

FCC Radio Test Report FCC ID:T58WF2222R

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

Project No. : 1502C166

Equipment : 300Mbps Wireless N Ceiling-Mounted Access Point

Model Name : WF2222
Applicant : NETIS SYSTEMS CO., LTD

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

Industrial Park, Nanshan, Shenzhen, China.

Date of Receipt : Feb. 28, 2015

Date of Test : Feb. 28, 2015~ Mar. 17, 2015

Issued Date : Mar. 18, 2015 Tested by : BTL Inc.

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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.

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1502C166	Original Issue.	Mar. 18, 2015

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1. CERTIFICATION

Equipment : 300Mbps Wireless N Ceiling-Mounted Access Point

Brand Name: netis Model Name: WF2222

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.

 Dongguan City Netcore Network Technology Co., Ltd.
 No. 10-1, Sankeng Road, Qinghutou, Tangxia Town, Dongguan City Address

Date of Test: Feb. 28, 2015~ Mar. 17, 2015 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-1-1502C166) 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): Fo	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)

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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	Н	3.57	
		30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	Н	3.60	
DG-CB03	CISPR	200MHz ~ 1,000MHz	V	3.86	
DG-CD03	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	

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3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	300Mbps Wireless N Ceiling-Mounted Access Point			
Brand Name	netis	netis		
Model Name	WF2222			
Model Difference	N/A			
	Operation Frequency	2412~2462 MHz		
	Modulation Technology	802.11b:DSSS 802.11g:OFDM 802.11n:OFDM		
Product Description	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: 16.86dBm 802.11g: 22.21dBm 802.11n(20MHz): 22.22dBm 802.11n(40MHz): 21.50dBm			
Power Source	DC Voltage supplied from AC/DC adapter. Manufacturer:SHENZHENG JUKE ELECTRONICS CO.LTD. MODEL NAME:JK240050-S04USA			
Power Rating	I/P: AC100-240V,50/60Hz 0.5A O/P:DC 24V 500mA			

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)				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)	Note
2	PSA,	RGFRA1903 041A1T	Chip	N/A	2.00	TX/RX
3	PSA,	RGFRA1903 041A1T	Chip	N/A	2.00	TX/RX

Note:

- (1) The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers (2T2R)(2) Ant 2 is the worst for 1TX.

4.

Operating Mode TX Mode	1TX	2TX
802.11b	V (ANT 2)	-
802.11g	V (ANT 2)	-
802.11n(20MHz)	-	V (ANT 2 + ANT 3)
802.11n(40MHz)	-	V (ANT 2 + ANT 3)

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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 (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%.

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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		SmartTools	
Frequency (MHz)	2412	2437	2462
802.11b	18	17	17
802.11g	39	39	39
802.11n (20MHz)	37	36	36
Frequency	2422	2437	2452
802.11n (40MHz)	40	39	39

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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/IC	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 (MUz)	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.

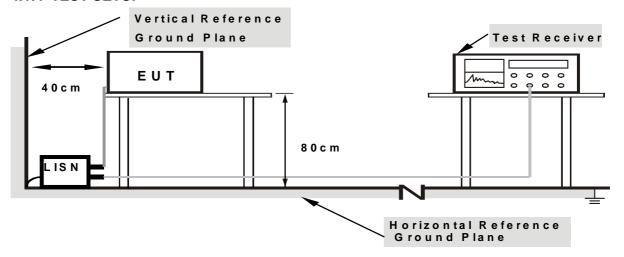
4.1.3 DEVIATION FROM TEST STANDARD

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: 24°C Relative Humidity: 60% 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)	
r requericy (ivil 12)	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

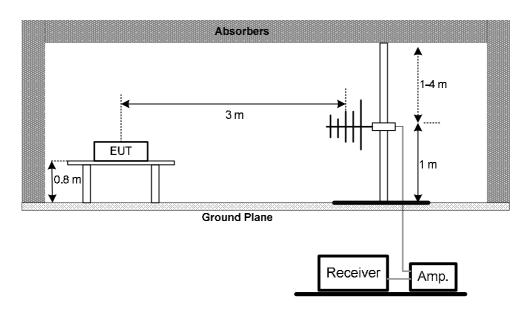
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 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

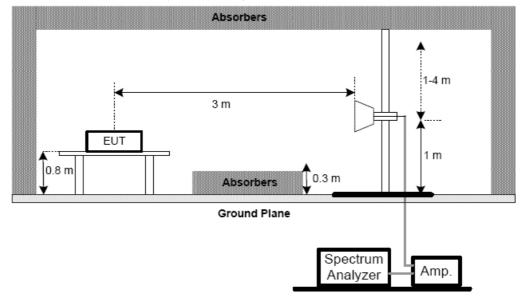
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



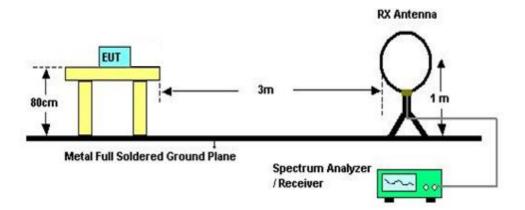
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(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



(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: 23°C Relative Humidity: 62% Test Voltage: AC 120V/60Hz

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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 (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.

