

FCC Radio Test Report

FCC ID: T58WF2166R

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

Project No. : 1408C128

Equipment: AC1200 Wireless Dual Band PCI-E Adapter

Model Name : WF2166

Applicant: NETIS SYSTEMS CO., LTD

Address: 4F&5F R&D Building, Oriental Cyberport, High-Tech

Industrial Park, Nanshan, Shenzhen, China.

Date of Receipt : Aug. 14, 2014

Date of Test : Aug. 14, 2014~ Sep. 02, 2014

Issued Date : Sep. 03, 2014
Tested by : BTL Inc.

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Report No.: BTL-FCCP-1-1408C128 Page 1 of 148



Declaration

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

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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-1-1408C128 Page 2 of 148



Table of Contents	Page
4. OFFITIELS ATION	
1. CERTIFICATION	6
2 . SUMMARY OF TEST RESULTS	7
2.1 TEST FACILITY	8
2.2 MEASUREMENT UNCERTAINTY	8
3 . GENERAL INFORMATION	9
3.1 GENERAL DESCRIPTION OF EUT	9
3.2 DESCRIPTION OF TEST MODES	11
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	12
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM T	ESTED 13
3.5 DESCRIPTION OF SUPPORT UNITS	14
4 . EMC EMISSION TEST	15
4.1 CONDUCTED EMISSION MEASUREMENT	15
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS	15
4.1.2 TEST PROCEDURE	15
4.1.3 DEVIATION FROM TEST STANDARD 4.1.4 TEST SETUP	15 16
4.1.5 EUT OPERATING CONDITIONS	16
4.1.6 EUT TEST CONDITIONS	16
4.1.7 TEST RESULTS	16
4.2 RADIATED EMISSION MEASUREMENT	17
4.2.1 RADIATED EMISSION LIMITS 4.2.2 TEST PROCEDURE	17 18
4.2.3 DEVIATION FROM TEST STANDARD	18
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 20
4.2.8 TEST RESULTS (9KHZ TO 30MHZ) 4.2.8 TEST RESULTS (BETWEEN 30MHZ TO 1000 MHZ)	20
4.2.9 TEST RESULTS (ABOVE 1000 MHZ)	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
5.1.5 EUT TEST CONDITIONS	21
5.1.6 TEST RESULTS	21

Report No.: BTL-FCCP-1-1408C128 Page 3 of 148



Table of Contents	Page
6 . MAXIMUM OUTPUT POWER TEST	22
6.1 APPLIED PROCEDURES / LIMIT	22
6.1.1 TEST PROCEDURE	22 22
6.1.2 DEVIATION FROM STANDARD 6.1.3 TEST SETUP	22
6.1.4 EUT OPERATION CONDITIONS	22
6.1.5 EUT TEST CONDITIONS	22
6.1.6 TEST RESULTS	22
7. ANTENNA CONDUCTED SPURIOUS EMISSION	23
7.1 APPLIED PROCEDURES / LIMIT	23
7.1.1 TEST PROCEDURE	23
7.1.2 DEVIATION FROM STANDARD 7.1.3 TEST SETUP	23 23
7.1.4 EUT OPERATION CONDITIONS	23
7.1.5 EUT TEST CONDITIONS	23
7.1.6 TEST RESULTS	23
8 . POWER SPECTRAL DENSITY TEST	24
8.1 APPLIED PROCEDURES / LIMIT	24
8.1.1 TEST PROCEDURE 8.1.2 DEVIATION FROM STANDARD	24 24
8.1.3 TEST SETUP	24
8.1.4 EUT OPERATION CONDITIONS	24
8.1.5 EUT TEST CONDITIONS	24
8.1.6 TEST RESULTS	24
9 . MEASUREMENT INSTRUMENTS LIST	25
10 . EUT TEST PHOTO	27
ATTACHMENT A - CONDUCTED EMISSION	31
ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)	34
ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)	36
ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)	43
ATTACHMENT E - BANDWIDTH	92
ATTACHMENT F - MAXIMUM OUTPUT POWER	105
ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION	109
ATTACHMENT H - POWER SPECTRAL DENSITY	134

Report No.: BTL-FCCP-1-1408C128 Page 4 of 148



REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1408C128	Original Issue.	Sep. 03, 2014

Report No.: BTL-FCCP-1-1408C128 Page 5 of 148



1. CERTIFICATION

Equipment : AC1200 Wireless Dual Band PCI-E Adapter

Brand Name: netis Model Name: WF2166

Applicant : NETIS SYSTEMS CO., LTD Manufacturer : Shenzhen Netcore Industrial Ltd.

Address : 4F&5F R&D Building, Oriental Cyberport, High-Tech Industrial Park, Nanshan,

Shenzhen, China.

Factory : Dongguan City Netcore Network Technology Co.,Ltd.

Address : No.10-1, Sankeng Road, Qinghutou, Tangxia Town, Dongguan City

Date of Test : Aug. 14, 2014~ Sep. 02, 2014 Test Sample : ENGINEERING SAMPLE

Standard(s): FCC Part15, Subpart C: 2013 (15.247) / ANSI C63.4-2009

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

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1408C128) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

Report No.: BTL-FCCP-1-1408C128 Page 6 of 148



2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Applied Standard(s): F	CC Part15 (15.247) , Sub	part C: 2013	
Standard(s) Section FCC	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(d)	Antenna conducted Spurious Emission	PASS	
15.247(a)(2)	6dB Bandwidth	PASS	
15.247(b)(3)	Peak Output Power	PASS	
15.247(e)	Power Spectral Density	PASS	
15.203	Antenna Requirement	PASS	
15.209/15.205	Transmitter Radiated Emissions	PASS	

NOTE:

- (1)" N/A" denotes test is not applicable in this test report.
- (2) The test follows FCC KDB Publication No. 558074 D01 DTS Meas Guidance v03r02 (Measurement Guidelines of DTS)

Report No.: BTL-FCCP-1-1408C128 Page 7 of 148



2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C02/DG-CB03** at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.523792 BTL's test firm number for FCC: 319330

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

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

A. Conducted Measurement:

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

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)	NOTE
		9KHz~30MHz	V	3.79	
		9KHz~30MHz	Η	3.57	
		30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	Н	3.60	
DG-CB03	CISPR	200MHz ~ 1,000MHz	V	3.86	
DG-CB03	CISER	200MHz ~ 1,000MHz	Н	3.94	
		1GHz~18GHz	V	3.12	
		1GHz~18GHz	Н	3.68	
		18GHz~40GHz	V	4.15	
		18GHz~40GHz	Н	4.14	

Report No.: BTL-FCCP-1-1408C128 Page 8 of 148



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	AC1200 Wireless Dual Band PCI-E Adapter			
Brand Name	netis	netis		
Model Name	WF2166			
Model Difference	N/A			
	Operation Frequency	2412~2462 MHz		
	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM		
Product Description	escription Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n up to 300 Mbps		
	Output Power (Max.)	802.11b: 21.33dBm 802.11g: 22.56dBm 802.11n(20MHz): 23.33dBm 802.11n(40MHz): 23.15dBm		
Power Source	Supplied from PC System	n.		
Power Rating	AC 120V 60Hz			

Note:

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

Report No.: BTL-FCCP-1-1408C128 Page 9 of 148



2. Channel List:

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

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	RF link	RF21S00014A	Dipole	N/A	4.87
2	RF link	RF21S00014A	Dipole	N/A	4.87

Note:

(1) The EUT incorporates a MIMO function. Physically, the EUT provides two completed two transmitters and two receivers (2T2R), all transmit signals are completely uncorrelated, then, **Direction gain = G**_{ANT}, that is Directional gain=4.87.

4.

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

Report No.: BTL-FCCP-1-1408C128 Page 10 of 148



3.2 DESCRIPTION OF TEST MODES

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

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

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

For Conducted Test		
Final Test Mode	Description	
Mode 5	TX MODE	

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

Note:

- (1) The measurements are performed at the high, middle, low available channels.
- (2) 802.11b mode: DBPSK (1Mbps)

802.11g mode: OFDM (6Mbps)

802.11n HT20 mode: BPSK (13Mbps)

802.11n HT40 mode: BPSK (27Mbps)

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

- (3) For radiated below 1G test, the 802.11b is found to be the worst case and recorded.
- (4) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

Report No.: BTL-FCCP-1-1408C128 Page 11 of 148



3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

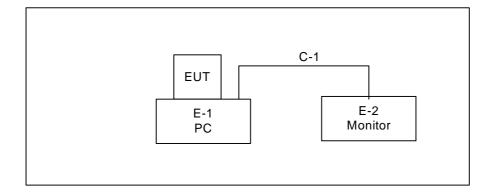
During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final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

Test software version	MPtool		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b DSSS	53	53	47
IEEE 802.11g OFDM	52	57	50
IEEE 802.11n (20MHz)	50	55	48
Frequency	2422 MHz	2437 MHz	2452 MHz
IEEE 802.11n (40MHz)	51	55	46

Report No.: BTL-FCCP-1-1408C128 Page 12 of 148



3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



Report No.: BTL-FCCP-1-1408C128 Page 13 of 148



3.5 DESCRIPTION OF SUPPORT UNITS

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

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID/IC	Series No.	Note
E-1	PC	Dell 745	DCSM	DOC	G7K832X	
E-2	LCD monitor	Dell	E177FPc	DOC	CNOFJ179-64180- 6AG-1WNS	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	YES	NO	1.5M	D-Sub Cable

Report No.: BTL-FCCP-1-1408C128 Page 14 of 148



4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

Fraguency of Emission (MUT)	Conducted Limit (dBµV)		
Frequency of Emission (MHz)	Quasi-peak	Average	
0.15 -0.5	66 to 56*	56 to 46*	
0.50 -5.0	56	46	
5.0 -30.0	60	50	

Note:

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

The following table is the setting of the receiver

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

4.1.2 TEST PROCEDURE

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

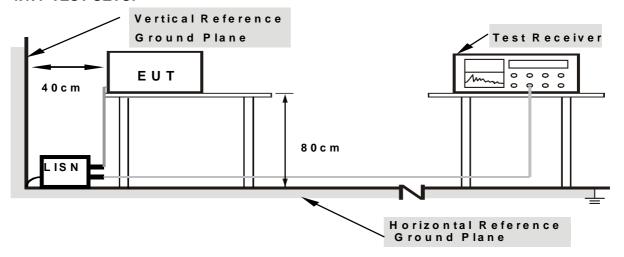
4.1.3 DEVIATION FROM TEST STANDARD

No deviation

Report No.: BTL-FCCP-1-1408C128 Page 15 of 148



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

4.1.6 EUT TEST CONDITIONS

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

4.1.7 TEST RESULTS

Please refer to the Attachment A.

Report No.: BTL-FCCP-1-1408C128 Page 16 of 148



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS

20dB in any 100 KHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Frequency (MHz)	(dBuV/m) (at 3 meters)	
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).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW	ANNUE / ANNUE for Dools A MULE / AOUE for Assert
(Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz 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

Report No.: BTL-FCCP-1-1408C128 Page 17 of 148



4.2.2 TEST PROCEDURE

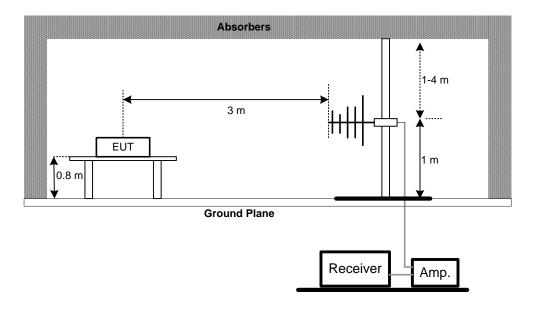
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at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

4.2.3 DEVIATION FROM TEST STANDARD

No deviation

4.2.4 TEST SETUP

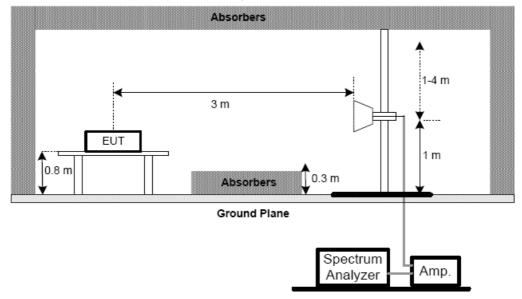
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



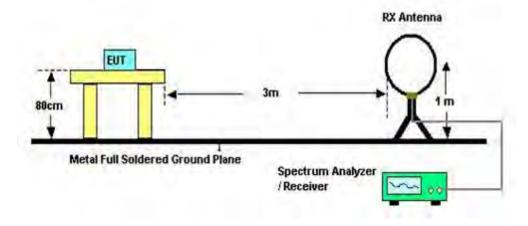
Report No.: BTL-FCCP-1-1408C128 Page 18 of 148



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



(C) For radiated emissions below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

4.2.6 EUT TEST CONDITIONS

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

Report No.: BTL-FCCP-1-1408C128 Page 19 of 148



4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Attachment B

Remark:

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

4.2.8 TEST RESULTS (BETWEEN 30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

Report No.: BTL-FCCP-1-1408C128 Page 20 of 148



5. BANDWIDTH TEST

5.1 Applied procedures

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

5.1.1 TEST PROCEDURE

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

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

5.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.5 EUT TEST CONDITIONS

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

5.1.6 TEST RESULTS

Please refer to the Attachment E.

Report No.: BTL-FCCP-1-1408C128 Page 21 of 148



6. MAXIMUM OUTPUT POWER TEST

6.1 Applied procedures / limit

	FCC Part15	5 (15.247) , Subpart (
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 9.1.3 of FCC KDB 558074 D01 DTS Meas Guidance v03r01.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP

EUT	Power Meter
	, on on motor

6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

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

6.1.5 EUT TEST CONDITIONS

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

6.1.6 TEST RESULTS

Please refer to the Attachment F.

Report No.: BTL-FCCP-1-1408C128 Page 22 of 148



7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 Applied procedures / limit

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

7.1.1 TEST PROCEDURE

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

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.5 EUT TEST CONDITIONS

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

7.1.6 TEST RESULTS

Please refer to the Attachment G.

Report No.: BTL-FCCP-1-1408C128 Page 23 of 148



8. POWER SPECTRAL DENSITY TEST

8.1 Applied procedures / limit

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

8.1.1 TEST PROCEDURE

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

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

8.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

8.1.5 EUT TEST CONDITIONS

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

8.1.6 TEST RESULTS

Please refer to the Attachment H.

