39. 91	54.00	-14. 09	AVG	
2	4825. 2500	48. 38	5. 46	53. 84	74. 00	-20. 16	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 60 of 159





### Horizontal



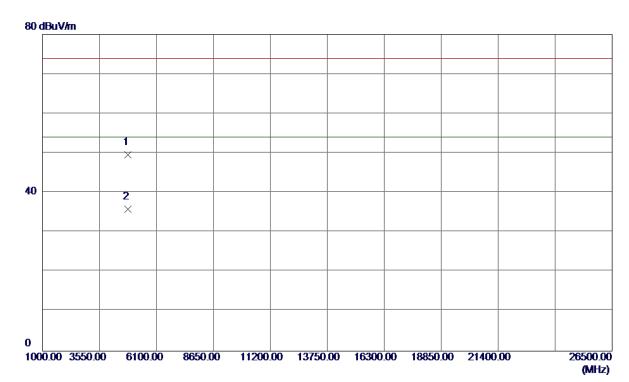
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	26. 06	33. 88	59. 94	74.00	-14. 06	Peak	
2	2390. 0000	14. 43	33. 88	48. 31	54.00	-5. 69	AVG	
3	2407. 5000	65. 88	33. 98	99. 86	74.00	25. 86	Peak	No Limit
4 *	2408. 6000	56. 26	33. 98	90. 24	54.00	36. 24	AVG	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 61 of 159





### Horizontal



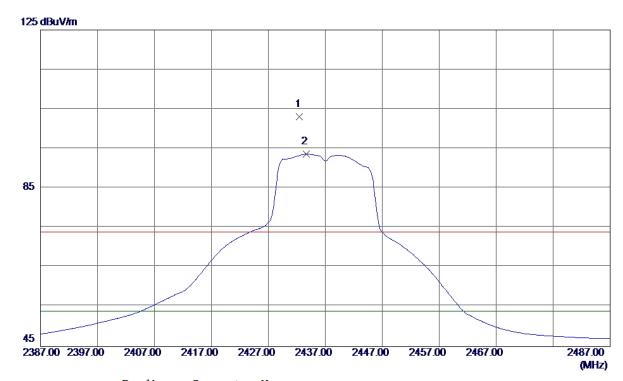
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4817. 8400	44. 19	5. 42	49.61	74.00	-24. 39	Peak	
2 *	4821. 6400	30. 40	5. 44	35. 84	54. 00	-18. 16	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 62 of 159





# Vertical



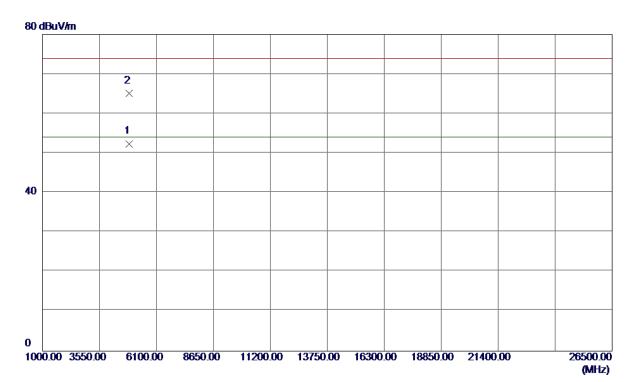
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2432. 5000	68. 92	34. 12	103. 04	74.00	29. 04	Peak	No Limit
2 *	2433. 7000	59. 48	34. 13	93. 61	54.00	39. 61	AVG	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 63 of 159





### **Vertical**



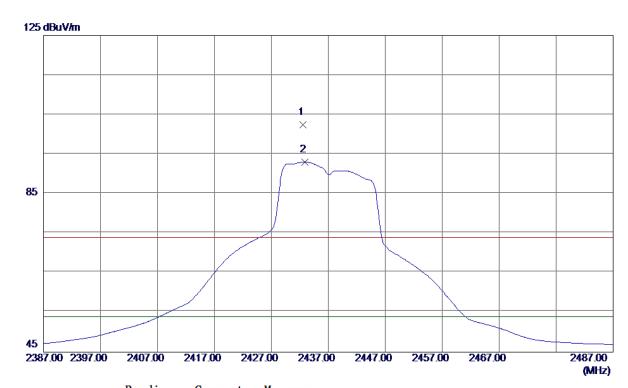
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4874. 4500	46. 70	5. 70	52. 40	54.00	-1. 60	AVG	
2	4874. 6500	59. 44	5. 70	65. 14	74. 00	-8. 86	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 64 of 159





### Horizontal



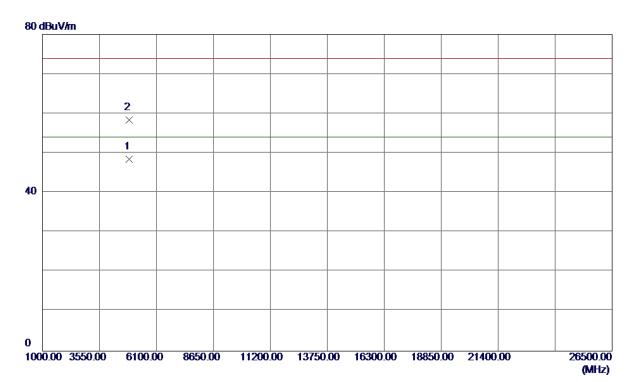
No.	Freq.	Reading Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2432. 6000	68. 30	34. 12	102. 42	74.00	28. 42	Peak	No Limit
2 *	2432. 9000	58. 88	34. 12	93. 00	54.00	39. 00	AVG	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 65 of 159





### Horizontal



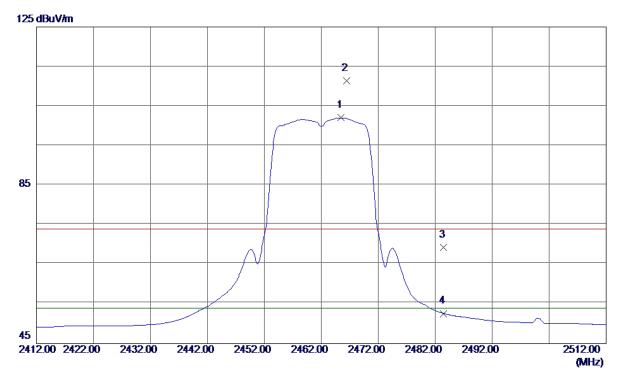
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4873. 8800	42.84	5. 70	48. 54	54.00	-5. 46	AVG	
2	4874. 9200	52. 65	5. 70	58. 35	74. 00	-15. 65	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 66 of 159





# Vertical



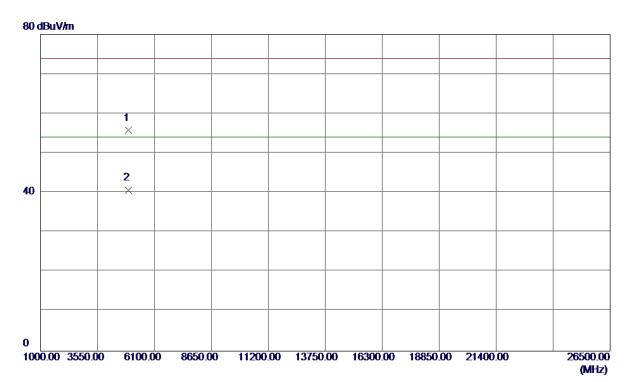
No.	Freq.	Reading Leve1	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2465. 5000	67. 73	34. 31	102. 04	54.00	48. 04	AVG	No Limit
2	2466. 4000	77. 13	34. 32	111. 45	74.00	37. 45	Peak	No Limit
3	2483. 5000	34. 95	34. 41	69. 36	74.00	<b>-4.64</b>	Peak	
4	2483. 5000	18. 19	34. 41	52. 60	54.00	-1. 40	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 67 of 159





### Vertical



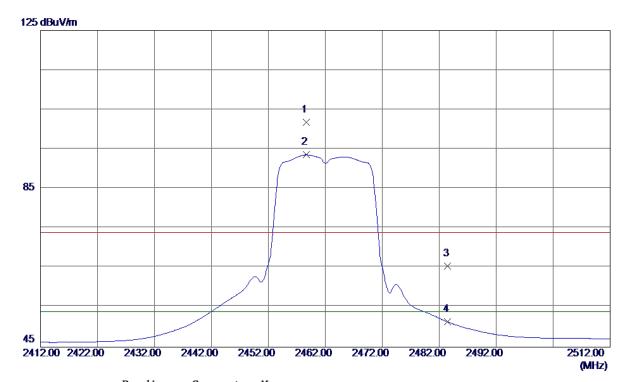
No.	Freq.	Reading Leve1	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4924. 5500	49.82	5. 94	55. 76	74.00	-18. 24	Peak	
2 *	4925. 2000	34. 64	5. 95	40. 59	54. 00	-13. 41	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 68 of 159





### Horizontal



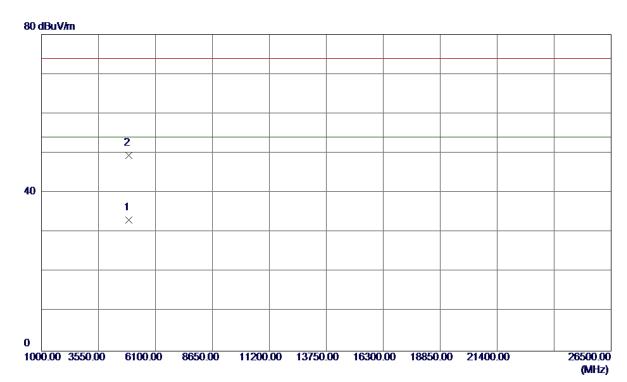
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2458. 7000	67. 60	34. 27	101.87	74.00	27. 87	Peak	No Limit
2 *	2458. 7000	59. 30	34. 27	93. 57	54.00	39. 57	AVG	No Limit
3	2483. 5000	31. 11	34. 41	65. 52	74.00	-8. 48	Peak	
4	2483. 5000	16. 97	34. 41	51. 38	54.00	-2. 62	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 69 of 159





### Horizontal



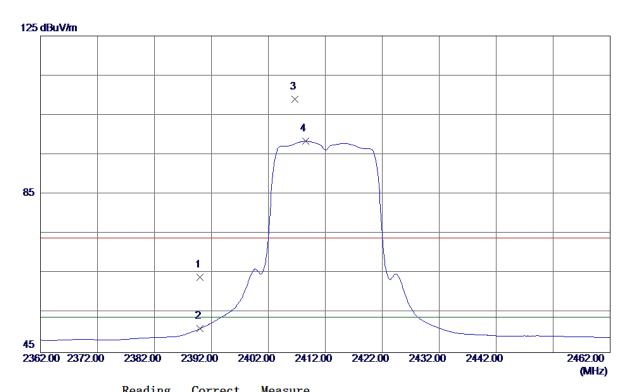
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4922. 8400	27. 17	5. 93	33. 10	54.00	-20. 90	AVG	
2	4923. 2799	43. 47	5. 94	49. 41	74. 00	-24. 59	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 70 of 159





#### Vertical



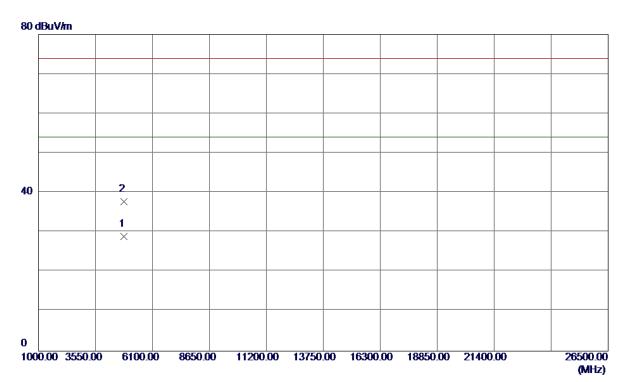
No.	Freq.	Reading Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	30. 10	33. 88	63. 98	74.00	-10.02	Peak	
2	2390. 0000	17. 17	33. 88	51. 05	54.00	-2. 95	AVG	
3	2406. 7000	75. 07	33. 97	109. 04	74.00	35. 04	Peak	No Limit
4 *	2408. 5000	64. 41	33. 98	98. 39	54.00	44. 39	AVG	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 71 of 159





### Vertical



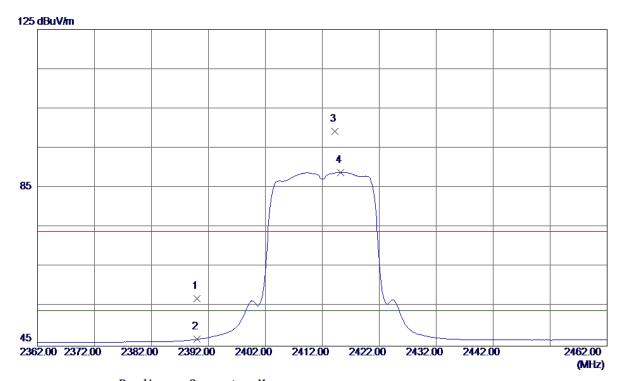
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4823. 1500	23. 48	5. 45	28. 93	54.00	-25. 07	AVG	
2	4834. 1000	32. 29	5. 50	37. 79	74. 00	-36. 21	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 72 of 159





## Horizontal



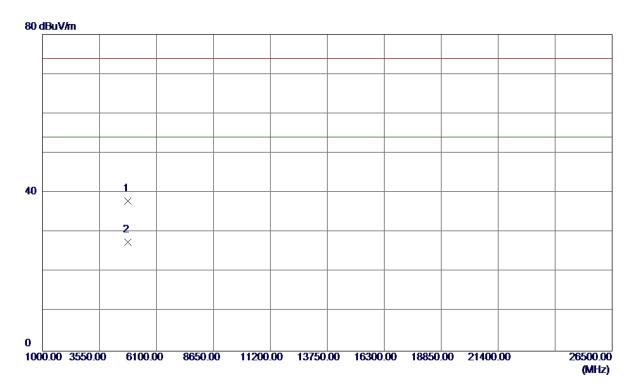
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	23. 11	33. 88	56. 99	74.00	-17. 01	Peak	
2	2390. 0000	12. 81	33. 88	46. 69	54.00	-7. 31	AVG	
3	2414. 2000	65. 18	34. 02	99. 20	74.00	25. 20	Peak	No Limit
4 *	2415. 2000	54. 89	34. 02	88. 91	54. 00	34. 91	AVG	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 73 of 159





