

FCC Radio Test Report

FCC ID: 2AEU7-LONDON

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

Project No. : 1504C209 Equipment : Marshall London

Model Name

: KB-1501: Zound Industries Smartphones AB Applicant : Torsgatan 2, 111 23 Stockholm, Sweden Address

Date of Receipt : Apr. 22, 2015

Date of Test : Apr. 22, 2015 ~ May 25, 2015

Issued Date : May 26, 2015 Tested by : BTL Inc.

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Declaration

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-3-1504C209	Original Issue.	May 26, 2015

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1. CERTIFICATION

Equipment : Marshall London

Brand Name: Marshall Model Name: KB-1501

Applicant : Zound Industries Smartphones AB
Manufacturer : Zound Industries Smartphones AB
Address : Torsgatan 2, 111 23 Stockholm, Sweden
Factory : Huizhou BYD Electronics Co., Ltd.

Address : Xiangshui River, Economic Development Zone, Daya Bay, Huizhou,

Guangdong, 516083, P.R.China

Date of Test : Apr. 22, 2015 ~ May 25, 2015 Test Sample : ENGINEERING SAMPLE

Standard(s): FCC Part15, Subpart C: 2014 (15.247) / ANSI C63.4-2009

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

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-3-1504C209) 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).

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2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Applied Standard(s): FCC Part15 (15.247) , Subpart C: 2014					
Standard(s) Section FCC	Test Item	Judgment	Remark		
15.207	Conducted Emission	PASS			
15.247(d)	Antenna conducted Spurious Emission	PASS			
15.247(a)(2)	6dB Bandwidth	PASS			
15.247(b)(3)	Peak Output Power	PASS			
15.247(e)	Power Spectral Density	PASS			
15.203	Antenna Requirement	PASS			
15.209/15.205	Transmitter Radiated Emissions	PASS			

NOTE:

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

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2.1 TEST FACILITY

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

BTL's test firm number for FCC: 319330

2.2 MEASUREMENT UNCERTAINTY

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

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

A. Conducted Measurement:

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

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range Ant. H / V U, (dB) NO		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	CISEIX	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	

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

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3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Marshall London			
Brand Name	Marshall			
Model Name	KB-1501			
Model Difference	N/A			
	Operation Frequency	2412~2462 MHz		
Product Description	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM		
	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n up to 150 Mbps		
	Output Power (Max.)	802.11b: 19.41dBm 802.11g: 20.72dBm 802.11n(20MHz): 19.22dBm 802.11n(40MHz): 19.56dBm		
Power Source	#1 DC voltage supplied from AC adapter. Manufacturer/Model: BYD/BUUS050100-B01 #2 Supplied from Li-ion battery. Manufacturer/Model: BYD/M62			
Power Rating	#1 I/P: AC 100-240V 50/60Hz 200mA O/P: DC 5V 1A #2 DC 3.8V 2500mAh			

Note:

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

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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	SPEED	LF4701Q-EU	Internal	N/A	0.0

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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 (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%.
- (5) Both adapter and battery are evaluated, operated the battery is the worst and recorded as below test data.
- (6) The EUT is considered a portable unit, it was pre-tested on the positioned of each 3 axis. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

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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	QRCT		
Frequency (MHz)	2412	2437	2462
802.11b	16	16	16
802.11g	13	13	13
802.11n (20MHz)	11.5	11.5	11.5
Frequency	2422	2437	2452
802.11n (40MHz)	13	13	13

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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.	Note
-	-	-		-	-	

Item	Shielded Type	Ferrite Core	Length	Note
-	-	-	-	

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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 -0.5	66 to 56*	56 to 46*	
0.50 -5.0	56	46	
5.0 -30.0	60	50	

Note:

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

The following table is the setting of the receiver

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

4.1.2 TEST PROCEDURE

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

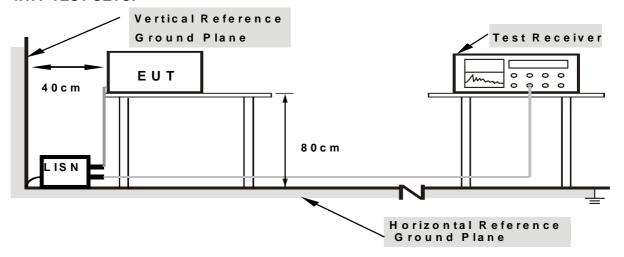
4.1.3 DEVIATION FROM TEST STANDARD

No deviation

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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.

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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)		
	PEAK	AVERAGE	
Above 1000	74	54	

Notes:

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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW	RBW 1MHz VBW 3MHz peak detector for Pk value
(Emission in restricted band)	RMS detector for AV value

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

4.2.2 TEST PROCEDURE

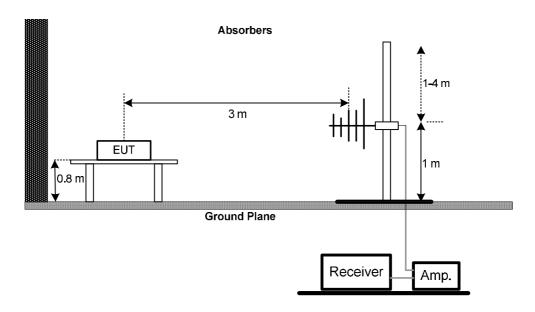
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at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

4.2.3 DEVIATION FROM TEST STANDARD

No deviation

4.2.4 TEST SETUP

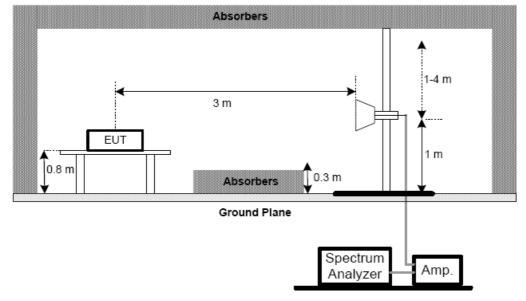
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



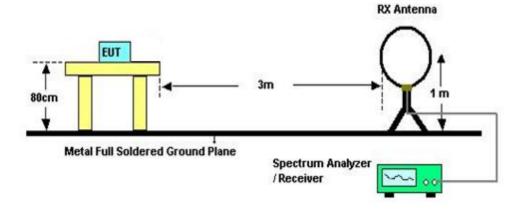
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(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



(C) For radiated emissions below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.5** 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: DC 3.8V

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4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Attachment B

Remark:

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

4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

Remark:

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

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5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES

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

5.1.1 TEST PROCEDURE

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

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

5.1.4 EUT OPERATION CONDITIONS

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

5.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: DC 3.8V

5.1.6 TEST RESULTS

Please refer to the Attachment E.

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6. MAXIMUM PEAK CONDUCTED OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

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

6.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
- b. The maximum peak conducted output power was performed in accordance with method 9.1.2 of FCC KDB 558074 D01 DTS Meas Guidance v03r02.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP

EUT	Power Meter
	i on on motor

6.1.4 EUT OPERATION CONDITIONS

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

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

6.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: DC 3.8V

6.1.6 TEST RESULTS

Please refer to the Attachment F.

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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 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: DC 3.8V

7.1.6 TEST RESULTS

Please refer to the Attachment G.

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8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

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

8.1.1 TEST PROCEDURE

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

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

8.1.4 EUT OPERATION CONDITIONS

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

8.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: DC 3.8V

8.1.6 TEST RESULTS

Please refer to the Attachment H.

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9. MEASUREMENT INSTRUMENTS LIST

	(Conducted Emi	ssion Meası	urement	
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	Mar. 28, 2016
2	LISN	R&S	ENV216	101447	Mar. 28, 2016
3	Test Cable	N/A	C_17	N/A	Mar. 13, 2016
4	EMI TEST RECEIVER	R&S	ESCS30	833364/017	Mar. 28, 2016
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 28, 2016
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-0 1	N/A	N/A

	Radiated Emission Measurement				
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 28, 2016
2	Amplifier	HP	8447D	2944A09673	Nov. 17, 2015
3	Receiver	AGILENT	N9038A	MY52130039	Sep. 30, 2015
4	Test Cable	N/A	C-01_CB03	N/A	Jul. 01, 2015
5	Controller	СТ	SC100	N/A	N/A
6	Antenna	ETS	3115	00075789	Mar. 28, 2016
7	Amplifier	Agilent	8449B	3008A02274	Nov. 02, 2015
8	Receiver	AGILENT	N9038A	MY52130039	Sep. 30, 2015
9	Test Cable	N/A	C-68	N/A	Jul. 01, 2015
10	Controller	СТ	SC100	N/A	N/A
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Mar. 28, 2016
12	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 28, 2016
13	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Aug. 16, 2015
14	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-0 1	N/A	N/A

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		Spectrum Bandy	vidth Measure	ement	
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

	Max	ximum Conducted O	utput Power N	l leasurement	
Iten	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	power Meter	ANRITSU	ML2495A	1128009	Mar. 28, 2016
2	Pulse Power Sensor	ANRITSU	MA 2411B	1027500	Mar. 28, 2016

Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

Frequency Stability Measurement					
Ite	m Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

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

All calibration period of equipment list is one year.

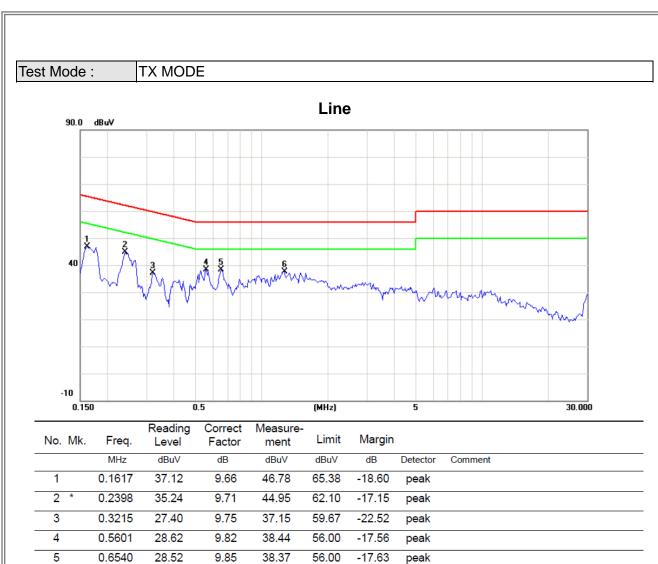
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ATTACHMENT A - CONDUCTED EMISSION

Report No.: BTL-FCCP-3-1504C209 Page 26 of 123





Report No.: BTL-FCCP-3-1504C209

6

1.2670

27.72

9.92

37.64

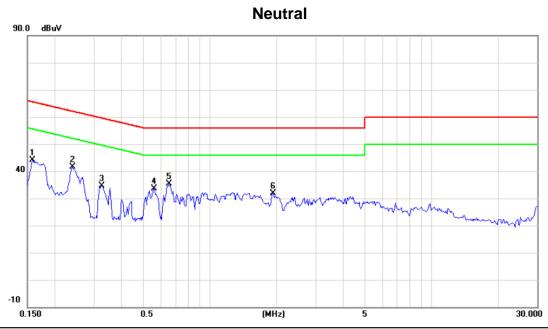
56.00

-18.36

peak







No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	ı	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1577	34.46	9.57	44.03	65.58	-21.55	peak	
2 *	0.2398	32.10	9.60	41.70	62.10	-20.40	peak	
3	0.3256	25.14	9.61	34.75	59.56	-24.81	peak	
4	0.5601	24.02	9.65	33.67	56.00	-22.33	peak	
5	0.6542	25.85	9.65	35.50	56.00	-20.50	peak	
6	1.9273	21.96	9.85	31.81	56.00	-24.19	peak	