Report No.: BTL-FCCP-1-1408C128 Page 24 of 148



9. MEASUREMENT INSTRUMENTS LIST

		Conducted Emis	sion Measure	ement	
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	Mar. 29, 2015
2	LISN	R&S	ENV216	101447	Mar. 29, 2015
3	Test Cable	N/A	C_17	N/A	Mar. 14, 2015
4	EMI TEST RECEIVER	R&S	ESCS30	833364/017	Mar. 29, 2015
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 29, 2015

	Radiated Emission Measurement				
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	EMCO	3142C	00066462	Mar. 29, 2015
2	Antenna	EMCO	3142C	00066464	Mar. 29, 2015
3	Amplifier	Agilent	8447D	2944A11203	Nov. 11, 2014
4	Amplifier	Agilent	8447D	2944A11204	Nov. 11, 2014
5	Spectrum Analyzer	Agilent	E4443A	MY48250370	Nov. 11, 2014
6	RF Pre-selector	Agilent	N9039A	MY46520201	Nov. 11, 2014
7	Test Cable	N/A	Cable_5m_8m _15m	N/A	Jan. 14, 2015
8	Test Cable	N/A	Cable_5m_11 m_15m	N/A	Jan. 14, 2015
9	Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov. 11, 2014
10	RF Pre-selector	Agilent	N9039A	MY46520214	Nov. 11, 2014
11	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
12	Horn Antenna	EMCO	3115	9605-4803	Mar. 29, 2015
13	Amplifier	Agilent	8449B	3008A02584	Nov. 11, 2014
14	Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov. 11, 2014
15	Test Cable	Huber+Suhner	SUCOFLEX_1 5m_4m	N/A	Jan. 14, 2015

Report No.: BTL-FCCP-1-1408C128 Page 25 of 148



		6dB Bandwidt	th Measureme	ent	
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

	Peak Output Power Measurement				
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	P-series Power meter	Agilent	N1911A	MY45100473	Mar. 29, 2015
2	Wireband Power sensor	Agilent	N1921A	MY51100041	Mar. 29, 2015

	Anter	nna Conducted Spuri	ous Emissior	Measurement	
Item	Manufacturer Type No. Serial No. Calibrated unt				
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

		Power Spectral De	ensity Measur	ement	
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

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

All calibration period of equipment list is one year.

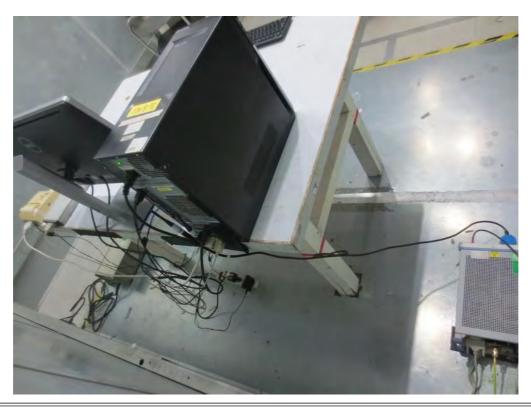
Report No.: BTL-FCCP-1-1408C128 Page 26 of 148



10. EUT TEST PHOTO

Conducted Measurement Photos





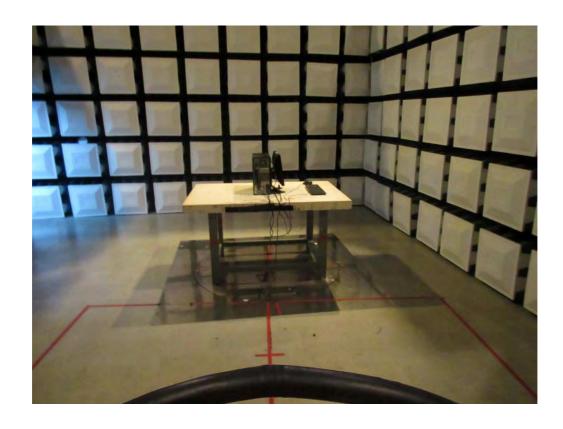
Report No.: BTL-FCCP-1-1408C128 Page 27 of 148



Radiated Measurement Photos

9KHz to 30MHz



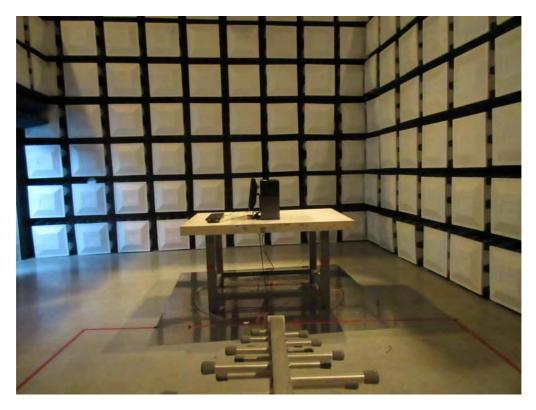


Report No.: BTL-FCCP-1-1408C128 Page 28 of 148



Radiated Measurement Photos

30MHz to 1000MHz



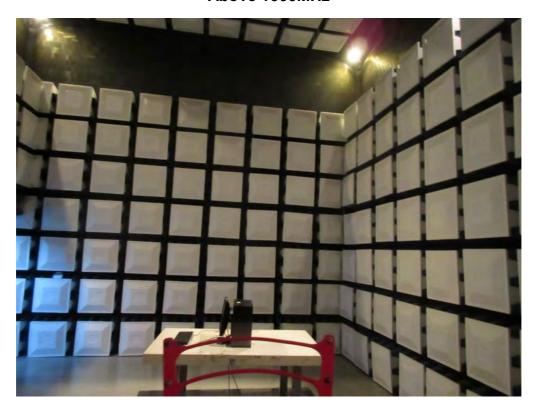


Report No.: BTL-FCCP-1-1408C128 Page 29 of 148



Radiated Measurement Photos

Above 1000MHz





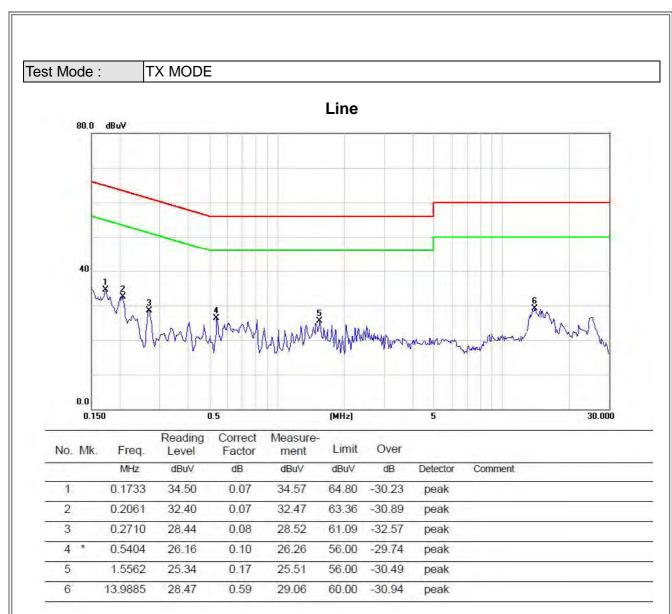
Report No.: BTL-FCCP-1-1408C128 Page 30 of 148



ATTACHMENT A - CONDUCTED EMISSION

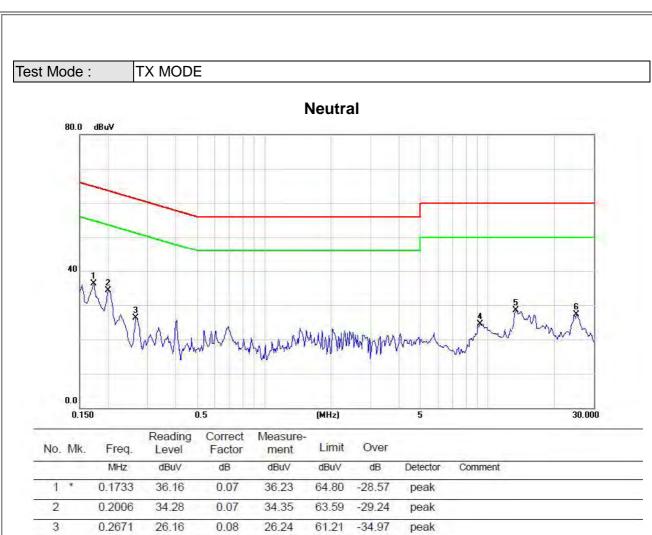
Report No.: BTL-FCCP-1-1408C128 Page 31 of 148





Report No.: BTL-FCCP-1-1408C128





Report No.: BTL-FCCP-1-1408C128

9.2615

13.4530

25.0780

4

5

6

24.10

27.98

26.56

0.48

0.58

0.80

24.58

28.56

27.36

60.00

60.00

60.00

-35.42

-31.44

-32.64

peak

peak

peak



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

Report No.: BTL-FCCP-1-1408C128 Page 34 of 148



Test Mode:	TX Mode 2412MHz

Freq.	Ant.	Reading(RA)	Corr.Factor(CF)	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	0°/90°	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Note
0.0158	0°	13.43	24.58	37.99	103.74	-65.75	AVG
0.0158	0°	14.28	24.58	38.84	123.74	-84.90	PEAK
0.0310	0°	6.10	23.60	30.40	97.75	-67.35	AVG
0.0310	0°	8.05	23.60	31.60	117.75	-86.15	PEAK
0.0384	0°	4.32	23.13	27.43	95.90	-68.47	AVG
4.0000	0°	5.76	23.13	28.83	115.90	-87.07	PEAK
0.0471	0°	3.15	22.59	25.71	94.16	-68.45	AVG
0.0471	0°	4.72	22.59	27.37	114.16	-86.79	PEAK
2.0605	0°	28.76	19.46	48.17	69.54	-21.37	QP
3.3737	0°	20.39	18.94	39.31	69.54	-30.23	QP

Erog	Λnt	Dooding(DA)	Corr Easter/CE)	Macourad/EC)	Limita/OD)	Margin	
Freq.	Ant.	Reading(RA)	, ,	Measured(FS)	Limits(QP)	Margin	Note
(MHz)	0°/90°	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	11010
0.0154	90°	13.12	24.30	37.48	123.80	-86.32	AVG
0.0154	90°	14.19	24.30	38.47	143.80	-105.33	PEAK
0.0315	90°	6.81	23.60	30.47	117.75	-87.28	AVG
0.0315	90°	7.83	23.60	31.39	137.75	-106.36	PEAK
0.0372	90°	5.92	23.20	29.13	116.17	-87.04	AVG
0.0372	90°	6.87	23.20	30.04	136.17	-106.13	PEAK
0.0430	90°	5.11	22.59	27.73	114.16	-86.43	AVG
0.0473	90°	6.07	22.59	28.68	134.16	-105.48	PEAK
2.0608	90°	29.68	19.46	49.09	69.54	-20.45	QP
3.2845	90°	17.15	18.93	36.05	69.54	-33.49	QP

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.

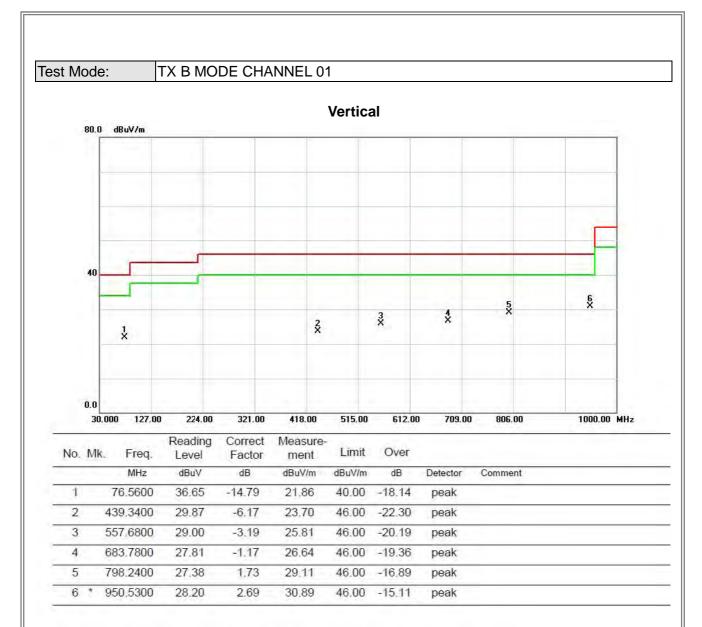
Report No.: BTL-FCCP-1-1408C128 Page 35 of 148



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

Report No.: BTL-FCCP-1-1408C128 Page 36 of 148







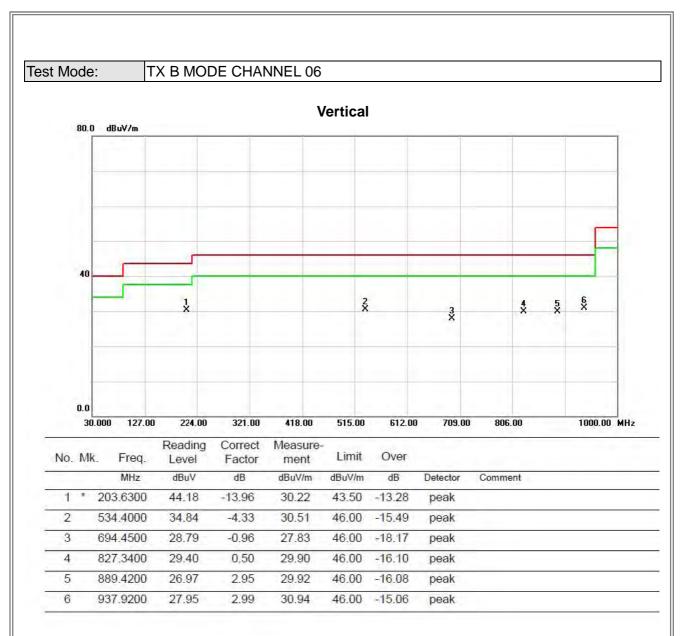


Horizontal 80.0 dBuV/m 40 1 6 X 2 X 5 X 3 0.0 1000.00 MHz 30.000 224.00 321.00 418.00 612.00 127.00 515.00 709.00 806.00

