



# **FCC Radio Test Report**

**FCC ID: Q78-ZXHNHS320V20** 

This report concerns (che	ck one): ⊠Original Grant □Class I Change □Class II Change
Project No. Equipment Test Model Series Model Applicant Address	
Date of Receipt Date of Test Issued Date Tested by	: Sep. 20, 2017 ~ Nov. 01, 2017
Testing Enginee	r : Paul Li)
Technical Manag	ger: Shawn xioo

# BTL INC.

**Authorized Signatory** 

(Shawn Xiao)

(David Mao)

No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

TEL: +86-769-8318-3000 FAX: +86-769-8319-6000



Report No.: BTL-FCCP-1-1709C165 Page 1 of 138





#### **Declaration**

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

**BTL**'s reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

**BTL**'s report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and **BTL-self**, extracts from the test report shall not be reproduced except in full with **BTL**'s authorized written approval.

**BTL**'s laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

#### Limitation

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

Report No.: BTL-FCCP-1-1709C165 Page 2 of 138





Table of Contents	Page
1. CERTIFICATION	6
	7
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	10
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	12
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TE	STED 13
3.5 DESCRIPTION OF SUPPORT UNITS	13
4 . EMC EMISSION TEST	14
4.1 CONDUCTED EMISSION MEASUREMENT	14
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS 4.1.2 TEST PROCEDURE	14 14
4.1.3 DEVIATION FROM TEST STANDARD	14
4.1.4 TEST SETUP	15
4.1.5 EUT OPERATING CONDITIONS	15
4.1.6 EUT TEST CONDITIONS	15 45
4.1.7 TEST RESULTS	15
4.2 RADIATED EMISSION MEASUREMENT 4.2.1 RADIATED EMISSION LIMITS	16 16
4.2.2 TEST PROCEDURE	17
4.2.3 DEVIATION FROM TEST STANDARD	17
4.2.4 TEST SETUP	18
4.2.5 EUT OPERATING CONDITIONS	19
4.2.6 EUT TEST CONDITIONS 4.2.7 TEST RESULTS (9KHZ TO 30MHZ)	19 19
4.2.8 TEST RESULTS (9KHZ TO 30MHZ) 4.2.8 TEST RESULTS (30MHZ TO 1000MHZ)	19
4.2.9 TEST RESULTS (ABOVE 1000MHZ)	19
5 . BANDWIDTH TEST	20
5.1 APPLIED PROCEDURES	20
5.1.1 TEST PROCEDURE	20
5.1.2 DEVIATION FROM STANDARD	20
5.1.3 TEST SETUP 5.1.4 EUT OPERATION CONDITIONS	20 20
5.1.4 EUT OPERATION CONDITIONS 5.1.5 EUT TEST CONDITIONS	20 20
5.1.6 TEST RESULTS	20
6 . MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST	21

Report No.: BTL-FCCP-1-1709C165





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	21 21 21 21 21 21 21
7 . ANTENNA CONDUCTED SPURIOUS EMISSION	22
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	22 22 22 22 22 22 22 22
8 . POWER SPECTRAL DENSITY TEST	23
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	23 23 23 23 23 23 23
9 . MEASUREMENT INSTRUMENTS LIST	24
10 . EUT TEST PHOTO	26
APPENDIX A - CONDUCTED EMISSION	30
APPENDIX B - RADIATED EMISSION (9KHZ TO 30MHZ)	33
APPENDIX C - RADIATED EMISSION (30MHZ TO 1000MHZ)	38
APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)	45
APPENDIX E - BANDWIDTH	94
APPENDIX F - MAXIMUM PEAK CONDUCTED OUTPUT POWER	103
APPENDIX G - ANTENNA CONDUCTED SPURIOUS EMISSION	105
APPENDIX H - POWER SPECTRAL DENSITY	130

Report No.: BTL-FCCP-1-1709C165 Page 4 of 138





# **REPORT ISSUED HISTORY**

Issued No.	Description	Issued Date
BTL-FCCP-1-1709C165	Original Issue	Nov. 02, 2017

Report No.: BTL-FCCP-1-1709C165 Page 5 of 138





#### 1. CERTIFICATION

Equipment : Wireless IP Camera Brand Name : ZTE 中兴, ZTE Test Model : ZXHN HS320 V2.0

Series Model: N/A

Applicant : ZTE Corporation Manufacturer : ZTE Corporation

Address : ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District,

Shenzhen, Guangdong, P.R. China

Factory : ZTE Corporation

Address : ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District,

Shenzhen, Guangdong, P.R. China

Date of Test : Sep. 20, 2017 ~ Nov. 01, 2017

Test Sample: Engineering Sample

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

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

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1709C165) 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-1-1709C165 Page 6 of 138





# 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-1-1709C165 Page 7 of 138





#### 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	O3 CISPR	CICDD	200MHz ~ 1,000MHz	V	4.10
DG-CB03		200MHz ~ 1,000MHz	Τ	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-1-1709C165 Page 8 of 138





# 3. GENERAL INFORMATION

# 3.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless IP Camera		
Brand Name	ZTE 中兴, ZTE		
Test Model	ZXHN HS320 V2.0		
Series Model	N/A		
Model Difference	N/A		
Power Source	DC Voltage supplied from Model: RD0501000-USBA		
Power Rating	I/P: 100-240V~ 50/60Hz 0	0.25A MAX O/P: 5V==1000mA	
	Operation Frequency	2412~2462 MHz	
Product Description	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM	
	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n up to 150 Mbps	
	Output Power (Max.)	802.11b: 14.73dBm 802.11g: 13.85dBm 802.11n(20MHz): 12.83dBm 802.11n(40MHz): 12.5dBm	

#### Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

# 2. Channel List:

Charline Lis	οι.						
	CH01 - CH11 for 802.11b, 802.11g, 802.11n(20MHz) CH03 - CH09 for 802.11n(40MHz)						
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

# 3. Table for Filed Antenna:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	Airgain	N2430LTMSSBK	Chip	N/A	3.3

Report No.: BTL-FCCP-1-1709C165 Page 9 of 138





#### 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-1-1709C165 Page 10 of 138





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 (6.5Mbps) 802.11n HT40 mode : BPSK (13.5Mbps)
  - For radiated emission tests, the highest output powers were set for final test.
- (3) For radiated below 1G test, the 802.11b is found to be the worst case and recorded.
- (4) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

Report No.: BTL-FCCP-1-1709C165 Page 11 of 138





# 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

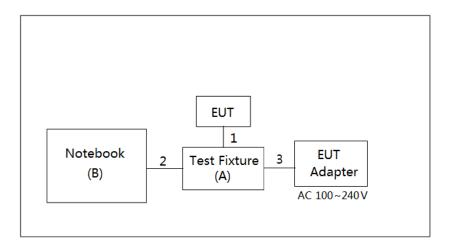
Test software version	SecureCRT		
Frequency (MHz)	2412	2437	2462
802.11b	9	10	12
802.11g	10	11	14
802.11n (20MHz)	12	13	15
Frequency (MHz)	2422	2437	2452
802.11n (40MHz)	13	14	15

Report No.: BTL-FCCP-1-1709C165 Page 12 of 138





# 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	Test Fixture	N/A	N/A	N/A	N/A
В	Notebook	Dell 745	DCSM	DOC	G7K832X

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	0.2m	Android Cable
2	NO	NO	1m	RS232 Cable
3	NO	NO	2.5m	Android Cable

Report No.: BTL-FCCP-1-1709C165 Page 13 of 138





#### 4. EMC EMISSION TEST

#### 4.1 CONDUCTED EMISSION MEASUREMENT

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

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

#### Note:

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

(2) The test result calculated as following:

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

The following table is the setting of the receiver

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

#### **4.1.2 TEST PROCEDURE**

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

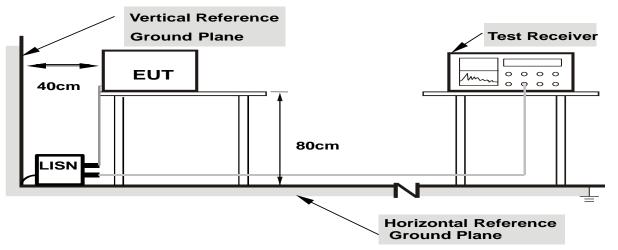
No deviation

Report No.: BTL-FCCP-1-1709C165 Page 14 of 138





#### 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-1-1709C165





#### 4.2 RADIATED EMISSION MEASUREMENT

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

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

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

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

# LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

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

#### Notes:

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

Report No.: BTL-FCCP-1-1709C165 Page 16 of 138





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 detection	
Start ~ Stop Frequency	490KHz~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

#### 4.2.2 TEST PROCEDURE

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

#### 4.2.3 DEVIATION FROM TEST STANDARD

No deviation

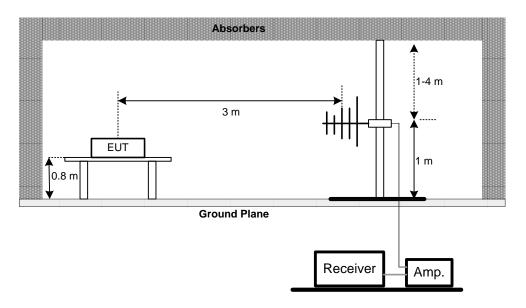
Report No.: BTL-FCCP-1-1709C165 Page 17 of 138



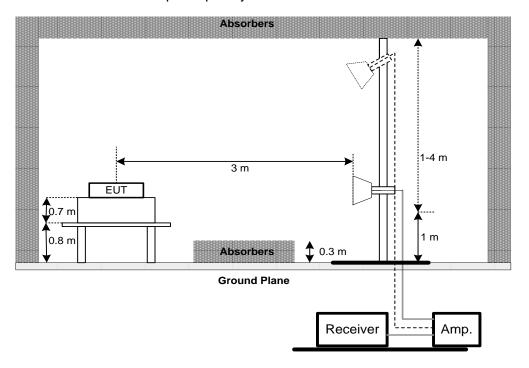


# 4.2.4 TEST SETUP

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



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

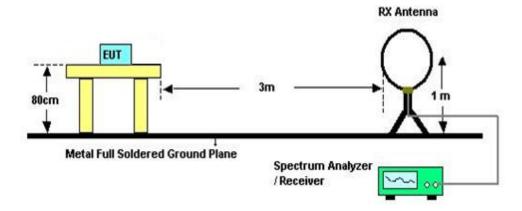


Report No.: BTL-FCCP-1-1709C165 Page 18 of 138





# (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-1-1709C165 Page 19 of 138





# 5. BANDWIDTH TEST

#### **5.1 APPLIED PROCEDURES**

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

#### **5.1.1 TEST PROCEDURE**

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

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

No deviation.

#### 5.1.3 TEST SETUP

EUT	SPECTRUM	
	ANALYZER	

### **5.1.4 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

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

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

#### **5.1.6 TEST RESULTS**

Please refer to the Appendix E.

Report No.: BTL-FCCP-1-1709C165 Page 20 of 138





# 6. MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST

# **6.1 APPLIED PROCEDURES / LIMIT**

FCC Part15 (15.247) , Subpart C					
Section	Test Item	Limit	Frequency Range (MHz)	Result	
15.247(b)(3)	Maximum Output Power	1 Watt or 30dBm	2400-2483.5	PASS	

#### **6.1.1 TEST PROCEDURE**

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
- b. The maximum peak conducted output power was performed in accordance with method 9.1.2 of FCC KDB 558074 D01 DTS Meas Guidance.

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

No deviation.

#### 6.1.3 TEST SETUP

EUT	Power Meter
	, c., c. Meter

#### **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-1-1709C165 Page 21 of 138





#### 7. ANTENNA CONDUCTED SPURIOUS EMISSION

#### 7.1 APPLIED PROCEDURES / LIMIT

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

#### 7.1.1 TEST PROCEDURE

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

#### 7.1.2 DEVIATION FROM STANDARD

No deviation.

#### 7.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### 7.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 7.1.5 EUT TEST CONDITIONS

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

#### 7.1.6 TEST RESULTS

Please refer to the Appendix G.

Report No.: BTL-FCCP-1-1709C165 Page 22 of 138





# 8. POWER SPECTRAL DENSITY TEST

### 8.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section Test Item Limit Frequency (MH				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-1-1709C165 Page 23 of 138





# 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. 26, 2018	
2	LISN	EMCO	3816/2	52765	Mar. 26, 2018	
3	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 26, 2018	
4	TWO-LINE V-NETWORK	R&S	ENV216	101447	Mar. 26, 2018	
5	Cable	N/A	RG223	12m	Aug. 20, 2018	
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	

	Radiated Emission Below 1GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 26, 2018	
2	Amplifier	HP	8447D	2944A09673	Aug. 20, 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	

	Radiated Emission Above 1GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 26, 2018	
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 08, 2018	
3	Amplifier	Agilent	8449B	3008A02274	May. 16, 2018	
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 26, 2018	
5	Receiver	Agilent	N9038A	MY52130039	Aug. 20, 2018	
6	Antenna	EM	EM-6876-1	230	Jul. 07, 2018	
7	Controller	СТ	SC100	N/A	N/A	
8	Controller	MF	MF-7802	MF780208416	N/A	
9	Cable	emci	EMC104-SM-SM-1 2000(12m)	N/A	Jun. 26, 2018	
10	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	

Report No.: BTL-FCCP-1-1709C165 Page 24 of 138





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

	Peak Output Power												
Item         Kind of Equipment         Manufacturer         Type No.         Serial No.         Calib													
1	Power Meter	ANRITSU	ML2495A	1128009	Mar. 26, 2018								
2	Pulse Power Sensor	ANRITSU	MA 2411B	1027500	Mar. 26, 2018								

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

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

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

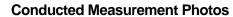
All calibration period of equipment list is one year.

Report No.: BTL-FCCP-1-1709C165 Page 25 of 138





# **10. EUT TEST PHOTO**





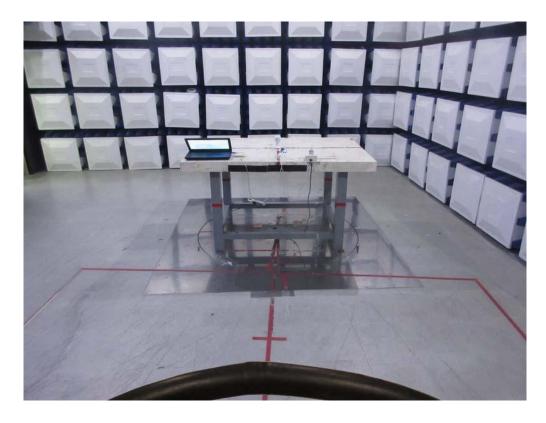


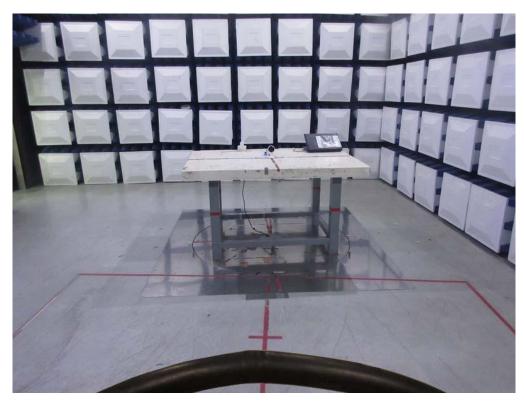
Report No.: BTL-FCCP-1-1709C165 Page 26 of 138





# Radiated Measurement Photos 9KHz to 30MHz





Report No.: BTL-FCCP-1-1709C165 Page 27 of 138





# Radiated Measurement Photos 30MHz to 1000MHz





Report No.: BTL-FCCP-1-1709C165 Page 28 of 138





# Radiated Measurement Photos Above 1000MHz





Report No.: BTL-FCCP-1-1709C165 Page 29 of 138





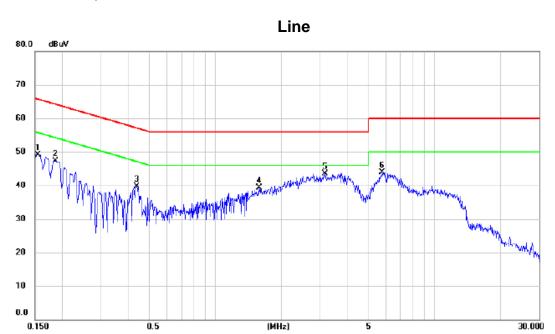
APPENDIX A - CONDUCTED EMISSION	

Report No.: BTL-FCCP-1-1709C165 Page 30 of 138





Test Mode : Normal Link



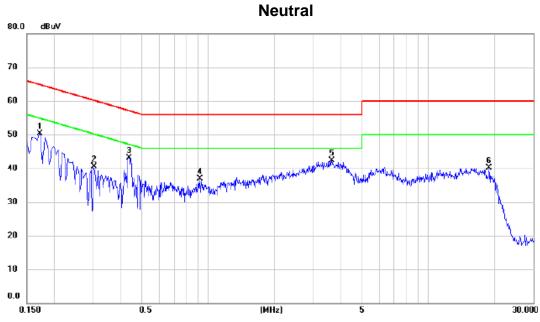
No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBu∀	dB	dBuV	dBu∀	dB	Detector	Comment
1	0.1544	39.37	9.77	49.14	65.76	-16.62	peak	
2	0.1860	37.63	9.76	47.39	64.21	-16.82	peak	
3	0.4380	29.90	9.80	39.70	57.10	-17.40	peak	
4	1.5810	29.34	9.91	39.25	56.00	-16.75	peak	
5 *	3.1562	33.50	10.00	43.50	56.00	-12.50	peak	
6	5.7570	33.70	10.15	43.85	60.00	-16.15	peak	

