



# **FCC** Radio Test Report

FCC ID: TE7WA850REV6

This report concerns (check o	ne): ⊠Original Grant ⊡Class I Change ⊡Class II Change
Equipment : Test Model : Series Model : Applicant : Address :	1802C079 300Mbps Wi-Fi Range Extender TL-WA850RE N/A TP-Link Technologies Co., Ltd. Building 24 (floors 1,3,4,5) and 28 (floors1-4), Central Science and Technology Park,Nanshan Shenzhen, 518057 China
Date of Test : Issued Date :	Feb. 11, 2018 Feb. 23, 2018 ~ Apr. 09, 2018 May 16, 2018 BTL Inc.
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Report No.: BTL-FCCP-1-1802C079 Page 1 of 210





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Report No.: BTL-FCCP-1-1802C079 Page 2 of 210





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 TE	STED 14
3.5 DESCRIPTION OF SUPPORT UNITS	14
	15
4 . EMC EMISSION TEST	
4.1 CONDUCTED EMISSION MEASUREMENT 4.1.1 POWER LINE CONDUCTED EMISSION LIMITS	15 15
4.1.2 TEST PROCEDURE	15 15
4.1.3 DEVIATION FROM TEST STANDARD	15
4.1.4 TEST SETUP	16
4.1.5 EUT OPERATING CONDITIONS	16
4.1.6 EUT TEST CONDITIONS 4.1.7 TEST RESULTS	16 16
4.2 RADIATED EMISSION MEASUREMENT	17
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	19
4.2.5 EUT OPERATING CONDITIONS 4.2.6 EUT TEST CONDITIONS	20 20
4.2.7 TEST RESULTS (9KHZ TO 30MHZ)	20
4.2.8 TEST RESULTS (30MHZ TO 1000MHZ)	20
4.2.9 TEST RESULTS (ABOVE 1000MHZ)	20
5 . BANDWIDTH TEST	21
5.1 APPLIED PROCEDURES	21
5.1.1 TEST PROCEDURE	21
5.1.2 DEVIATION FROM STANDARD 5.1.3 TEST SETUP	21 21
5.1.4 EUT OPERATION CONDITIONS	21 21
5.1.5 EUT TEST CONDITIONS	21
5.1.6 TEST RESULTS	21
6 . MAXIMUM AVG CONDUCTED OUTPUT POWER TEST	22

Report No.: BTL-FCCP-1-1802C079





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	22 22 22 22 22 22 22 22
7 . ANTENNA CONDUCTED SPURIOUS EMISSION	23
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 7.1.5 EUT TEST CONDITIONS 7.1.6 TEST RESULTS	23 23 23 23 23 23 23
8 . POWER SPECTRAL DENSITY TEST	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
APPENDIX A - CONDUCTED EMISSION	31
APPENDIX B - RADIATED EMISSION (9KHZ TO 30MHZ)	34
APPENDIX C - RADIATED EMISSION (30MHZ TO 1000MHZ)	39
APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)	46
APPENDIX E - BANDWIDTH	127
APPENDIX F - MAXIMUM AVG CONDUCTED OUTPUT POWER	136
APPENDIX G - ANTENNA CONDUCTED SPURIOUS EMISSION	141
APPENDIX H - POWER SPECTRAL DENSITY	190

Report No.: BTL-FCCP-1-1802C079 Page 4 of 210





# **REPORT ISSUED HISTORY**

Issued No.	Description	Issued Date
BTL-FCCP-1-1802C079	Original Issue.	May 16, 2018

Report No.: BTL-FCCP-1-1802C079 Page 5 of 210





#### 1. CERTIFICATION

Equipment : 300Mbps Wi-Fi Range Extender

Brand Name: tp-link

Test Model : TL-WA850RE

Series Model: N/A

Applicant : TP-Link Technologies Co., Ltd. Manufacturer : TP-Link Technologies Co., Ltd.

Address : Building 24 (floors 1,3,4,5) and 28 (floors1-4), Central Science and Technology

Park, Nanshan Shenzhen, 518057 China

Date of Test : Feb. 27, 2018 ~ Apr. 09, 2018

Test Sample : Engineering Sample No.for Conducted: D180201406 & Radiation:

D180201406

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

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

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1802C079) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP according to the ISO-17025 quality assessment standard and technical standard(s).

Report No.: BTL-FCCP-1-1802C079 Page 6 of 210





## 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-1-1802C079 Page 7 of 210





#### 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: 854385 BTL's designation number for FCC: CN5020

#### 2.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty figures shall be calculated according the methods described in the ETSI TR 100 028 and shall correspond to an expansion factor (coverage factor) k=1.96 or k=2(which provide confidence levels of respectively 90% and 95.45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)). Measurement Uncertainty for a Level of Confidence of 95 %, U=2xUc(y).

The BTL measurement uncertainty as below table:

#### A. Conducted Measurement:

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

#### B. Radiated Measurement:

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

Report No.: BTL-FCCP-1-1802C079 Page 8 of 210





## 3. GENERAL INFORMATION

## 3.1 GENERAL DESCRIPTION OF EUT

Equipment	300Mbps Wi-Fi Range Extender			
Brand Name	tp-link	tp-link		
Test Model	TL-WA850RE			
Series Model	N/A			
Model Difference	N/A			
	Operation Frequency	2412~2462 MHz		
Product Description	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM		
	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n up to 300 Mbps		
	AVG Output Power (Max.)	802.11b: 21.71dBm 802.11g: 22.57dBm 802.11n(20MHz): 22.59dBm 802.11n(40MHz): 19.66dBm		
Power Source	AC Mains.			
Power Rating	100-240V 50/60Hz 0.3A			

## 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-1-1802C079 Page 9 of 210





## 3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	TP-LINK	N/A	Internal	N/A	2	N/A
2	TP-LINK	N/A	Internal	N/A	2	N/A

Note:

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

Operating Mode	2TX
TX Mode	217
802.11b	V (ANT 1 + ANT 2)
802.11g	V (ANT 1 + ANT 2)
802.11n(20MHz)	V (ANT 1 + ANT 2)
802.11n(40MHz)	V (ANT 1 + ANT 2)

Report No.: BTL-FCCP-1-1802C079 Page 10 of 210





#### 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	Normal Link

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

For Conducted Test		
Final Test Mode	Description	
Mode 5	Normal Link	

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-1-1802C079 Page 11 of 210





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%.
- (5) For radiated, it was pre-tested on the positioned of each 2 axis. The worst case was found positioned on Normal-plane. Therefore only the test data of this Normal-plane was used for radiated emission measurement test.

Report No.: BTL-FCCP-1-1802C079 Page 12 of 210





## 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

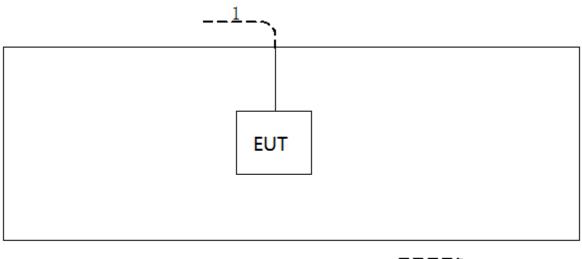
Test software version	QATool_Dbg		
Frequency (MHz)	2412	2437	2462
802.11b	1D	1C	1A
802.11g	18	20	17
802.11n (20MHz)	18	22	16
Frequency (MHz)	2422	2437	2452
802.11n (40MHz)	0F	1B	11

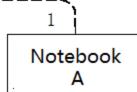
Report No.: BTL-FCCP-1-1802C079 Page 13 of 210





## 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	DCSM	DOC	G7K832X

Item	Shielded Type	Ferrite Core	Length	Note
1	N/A	N/A	10m	RJ45 Cable

Report No.: BTL-FCCP-1-1802C079 Page 14 of 210





#### 4. EMC EMISSION TEST

#### 4.1 CONDUCTED EMISSION MEASUREMENT

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

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

#### Note:

(1) The limit of " \* " decreases with the logarithm of the frequency

(2) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use) Margin Level = Measurement Value - Limit Value

The following table is the setting of the receiver

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

#### 4.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment 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

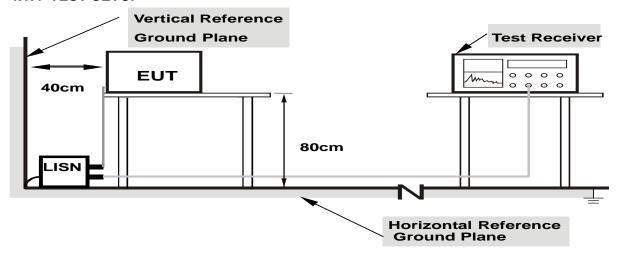
No deviation

Report No.: BTL-FCCP-1-1802C079 Page 15 of 210





## 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 Appendix A.

Report No.: BTL-FCCP-1-1802C079





#### **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)	Band edge at 3	3m (dBµV/m)	Harmonic at 1.5m (dBµV/m)		
	Peak	Average	Peak	Average	
Above 1000	74	54	80 (Note 5)	60(Note 5)	

#### Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) The test result calculated as following: Measurement Value = Reading Level + Correct Factor Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use) Margin Level = Measurement Value - Limit Value

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

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





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

## 4.2.3 DEVIATION FROM TEST STANDARD

No deviation

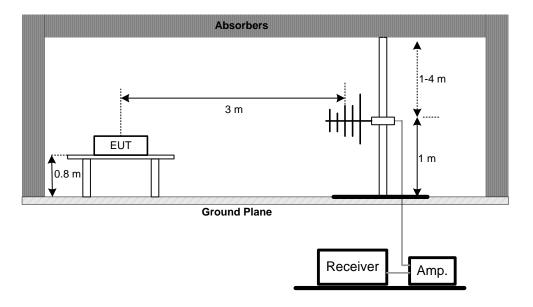
Report No.: BTL-FCCP-1-1802C079 Page 18 of 210



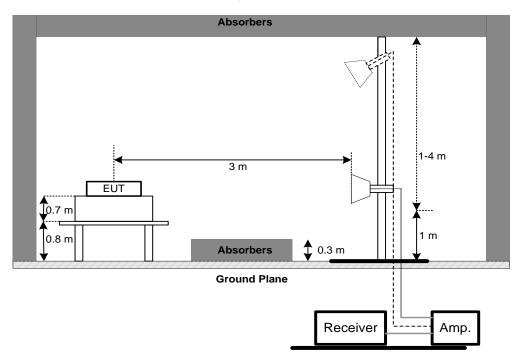


## 4.2.4 TEST SETUP

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



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

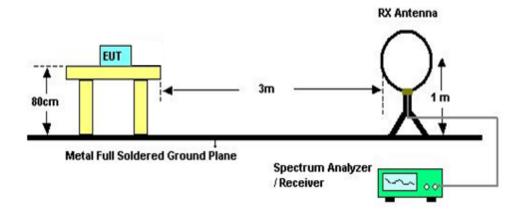


Report No.: BTL-FCCP-1-1802C079 Page 19 of 210





## (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 Appendix 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 1000MHZ)**

Please refer to the Appendix C.

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

Please refer to the Appendix 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-1-1802C079 Page 20 of 210





## 5. BANDWIDTH TEST

#### **5.1 APPLIED PROCEDURES**

FCC Part15 (15.247) , Subpart C				
Section Test Item Frequency Range (MHz)				
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 Appendix E.

Report No.: BTL-FCCP-1-1802C079 Page 21 of 210





## 6. MAXIMUM AVG 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 avg conducted output power was performed in accordance with method 9.1.2 of FCC KDB 558074 D01 v04 DTS Meas Guidance and FCC KDB 662911 D01 Multiple Transmitter Output.

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

No deviation.

#### 6.1.3 TEST SETUP

EUT	Power Meter
	1 OWEI WELL

#### **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 Appendix F.

Report No.: BTL-FCCP-1-1802C079 Page 22 of 210





#### 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 modula ted intentional radiator is operating, the radio frequency power that is produced by the intentional radiat or 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 the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB inst ead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

#### 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 Appendix G.

Report No.: BTL-FCCP-1-1802C079 Page 23 of 210





## 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 Appendix H.

Report No.: BTL-FCCP-1-1802C079 Page 24 of 210





# 9. MEASUREMENT INSTRUMENTS LIST

	Conducted Emission						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	EMI Test Receiver	R&S	ESCI	100382	Mar. 11, 2019		
2	LISN	EMCO	3816/2	52765	Mar. 11, 2019		
3	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 11, 2019		
4	TWO-LINE V-NETWORK	R&S	ENV216	101447	Mar. 11, 2019		
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A		
6	Cable	N/A	RG223	12m	Oct. 19, 2018		

	Radiated Emission Below 1GHz						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 11, 2019		
2	Amplifier	HP	8447D	2944A09673	Oct. 19, 2018		
3	Receiver	Agilent	N9038A	MY52130039	Aug. 20, 2018		
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	Jun. 26, 2018		
5	Controller	CT	SC100	N/A	N/A		
6	Controller	MF	MF-7802	MF780208416	N/A		
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A		
8	Antenna	EM	EM-6876-1	230	Feb. 07, 2019		

	Radiated Emission Above 1GHz										
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until						
1	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 11, 2019						
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 08, 2018						
3	Amplifier	Agilent	8449B	3008A02274	Mar. 11, 2019						
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 11, 2019						
5	Receiver	Agilent	N9038A	MY52130039	Aug. 20, 2018						
6	Controller	СТ	SC100	N/A	N/A						
7	Controller	MF	MF-7802	MF780208416	N/A						
8	Cable	emci	EMC104-SM-SM-1 2000(12m)	N/A	Jun. 26, 2018						
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A						

Report No.: BTL-FCCP-1-1802C079 Page 25 of 210





	6dB Bandwidth Measurement								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until				
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 20, 2018				

	Peak Output Power Measurement									
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until					
1	Power Meter	ANRITSU	ML2495A	1128009	Mar. 11, 2019					
2	Pulse Power Sensor	ANRITSU	MA 2411B	1027500	Mar. 11, 2019					

	Antenna Conducted Spurious Emission Measurement									
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until					
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 20, 2018					

Power Spectral Density Measurement									
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until				
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 20, 2018				

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

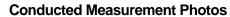
All calibration period of equipment list is one year.