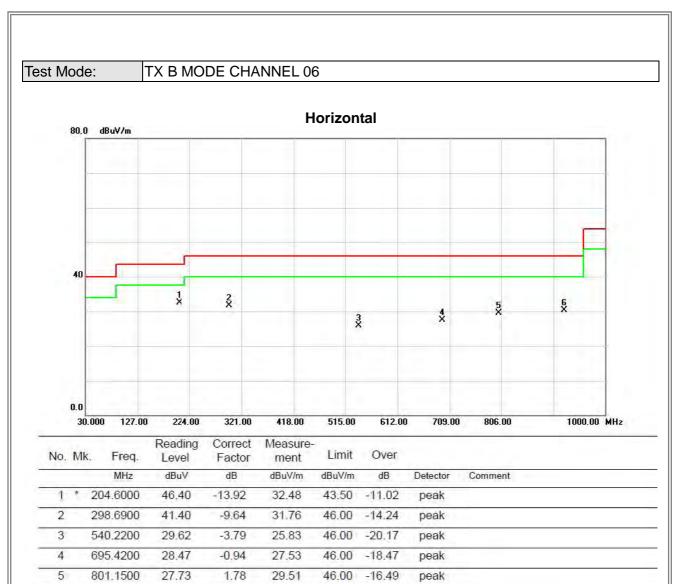
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1	*	204.6000	46.24	-13.92	32.32	43.50	-11.18	peak		
2		298.6900	39.53	-9.64	29.89	46.00	-16.11	peak		
3		547.9800	28.96	-3.06	25.90	46.00	-20.10	peak		
4		700.2700	28.57	-0.85	27.72	46.00	-18.28	peak		
5		792.4200	27.97	1.40	29.37	46.00	-16.63	peak		
6		950.5300	29.16	2.69	31.85	46.00	-14.15	peak		

Report No.: BTL-FCCP-1-1408C128 Page 38 of 148









6

923.3700

26.87

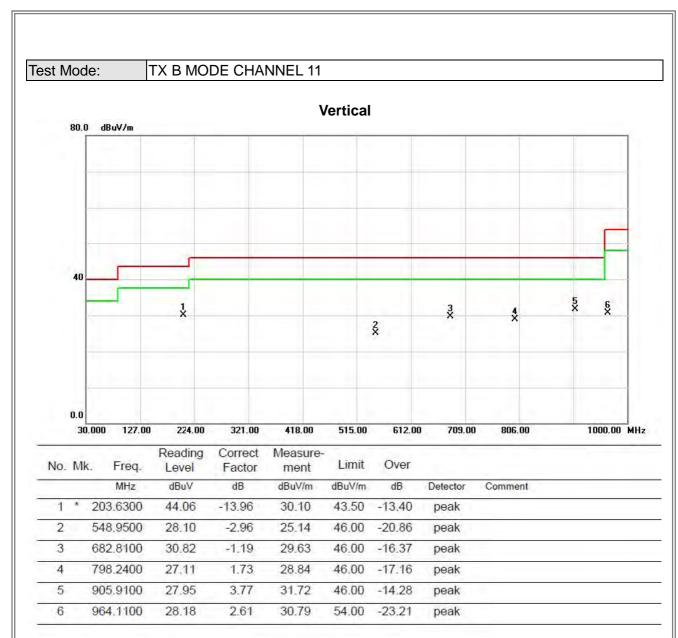
3.35

30.22

46.00 -15.78

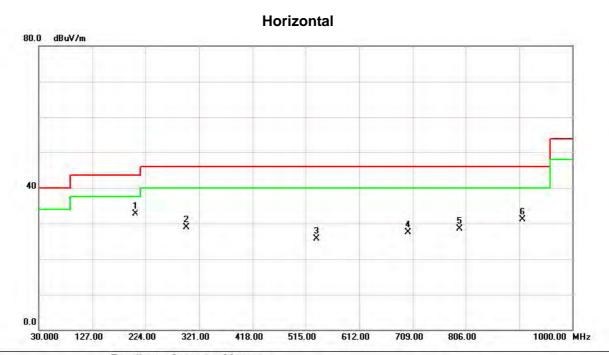
peak











No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	204.6000	46.53	-13.92	32.61	43.50	-10.89	peak	
2		298.6900	38.61	-9.64	28.97	46.00	-17.03	peak	
3		534.4000	30.03	-4.33	25.70	46.00	-20.30	peak	
4		700.2700	28.37	-0.85	27.52	46.00	-18.48	peak	
5		794.3600	27.01	1.51	28.52	46.00	-17.48	peak	
6		908.8200	27.44	3.69	31.13	46.00	-14.87	peak	

Report No.: BTL-FCCP-1-1408C128 Page 42 of 148

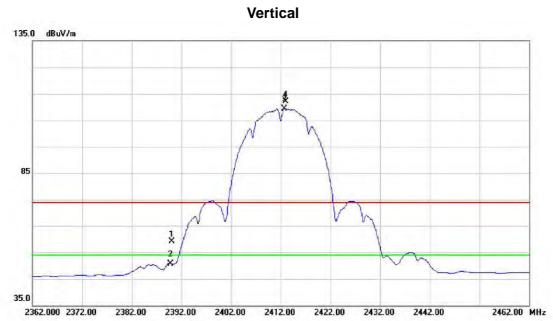


ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

Report No.: BTL-FCCP-1-1408C128 Page 43 of 148



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



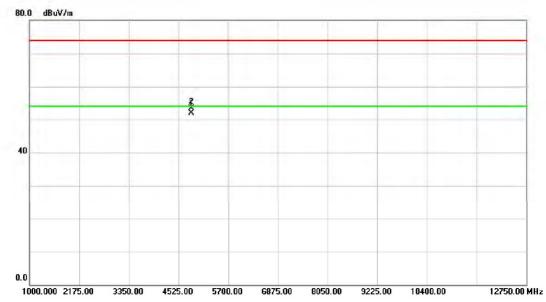
No.	M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.52	33.54	59.06	74.00	-14.94	peak	
2		2390.000	17.20	33.54	50.74	54.00	-3.26	AVG	
3	*	2412.700	75.82	33.57	109.39	54.00	55.39	AVG	no limit
4	Χ	2413.000	78.57	33.57	112.14	74.00	38.14	peak	no limit

Report No.: BTL-FCCP-1-1408C128 Page 44 of 148



Test Mode: TX B MODE 2412MHz

Vertical



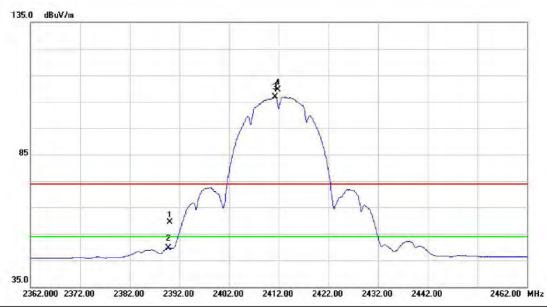
No.	М	lk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	48	24.000	48.35	3.62	51.97	54.00	-2.03	AVG	
2		48	24.050	49.76	3.62	53.38	74.00	-20.62	peak	

Report No.: BTL-FCCP-1-1408C128 Page 45 of 148



Test Mode: TX B MODE 2412MHz

Horizontal



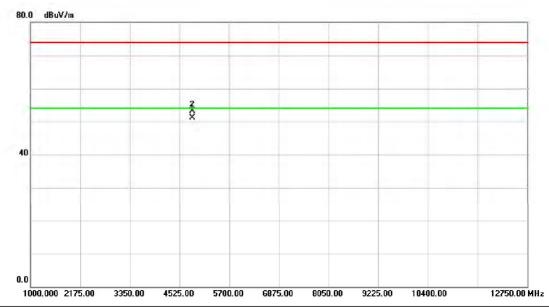
No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.96	33.54	59.50	74.00	-14.50	peak	
2		2390.000	16.04	33.54	49.58	54.00	-4.42	AVG	
3	*	2411.200	73.29	33.57	106.86	54.00	52.86	AVG	no limit
4	Χ	2411.800	76.06	33.57	109.63	74.00	35.63	peak	no limit

Report No.: BTL-FCCP-1-1408C128 Page 46 of 148



Test Mode: TX B MODE 2412MHz

Horizontal

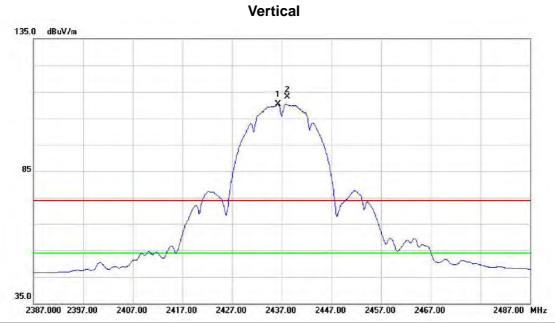


No.	Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4824.000	47.43	3.62	51.05	54.00	-2.95	AVG	
2		4824.100	49.52	3.62	53.14	74.00	-20.86	peak	

Report No.: BTL-FCCP-1-1408C128 Page 47 of 148



Orthogonal Axis: X
Test Mode: TX B MODE 2437MHz



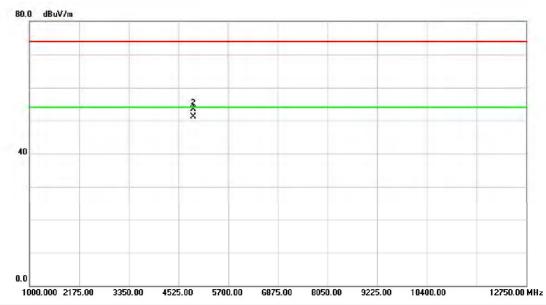
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2436.200	76.69	33.60	110.29	54.00	56.29	AVG	no limit
2	Х	2438.100	79.61	33.60	113.21	74.00	39.21	peak	no limit

Report No.: BTL-FCCP-1-1408C128 Page 48 of 148



Test Mode: TX B MODE 2437MHz

Vertical



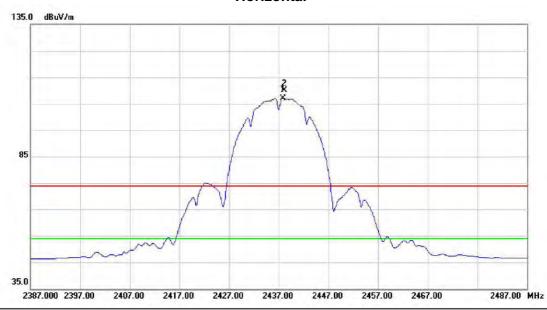
No.	M	/lk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	48	873.860	47.41	3.72	51.13	54.00	-2.87	AVG	
2		48	874.130	49.66	3.72	53.38	74.00	-20.62	peak	

Report No.: BTL-FCCP-1-1408C128 Page 49 of 148



Test Mode: TX B MODE 2437MHz

Horizontal



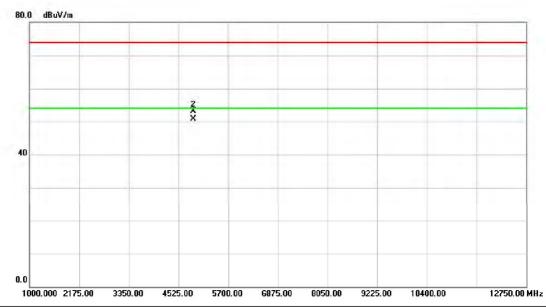
No.	М	k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	243	37.800	73.59	33.60	107.19	54.00	53.19	AVG	no limit
2	Χ	243	38.100	76.50	33.60	110.10	74.00	36.10	peak	no limit

Report No.: BTL-FCCP-1-1408C128 Page 50 of 148



Test Mode: TX B MODE 2437MHz

Horizontal

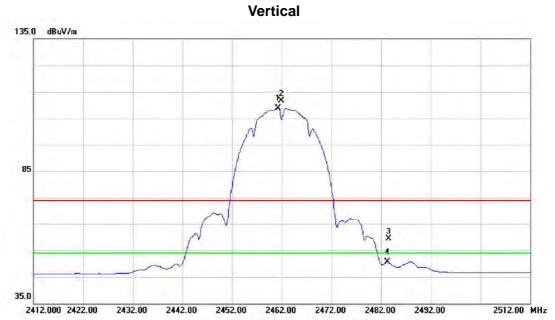


No.	M	k. Freq	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4873.850	47.07	3.72	50.79	54.00	-3.21	AVG	
2		4874.110	49.42	3.72	53.14	74.00	-20.86	peak	

Report No.: BTL-FCCP-1-1408C128 Page 51 of 148



Orthogonal Axis: X
Test Mode: TX B MODE 2462MHz



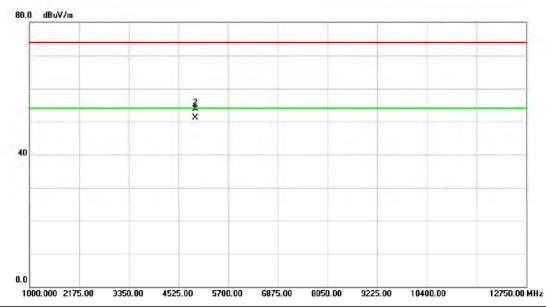
No.	Mk	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2461.200	75.28	33.63	108.91	54.00	54.91	AVG	no limit
2	Χ	2461.900	78.08	33.63	111.71	74.00	37.71	peak	no limit
3		2483.500	25.61	33.66	59.27	74.00	-14.73	peak	
4		2483.500	16.89	33.66	50.55	54.00	-3.45	AVG	

Report No.: BTL-FCCP-1-1408C128 Page 52 of 148



Test Mode: TX B MODE 2462MHz

Vertical



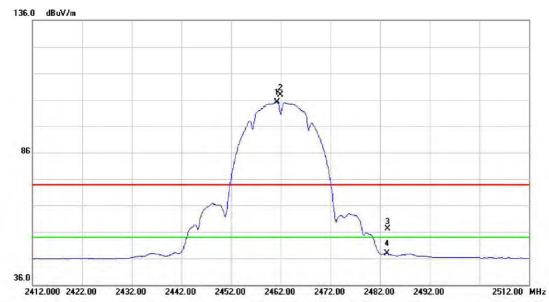
No.	М	∕lk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	49	923.840	47.28	3.80	51.08	54.00	-2.92	AVG	
2		49	924.070	49.93	3.80	53.73	74.00	-20.27	peak	

Report No.: BTL-FCCP-1-1408C128 Page 53 of 148



Test Mode: TX B MODE 2462MHz

Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2461.200	71.41	33.63	105.04	54.00	51.04	AVG	no limit
2	Χ	2461.900	74.18	33.63	107.81	74.00	33.81	peak	no limit
3		2483.500	23.46	33.66	57.12	74.00	-16.88	peak	
4		2483.500	14.24	33.66	47.90	54.00	-6.10	AVG	

Report No.: BTL-FCCP-1-1408C128 Page 54 of 148



Test Mode: TX B MODE 2462MHz

Horizontal



No.	Mk	κ. F	req.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		l	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4924	.050	46.55	3.80	50.35	54.00	-3.65	AVG	
2		4924	180	49.28	3.80	53.08	74.00	-20.92	peak	