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

Report No.: BTL-FCCP-3-1504C209 Page 29 of 123



Test Mode: TX Mode 2412MHz

Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.0085	0°	12.86	25.03	37.89	129.02	-91.13	AVG
0.0085	0°	14.39	25.03	39.42	149.02	-109.60	PEAK
0.0236	0°	8.03	24.07	32.10	120.15	-88.04	AVG
0.0236	0°	10.85	24.07	34.92	140.15	-105.22	PEAK
0.0338	0°	5.58	23.43	29.01	117.03	-88.02	AVG
0.0338	0°	7.16	23.43	30.59	137.03	-106.44	PEAK
0.0485	0°	2.38	22.50	24.88	113.89	-89.01	AVG
0.0485	0°	4.17	22.50	26.67	133.89	-107.22	PEAK
0.4963	0°	20.38	19.81	40.19	73.69	-33.50	QP
1.7239	0°	23.55	19.53	43.08	69.54	-26.46	QP

Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.0077	90°	11.08	24.30	35.38	129.87	-94.49	AVG
0.0077	90°	13.52	24.30	37.82	149.87	-112.05	PEAK
0.0139	90°	9.87	24.30	34.17	124.74	-90.57	AVG
0.0139	90°	11.06	24.30	35.36	144.74	-109.38	PEAK
0.0336	90°	7.36	23.44	30.80	117.08	-86.28	AVG
0.0336	90°	8.97	23.44	32.41	137.08	-104.67	PEAK
0.0452	90°	5.28	22.70	27.98	114.50	-86.52	AVG
0.0452	90°	7.19	22.70	29.89	134.50	-104.61	PEAK
0.4988	90°	19.36	19.80	39.16	73.65	-34.48	QP
1.7739	90°	22.83	19.52	42.35	69.54	-27.19	QP

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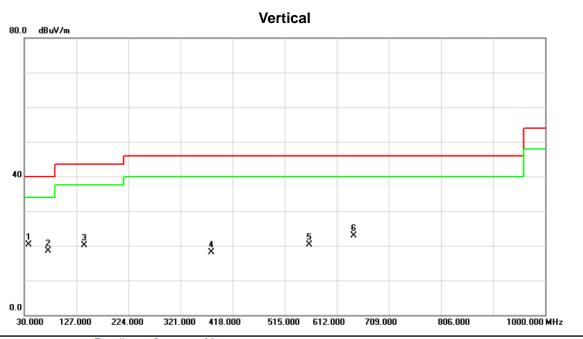


ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

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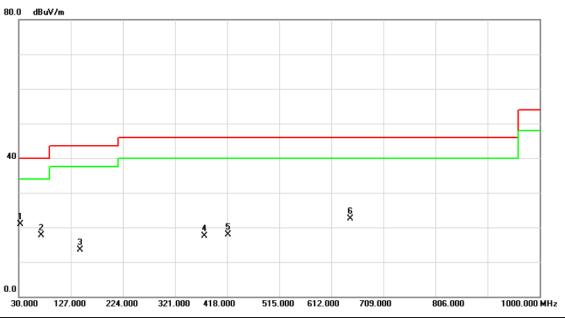
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	37.7600	34.62	-14.27	20.35	40.00	-19.65	peak	
2		74.6200	35.02	-16.52	18.50	40.00	-21.50	peak	
3		141.5500	32.92	-12.89	20.03	43.50	-23.47	peak	
4		378.2300	28.04	-9.87	18.17	46.00	-27.83	peak	
5		560.5900	27.34	-7.10	20.24	46.00	-25.76	peak	
6		644.0100	27.77	-4.86	22.91	46.00	-23.09	peak	

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Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	32.9100	35.84	-14.98	20.86	40.00	-19.14	peak	
2		71.7100	33.91	-16.27	17.64	40.00	-22.36	peak	
3		144.4600	26.39	-12.89	13.50	43.50	-30.00	peak	
4	(376.2900	27.42	-9.97	17.45	46.00	-28.55	peak	
5	4	419.9400	26.30	-8.48	17.82	46.00	-28.18	peak	
6	(647.8900	27.16	-4.63	22.53	46.00	-23.47	peak	

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Vertical 80.0 dBuV/m 40 8 X 2 3 X 5 X * 0.0 30.000 127.000 224.000 321.000 418.000 515.000 612.000 709.000 806.000 1000.000 MHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	37.7600	34.76	-14.27	20.49	40.00	-19.51	peak	
2		138.6400	32.60	-12.86	19.74	43.50	-23.76	peak	
3		177.4400	31.60	-12.50	19.10	43.50	-24.40	peak	
4	,	385.9900	27.16	-9.49	17.67	46.00	-28.33	peak	
5	4	457.7700	27.23	-8.22	19.01	46.00	-26.99	peak	
6		658.5600	27.05	-4.46	22.59	46.00	-23.41	peak	

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Horizontal 80.0 dBuV/m 40 8 6 5 X 2 X 3 0.0 30.000 127.000 224.000 321.000 418.000 515.000 612.000 709.000 806.000 1000.000 MHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	32.9100	35.18	-14.98	20.20	40.00	-19.80	peak	
2		70.7400	33.64	-16.17	17.47	40.00	-22.53	peak	
3	2	282.2000	27.40	-11.69	15.71	46.00	-30.29	peak	
4	4	162.6200	27.21	-8.38	18.83	46.00	-27.17	peak	
5	į	552.8300	27.14	-7.05	20.09	46.00	-25.91	peak	
6	7	725.4900	27.62	-4.10	23.52	46.00	-22.48	peak	

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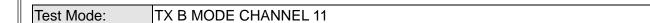


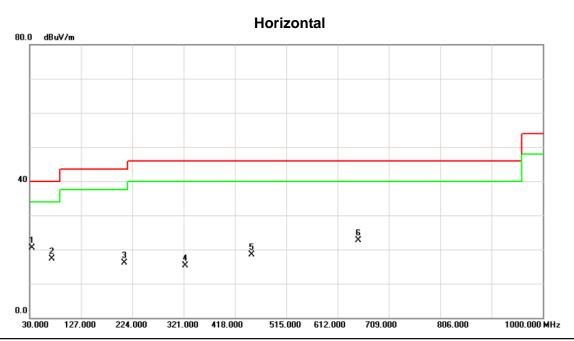


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	37.7600	35.13	-14.27	20.86	40.00	-19.14	peak	
2		138.6400	32.92	-12.86	20.06	43.50	-23.44	peak	
3		315.1800	26.42	-10.72	15.70	46.00	-30.30	peak	
4		414.1200	26.82	-8.58	18.24	46.00	-27.76	peak	
5		451.9500	27.16	-8.02	19.14	46.00	-26.86	peak	
6		655.6500	27.47	-4.48	22.99	46.00	-23.01	peak	

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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	33.8800	35.13	-14.66	20.47	40.00	-19.53	peak	
2		71.7100	33.48	-16.27	17.21	40.00	-22.79	peak	
3		209.4500	31.07	-14.92	16.15	43.50	-27.35	peak	
4		323.9100	26.12	-10.85	15.27	46.00	-30.73	peak	
5		450.0100	26.41	-7.95	18.46	46.00	-27.54	peak	
6		651.7700	27.22	-4.50	22.72	46.00	-23.28	peak	

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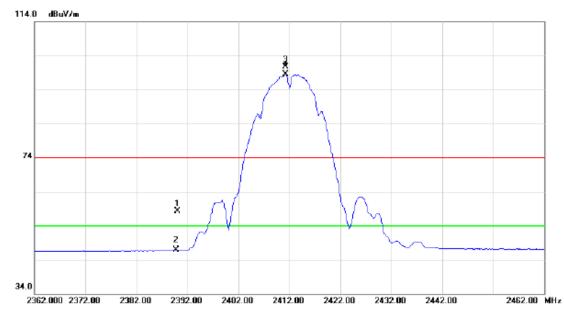
ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)	

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

Vertical



No. Mk.		Level	Factor	ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 2	2390.000	25.56	32.68	58.24	74.00	-15.76	peak	
2 2	2390.000	14.18	32.68	46.86	54.00	-7.14	AVG	
3 X 2	2411.200	68.01	32.71	100.72	74.00	26.72	peak	no limit
4 * 2	2411.200	65.74	32.71	98.45	54.00	44.45	AVG	no limit

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Test Mode: TX B MODE 2412MHz

Vertical



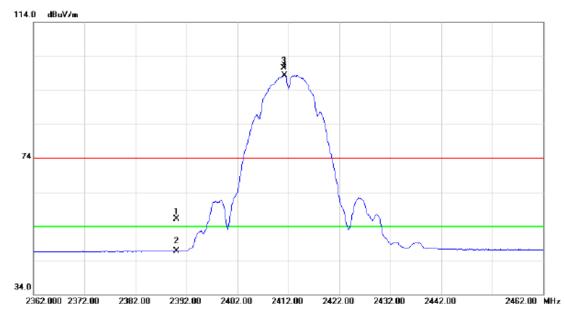
No.	М	k.	Freq.	Reading Level		Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		48	323.800	43.53	5.87	49.40	74.00	-24.60	peak	
2	*	48	324.100	34.91	5.87	40.78	54.00	-13.22	AVG	

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Test Mode: TX B MODE 2412MHz

Horizontal



	No.	Mk.	Freq.	Level	Factor	ment	Limit	Margin		
-			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1		2390.000	23.39	32.68	56.07	74.00	-17.93	peak	
	2		2390.000	14.07	32.68	46.75	54.00	-7.25	AVG	
Ī	3	Х	2411.100	67.84	32.71	100.55	74.00	26.55	peak	no limit
-	4	*	2411.300	65.69	32.71	98.40	54.00	44.40	AVG	no limit
-										

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Test Mode: TX B MODE 2412MHz

Horizontal



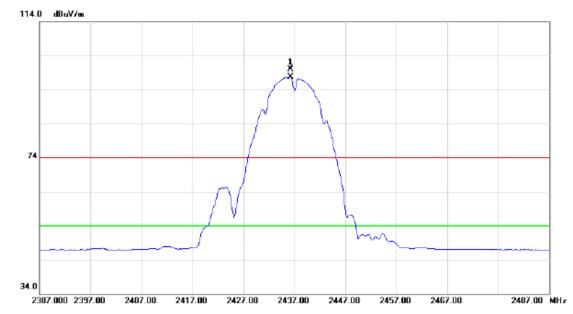
No.	М	k. Fre	eq.	Reading Level		Measure- ment	Limit	Margin		
		MH	z	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4824.0	00	32.06	5.87	37.93	54.00	-16.07	AVG	
2		4824.0	80	42.21	5.87	48.08	74.00	-25.92	peak	