Report No.: BTL-FCCP-1-1802C079 Page 26 of 210

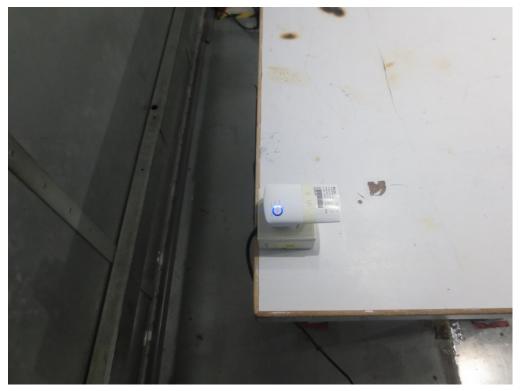




# **10. EUT TEST PHOTO**







Report No.: BTL-FCCP-1-1802C079 Page 27 of 210

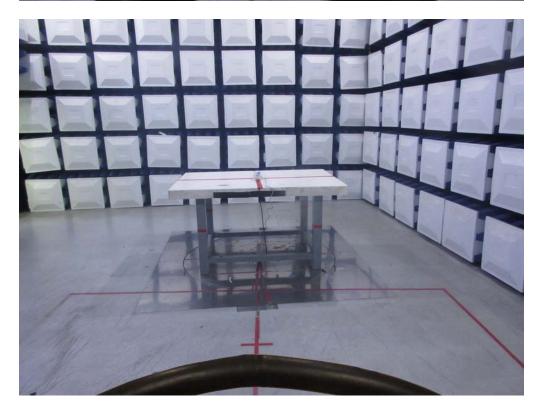




# **Radiated Measurement Photos**







Report No.: BTL-FCCP-1-1802C079 Page 28 of 210





# **Radiated Measurement Photos**

30MHz to 1000MHz





Report No.: BTL-FCCP-1-1802C079 Page 29 of 210





# **Radiated Measurement Photos**

# Above 1000MHz





Report No.: BTL-FCCP-1-1802C079 Page 30 of 210





APPENDIX A - CONDUCTED EMISSION

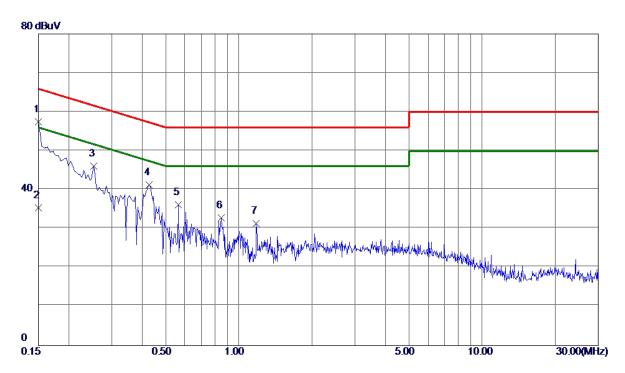
Report No.: BTL-FCCP-1-1802C079 Page 31 of 210





Test Mode : Normal Link

# Line



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1 *	0. 1500	47.68	9. 79	57.47	66.00	-8. 53	Peak	
2	0. 1500	25.64	9. 79	35. 43	56.00	<b>-20.57</b>	AVG	
3	0. 2535	36. 31	9. 76	46. 07	61.64	-15. 57	Peak	
4	0.4290	31.49	9. 80	41. 29	57.27	-15. 98	Peak	
5	0.5639	26. 30	9.81	36. 11	56.00	-19.89	Peak	
6	0.8475	23.00	9. 83	32.83	56.00	-23. 17	Peak	
7	1. 1805	21. 43	9.87	31. 30	56.00	-24.70	Peak	

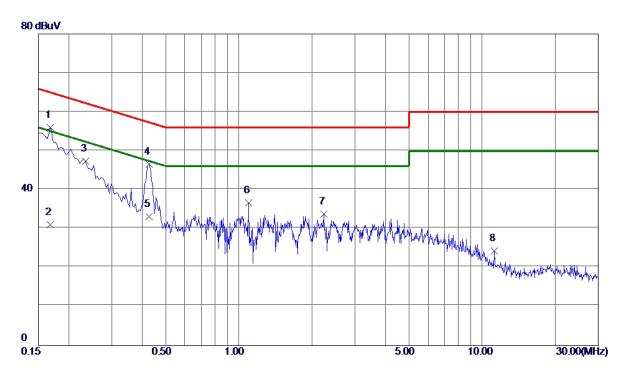
Report No.: BTL-FCCP-1-1802C079 Page 32 of 210





Test Mode : Normal Link

## **Neutral**



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1 *	0.1680	46. 34	9. 68	56. 02	65.06	-9.04	Peak	
2	0.1680	21.30	9. 68	30. 98	<b>55.06</b>	<b>-24.08</b>	AVG	
3	0. 2341	37.61	9. 68	47. 29	62.30	-15. 01	Peak	
4	0.4290	36. 80	9. 69	46. 49	57. 27	-10.78	Peak	
5	0.4290	23.40	9. 69	33. 09	47.27	-14. 18	AVG	
6	1.0950	26. 94	9. 75	36. 69	56.00	-19. 31	Peak	
7	2. 2425	23. 93	9.86	33. 79	56.00	-22. 21	Peak	
8	11. 2335	13. 94	10. 36	24. 30	60.00	-35. 70	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 33 of 210





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

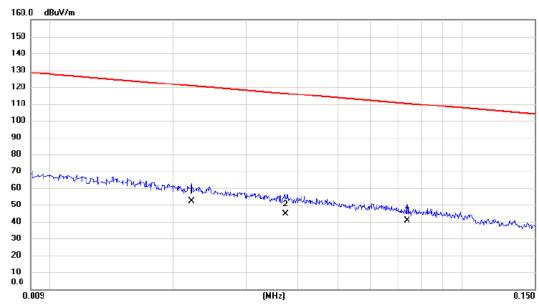
Report No.: BTL-FCCP-1-1802C079 Page 34 of 210





Test Mode: TX MODE

Ant 0°



No. Mk.	Freq.			Measure- ment		Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	0.0221	32.45	19.56	52.01	120.72	-68.71	AVG	
2	0.0374	25.44	19.10	44.54	116.15	-71.61	AVG	
3	0.0738	22.39	18.25	40.64	110.24	-69.60	AVG	

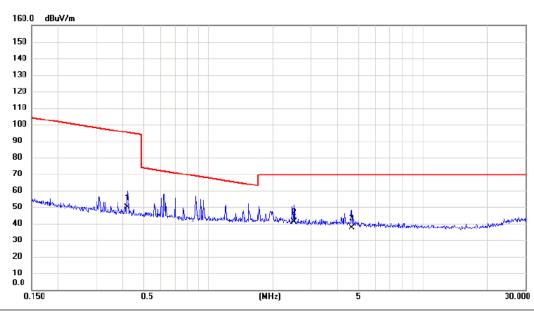
Report No.: BTL-FCCP-1-1802C079 Page 35 of 210





Test Mode: TX MODE

## Ant 0°



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.4192	33.45	16.53	49.98	95.16	-45.18	AVG	
2 *	2.5132	25.47	15.37	40.84	69.54	-28.70	QP	
3	4.6715	22.69	14.56	37.25	69.54	-32.29	QP	

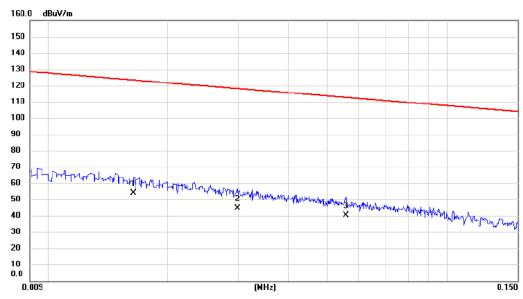
Report No.: BTL-FCCP-1-1802C079 Page 36 of 210





Test Mode: TX MODE

## Ant 90°



No. Mk.	Freq.	Reading Level		Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	0.0164	33.58	20.09	53.67	123.31	-69.64	AVG	
2	0.0298	25.44	19.33	44.77	118.12	-73.35	AVG	
3	0.0558	21.46	18.61	40.07	112.67	-72.60	AVG	

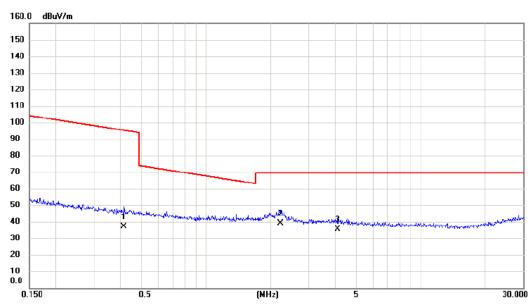
Report No.: BTL-FCCP-1-1802C079 Page 37 of 210





Test Mode: TX MODE

# Ant 90°



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.4148	20.48	16.54	37.02	95.25	-58.23	AVG	
2 *	2.2132	23.55	15.45	39.00	69.54	-30.54	QP	
3	4.1137	20.49	14.88	35.37	69.54	-34.17	QP	

Report No.: BTL-FCCP-1-1802C079 Page 38 of 210





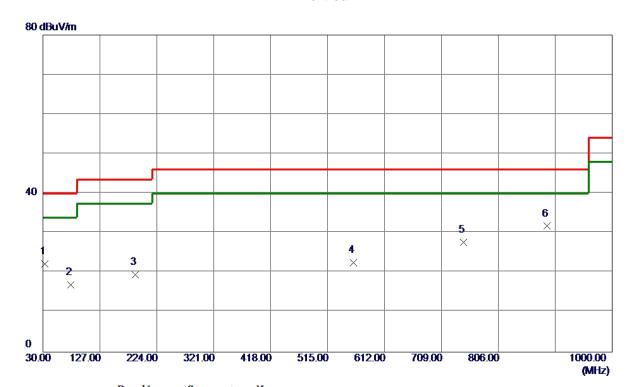
APPENDIX C - RADIATED EMISSION (30MHZ TO 1000MHZ)

Report No.: BTL-FCCP-1-1802C079 Page 39 of 210





### **Vertical**



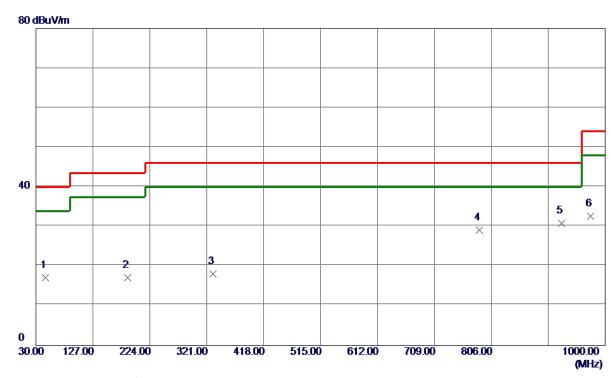
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	32.9100	37.07	-14.89	22. 18	40.00	-17.82	Peak	
2	77. 5300	34.68	-17.67	17.01	40.00	-22.99	Peak	
3	187. 1400	32. 14	-12.61	19. 53	43.50	-23.97	Peak	
4	559.6200	30. 03	-7.47	22. 56	46.00	-23.44	Peak	
5	746. 8300	30. 21	-2.54	27.67	46.00	-18. 33	Peak	
6 *	889. 4200	30. 95	0.81	31. 76	46.00	-14. 24	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 40 of 210





## Horizontal



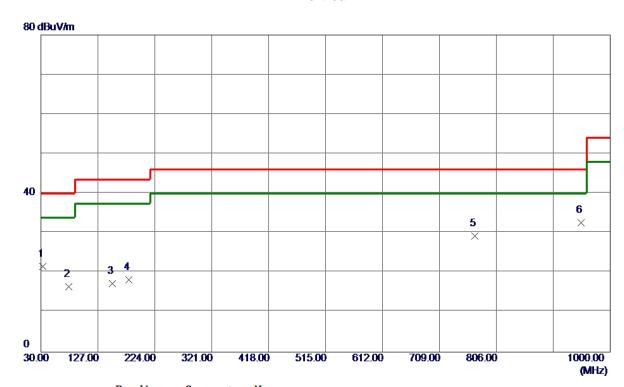
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	46. 4900	30.06	-12.98	17.08	40.00	-22.92	Peak	
2	186. 1700	29.64	<b>-12.54</b>	17. 10	43.50	-26.40	Peak	
3	331.6700	30. 32	-12. 28	18. 04	46.00	-27.96	Peak	
4	785. 6300	30.72	-1.67	29.05	46.00	-16.95	Peak	
5 *	925. 3100	29. 38	1. 52	30. 90	46.00	-15. 10	Peak	
6	974. 7800	30. 16	2.47	32. 63	54.00	-21. 37	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 41 of 210





### **Vertical**



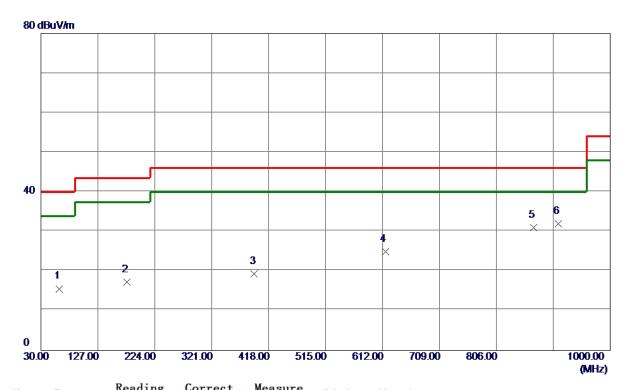
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	32.9100	36. 54	-14.89	21.65	40.00	-18.35	Peak	
2	77. 5300	34. 14	-17.67	16. 47	40.00	-23.53	Peak	
3	152. 2200	30.62	-13. 39	17. 23	43.50	-26. 27	Peak	
4	179. 3800	30. 30	-12.06	18. 24	43.50	-25. 26	Peak	
5	769. 1400	31. 35	-2.03	29. 32	46.00	-16.68	Peak	
6 *	950. 5300	30. 66	2. 01	32.67	46.00	-13. 33	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 42 of 210





### Horizontal



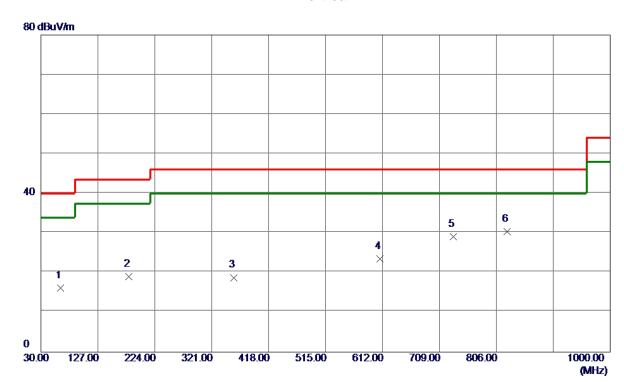
No.	Freq.	Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	61.0400	30.08	-14.48	15. 60	40.00	-24.40	Peak	
2	176. 4700	29. 48	-12. 14	17. 34	<b>43.50</b>	-26. 16	Peak	
3	393.7500	30.83	-11.43	19. 40	46.00	-26. 60	Peak	
4	616.8500	31. 01	-6. 10	24. 91	46.00	-21. 09	Peak	
5	870.0200	30.60	0.41	31.01	46.00	-14.99	Peak	
6 *	911. 7300	30. 74	1. 26	32.00	46.00	-14.00	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 43 of 210





### **Vertical**



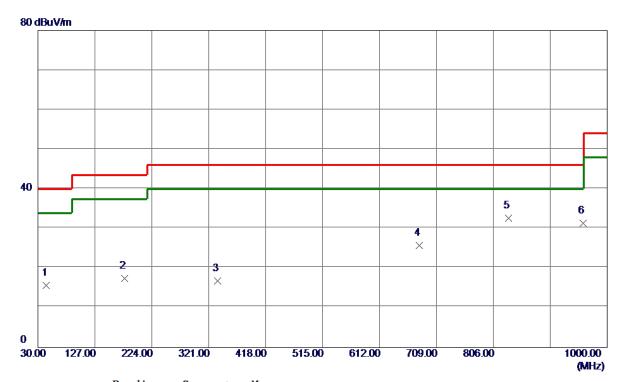
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	62.9800	30. 97	-14.82	16. 15	40.00	-23.85	Peak	
2	179. 3800	31. 17	-12.06	19. 11	43.50	-24.39	Peak	
3	358. 8299	30.65	-11.85	18.80	46.00	-27.20	Peak	
4	608. 1200	29. 75	-6. 27	23.48	46.00	-22.52	Peak	
5	732. 2800	32. 15	-2.97	29. 18	46.00	-16.82	Peak	
6 *	824. 4300	31. 16	-0.70	30. 46	46.00	-15. 54	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 44 of 210





### Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	44.5500	28. 99	-13. 36	15. 63	40.00	-24.37	Peak	
2	177. 4400	29. 51	-12. 12	17. 39	43.50	-26. 11	Peak	
3	336. 5200	29. 07	-12. 19	16. 88	46.00	-29. 12	Peak	
4	679. 9000	30. 31	-4.56	25. 75	46.00	-20. 25	Peak	
5 *	832. 1900	33. 10	-0.48	32. 62	46.00	-13.38	Peak	
6	959. 2600	29. 24	2. 17	31.41	46.00	-14.59	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 45 of 210





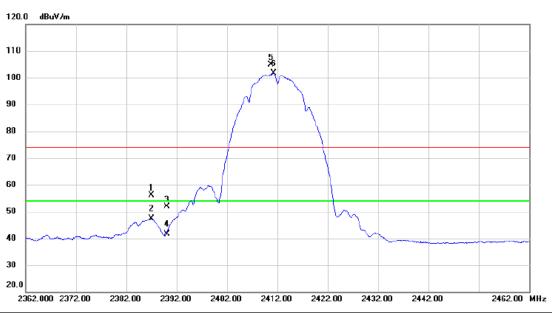
APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)

Report No.: BTL-FCCP-1-1802C079 Page 46 of 210





### Vertical



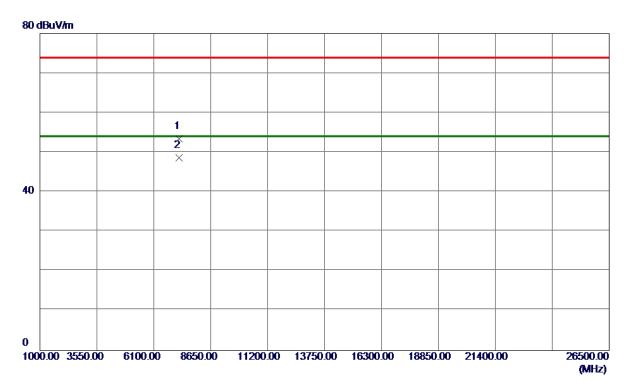
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2387.000	46.89	9.13	56.02	74.00	-17.98	peak	
2		2387.000	38.28	9.13	47.41	54.00	-6.59	AVG	
3		2390.000	42.63	9.13	51.76	74.00	-22.24	peak	
4		2390.000	32.57	9.13	41.70	54.00	-12.30	AVG	
5	X	2410.700	95.66	9.22	104.88	74.00	30.88	peak	No Limit
6	*	2411.300	92.43	9.22	101.65	54.00	47.65	AVG	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 47 of 210





#### **Vertical**



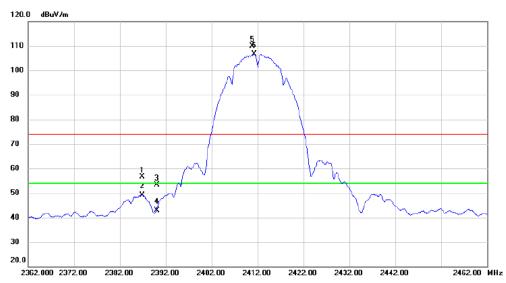
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7235. 2600	40. 21	13. 16	53. 37	74.00	-20.63	Peak	
2 *	7236. 9000	35. 47	13. 16	48.63	54.00	-5. 37	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 48 of 210





#### Horizontal



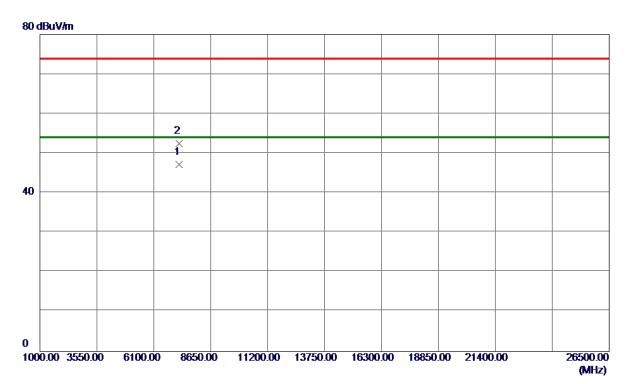
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2386.900	47.38	9.13	56.51	74.00	-17.49	peak	
2		2386.900	39.99	9.13	49.12	54.00	-4.88	AVG	
3		2390.000	44.31	9.13	53.44	74.00	-20.56	peak	
4		2390.000	33.87	9.13	43.00	54.00	-11.00	AVG	
5	X	2410.800	100.74	9.22	109.96	74.00	35.96	peak	No Limit
6	*	2411.300	97.51	9.22	106.73	54.00	52.73	AVG	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 49 of 210





#### Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7236.8000	34.08	13. 16	47.24	54.00	-6. 76	AVG	
2	7238.0000	39. 29	13. 16	52.45	74.00	-21.55	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 50 of 210





### Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	- :	2390.000	46.78	9.13	55.91	74.00	-18.09	peak	
2		2390.000	37.12	9.13	46.25	54.00	-7.75	AVG	
3		2391.900	46.06	9.14	55.20	74.00	-18.80	peak	
4		2391.900	38.42	9.14	47.56	54.00	-6.44	AVG	
5	X :	2415.700	95.34	9.23	104.57	74.00	30.57	peak	No Limit
6	*	2416.300	92.18	9.23	101.41	54.00	47.41	AVG	No Limit

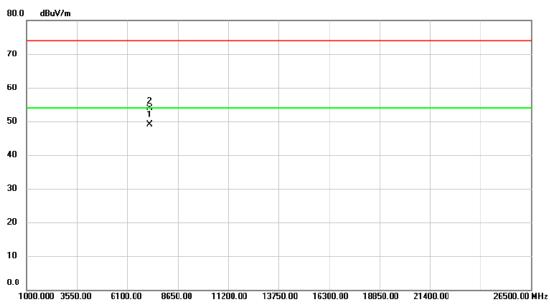
Report No.: BTL-FCCP-1-1802C079 Page 51 of 210





Orthogonal Axis:	X
Test Mode :	TX B MODE 2417MHz

## Vertical



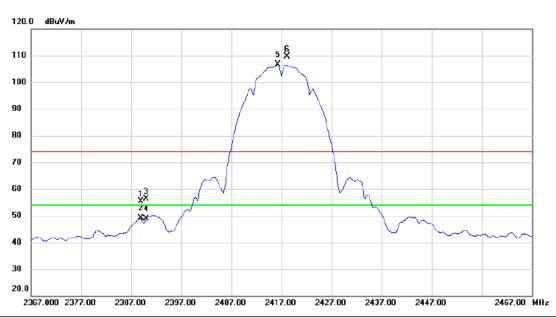
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	7251.920	35.94	13.17	49.11	54.00	-4.89	AVG	
2		7252.020	40.70	13.16	53.86	74.00	-20.14	peak	

Report No.: BTL-FCCP-1-1802C079 Page 52 of 210





#### Horizontal



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2388.900	46.31	9.13	55.44	74.00	-18.56	peak	
2		2388.900	39.92	9.13	49.05	54.00	-4.95	AVG	
3		2390.000	47.31	9.13	56.44	74.00	-17.56	peak	
4		2390.000	39.80	9.13	48.93	54.00	-5.07	AVG	
5	*	2416.300	97.41	9.23	106.64	54.00	52.64	AVG	No Limit
6	X	2418.200	100.47	9.25	109.72	74.00	35.72	peak	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 53 of 210





Orthogonal Axis:	X
Test Mode :	TX B MODE 2417MHz

### Horizontal



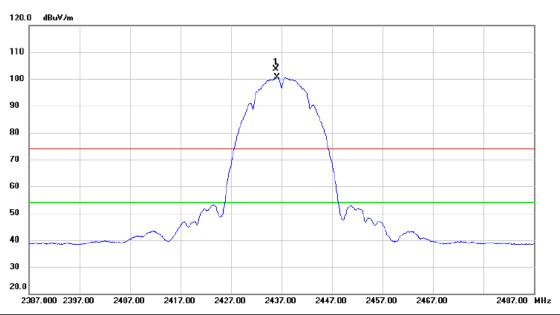
No.	Mk.	Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		7252.000	41.57	13.17	54.74	74.00	-19.26	peak	
2	*	7252.000	37.26	13.17	50.43	54.00	-3.57	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 54 of 210





### **Vertical**



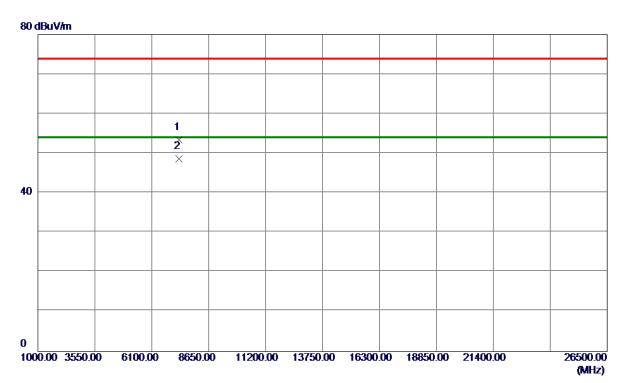
No. Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2435.900	94.38	9.31	103.69	74.00	29.69	peak	No Limit
2 *	2436.200	91.33	9.31	100.64	54.00	46.64	AVG	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 55 of 210





## **Vertical**



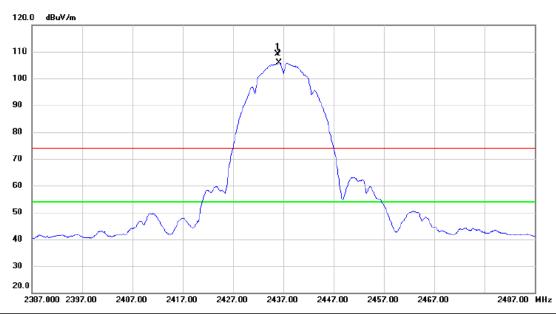
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7311. 9200	40. 28	13. 21	53. 49	74.00	-20. 51	Peak	
2 *	7311. 9200	35. 38	13. 21	48. 59	54.00	-5.41	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 56 of 210





### Horizontal



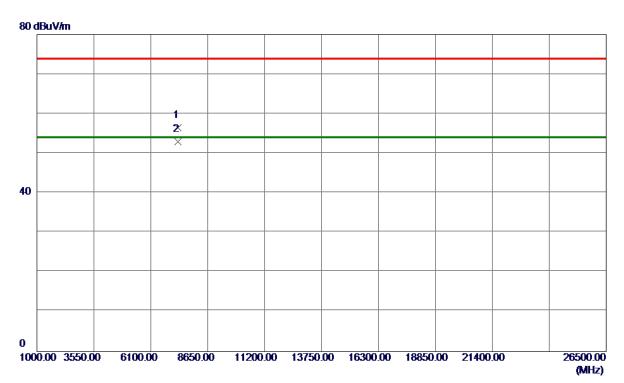
No. Mk	c. Freq.		Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2435.800	99.76	9.31	109.07	74.00	35.07	peak	No Limit
2 *	2436.200	96.62	9.31	105.93	54.00	51.93	AVG	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 57 of 210





#### Horizontal



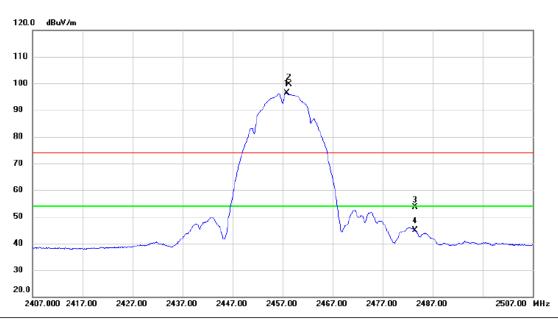
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7310. 1500	43. 33	13. 21	<b>56. 54</b>	74.00	-17.46	Peak	
2 *	7311.8500	39.72	13. 21	52. 93	54.00	-1.07	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 58 of 210





### **Vertical**



No. MI	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBu∨	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2457.800	86.90	9.39	96.29	54.00	42.29	AVG	No Limit
2 X	2458.300	90.29	9.39	99.68	74.00	25.68	peak	No Limit
3	2483.500	44.13	9.49	53.62	74.00	-20.38	peak	
4	2483.500	35.41	9.49	44.90	54.00	-9.10	AVG	

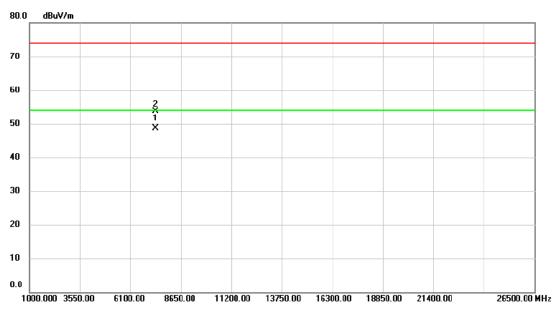
Report No.: BTL-FCCP-1-1802C079 Page 59 of 210





Orthogonal Axis:	x
Test Mode :	TX B MODE 2457MHz

## Vertical



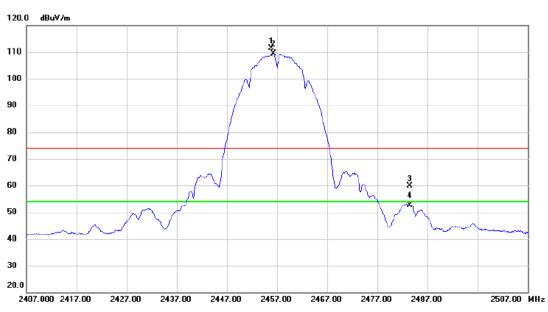
No.	Mk.	Freq.		Correct Factor	Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	7370.160	35.43	13.26	48.69	54.00	-5.31	AVG	
2		7370.520	40.38	13.26	53.64	74.00	-20.36	peak	

Report No.: BTL-FCCP-1-1802C079 Page 60 of 210





### Horizontal



No. MI	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2455.900	102.07	9.39	111.46	74.00	37.46	peak	No Limit
2 *	2456.300	99.93	9.39	109.32	54.00	55.32	AVG	No Limit
3	2483.500	50.49	9.49	59.98	74.00	-14.02	peak	
4	2483.500	43.08	9.49	52.57	54.00	-1.43	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 61 of 210





Orthogonal Axis:	x
Test Mode :	TX B MODE 2457MHz

### Horizontal



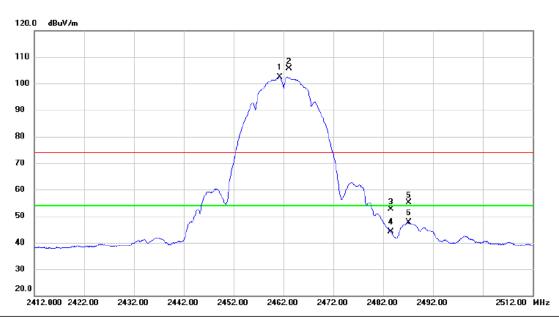
No.	Mk.	Freq.		Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	* 7	'370.100	37.06	13.26	50.32	54.00	-3.68	AVG	
2	7	372.100	41.66	13.26	54.92	74.00	-19.08	peak	