Report No.: BTL-FCCP-1-1709C165 Page 31 of 138





Test Mode : Normal Link



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBu∀	dB	dBuV	dBu∀	dB	Detector	Comment
1	0.1723	40.60	9.77	50.37	64.85	-14.48	peak	
2	0.3030	30.68	9.76	40.44	60.16	-19.72	peak	
3	0.4380	33.38	9.80	43.18	57.10	-13.92	peak	
4	0.9193	27.07	9.86	36.93	56.00	-19.07	peak	
5 *	3.6465	32.31	10.02	42.33	56.00	-13.67	peak	
6	18.9330	29.36	10.66	40.02	60.00	-19.98	peak	

Report No.: BTL-FCCP-1-1709C165 Page 32 of 138





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

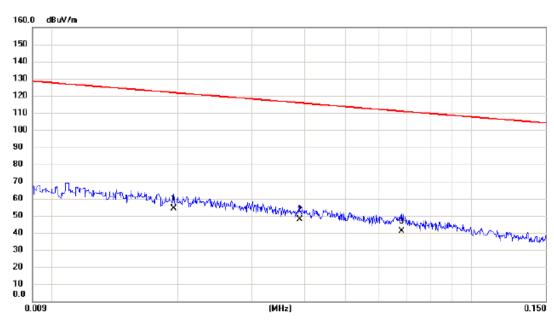
Report No.: BTL-FCCP-1-1709C165 Page 33 of 138





Test Mode: TX B MODE CHANNEL 01

# Ant 0°



No. Mk.	Freq.	_		Measure- ment		Margin		
	MHz	dBu∀	dB	dBuV/m	dBu∀/m	dB	Detector	Comment
1 *	0.0195	34.56	19.69	54.25	121.80	-67.55	AVG	
2	0.0390	28.94	19.05	47.99	115.78	-67.79	AVG	
3	0.0680	22.51	18.37	40.88	110.95	-70.07	AVG	

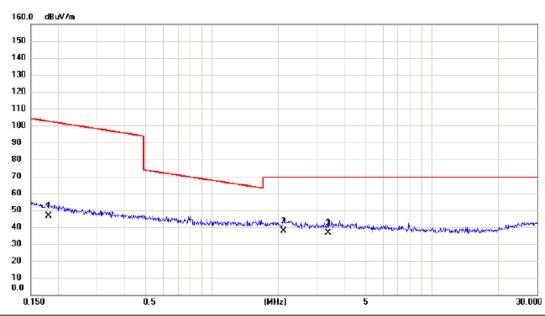
Report No.: BTL-FCCP-1-1709C165 Page 34 of 138





Test Mode: TX B MODE CHANNEL 01

# Ant 0°



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBu∀	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.1815	29.56	16.86	46.42	102.43	-56.01	AVG	
2 *	2.1101	22.47	15.48	37.95	69.54	-31.59	QP	
3	3.3814	21.63	15.13	36.76	69.54	-32.78	QP	

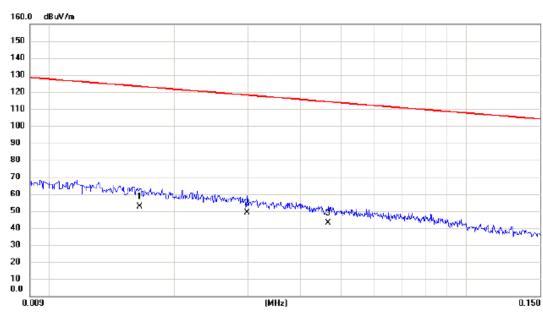
Report No.: BTL-FCCP-1-1709C165 Page 35 of 138





Test Mode: TX B MODE CHANNEL 01

# Ant 90°



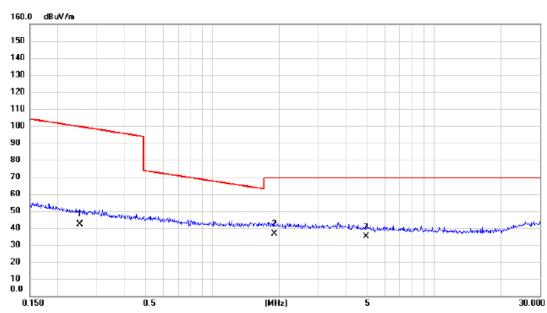
No. Mk.	Freq.			Measure- ment		Margin		
	MHz	dBu∀	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.0165	32.58	20.07	52.65	123.26	-70.61	AVG	
2 *	0.0298	29.63	19.33	48.96	118.12	-69.16	AVG	
3	0.0466	24.18	18.82	43.00	114.24	-71.24	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 36 of 138





# Ant 90°



No. I	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBu∀	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.2521	25.64	16.66	42.30	99.57	-57.27	AVG	
2	*	1.8980	20.95	15.55	36.50	69.54	-33.04	QP	
3		4.9257	20.47	14.41	34.88	69.54	-34.66	QP	

Report No.: BTL-FCCP-1-1709C165 Page 37 of 138





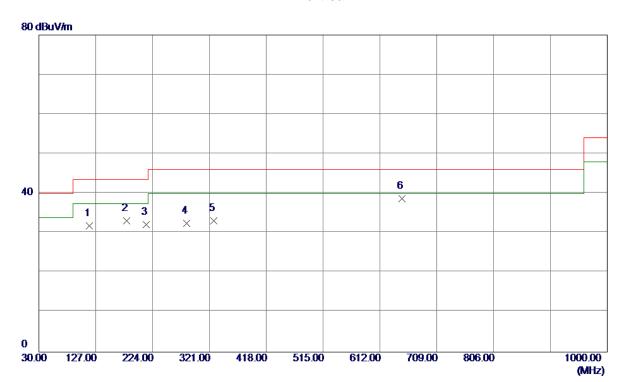
APPENDIX C - RADIATED EMISSION (30MHZ TO 1000MHZ)

Report No.: BTL-FCCP-1-1709C165 Page 38 of 138





# **Vertical**



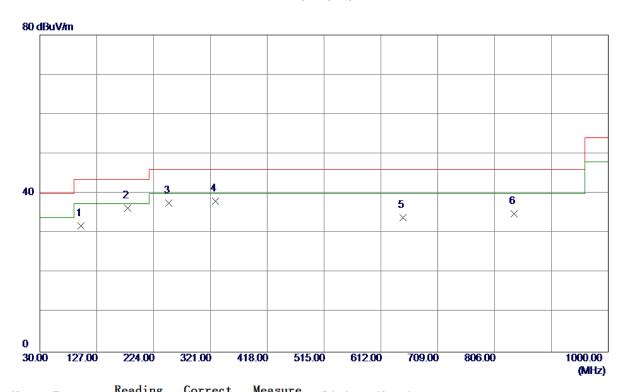
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	116. 3300	47. 56	-15. 69	31. 87	43.50	-11.63	Peak	
2	179.8650	45. 11	-12.04	33. 07	43.50	-10.43	Peak	
3	213. 3300	46. 12	-13. 95	32. 17	43.50	-11. 33	Peak	
4	281.7150	47. 22	-14.67	32. 55	46.00	-13.45	Peak	
5	328.7600	45. 43	-12. 33	33. 10	46.00	-12. 90	Peak	
6 *	649.8300	44. 18	-5. 48	38. 70	46.00	-7. 30	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 39 of 138





# Horizontal



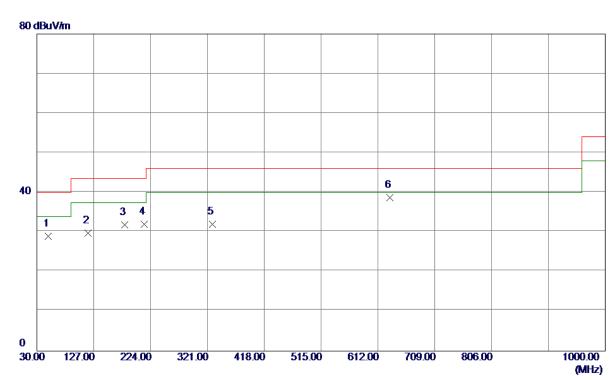
No.	Freq.	Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	100. 3250	49. 23	-17.44	31.79	43.50	-11.71	Peak	
2 *	179.8650	48. 35	-12. 04	36. 31	43.50	-7. 19	Peak	
3	250. 1900	52. 53	-14.90	37.63	46.00	-8. 37	Peak	
4	329.7300	50. 33	-12. 31	38. 02	46.00	-7. 98	Peak	
5	649.8300	39. 46	-5. 48	33. 98	46.00	-12.02	Peak	
6	839. 4650	35. 15	-0. 29	34.86	46.00	-11.14	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 40 of 138





# Vertical



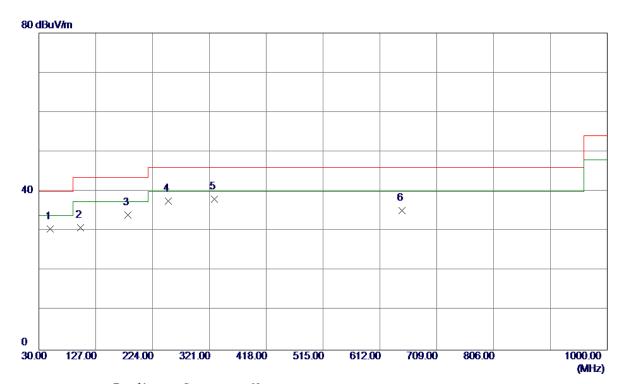
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	49.8849	42.46	-13. 56	28. 90	40.00	-11. 10	Peak	
2	116.8150	45. 39	-15. 65	29.74	43.50	-13.76	Peak	
3	179.8650	43.90	-12.04	31.86	43.50	-11.64	Peak	
4	212.8450	45. 90	-13.96	31.94	43.50	-11. 56	Peak	
5	329.7300	44.30	-12. 31	31.99	46.00	-14.01	Peak	
6 *	632. 3700	44.48	-5. 81	38. 67	46.00	-7.33	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 41 of 138





# Horizontal



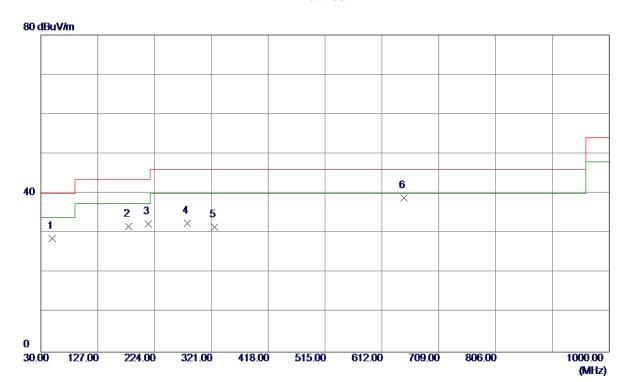
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	49.8849	44. 18	-13. 56	30.62	40.00	-9. 38	Peak	
2	100.8100	48. 21	-17. 38	30.83	43.50	-12.67	Peak	
3	181.8049	46. 29	-12. 19	34. 10	43.50	-9.40	Peak	
4	250.6750	52. 56	-14.94	37.62	46.00	-8. 38	Peak	
5 *	329. 2450	50.43	-12. 32	38. 11	46.00	-7.89	Peak	
6	649.8300	40.68	-5. 48	35. 20	46.00	-10.80	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 42 of 138





# **Vertical**



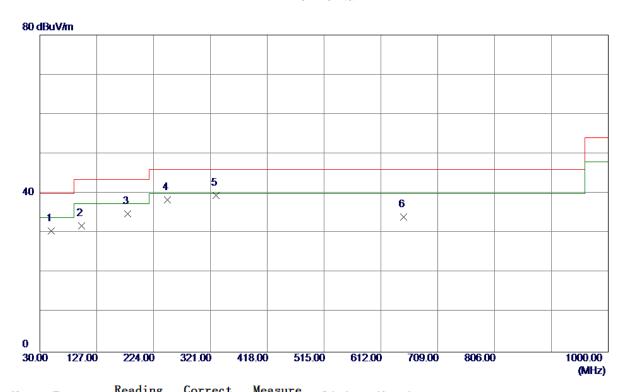
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	49.8849	42. 18	-13. 56	28. 62	40.00	-11. 38	Peak	
2	179.8650	43.72	-12.04	31.68	43.50	-11.82	Peak	
3	212.8450	46. 31	-13.96	32. 35	43.50	-11. 15	Peak	
4	280. 2600	47. 23	-14.76	32.47	46.00	-13.53	Peak	
5	326. 3350	43.82	-12. 37	31.45	46.00	-14. 55	Peak	
6 *	649.8300	44. 32	-5. 48	38. 84	46.00	-7. 16	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 43 of 138





# Horizontal



No.	Freq.	Keading Level	Correct Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	49.8849	44. 12	-13. 56	30. 56	40.00	-9.44	Peak	
2	100.8100	49. 20	-17. 38	31.82	43.50	-11. 68	Peak	
3	179.8650	46. 91	-12.04	34.87	43.50	-8.63	Peak	
4	247. 2800	53. 09	-14.74	38. 35	46.00	-7.65	Peak	
5 *	330.7000	51.85	-12. 29	39. 56	46.00	-6.44	Peak	
6	650. 3150	39. 53	-5. 47	34.06	46.00	-11.94	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 44 of 138





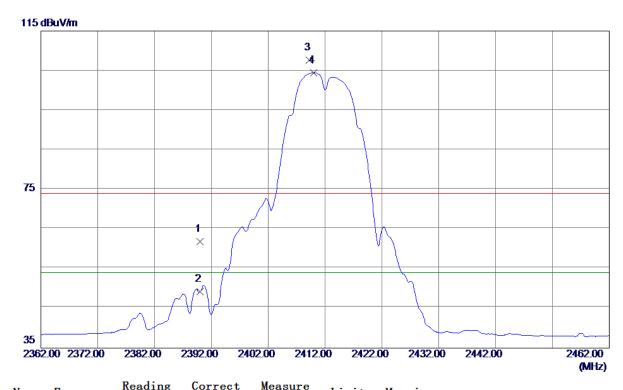
APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)

Report No.: BTL-FCCP-1-1709C165 Page 45 of 138





# Vertical



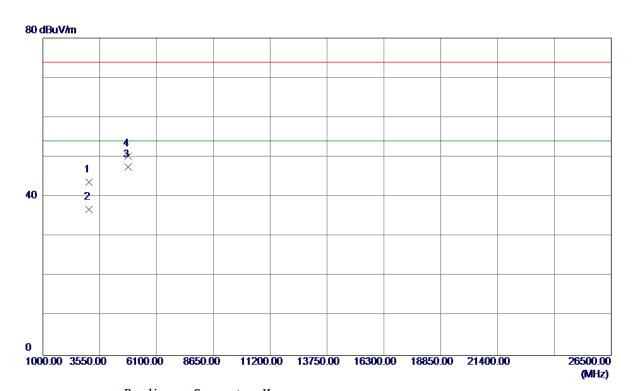
No.	Freq.	Keading Level	Correct Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	28. 87	33.06	61. 93	74.00	-12.07	Peak	
2	2390. 0000	16. 11	33.06	49. 17	54.00	-4.83	AVG	
3	2409. 2500	74.44	33. 13	107. 57	74.00	33. 57	Peak	No Limit
4 *	2410.0500	71. 33	33. 13	104.46	54.00	50.46	AVG	No Limit

Report No.: BTL-FCCP-1-1709C165 Page 46 of 138





### **Vertical**



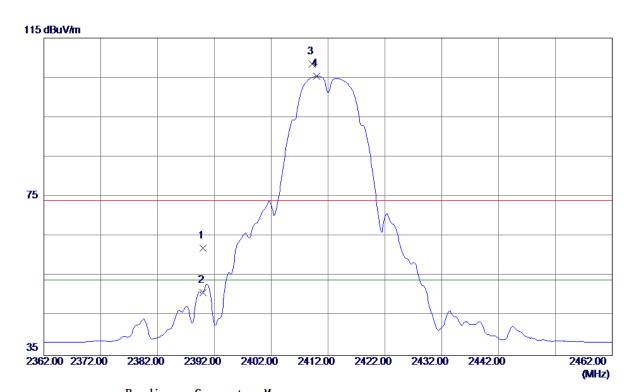
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	3071. 2000	41.71	1. 92	43.63	74.00	-30. 37	Peak	
2	3071. 2500	34.88	1. 92	36. 80	54.00	-17. 20	AVG	
3 *	4824.0000	41. 26	6. 32	47. 58	54.00	-6.42	AVG	
4	4824. 0250	43.88	6. 32	50. 20	74.00	-23.80	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 47 of 138