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

Vertical



No.	N	Иk.	Freq.	Reading Level		Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1)	X	2436.200	67.08	32.74	99.82	74.00	25.82	peak	no limit
2	*	k	2436.200	65.05	32.74	97.79	54.00	43.79	AVG	no limit

Report No.: BTL-FCCP-3-1504C209 Page 43 of 123



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

Vertical



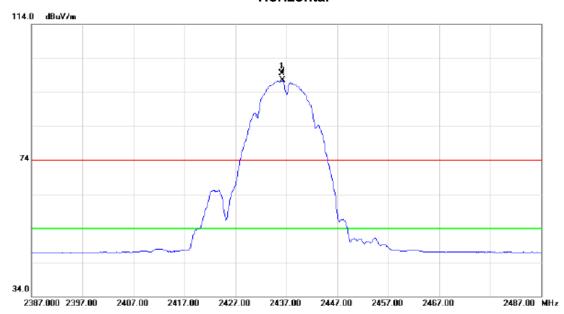
No.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4874.210	34.18	6.01	40.19	54.00	-13.81	AVG	
2		4874.250	43.04	6.01	49.05	74.00	-24.95	peak	

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Test Mode: TX B MODE 2437MHz

Horizontal



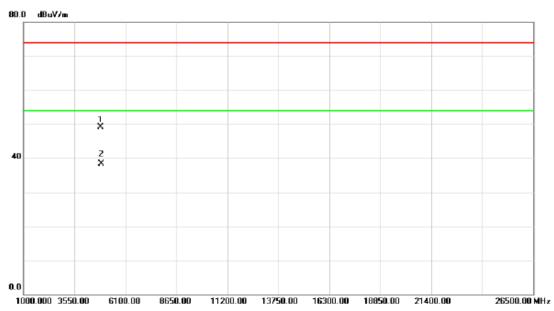
	No.	Mk	. Freq.			Measure- ment	Limit	Margin		
Ī			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	Х	2436.100	66.76	32.74	99.50	74.00	25.50	peak	no limit
	2	*	2436.200	64.72	32.74	97.46	54.00	43.46	AVG	no limit
_										

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Test Mode: TX B MODE 2437MHz

Horizontal



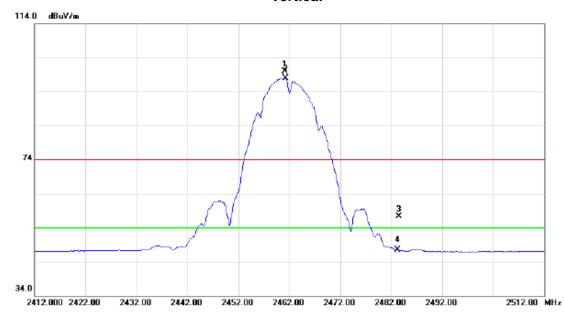
No.	Mk	. Freq.	Reading Level		Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.100	43.00	6.01	49.01	74.00	-24.99	peak	
2	*	4874.160	32.27	6.01	38.28	54.00	-15.72	AVG	

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

Vertical



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	Х	2461.100	67.20	32.78	99.98	74.00	25.98	peak	no limit
2	*	2461.200	65.10	32.78	97.88	54.00	43.88	AVG	no limit
3		2483.500	24.49	32.81	57.30	74.00	-16.70	peak	
4		2483.500	14.64	32.81	47.45	54.00	-6.55	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 47 of 123



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

Vertical



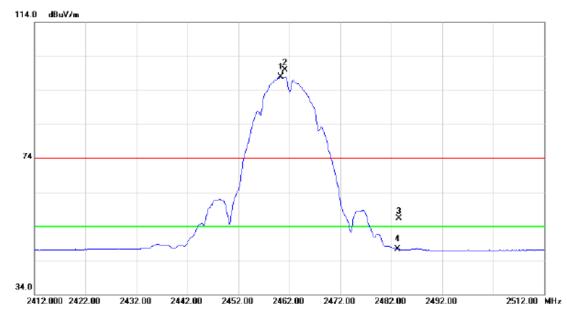
No.	М	k.	Freq.	Reading Level		Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	49	24.080	33.94	6.14	40.08	54.00	-13.92	AVG	
2		49	24.220	42.91	6.14	49.05	74.00	-24.95	peak	

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Test Mode: TX B MODE 2462MHz

Horizontal



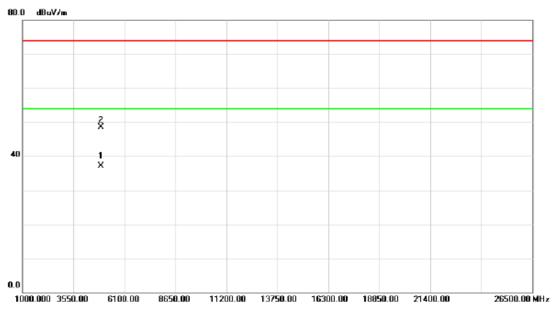
	No.	Mk	. Freq.	Level	Factor	ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	*	2460.300	65.05	32.78	97.83	54.00	43.83	AVG	no limit
	2	Х	2461.100	67.13	32.78	99.91	74.00	25.91	peak	no limit
	3		2483.500	23.43	32.81	56.24	74.00	-17.76	peak	
	4		2483.500	14.49	32.81	47.30	54.00	-6.70	AVG	
-										

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Test Mode: TX B MODE 2462MHz

Horizontal



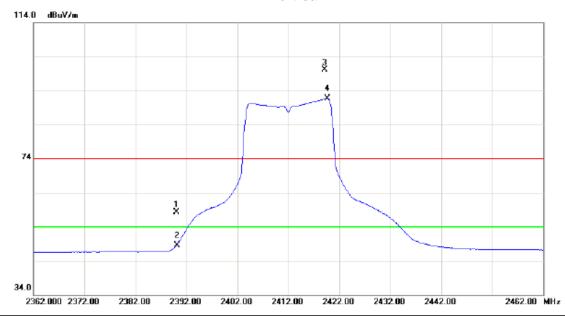
No.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4924.340	30.88	6.14	37.02	54.00	-16.98	AVG	
2		4924.280	42.45	6.14	48.59	74.00	-25.41	peak	

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

Vertical



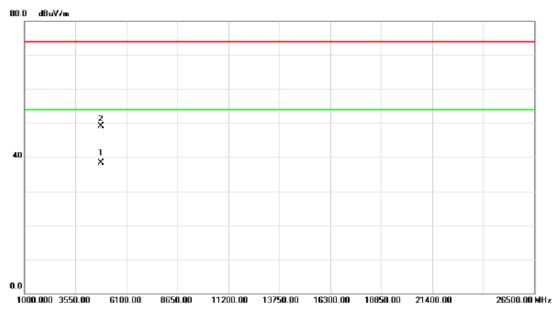
	No.	M	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
-	1		2390.000	25.58	32.68	58.26	74.00	-15.74	peak	
	2		2390.000	15.92	32.68	48.60	54.00	-5.40	AVG	
-	3	Х	2419.100	67.43	32.72	100.15	74.00	26.15	peak	no limit
	4	*	2419.600	58.98	32.72	91.70	54.00	37.70	AVG	no limit
-										

Report No.: BTL-FCCP-3-1504C209 Page 51 of 123



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

Vertical



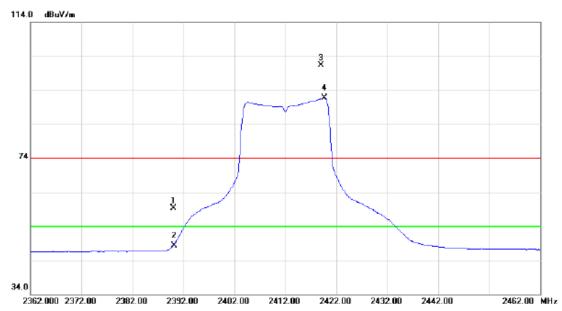
No.	М	k.	Freq.	Reading Level		Measure- ment		Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	48	24.200	32.39	5.87	38.26	54.00	-15.74	AVG	
2		48	24.280	43.14	5.87	49.01	74.00	-24.99	peak	

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Test Mode: TX G MODE 2412MHz

Horizontal



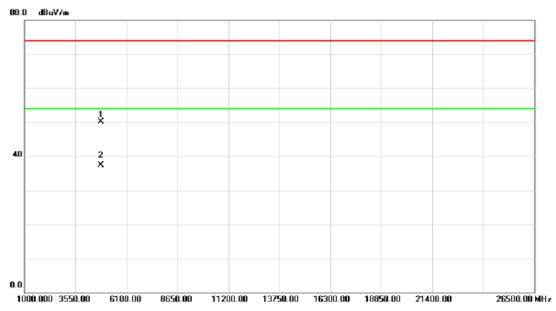
	No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
Ī	1		2390.000	26.55	32.68	59.23	74.00	-14.77	peak	
Ī	2		2390.000	15.69	32.68	48.37	54.00	-5.63	AVG	
Ī	3	Х	2419.000	68.57	32.72	101.29	74.00	27.29	peak	no limit
Ī	4	*	2419.600	58.91	32.72	91.63	54.00	37.63	AVG	no limit

Report No.: BTL-FCCP-3-1504C209 Page 53 of 123



Test Mode: TX G MODE 2412MHz

Horizontal



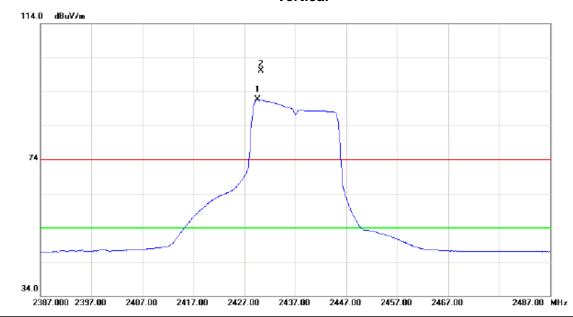
No.	М	k.	Freq.	Reading Level		Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		48	24.300	44.18	5.87	50.05	74.00	-23.95	peak	
2	*	48	24.360	31.39	5.87	37.26	54.00	-16.74	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 54 of 123



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

Vertical



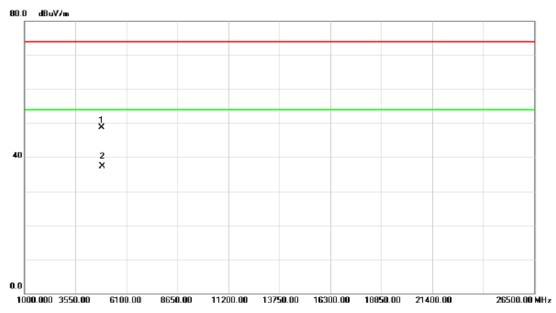
No.	М	lk.	Freq.			Measure- ment		Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	24	29.600	58.91	32.73	91.64	54.00	37.64	AVG	no limit
2	Х	24	30.200	67.34	32.73	100.07	74.00	26.07	peak	no limit