Report No.: BTL-FCCP-1-1802C079 Page 62 of 210





### Vertical



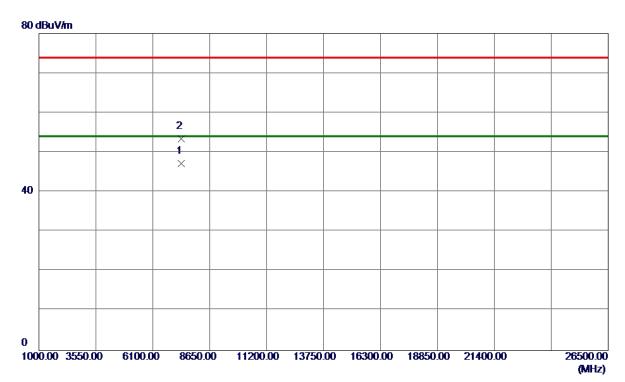
No. I	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2	461.300	93.09	9.41	102.50	54.00	48.50	AVG	No Limit
2 X	( 2	463.200	96.21	9.41	105.62	74.00	31.62	peak	No Limit
3	2	483.500	43.19	9.49	52.68	74.00	-21.32	peak	
4	2	483.500	34.75	9.49	44.24	54.00	-9.76	AVG	
5	2	487.100	45.66	9.51	55.17	74.00	-18.83	peak	
6	2	487.100	38.01	9.51	47.52	54.00	-6.48	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 63 of 210





## **Vertical**



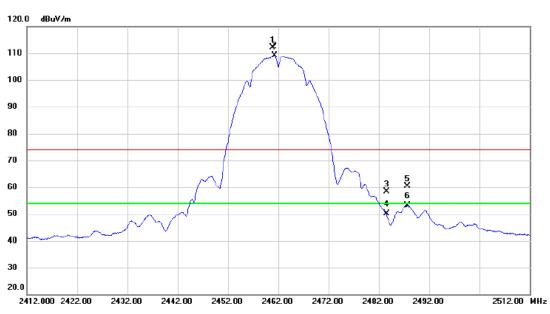
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7383.4600	33. 97	13. 27	47. 24	54.00	-6. 76	AVG	
2	7383. 9400	40. 19	13. 27	53. 46	74.00	-20. 54	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 64 of 210





### Horizontal



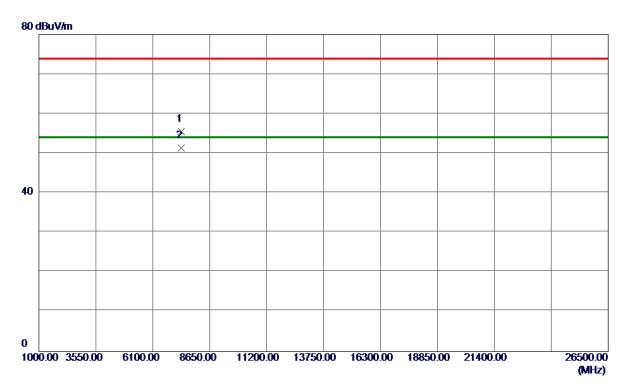
No. N	Лk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2	2460.800	102.68	9.40	112.08	74.00	38.08	peak	No Limit
2 *	2	2461.300	99.77	9.41	109.18	54.00	55.18	AVG	No Limit
3	2	483.500	48.92	9.49	58.41	74.00	-15.59	peak	
4	2	483.500	40.53	9.49	50.02	54.00	-3.98	AVG	
5	2	487.700	50.82	9.51	60.33	74.00	-13.67	peak	
6	2	487.700	43.73	9.51	53.24	54.00	-0.76	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 65 of 210





#### Horizontal



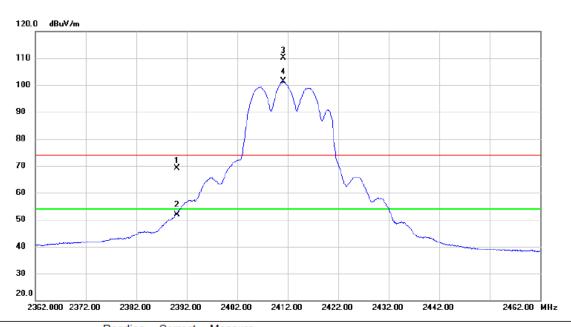
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7383. 2000	42. 29	13. 27	55. 56	74.00	-18.44	Peak	
2 *	7385. 2000	38. 13	13. 27	51. 40	54.00	-2. 60	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 66 of 210





### **Vertical**



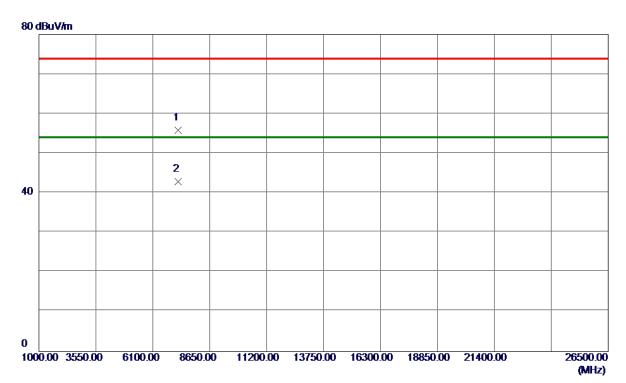
No. M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	ı	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.000	60.11	9.13	69.24	74.00	-4.76	peak	
2	2390.000	42.75	9.13	51.88	54.00	-2.12	AVG	
3 X	2411.100	101.03	9.22	110.25	74.00	36.25	peak	No Limit
4 *	2411.200	92.24	9.22	101.46	54.00	47.46	AVG	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 67 of 210





## **Vertical**



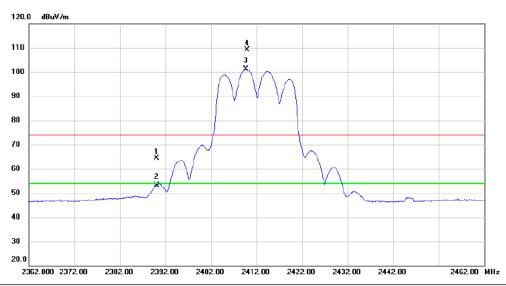
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7234.0000	42.73	13. 16	55. 89	74.00	-18. 11	Peak	
2 *	7238.6500	29.65	13. 16	42.81	54.00	-11. 19	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 68 of 210





### Horizontal



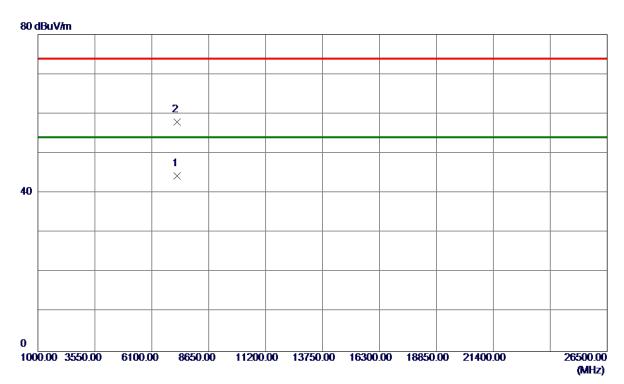
No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	45.35	19.13	64.48	74.00	-9.52	peak	
2		2390.000	33.93	19.13	53.06	54.00	-0.94	AVG	
3	*	2409.700	81.97	19.22	101.19	54.00	47.19	AVG	No Limit
4	X	2409.900	89.86	19.22	109.08	74.00	35.08	peak	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 69 of 210





#### Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7234.4000	31. 10	13. 16	44. 26	54.00	-9.74	AVG	
2	7239. 2500	44.76	13. 16	57.92	74.00	-16.08	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 70 of 210

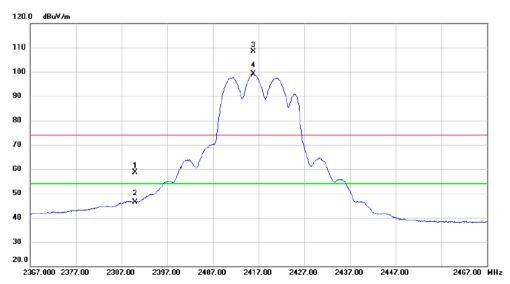




Orthogonal Axis: X

Test Mode: TX G MODE 2417MHz

### **Vertical**



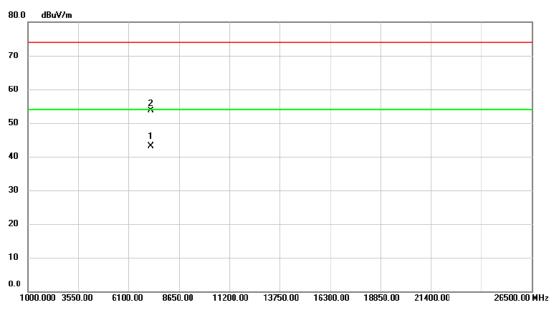
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	49.43	9.13	58.56	74.00	-15.44	peak	
2		2390.000	37.18	9.13	46.31	54.00	-7.69	AVG	
3	Χ	2415.900	99.08	9.23	108.31	74.00	34.31	peak	No Limit
4	*	2415.900	89.88	9.23	99.11	54.00	45.11	AVG	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 71 of 210





## **Vertical**



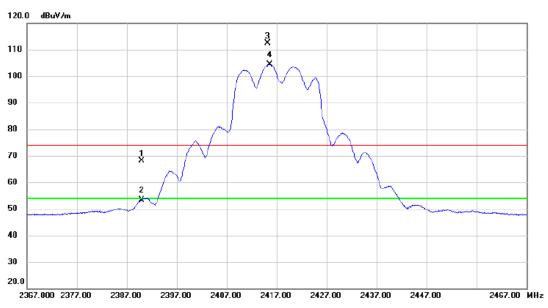
	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
Ī	1	* 7	253.700	29.86	13.16	43.02	54.00	-10.98	AVG	
	2	7	254.100	40.48	13.16	53.64	74.00	-20.36	peak	

Report No.: BTL-FCCP-1-1802C079 Page 72 of 210





# Horizontal



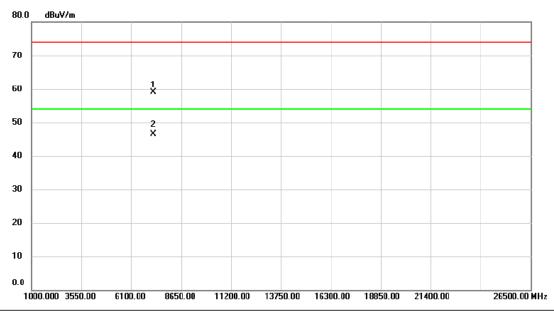
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	49.01	19.13	68.14	74.00	-5.86	peak	
2		2390.000	34.26	19.13	53.39	54.00	-0.61	AVG	
3	X	2415.200	93.05	19.23	112.28	74.00	38.28	peak	No Limit
4	*	2415.600	85.15	19.23	104.38	54.00	50.38	AVG	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 73 of 210





# Horizontal



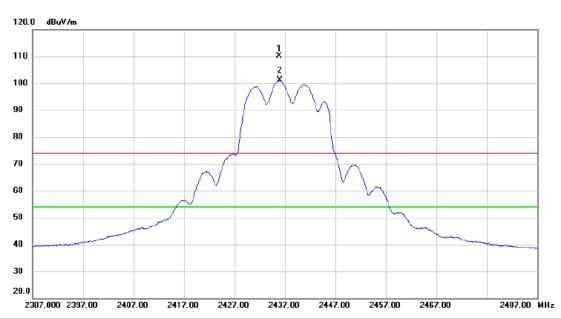
No. N	Mk.	Freq.	Reading Level		Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	72	253.700	45.96	13.16	59.12	74.00	-14.88	peak	
2 *	72	254.400	33.28	13.17	46.45	54.00	-7.55	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 74 of 210





# Vertical



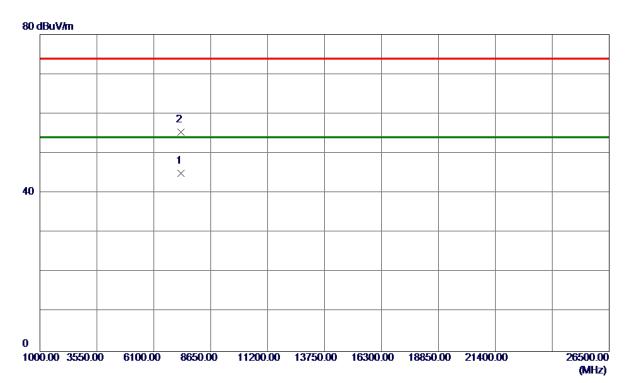
No	. 1	Иk.	Freq.		Correct Factor	Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2	435.900	100.86	9.31	110.17	74.00	36.17	peak	No Limit
2	*	2	436.000	91.85	9.31	101.16	54.00	47.16	AVG	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 75 of 210





# **Vertical**



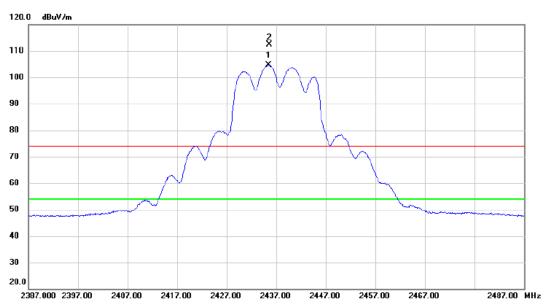
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7309. 3500	31.81	13. 21	45.02	54.00	-8. 98	AVG	
2	7314.8000	42. 18	13. 22	55. 40	74.00	-18. 60	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 76 of 210





# Horizontal



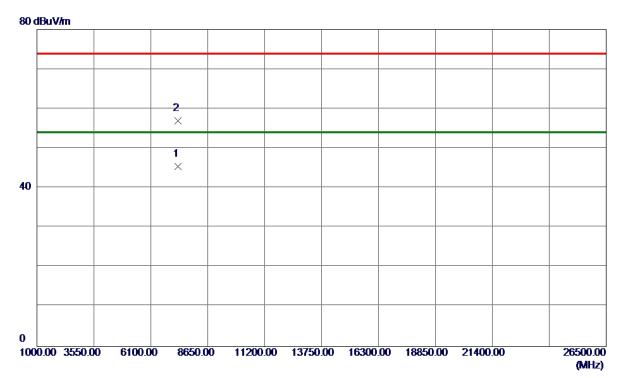
No. Mk	. Freq.			Measure- ment		Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2435.500	85.23	19.31	104.54	54.00	50.54	AVG	No Limit
2 X	2435.600	92.95	19.31	112.26	74.00	38.26	peak	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 77 of 210





#### Horizontal



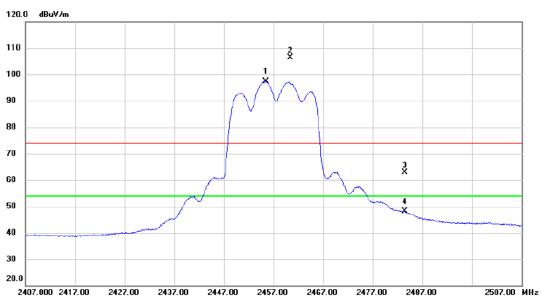
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7309. 2500	32. 17	13. 21	45. 38	54.00	-8.62	AVG	
2	7309.9500	43.77	13. 21	56. 98	74.00	-17.02	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 78 of 210





# Vertical



No. Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2455.500	87.91	9.38	97.29	54.00	43.29	AVG	No Limit
2 X	2460.400	96.88	9.40	106.28	74.00	32.28	peak	No Limit
3	2483.500	53.49	9.49	62.98	74.00	-11.02	peak	
4	2483.500	38.55	9.49	48.04	54.00	-5.96	AVG	

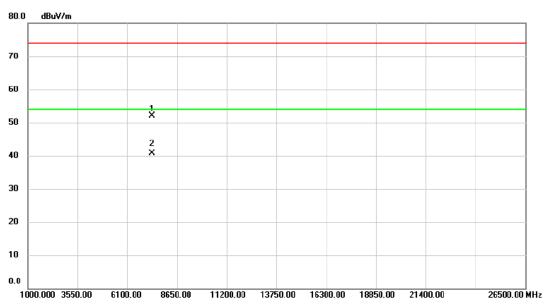
Report No.: BTL-FCCP-1-1802C079 Page 79 of 210