#### Horizontal



No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	29. 01	33.06	62. 07	74.00	-11.93	Peak	
2	2390.0000	17. 78	33.06	50.84	54.00	-3. 16	AVG	
3	2409. 2500	75. 24	33. 13	108. 37	74.00	34. 37	Peak	No Limit
4 *	2410.0500	72. 28	33. 13	105. 41	54.00	51.41	AVG	No Limit

Report No.: BTL-FCCP-1-1709C165 Page 48 of 138





#### Horizontal



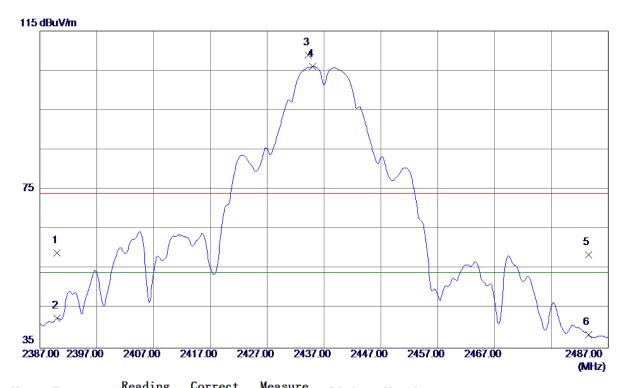
	Level	Factor	ment	Limit	Margin			
MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1 4824.0	000 46.77	6. 32	53. <b>0</b> 9	74.00	-20.91	Peak		
2 * 4824.0	000 45. 29	6. 32	51. 61	54.00	-2. 39	AVG		

Report No.: BTL-FCCP-1-1709C165 Page 49 of 138





# Vertical



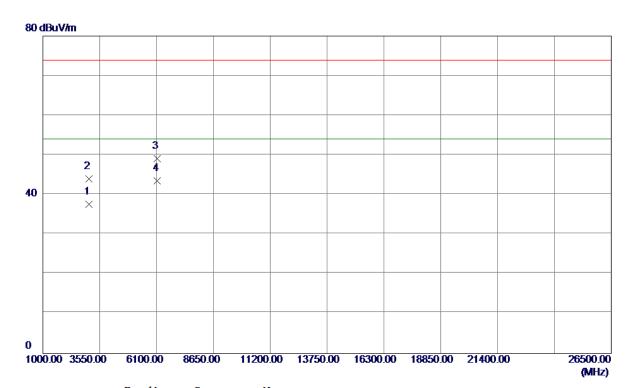
No.	Freq.	Keading Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	26. 01	33.06	59. 07	74.00	-14.93	Peak	
2	2390.0000	9. 39	33.06	42.45	54.00	-11.55	AVG	
3	2434. 2500	75. 75	33. 22	108.97	74.00	34.97	Peak	No Limit
4 *	2435.0500	72.80	33. 23	106.03	54.00	52.03	AVG	No Limit
5	2483. 5000	25. 17	33. 41	58. 58	74.00	-15.42	Peak	
6	2483. 5000	4. 93	33. 41	38. 34	54.00	-15. 66	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 50 of 138





#### **Vertical**



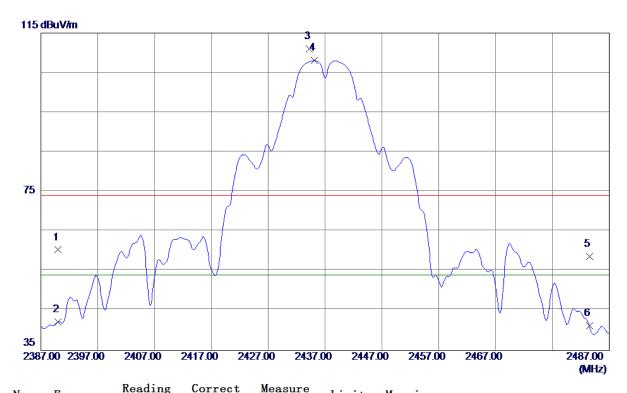
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	3071. 2000	35. 71	1. 92	37. 63	54.00	-16. 37	AVG	
2	3071. 3000	42.04	1. 92	43.96	74.00	-30.04	Peak	
3	6142. 4500	38. 02	11. 17	49. 19	74.00	-24.81	Peak	
4 *	6142. 5000	32.42	11. 17	43. 59	54.00	-10.41	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 51 of 138





#### Horizontal



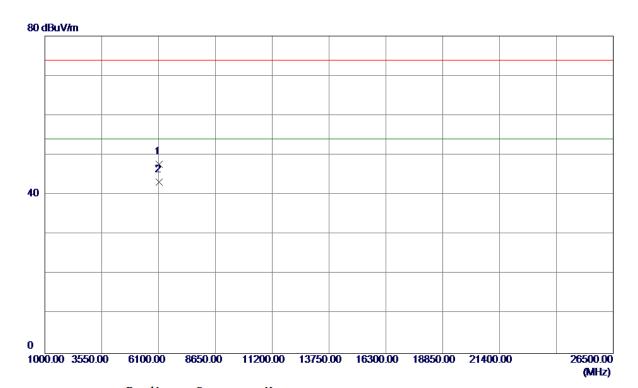
No.	Freq.	Level	Factor	measure	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	27. 30	33.06	60. 36	74.00	-13.64	Peak	
2	2390. 0000	9. 11	33. 06	42. 17	54.00	-11.83	AVG	
3	2434. 2500	77.86	33. 22	111.08	74.00	37.08	Peak	No Limit
4 *	2435. 1000	74.84	33. 23	108.07	54.00	54.07	AVG	No Limit
5	2483. 5000	25. 30	33.41	58.71	74.00	-15. 29	Peak	
6	2483. 5000	7.82	33. 41	41. 23	54.00	-12.77	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 52 of 138





#### Horizontal



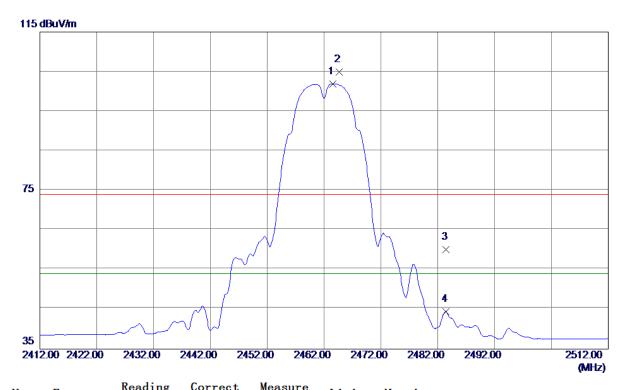
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	6142. 4000	36. 51	11. 17	47.68	74.00	-26. 32	Peak	
2 *	6142. 5000	32.04	11. 17	43. 21	54.00	-10.79	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 53 of 138





# Vertical



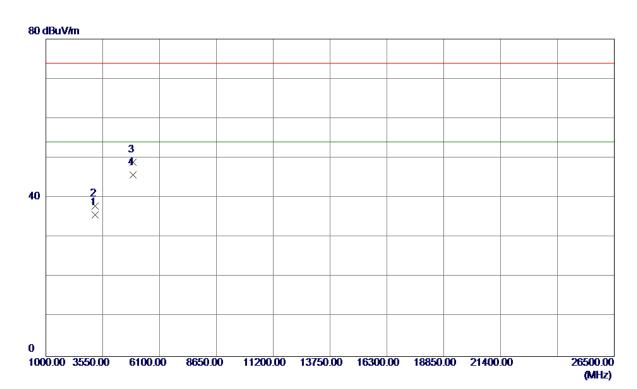
No.	Freq.	Keading Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2463. 5500	68. 63	33. 33	101.96	54.00	47.96	AVG	No Limit
2	2464.7000	71.61	33. 34	104.95	74.00	30. 95	Peak	No Limit
3	2483. 5000	26. 70	33.41	60. 11	74.00	-13.89	Peak	
4	2483. 5000	11.02	33.41	44.43	54.00	-9. 57	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 54 of 138





#### **Vertical**



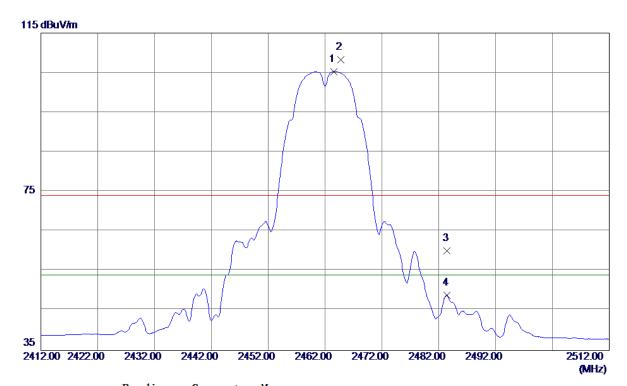
tor Comment

Report No.: BTL-FCCP-1-1709C165 Page 55 of 138





#### Horizontal



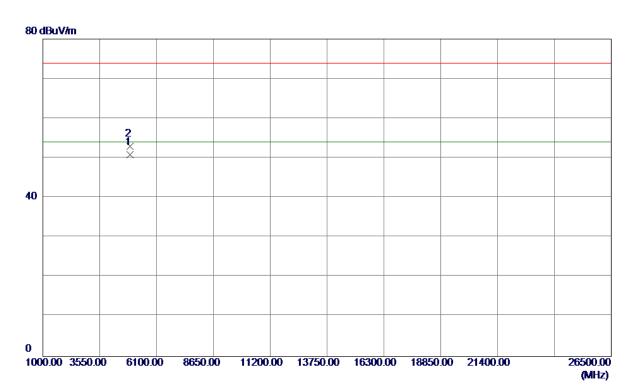
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2463. 5500	71. 97	33. 33	105. 30	54.00	51. 30	AVG	No Limit
2	2464.7500	74. 92	33. 34	108. 26	74.00	34. 26	Peak	No Limit
3	2483. 5000	26.71	33.41	60. 12	74.00	-13.88	Peak	
4	2483. 5000	15. 53	33. 41	48. 94	54.00	-5. 06	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 56 of 138





#### Horizontal



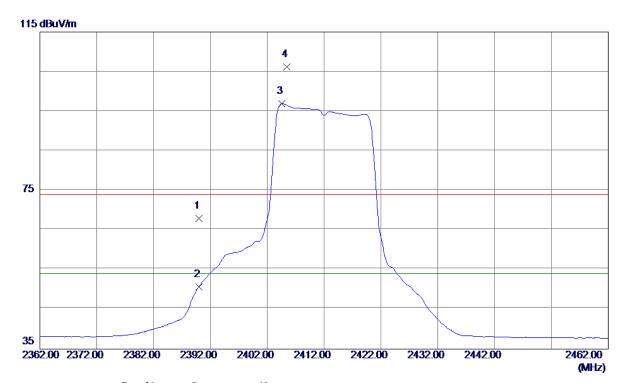
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4924. 0250	44. 28	6. 57	<b>50.</b> 85	<b>54.00</b>	-3. 15	AVG	
2	4924. 0750	46. 37	6. 57	52.94	74.00	-21. 06	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 57 of 138





# Vertical



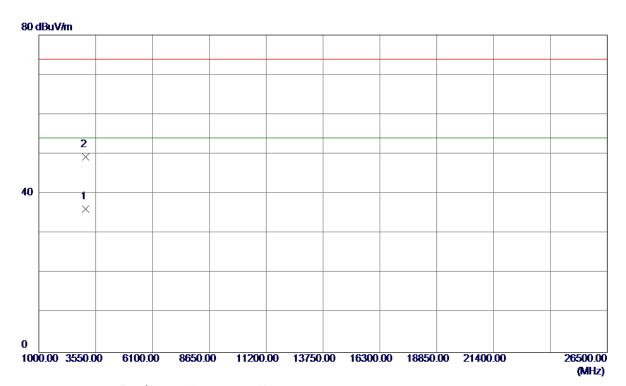
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	34.89	33.06	67. 95	74.00	-6.05	Peak	
2	2390. 0000	17.70	33.06	50. 76	54.00	-3. 24	AVG	
3 *	2404.6000	63.83	33. 11	96. 94	54.00	42.94	AVG	No Limit
4	2405. 4000	73. 16	33. 11	106. 27	74.00	32. 27	Peak	No Limit

Report No.: BTL-FCCP-1-1709C165 Page 58 of 138





### **Vertical**



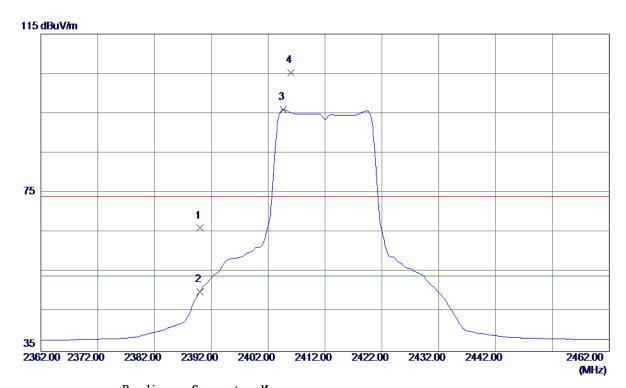
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	3083. 2250	34. 26	1. 95	36. 21	54.00	-17.79	AVG	
2	3084.0500	47. 28	1. 95	49. 23	74.00	-24.77	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 59 of 138





#### Horizontal



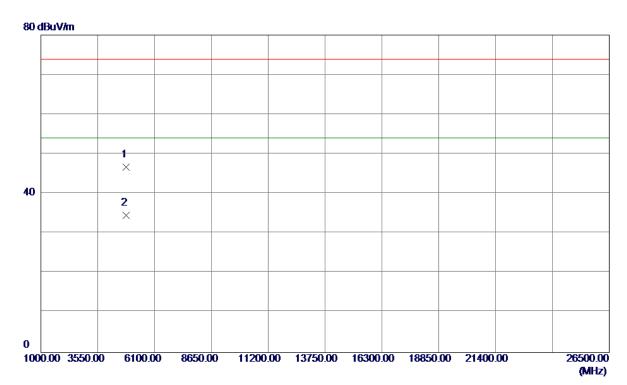
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	33. 06	33.06	66. 12	74.00	-7.88	Peak	
2	2390.0000	17.02	33. 06	50.08	54.00	-3.92	AVG	
3 *	2404.6500	62.85	33. 11	95. 96	54.00	41.96	AVG	No Limit
4	2406.0000	72. 08	33. 12	105. 20	74.00	31. 20	Peak	No Limit

Report No.: BTL-FCCP-1-1709C165 Page 60 of 138





#### Horizontal



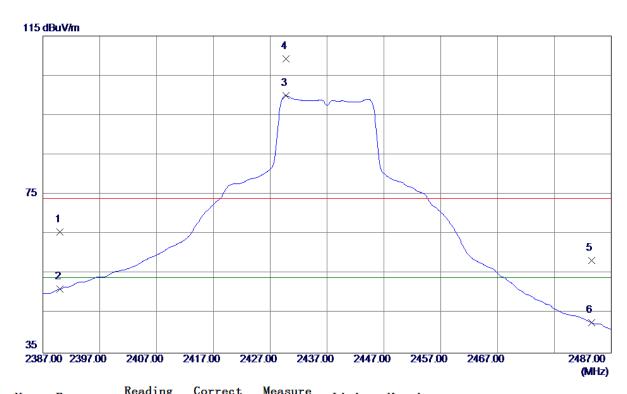
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4823. 0250	40. 38	6. 31	46. 69	74.00	-27. 31	Peak	
2 *	4823.8500	28. 18	6. 32	34. 50	54.00	-19.50	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 61 of 138





# Vertical



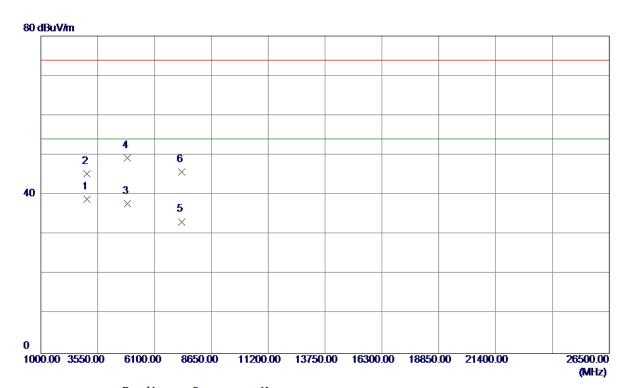
No.	Freq.	Level	_	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	32. 53	33.06	65. 59	74.00	-8.41	Peak	
2	2390. 0000	18. 04	33.06	51. 10	54.00	-2. 90	AVG	
3 *	2429.7500	66.71	33. 21	99. 92	<b>54.00</b>	45.92	AVG	No Limit
4	2429.8000	76.06	33. 21	109. 27	74.00	35. 27	Peak	No Limit
5	2483. 5000	24. 99	33.41	58. 40	74.00	-15. 60	Peak	
6	2483. 5000	9. 29	33.41	42.70	54.00	-11. 30	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 62 of 138