Report No.: BTL-FCCP-1-1408C128 Page 55 of 148



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

Vertical 136.0 dBuV/m 3 4 4 2 36.0 2362.000 2372.00 2382.00 2392.00 2402.00 2412.00 2422.00 2432.00 2442.00 2462.00 MHz

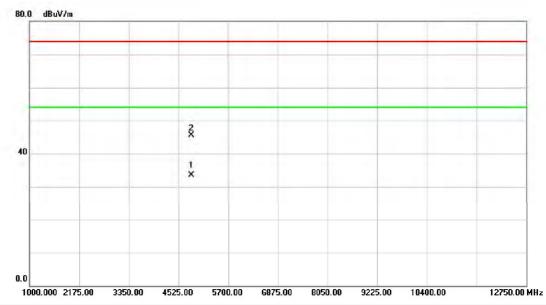
No.	Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1		2390.000	29.41	33.54	62.95	74.00	-11.05	peak		
2		2390.000	16.65	33.54	50.19	54.00	-3.81	AVG		
3	Χ	2417.500	74.89	33.57	108.46	74.00	34.46	peak	no limit	
4	*	2418.100	66.41	33.57	99.98	54.00	45.98	AVG	no limit	

Report No.: BTL-FCCP-1-1408C128 Page 56 of 148



Test Mode: TX G MODE 2412MHz

Vertical



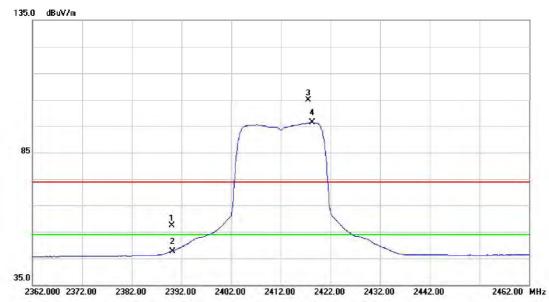
No.	М	k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	482	23.850	29.98	3.62	33.60	54.00	-20.40	AVG	
2		482	24.850	41.85	3.62	45.47	74.00	-28.53	peak	

Report No.: BTL-FCCP-1-1408C128 Page 57 of 148



Test Mode: TX G MODE 2412MHz

Horizontal



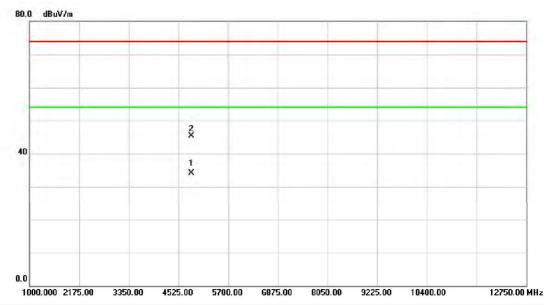
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	23.72	33.54	57.26	74.00	-16.74	peak	
2		2390.000	14.14	33.54	47.68	54.00	-6.32	AVG	
3	Х	2417.500	71.19	33.57	104.76	74.00	30.76	peak	no limit
4	*	2418.300	62.80	33.57	96.37	54.00	42.37	AVG	no limit

Report No.: BTL-FCCP-1-1408C128 Page 58 of 148



Test Mode: TX G MODE 2412MHz

Horizontal

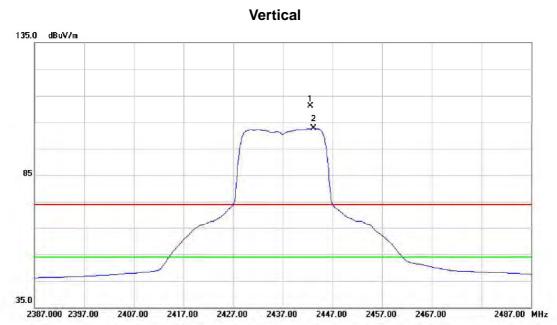


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4824.200	30.47	3.62	34.09	54.00	-19.91	AVG	
2		4824.900	41.78	3.62	45.40	74.00	-28.60	peak	

Report No.: BTL-FCCP-1-1408C128 Page 59 of 148



Orthogonal Axis: X
Test Mode: TX G MODE 2437MHz



No.	M	k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	Χ	2442	2.500	77.57	33.60	111.17	74.00	37.17	peak	no limit
2	*	2440	3.200	68.99	33.60	102.59	54.00	48.59	AVG	no limit

Report No.: BTL-FCCP-1-1408C128 Page 60 of 148



Test Mode: TX G MODE 2437MHz

Vertical



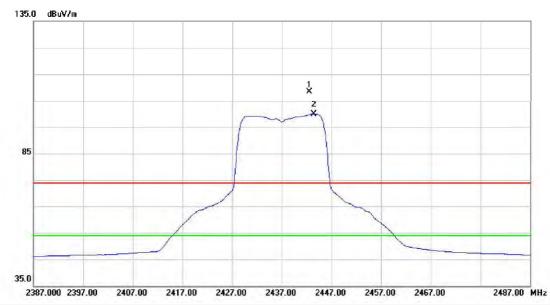
No.	Mk	. Freq	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	43.27	3.72	46.99	74.00	-27.01	peak	
2	*	4874.050	31.08	3.72	34.80	54.00	-19.20	AVG	

Report No.: BTL-FCCP-1-1408C128 Page 61 of 148



Test Mode: TX G MODE 2437MHz

Horizontal



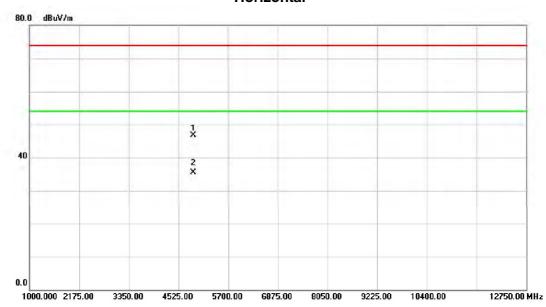
_										
	No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	Χ	2442.500	74.71	33.60	108.31	74.00	34.31	peak	no limit
	2	*	2443.400	66.29	33.60	99.89	54.00	45.89	AVG	no limit

Report No.: BTL-FCCP-1-1408C128 Page 62 of 148



Test Mode: TX G MODE 2437MHz

Horizontal



No.	N	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1			4874.100	43.01	3.72	46.73	74.00	-27.27	peak	
2	1	*	4874.100	31.77	3.72	35.49	54.00	-18.51	AVG	

Report No.: BTL-FCCP-1-1408C128 Page 63 of 148



Orthogonal Axis: X
Test Mode: TX G MODE 2462MHz

Vertical 135.0 dBuV/m 2 X 35.0 2412.000 2422.00 2432.00 2442.00 2452.00 2462.00 2472.00 2482.00 2492.00 2512.00 MHz

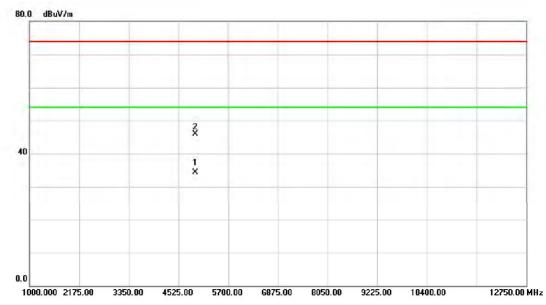
No.	Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	Χ	2468.200	66.21	33.63	99.84	74.00	25.84	peak	no limit
2	*	2468.700	73.51	33.63	107.14	54.00	53.14	AVG	no limit
3		2483.500	29.46	33.66	63.12	74.00	-10.88	peak	
4		2483.500	17.35	33.66	51.01	54.00	-2.99	AVG	

Report No.: BTL-FCCP-1-1408C128 Page 64 of 148



Test Mode: TX G MODE 2462MHz

Vertical



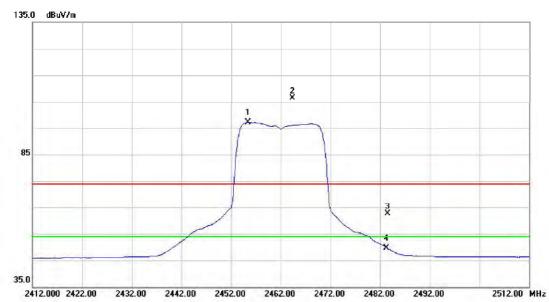
No.	No. Mk.		Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	492	4.250	30.41	3.80	34.21	54.00	-19.79	AVG	
2		492	4.450	42.03	3.80	45.83	74.00	-28.17	peak	

Report No.: BTL-FCCP-1-1408C128 Page 65 of 148



Test Mode: TX G MODE 2462MHz

Horizontal



No.	Mk	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2455.400	63.48	33.62	97.10	54.00	43.10	AVG	no limit
2	Χ	2464.300	72.67	33.63	106.30	74.00	32.30	peak	no limit
3		2483.500	28.93	33.66	62.59	74.00	-11.41	peak	
4		2483.500	15.92	33.66	49.58	54.00	-4.42	AVG	

Report No.: BTL-FCCP-1-1408C128 Page 66 of 148



Test Mode: TX G MODE 2462MHz

Horizontal



No.	N	∕ l k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4	924.650	42.12	3.80	45.92	74.00	-28.08	peak	
2	*	• 4	924.800	31.20	3.80	35.00	54.00	-19.00	AVG	

Report No.: BTL-FCCP-1-1408C128 Page 67 of 148



Orthogonal Axis: X
Test Mode: TX N-20M MODE 2412MHz

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	29.84	33.54	63.38	74.00	-10.62	peak	
2		2390.000	17.68	33.54	51.22	54.00	-2.78	AVG	
3	*	2417.600	67.66	33.57	101.23	54.00	47.23	AVG	no limit
4	Χ	2419.300	77.65	33.58	111.23	74.00	37.23	peak	no limit

Report No.: BTL-FCCP-1-1408C128 Page 68 of 148



Test Mode: TX N-20M MODE 2412MHz

Vertical



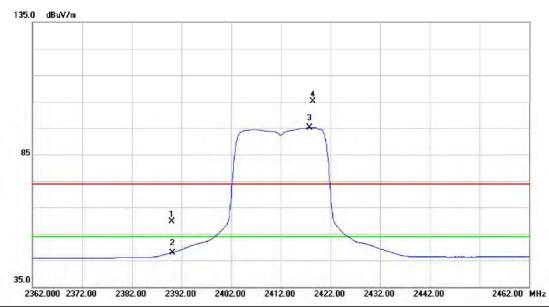
No.	М	lk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	48	323.600	29.46	3.62	33.08	54.00	-20.92	AVG	
2		48	324.050	41.08	3.62	44.70	74.00	-29.30	peak	

Report No.: BTL-FCCP-1-1408C128 Page 69 of 148



Orthogonal Axis: X
Test Mode: TX N-20M MODE 2412MHz

Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	26.05	33.54	59.59	74.00	-14.41	peak	
2		2390.000	14.35	33.54	47.89	54.00	-6.11	AVG	
3	*	2417.800	61.58	33.57	95.15	54.00	41.15	AVG	no limit
4	Χ	2418.500	71.58	33.57	105.15	74.00	31.15	peak	no limit

Report No.: BTL-FCCP-1-1408C128 Page 70 of 148



Test Mode: TX N-20M MODE 2412MHz

Horizontal



No.	No. Mk.		Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		48	23.800	40.19	3.62	43.81	74.00	-30.19	peak	
2	*	48	23.800	29.39	3.62	33.01	54.00	-20.99	AVG	

Report No.: BTL-FCCP-1-1408C128 Page 71 of 148



Orthogonal Axis: X
Test Mode: TX N-20M MODE 2437MHz

Vertical 135.0 dBuV/m 85 2387.000 2397.00 2407.00 2417.00 2427.00 2437.00 2447.00 2457.00 2467.00 2487.00 MHz

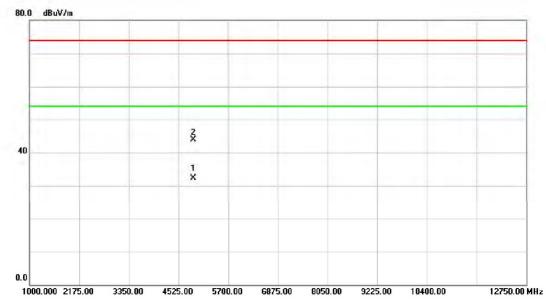
No.	Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2442.700	70.59	33.60	104.19	54.00	50.19	AVG	no limit
2	Х	2444.200	80.57	33.61	114.18	74.00	40.18	peak	no limit

Report No.: BTL-FCCP-1-1408C128 Page 72 of 148



Test Mode: TX N-20M MODE 2437MHz

Vertical



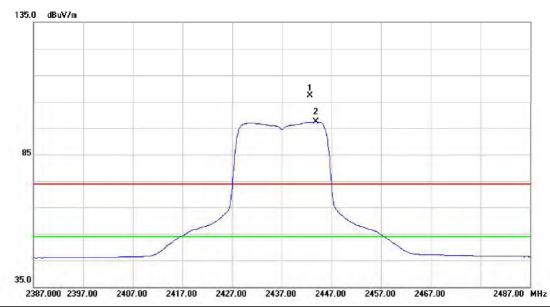
No.	M	k. Freq.	Reading Level	Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4873.860	28.66	3.72	32.38	54.00	-21.62	AVG	
2		4874.160	40.27	3.72	43.99	74.00	-30.01	peak	

Report No.: BTL-FCCP-1-1408C128 Page 73 of 148



Test Mode: TX N-20M MODE 2437MHz

Horizontal



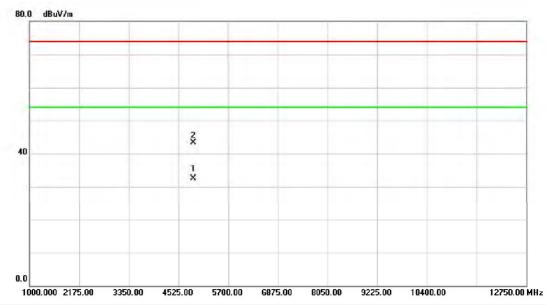
No.	M	⁄lk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	(2	2442.600	73.78	33.60	107.38	74.00	33.38	peak	no limit
2	*	2	2443.800	63.70	33.61	97.31	54.00	43.31	AVG	no limit

Report No.: BTL-FCCP-1-1408C128 Page 74 of 148



Test Mode: TX N-20M MODE 2437MHz

Horizontal



No.	M	∕lk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4	873.830	28.75	3.72	32.47	54.00	-21.53	AVG	
2		4	873.930	39.59	3.72	43.31	74.00	-30.69	peak	