## Horizontal



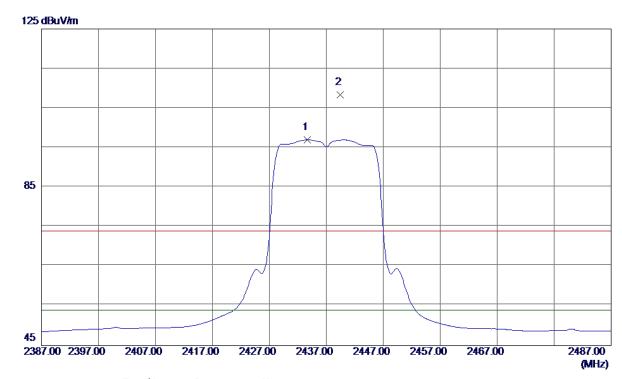
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4822. 5600	32. 41	5. 45	37. 86	74.00	-36. 14	Peak	
2 *	4824. 0600	22. 03	5. 45	27. 48	54. 00	-26. 52	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 74 of 159





## Vertical



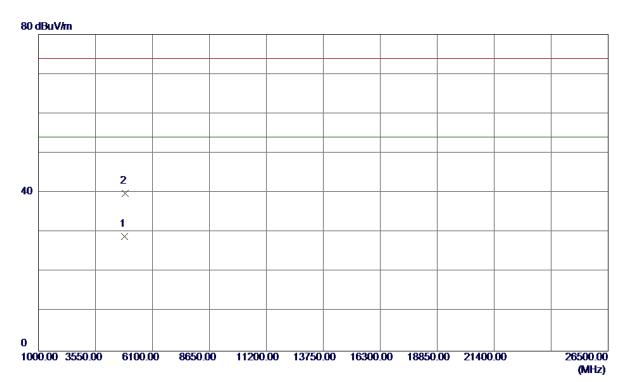
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2433. 7000	62. 85	34. 13	96. 98	54.00	42. 98	AVG	No Limit
2	2439. 4000	74. 21	34. 16	108. 37	74. 00	34. 37	Peak	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 75 of 159





## Vertical



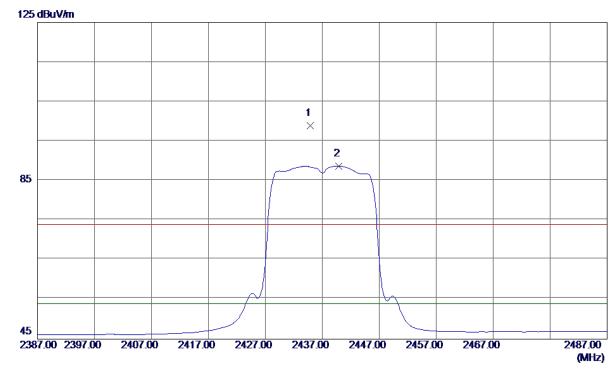
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4863. 2000	23. 25	5. 65	28. 90	54.00	-25. 10	AVG	
2	4869. 4000	34. 16	5. 68	39. 84	74. 00	-34. 16	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 76 of 159





## Horizontal



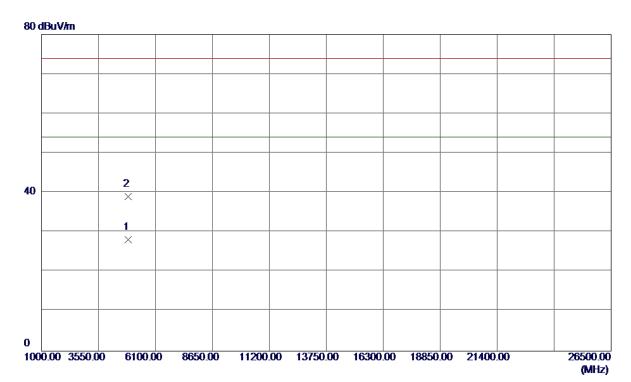
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2434. 9000	64. 86	34. 13	98. 99	74.00	24. 99	Peak	No Limit
2 *	2439. 9000	54. 59	34. 16	88. 75	54. 00	34. 75	AVG	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 77 of 159





## Horizontal



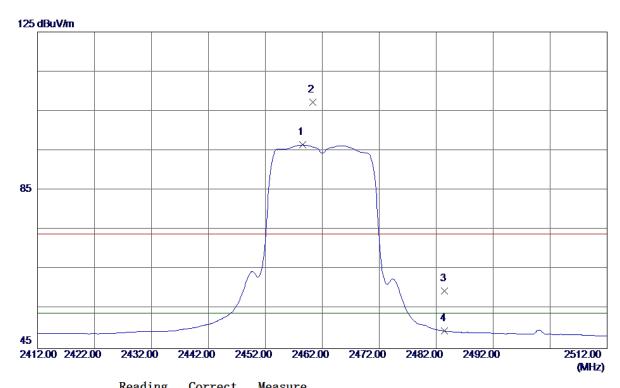
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4873. 9800	22. 45	5. 70	28. 15	54.00	-25. 85	AVG	
2	4874. 1200	33. 41	5. 70	39. 11	74. 00	-34. 89	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 78 of 159





#### Vertical



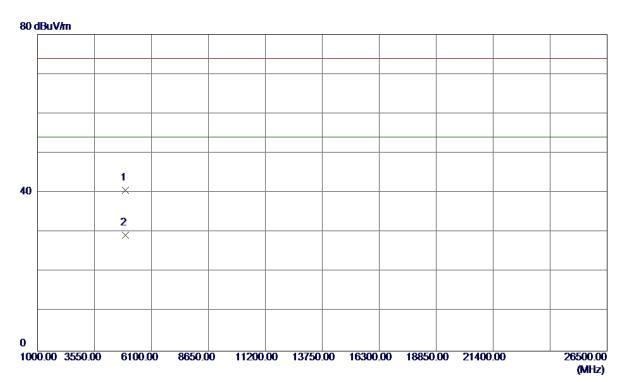
No.	Freq.	Reading Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2458. 6000	62. 18	34. 27	96. 45	54.00	42. 45	AVG	No Limit
2	2460. 3000	72. 89	34. 28	107. 17	74.00	33. 17	Peak	No Limit
3	2483. 5000	25. 08	34. 41	59. 49	74.00	-14. 51	Peak	
4	2483. 5000	15. 02	34. 41	49. 43	54.00	<b>-4.57</b>	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 79 of 159





## **Vertical**



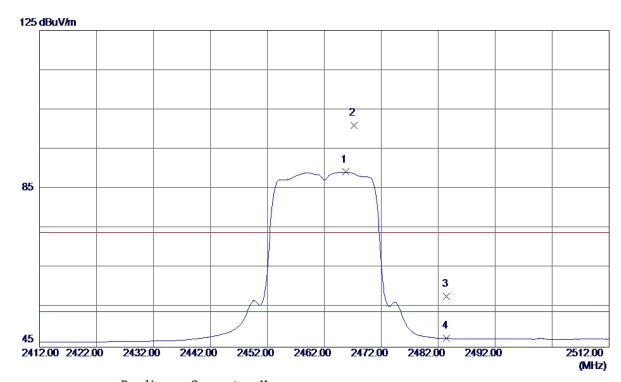
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4924. 2250	34. 65	5. 94	40. 59	74.00	-33. 41	Peak	
2 *	4924. 2350	23. 35	5. 94	29. 29	54. 00	-24. 71	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 80 of 159





## Horizontal



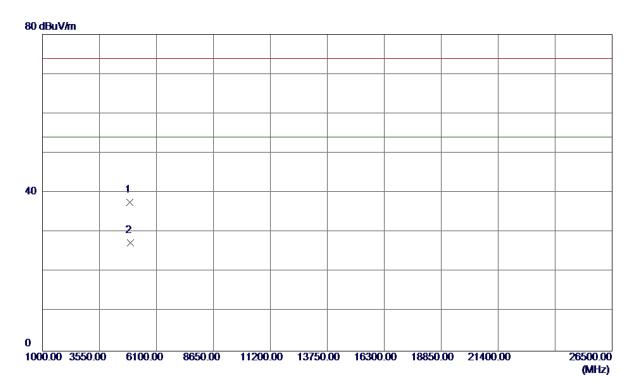
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2465. 8000	54. 93	34. 31	89. 24	54.00	35. 24	AVG	No Limit
2	2467. 2000	66. 63	34. 32	100. 95	74.00	26. 95	Peak	No Limit
3	2483. 5000	23. 35	34. 41	57. 76	74.00	-16. 24	Peak	
4	2483. 5000	12. 76	34. 41	47. 17	54. 00	-6. 83	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 81 of 159





## Horizontal



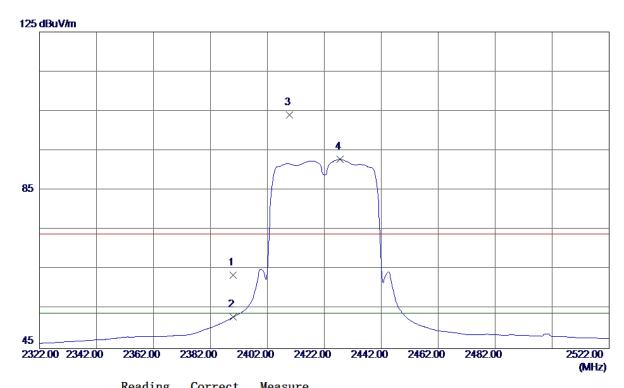
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4921. 3600	31. 68	5. 93	37. 61	74.00	-36. 39	Peak	
2 *	4924. 3000	21. 47	5. 94	27. 41	54. 00	-26. 59	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 82 of 159





#### Vertical



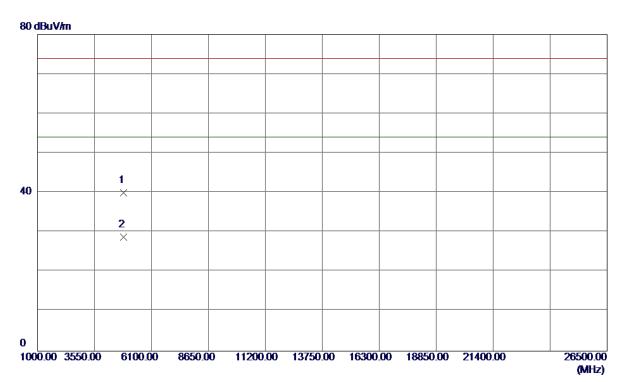
No.	Freq.	Reading Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	29. 72	33. 88	63. 60	74.00	-10. 40	Peak	
2	2390. 0000	19. 11	33. 88	52. 99	54.00	-1.01	AVG	
3	2409. 8000	70. 03	33. 99	104. 02	74.00	30. 02	Peak	No Limit
4 *	2427. 6000	58. 71	34. 09	92. 80	54.00	38. 80	AVG	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 83 of 159





## **Vertical**



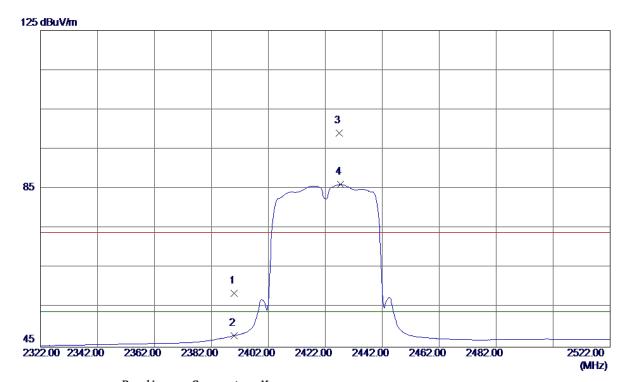
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4843. 2400	34. 50	5. 55	40.05	74.00	-33. 95	Peak	
2 *	4848. 6000	23. 25	5. 57	28. 82	54. 00	-25. 18	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 84 of 159





## Horizontal



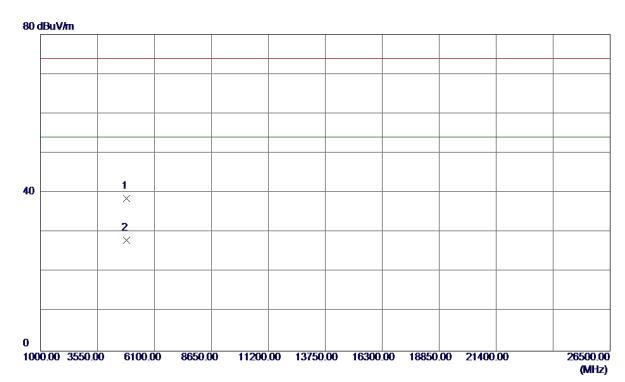
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	24. 73	33. 88	58. 61	74.00	-15. 39	Peak	
2	2390. 0000	14. 01	33. 88	47. 89	54.00	-6. 11	AVG	
3	2426. 8000	64. 92	34. 09	99. 01	74.00	25. 01	Peak	No Limit
4 *	2427. 4000	51. 98	34. 09	86. 07	54.00	32. 07	AVG	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 85 of 159





## Horizontal



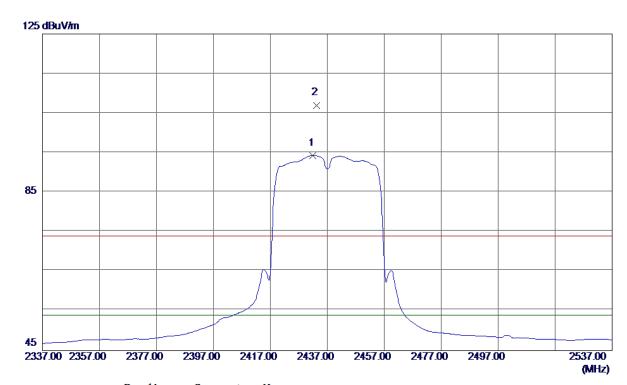
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4844. 0600	33. 07	5. 55	38. 62	74.00	-35. 38	Peak	
2 *	4844. 1400	22. 50	5. 55	28. 05	54. 00	-25. 95	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 86 of 159





#### Vertical



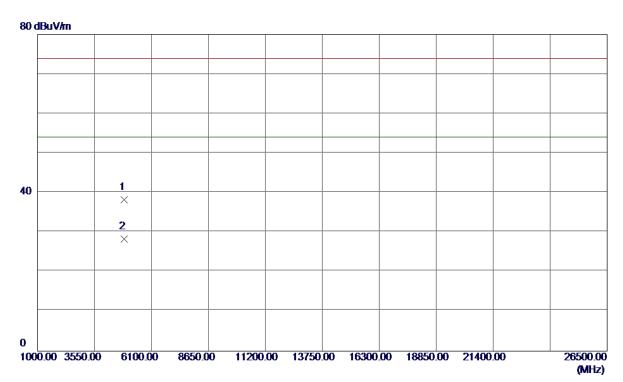
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2432. 0000	60. 20	34. 12	94. 32	54.00	40. 32	AVG	No Limit
2	2433. 2000	72. 87	34. 13	107. 00	74. 00	33. 00	Peak	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 87 of 159