#### **Vertical**



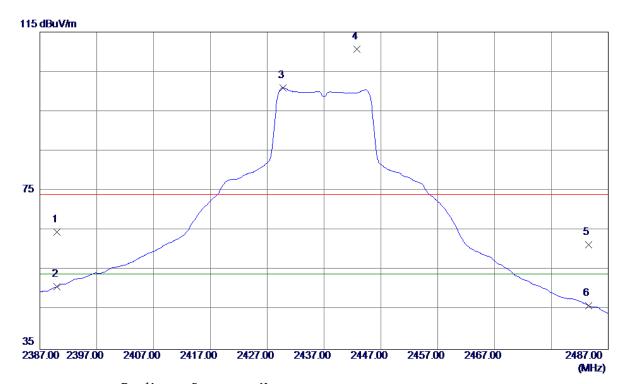
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	3071. 3400	36. 90	1. 92	38. 82	54.00	-15. 18	AVG	
2	3071. 5500	43. 34	1. 92	45. 26	74.00	-28.74	Peak	
3	4873.9300	31. 29	6. 44	37.73	54.00	-16. 27	AVG	
4	4878.0700	42.90	6. 45	49. 35	74.00	-24.65	Peak	
5	7307. 9100	19.83	13. 37	33. 20	54.00	-20.80	AVG	
6	7311. 4200	32. 46	13. 37	45.83	74.00	-28. 17	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 63 of 138





#### Horizontal



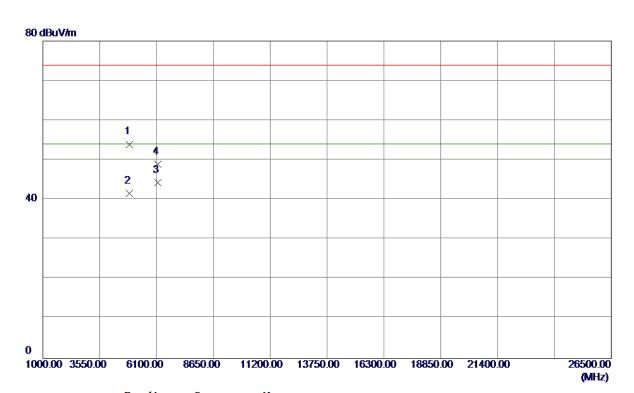
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	31. 60	33.06	64.66	74.00	-9. 34	Peak	
2	2390.0000	17.77	33.06	50.83	54.00	-3. 17	AVG	
3 *	2429.7500	67.70	33. 21	100.91	54.00	46.91	AVG	No Limit
4	2442.7500	77. 50	33. 25	110.75	74.00	36.75	Peak	No Limit
5	2483. 5000	27. 96	33.41	61. 37	74.00	-12.63	Peak	
6	2483. 5000	12.69	33. 41	46. 10	54.00	-7.90	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 64 of 138





#### Horizontal



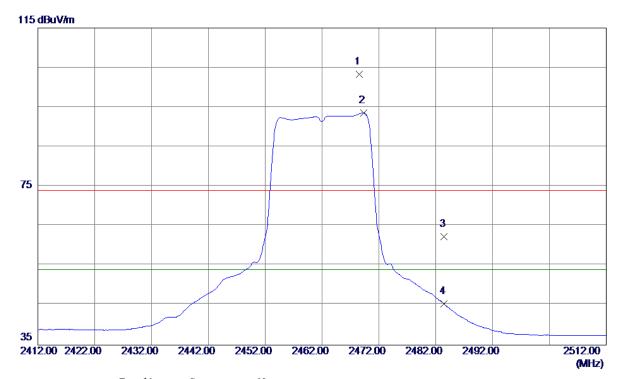
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4871.7900	47. 56	6. 44	54.00	74.00	-20.00	Peak	
2	4873. 9200	35. 19	6. 44	41.63	54.00	-12. 37	AVG	
3 *	6142.6800	33. 08	11. 17	44. 25	54.00	-9.75	AVG	
4	6142.7700	37.79	11. 17	48. 96	74.00	<b>-25.04</b>	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 65 of 138





# Vertical



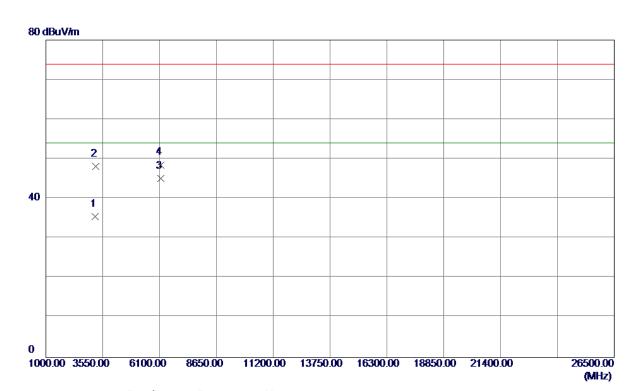
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2468.6000	70.00	33. 35	103. 35	74.00	29. 35	Peak	No Limit
2 *	2469. 3000	60. 26	33. 35	93. 61	54.00	39.61	AVG	No Limit
3	2483. 5000	28. 92	33.41	62. 33	74.00	-11.67	Peak	
4	2483. 5000	11. 95	33.41	45. 36	54.00	-8.64	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 66 of 138





### **Vertical**



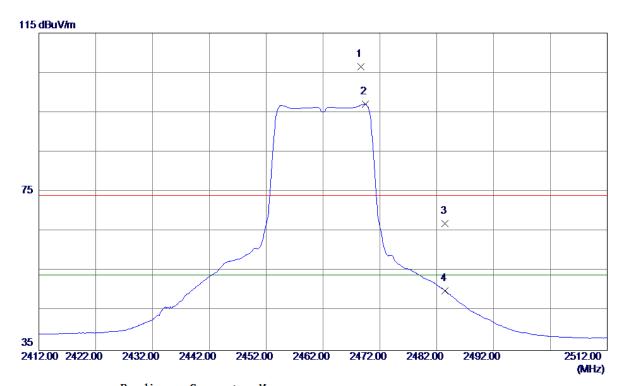
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	3222. 8500	33. 15	2. 33	35. 48	54.00	-18. 52	AVG	
2	3224. 3500	45. 78	2. 33	48. 11	74.00	-25.89	Peak	
3 *	6142.6900	33. 90	11. 17	45.07	54.00	-8.93	AVG	
4	6142. 8200	37. 39	11. 17	48. 56	74.00	-25.44	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 67 of 138





#### Horizontal



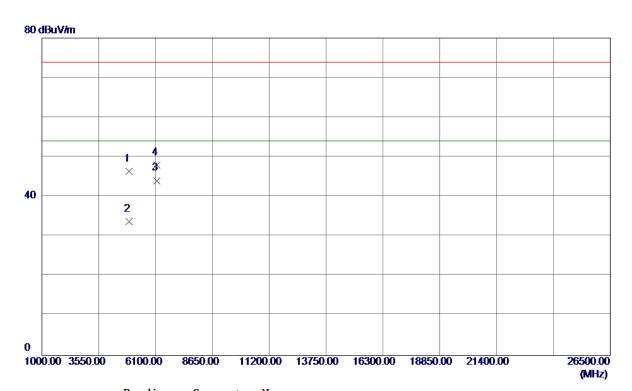
1	No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	L	2468.7000	73. 15	33. 35	106. 50	74.00	32. 50	Peak	No Limit
2	<u></u> *	2469.4000	63.72	33. 35	97.07	54.00	43.07	AVG	No Limit
3	}	2483. 5000	33. 58	33.41	66. 99	74.00	<b>-7.01</b>	Peak	
4	<u> </u>	2483. 5000	16. 63	33. 41	50.04	54.00	-3. 96	AVG	
		2100.0000	10.00	00. 11	UU. UI	01.00	0.00	ATO	

Report No.: BTL-FCCP-1-1709C165 Page 68 of 138





#### Horizontal



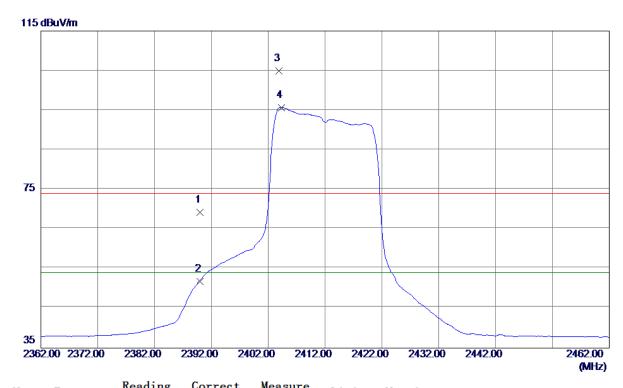
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4921.6900	39. 91	6. 56	46. 47	74.00	-27.53	Peak	
2	4923.8500	27. 15	6. 57	33. 72	54.00	-20. 28	AVG	
3 *	6142. 6800	32. 91	11. 17	44.08	54.00	-9.92	AVG	
4	6142.7100	36. 79	11. 17	47.96	74.00	-26. 04	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 69 of 138





# Vertical



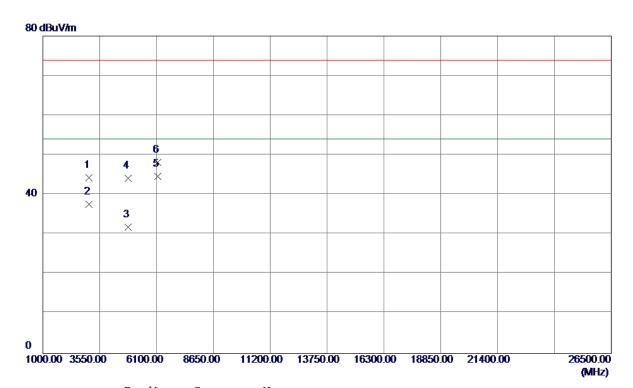
No.	Freq.	Keading Level	Correct Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	36. 13	33.06	69. 19	74.00	-4.81	Peak	
2	2390. 0000	18.81	33.06	51.87	54.00	-2. 13	AVG	
3	2403. 9000	71.87	33. 11	104.98	74.00	30. 98	Peak	No Limit
4 *	2404. 3500	62.60	33. 11	95. 71	54.00	41.71	AVG	No Limit

Report No.: BTL-FCCP-1-1709C165 Page 70 of 138





#### Vertical



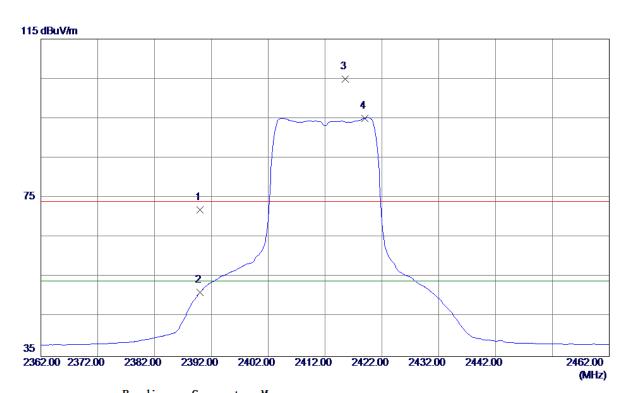
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	3071. 2800	42.44	1. 92	44. 36	74.00	-29.64	Peak	
2	3071. 3400	35. 66	1. 92	37. 58	54.00	-16. 42	AVG	
3	4824.0900	25. 56	6. 32	31.88	54.00	-22. 12	AVG	
4	4830.0900	37.89	6. 33	44.22	74.00	-29. 78	Peak	
5 *	6142.7000	33.48	11. 17	44.65	54.00	-9. 35	AVG	
6	6142.8000	36. 95	11. 17	48. 12	74.00	-25.88	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 71 of 138





#### Horizontal



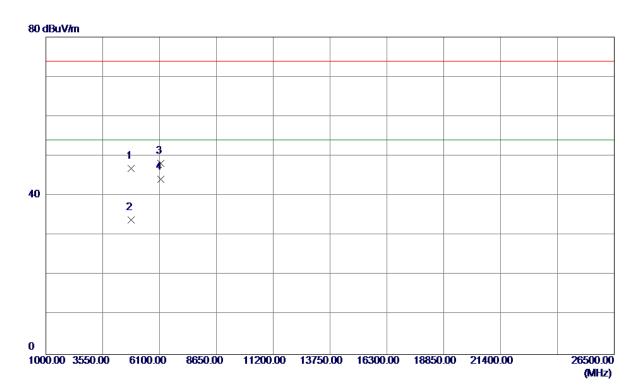
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	38. 86	33. 06	71. 92	74.00	<b>-2.08</b>	Peak	
2	2390. 0000	18. 04	33. 06	51. 10	54.00	-2.90	AVG	
3	2415. 5500	71.84	33. 15	104.99	74.00	30. 99	Peak	No Limit
4 *	2419.0500	61.89	33. 17	95. 06	54.00	41.06	AVG	No Limit

Report No.: BTL-FCCP-1-1709C165 Page 72 of 138





## Horizontal



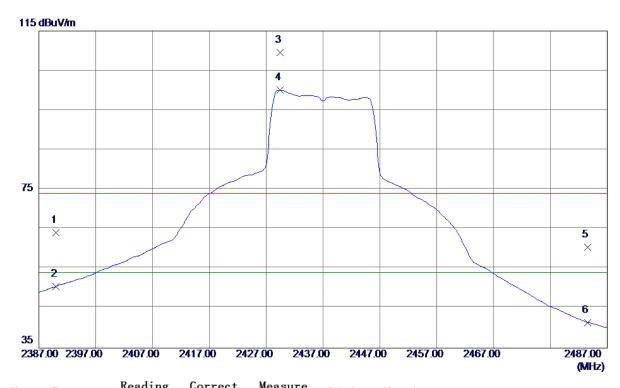
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4823.6500	40. 53	6. 32	46.85	74.00	-27. 15	Peak	
2	4824.0250	27. 56	6. 32	33.88	54.00	-20. 12	AVG	
3	6142. 6200	37.00	11. 17	48. 17	74.00	-25.83	Peak	
4 *	6142.7100	33. 01	11. 17	44. 18	54.00	-9.82	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 73 of 138





## Vertical



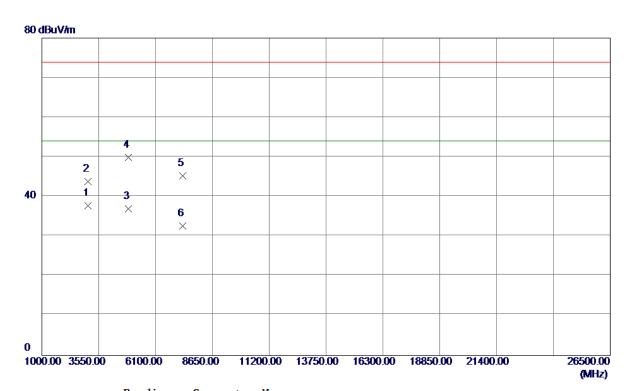
No.	Freq.	Keading Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	31. 09	33.06	64. 15	74.00	-9.85	Peak	
2	2390.0000	17.48	33.06	50. 54	54.00	-3.46	AVG	
3	2429. 4000	76. 34	33. 20	109. 54	74.00	35. 54	Peak	No Limit
4 *	2429. 4000	66. 84	33. 20	100.04	54.00	46.04	AVG	No Limit
5	2483. 5000	27.03	33. 41	60.44	74.00	-13. 56	Peak	
6	2483. 5000	8. 05	33. 41	41.46	54.00	-12.54	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 74 of 138





## Vertical



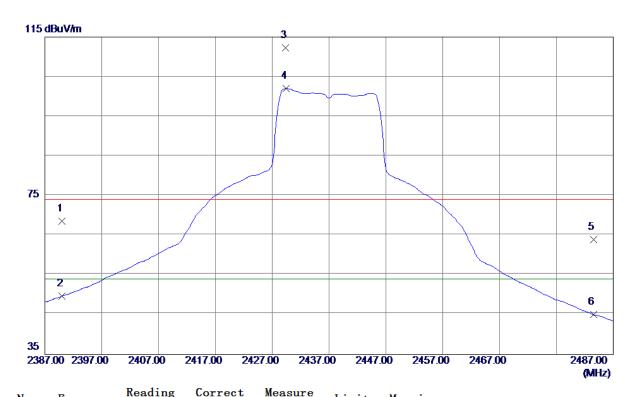
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	3070.8600	35. 82	1. 91	37.73	<b>54.00</b>	-16. 27	AVG	
2	3070. 8899	41.86	1. 91	43.77	74.00	-30. 23	Peak	
3	4874.0000	30. 46	6. 44	36. 90	<b>54.00</b>	-17. 10	AVG	
4	4875.0500	43.54	6. 45	49.99	74.00	-24.01	Peak	
5	7306. 2300	31.88	13. 37	45. 25	74.00	-28.75	Peak	
6	7307. 2500	19. 31	13. 37	32.68	54.00	-21. 32	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 75 of 138