Orthogonal Axis:	X
Test Mode :	TX G MODE 2457MHz

# Vertical



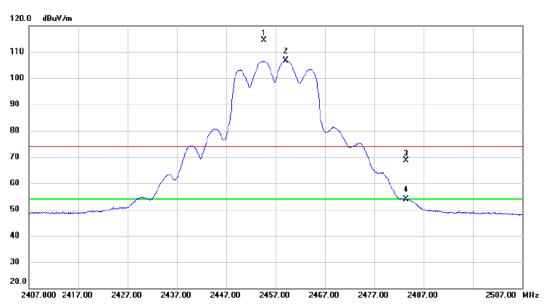
No.	Mk.	Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		7368.400	38.86	13.25	52.11	74.00	-21.89	peak	
2	*	7369.200	27.44	13.26	40.70	54.00	-13.30	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 80 of 210





# Horizontal



No. M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2454.700	95.10	19.38	114.48	74.00	40.48	peak	No Limit
2 *	2459.100	87.34	19.39	106.73	54.00	52.73	AVG	No Limit
3	2483.500	49.24	19.49	68.73	74.00	-5.27	peak	
4	2483.500	34.32	19.49	53.81	54.00	-0.19	AVG	

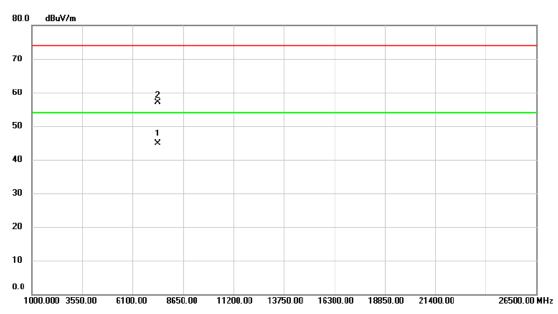
Report No.: BTL-FCCP-1-1802C079 Page 81 of 210





Orthogonal Axis:	x
Test Mode:	TX G MODE 2457MHz

# Horizontal



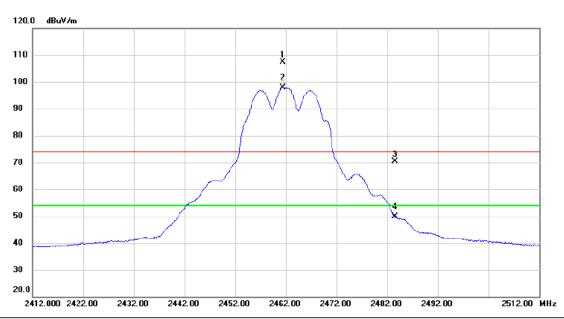
No.	Mk	. Freq.	_		Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	7369.050	31.72	13.26	44.98	54.00	-9.02	AVG	
2		7373.400	43.84	13.26	57.10	74.00	-16.90	peak	

Report No.: BTL-FCCP-1-1802C079 Page 82 of 210





# **Vertical**



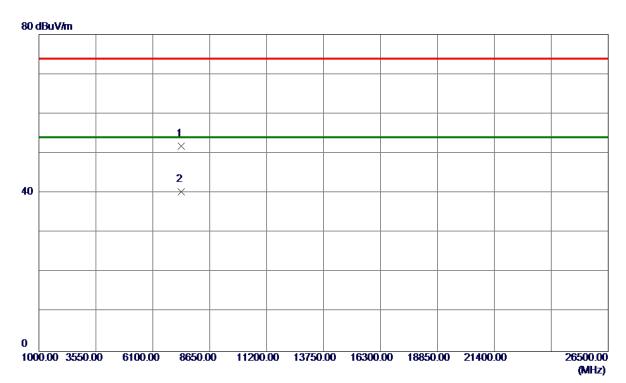
No. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2461.400	98.06	9.41	107.47	74.00	33.47	peak	No Limit
2 *	2461.400	88.58	9.41	97.99	54.00	43.99	AVG	No Limit
3	2483.500	60.91	9.49	70.40	74.00	-3.60	peak	
4	2483.500	40.29	9.49	49.78	54.00	-4.22	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 83 of 210





## **Vertical**



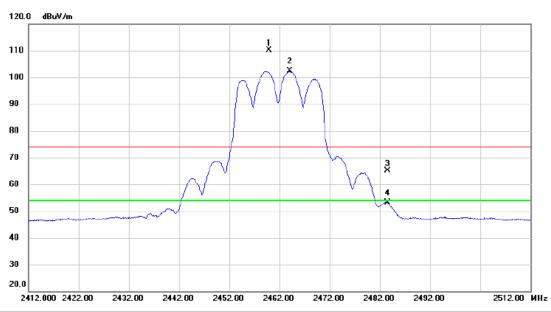
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7383. 3000	38. 53	13. 27	51.80	74.00	<b>-22. 20</b>	Peak	
2 *	7384. 4000	27.03	13. 27	40. 30	54.00	-13.70	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 84 of 210





# Horizontal



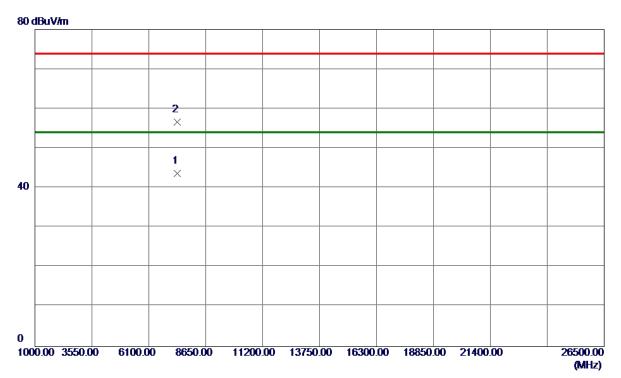
No. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2459.900	90.61	19.40	110.01	74.00	36.01	peak	No Limit
2 *	2464.100	82.85	19.42	102.27	54.00	48.27	AVG	
3	2483.500	45.62	19.49	65.11	74.00	-8.89	peak	No Limit
4	2483.500	33.69	19.49	53.18	54.00	-0.82	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 85 of 210





#### Horizontal



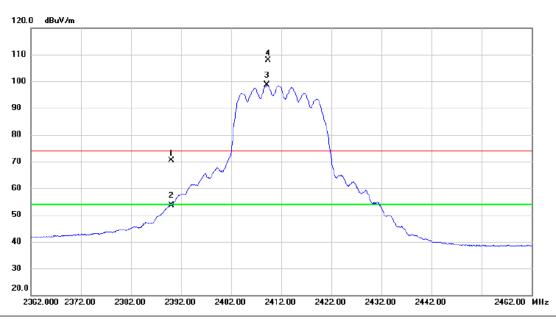
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7384. 4500	30.46	13. 27	43.73	54.00	-10. 27	AVG	
2	7384. 5000	43. 39	13. 27	56. 66	74.00	-17.34	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 86 of 210





# Vertical



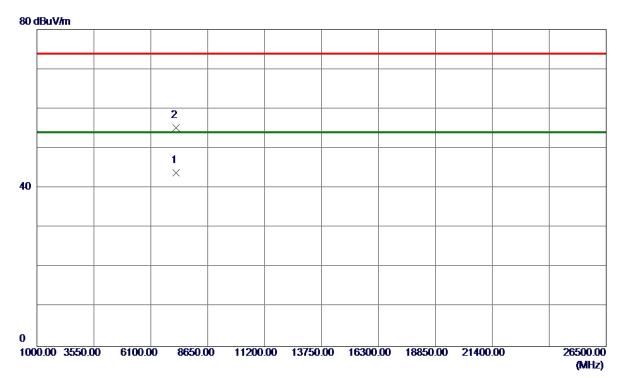
	No. M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
_	1	2390.000	61.30	9.13	70.43	74.00	-3.57	peak	
	2	2390.000	44.43	9.13	53.56	54.00	-0.44	AVG	
	3 *	2409.200	89.35	9.20	98.55	54.00	44.55	AVG	No Limit
	4 X	2409.400	98.68	9.20	107.88	74.00	33.88	peak	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 87 of 210





## Vertical



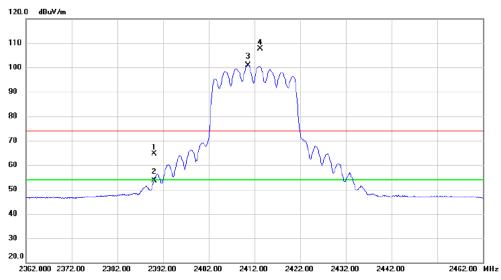
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7237. 5200	30. 76	13. 16	43.92	54.00	-10.08	AVG	
2	7240. 3000	42.11	13. 16	55. 27	74.00	-18.73	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 88 of 210





#### Horizontal



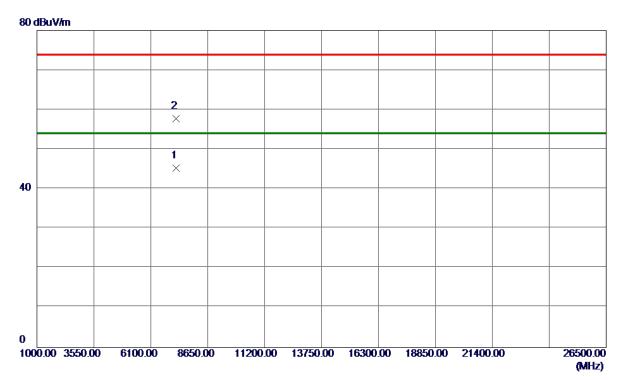
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	45.53	19.13	64.66	74.00	-9.34	peak	
2		2390.000	34.44	19.13	53.57	54.00	-0.43	AVG	
3	*	2410.600	81.61	19.22	100.83	54.00	46.83	AVG	No Limit
4	Χ	2413.300	88.51	19.22	107.73	74.00	33.73	peak	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 89 of 210





## Horizontal



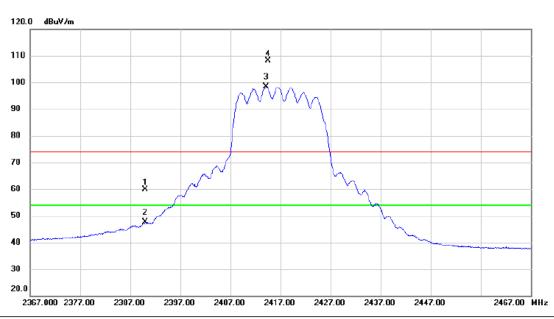
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7237. 3500	32. 17	13. 16	45. 33	54.00	-8. 67	AVG	
2	7240. 3000	44.62	13. 16	57. 78	74.00	-16. 22	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 90 of 210





# **Vertical**



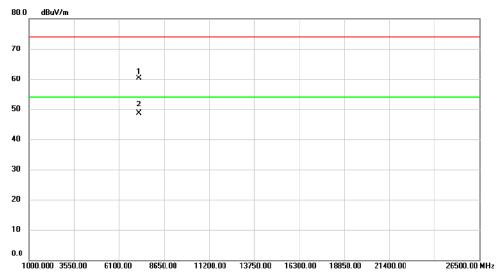
	No. N	Лk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
-			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
_	1	2	390.000	50.73	9.13	59.86	74.00	-14.14	peak	
-	2	2	390.000	38.52	9.13	47.65	54.00	-6.35	AVG	
_	3 *	2	414.100	89.16	9.23	98.39	54.00	44.39	AVG	No Limit
	4 X	2	414.500	99.00	9.23	108.23	74.00	34.23	peak	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 91 of 210





## **Vertical**



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7:	252.800	47.18	13.16	60.34	74.00	-13.66	peak	
2 *	7	252.800	35.50	13.16	48.66	54.00	-5.34	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 92 of 210





#### Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	46.88	19.13	66.01	74.00	-7.99	peak	
2		2390.000	33.98	19.13	53.11	54.00	-0.89	AVG	
3	*	2415.600	86.00	19.23	105.23	54.00	51.23	AVG	No Limit
4	X	2419.300	93.59	19.25	112.84	74.00	38.84	peak	No Limit

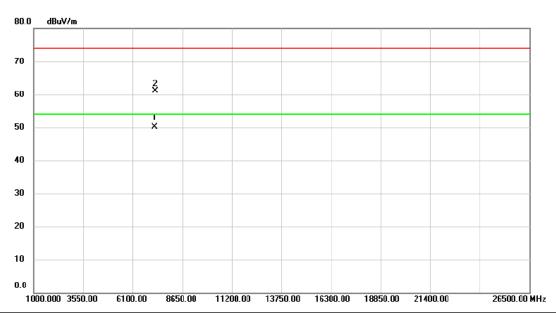
Report No.: BTL-FCCP-1-1802C079 Page 93 of 210





Orthogonal Axis:	X
Test Mode :	TX N-20M MODE 2417MHz

# Horizontal



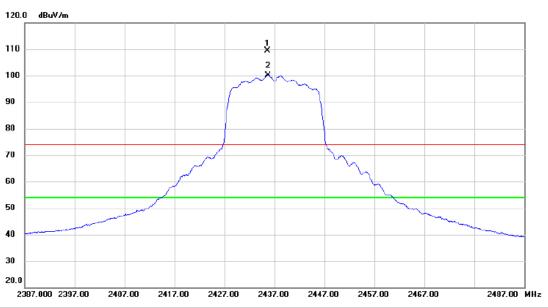
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	7252.900	36.96	13.16	50.12	54.00	-3.88	AVG	
2		7258.150	47.92	13.18	61.10	74.00	-12.90	peak	

Report No.: BTL-FCCP-1-1802C079 Page 94 of 210





# Vertical



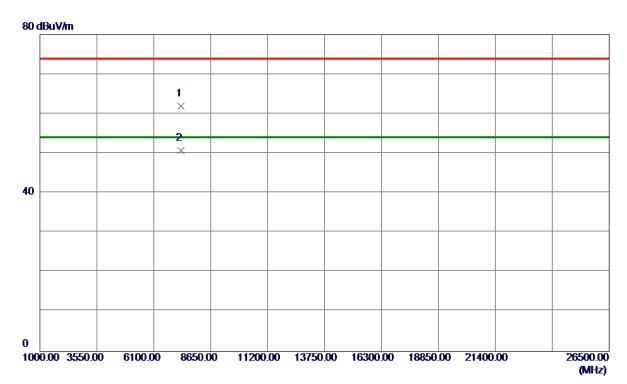
No.	Mk	. Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2435.600	100.09	9.31	109.40	74.00	35.40	peak	No Limit
2	*	2435.700	90.85	9.31	100.16	54.00	46.16	AVG	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 95 of 210





## Vertical



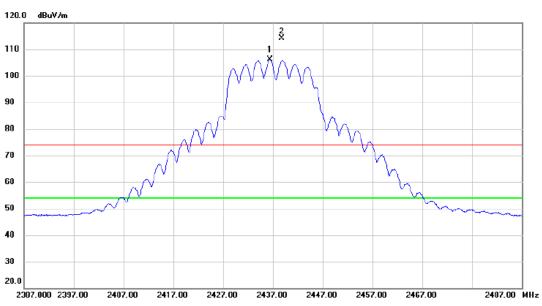
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7310. 2200	48.63	13. 21	61.84	74.00	-12. 16	Peak	
2 *	7310. 3000	37. 55	13. 21	50. 76	54.00	-3. 24	AVG	