## **Vertical**



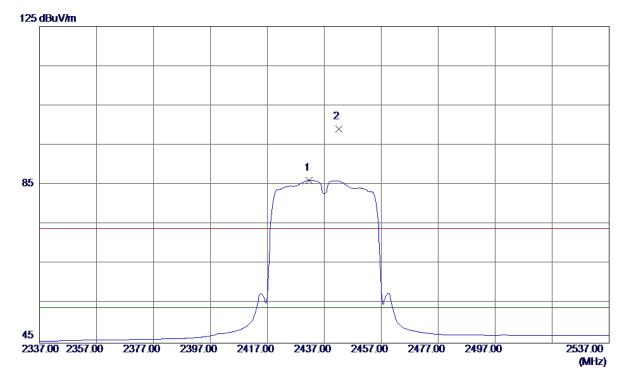
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4873. 6250	32. 60	5. 70	38. 30	74.00	-35. 70	Peak	
2 *	4874. 0500	22. 62	5. 70	28. 32	54. 00	-25. 68	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 88 of 159





## Horizontal



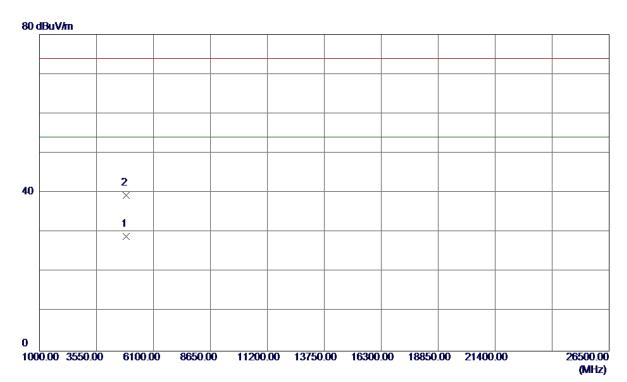
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2431. 6000	52. 04	34. 12	86. 16	54.00	32. 16	AVG	No Limit
2	2442. 0000	64. 83	34. 18	99. 01	74. 00	25. 01	Peak	No Limit

Report No.: BTL-FCCP-1-1702C045 Page 89 of 159





## Horizontal



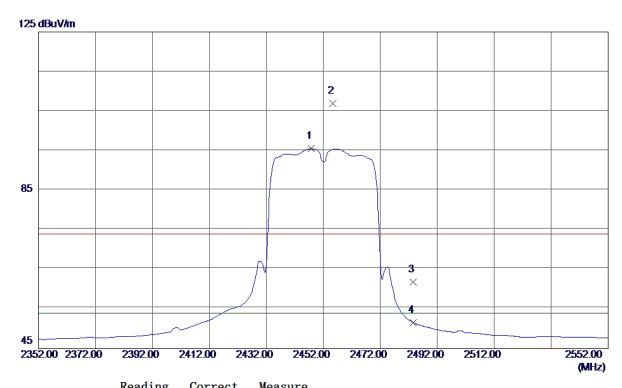
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4873. 3200	23. 28	5. 69	28. 97	54.00	-25.03	AVG	
2	4874. 0400	33. 64	5. 70	39. 34	74. 00	-34. 66	Peak	

Report No.: BTL-FCCP-1-1702C045 Page 90 of 159





#### Vertical



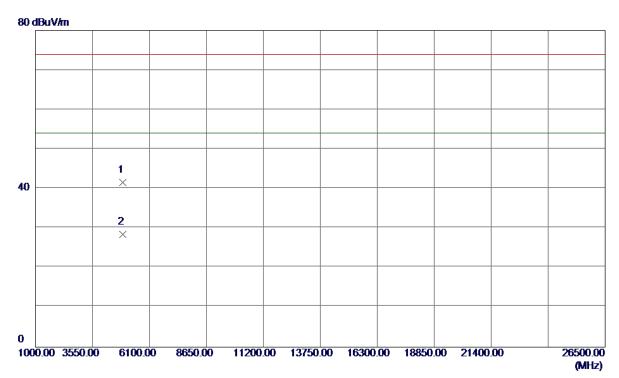
No.	Freq.	Reading Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2447. 8000	61. 29	34. 21	95. 50	54.00	41. 50	AVG	No Limit
2	2455. 4000	72. 69	34. 25	106. 94	74.00	32. 94	Peak	No Limit
3	2483. 5000	27. 39	34. 41	61. 80	74.00	-12. 20	Peak	
4	2483. 5000	17. 15	34. 41	51. 56	54.00	-2. 44	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 91 of 159





## **Vertical**



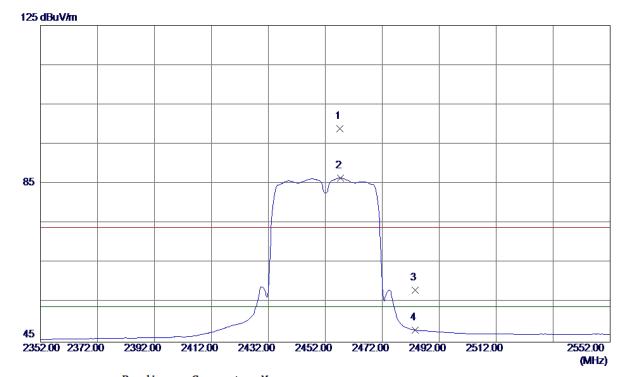
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4903. 7599	35. 81	5. 84	41.65	74.00	-32. 35	Peak	
2 *	4904. 1000	22. 63	5. 84	28. 47	54. 00	-25. 53	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 92 of 159





## Horizontal



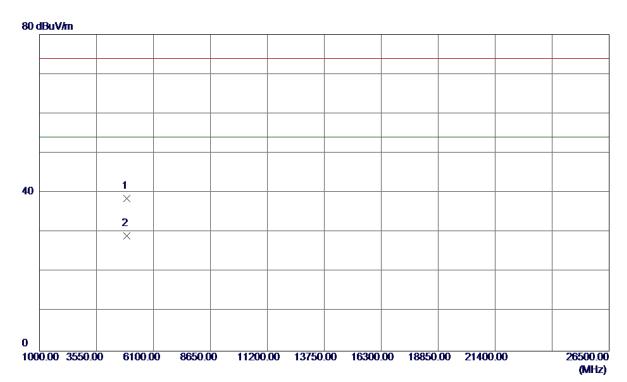
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2457. 2000	64. 62	34. 26	98. 88	74.00	24. 88	Peak	No Limit
2 *	2457. 4000	52. 16	34. 26	86. 42	54.00	32. 42	AVG	No Limit
3	2483. 5000	23. 72	34. 41	58. 13	74.00	-15. 87	Peak	
4	2483. 5000	13. 60	34. 41	48. 01	54.00	-5. 99	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 93 of 159





## Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4903. 8200	32. 73	5. 84	38. 57	74.00	-35. 43	Peak	
2 *	4905. 1200	23. 26	5. 85	29. 11	54. 00	-24. 89	AVG	

Report No.: BTL-FCCP-1-1702C045 Page 94 of 159





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	ATTACHMENT E - BANDWIDTH

Report No.: BTL-FCCP-1-1702C045 Page 95 of 159

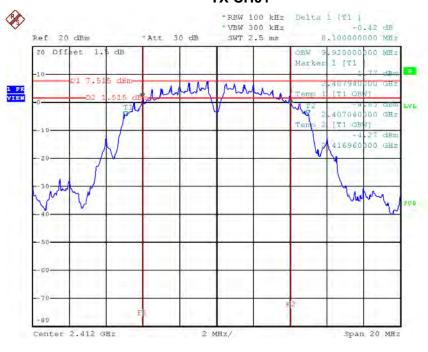




# Test Mode: TX B Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	8.10	9.92	500	Complies
2437	8.06	10.00	500	Complies
2462	8.06	9.96	500	Complies

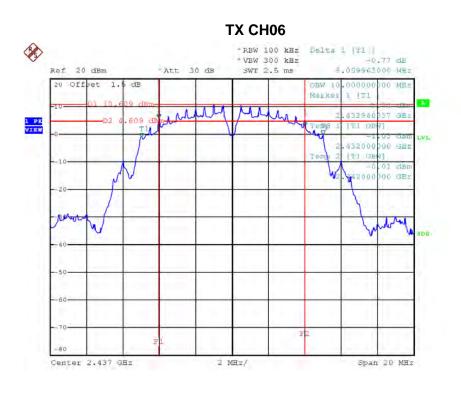
## TX CH01

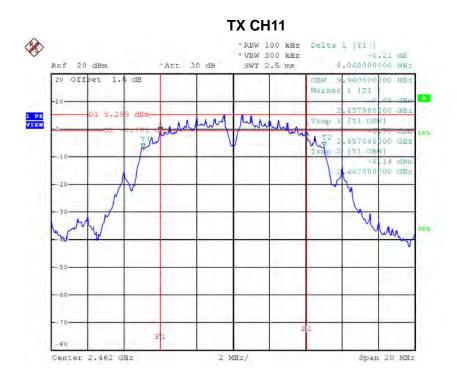


Report No.: BTL-FCCP-1-1702C045 Page 96 of 159









Report No.: BTL-FCCP-1-1702C045 Page 97 of 159

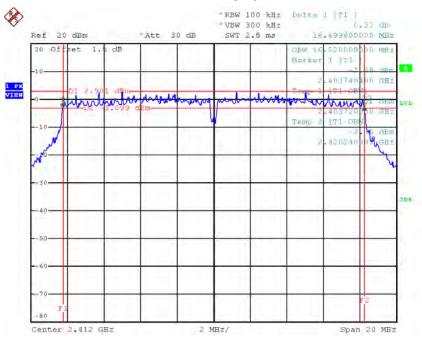




# Test Mode: TX G Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.50	16.52	500	Complies
2437	16.46	16.52	500	Complies
2462	16.39	16.48	500	Complies

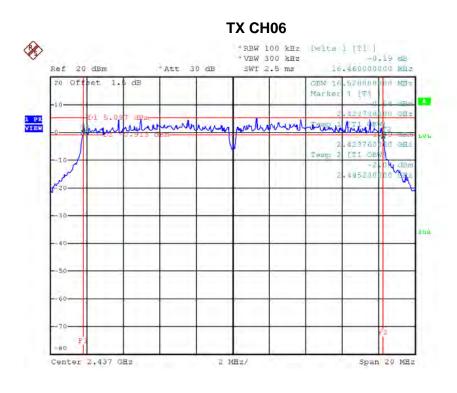
## TX CH01

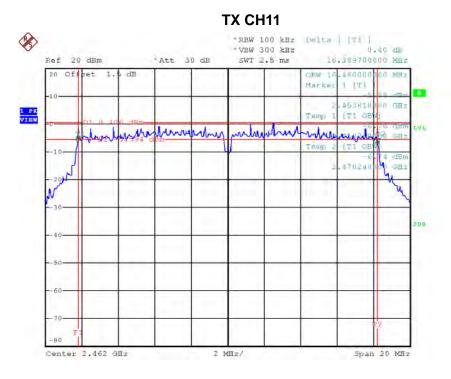


Report No.: BTL-FCCP-1-1702C045 Page 98 of 159









Report No.: BTL-FCCP-1-1702C045 Page 99 of 159

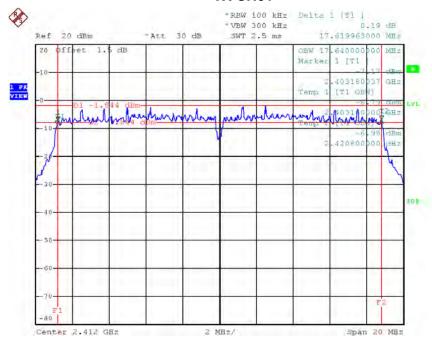




## Test Mode: TX N-20MHz Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.62	17.64	500	Complies
2437	17.70	17.68	500	Complies
2462	17.62	17.68	500	Complies

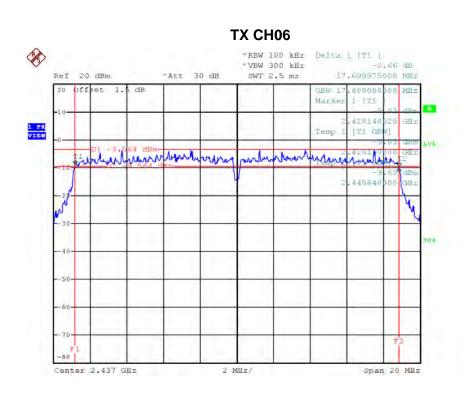
#### TX CH01

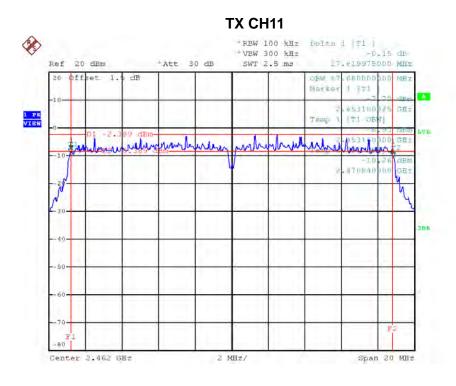


Report No.: BTL-FCCP-1-1702C045 Page 100 of 159









Report No.: BTL-FCCP-1-1702C045 Page 101 of 159

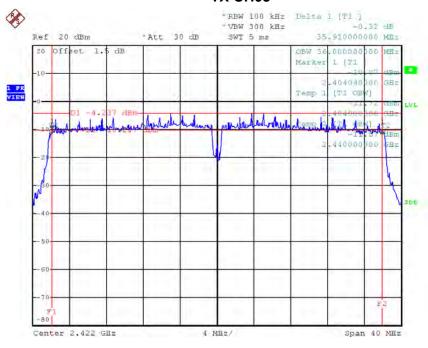




## Test Mode: TX N-40MHz Mode\_CH03/06/09

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	35.91	36.00	500	Complies
2437	35.61	36.00	500	Complies
2452	35.85	36.08	500	Complies