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)	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 4.1.5 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: 61% Test Voltage: AC 120V/60Hz

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

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: 61% Test Voltage: AC 120V/60Hz

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



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: 61% Test Voltage: AC 120V/60Hz

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: 61% Test Voltage: AC 120V/60Hz

8.1.6 TEST RESULTS

Please refer to the Attachment H.

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9. MEASUREMENT INSTRUMENTS LIST

	Conducted Emission Measurement							
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. 13, 2016			
4	EMI TEST RECEIVER	R&S	ESCS30	833364/017	Mar. 29, 2015			
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 29, 2015			
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1 -01	N/A	N/A			

	Radiated Emission Measurement							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until			
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 29, 2015			
2	Amplifier	HP	8447D	2944A09673	Mar. 29, 2015			
3	Receiver	AGILENT	N9038A	MY5213003 9	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. 29, 2015			
7	Amplifier	Agilent	8449B	3008A02274	Mar. 29, 2015			
8	Receiver	AGILENT	N9038A	MY5213003 9	Sep. 30, 2015			
9	Test Cable	HUBER+SUHNER	C-48	N/A	Apr. 30, 2015			
10	Controller	СТ	SC100	N/A	N/A			
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Feb. 21, 2016			
12	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Feb. 21, 2016			
13	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Mar. 29, 2015			
14	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A			

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	6dB Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015	

	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			

	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		

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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10. EUT TEST PHOTO

Conducted Measurement Photos





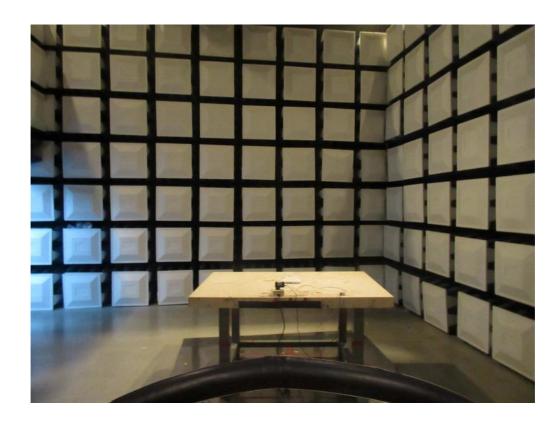
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Radiated Measurement Photos

9KHz to 30MHz





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Radiated Measurement Photos

30MHz to 1000MHz



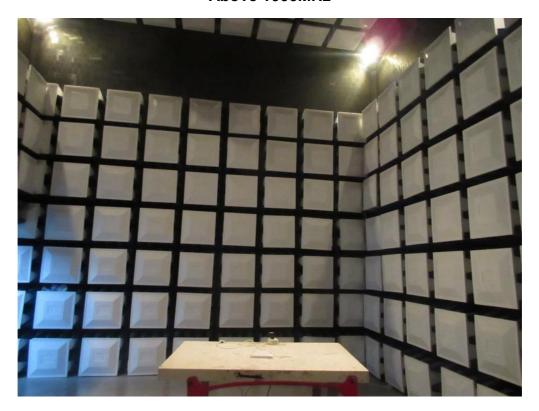


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Radiated Measurement Photos

Above 1000MHz





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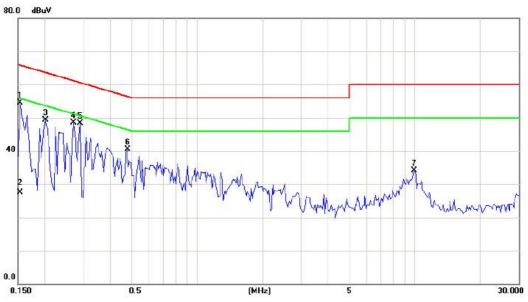
ATTACHMENT A - CONDUCTED EMISSION