Report No.: BTL-FCCP-1-1802C079





# Horizontal



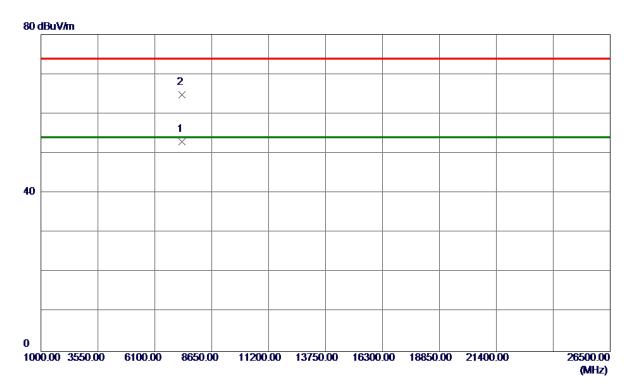
No.	M	k.	Freq.		Correct Factor	Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	243	36.400	86.85	19.31	106.16	54.00	52.16	AVG	No Limit
2	Χ	243	38.800	94.82	19.32	114.14	74.00	40.14	peak	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 97 of 210





## Horizontal



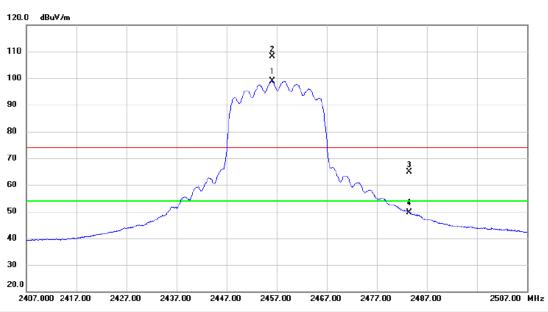
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7310. 3500	39.82	13. 21	53. 03	54.00	-0.97	AVG	
2	7312.9000	51. 57	13. 21	64. 78	74.00	-9. 22	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 98 of 210





# **Vertical**



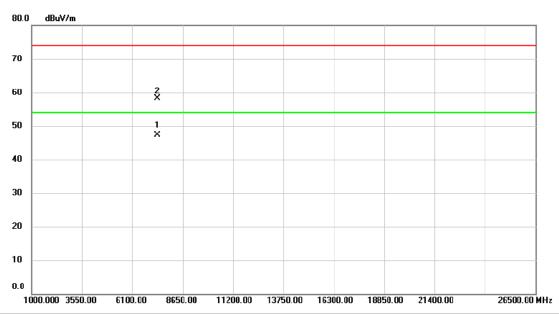
No. Mi	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2456.100	89.50	9.39	98.89	54.00	44.89	AVG	No Limit
2 X	2456.200	98.83	9.39	108.22	74.00	34.22	peak	No Limit
3	2483.500	55.33	9.49	64.82	74.00	-9.18	peak	
4	2483.500	40.19	9.49	49.68	54.00	-4.32	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 99 of 210





#### **Vertical**



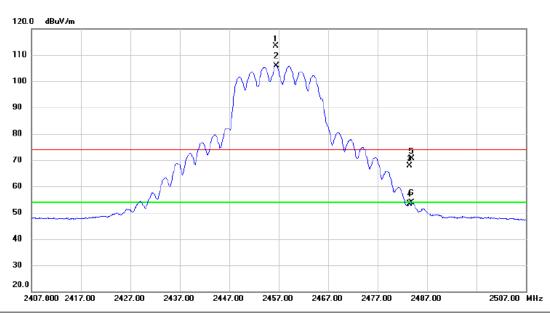
No. M	k. Freq.		Correct Factor	Measure- ment		Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7367.700	34.06	13.25	47.31	54.00	-6.69	AVG	
2	7367.840	45.14	13.25	58.39	74.00	-15.61	peak	

Report No.: BTL-FCCP-1-1802C079 Page 100 of 210





#### Horizontal



No. MI	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2456.400	93.94	19.39	113.33	74.00	39.33	peak	No Limit
2 *	2456.500	86.48	19.39	105.87	54.00	51.87	AVG	No Limit
3	2483.500	48.33	19.49	67.82	74.00	-6.18	peak	
4	2483.500	33.95	19.49	53.44	54.00	-0.56	AVG	
5	2483.900	51.20	19.49	70.69	74.00	-3.31	peak	
6	2483.900	34.38	19.49	53.87	54.00	-0.13	AVG	

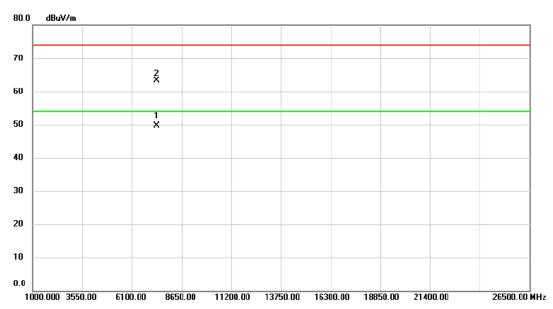
Report No.: BTL-FCCP-1-1802C079 Page 101 of 210





Orthogonal Axis:	X
Test Mode :	TX N-20M MODE 2457MHz

# Horizontal



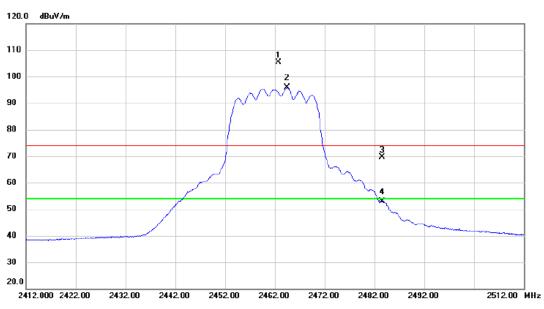
No.	Mk.	Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	7370.400	36.39	13.26	49.65	54.00	-4.35	AVG	
2		7370.500	49.97	13.26	63.23	74.00	-10.77	peak	

Report No.: BTL-FCCP-1-1802C079 Page 102 of 210





# Vertical



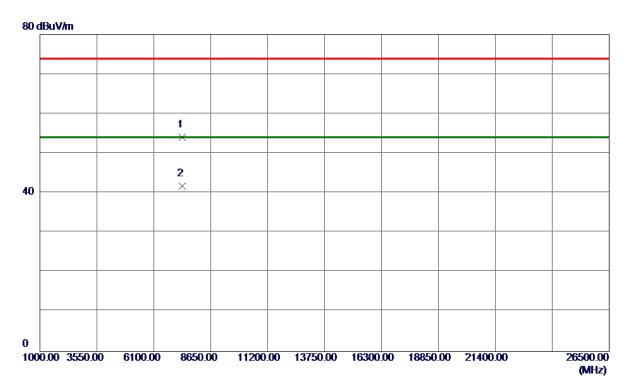
No. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin				
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment		
1 X	2462.700	96.09	9.41	105.50	74.00	31.50	peak	No Limit		
2 *	2464.500	86.35	9.42	95.77	54.00	41.77	AVG	No Limit		
3	2483.500	60.19	9.49	69.68	74.00	-4.32	peak			
4	2483.500	43.41	9.49	52.90	54.00	-1.10	AVG			

Report No.: BTL-FCCP-1-1802C079 Page 103 of 210





## Vertical



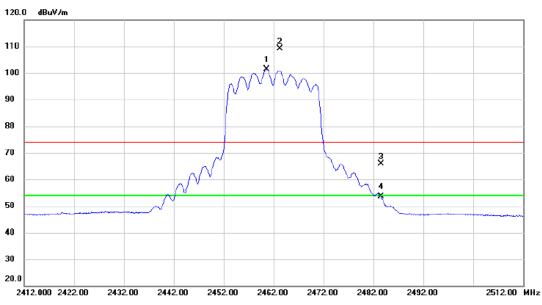
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7382.8800	40.87	13. 27	54. 14	74.00	-19.86	Peak	
2 *	7384.9600	28. 55	13. 27	41.82	54.00	-12. 18	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 104 of 210





#### Horizontal



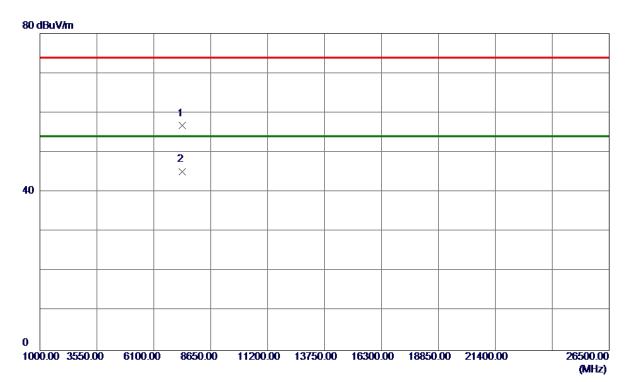
No. I	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	l	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	t	2460.600	81.89	19.40	101.29	54.00	47.29	AVG	No Limit
2 )	<	2463.300	89.65	19.41	109.06	74.00	35.06	peak	No Limit
3		2483.500	46.37	19.49	65.86	74.00	-8.14	peak	
4		2483.500	34.10	19.49	53.59	54.00	-0.41	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 105 of 210





## Horizontal



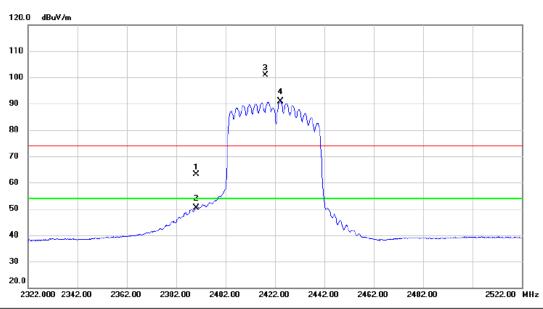
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7380. 3500	43.45	13. 27	56.72	74.00	-17. 28	Peak	
2 *	7382.8000	31. 79	13. 27	45. 06	54.00	-8. 94	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 106 of 210





# Vertical



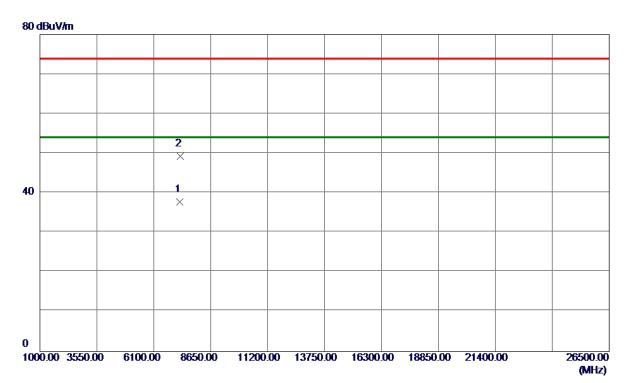
No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	53.90	9.13	63.03	74.00	-10.97	peak	
2		2390.000	41.21	9.13	50.34	54.00	-3.66	AVG	
3	X	2418.200	91.71	9.25	100.96	74.00	26.96	peak	No Limit
4	*	2424.200	81.60	9.26	90.86	54.00	36.86	AVG	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 107 of 210





## Vertical



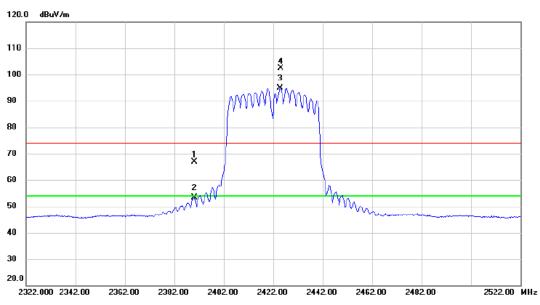
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7272. 7500	24.64	13. 18	37.82	54.00	-16. 18	AVG	
2	7280.0000	36. 16	13. 19	49.35	74.00	-24.65	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 108 of 210





#### Horizontal



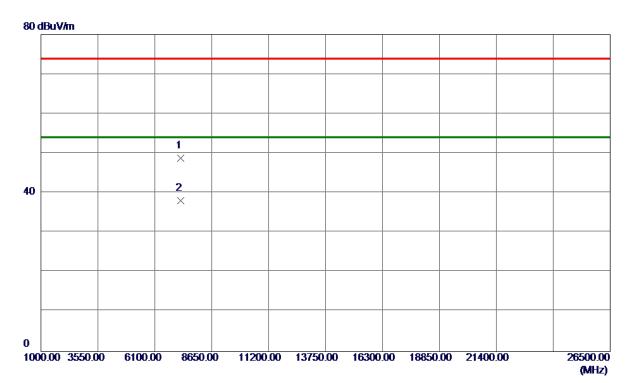
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	47.83	19.13	66.96	74.00	-7.04	peak	
2		2390.000	34.21	19.13	53.34	54.00	-0.66	AVG	
3	*	2424.800	75.55	19.26	94.81	54.00	40.81	AVG	No Limit
4	X	2425.000	83.08	19.26	102.34	74.00	28.34	peak	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 109 of 210





#### Horizontal



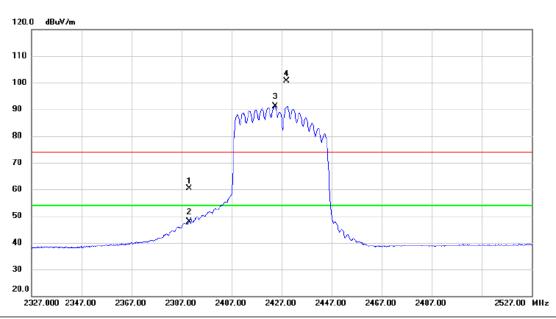
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7263. 1500	35.65	13. 18	48.83	74.00	-25. 17	Peak	
2 *	7267.9000	24.89	13. 18	38. 07	54.00	-15. 93	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 110 of 210





# **Vertical**



	No. N	Иk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
-			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
_	1	2	390.000	51.34	9.13	60.47	74.00	-13.53	peak	
_	2	2	390.000	38.65	9.13	47.78	54.00	-6.22	AVG	
_	3 *	2	424.400	81.97	9.26	91.23	54.00	37.23	AVG	No Limit
	4 X	( 2	429.000	91.40	9.29	100.69	74.00	26.69	peak	No Limit

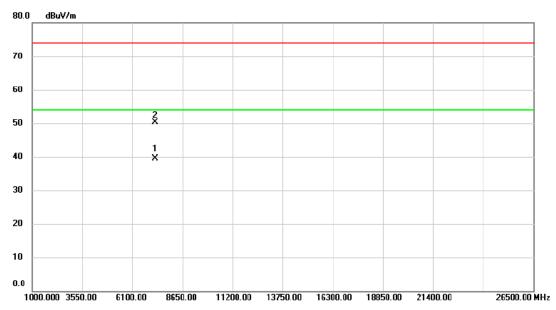
Report No.: BTL-FCCP-1-1802C079 Page 111 of 210





Orthogonal Axis:	X
Test Mode :	TX N-40M MODE 2427MHz

# Vertical



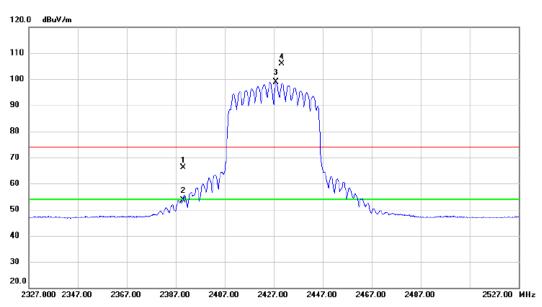
No.	Mk.	Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	7285.250	26.36	13.19	39.55	54.00	-14.45	AVG	
2	7	7287.700	37.12	13.20	50.32	74.00	-23.68	peak	