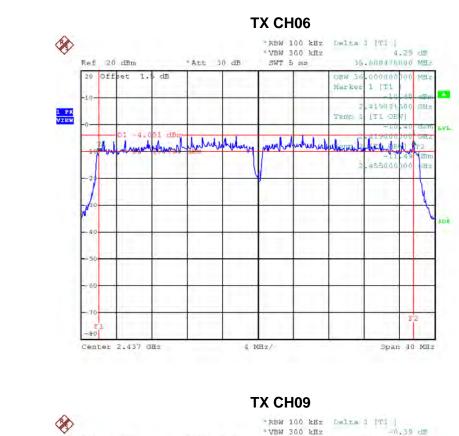
## **TX CH03**

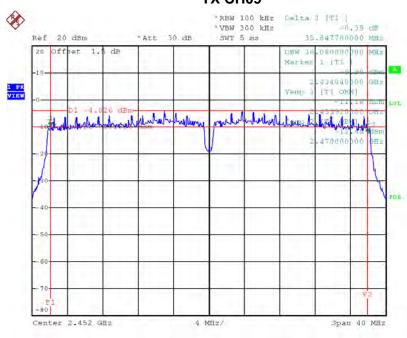


Report No.: BTL-FCCP-1-1702C045 Page 102 of 159









Report No.: BTL-FCCP-1-1702C045 Page 103 of 159





ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER

Report No.: BTL-FCCP-1-1702C045 Page 104 of 159





Test Mode :TX B Mode_CH01/06/11_ANT 1						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Dogult	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result	
2412	24.17	0.26	30.00	1.00	Complies	
2437	22.74	0.19	30.00	1.00	Complies	
2462	21.64	0.15	30.00	1.00	Complies	

Test Mode :TX G Mode_CH01/06/11_ANT 1						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result	
2412	28.28	0.67	30.00	1.00	Complies	
2437	28.41	0.69	30.00	1.00	Complies	
2462	26.71	0.47	30.00	1.00	Complies	

Report No.: BTL-FCCP-1-1702C045 Page 105 of 159





Test Mode :TX N20 Mode_CH01/06/11_ANT 1						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result	
2412	26.78	0.48	30.00	1.00	Complies	
2437	25.13	0.33	30.00	1.00	Complies	
2462	25.05	0.32	30.00	1.00	Complies	

Test Mode :TX N20 Mode_CH01/06/11_ANT 2						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result	
2412	26.76	0.47	30.00	1.00	Complies	
2437	26.52	0.45	30.00	1.00	Complies	
2462	26.50	0.45	30.00	1.00	Complies	

Test Mode :TX N20 Mode_CH01/06/11_Total						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result	
2412	29.78	0.95	30.00	1.00	Complies	
2437	28.89	0.77	30.00	1.00	Complies	
2462	28.85	0.77	30.00	1.00	Complies	

Report No.: BTL-FCCP-1-1702C045 Page 106 of 159





Test Mode :TX N40 Mode_CH03/06/09_ANT 1						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result	
2422	23.33	0.22	30.00	1.00	Complies	
2437	25.66	0.37	30.00	1.00	Complies	
2452	26.87	0.49	30.00	1.00	Complies	

Test Mode :TX N40 Mode_CH03/06/09_ANT 2						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result	
2422	23.12	0.21	30.00	1.00	Complies	
2437	26.56	0.45	30.00	1.00	Complies	
2452	26.76	0.47	30.00	1.00	Complies	

Test Mode :TX N40 Mode_CH03/06/09_Total						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result	
2422	26.24	0.42	30.00	1.00	Complies	
2437	29.14	0.82	30.00	1.00	Complies	
2452	29.83	0.96	30.00	1.00	Complies	

Report No.: BTL-FCCP-1-1702C045 Page 107 of 159



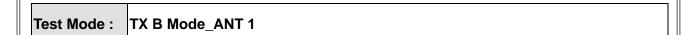


# ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

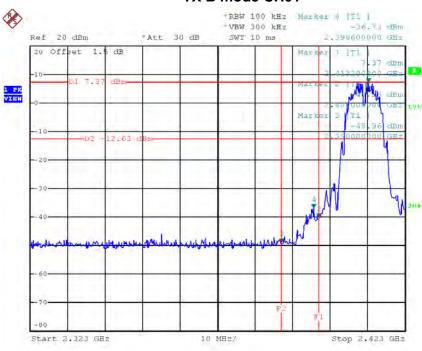
Report No.: BTL-FCCP-1-1702C045 Page 108 of 159



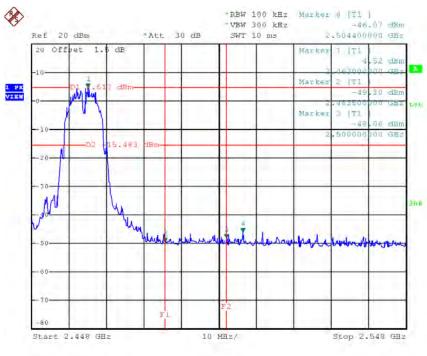




#### TX B mode CH01



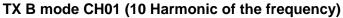
#### TX B mode CH11

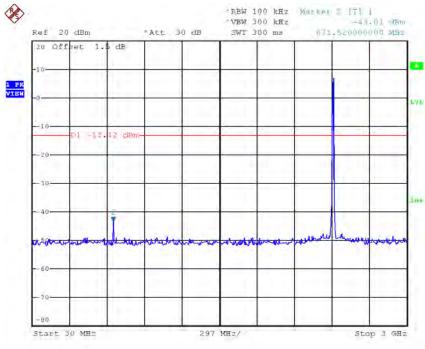


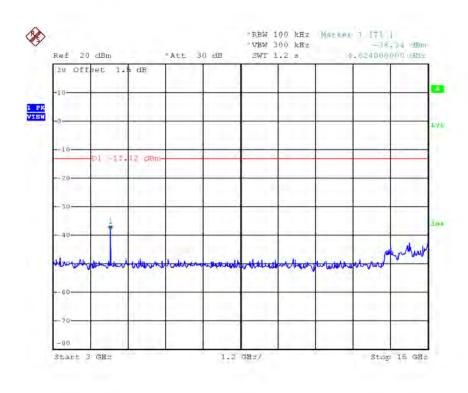
Report No.: BTL-FCCP-1-1702C045 Page 109 of 159







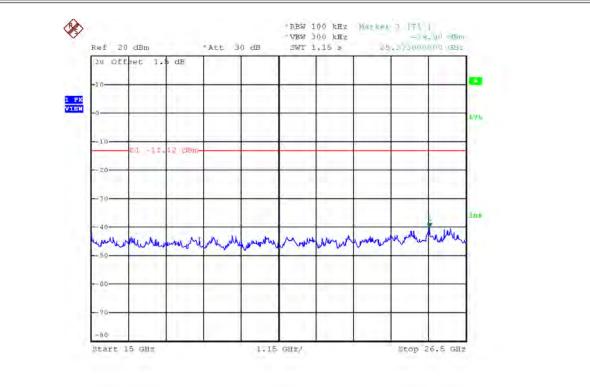




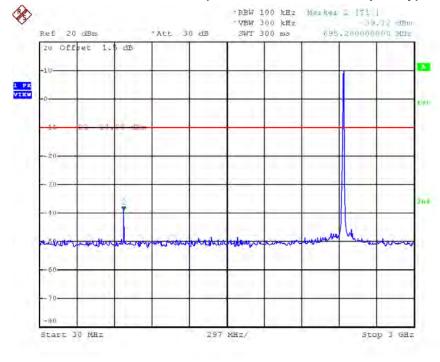
Report No.: BTL-FCCP-1-1702C045 Page 110 of 159







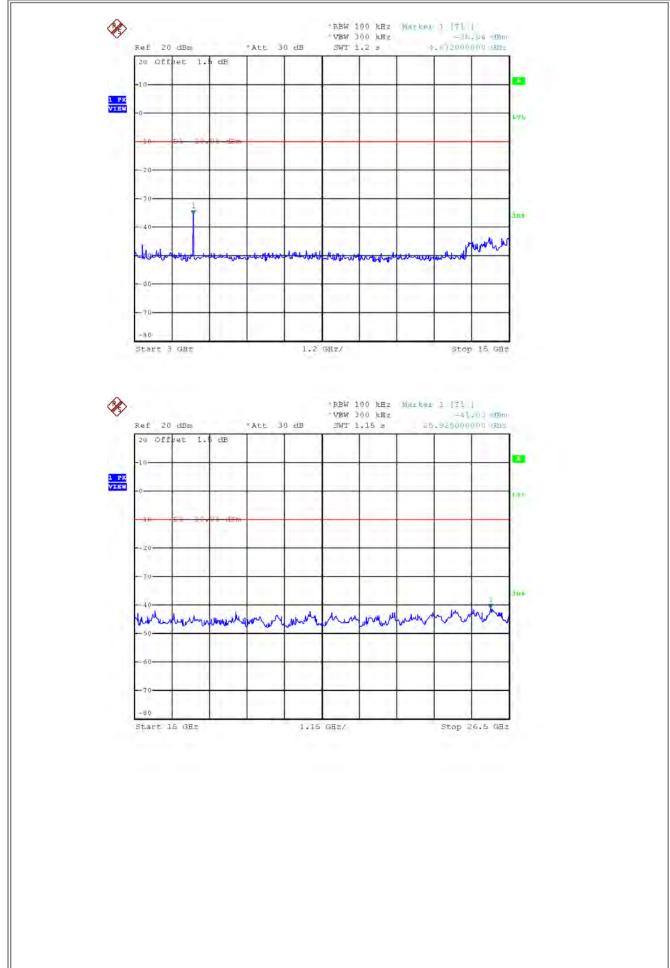
#### TX B mode CH06 (10 Harmonic of the frequency)