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Line



No.	Mk.	. Freq.	Reading Level	g Correct Factor	Measure- ment	Limit	Limit Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1540	45.01	9.48	54.49	65.78	-11.29	peak	
2		0.1540	18.10	9.48	27.58	55.78	-28.20	AVG	
3		0.2008	39.87	9.50	49.37	63.58	-14.21	peak	
4		0.2711	38.98	9.53	48.51	61.08	-12.57	peak	
5		0.2906	38.73	9.54	48.27	60.51	-12.24	peak	
6		0.4781	30.81	9.63	40.44	56.37	-15.93	peak	
7		9.9063	24.37	9.79	34.16	60.00	-25.84	peak	

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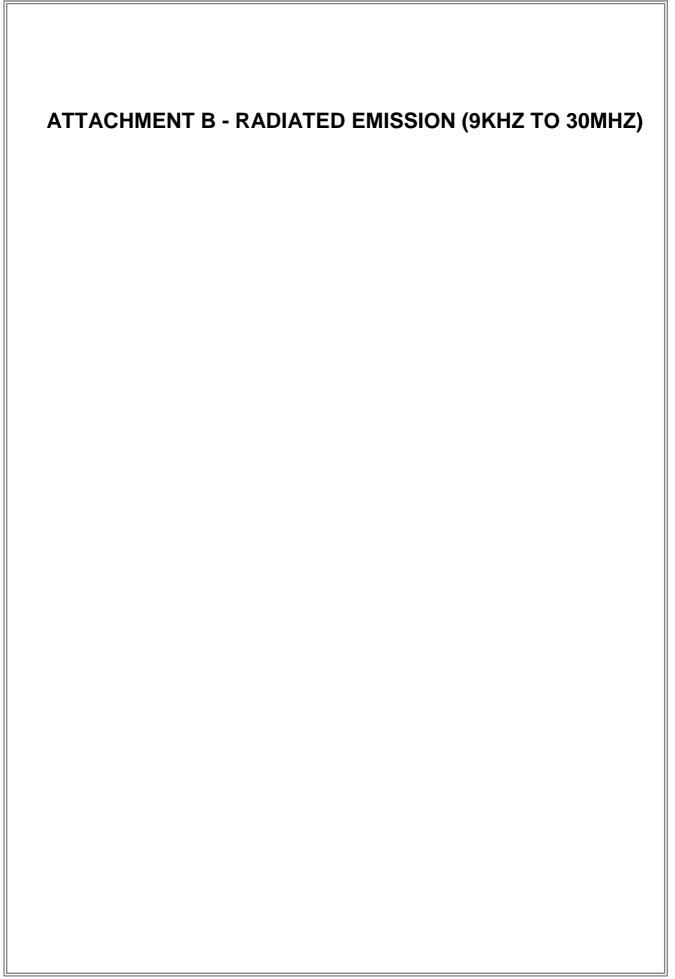


Neutral 80.0 dBuV 40 40 0.0 0.150 0.5 (MHz) 5 30.0000

Mk	Fred	Reading	Correct	Measure-	Limit	Margin	1	
IVIK.	MHz	dBuV	dB	dBu∀	dBuV	dB	Detector	Comment
*	0.1695	42.51	9.58	52.09	64.98	-12.89	peak	- Inthos
	0.2164	36.94	9.57	46.51	62.96	-16.45	peak	
	0.3766	33.42	9.58	43.00	58.35	-15.35	peak	
	0.5563	31.08	9.58	40.66	56.00	-15.34	peak	
	0.7906	29.79	9.59	39.38	56.00	-16.62	peak	
	1.1070	29.06	9.60	38.66	56.00	-17.34	peak	
	Mk.	* 0.1695 0.2164 0.3766 0.5563 0.7906	Mk. Freq. Level MHz dBuV * 0.1695 42.51 0.2164 36.94 0.3766 33.42 0.5563 31.08 0.7906 29.79	Mk. Freq. Level Factor MHz dBuV dB * 0.1695 42.51 9.58 0.2164 36.94 9.57 0.3766 33.42 9.58 0.5563 31.08 9.58 0.7906 29.79 9.59	Mk. Freq. Level Factor ment MHz dBuV dB dBuV * 0.1695 42.51 9.58 52.09 0.2164 36.94 9.57 46.51 0.3766 33.42 9.58 43.00 0.5563 31.08 9.58 40.66 0.7906 29.79 9.59 39.38	Mk. Freq. Level Factor ment Limit MHz dBuV dB dBuV dBuV dBuV * 0.1695 42.51 9.58 52.09 64.98 0.2164 36.94 9.57 46.51 62.96 0.3766 33.42 9.58 43.00 58.35 0.5563 31.08 9.58 40.66 56.00 0.7906 29.79 9.59 39.38 56.00	Mk. Freq. Level Factor ment Limit Margin MHz dBuV dB dBuV dBuV dB * 0.1695 42.51 9.58 52.09 64.98 -12.89 0.2164 36.94 9.57 46.51 62.96 -16.45 0.3766 33.42 9.58 43.00 58.35 -15.35 0.5563 31.08 9.58 40.66 56.00 -15.34 0.7906 29.79 9.59 39.38 56.00 -16.62	Mk. Freq. Level Factor ment Limit Margin MHz dBuV dB dBuV dBuV dB Detector * 0.1695 42.51 9.58 52.09 64.98 -12.89 peak 0.2164 36.94 9.57 46.51 62.96 -16.45 peak 0.3766 33.42 9.58 43.00 58.35 -15.35 peak 0.5563 31.08 9.58 40.66 56.00 -15.34 peak 0.7906 29.79 9.59 39.38 56.00 -16.62 peak