Report No.: BTL-FCCP-1-1408C128 Page 75 of 148



Orthogonal Axis: X
Test Mode: TX N-20M MODE 2462MHz

Vertical 135.0 dBuV/m Residual in the second of the sec

No.	Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	Χ	2456.700	79.85	33.63	113.48	74.00	39.48	peak	no limit
2	*	2467.700	68.66	33.63	102.29	54.00	48.29	AVG	no limit
3		2483.500	29.19	33.66	62.85	74.00	-11.15	peak	
4		2483.500	18.13	33.66	51.79	54.00	-2.21	AVG	

2472.00

2492.00

2482.00

2512.00 MHz

2452.00 2462.00

35.0

2412.000 2422.00

2432.00

2442.00

Report No.: BTL-FCCP-1-1408C128 Page 76 of 148



Test Mode: TX N-20M MODE 2462MHz

Vertical



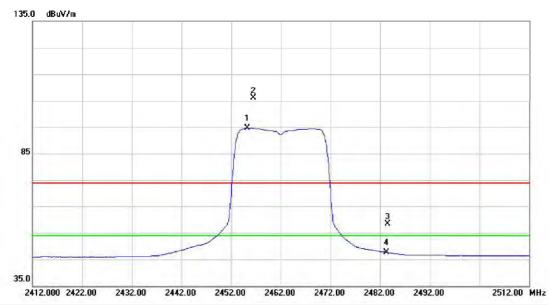
No.	M	۲.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	49	24.060	28.68	3.80	32.48	54.00	-21.52	AVG	
2		492	24.210	39.96	3.80	43.76	74.00	-30.24	peak	

Report No.: BTL-FCCP-1-1408C128 Page 77 of 148



Test Mode: TX N-20M MODE 2462MHz

Horizontal



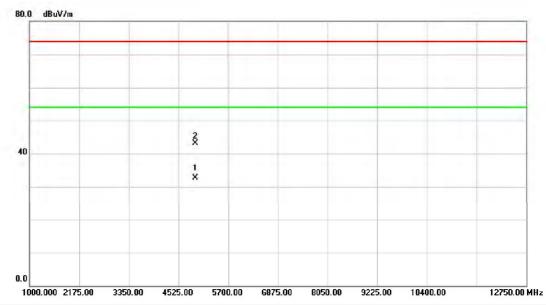
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1	*	2455.200	61.04	33.62	94.66	54.00	40.66	AVG	no limit	
2	Χ	2456.500	72.58	33.63	106.21	74.00	32.21	peak	no limit	
3		2483.500	24.78	33.66	58.44	74.00	-15.56	peak		
4		2483.500	13.92	33.66	47.58	54.00	-6.42	AVG		

Report No.: BTL-FCCP-1-1408C128 Page 78 of 148



Test Mode: TX N-20M MODE 2462MHz

Horizontal



No.	M	∕lk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Över		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4	923.800	28.93	3.80	32.73	54.00	-21.27	AVG	
2		4	923.810	39.38	3.80	43.18	74.00	-30.82	peak	

Report No.: BTL-FCCP-1-1408C128 Page 79 of 148



Orthogonal Axis: X
Test Mode: TX N-40M MODE 2422MHz

Vertical 135.0 dBuV/m 85 135.0 2322.000 2342.00 2362.00 2382.00 2402.00 2422.00 2442.00 2462.00 2482.00 2522.00 MHz

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	27.58	33.54	61.12	74.00	-12.88	peak	
2		2390.000	18.27	33.54	51.81	54.00	-2.19	AVG	
3	Х	2415.200	73.90	33.57	107.47	74.00	33.47	peak	no limit
4	*	2437.400	64.36	33.60	97.96	54.00	43.96	AVG	no limit

Report No.: BTL-FCCP-1-1408C128 Page 80 of 148



Test Mode: TX N-40M MODE 2422MHz

Vertical



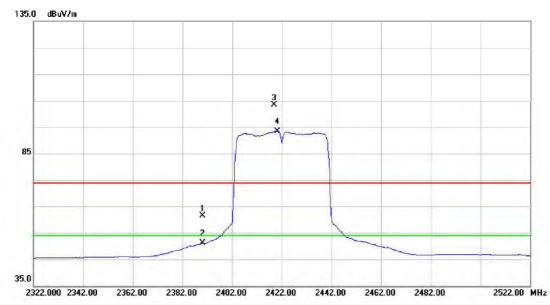
No.	М	lk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	48	343.700	29.22	3.66	32.88	54.00	-21.12	AVG	
2		48	344.810	40.65	3.66	44.31	74.00	-29.69	peak	

Report No.: BTL-FCCP-1-1408C128 Page 81 of 148



Test Mode: TX N-40M MODE 2422MHz

Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	27.94	33.54	61.48	74.00	-12.52	peak	
2		2390.000	17.59	33.54	51.13	54.00	-2.87	AVG	
3	Χ	2419.000	69.72	33.58	103.30	74.00	29.30	peak	no limit
4	*	2420.200	59.87	33.58	93.45	54.00	39.45	AVG	no limit

Report No.: BTL-FCCP-1-1408C128 Page 82 of 148



Test Mode: TX N-40M MODE 2422MHz

Horizontal

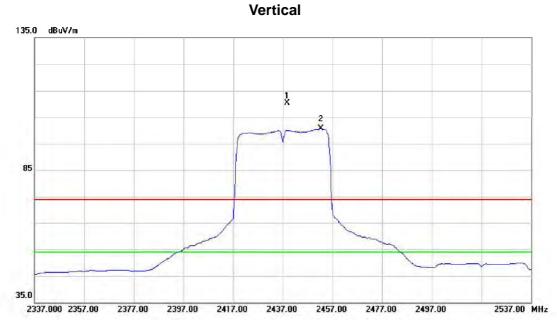


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4843.690	29.69	3.66	33.35	54.00	-20.65	AVG	
2		4844.800	39.35	3.66	43.01	74.00	-30.99	peak	

Report No.: BTL-FCCP-1-1408C128 Page 83 of 148



Orthogonal Axis: X
Test Mode: TX N-40M MODE 2437MHz



No.	М	k. Free	Reading Level	g Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	Х	2438.60	0 76.73	33.60	110.33	74.00	36.33	peak	no limit
2	*	2452.40	0 67.03	33.62	100.65	54.00	46.65	AVG	no limit

Report No.: BTL-FCCP-1-1408C128 Page 84 of 148



Test Mode: TX N-40M MODE 2437MHz

Vertical



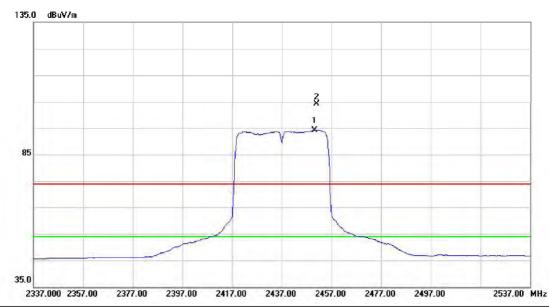
No.	M	₹.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	48	73.600	28.96	3.72	32.68	54.00	-21.32	AVG	
2		48	74.500	40.28	3.72	44.00	74.00	-30.00	peak	

Report No.: BTL-FCCP-1-1408C128 Page 85 of 148



Test Mode: TX N-40M MODE 2437MHz

Horizontal



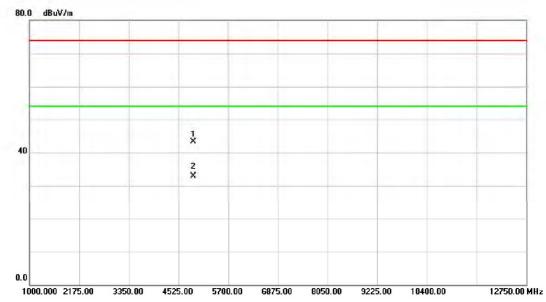
١	۷o.	Mł	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
	1	*	2450.200	60.47	33.62	94.09	54.00	40.09	AVG	no limit	
	2	Χ	2451.000	70.41	33.62	104.03	74.00	30.03	peak	no limit	

Report No.: BTL-FCCP-1-1408C128 Page 86 of 148



Test Mode: TX N-40M MODE 2437MHz

Horizontal



No.	M	k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		487	3.700	39.59	3.72	43.31	74.00	-30.69	peak	
2	*	487	3.800	29.10	3.72	32.82	54.00	-21.18	AVG	

Report No.: BTL-FCCP-1-1408C128 Page 87 of 148



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

Vertical 135.0 dBuV/m 85 95 2352.000 2372.00 2392.00 2412.00 2432.00 2452.00 2472.00 2492.00 2512.00 2552.00 MHz

No.	Mk	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2453.800	63.84	33.62	97.46	54.00	43.46	AVG	no limit
2	Χ	2456.000	74.38	33.62	108.00	74.00	34.00	peak	no limit
3		2483.500	27.72	33.66	61.38	74.00	-12.62	peak	
4		2483.500	18.39	33.66	52.05	54.00	-1.95	AVG	

Report No.: BTL-FCCP-1-1408C128 Page 88 of 148



Test Mode: TX N-40M MODE 2452MHz

Vertical



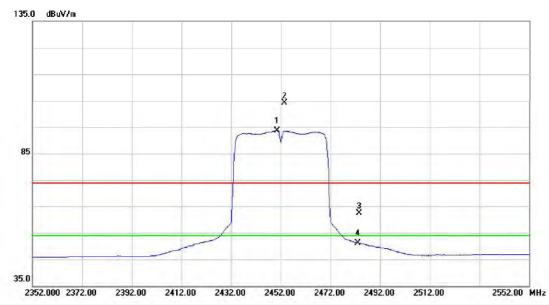
No.	М	1 k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	49	903.510	29.27	3.77	33.04	54.00	-20.96	AVG	
2		49	904.170	39.92	3.77	43.69	74.00	-30.31	peak	

Report No.: BTL-FCCP-1-1408C128 Page 89 of 148



Test Mode: TX N-40M MODE 2452MHz

Horizontal



No.	Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2450.400	59.96	33.62	93.58	54.00	39.58	AVG	no limit
2	Χ	2453.400	70.59	33.62	104.21	74.00	30.21	peak	no limit
3		2483.500	28.81	33.66	62.47	74.00	-11.53	peak	
4		2483.500	17.48	33.66	51.14	54.00	-2.86	AVG	

Report No.: BTL-FCCP-1-1408C128 Page 90 of 148



Test Mode: TX N-40M MODE 2452MHz

Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4903.540	28.68	3.77	32.45	54.00	-21.55	AVG	
2		4903.780	39.37	3.77	43.14	74.00	-30.86	peak	

Report No.: BTL-FCCP-1-1408C128 Page 91 of 148



ATTACHMENT E - BANDWIDTH

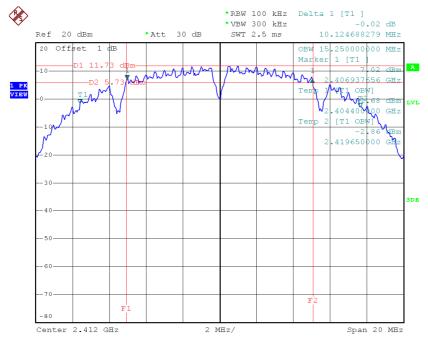
Report No.: BTL-FCCP-1-1408C128 Page 92 of 148



Test Mode: TX B Mode_CH01/06/11

Frequency	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412 MHz	10.12	15.25	500	Complies
2437 MHz	10.18	15.55	500	Complies
2462 MHz	10.22	15.20	500	Complies

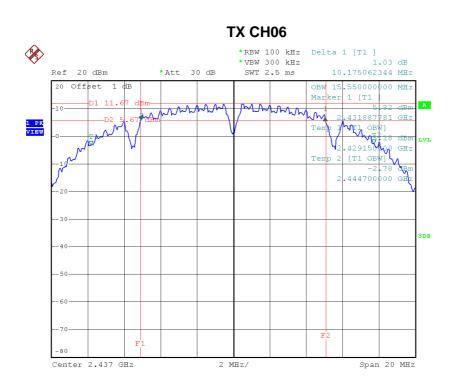
TX CH01



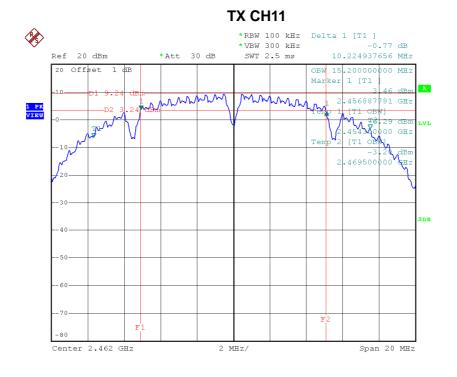
Date: 2.SEP.2014 08:54:30

Report No.: BTL-FCCP-1-1408C128 Page 93 of 148





Date: 2.SEP.2014 08:56:54



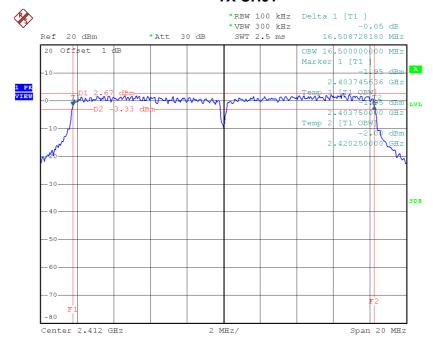
Date: 2.SEP.2014 08:58:38



Test Mode: TX G Mode_CH01/06/11

Frequency	6dB Bandwidth	99% Occupied BW	Min. Limit	Test Result
rrequency	(MHz)	(MHz)	(kHz)	
2412 MHz	16.51	16.50	500	Complies
2437 MHz	16.61	16.50	500	Complies
2462 MHz	16.56	16.55	500	Complies

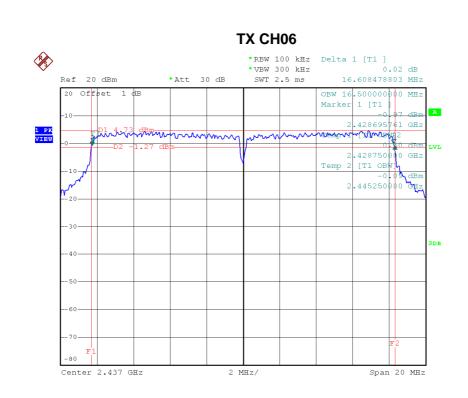
TX CH01



Date: 2.SEP.2014 09:00:29

Report No.: BTL-FCCP-1-1408C128 Page 95 of 148





Date: 2.SEP.2014 09:02:01

TX CH11 *RBW 100 kHz Delta 1 [T1] *VPW 300 kHz 0.42 dB **P** 16.558603491 MHz Ref 20 dBm *Att 30 dB SWT 2.5 ms OBW 16.5500000000 MHz Marker 1 [T1] 20 Offset 1 dB .4536957<mark>61 GH</mark>z 1 PK VIEW [T1 OBW 470250 Center 2.462 GHz Span 20 MHz