Report No.: BTL-FCCP-1-1702C045 Page 111 of 159





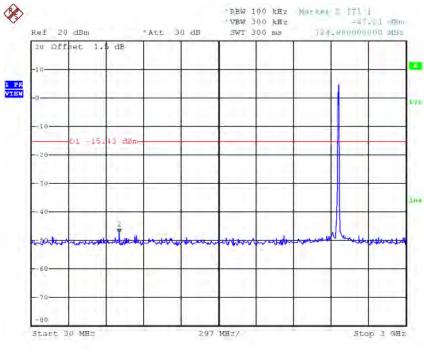


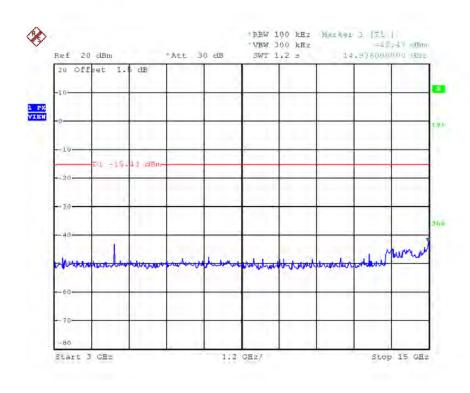
Page 112 of 159







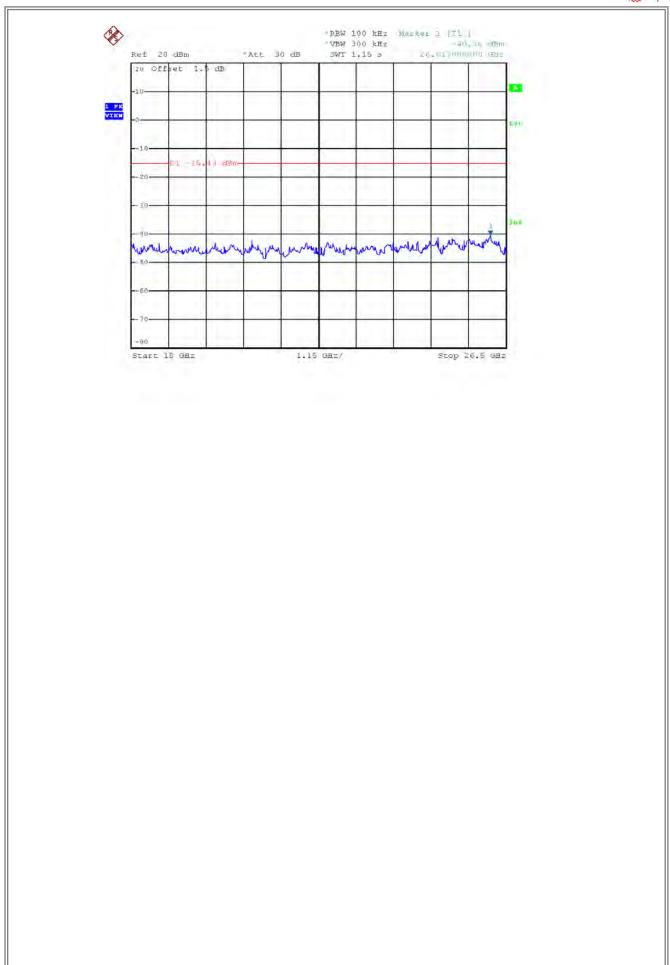




Report No.: BTL-FCCP-1-1702C045 Page 113 of 159



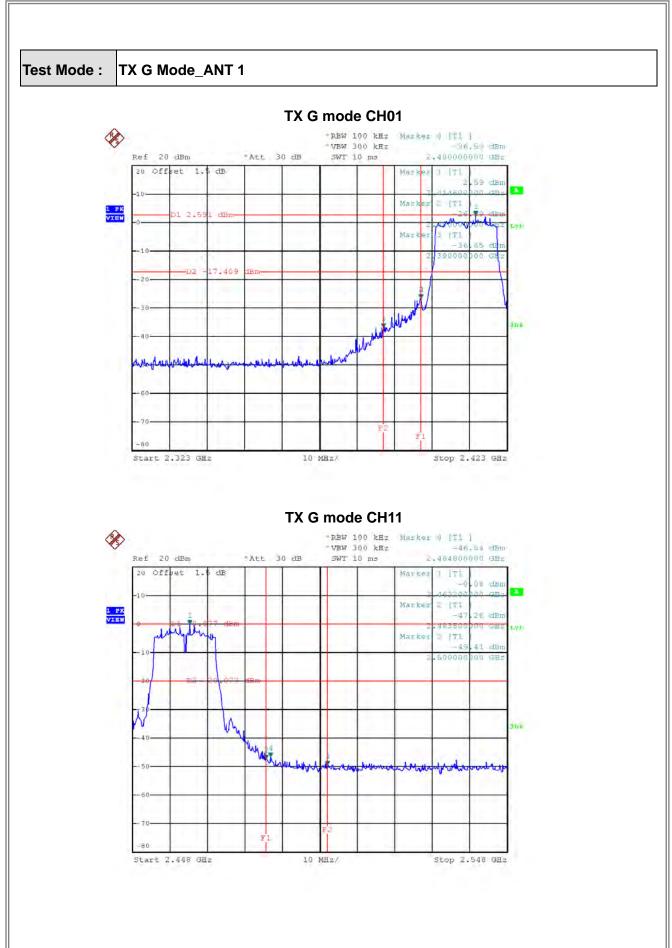




Page 114 of 159



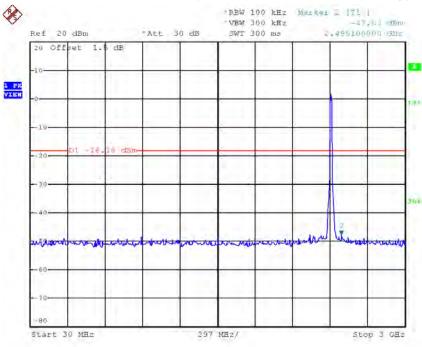


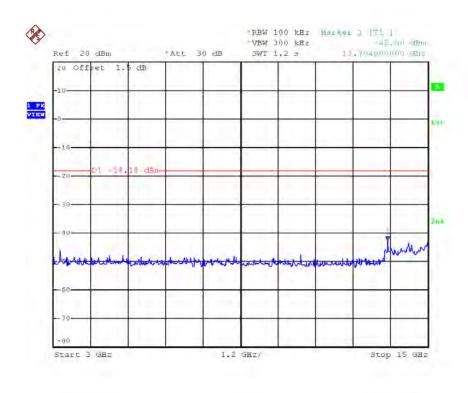






# TX G mode CH01 (10 Harmonic of the frequency)

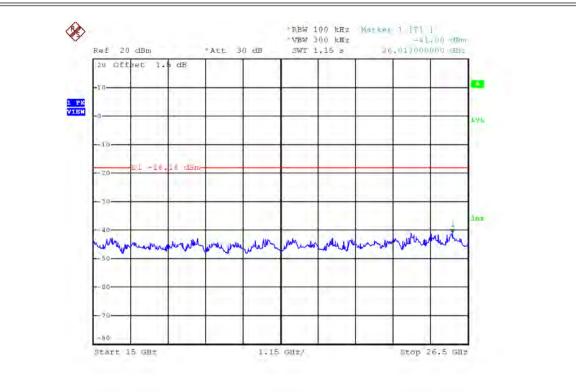




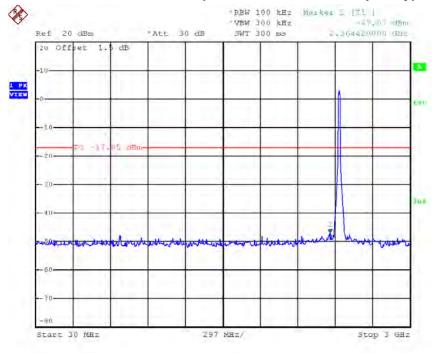
Report No.: BTL-FCCP-1-1702C045 Page 116 of 159







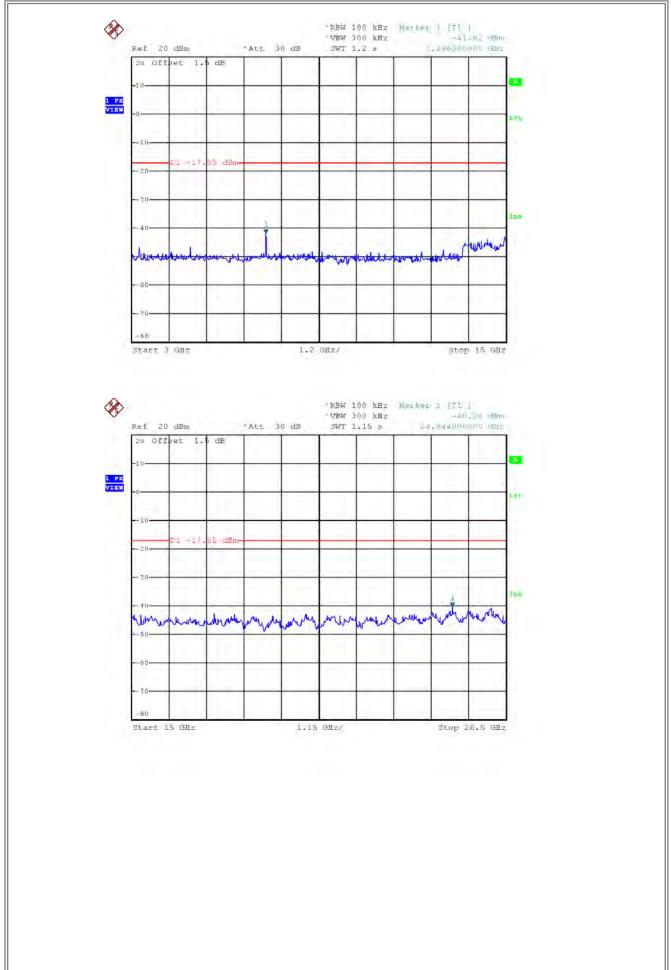
#### TX G mode CH06 (10 Harmonic of the frequency)



Report No.: BTL-FCCP-1-1702C045 Page 117 of 159





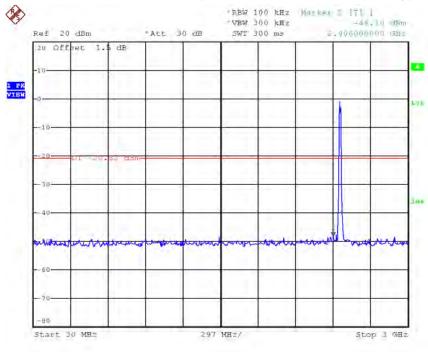


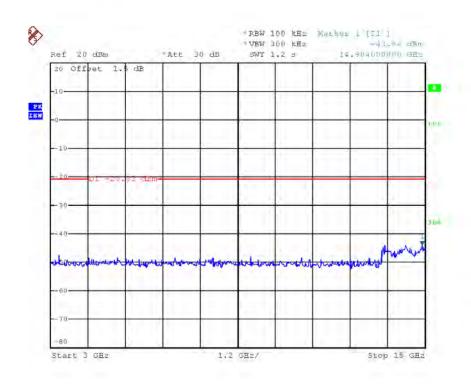
Page 118 of 159





# TX G mode CH11 (10 Harmonic of the frequency)

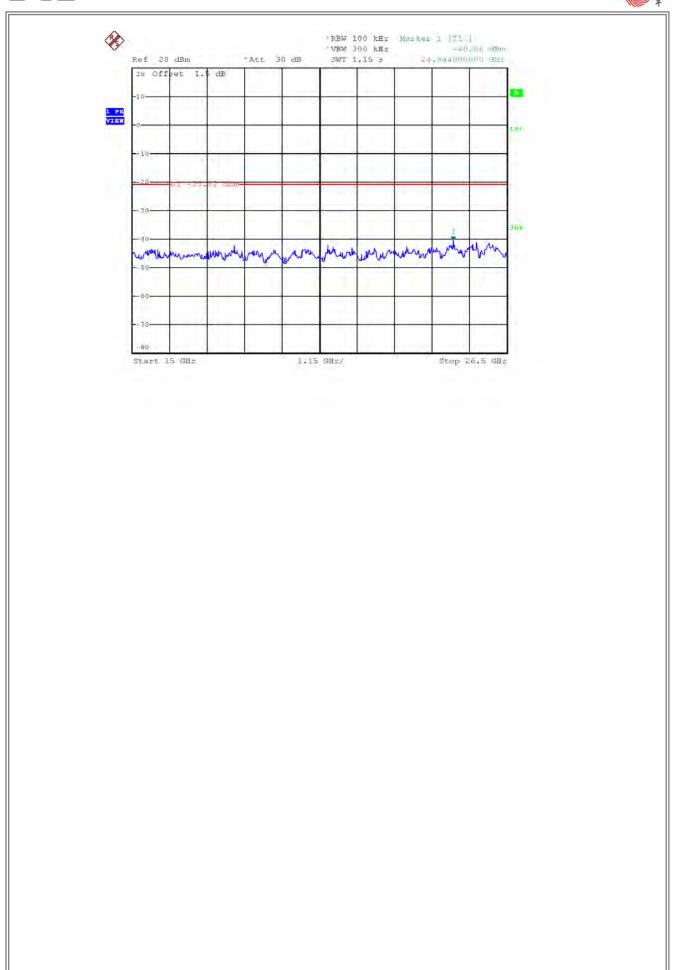




Report No.: BTL-FCCP-1-1702C045 Page 119 of 159







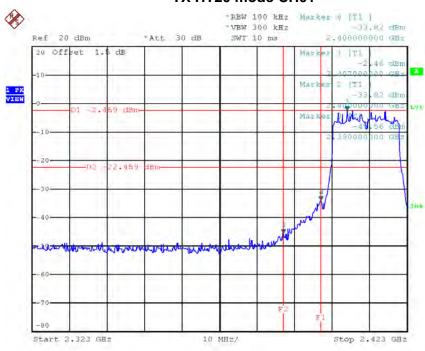
Report No.: BTL-FCCP-1-1702C045 Page 120 of 159



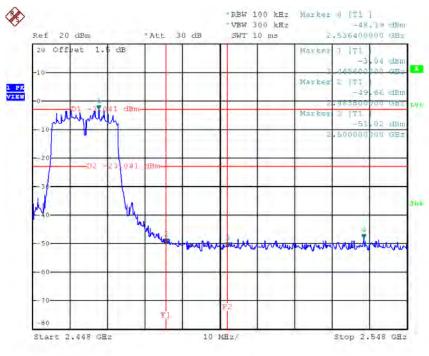




### TX HT20 mode CH01



#### TX HT20 mode CH11

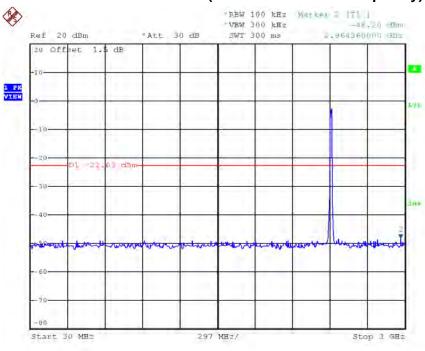


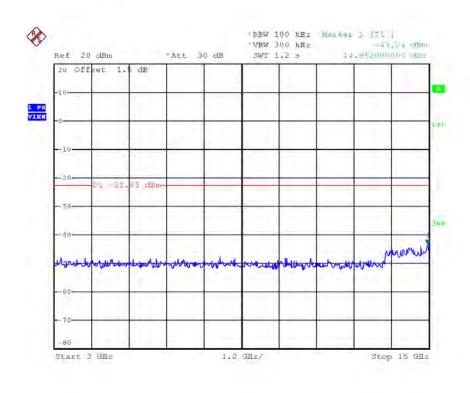
Report No.: BTL-FCCP-1-1702C045 Page 121 of 159





## TX HT20 mode CH01 (10 Harmonic of the frequency)

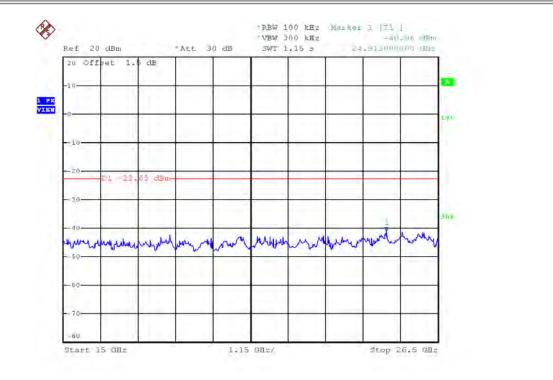




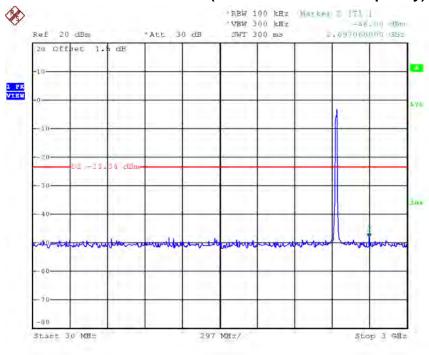
Report No.: BTL-FCCP-1-1702C045 Page 122 of 159







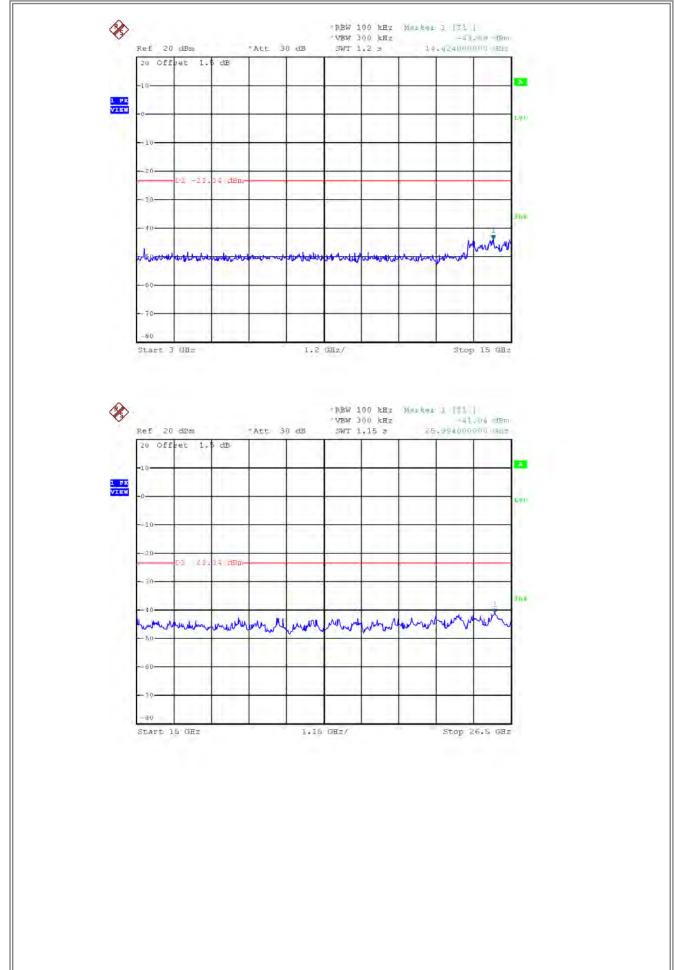
## TX HT20 mode CH06 (10 Harmonic of the frequency)