## Horizontal



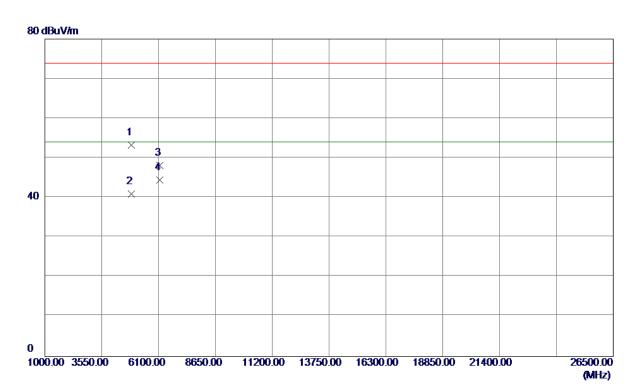
No.	Freq.	Level	Factor	measure	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	35. 58	33. 06	68. 64	74.00	-5. 36	Peak	
2	2390. 0000	16. 63	33. 06	49.69	54.00	-4.31	AVG	
3	2429. 3000	79. 11	33. 20	112. 31	74.00	38. 31	Peak	No Limit
4 *	2429. 4500	68.82	33. 20	102. 02	54.00	48.02	AVG	No Limit
5	2483. 5000	30. 49	33. 41	63. 90	74.00	-10. 10	Peak	
6	2483. 5000	11.62	33.41	45.03	54.00	-8. 97	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 76 of 138





## Horizontal



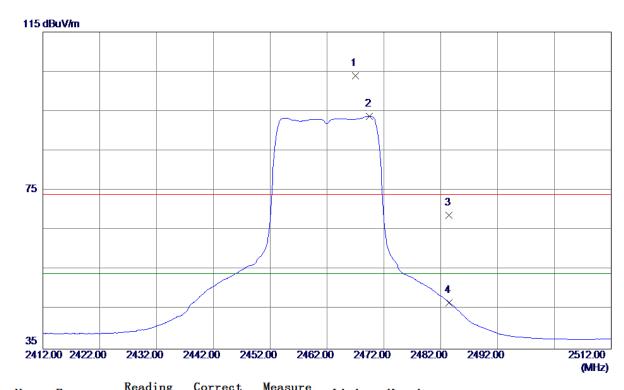
No. Fr	eq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
MH	z	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 48	71. 7200	46.85	6.44	53. 29	74.00	-20.71	Peak	
2 48	74. 1200	34.47	6.44	40.91	54.00	-13.09	AVG	
3 61	42.6750	37.00	11. 17	48. 17	74.00	-25.83	Peak	
4 * 61	42.7000	33. 36	11. 17	44.53	54.00	-9. 47	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 77 of 138





## Vertical



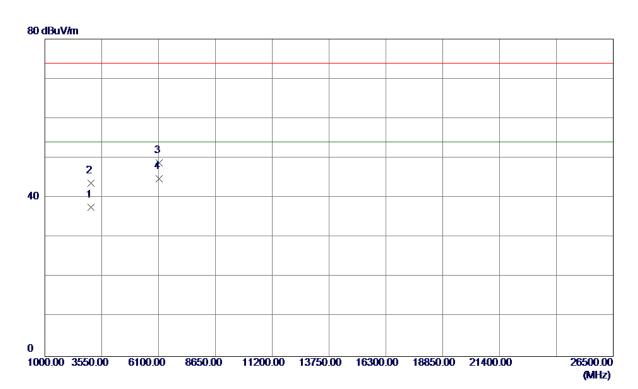
No.	Freq.	Keading Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2467.0500	70. 59	33. 35	103.94	74.00	29.94	Peak	No Limit
2 *	2469. 5000	60. 38	33. 36	93.74	54.00	39.74	AVG	No Limit
3	2483. 5000	35. 39	33.41	68.80	74.00	-5. 20	Peak	
4	2483. 5000	13. 35	33.41	46.76	54.00	-7.24	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 78 of 138





## Vertical



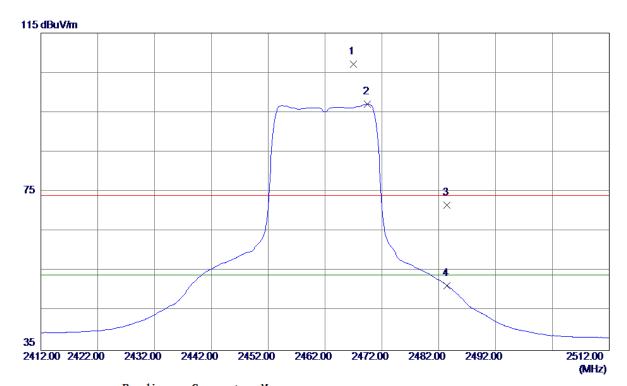
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	3071.0100	35. 69	1. 91	37. 60	54.00	-16. 40	AVG	
2	3071. 1299	41.80	1. 91	43.71	74.00	-30. 29	Peak	
3	6142.0500	37.61	11. 17	48. 78	74.00	-25. 22	Peak	
4 *	6142. 0800	33. 59	11. 17	44.76	54.00	-9. 24	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 79 of 138





## Horizontal



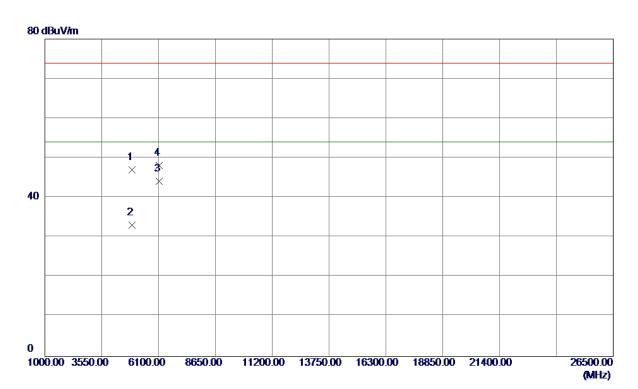
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2467.0500	73. 76	33. 35	107. 11	74.00	33. 11	Peak	No Limit
2 *	2469. 5000	63. 68	33. 36	97.04	54.00	43.04	AVG	No Limit
3	2483. 5000	38. 25	33.41	71.66	74.00	-2.34	Peak	
4	2483. 5000	17.94	33. 41	51. 35	54.00	-2.65	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 80 of 138





## Horizontal



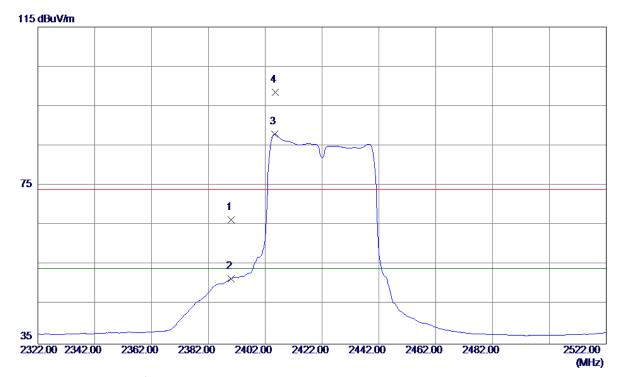
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4920.8750	40.46	6. 56	47.02	74.00	-26. 98	Peak	
2	4923.8750	26. 60	6. 57	33. 17	<b>54.00</b>	-20.83	AVG	
3 *	6142. 1700	32.94	11. 17	44.11	<b>54.00</b>	-9.89	AVG	
4	6142. 2300	37.04	11. 17	48. 21	74.00	-25. 79	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 81 of 138





## Vertical



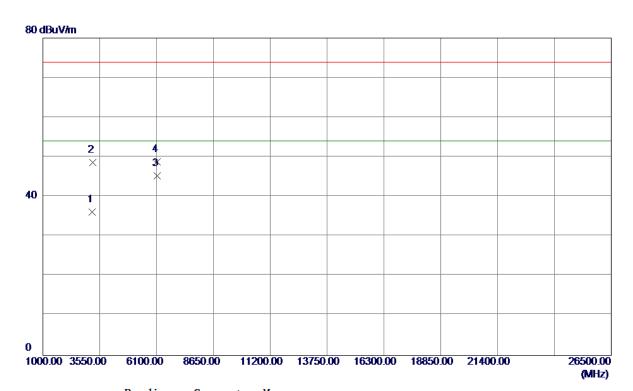
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	33. 24	33. 06	66. 30	74.00	-7.70	Peak	
2	2390.0000	18. 48	33. 06	51. 54	54.00	-2.46	AVG	
3 *	2405. 3000	54.84	33. 11	87. 95	54.00	33. 95	AVG	No Limit
4	2405.6000	65. 35	33. 11	98. 46	74.00	24.46	Peak	No Limit

Report No.: BTL-FCCP-1-1709C165 Page 82 of 138





## Vertical



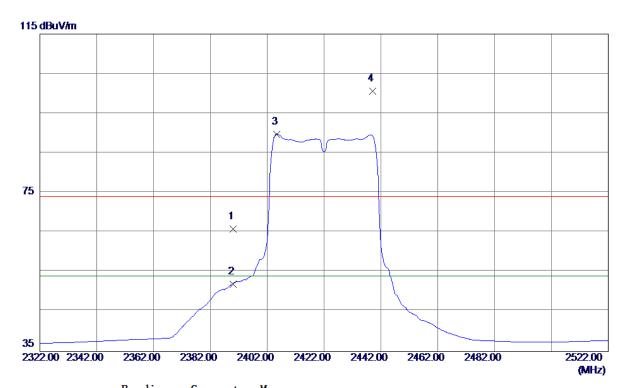
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	3223. 1500	33.84	2. 33	36. 17	54.00	-17.83	AVG	
2	3228.0000	46. 34	2. 34	48. 68	74.00	-25. 32	Peak	
3 *	6142. 3300	34. 10	11. 17	45. 27	54.00	-8.73	AVG	
4	6142. 3500	37. 57	11. 17	48.74	74.00	-25. 26	Peak	

Report No.: BTL-FCCP-1-1709C165 Page 83 of 138





## Horizontal



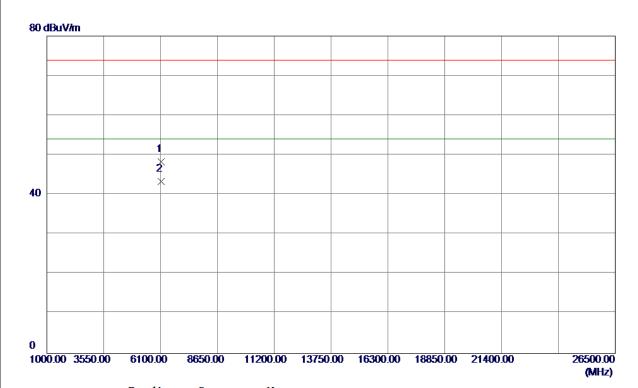
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	32. 80	33.06	65. 86	74.00	-8. 14	Peak	
2	2390.0000	18. 92	33.06	51. 98	54.00	-2.02	AVG	
3 *	2405. 3000	56. 69	33. 11	89. 80	54.00	35. 80	AVG	No Limit
4	2439. 1000	67.32	33. 24	100. 56	74.00	26. 56	Peak	No Limit

Report No.: BTL-FCCP-1-1709C165 Page 84 of 138





## Horizontal



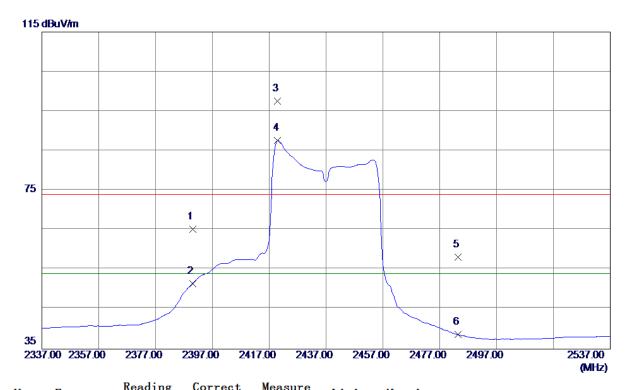
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	6142. 2400	37. 22	11. 17	48. 39	74.00	-25. 61	Peak	
2 *	6142. 2799	32. 26	11. 17	43. 43	54.00	-10. 57	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 85 of 138





## Vertical



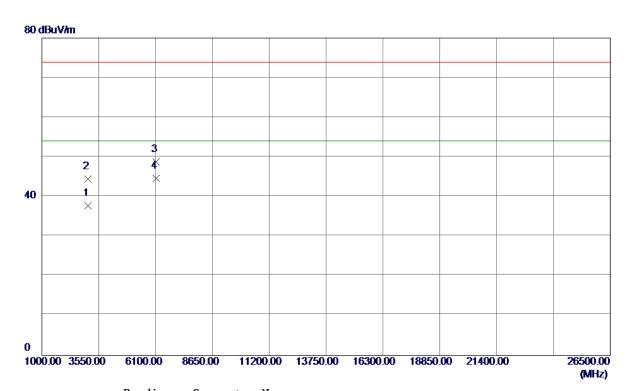
No.	Freq.	Level	Factor	measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	32. 25	33. 06	65. 31	74.00	-8. 69	Peak	
2	2390. 0000	18. 48	33. 06	51. 54	54.00	-2.46	AVG	
3	2419.9000	64. 36	33. 17	97. 53	74.00	23. 53	Peak	No Limit
4 *	2420.0000	54. 47	33. 17	87.64	54.00	33.64	AVG	No Limit
5	2483. 5000	24.85	33. 41	58. 26	74.00	<b>−15.74</b>	Peak	
6	2483. 5000	5. 20	33. 41	38. 61	54.00	-15. 39	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 86 of 138





## Vertical



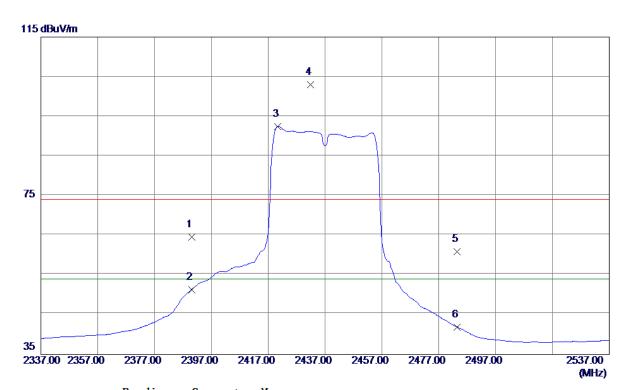
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	3071. 2000	35. 91	1. 92	37. 83	54.00	-16. 17	AVG	
2	3071. 3500	42.62	1. 92	44.54	74.00	-29.46	Peak	
3	6142. 2250	37.65	11. 17	48.82	74.00	-25. 18	Peak	
4 *	6142. 3250	33. 42	11. 17	44. 59	54.00	-9.41	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 87 of 138





## Horizontal



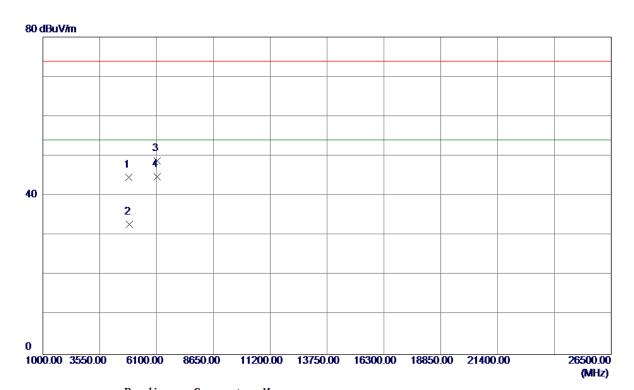
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.0000	31.60	33. 06	64.66	74.00	-9. 34	Peak	
2	2390.0000	18. 28	33. 06	51. 34	54.00	-2.66	AVG	
3 *	2420. 4000	59. 32	33. 17	92.49	54.00	38. 49	AVG	No Limit
4	2431.8000	69.75	33. 21	102.96	74.00	28.96	Peak	No Limit
5	2483. 5000	27. 56	33. 41	60. 97	74.00	-13.03	Peak	
6	2483. 5000	8. 49	33.41	41.90	54.00	-12. 10	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 88 of 138