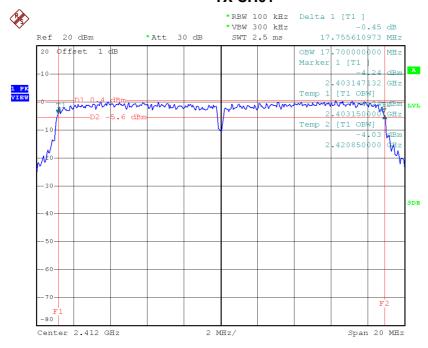
Date: 2.SEP.2014 09:03:15



Test Mode: TX N-20MHz Mode_CH01/06/11_ANT 1

Frequency	6dB Bandwidth (MHz)	BW (MHz)	Min. Limit (kHz)	Test Result
2412 MHz	17.76	17.70	500	Complies
2437 MHz	17.81	17.70	500	Complies
2462 MHz	17.81	17.65	500	Complies

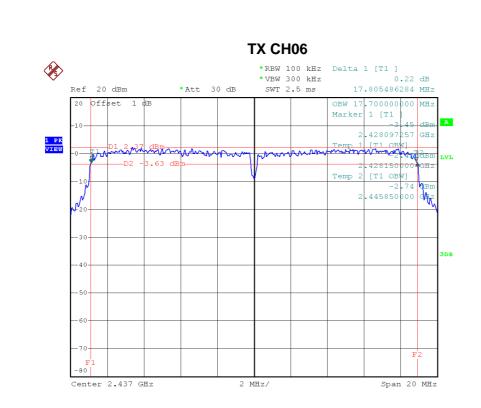
TX CH01



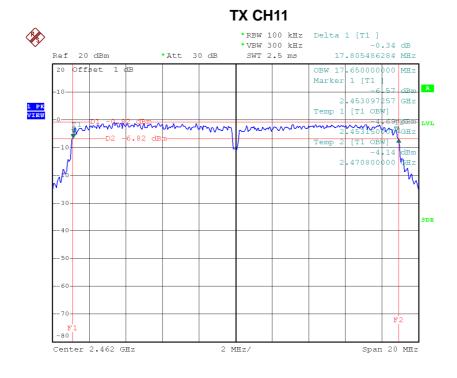
Date: 2.SEP.2014 09:06:22

Report No.: BTL-FCCP-1-1408C128 Page 97 of 148





Date: 2.SEP.2014 09:11:59



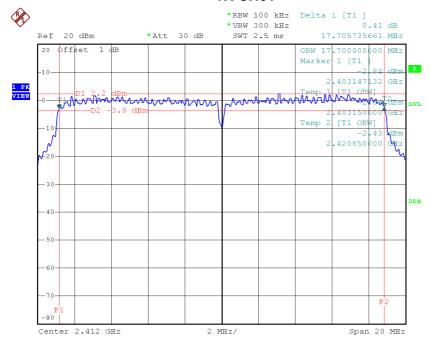
Date: 2.SEP.2014 09:13:40



Test Mode: TX N-20MHz Mode_CH01/06/11_ANT 2

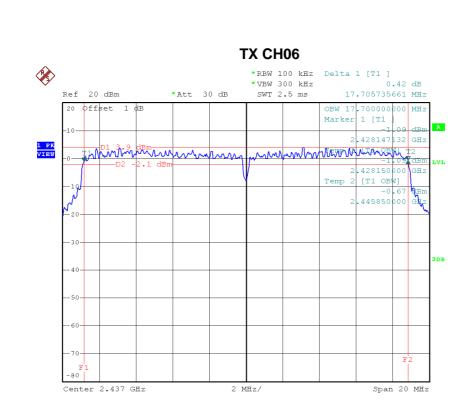
Frequency	6dB Bandwidth	BW	Min. Limit	Test Result
rrequeries	(MHz)	(MHz)	(kHz)	
2412 MHz	17.71	17.70	500	Complies
2437 MHz	17.71	17.70	500	Complies
2462 MHz	17.71	17.65	500	Complies

TX CH01

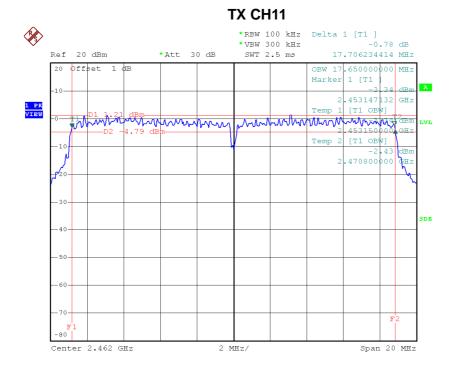


Date: 2.SEP.2014 09:08:27





Date: 2.SEP.2014 09:10:49



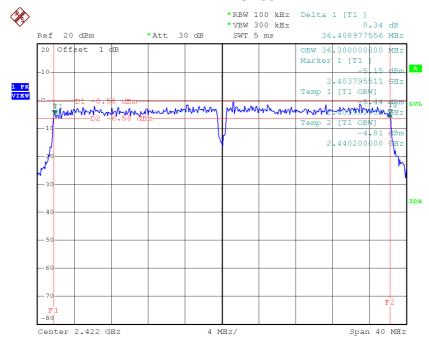
Date: 2.SEP.2014 09:15:13



Test Mode: TX N-40MHz Mode_CH03/06/09_ANT 1

Frequency	6dB Bandwidth (MHz)	BW (MHz)	Min. Limit (kHz)	Test Result
2422 MHz	36.41	36.30	500	Complies
2437 MHz	36.56	36.30	500	Complies
2452 MHz	36.31	36.30	500	Complies

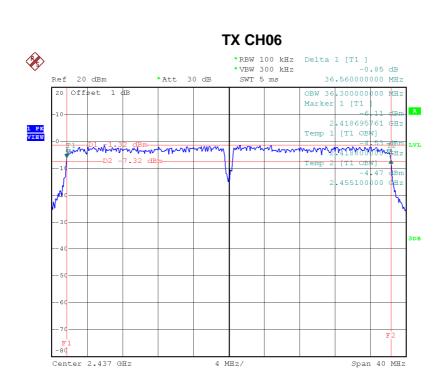
TX CH03



Date: 2.SEP.2014 09:16:50

Report No.: BTL-FCCP-1-1408C128 Page 101 of 148





Date: 2.SEP.2014 09:21:08

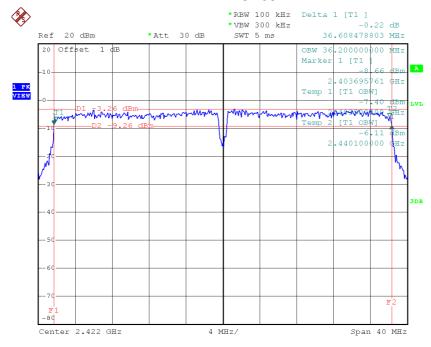
Date: 2.SEP.2014 09:25:35



Test Mode: TX N-40MHz Mode_CH03/06/09_ANT 2

Frequency	6dB Bandwidth	BW	Min. Limit	Test Result
. ,	(MHz)	(MHz)	(kHz)	
2422 MHz	36.61	36.20	500	Complies
2437 MHz	36.41	36.20	500	Complies
2452 MHz	36.31	36.30	500	Complies

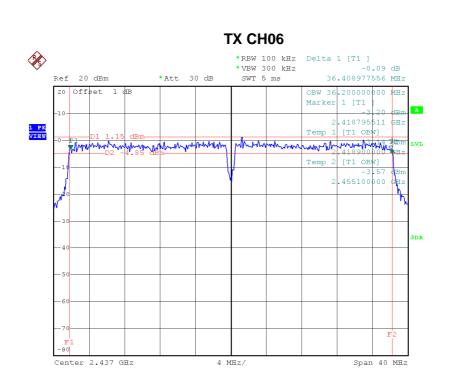
TX CH03



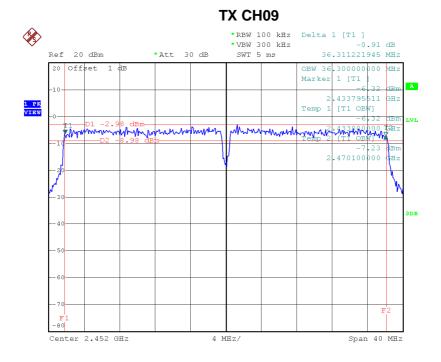
Date: 2.SEP.2014 09:18:27

Report No.: BTL-FCCP-1-1408C128 Page 103 of 148





Date: 2.SEP.2014 09:22:24



Date: 2.SEP.2014 09:24:04



ATTACHMENT F - MAXIMUM OUTPUT POWER

Report No.: BTL-FCCP-1-1408C128 Page 105 of 148



Test Mode : TX B Mode					
Frequency	Conducted	Conducted	Max. Limit(dBm)	Max. Limit(W)	Result
rrequericy	Power (dBm)	Power (W)	Max. Limit(ubin)	IVIAX. LITTIL(VV)	Nesuit
2412 MHz	21.33	0.1358	30.00	1.00	Complies
2437 MHz	21.17	0.1309	30.00	1.00	Complies
2462 MHz	20.13	0.1030	30.00	1.00	Complies

Test Mode : TX G Mode					
Frequency	Conducted Power (dBm)	Conducted Power (W)	Max. Limit(dBm)	Max. Limit(W)	Result
2412 MHz	21.18	0.1312	30.00	1.00	Complies
2437 MHz	22.56	0.1803	30.00	1.00	Complies
2462 MHz	20.78	0.1197	30.00	1.00	Complies

Report No.: BTL-FCCP-1-1408C128 Page 106 of 148



Test Mode : TX N-20M Mode_ANT 1					
Frequency Conducted Power (dBm) Power (W) Max. Limit(dBm) Max. Limit(W) Result					
2412 MHz	20.05	0.1012	30.00	1.00	Complies
2437 MHz	19.86	0.0968	30.00	1.00	Complies
2462 MHz	18.97	0.0789	30.00	1.00	Complies

Test Mode: TX N-20M Mode_ANT 2					
Frequency	Conducted Power (dBm)	Conducted Power (W)	Max. Limit(dBm)	Max. Limit(W)	Result
2412 MHz	20.03	0.1007	30.00	1.00	Complies
2437 MHz	20.74	0.1186	30.00	1.00	Complies
2462 MHz	19.53	0.0897	30.00	1.00	Complies

Test Mode: TX N-20M Mode_Total					
Frequency	Conducted Power (dBm)	Conducted Power (W)	Max. Limit(dBm)	Max. Limit(W)	Result
2412 MHz	23.05	0.2019	30.00	1.00	Complies
2437 MHz	23.33	0.2154	30.00	1.00	Complies
2462 MHz	22.27	0.1686	30.00	1.00	Complies

Report No.: BTL-FCCP-1-1408C128 Page 107 of 148



Test Mode: TX N-40M Mode_ANT 1					
Frequency	Conducted Power (dBm)	Conducted Power (W)	Max. Limit(dBm)	Max. Limit(W)	Result
2422 MHz	19.27	0.0845	30.00	1.00	Complies
2437 MHz	19.91	0.0979	30.00	1.00	Complies
2452 MHz	17.35	0.0543	30.00	1.00	Complies

Test Mode: TX N-40M Mode_ANT 2					
Frequency	Conducted Power (dBm)	Conducted Power (W)	Max. Limit(dBm)	Max. Limit(W)	Result
2422 MHz	19.78	0.0951	30.00	1.00	Complies
2437 MHz	20.36	0.1086	30.00	1.00	Complies
2452 MHz	18.36	0.0685	30.00	1.00	Complies

l	Test Mode: TX N-40M Mode_Total					
ſ	Fraguancy	Conducted	Conducted	Max. Limit(dBm)	Max. Limit(W)	Result
L	Frequency	Power (dBm)	Power (W)			
	2422 MHz	22.54	0.1796	30.00	1.00	Complies
	2437 MHz	23.15	0.2066	30.00	1.00	Complies
	2452 MHz	20.89	0.1229	30.00	1.00	Complies

Report No.: BTL-FCCP-1-1408C128 Page 108 of 148



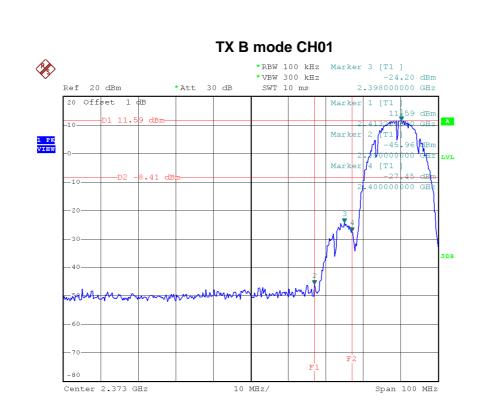
ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

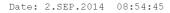
Report No.: BTL-FCCP-1-1408C128 Page 109 of 148

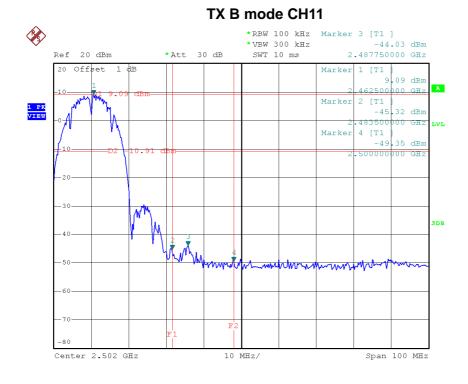


	1
Test Mode :	TX B Mode





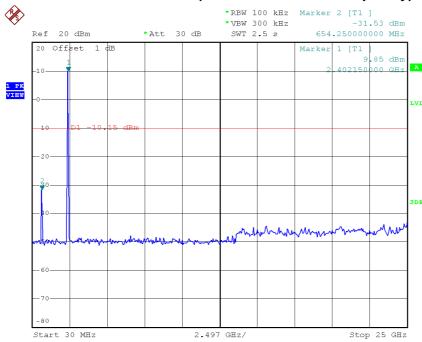




Date: 2.SEP.2014 08:58:53

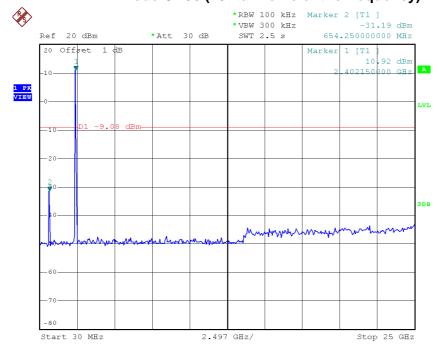






Date: 2.SEP.2014 08:54:09

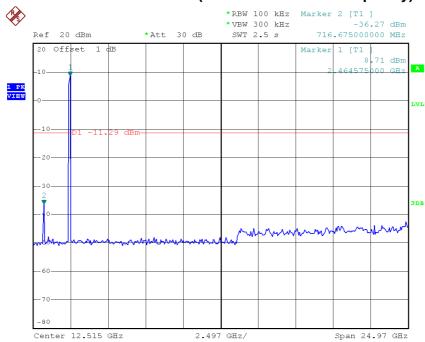
TX B mode CH06 (10 Harmonic of the frequency)