Report No.: BTL-FCCP-1-1702C045 Page 123 of 159





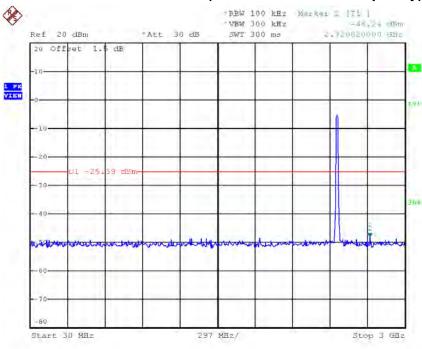


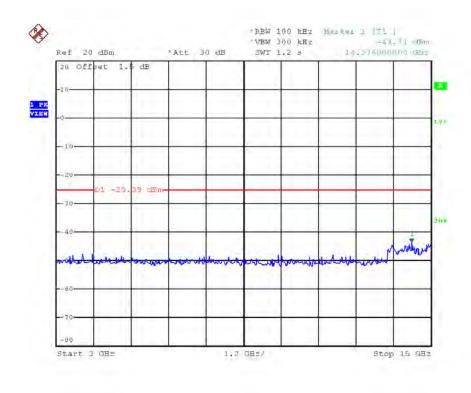
Page 124 of 159





## TX HT20 mode CH11 (10 Harmonic of the frequency)

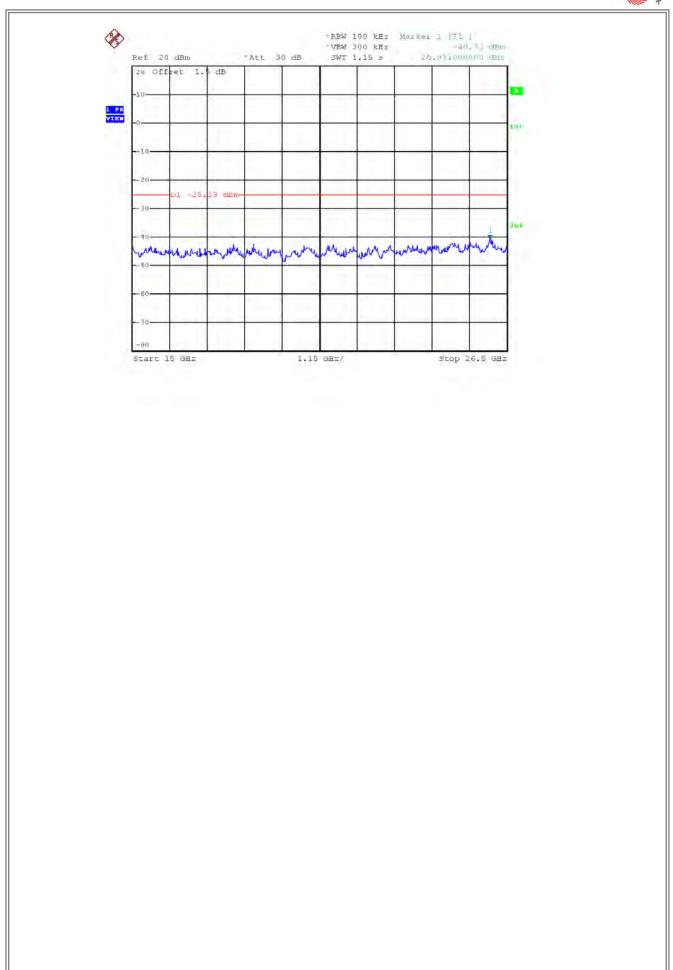




Report No.: BTL-FCCP-1-1702C045 Page 125 of 159





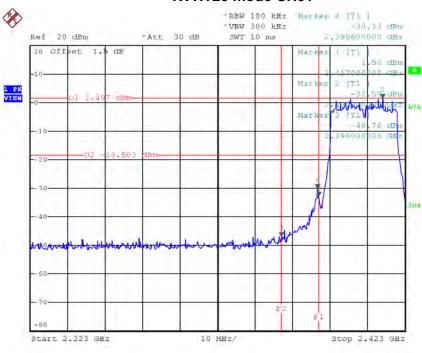




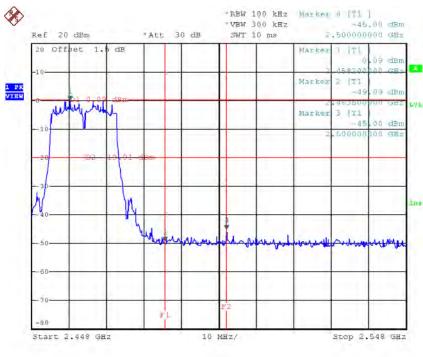








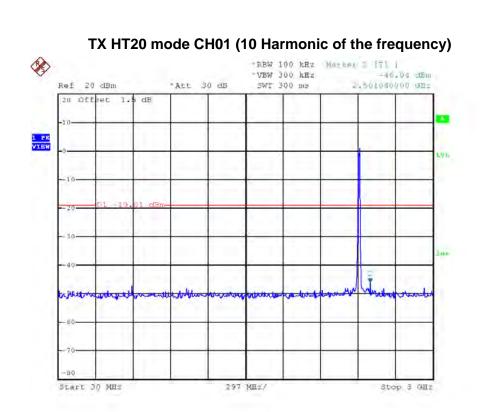
#### TX HT20 mode CH11

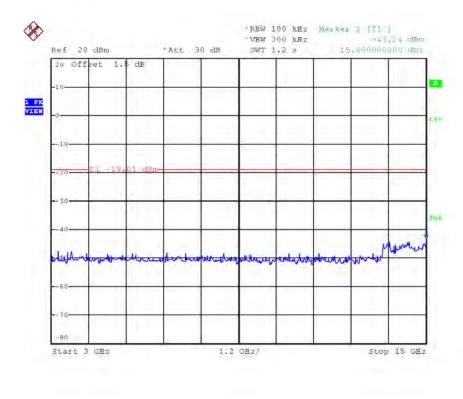


Report No.: BTL-FCCP-1-1702C045 Page 127 of 159





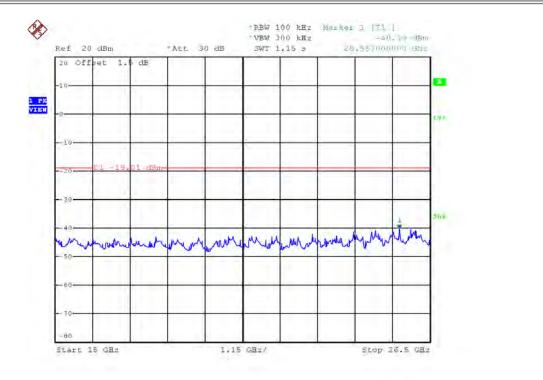




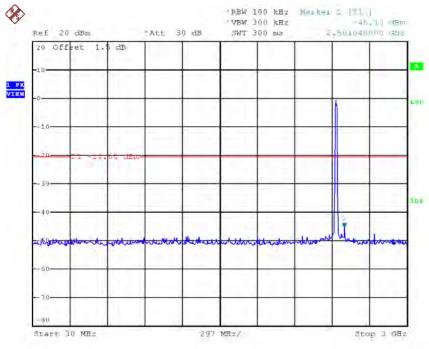
Report No.: BTL-FCCP-1-1702C045 Page 128 of 159







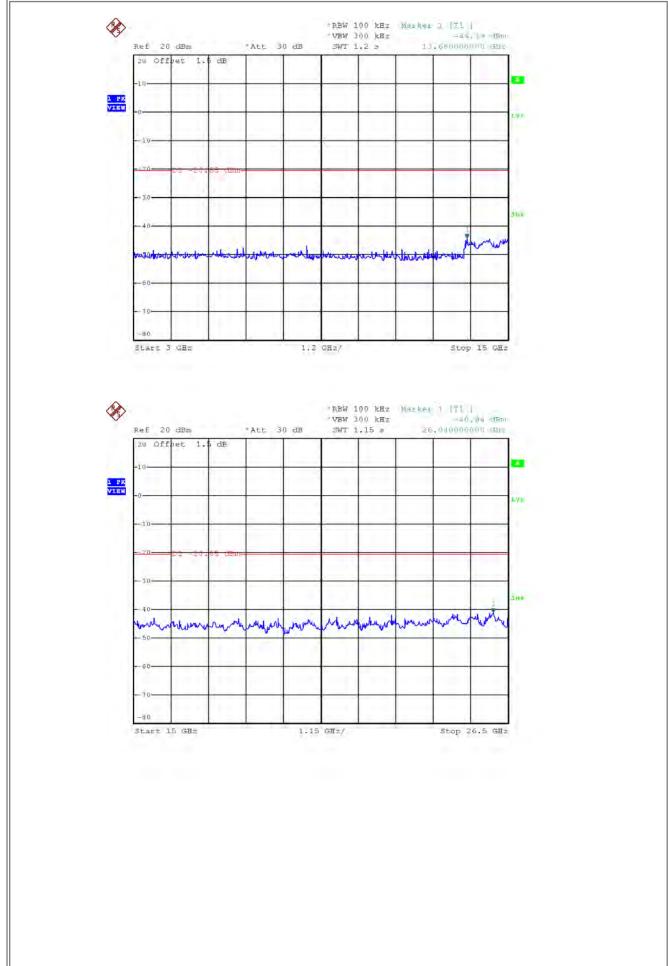
# TX HT20 mode CH06 (10 Harmonic of the frequency)



Report No.: BTL-FCCP-1-1702C045 Page 129 of 159



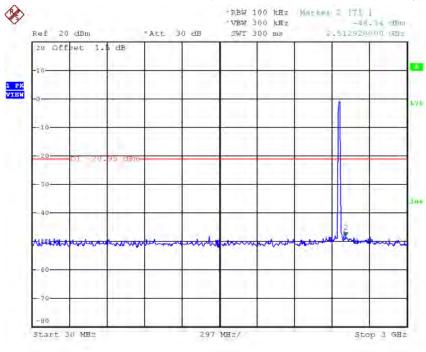


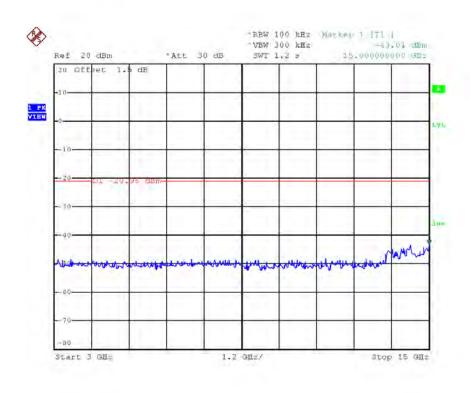








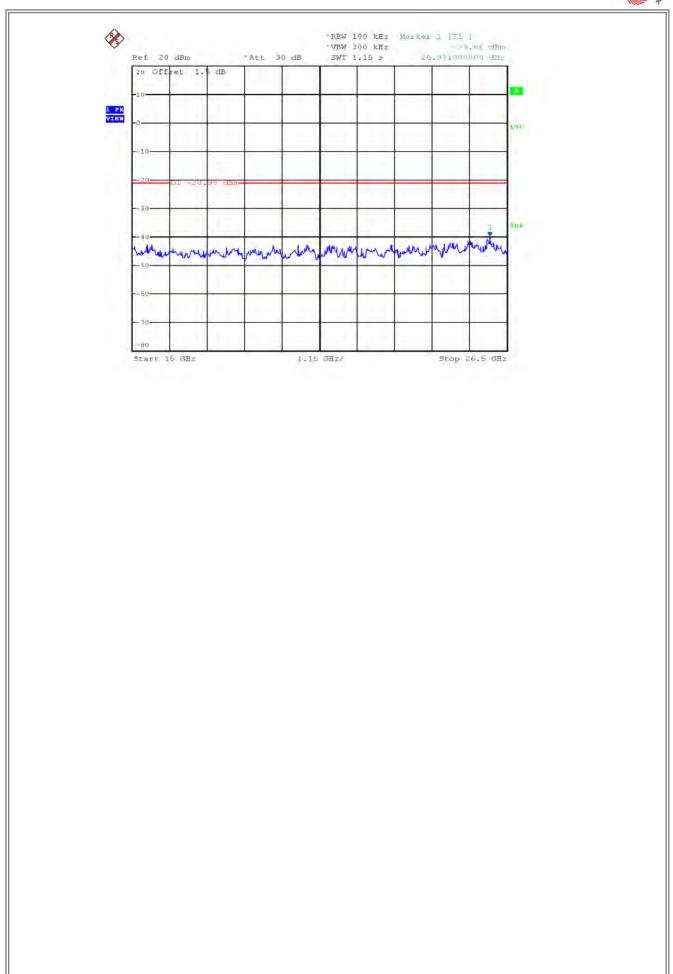




Report No.: BTL-FCCP-1-1702C045 Page 131 of 159





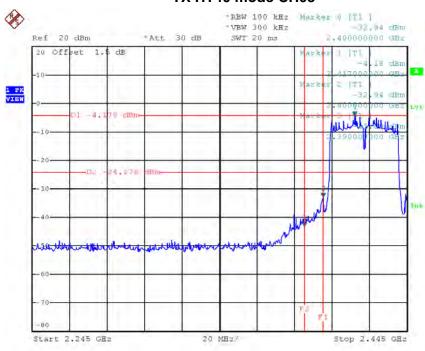




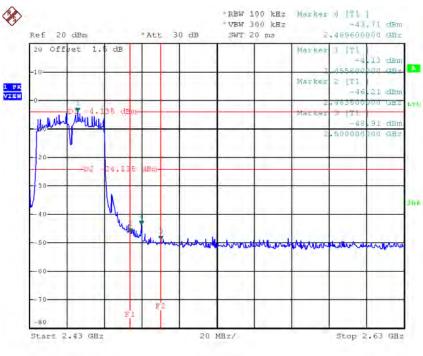




### TX HT40 mode CH03



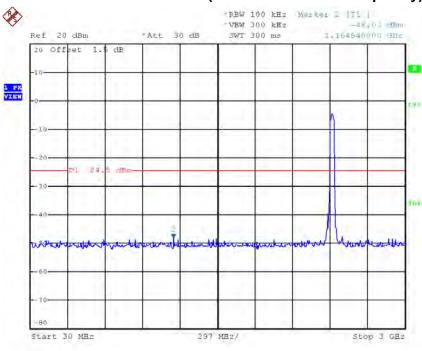
# TX HT40 mode CH09

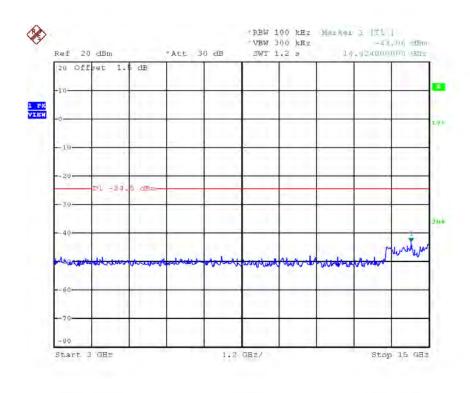






## TX HT40 mode CH03 (10 Harmonic of the frequency)

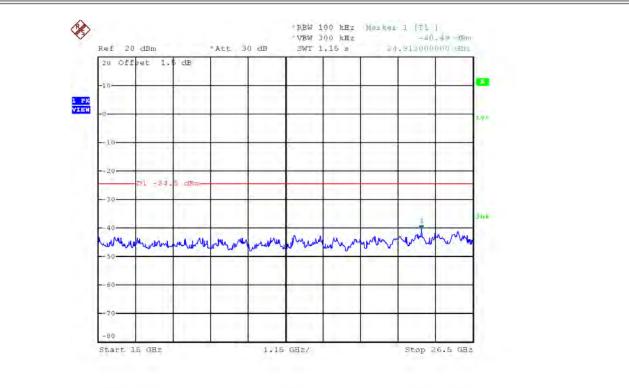




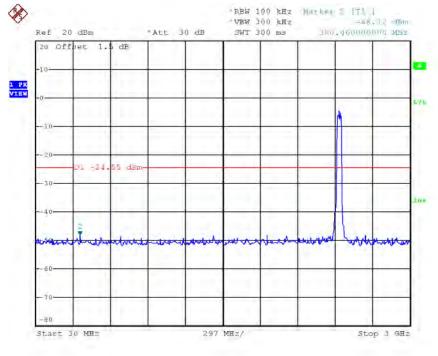
Report No.: BTL-FCCP-1-1702C045 Page 134 of 159