Report No.: BTL-FCCP-3-1504C209 Page 55 of 123



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

Vertical



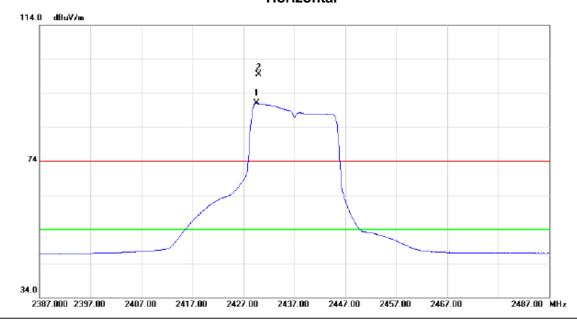
No.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.890	42.66	6.01	48.67	74.00	-25.33	peak	
2	*	4874.010	31.28	6.01	37.29	54.00	-16.71	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 56 of 123



Test Mode: TX G MODE 2437MHz

Horizontal



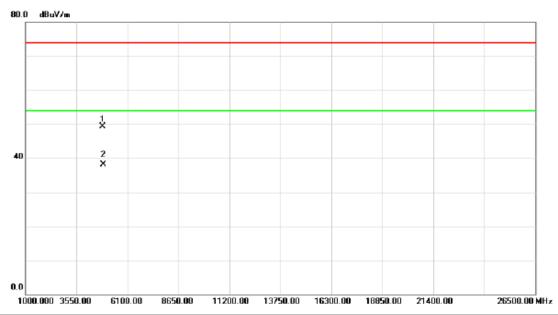
N	0.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	*	2429.600	58.36	32.73	91.09	54.00	37.09	AVG	no limit
	2	Х	2430.000	66.77	32.73	99.50	74.00	25.50	peak	no limit

Report No.: BTL-FCCP-3-1504C209 Page 57 of 123



Test Mode: TX G MODE 2437MHz

Horizontal



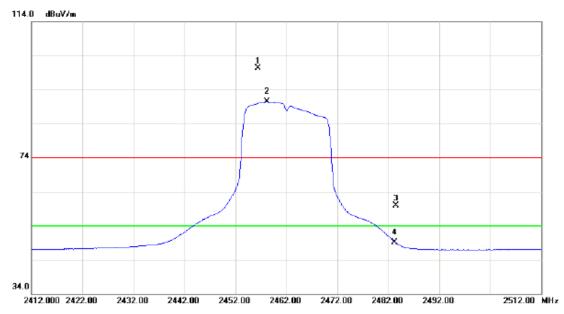
MHz dBuV dB dBuV/m dBuV/m dB Detector Comment 1 4871.670 43.37 6.00 49.37 74.00 -24.63 peak 2 * 4874.810 32.17 6.01 38.18 54.00 -15.82 AVG	No.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Margin		
·			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
2 * 4874.810 32.17 6.01 38.18 54.00 -15.82 AVG	1		4871.670	43.37	6.00	49.37	74.00	-24.63	peak	
	2	*	4874.810	32.17	6.01	38.18	54.00	-15.82	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 58 of 123



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

Vertical



No.	Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1	Х	2456.400	67.53	32.77	100.30	74.00	26.30	peak	no limit	
2	*	2458.200	57.70	32.78	90.48	54.00	36.48	AVG	no limit	
3		2483.500	27.09	32.81	59.90	74.00	-14.10	peak		
4		2483.500	16.22	32.81	49.03	54.00	-4.97	AVG		

Report No.: BTL-FCCP-3-1504C209 Page 59 of 123



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

Vertical



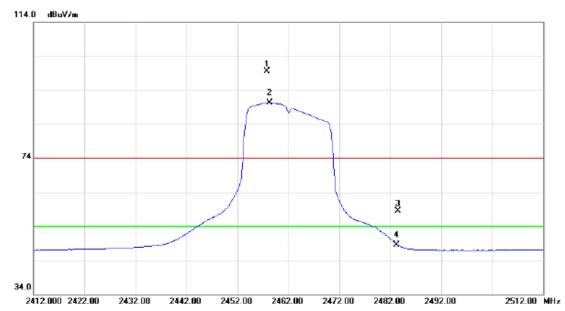
No.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4924.520	33.43	6.14	39.57	54.00	-14.43	AVG	
2		4924.580	44.69	6.14	50.83	74.00	-23.17	peak	

Report No.: BTL-FCCP-3-1504C209 Page 60 of 123



Test Mode: TX G MODE 2462MHz

Horizontal



No.	М	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1	Х	2457.800	66.67	32.78	99.45	74.00	25.45	peak	no limit	
2	*	2458.300	57.53	32.78	90.31	54.00	36.31	AVG	no limit	
3		2483.500	25.75	32.81	58.56	74.00	-15.44	peak		
4		2483.500	15.75	32.81	48.56	54.00	-5.44	AVG		

Report No.: BTL-FCCP-3-1504C209 Page 61 of 123



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

Horizontal



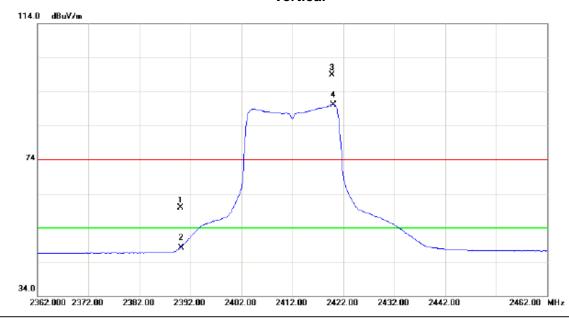
No.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4923.870	31.44	6.14	37.58	54.00	-16.42	AVG	
2		4923.910	43.21	6.14	49.35	74.00	-24.65	peak	

Report No.: BTL-FCCP-3-1504C209 Page 62 of 123



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

Vertical



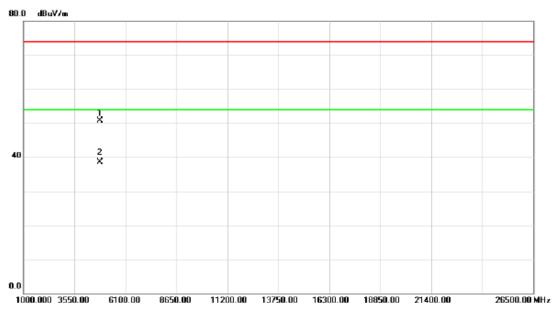
	No.	M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1		2390.000	27.15	32.68	59.83	74.00	-14.17	peak	
	2		2390.000	15.44	32.68	48.12	54.00	-5.88	AVG	
	3	Х	2419.800	66.23	32.72	98.95	74.00	24.95	peak	no limit
	4	*	2420.000	57.40	32.72	90.12	54.00	36.12	AVG	no limit
-										

Report No.: BTL-FCCP-3-1504C209 Page 63 of 123



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

Vertical



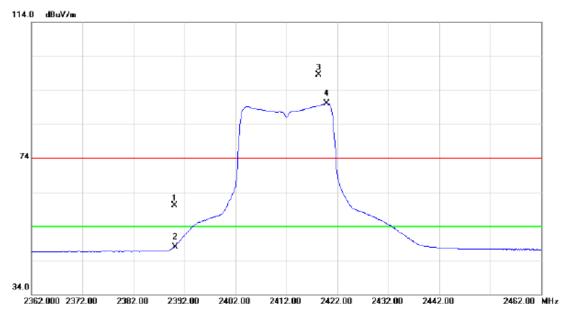
No.	M	c. Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.260	44.82	5.87	50.69	74.00	-23.31	peak	
2	*	4824.320	32.71	5.87	38.58	54.00	-15.42	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 64 of 123



Test Mode: TX N-20M MODE 2412MHz

Horizontal



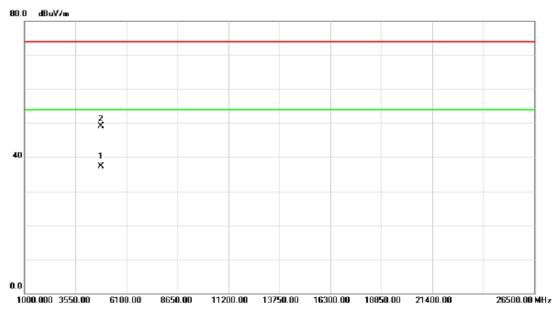
No.	Mk	. Freq.	Level	Factor	ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	27.48	32.68	60.16	74.00	-13.84	peak	
2		2390.000	15.14	32.68	47.82	54.00	-6.18	AVG	
3	Х	2418.300	65.84	32.71	98.55	74.00	24.55	peak	no limit
4	*	2419.900	57.38	32.72	90.10	54.00	36.10	AVG	no limit

Report No.: BTL-FCCP-3-1504C209 Page 65 of 123



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

Horizontal



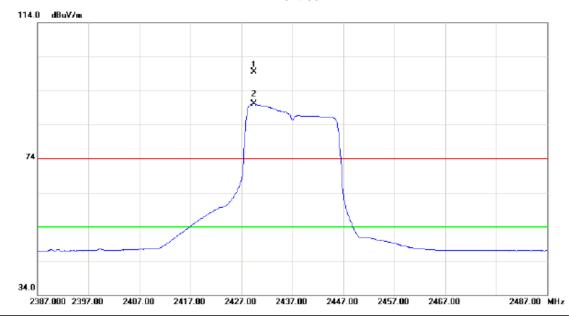
No.	М	k.	Freq.	Reading Level		Measure- ment		Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	48	24.000	31.38	5.87	37.25	54.00	-16.75	AVG	
2		48	24.030	43.32	5.87	49.19	74.00	-24.81	peak	

Report No.: BTL-FCCP-3-1504C209 Page 66 of 123



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

Vertical



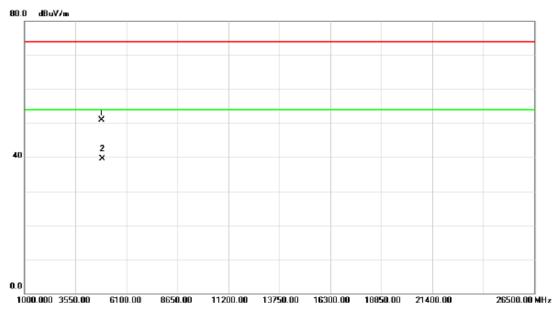
No	0.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	Х	2429.400	66.69	32.73	99.42	74.00	25.42	peak	no limit
	2	*	2429.400	57.31	32.73	90.04	54.00	36.04	AVG	no limit

Report No.: BTL-FCCP-3-1504C209 Page 67 of 123



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

Vertical



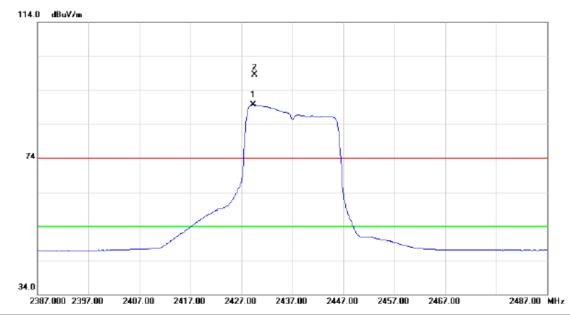
No.	M	c. Freq.	Reading Level		Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.190	44.96	6.01	50.97	74.00	-23.03	peak	
2	*	4874.200	33.54	6.01	39.55	54.00	-14.45	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 68 of 123