## Horizontal



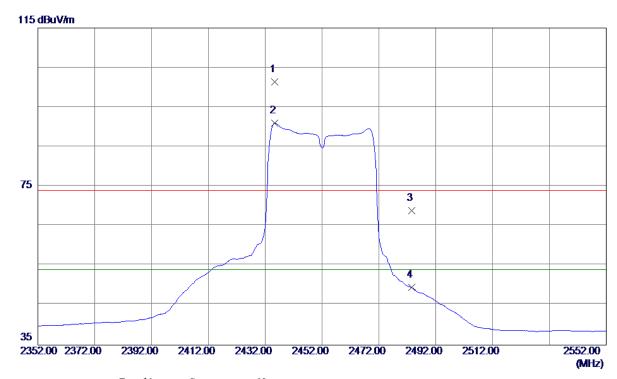
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4866. 9000	38. 26	6. 42	44.68	74.00	-29. 32	Peak	
2	4873.8500	26. 38	6. 44	32.82	54.00	-21. 18	AVG	
3	6142. 3750	37. 56	11. 17	48.73	74.00	-25. 27	Peak	
4 *	6142. 3750	33.65	11. 17	44.82	54.00	-9. 18	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 89 of 138





## Vertical



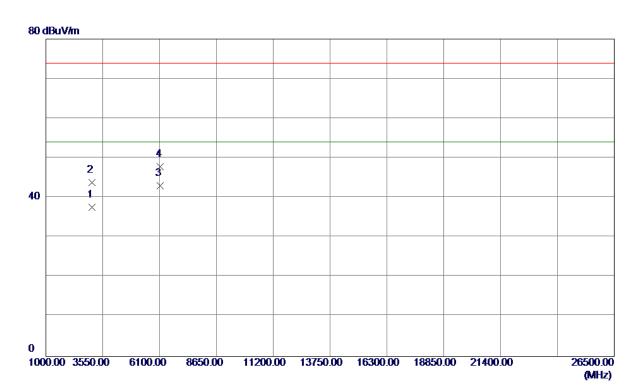
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2435. 3000	68. 19	33. 23	101.42	74.00	27.42	Peak	No Limit
2 *	2435. 3000	57.74	33. 23	90. 97	54.00	36. 97	AVG	No Limit
3	2483. 5000	35. 49	33.41	68. 90	74.00	-5. 10	Peak	
4	2483. 5000	16.08	33.41	49. 49	54.00	-4.51	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 90 of 138





## Vertical



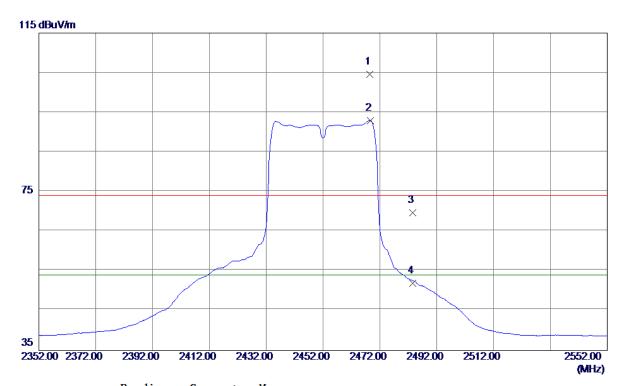
Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
3071. 2000	35. 65	1. 92	37. 57	54.00	-16. 43	AVG	
3071. 2500	41.89	1. 92	43.81	74.00	-30. 19	Peak	
6142.4000	31.88	11. 17	43.05	54.00	-10.95	AVG	
6142. 5000	36. 62	11. 17	47. 79	74.00	-26. 21	Peak	
	MHz 3071. 2000 3071. 2500 6142. 4000	Freq. Level	MHz         dBuV/m         dB           3071.2000         35.65         1.92           3071.2500         41.89         1.92           6142.4000         31.88         11.17	MHz         dBuV/m         dB         dBuV/m           3071.2000         35.65         1.92         37.57           3071.2500         41.89         1.92         43.81           6142.4000         31.88         11.17         43.05	MHz         dBuV/m         dB         dBuV/m         dBuV/m           3071. 2000 35. 65         1. 92         37. 57         54. 00           3071. 2500 41. 89         1. 92         43. 81         74. 00           6142. 4000 31. 88         11. 17         43. 05         54. 00	MHz         dBuV/m         dB         dBuV/m         dB         dBuV/m         dB         dBuV/m         dB           3071. 2000 35. 65         1. 92         37. 57         54. 00         -16. 43           3071. 2500 41. 89         1. 92         43. 81         74. 00         -30. 19           6142. 4000 31. 88         11. 17         43. 05         54. 00         -10. 95	MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector           3071. 2000 35. 65         1. 92         37. 57         54. 00         -16. 43         AVG           3071. 2500 41. 89         1. 92         43. 81         74. 00         -30. 19         Peak           6142. 4000 31. 88         11. 17         43. 05         54. 00         -10. 95         AVG

Report No.: BTL-FCCP-1-1709C165 Page 91 of 138





## Horizontal



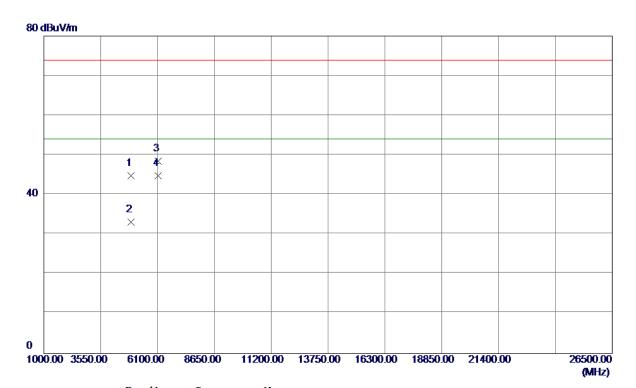
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2468. 5000	71. 30	33. 35	104.65	74.00	30.65	Peak	No Limit
2 *	2468.6000	59. 58	33. 35	92. 93	54.00	38. 93	AVG	No Limit
3	2483. 5000	36. 34	33.41	69.75	74.00	-4.25	Peak	
4	2483. 5000	18. 61	33. 41	<b>52. 02</b>	54.00	-1.98	AVG	

Report No.: BTL-FCCP-1-1709C165 Page 92 of 138





## Horizontal



m dB Detector Comment
-29.18 Peak
-20.83 AVG
-25.56 Peak
-9. 21 AVG

Report No.: BTL-FCCP-1-1709C165 Page 93 of 138





APPENDIX E - BANDWIDTH						

Report No.: BTL-FCCP-1-1709C165 Page 94 of 138

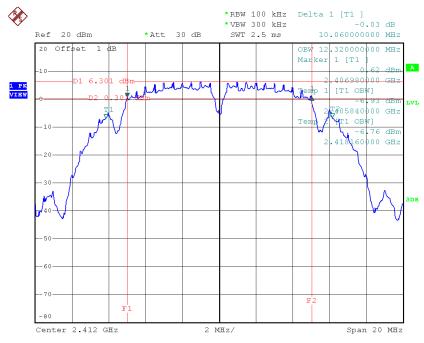




## Test Mode: TX B Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	10.06	12.32	500	Complies
2437	10.14	14.24	500	Complies
2462	10.10	12.48	500	Complies

## TX CH01

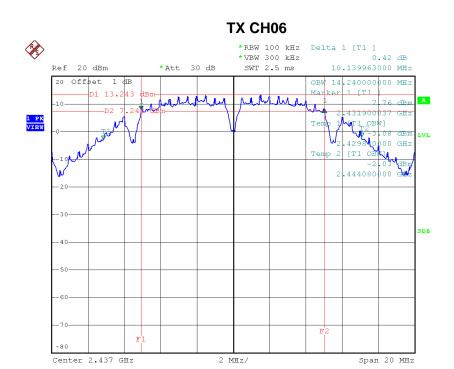


Date: 13.0CT.2017 11:36:24

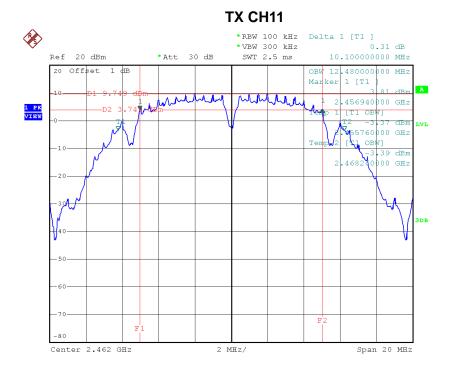
Report No.: BTL-FCCP-1-1709C165 Page 95 of 138







Date: 13.0CT.2017 11:38:17



Date: 13.0CT.2017 11:40:50

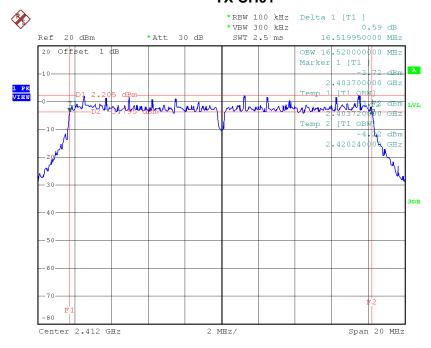




# Test Mode: TX G Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.52	16.52	500	Complies
2437	16.42	16.76	500	Complies
2462	16.48	16.52	500	Complies

## **TX CH01**

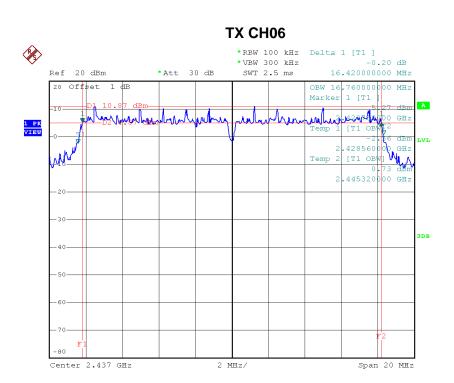


Date: 13.0CT.2017 11:44:06

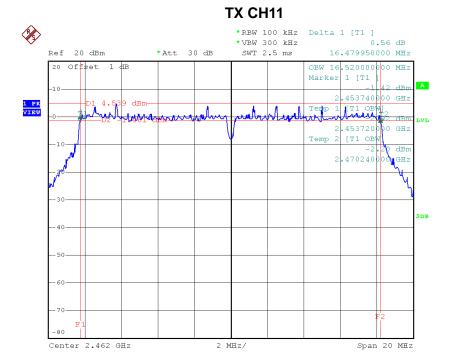
Report No.: BTL-FCCP-1-1709C165 Page 97 of 138







Date: 13.0CT.2017 11:45:40



Date: 13.0CT.2017 11:47:17

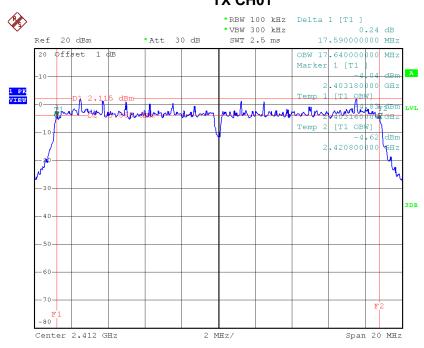




# Test Mode: TX N-20MHz Mode\_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.59	17.64	500	Complies
2437	17.40	17.68	500	Complies
2462	17.35	17.64	500	Complies

## TX CH01

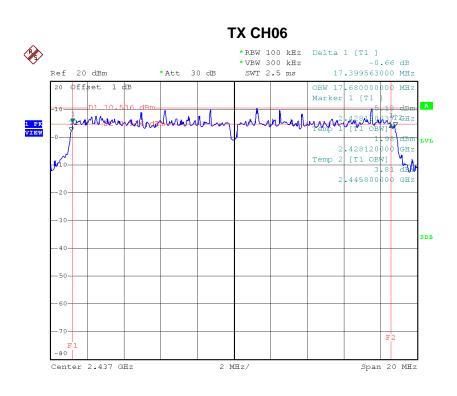


Date: 13.0CT.2017 11:49:32

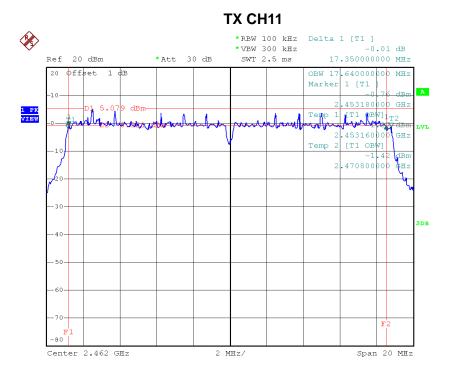
Report No.: BTL-FCCP-1-1709C165 Page 99 of 138







Date: 13.0CT.2017 11:51:07



Date: 13.0CT.2017 11:52:42

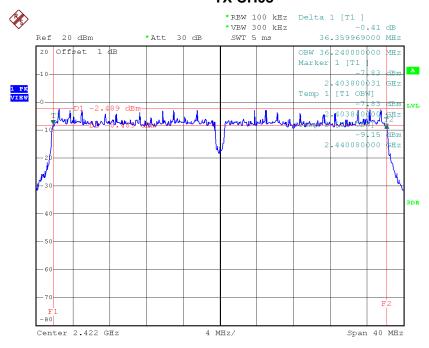




# Test Mode: TX N-40MHz Mode\_CH03/06/09

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	36.36	36.24	500	Complies
2437	36.16	36.24	500	Complies
2452	36.36	36.32	500	Complies

## **TX CH03**

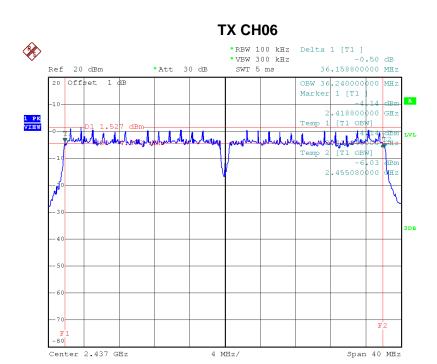


Date: 13.0CT.2017 11:55:28

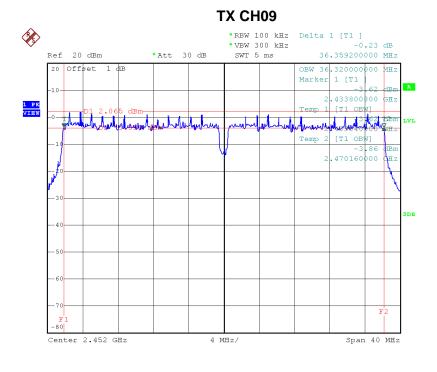
Report No.: BTL-FCCP-1-1709C165 Page 101 of 138







Date: 13.0CT.2017 11:57:36



Date: 13.0CT.2017 11:59:14

Report No.: BTL-FCCP-1-1709C165





APPENDIX F - MAXIMUM PEAK CONDUCTED OUTPUT POWER

Report No.: BTL-FCCP-1-1709C165 Page 103 of 138





Test Mode :TX B Mode_CH01/06/11					
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Dogult
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result
2412	14.73	0.03	30.00	1.00	Complies
2437	14.47	0.03	30.00	1.00	Complies
2462	14.48	0.03	30.00	1.00	Complies

Test Mode :TX G Mode_CH01/06/11					
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	
2412	13.69	0.02	30.00	1.00	Complies
2437	13.75	0.02	30.00	1.00	Complies
2462	13.85	0.02	30.00	1.00	Complies

Test Mode :TX N20 Mode_CH01/06/11					
Frequency	Conducted	Conducted	Max. Limit	Max. Limit	Result
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result
2412	12.71	0.02	30.00	1.00	Complies
2437	12.66	0.02	30.00	1.00	Complies
2462	12.83	0.02	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09					
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	12.39	0.02	30.00	1.00	Complies
2437	12.50	0.02	30.00	1.00	Complies
2452	12.46	0.02	30.00	1.00	Complies

Report No.: BTL-FCCP-1-1709C165 Page 104 of 138





APPENDIX G - ANTENNA CONDUCTED SPURIOUS EMISSION

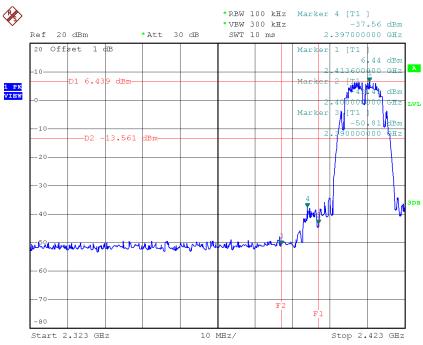
Report No.: BTL-FCCP-1-1709C165 Page 105 of 138