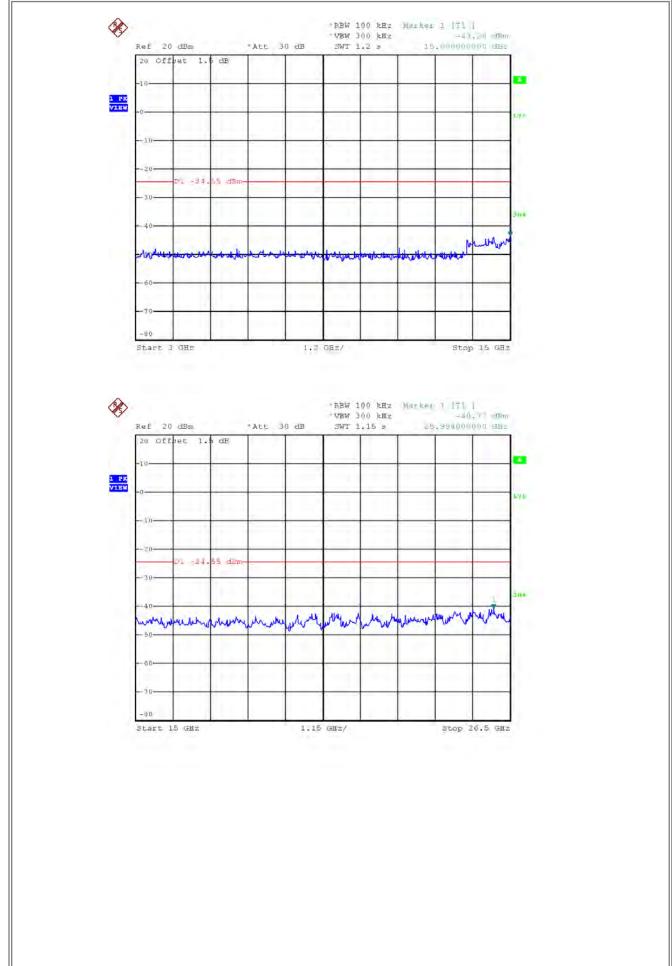




Report No.: BTL-FCCP-1-1702C045 Page 135 of 159



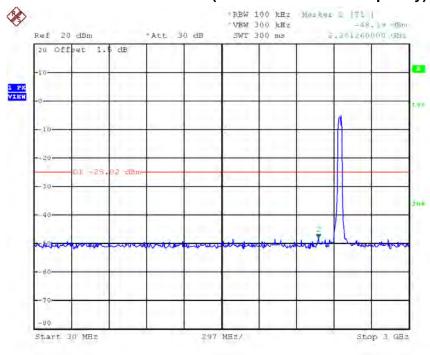


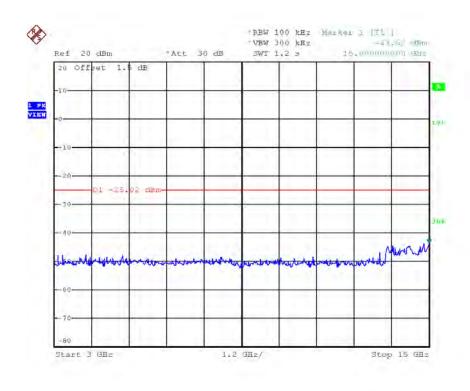






## TX HT40 mode CH09 (10 Harmonic of the frequency)

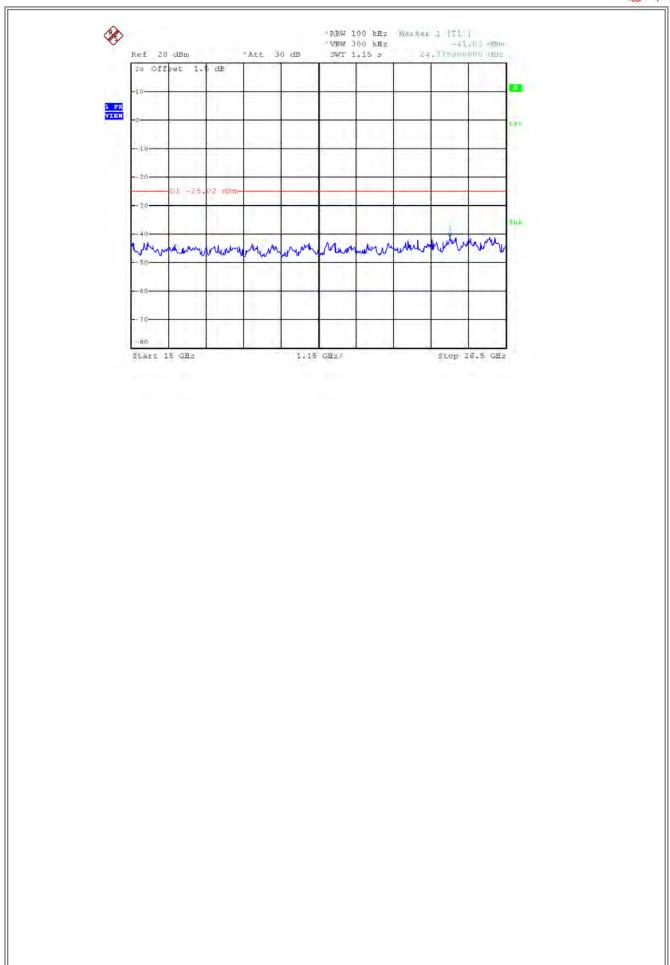




Report No.: BTL-FCCP-1-1702C045 Page 137 of 159



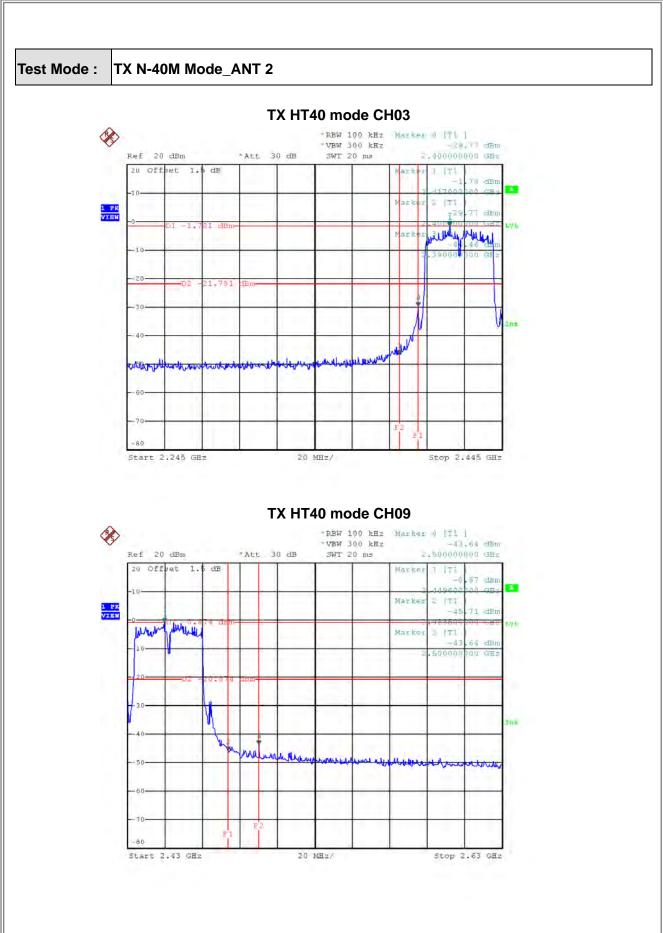








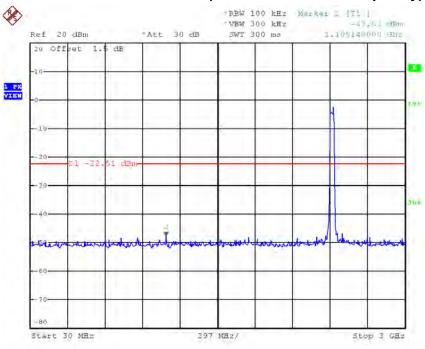
Page 139 of 159

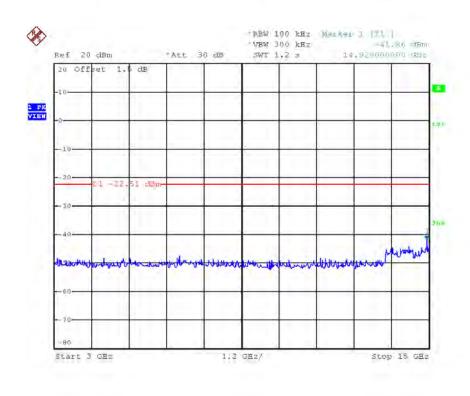








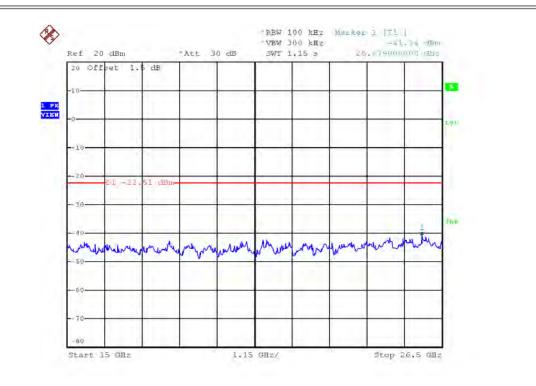




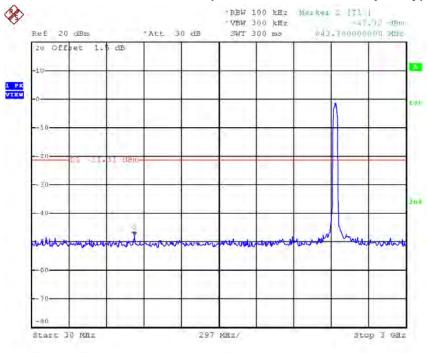
Report No.: BTL-FCCP-1-1702C045 Page 140 of 159







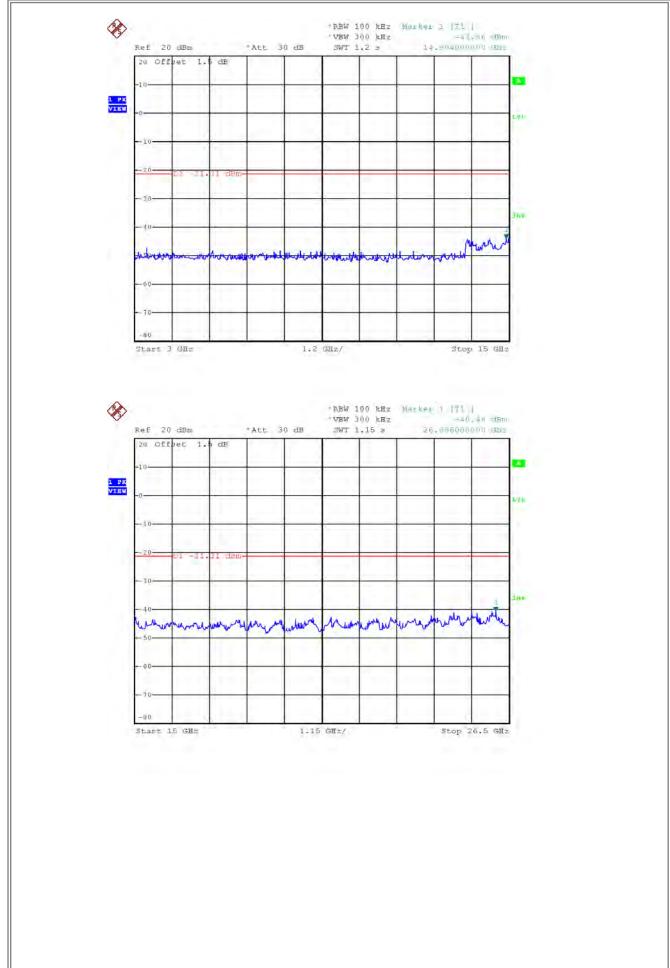
## TX HT40 mode CH06 (10 Harmonic of the frequency)