Report No.: BTL-FCCP-1-1802C079 Page 112 of 210





#### Horizontal



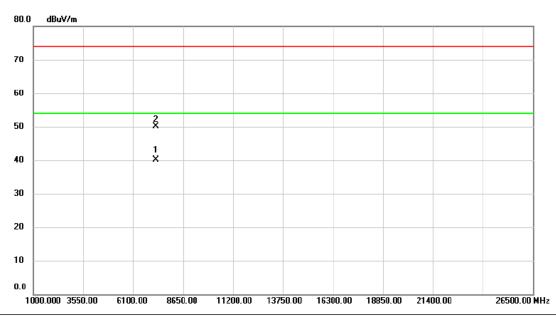
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	46.92	19.13	66.05	74.00	-7.95	peak	
2		2390.000	34.62	19.13	53.75	54.00	-0.25	AVG	
3	*	2428.000	79.67	19.28	98.95	54.00	44.95	AVG	No Limit
4	X	2430.400	86.67	19.29	105.96	74.00	31.96	peak	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 113 of 210





# Horizontal



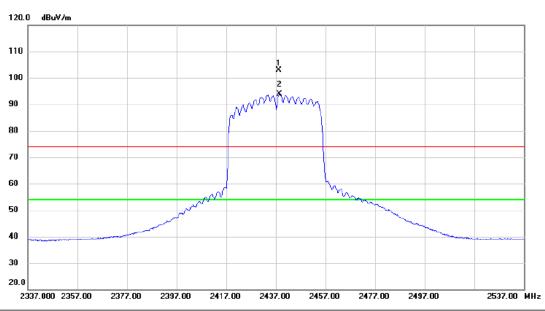
No.	Mk.	Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	7279.850	26.89	13.19	40.08	54.00	-13.92	AVG	
2	ī	7287.100	37.00	13.19	50.19	74.00	-23.81	peak	

Report No.: BTL-FCCP-1-1802C079 Page 114 of 210





# **Vertical**



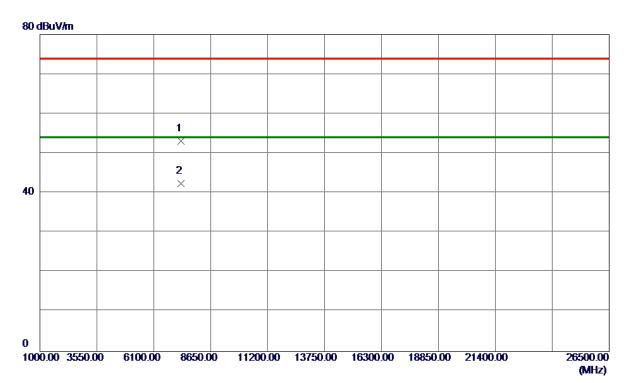
No.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1	Χ	2438.200	93.57	9.32	102.89	74.00	28.89	peak	No Limit	
2	*	2438.600	84.45	9.32	93.77	54.00	39.77	AVG	No Limit	

Report No.: BTL-FCCP-1-1802C079 Page 115 of 210





#### **Vertical**



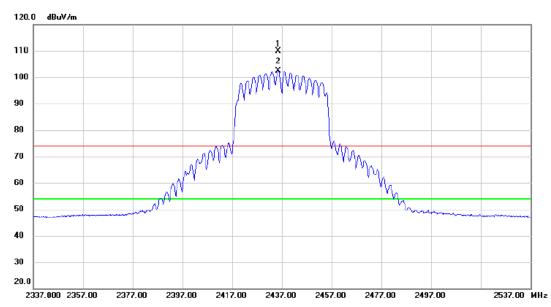
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7307.6000	39. 95	13. 21	53. 16	74.00	-20.84	Peak	
2 *	7310. 5000	29. 18	13. 21	42.39	54.00	-11.61	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 116 of 210





#### Horizontal



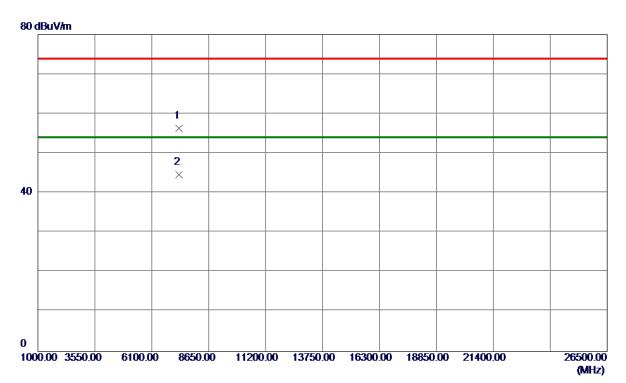
No. Mk	. Freq.	Reading Level		Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2435.400	90.45	19.31	109.76	74.00	35.76	peak	No Limit
2 *	2435.600	83.04	19.31	102.35	54.00	48.35	AVG	No Limit

Report No.: BTL-FCCP-1-1802C079 Page 117 of 210





# Horizontal



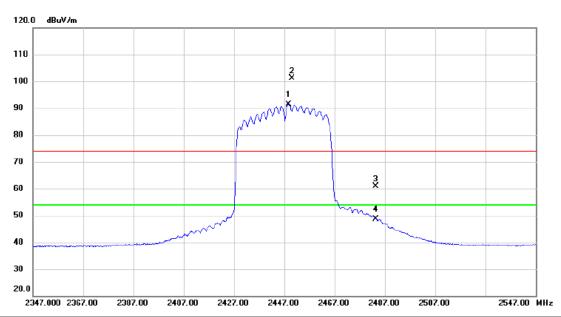
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	7305. 3500	43.07	13. 21	56. 28	74.00	-17.72	Peak	
2 *	7307.9000	31. 38	13. 21	44. 59	54.00	-9.41	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 118 of 210





# **Vertical**



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2448.800	82.08	9.36	91.44	54.00	37.44	AVG	No Limit
2 X	2450.200	91.88	9.36	101.24	74.00	27.24	peak	No Limit
3	2483.500	51.34	9.49	60.83	74.00	-13.17	peak	
4	2483.500	39.22	9.49	48.71	54.00	-5.29	AVG	

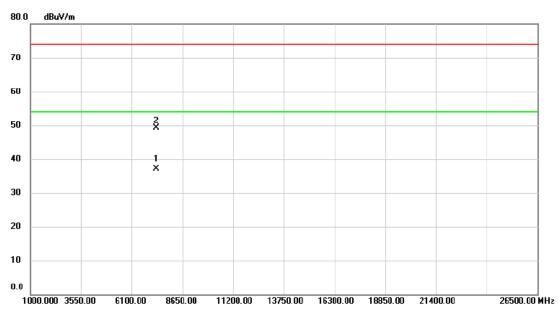
Report No.: BTL-FCCP-1-1802C079 Page 119 of 210





Orthogonal Axis:	X
Test Mode :	TX N-40M MODE 2447MHz

# Vertical



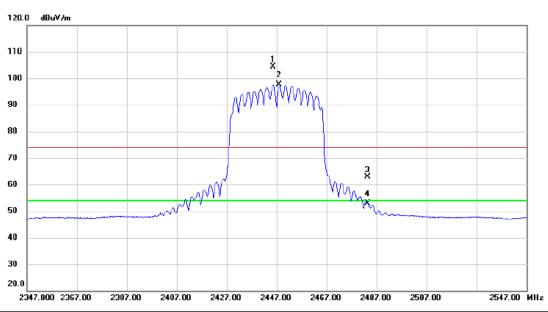
No.	Mk.	Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	* 7	332.850	23.82	13.23	37.05	54.00	-16.95	AVG	
2	7	347.500	36.05	13.25	49.30	74.00	-24.70	peak	

Report No.: BTL-FCCP-1-1802C079 Page 120 of 210





#### Horizontal



No. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2445.400	85.05	19.35	104.40	74.00	30.40	peak	No Limit
2 *	2448.000	78.24	19.35	97.59	54.00	43.59	AVG	No Limit
3	2483.500	43.47	19.49	62.96	74.00	-11.04	peak	
4	2483.500	33.48	19.49	52.97	54.00	-1.03	AVG	

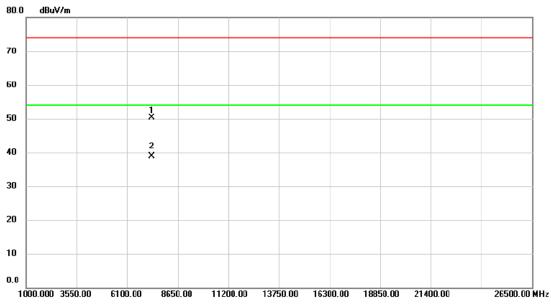
Report No.: BTL-FCCP-1-1802C079 Page 121 of 210





Orthogonal Axis:	X
Test Mode :	TX N-40M MODE 2447MHz

# Horizontal



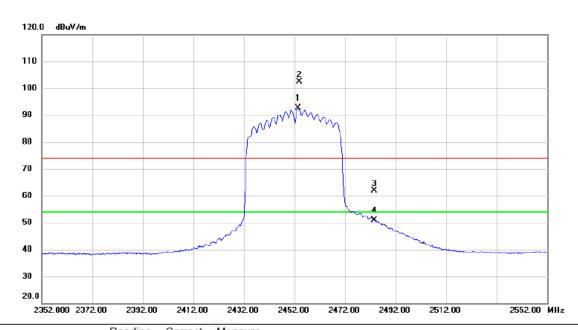
No.	Mk.	Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		7340.200	37.06	13.23	50.29	74.00	-23.71	peak	
2	*	7342.500	25.71	13.23	38.94	54.00	-15.06	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 122 of 210





# **Vertical**



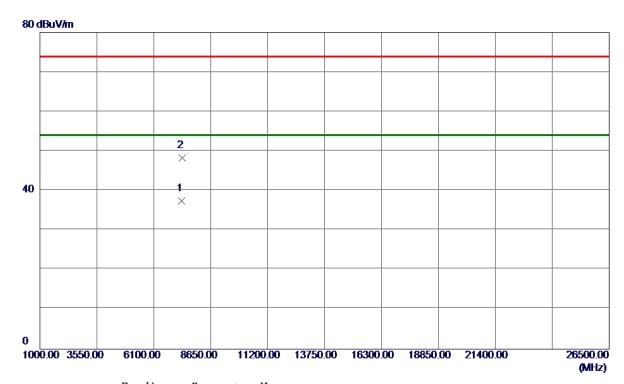
No. N	۸k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2	453.600	83.18	9.38	92.56	54.00	38.56	AVG	No Limit
2 X	2	454.000	92.93	9.38	102.31	74.00	28.31	peak	No Limit
3	2	483.500	52.44	9.49	61.93	74.00	-12.07	peak	
4	2	483.500	41.46	9.49	50.95	54.00	-3.05	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 123 of 210





#### Vertical



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7360. 5000	24. 14	13. 25	37. 39	54.00	-16.61	AVG	
2	7363. 0500	35. 10	13. 25	48. 35	74.00	-25.65	Peak	

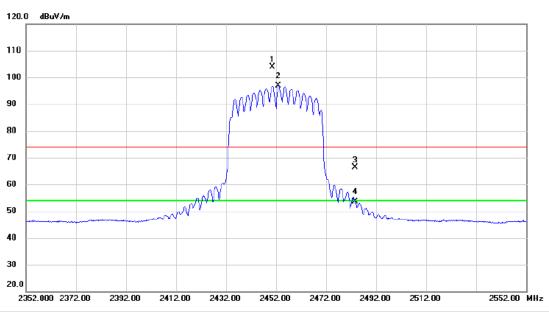
Report No.: BTL-FCCP-1-1802C079 Page 124 of 210





Orthogonal Axis:	X
Test Mode :	TX N-40M MODE 2452MHz

# Horizontal



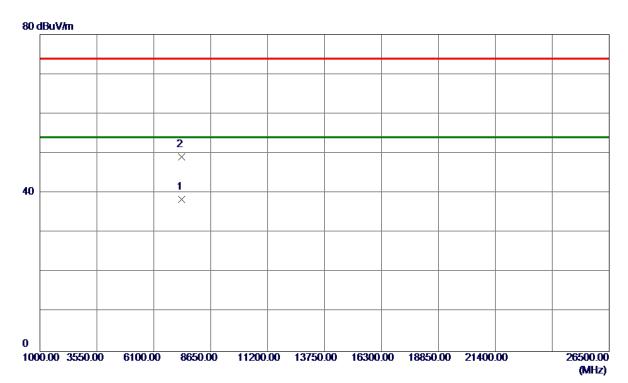
No. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	ı	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2450.600	84.60	19.36	103.96	74.00	29.96	peak	No Limit
2 *	2453.000	77.62	19.38	97.00	54.00	43.00	AVG	No Limit
3	2483.500	47.01	19.49	66.50	74.00	-7.50	peak	
4	2483.500	34.18	19.49	53.67	54.00	-0.33	AVG	

Report No.: BTL-FCCP-1-1802C079 Page 125 of 210





#### Horizontal



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	7355. 2000	25. 15	13. 25	38. 40	54.00	-15. 60	AVG	
2	7360. 3000	35. 93	13. 25	49. 18	74.00	-24.82	Peak	

Report No.: BTL-FCCP-1-1802C079 Page 126 of 210





APPENDIX E - BANDWIDTH	

Report No.: BTL-FCCP-1-1802C079 Page 127 of 210

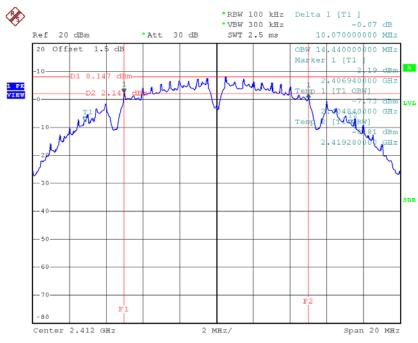




# Test Mode: TX B Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	10.07	14.44	500	Complies
2437	10.10	14.36	500	Complies
2462	10.06	14.40	500	Complies

#### TX CH01

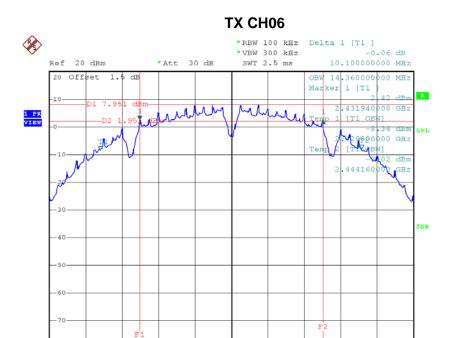


Date: 8.APR.2018 15:18:34

Report No.: BTL-FCCP-1-1802C079 Page 128 of 210





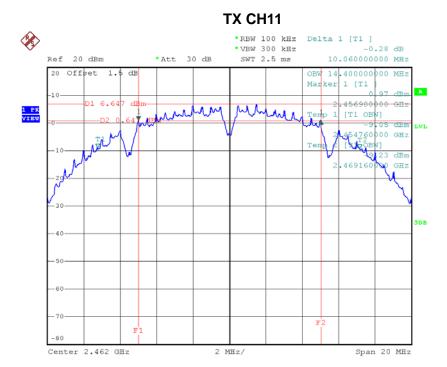


2 MHz/

Span 20 MHz

Date: 8.APR.2018 15:21:41

Center 2.437 GHz



Date: 8.APR.2018 15:25:44

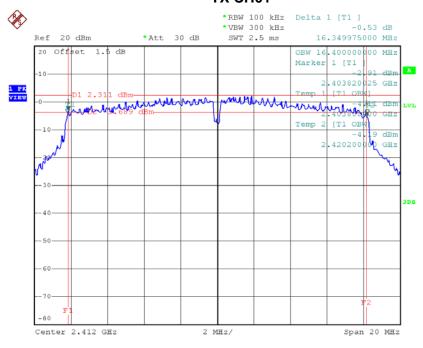




# Test Mode: TX G Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.35	16.40	500	Complies
2437	16.35	16.48	500	Complies
2462	16.39	16.36	500	Complies