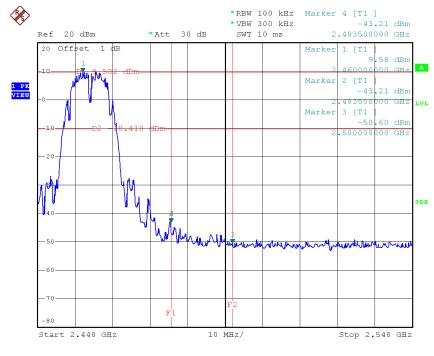






Date: 13.0CT.2017 11:36:59

#### TX B mode CH11

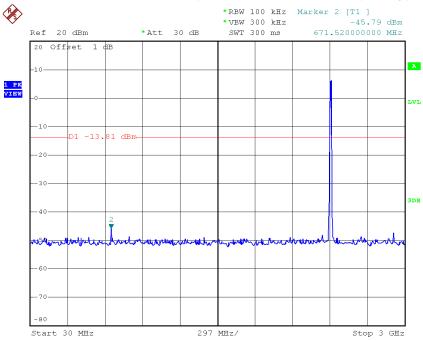


Date: 13.0CT.2017 11:41:41

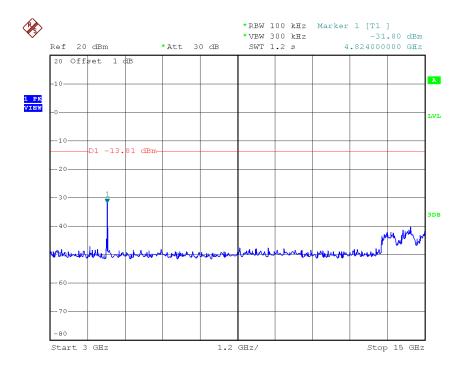








Date: 13.0CT.2017 11:36:38

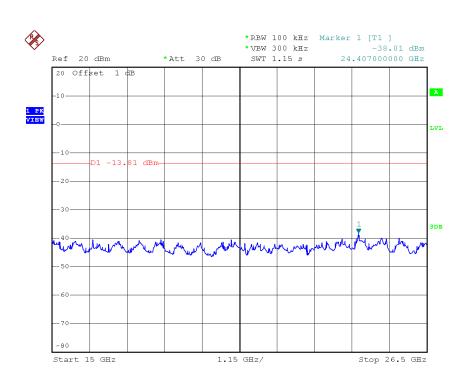


Date: 13.0CT.2017 11:36:45

Report No.: BTL-FCCP-1-1709C165

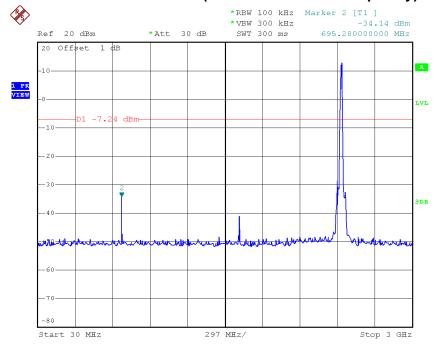






Date: 13.0CT.2017 11:36:52

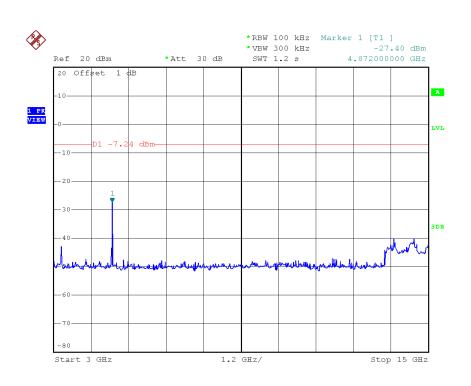
## TX B mode CH06 (10 Harmonic of the frequency)



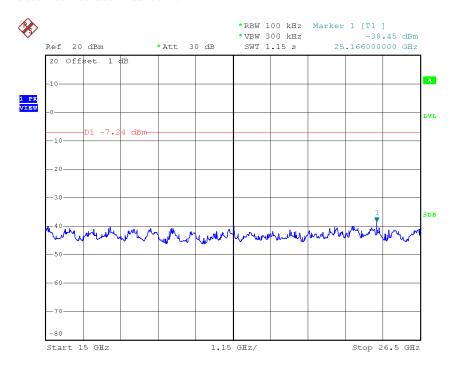
Date: 13.0CT.2017 11:38:30







Date: 13.0CT.2017 11:38:38

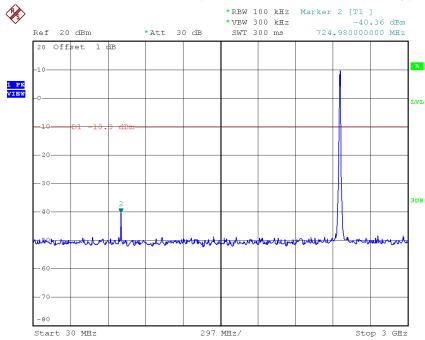


Date: 13.0CT.2017 11:38:45

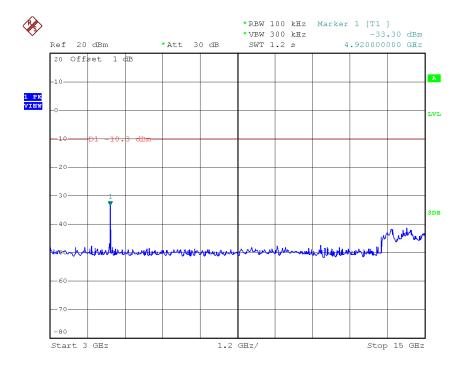








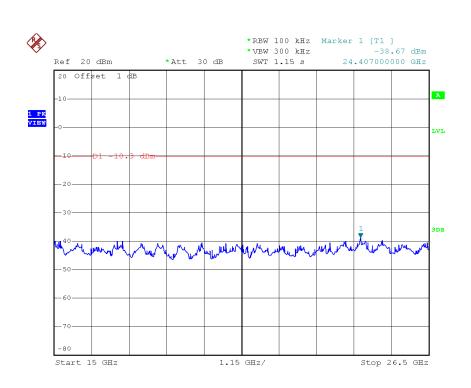
Date: 13.0CT.2017 11:41:03



Date: 13.0CT.2017 11:41:11





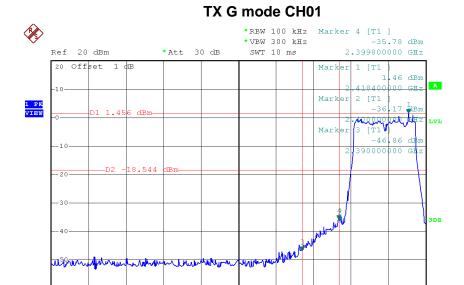


Date: 13.0CT.2017 11:41:18









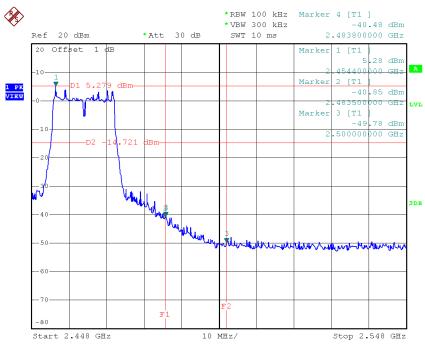
Date: 13.OCT.2017 11:44:40

Start 2.323 GHz

#### TX G mode CH11

Stop 2.423 GHz

10 MHz/

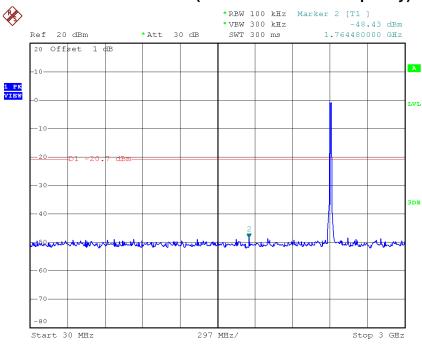


Date: 13.0CT.2017 11:47:52

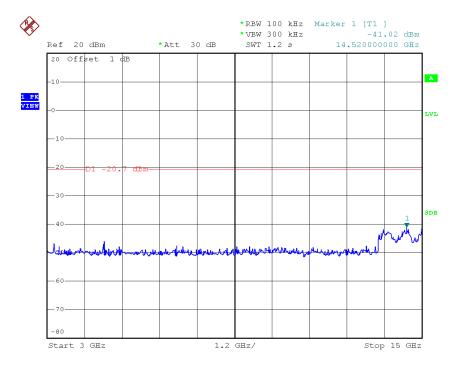




# TX G mode CH01 (10 Harmonic of the frequency)



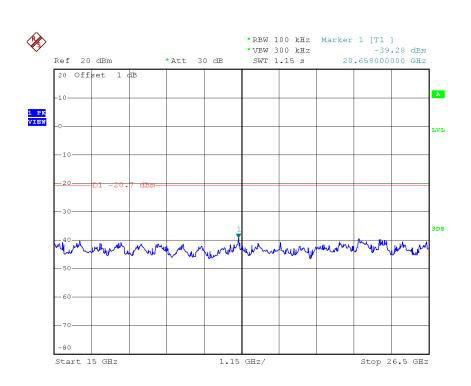
Date: 13.0CT.2017 11:44:19



Date: 13.0CT.2017 11:44:26

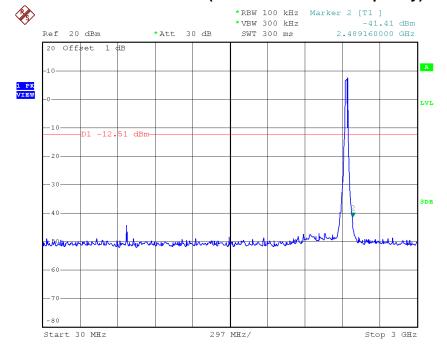






Date: 13.0CT.2017 11:44:33

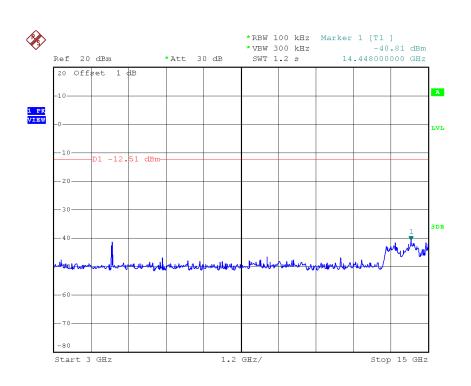
### TX G mode CH06 (10 Harmonic of the frequency)



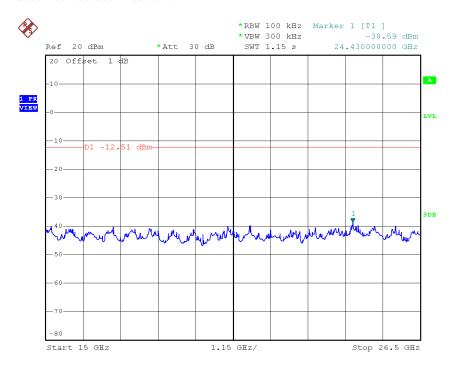
Date: 13.0CT.2017 12:16:56







Date: 13.0CT.2017 12:17:05

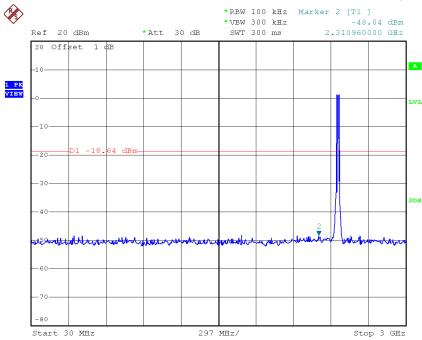


Date: 13.0CT.2017 12:17:12

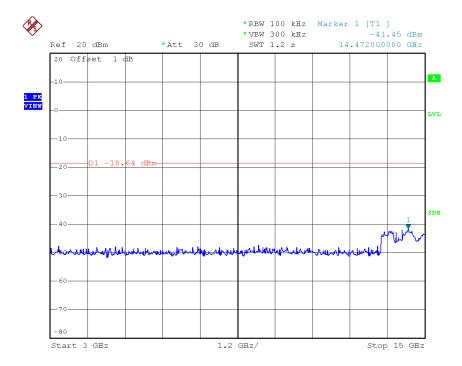








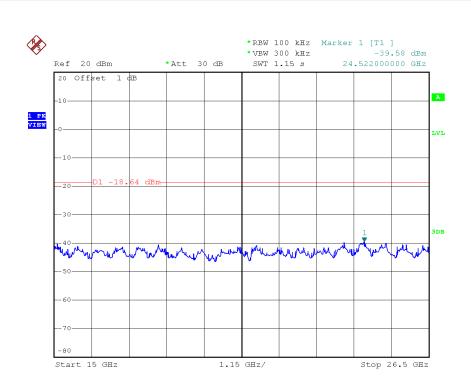
Date: 13.0CT.2017 11:47:30



Date: 13.0CT.2017 11:47:38





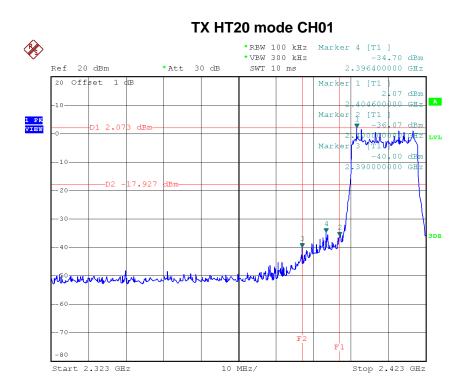


Date: 13.0CT.2017 11:47:45



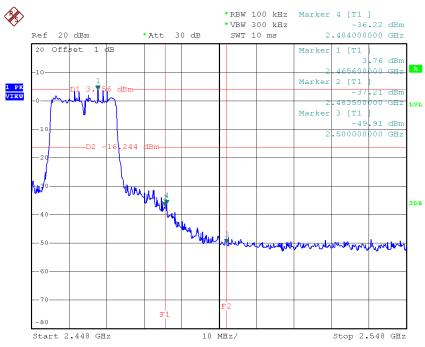






Date: 13.0CT.2017 11:50:06

#### TX HT20 mode CH11

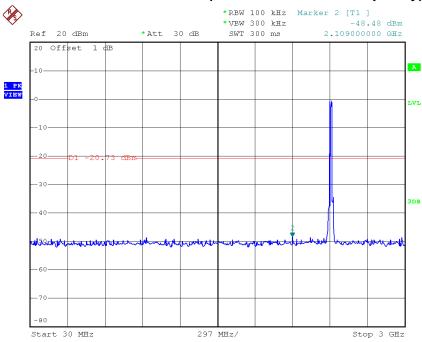


Date: 13.0CT.2017 11:53:33

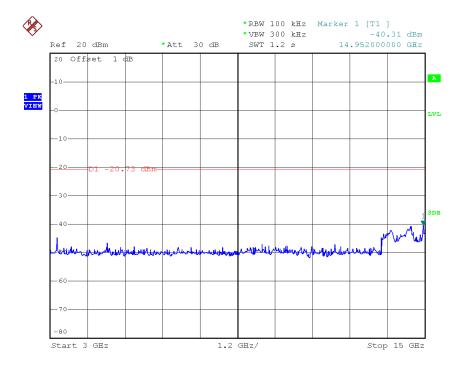




# TX HT20 mode CH01 (10 Harmonic of the frequency)



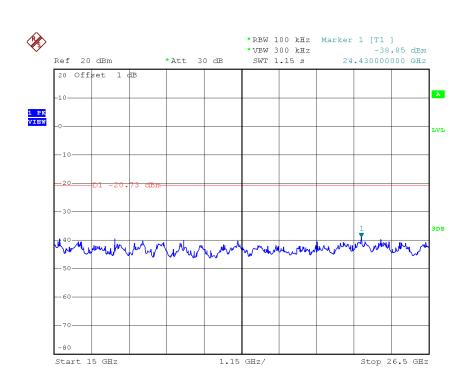
Date: 13.0CT.2017 11:49:45



Date: 13.0CT.2017 11:49:52

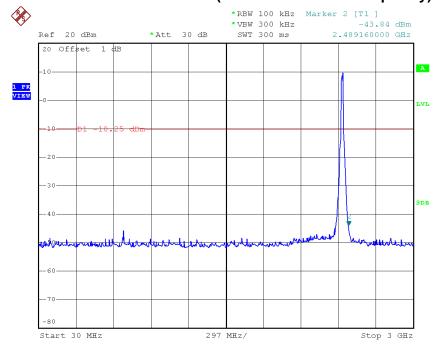






Date: 13.0CT.2017 11:49:59

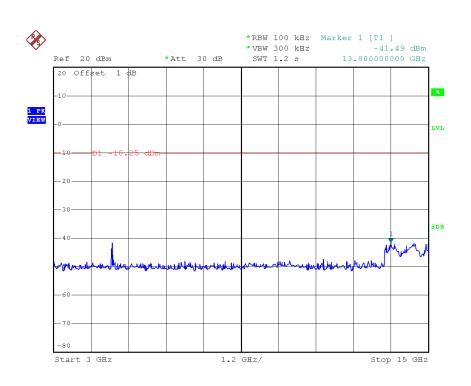
### TX HT20 mode CH06 (10 Harmonic of the frequency)