Test Mode: TX N-20M MODE 2437MHz

Horizontal



MHz dBuV dB dBuV/m dBuV/m dB Detector Comment 1 * 2429.300 56.95 32.73 89.68 54.00 35.68 AVG no limit 2 X 2429.600 65.68 32.73 98.41 74.00 24.41 peak no limit		No.	Mk	c. Freq.			Measure- ment	Limit	Margin		
	-			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
2 X 2429.600 65.68 32.73 98.41 74.00 24.41 peak no limit		1	*	2429.300	56.95	32.73	89.68	54.00	35.68	AVG	no limit
		2	Х	2429.600	65.68	32.73	98.41	74.00	24.41	peak	no limit

Report No.: BTL-FCCP-3-1504C209 Page 69 of 123



Test Mode: TX N-20M MODE 2437MHz

Horizontal



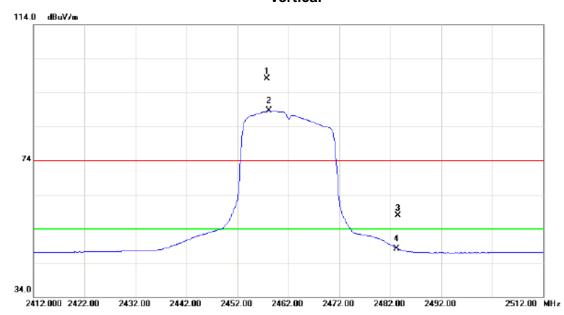
No.	M	k. Freq			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	43.74	6.01	49.75	74.00	-24.25	peak	
2	*	4874.060	31.68	6.01	37.69	54.00	-16.31	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 70 of 123



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

Vertical



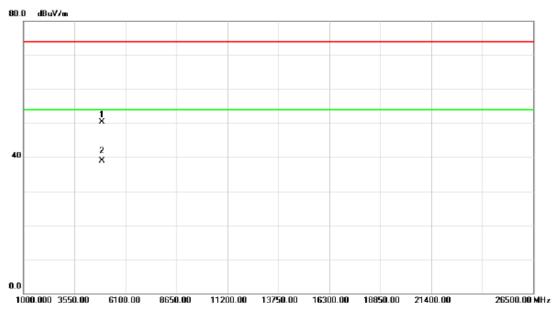
No.	M	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	Х	2457.800	65.40	32.78	98.18	74.00	24.18	peak	no limit
2	*	2458.200	55.85	32.78	88.63	54.00	34.63	AVG	no limit
3		2483.500	25.11	32.81	57.92	74.00	-16.08	peak	
4		2483.500	15.31	32.81	48.12	54.00	-5.88	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 71 of 123



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

Vertical



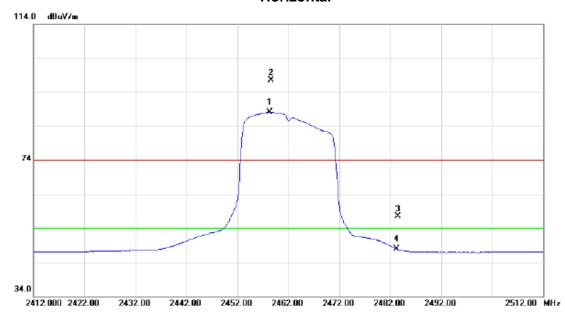
No.	М	k. Fr	eq.	Reading Level		Measure- ment	Limit	Margin		
		MI	lz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.9	50	44.17	6.14	50.31	74.00	-23.69	peak	
2	*	4924.0	60	32.82	6.14	38.96	54.00	-15.04	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 72 of 123



Test Mode: TX N-20M MODE 2462MHz

Horizontal



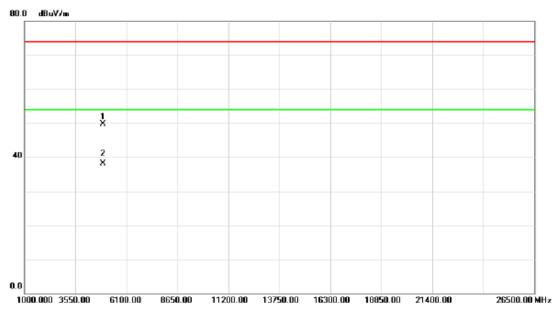
No.	М	k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	24	58.300	55.37	32.78	88.15	54.00	34.15	AVG	no limit
2	Х	24	58.600	64.72	32.78	97.50	74.00	23.50	peak	no limit
3		24	83.500	24.64	32.81	57.45	74.00	-16.55	peak	
4		24	83.500	15.03	32.81	47.84	54.00	-6.16	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 73 of 123



Test Mode: TX N-20M MODE 2462MHz

Horizontal



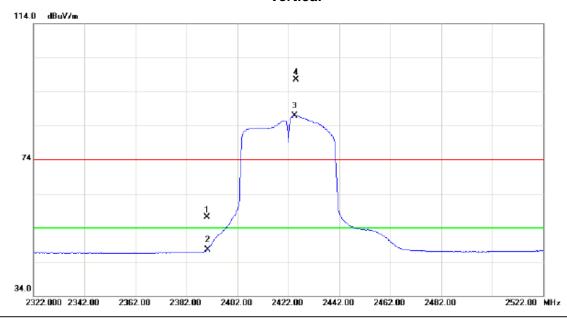
No.	M	c. Freq.			Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.600	43.50	6.14	49.64	74.00	-24.36	peak	
2	*	4924.620	31.89	6.14	38.03	54.00	-15.97	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 74 of 123



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

Vertical



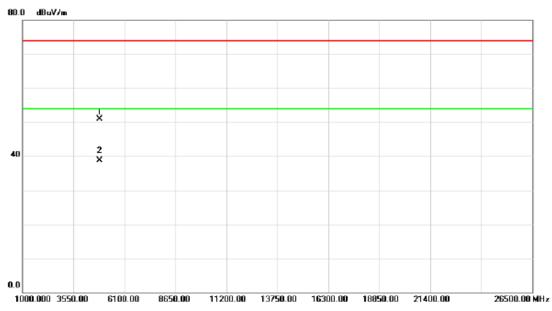
	No.	M	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
-			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
-	1		2390.000	24.40	32.68	57.08	74.00	-16.92	peak	
-	2		2390.000	14.87	32.68	47.55	54.00	-6.45	AVG	
-	3	*	2424.400	54.23	32.73	86.96	54.00	32.96	AVG	no limit
-	4	Х	2425.000	64.76	32.73	97.49	74.00	23.49	peak	no limit
-										

Report No.: BTL-FCCP-3-1504C209 Page 75 of 123



Test Mode: TX N-40M MODE 2422MHz

Vertical



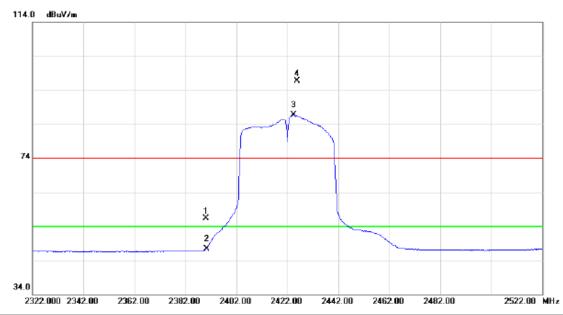
No.	М	k.	Freq.	Reading Level		Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		48	343.010	45.03	5.92	50.95	74.00	-23.05	peak	
2	*	48	343.160	32.79	5.92	38.71	54.00	-15.29	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 76 of 123



Test Mode: TX N-40M MODE 2422MHz

Horizontal



	No.	Mk	. Freq.	Level	Factor	ment	Limit	Margin		
_			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
_	1		2390.000	23.72	32.68	56.40	74.00	-17.60	peak	
_	2		2390.000	14.66	32.68	47.34	54.00	-6.66	AVG	
_	3	*	2424.600	53.92	32.73	86.65	54.00	32.65	AVG	no limit
-	4	Χ	2425.800	63.94	32.73	96.67	74.00	22.67	peak	no limit
-										

Report No.: BTL-FCCP-3-1504C209 Page 77 of 123



Test Mode: TX N-40M MODE 2422MHz

Horizontal



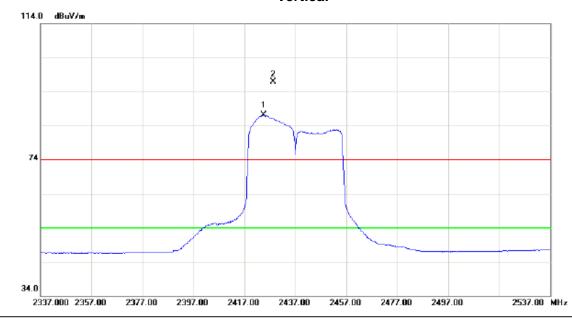
No.	Mk	. Freq.	Reading Level		Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4843.510	31.66	5.92	37.58	54.00	-16.42	AVG	
2		4843.690	42.95	5.92	48.87	74.00	-25.13	peak	
							·	·	•

Report No.: BTL-FCCP-3-1504C209 Page 78 of 123



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

Vertical



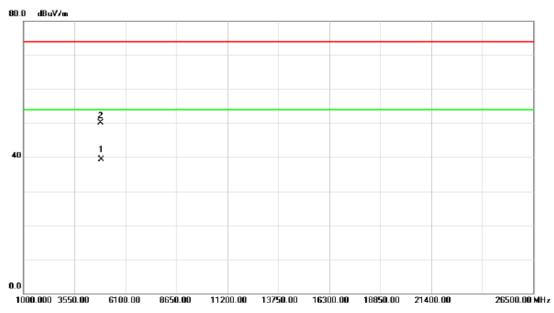
N	0.	Mk	. Freq.			Measure- ment		Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	*	2424.600	54.35	32.73	87.08	54.00	33.08	AVG	no limit
	2	Х	2428.200	64.27	32.73	97.00	74.00	23.00	peak	no limit

Report No.: BTL-FCCP-3-1504C209 Page 79 of 123



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

Vertical



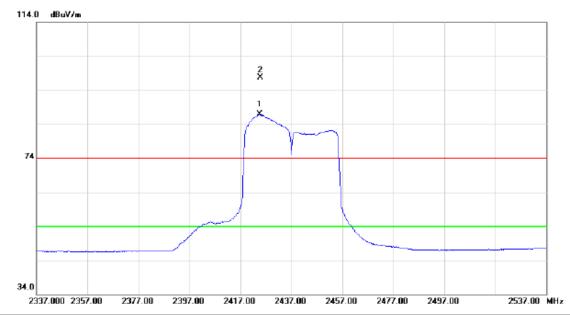
No.	M	c. Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4874.310	33.24	6.01	39.25	54.00	-14.75	AVG	
2		4874.970	44.02	6.01	50.03	74.00	-23.97	peak	