Date: 2.SEP.2014 08:56:13





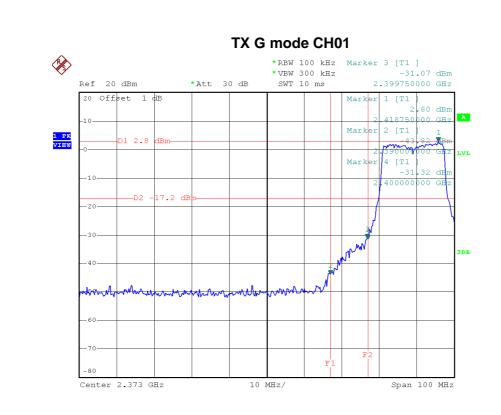


Date: 2.SEP.2014 08:58:03

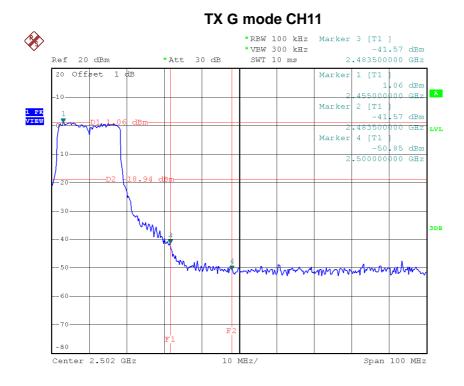


	L
Test Mode :	TX G Mode





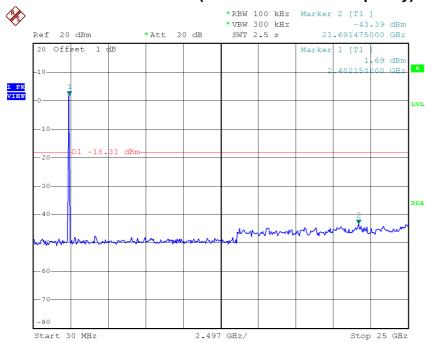




Date: 2.SEP.2014 09:03:33

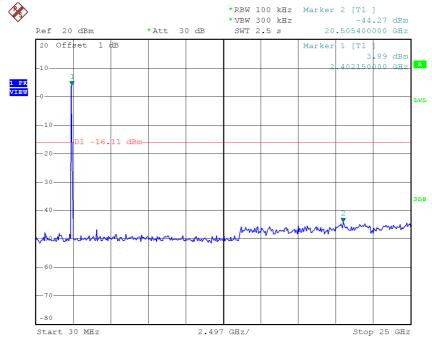






Date: 2.SEP.2014 09:00:09

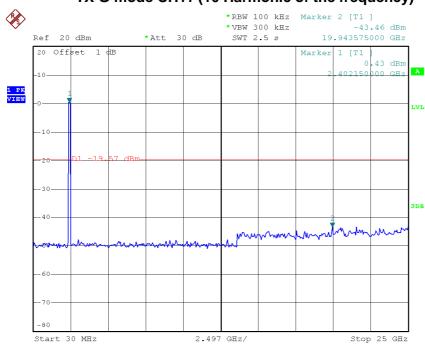
TX G mode CH06 (10 Harmonic of the frequency)



Date: 2.SEP.2014 09:01:43



TX G mode CH11 (10 Harmonic of the frequency)

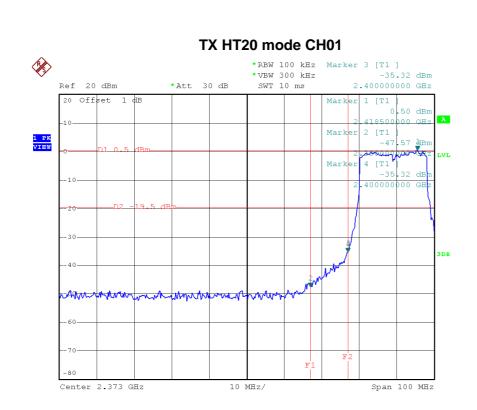


Date: 2.SEP.2014 09:03:00

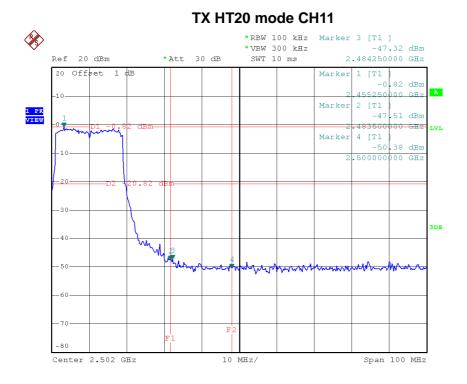


est Mode :	TX N-20M Mode_ANT 1	





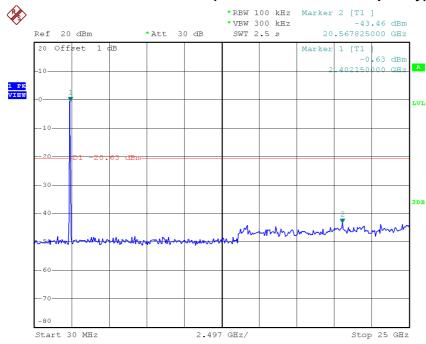




Date: 2.SEP.2014 09:13:56

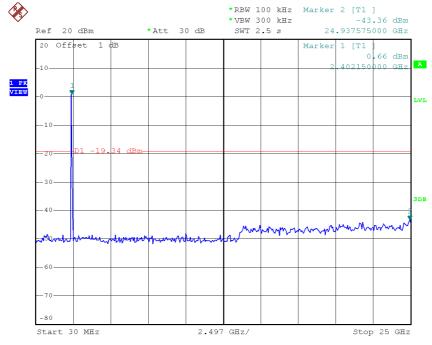






Date: 2.SEP.2014 09:06:06

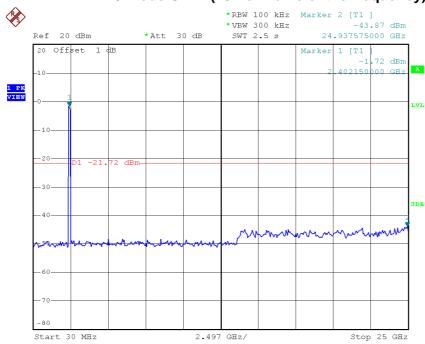
TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 2.SEP.2014 09:11:43







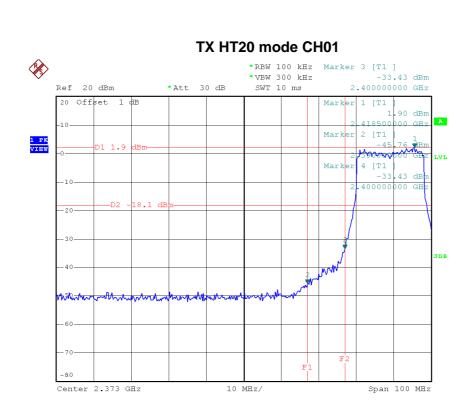
Date: 2.SEP.2014 09:13:20

Report No.: BTL-FCCP-1-1408C128 Page 121 of 148

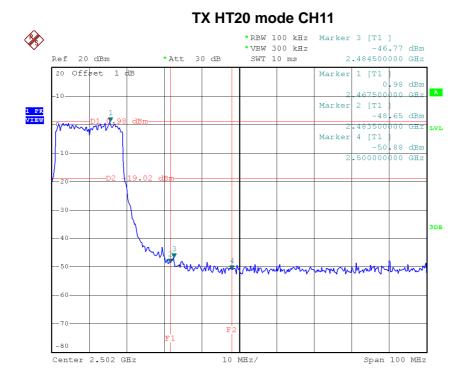


est Mode :	TX N-20M Mode_ANT 2





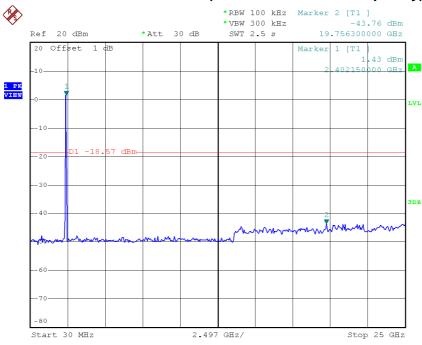




Date: 2.SEP.2014 09:15:25

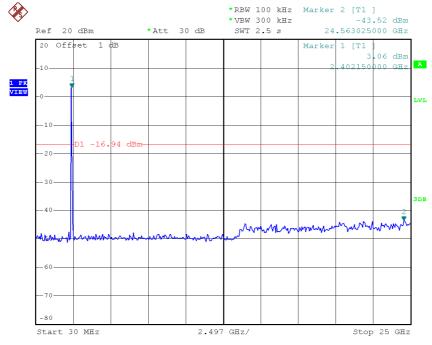






Date: 2.SEP.2014 09:07:56

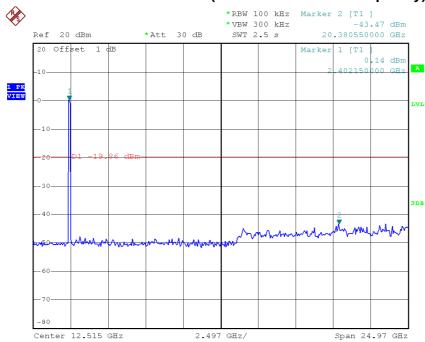
TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 2.SEP.2014 09:10:32







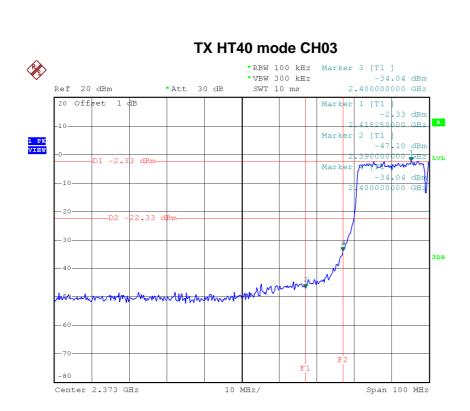
Date: 2.SEP.2014 09:14:47

Report No.: BTL-FCCP-1-1408C128 Page 125 of 148



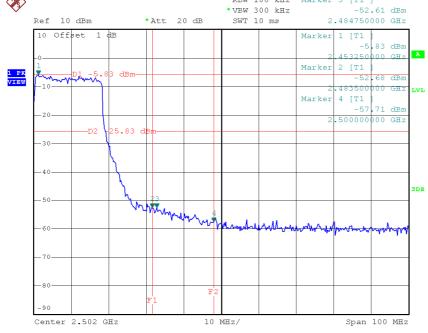
Test Mode:	TX N-40M Mode_ANT 1





Date: 2.SEP.2014 09:17:04

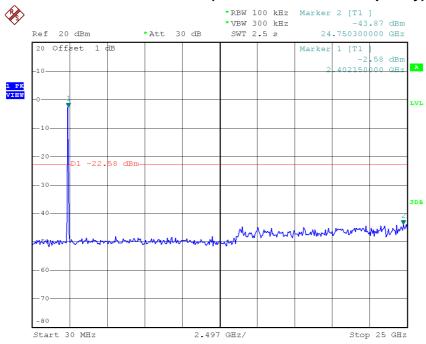
TX HT40 mode CH09 *RBW 100 kHz Marker 3 [T1]



Date: 2.SEP.2014 09:25:49

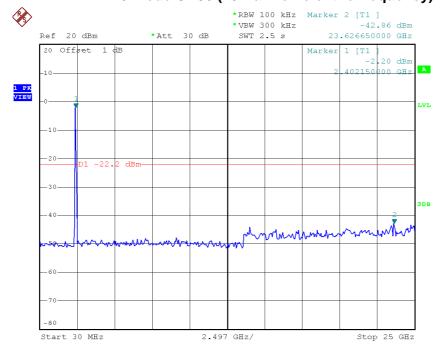






Date: 2.SEP.2014 09:16:33

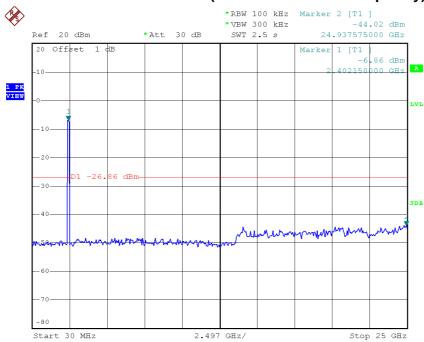
TX HT40 mode CH06 (10 Harmonic of the frequency)