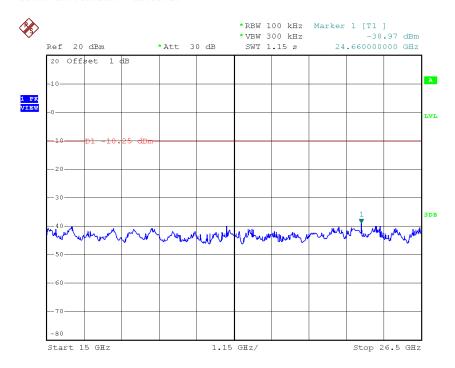
Date: 13.0CT.2017 12:19:21







Date: 13.0CT.2017 12:19:28

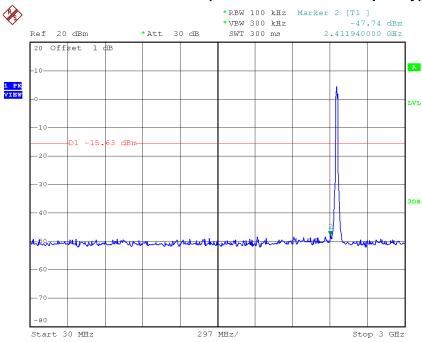


Date: 13.0CT.2017 12:19:35

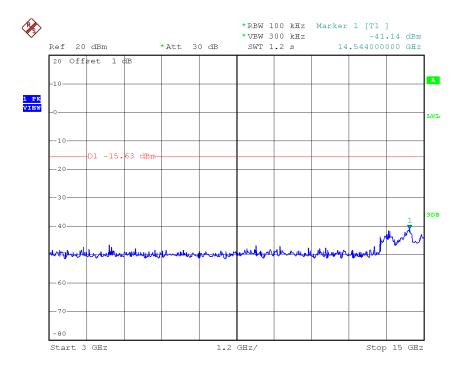




# TX HT20 mode CH11 (10 Harmonic of the frequency)



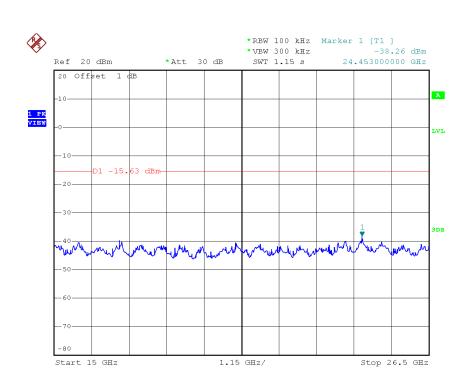
Date: 13.0CT.2017 11:52:55



Date: 13.0CT.2017 11:53:02





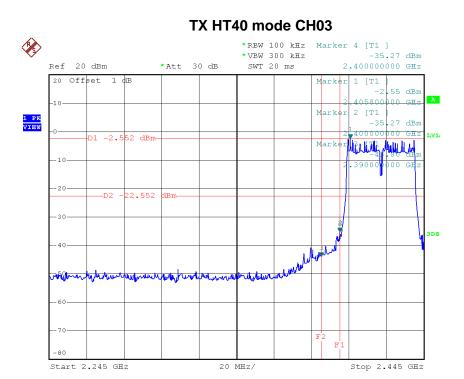


Date: 13.0CT.2017 11:53:09



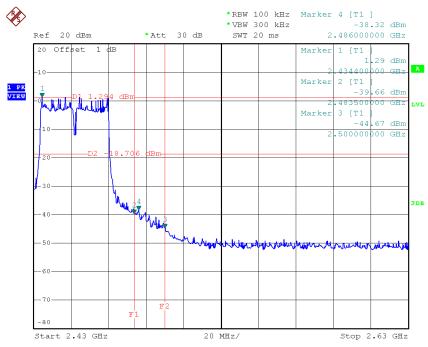






Date: 13.0CT.2017 11:56:02

#### TX HT40 mode CH09

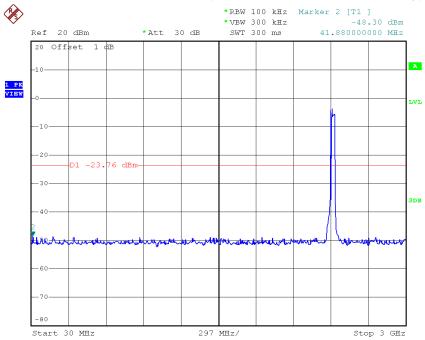


Date: 13.0CT.2017 12:00:06

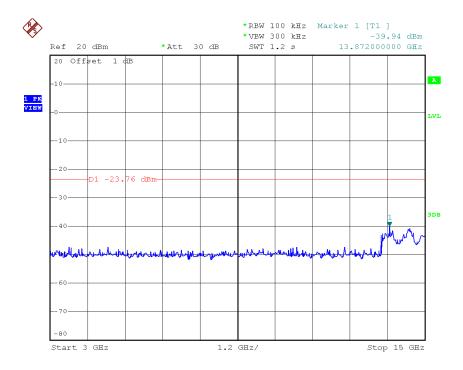








Date: 13.0CT.2017 11:55:41

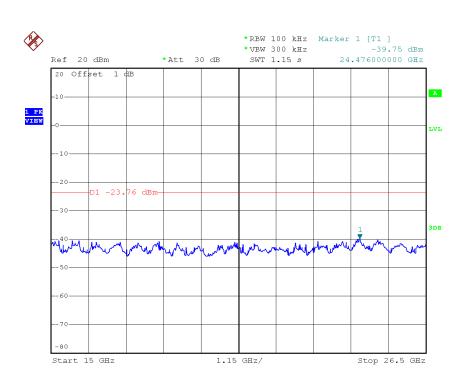


Date: 13.0CT.2017 11:55:48

Report No.: BTL-FCCP-1-1709C165 Pag

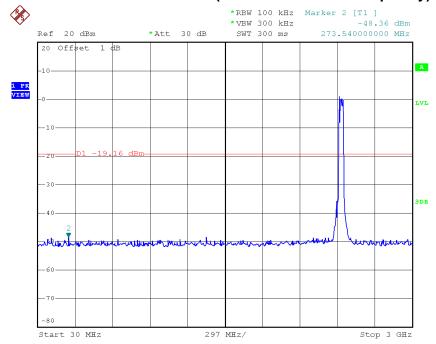






Date: 13.0CT.2017 11:55:56

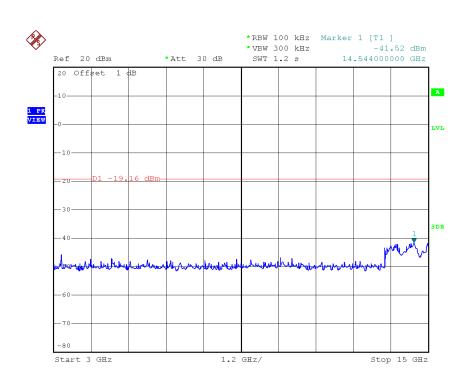
### TX HT40 mode CH06 (10 Harmonic of the frequency)



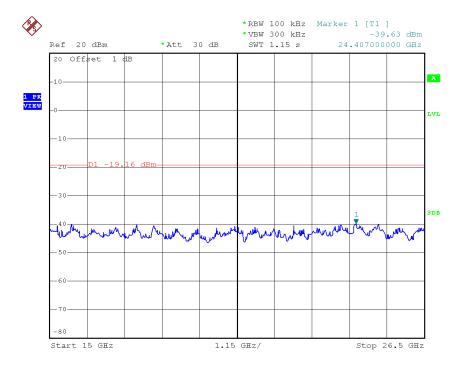
Date: 13.0CT.2017 11:57:49







Date: 13.0CT.2017 11:57:57

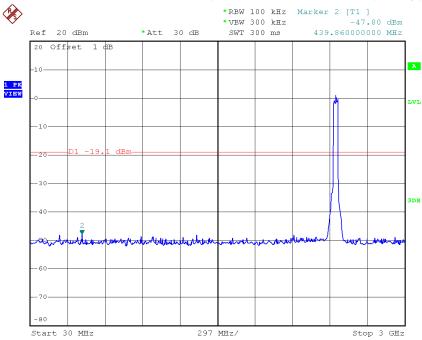


Date: 13.0CT.2017 11:58:04

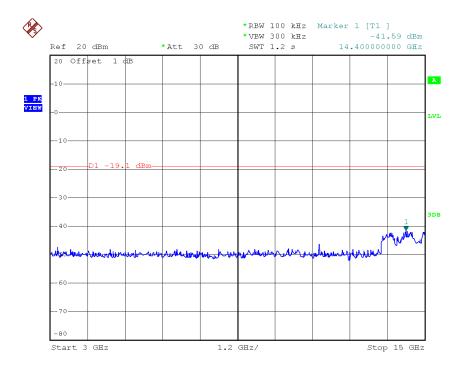








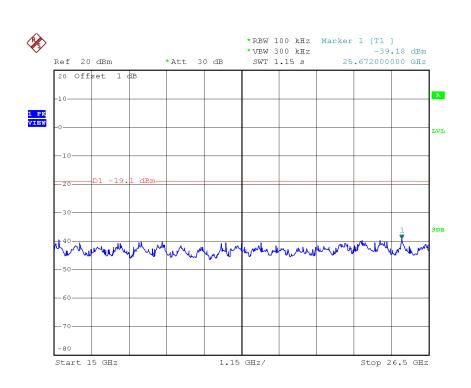
Date: 13.0CT.2017 11:59:27



Date: 13.0CT.2017 11:59:35







Date: 13.0CT.2017 11:59:42





	7
APPENDIX H - POWER SPECTRAL DENSITY	

Report No.: BTL-FCCP-1-1709C165 Page 130 of 138

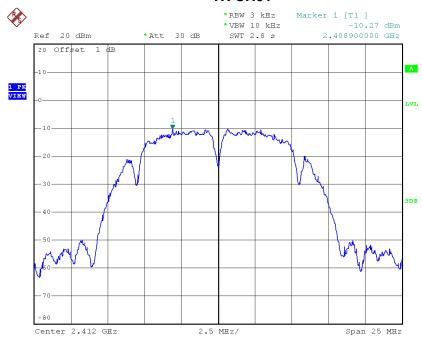




# Test Mode :TX B Mode\_CH01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-10.27	0.0940	8.00	Complies
2437	-3.23	0.4753	8.00	Complies
2462	-6.15	0.2427	8.00	Complies

### TX CH01



Date: 13.0CT.2017 11:37:07

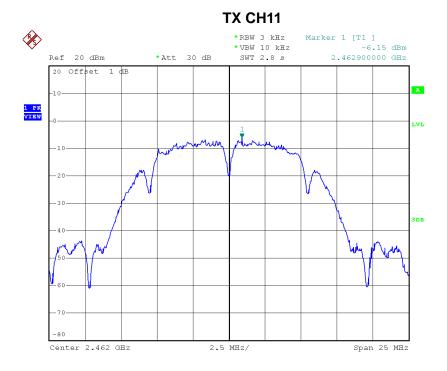
Report No.: BTL-FCCP-1-1709C165 Page 131 of 138







Date: 13.0CT.2017 11:38:53



Date: 13.0CT.2017 11:41:50

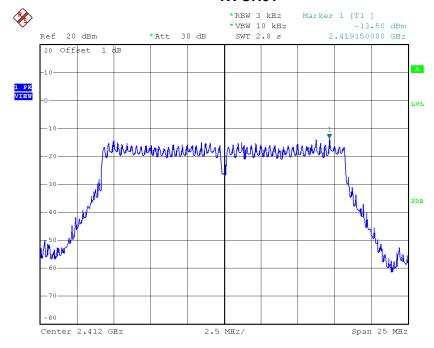




# Test Mode :TX G Mode\_CH01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.50	0.0447	8.00	Complies
2437	-5.28	0.2965	8.00	Complies
2462	-12.14	0.0611	8.00	Complies

# TX CH01

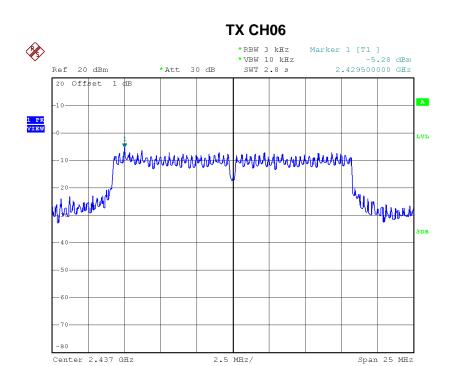


Date: 13.0CT.2017 11:44:49

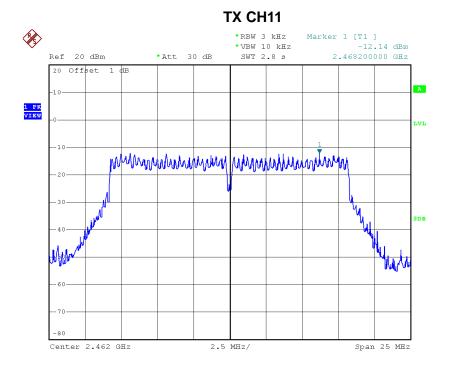
Report No.: BTL-FCCP-1-1709C165 Page 133 of 138







Date: 13.0CT.2017 11:46:17



Date: 13.0CT.2017 11:48:00

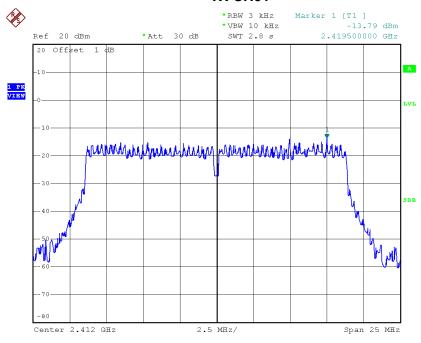




# Test Mode: TX N-20M Mode\_CH01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.79	0.0418	8.00	Complies
2437	-6.36	0.2312	8.00	Complies
2462	-11.78	0.0664	8.00	Complies

### TX CH01

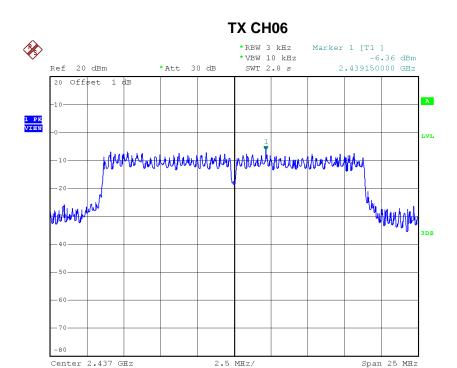


Date: 13.0CT.2017 11:50:15

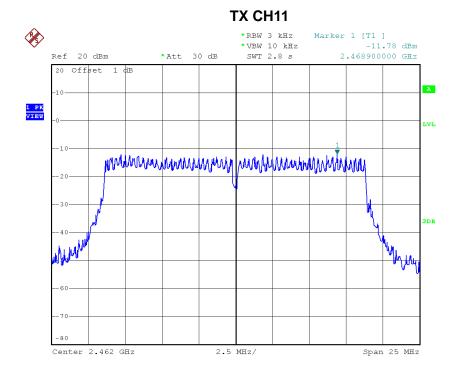
Report No.: BTL-FCCP-1-1709C165 Page 135 of 138







Date: 13.0CT.2017 11:51:43



Date: 13.0CT.2017 11:53:42

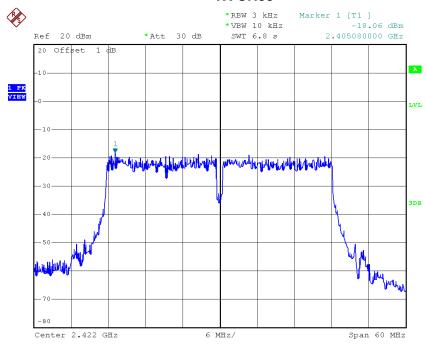




### Test Mode: TX N-40M Mode\_CH03/06/09

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-18.06	0.0156	8.00	Complies
2437	-15.21	0.0301	8.00	Complies
2452	-13.95	0.0403	8.00	Complies

### **TX CH03**

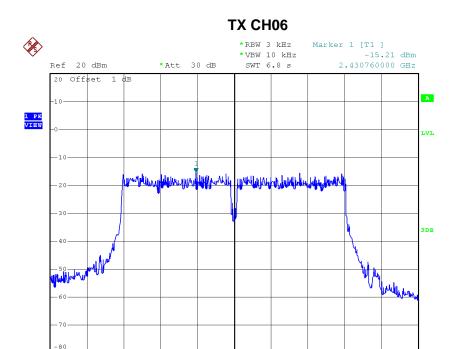


Date: 13.0CT.2017 11:56:14

Report No.: BTL-FCCP-1-1709C165 Page 137 of 138



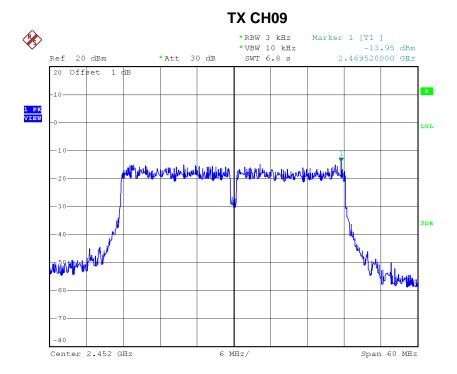




Span 60 MHz

Date: 13.0CT.2017 11:58:15

Center 2.437 GHz



Date: 13.0CT.2017 12:00:17