Report No.: BTL-FCCP-1-1702C045 Page 141 of 159





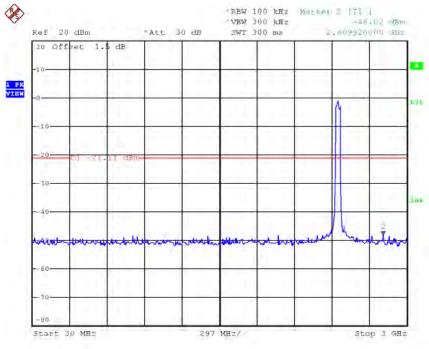


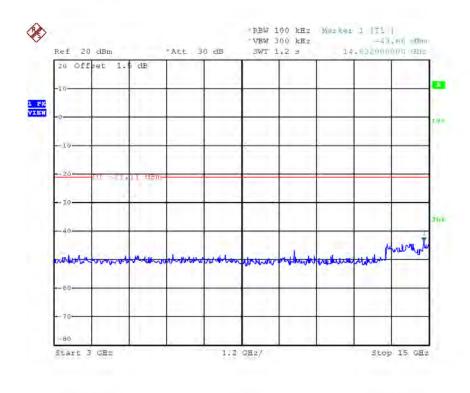
Page 142 of 159







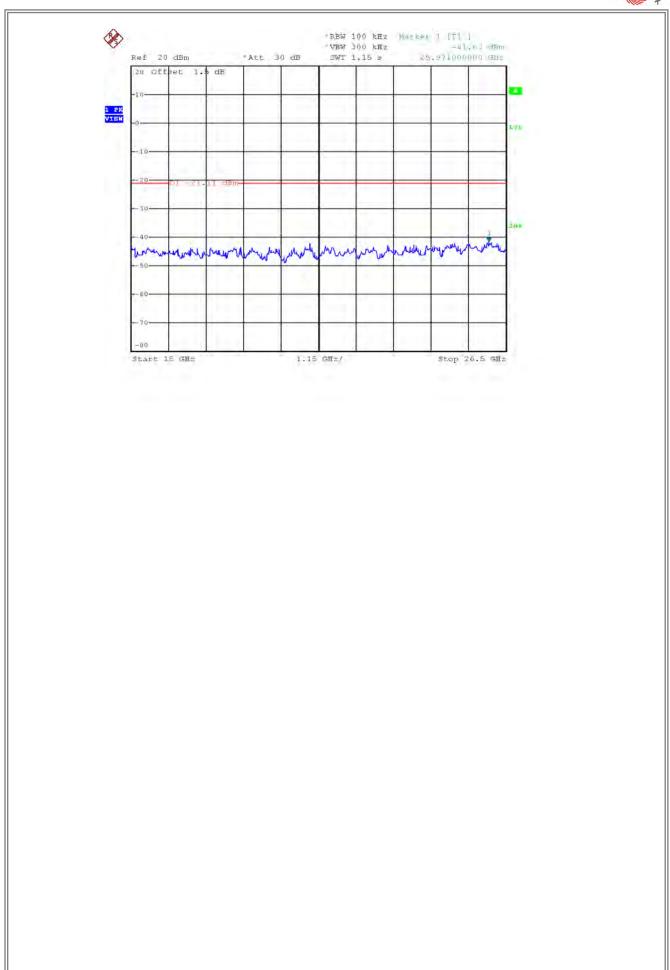




Report No.: BTL-FCCP-1-1702C045 Page 143 of 159











# **ATTACHMENT H - POWER SPECTRAL DENSITY**

Report No.: BTL-FCCP-1-1702C045 Page 145 of 159

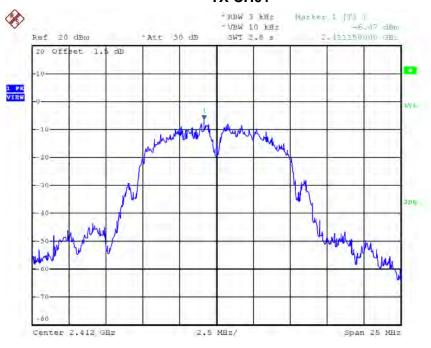




#### Test Mode :TX B Mode\_CH01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-6.47	0.2254	8.00	Complies
2437	-4.81	0.3304	8.00	Complies
2462	-9.84	0.1038	8.00	Complies

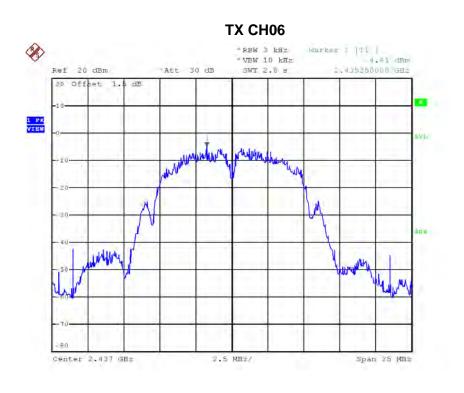
#### TX CH01

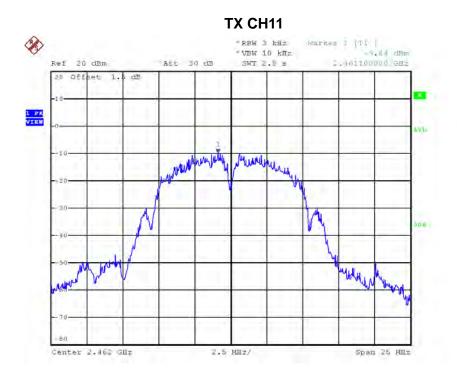


Report No.: BTL-FCCP-1-1702C045 Page 146 of 159









Report No.: BTL-FCCP-1-1702C045 Page 147 of 159

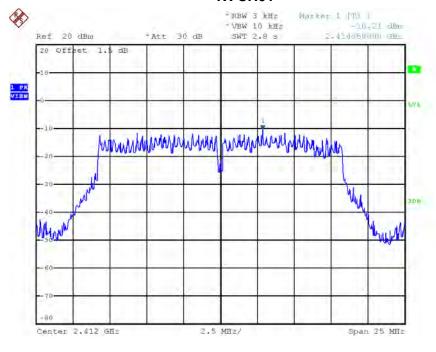




#### Test Mode :TX G Mode\_CH01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-10.21	0.0953	8.00	Complies
2437	-9.03	0.1250	8.00	Complies
2462	-14.02	0.0396	8.00	Complies

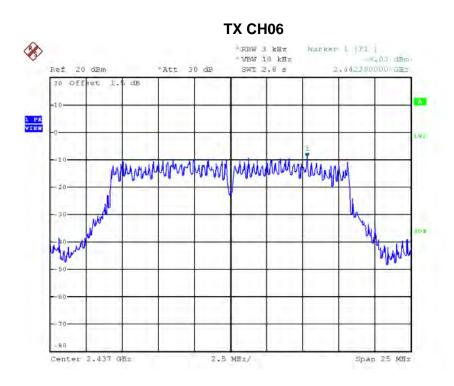
#### **TX CH01**

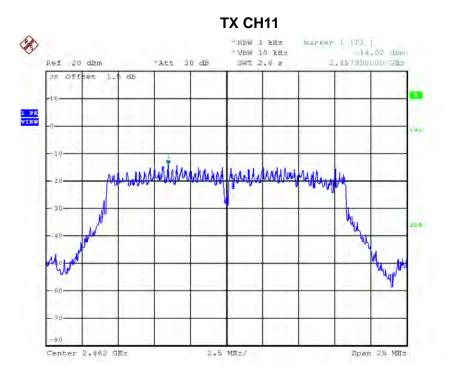


Report No.: BTL-FCCP-1-1702C045 Page 148 of 159









Report No.: BTL-FCCP-1-1702C045 Page 149 of 159

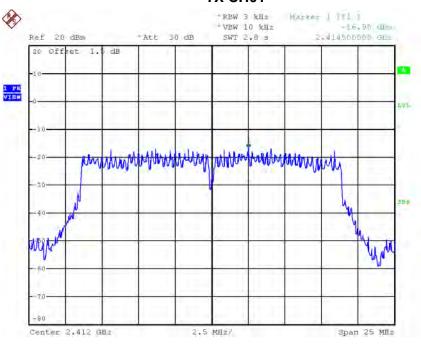




#### Test Mode: TX N-20M Mode\_CH01/06/11\_ANT 1

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-16.90	0.0204	8.00	Complies
2437	-17.65	0.0172	8.00	Complies
2462	-17.34	0.0185	8.00	Complies

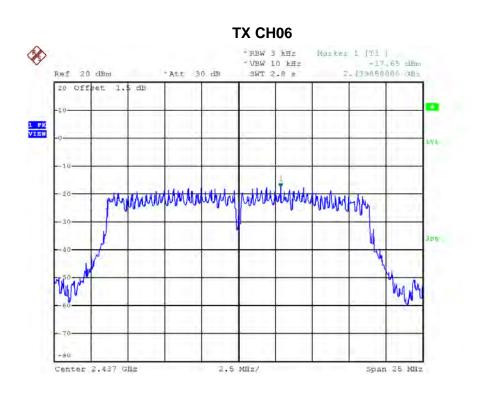
#### **TX CH01**

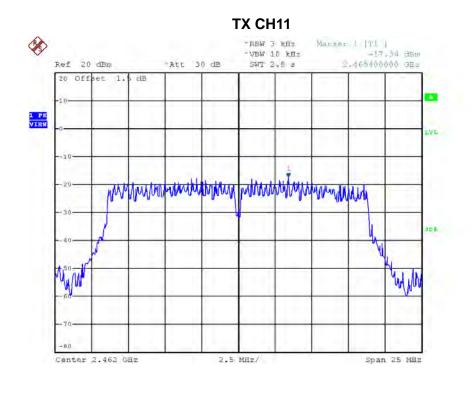


Report No.: BTL-FCCP-1-1702C045 Page 150 of 159









Report No.: BTL-FCCP-1-1702C045 Page 151 of 159

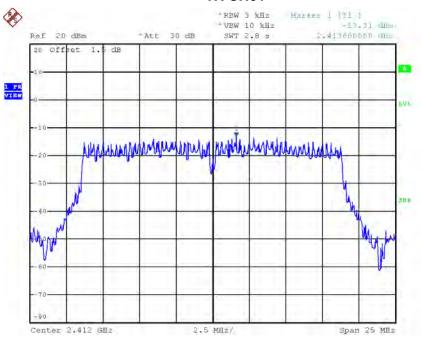




## Test Mode: TX N-20M Mode\_CH01/06/11\_ANT 2

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.31	0.0467	8.00	Complies
2437	-15.02	0.0315	8.00	Complies
2462	-14.29	0.0372	8.00	Complies

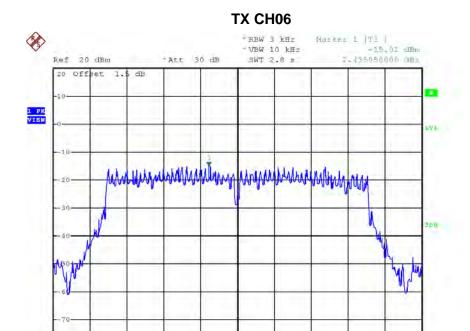
#### **TX CH01**



Report No.: BTL-FCCP-1-1702C045 Page 152 of 159







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Report No.: BTL-FCCP-1-1702C045 Page 153 of 159





# Test Mode: TX N-20M Mode\_CH01/06/11\_Total

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-11.55	0.0700	8.00	Complies
2437	-13.01	0.0500	8.00	Complies
2462	-12.22	0.0600	8.00	Complies

Report No.: BTL-FCCP-1-1702C045 Page 154 of 159

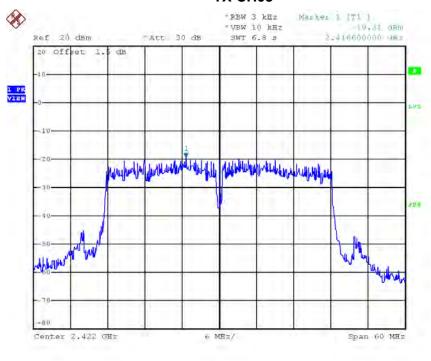




#### Test Mode: TX N-40M Mode\_CH03/06/09\_ANT 1

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-19.31	0.0117	8.00	Complies
2437	-19.09	0.0123	8.00	Complies
2452	-19.52	0.0112	8.00	Complies

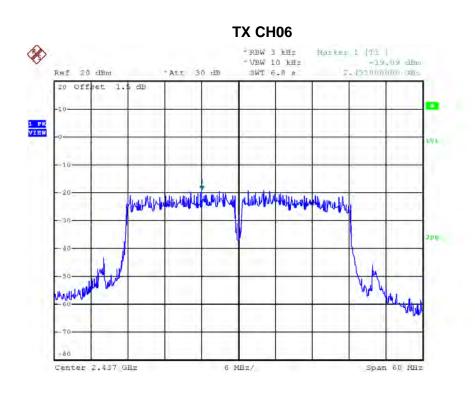
#### TX CH03

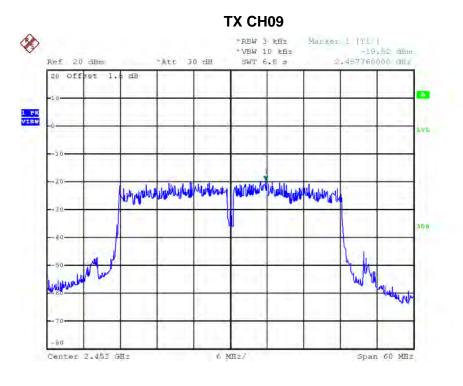


Report No.: BTL-FCCP-1-1702C045 Page 155 of 159









Report No.: BTL-FCCP-1-1702C045 Page 156 of 159

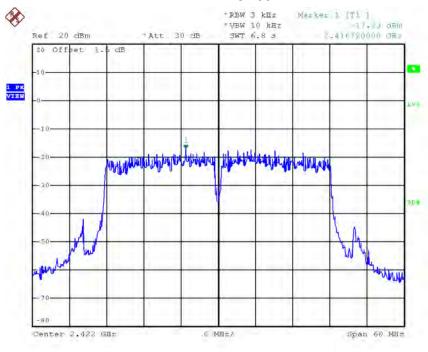




#### Test Mode: TX N-40M Mode\_CH03/06/09\_ANT 2

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-17.23	0.0189	8.00	Complies
2437	-15.33	0.0293	8.00	Complies
2452	-15.21	0.0301	8.00	Complies

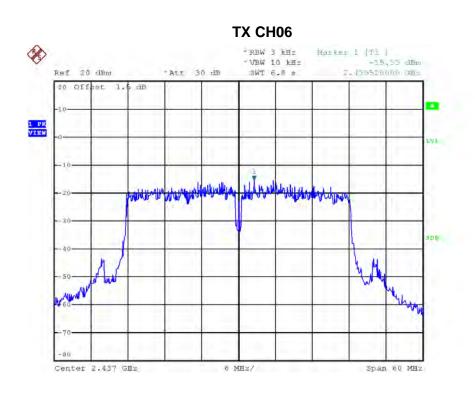
#### TX CH03

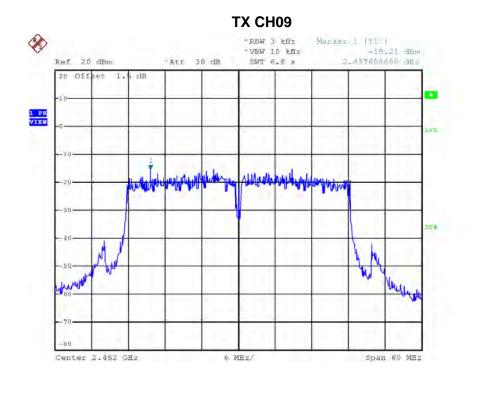


Report No.: BTL-FCCP-1-1702C045 Page 157 of 159









Report No.: BTL-FCCP-1-1702C045 Page 158 of 159





## Test Mode: TX N-40M Mode\_CH03/06/09\_Total

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-15.23	0.0300	8.00	Complies
2437	-13.98	0.0400	8.00	Complies
2452	-13.98	0.0400	8.00	Complies

Report No.: BTL-FCCP-1-1702C045 Page 159 of 159