### TX CH01

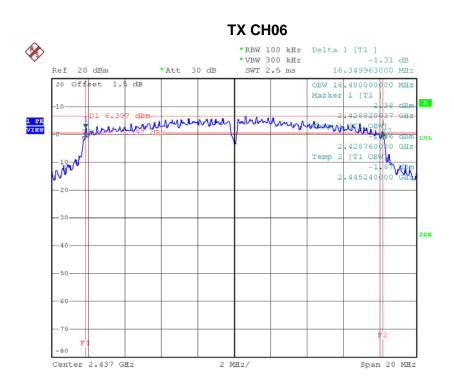


Date: 8.APR.2018 15:33:08

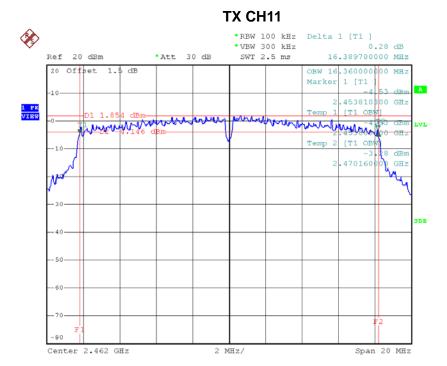
Report No.: BTL-FCCP-1-1802C079 Page 130 of 210







Date: 8.APR.2018 15:34:47



Date: 8.APR.2018 15:36:16

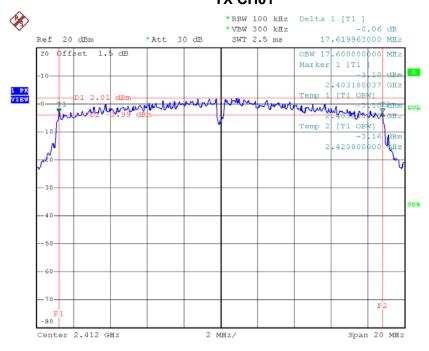




# Test Mode: TX N-20MHz Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.62	17.60	500	Complies
2437	17.62	17.64	500	Complies
2462	17.23	17.56	500	Complies

#### **TX CH01**

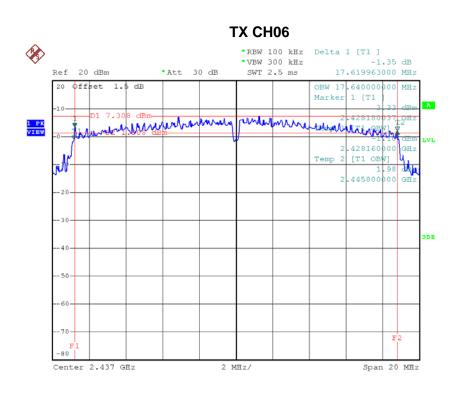


Date: 8.APR.2018 15:53:58

Report No.: BTL-FCCP-1-1802C079 Page 132 of 210







Date: 8.APR.2018 15:55:22

# **TX CH11** Ref 20 dBm \*Att 30 dB 20 Offset 1.5 dB OBW 17.560000000 MHz Marker 1 [T1 2.453180037 GHz 1 PK VIEW Temp 1 [T1 OBW] [T1 OBW] 2.470760 -80 Center 2.462 GHz 2 MHz/ Span 20 MHz

Date: 8.APR.2018 16:51:43

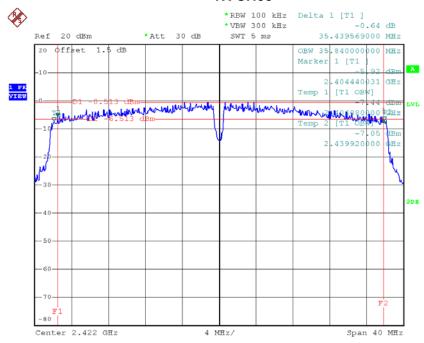




# Test Mode: TX N-40MHz Mode\_CH03/06/09

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	35.44	35.84	500	Complies
2437	35.35	36.00	500	Complies
2452	34.56	35.92	500	Complies

#### **TX CH03**



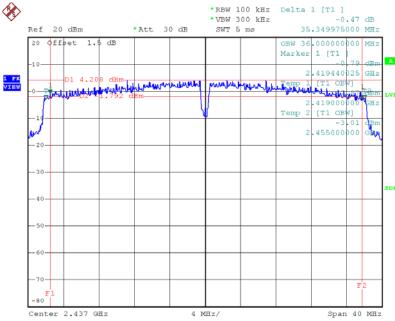
Date: 8.APR.2018 16:53:36

Report No.: BTL-FCCP-1-1802C079 Page 134 of 210



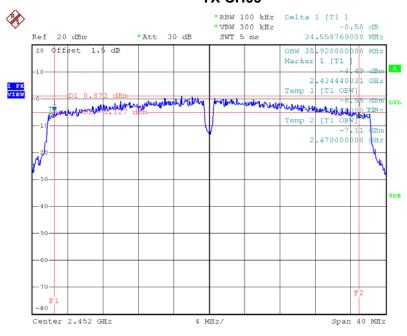






Date: 8.APR.2018 16:55:13

#### TX CH09



Date: 8.APR.2018 16:57:04





APPENDIX F - MAXIMUM AVG CONDUCTED OUTPUT POWER

Report No.: BTL-FCCP-1-1802C079 Page 136 of 210





Test Mode :TX B Mode_CH01/06/11_ANT 1						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Kesuit	
2412	18.84	0.08	30.00	1.00	Complies	
2437	18.53	0.07	30.00	1.00	Complies	
2462	17.73	0.06	30.00	1.00	Complies	

Test Mode :TX B Mode_CH01/06/11_ANT 2						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Resuit	
2412	18.56	0.07	30.00	1.00	Complies	
2437	18.21	0.07	30.00	1.00	Complies	
2462	17.25	0.05	30.00	1.00	Complies	

Test Mode :TX B Mode_CH01/06/11_Total						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Resuit	
2412	21.71	0.15	30.00	1.00	Complies	
2437	21.38	0.14	30.00	1.00	Complies	
2462	20.51	0.11	30.00	1.00	Complies	

Report No.: BTL-FCCP-1-1802C079 Page 137 of 210





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	16.43	0.04	30.00	1.00	Complies	
2437	19.65	0.09	30.00	1.00	Complies	
2462	15.95	0.04	30.00	1.00	Complies	

Test Mode :TX G Mode_CH01/06/11_ANT 2						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Resuit	
2412	16.35	0.04	30.00	1.00	Complies	
2437	19.47	0.09	30.00	1.00	Complies	
2462	15.54	0.04	30.00	1.00	Complies	

Test Mode :TX G Mode_CH01/06/11_Total						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Resuit	
2412	19.40	0.09	30.00	1.00	Complies	
2437	22.57	0.18	30.00	1.00	Complies	
2462	18.76	0.08	30.00	1.00	Complies	

Report No.: BTL-FCCP-1-1802C079 Page 138 of 210





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	16.32	0.04	30.00	1.00	Complies	
2437	19.67	0.09	30.00	1.00	Complies	
2462	15.23	0.03	30.00	1.00	Complies	

Test Mode :TX N20 Mode_CH01/06/11_ANT 2						
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Dooult	
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result	
2412	16.43	0.04	30.00	1.00	Complies	
2437	19.48	0.09	30.00	1.00	Complies	
2462	15.02	0.03	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)	
2412	19.39	0.09	30.00	1.00	Complies
2437	22.59	0.18	30.00	1.00	Complies
2462	18.14	0.07	30.00	1.00	Complies

Report No.: BTL-FCCP-1-1802C079 Page 139 of 210





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)	
2422	12.07	0.02	30.00	1.00	Complies
2437	16.86	0.05	30.00	1.00	Complies
2452	13.12	0.02	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)	
2422	12.16	0.02	30.00	1.00	Complies
2437	16.43	0.04	30.00	1.00	Complies
2452	13.17	0.02	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)	
2422	15.13	0.03	30.00	1.00	Complies
2437	19.66	0.09	30.00	1.00	Complies
2452	16.16	0.04	30.00	1.00	Complies

Report No.: BTL-FCCP-1-1802C079 Page 140 of 210





APPENDIX G - ANTENNA CONDUCTED SPURIOUS EMISSION

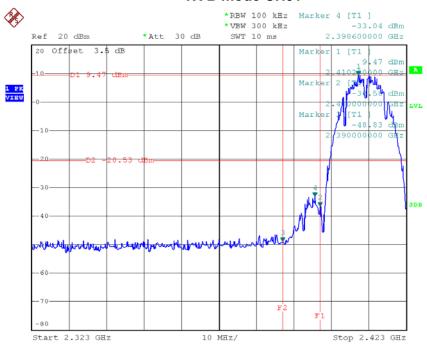
Report No.: BTL-FCCP-1-1802C079 Page 141 of 210





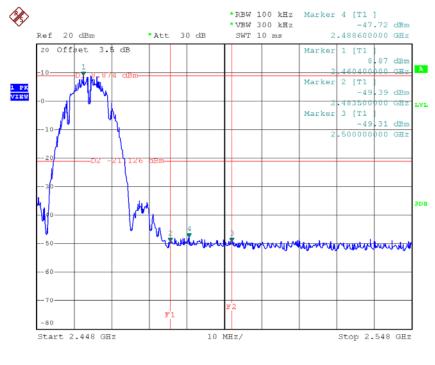
Test Mode: TX B Mode\_ANT 1

#### TX B mode CH01



Date: 8.APR.2018 15:18:43

# TX B mode CH11

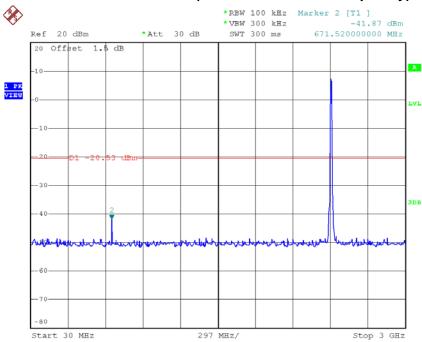


Date: 8.APR.2018 15:25:53

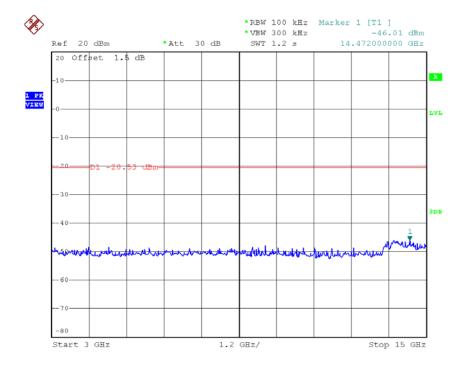








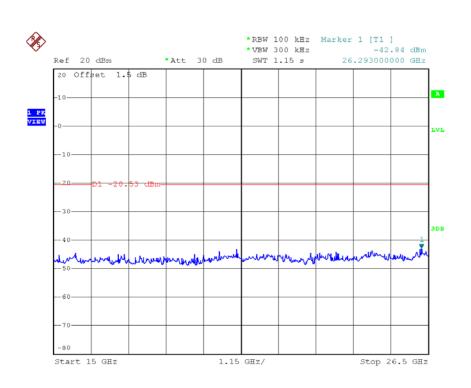
Date: 8.APR.2018 15:18:57



Date: 8.APR.2018 15:19:06

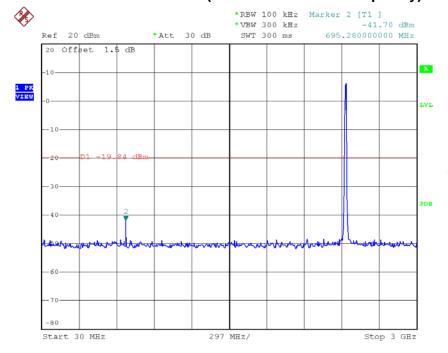






Date: 8.APR.2018 15:19:15

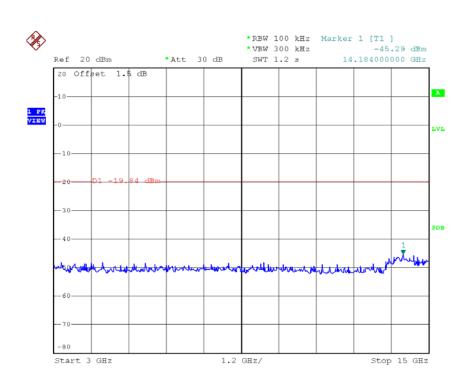
# TX B mode CH06 (10 Harmonic of the frequency)



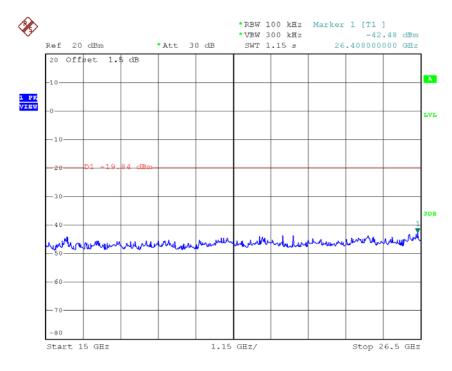
Date: 8.APR.2018 15:22:04







Date: 8.APR.2018 15:22:13

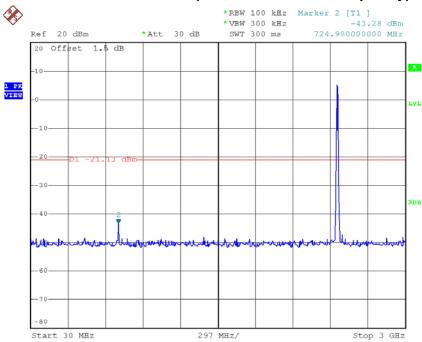


Date: 8.APR.2018 15:22:23

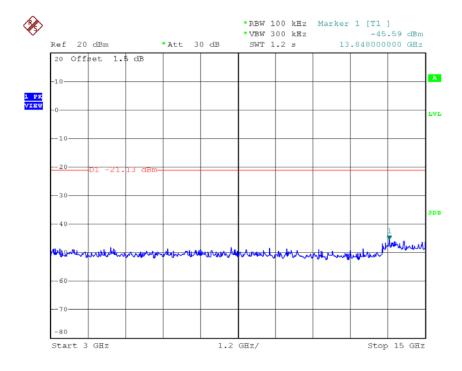




# TX B mode CH11 (10 Harmonic of the frequency)



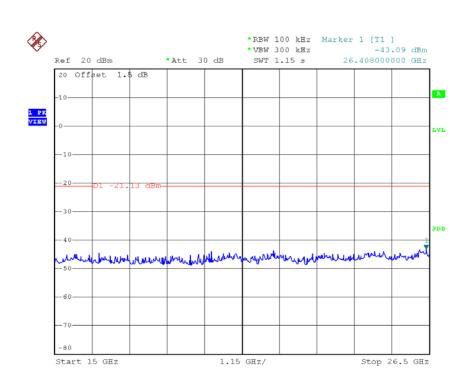
Date: 8.APR.2018 15:26:08



Date: 8.APR.2018 15:26:17







Date: 8.APR.2018 15:26:26

Report No.: BTL-FCCP-1-1802C079