Report No.: BTL-FCCP-3-1504C209 Page 80 of 123



Test Mode: TX N-40M MODE 2437MHz

Horizontal



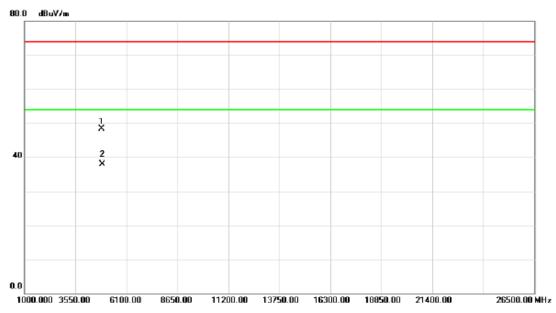
No.	M	k.	Freq.	Reading Level		Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	24	24.600	54.10	32.73	86.83	54.00	32.83	AVG	no limit
2	Х	24	24.800	64.93	32.73	97.66	74.00	23.66	peak	no limit

Report No.: BTL-FCCP-3-1504C209 Page 81 of 123



Test Mode: TX N-40M MODE 2437MHz

Horizontal



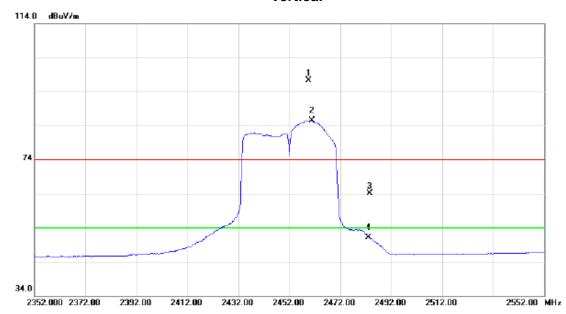
No.	Mk	c. Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.890	42.30	6.01	48.31	74.00	-25.69	peak	
2	*	4875.030	31.87	6.01	37.88	54.00	-16.12	AVG	

Report No.: BTL-FCCP-3-1504C209 Page 82 of 123



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

Vertical



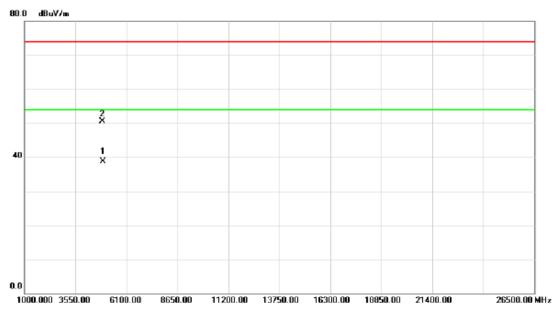
	No.	M	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	Х	2459.600	64.54	32.78	97.32	74.00	23.32	peak	no limit
	2	*	2460.800	52.71	32.78	85.49	54.00	31.49	AVG	no limit
	3		2483.500	31.32	32.81	64.13	74.00	-9.87	peak	
	4		2483.500	18.39	32.81	51.20	54.00	-2.80	AVG	
-										

Report No.: BTL-FCCP-3-1504C209 Page 83 of 123



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

Vertical



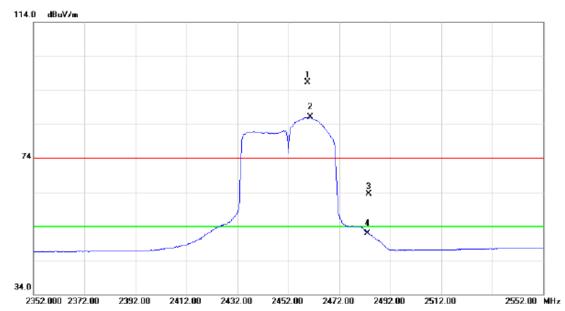
No.	М	k.	Freq.	Reading Level		Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	49	904.000	32.65	6.09	38.74	54.00	-15.26	AVG	
2		49	904.230	44.44	6.09	50.53	74.00	-23.47	peak	

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Test Mode: TX N-40M MODE 2452MHz

Horizontal



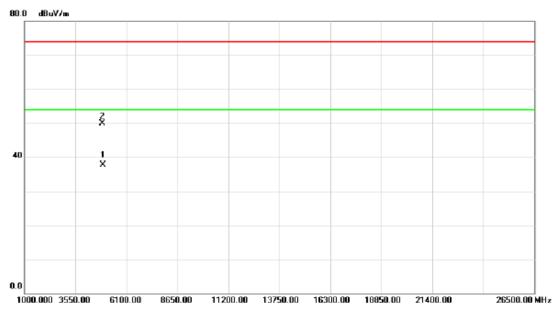
	No.	Mk	. Freq.	Level	Factor	ment	Limit	Margin			
•			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
	1	Х	2459.600	63.54	32.78	96.32	74.00	22.32	peak	no limit	
	2	*	2460.600	53.25	32.78	86.03	54.00	32.03	AVG	no limit	
	3		2483.500	30.74	32.81	63.55	74.00	-10.45	peak		
	4		2483.500	19.08	32.81	51.89	54.00	-2.11	AVG		
-											_

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

Horizontal



No.	М	k.	Freq.	Reading Level		Measure- ment		Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	49	04.310	31.67	6.09	37.76	54.00	-16.24	AVG	
2		49	04.610	43.79	6.09	49.88	74.00	-24.12	peak	

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ATTACHMENT E - BANDWIDTH

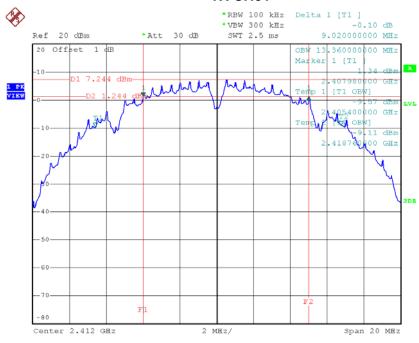
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Test Mode: TX B Mode_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	9.02	13.36	500	Complies
2437	8.54	13.28	500	Complies
2462	8.11	13.24	500	Complies

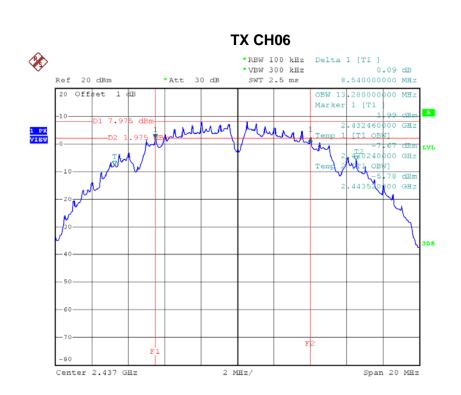
TX CH01



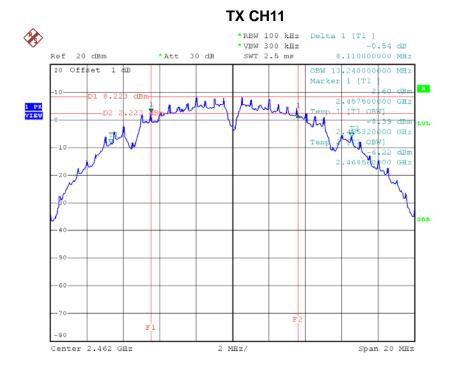
Date: 23.APR.2015 20:04:06

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Date: 23.APR.2015 20:05:06



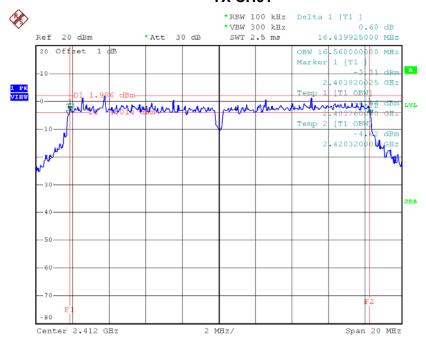
Date: 23.APR.2015 20:05:53



Test Mode: TX G Mode_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.44	16.56	500	Complies
2437	16.38	16.56	500	Complies
2462	16.38	16.48	500	Complies

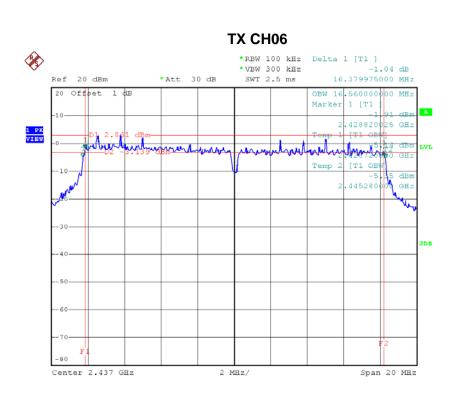
TX CH01



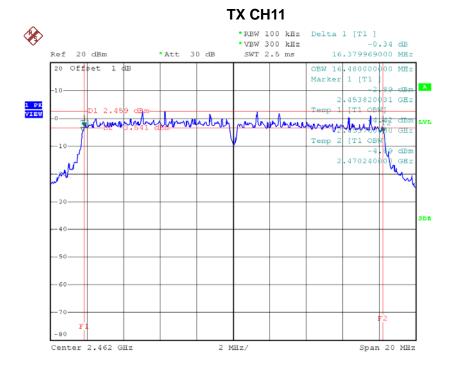
Date: 23.APR.2015 20:07:28

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Date: 23.APR.2015 20:08:21



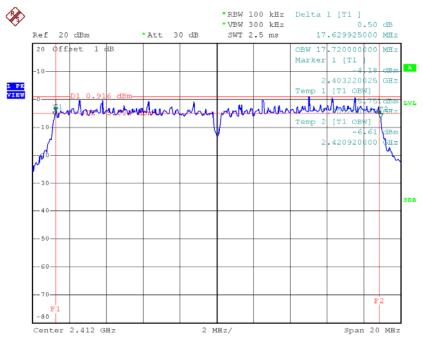
Date: 23.APR.2015 20:09:02



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

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.63	17.72	500	Complies
2437	17.62	17.72	500	Complies
2462	17.02	17.64	500	Complies