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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
0.0115	0°	6.21	24.30	30.51	126.39	-95.88	AVG
0.0115	0°	8.48	24.30	32.78	146.39	-113.61	PEAK
0.0124	0°	6.34	24.30	30.64	125.74	-95.10	AVG
0.0124	0°	7.85	24.30	32.15	145.74	-113.59	PEAK
0.0351	0°	4.52	23.34	27.86	116.70	-88.83	AVG
0.0351	0°	6.28	23.34	29.62	136.70	-107.07	PEAK
0.3520	0°	3.11	20.16	23.27	96.67	-73.41	AVG
0.3520	0°	5.35	20.16	25.51	116.67	-91.17	PEAK
2.1920	0°	16.54	19.38	35.92	69.54	-33.62	QP
3.5814	0°	22.56	18.96	41.52	69.54	-28.02	QP

Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.0103	90°	6.83	24.30	31.13	127.35	-96.22	AVG
0.0103	90°	8.36	24.30	32.66	147.35	-114.69	PEAK
0.0149	90°	5.51	24.30	29.81	124.14	-94.33	AVG
0.0149	90°	7.62	24.30	31.92	144.14	-112.22	PEAK
0.0262	90°	4.21	23.91	28.12	119.24	-91.12	AVG
0.0262	90°	6.72	23.91	30.63	139.24	-108.61	PEAK
0.0375	90°	1.43	23.19	24.62	116.12	-91.50	AVG
0.0375	90°	3.59	23.19	26.78	136.12	-109.34	PEAK
1.6347	90°	17.61	19.54	37.15	63.34	-26.19	QP
2.1823	90°	24.19	19.39	43.58	69.54	-25.96	QP

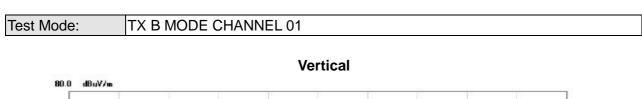
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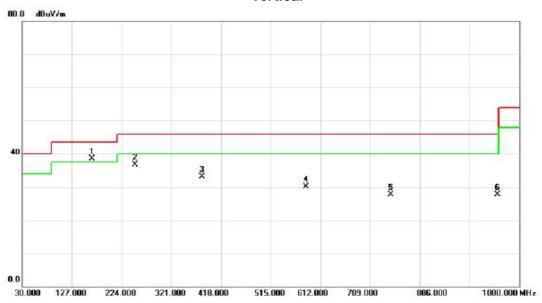


ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

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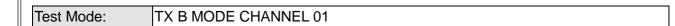




No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	166.7700	56.38	-17.95	38.43	43.50	-5.07	peak	
2		250.1900	52.65	-16.00	36.65	46.00	-9.35	peak	
3		381.1400	47.59	-14.54	33.05	46.00	-12.95	peak	
4		583.8700	44.30	-14.23	30.07	46.00	-15.93	peak	
5		749.7400	34.55	-6.88	27.67	46.00	-18.33	peak	
6		958.2900	32.67	-5.04	27.63	46.00	-18.37	peak	

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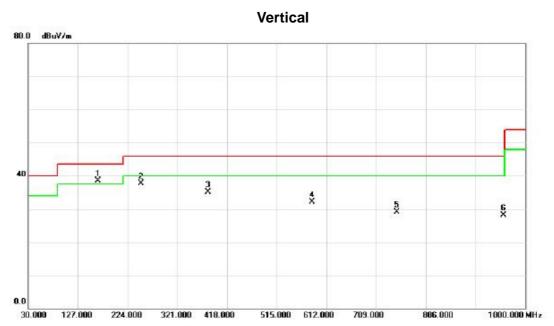
Horizontal 80.0 dBuV/m 2 3 4 5 8 8 30.00 127.000 224.000 321.000 418.000 515.000 612.000 709.000 806.000 1000.000 MHz