Date: 2.SEP.2014 09:19:41







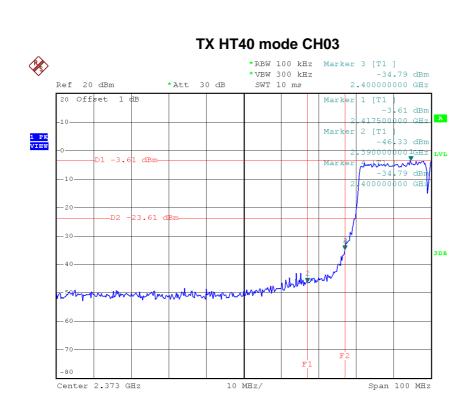
Date: 2.SEP.2014 09:25:20



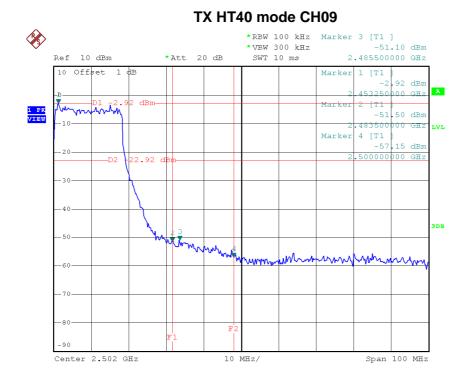
est Mode :	TX N-40M Mode_ANT 2	

Report No.: BTL-FCCP-1-1408C128 Page 130 of 148





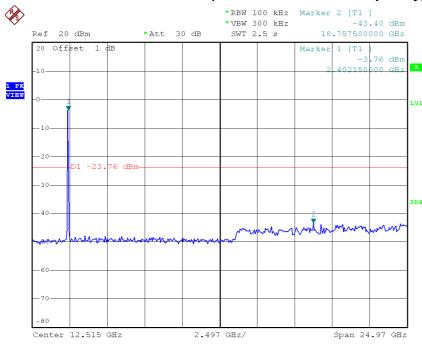




Date: 2.SEP.2014 09:24:18

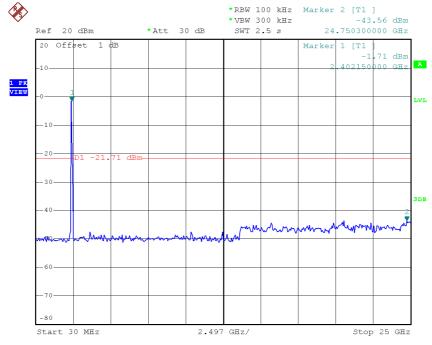






Date: 2.SEP.2014 09:18:12

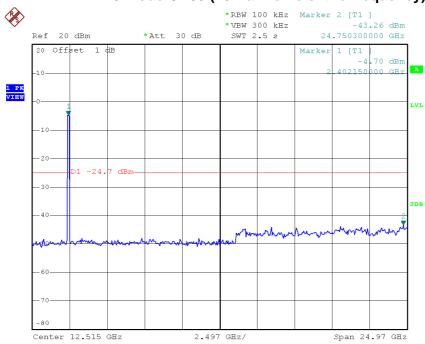
TX HT40 mode CH06 (10 Harmonic of the frequency)



Date: 2.SEP.2014 09:22:08



TX HT40 mode CH09 (10 Harmonic of the frequency)



Date: 2.SEP.2014 09:23:41



ATTACHMENT H - POWER SPECTRAL DENSITY					

Report No.: BTL-FCCP-1-1408C128 Page 134 of 148



Test Mode: TX B Mode_CH01/06/11

Frequency	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm)	Result
2412 MHz	-8.42	0.14	8.00	Complies
2437 MHz	-8.37	0.15	8.00	Complies
2462 MHz	-10.83	0.08	8.00	Complies

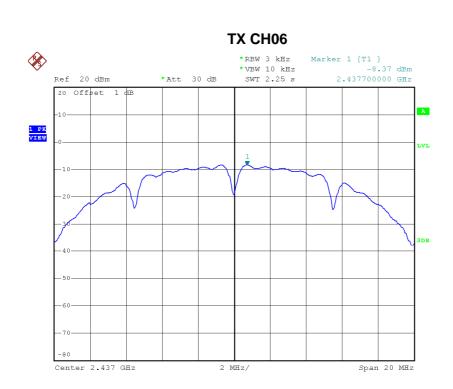
TX CH01



Date: 2.SEP.2014 08:55:25

Report No.: BTL-FCCP-1-1408C128 Page 135 of 148





Date: 2.SEP.2014 08:57:09

*RBW 3 kHz Marker 1 [T1] *VBW 10 kHz -10.83 dBm *Att 30 dB SWT 2.25 s 2.461200000 GHz 20 Offset 1 dB -10 -10 -20 -30 -40 -50 -60 -60 -70 -80 Center 2.462 GHz 2 MHz/ Span 20 MHz

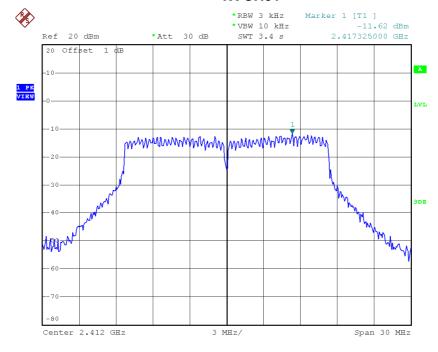
Date: 2.SEP.2014 08:59:06



Test Mode:TX G Mode_CH01/06/11

Frequency	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm)	Result
2412 MHz	-11.62	0.07	8.00	Complies
2437 MHz	-10.10	0.10	8.00	Complies
2462 MHz	-13.33	0.05	8.00	Complies

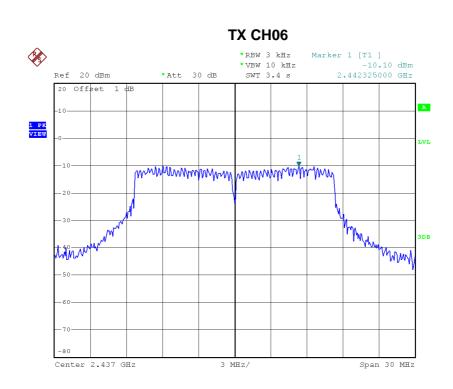
TX CH01



Date: 2.SEP.2014 09:01:04

Report No.: BTL-FCCP-1-1408C128 Page 137 of 148





Date: 2.SEP.2014 09:02:16

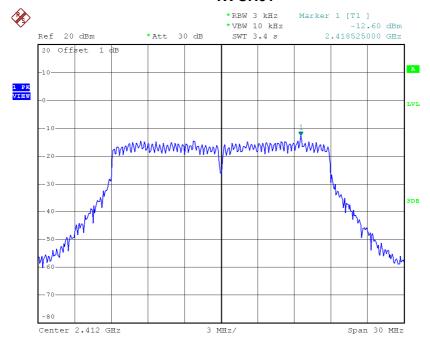
Date: 2.SEP.2014 09:03:49



Test Mode: TX N-20M Mode_CH01/06/11_ANT 1

Frequency	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm)	Result
2412 MHz	-12.60	0.05	8.00	Complies
2437 MHz	-11.56	0.07	8.00	Complies
2462 MHz	-14.73	0.03	8.00	Complies

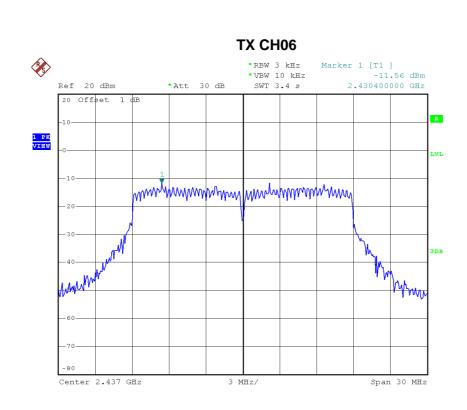
TX CH01



Date: 2.SEP.2014 09:06:54

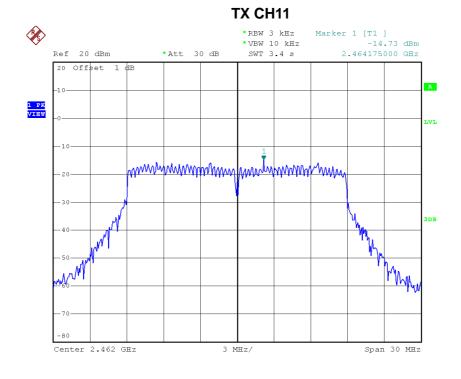
Report No.: BTL-FCCP-1-1408C128 Page 139 of 148





Date: 2.SEP.2014 09:12:16

Date: 2.SEP.2014 09:14:09

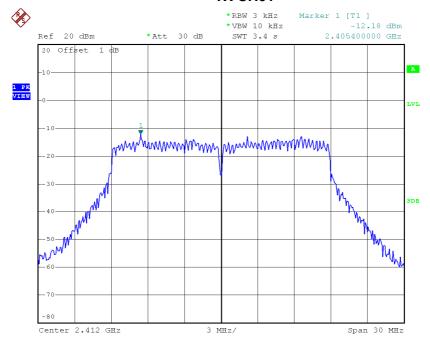




Test Mode: TX N-20M Mode_CH01/06/11_ANT 2

Frequency	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm)	Result
2412 MHz	-12.18	0.06	8.00	Complies
2437 MHz	-10.17	0.10	8.00	Complies
2462 MHz	-12.37	0.06	8.00	Complies

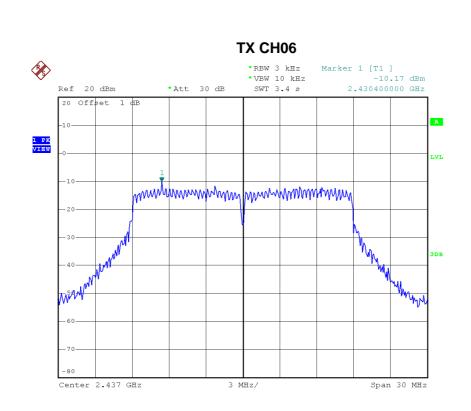
TX CH01



Date: 2.SEP.2014 09:09:05

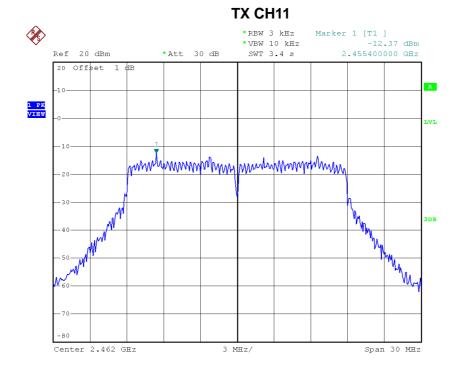
Report No.: BTL-FCCP-1-1408C128 Page 141 of 148







Date: 2.SEP.2014 09:15:39





Test Mode: TX N-20M Mode_CH01/06/11_Total

Frequency	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm)	Result
2412 MHz	-9.37	0.12	8.00	Complies
2437 MHz	-7.80	0.17	8.00	Complies
2462 MHz	-10.38	0.09	8.00	Complies

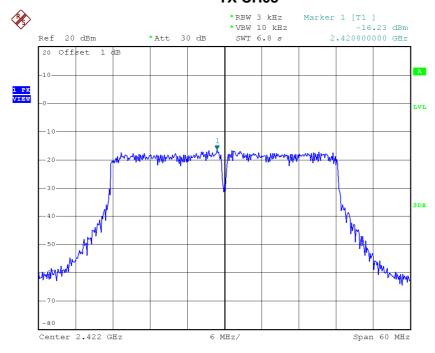
Report No.: BTL-FCCP-1-1408C128 Page 143 of 148



Test Mode: TX N-40M Mode_CH03/06/09_ANT 1

Frequency	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm)	Result
2422 MHz	-16.23	0.02	8.00	Complies
2437 MHz	-14.33	0.04	8.00	Complies
2452 MHz	-18.58	0.01	8.00	Complies

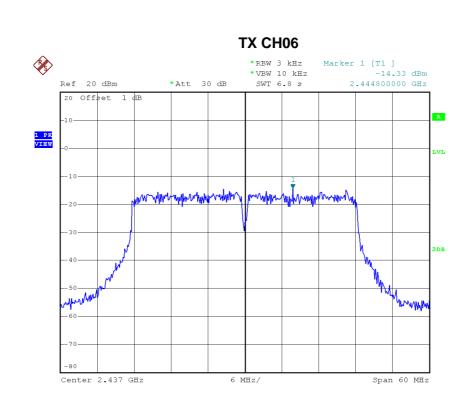
TX CH03



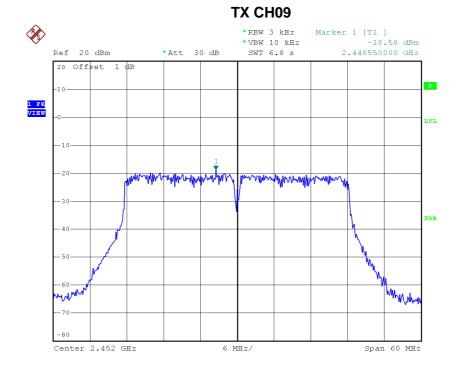
Date: 2.SEP.2014 09:17:21

Report No.: BTL-FCCP-1-1408C128 Page 144 of 148









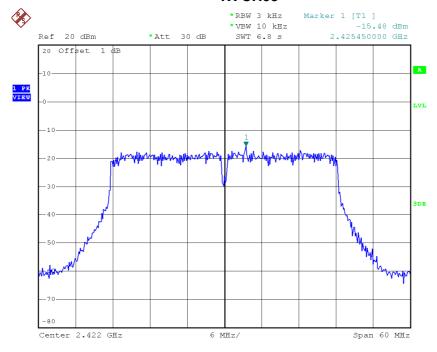
Date: 2.SEP.2014 09:26:05



Test Mode: TX N-40M Mode_CH03/06/09_ANT 2

Frequency	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm)	Result
2422 MHz	-15.48	0.03	8.00	Complies
2437 MHz	-14.39	0.04	8.00	Complies
2452 MHz	-18.02	0.02	8.00	Complies

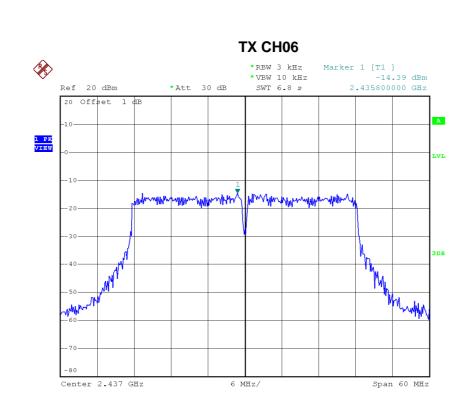
TX CH03



Date: 2.SEP.2014 09:18:58

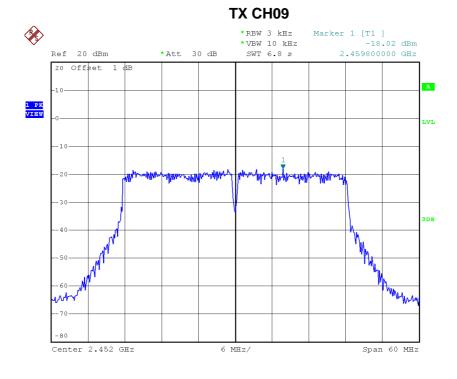
Report No.: BTL-FCCP-1-1408C128 Page 146 of 148







Date: 2.SEP.2014 09:24:34





Test Mode: TX N-40M Mode_CH03/06/09_Total

Frequency	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm)	Result
2422 MHz	-12.83	0.05	8.00	Complies
2437 MHz	-11.35	0.07	8.00	Complies
2452 MHz	-15.28	0.03	8.00	Complies

Report No.: BTL-FCCP-1-1408C128 Page 148 of 148