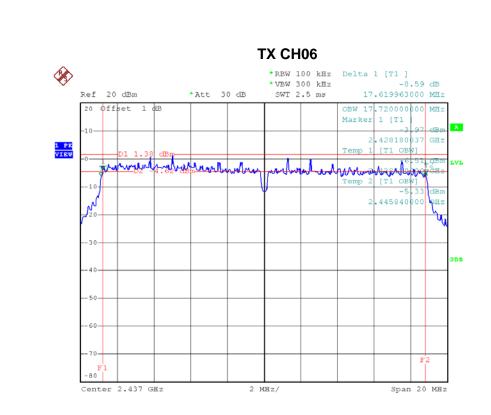
TX CH01



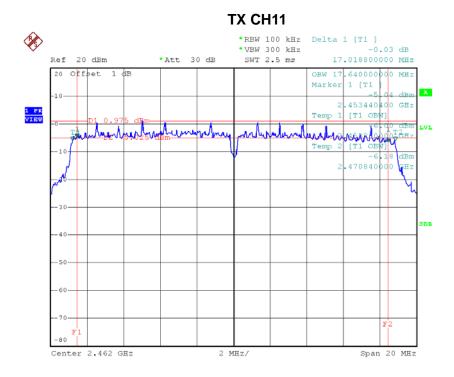
Date: 23.APR.2015 20:10:02

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Date: 23.APR.2015 20:11:12



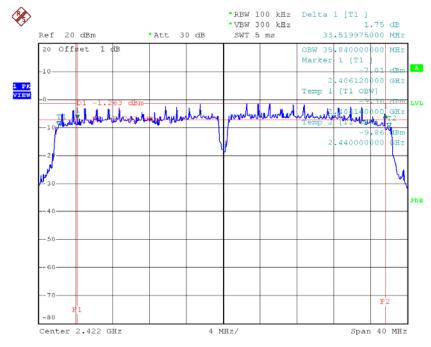
Date: 23.APR.2015 20:12:02



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

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	33.52	35.84	500	Complies
2437	35.24	36.08	500	Complies
2452	35.16	35.92	500	Complies

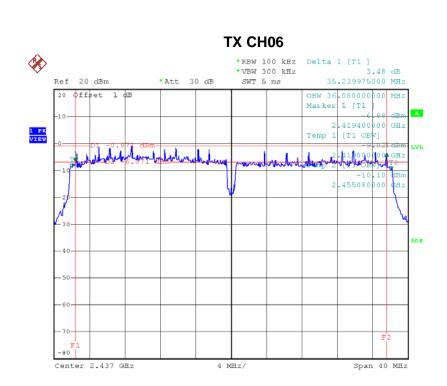
TX CH03



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Date: 23.APR.2015 20:14:02

Date: 23.APR.2015 20:14:50



ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER

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Test Mode :TX B Mode_CH01/06/11

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.02	0.08	30.00	1.00	Complies
2437	19.18	0.08	30.00	1.00	Complies
2462	19.41	0.09	30.00	1.00	Complies

Test Mode :TX G Mode_CH01/06/11

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	20.53	0.11	30.00	1.00	Complies
2437	20.51	0.11	30.00	1.00	Complies
2462	20.72	0.12	30.00	1.00	Complies

Test Mode :TX N20 Mode_CH01/06/11

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.16	0.08	30.00	1.00	Complies
2437	19.22	0.08	30.00	1.00	Complies
2462	19.14	0.08	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	19.42	0.09	Complies	0.00	Complies
2437	19.46	0.09	Complies	0.00	Complies
2452	19.56	0.09	Complies	0.00	Complies

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ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

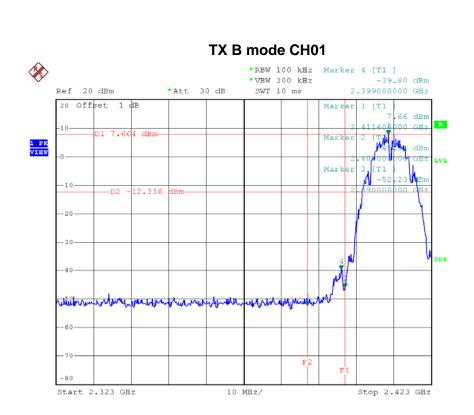
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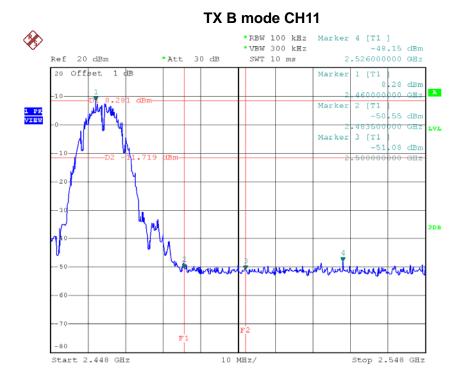
T4 P4 .	TV D Mada
Test Mode :	TX B Mode

Report No.: BTL-FCCP-3-1504C209



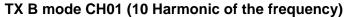


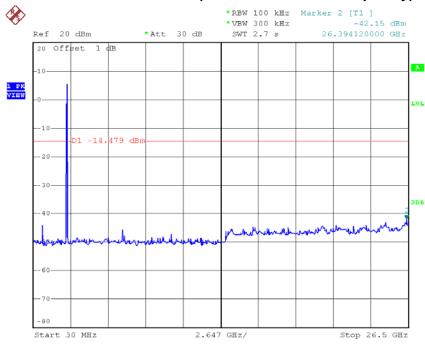
Date: 23.APR.2015 20:04:28



Date: 23.APR.2015 20:06:15

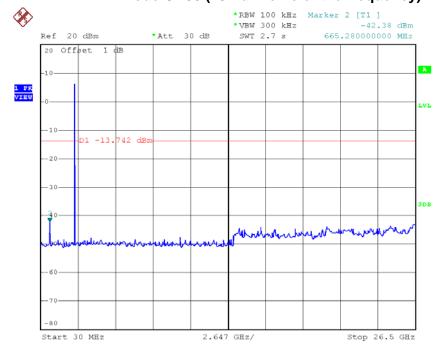






Date: 23.APR.2015 20:04:20

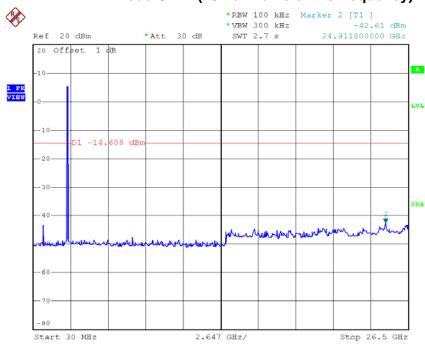
TX B mode CH06 (10 Harmonic of the frequency)



Date: 23.APR.2015 20:05:19







Date: 23.APR.2015 20:06:07

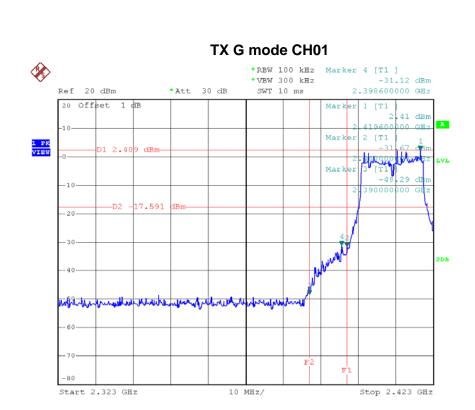
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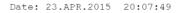


Test Mode :	TX G Mode	

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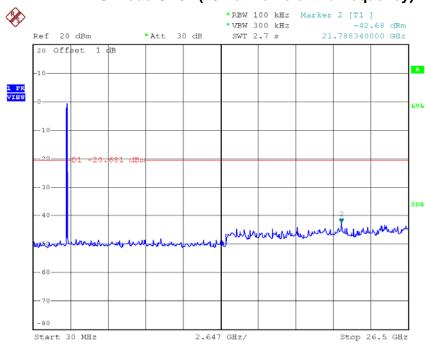


TX G mode CH11 *RBW 100 kHz Marker 4 [T1] *VBW 300 kHz -43.40 dBm Ref 20 dBm *Att 30 dB 2.484200000 GHz SWT 10 ms 20 Offset 1 dB Marker 1 [T1 2 14 dBm 463200000 GHz Marker 2 [T1 1 PK VIEW .483500000 GHZ Marker 3 [T1 | -51.87 dBm 500000000 GHz -80 Start 2.448 GHz Stop 2.548 GHz 10 MHz/

Date: 23.APR.2015 20:09:24

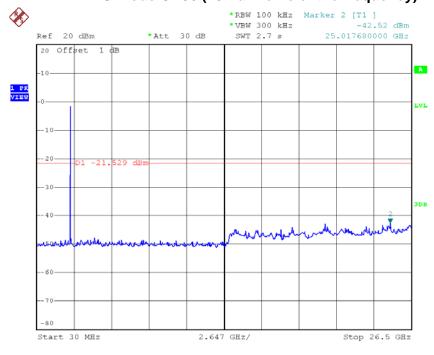






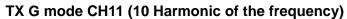
Date: 23.APR.2015 20:07:42

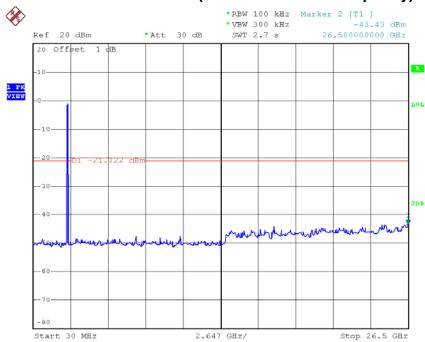
TX G mode CH06 (10 Harmonic of the frequency)



Date: 23.APR.2015 20:08:35







Date: 23.APR.2015 20:09:16

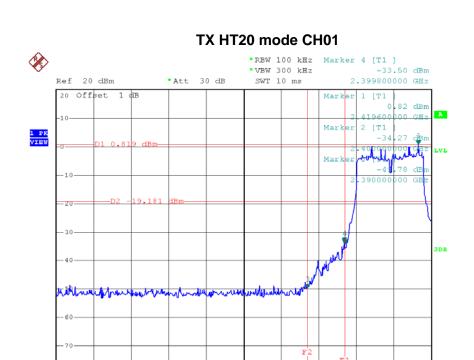
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est Mode :	TX N-20M Mode	

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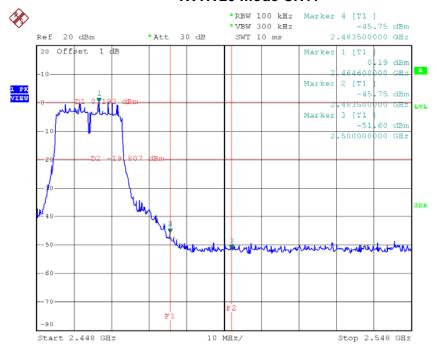
Date: 23.APR.2015 20:10:23

Start 2.323 GHz

TX HT20 mode CH11

10 MHz/

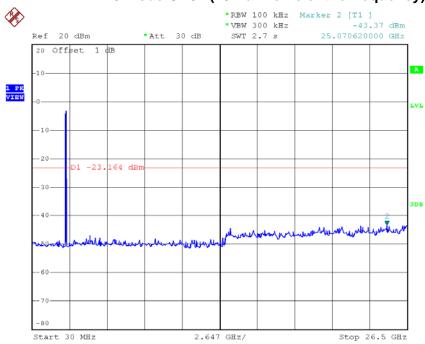
Stop 2.423 GHz



Date: 23.APR.2015 20:12:23

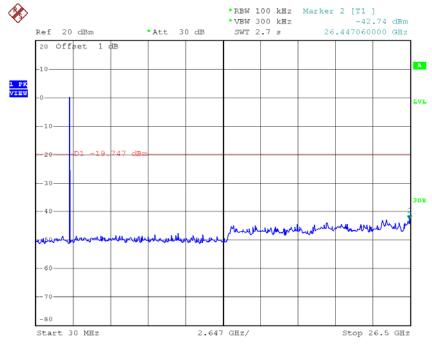






Date: 23.APR.2015 20:10:15

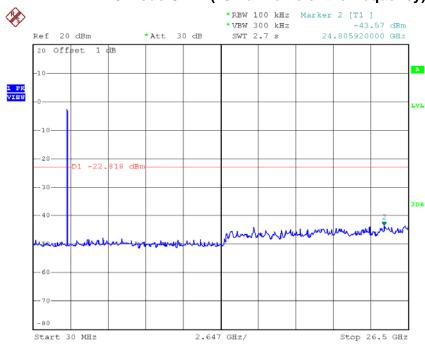
TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 23.APR.2015 20:11:26







Date: 23.APR.2015 20:12:16

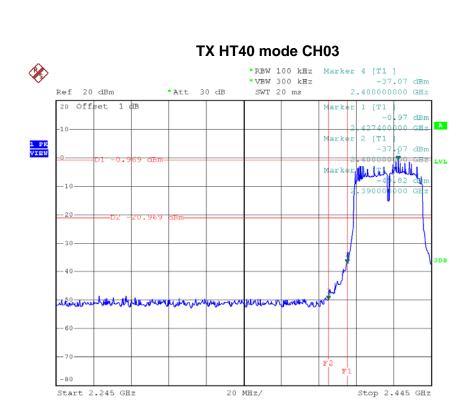
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est Mode :	TX N-40M Mode

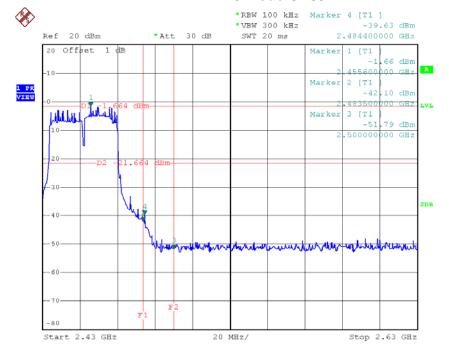
Report No.: BTL-FCCP-3-1504C209





Date: 23.APR.2015 20:13:28

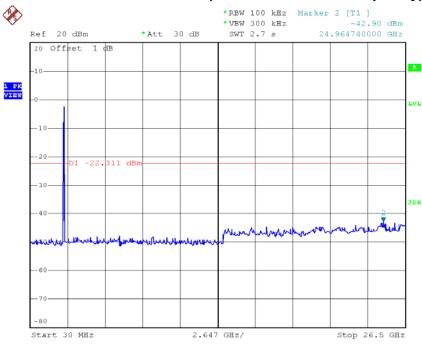
TX HT40 mode CH09



Date: 23.APR.2015 20:15:11

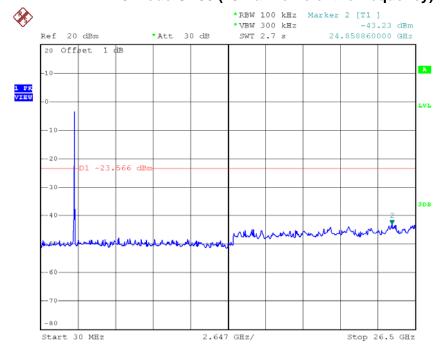






Date: 23.APR.2015 20:13:20

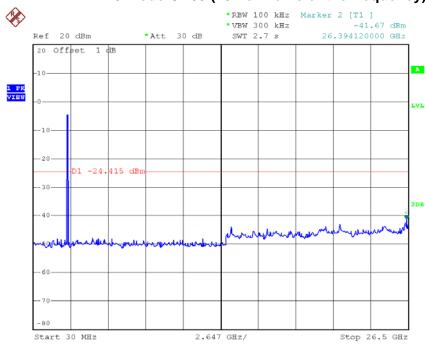
TX HT40 mode CH06 (10 Harmonic of the frequency)



Date: 23.APR.2015 20:14:16







Date: 23.APR.2015 20:15:04

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ATTACHMENT H - POWER SPECTRAL DENSITY				

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Test Mode :TX B Mode_CH01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-7.82	0.17	8.00	Complies
2437	-6.16	0.24	8.00	Complies
2462	-4.66	0.34	8.00	Complies

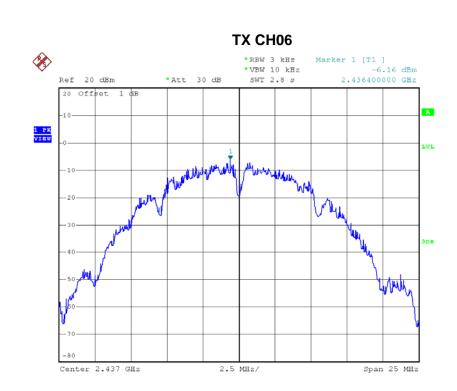
TX CH01



Date: 23.APR.2015 20:04:37

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Date: 23.APR.2015 20:05:28

*RBW 3 kHz Marker 1 [T1] *VBW 10 kHz -4.66 dBm Ref 20 dBm *Att 30 dB SWT 2.8 s 2.461500000 GHz 20 Offset 1 dB -10 -20 -30 -40 -50 -40 -50 -40 -50 -660 Center 2.462 GHz 2.5 MHz/ Span 25 MHz

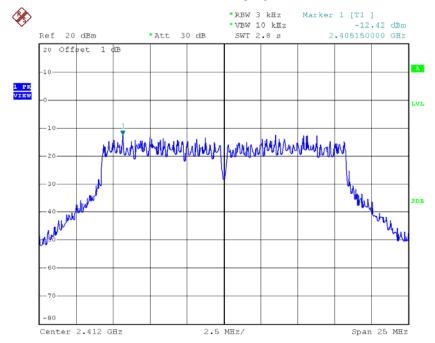
Date: 23.APR.2015 20:06:24



Test Mode :TX G Mode_CH01/06/11

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-12.42	0.06	8.00	Complies
2437	-12.14	0.06	8.00	Complies
2462	-12.10	0.06	8.00	Complies

TX CH01

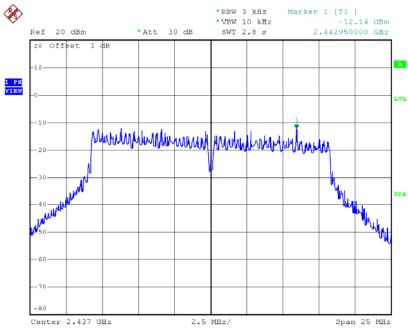


Date: 23.APR.2015 20:07:59

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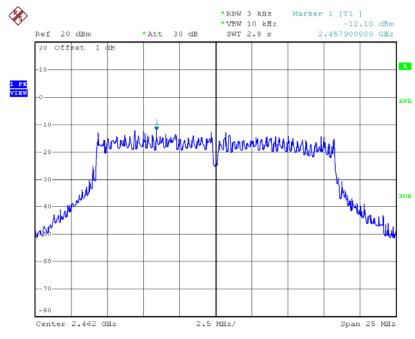






Date: 23.APR.2015 20:08:44

TX CH11



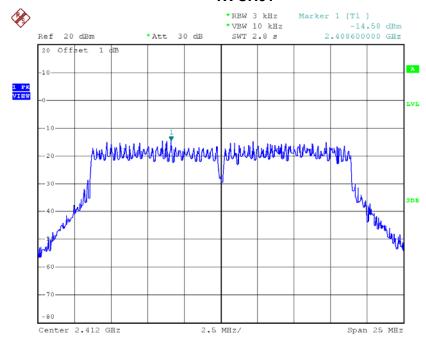
Date: 23.APR.2015 20:09:33



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	-14.58	0.03	8.00	Complies
2437	-12.95	0.05	8.00	Complies
2462	-13.65	0.04	8.00	Complies

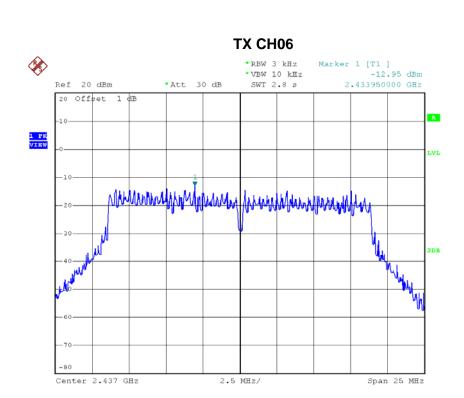
TX CH01



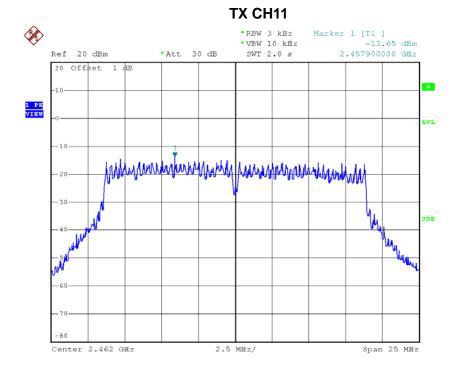
Date: 23.APR.2015 20:10:32

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Date: 23.APR.2015 20:11:35



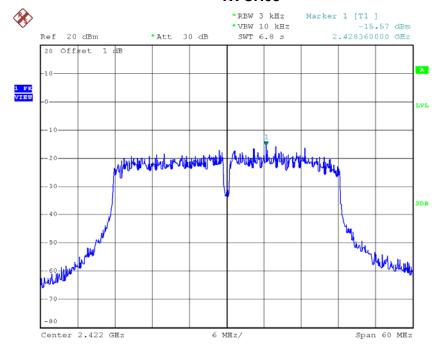
Date: 23.APR.2015 20:12:33



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	-15.57	0.03	8.00	Complies
2437	-15.96	0.03	8.00	Complies
2452	-15.86	0.03	8.00	Complies

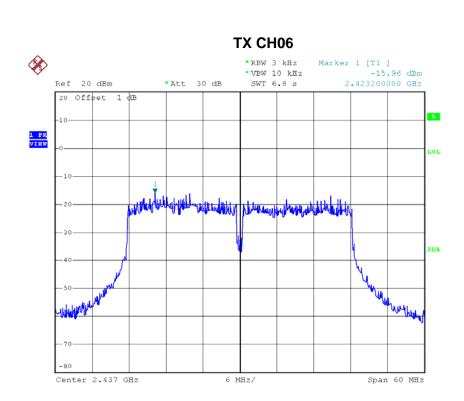
TX CH03



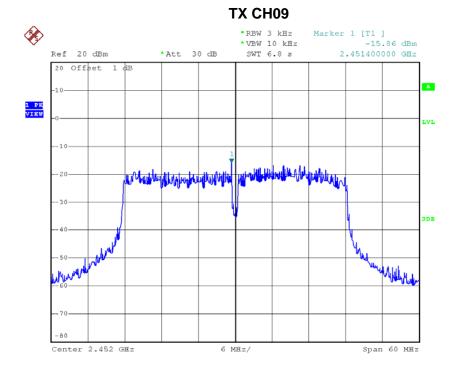
Date: 23.APR.2015 20:13:40

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Date: 23.APR.2015 20:14:28



Date: 23.APR.2015 20:15:24