No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		204.6000	51.44	-22.99	28.45	43.50	-15.05	peak	
2	*	250.1900	61.85	-21.54	40.31	46.00	-5.69	peak	
3		413.1500	51.86	-14.49	37.37	46.00	-8.63	peak	
4		458.7400	49.95	-13.33	36.62	46.00	-9.38	peak	
5	- 1	619.7600	32.66	-11.06	21.60	46.00	-24.40	peak	
6		791.4500	32.70	-8.39	24.31	46.00	-21.69	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	*	166.7700	56.38	-17.95	38.43	43.50	-5.07	peak		
2		250.1900	53.65	-16.00	37.65	46.00	-8.35	peak		
3		381.1400	49.59	-14.54	35.05	46.00	-10.95	peak		
4		583.8700	46.30	-14.23	32.07	46.00	-13.93	peak		
5		749.7400	36.05	-6.88	29.17	46.00	-16.83	peak		
6		958.2900	33.17	-5.04	28.13	46.00	-17.87	peak		

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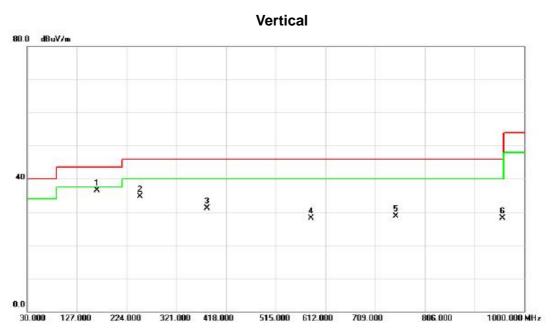


Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
2	204.6000	53.44	-22.99	30.45	43.50	-13.05	peak	
* 2	250.1900	60.85	-21.54	39.31	46.00	-6.69	peak	
4	13.1500	51.36	-14.49	36.87	46.00	-9.13	peak	
4	158.7400	48.95	-13.33	35.62	46.00	-10.38	peak	
6	19.7600	37.66	-11.06	26.60	46.00	-19.40	peak	
7	91.4500	35.70	-8.39	27.31	46.00	-18.69	peak	
	* 2 4	TACTOR BOSTON	Mk. Freq. Level MHz dBuV 204.6000 53.44 * 250.1900 60.85 413.1500 51.36 458.7400 48.95 619.7600 37.66	Mk. Freq. Level Factor MHz dBuV dB 204.6000 53.44 -22.99 * 250.1900 60.85 -21.54 413.1500 51.36 -14.49 458.7400 48.95 -13.33 619.7600 37.66 -11.06	Mk. Freq. Level Factor ment MHz dBuV dB dBuV/m 204.6000 53.44 -22.99 30.45 * 250.1900 60.85 -21.54 39.31 413.1500 51.36 -14.49 36.87 458.7400 48.95 -13.33 35.62 619.7600 37.66 -11.06 26.60	Mk. Freq. Level Factor ment Limit MHz dBuV dB dBuV/m dBuV/m dBuV/m 204.6000 53.44 -22.99 30.45 43.50 * 250.1900 60.85 -21.54 39.31 46.00 413.1500 51.36 -14.49 36.87 46.00 458.7400 48.95 -13.33 35.62 46.00 619.7600 37.66 -11.06 26.60 46.00	Mk. Freq. Level Factor ment Limit Margin MHz dBuV dB dBuV/m dBuV/m dBuV/m dBuV/m dB 204.6000 53.44 -22.99 30.45 43.50 -13.05 * 250.1900 60.85 -21.54 39.31 46.00 -6.69 413.1500 51.36 -14.49 36.87 46.00 -9.13 458.7400 48.95 -13.33 35.62 46.00 -10.38 619.7600 37.66 -11.06 26.60 46.00 -19.40	Mk. Freq. Level Factor ment Limit Margin MHz dBuV dB dBuV/m dBuV/m dBuV/m dB Detector 204.6000 53.44 -22.99 30.45 43.50 -13.05 peak * 250.1900 60.85 -21.54 39.31 46.00 -6.69 peak 413.1500 51.36 -14.49 36.87 46.00 -9.13 peak 458.7400 48.95 -13.33 35.62 46.00 -10.38 peak 619.7600 37.66 -11.06 26.60 46.00 -19.40 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	*	166.7700	54.38	-17.95	36.43	43.50	-7.07	peak		
2		250.1900	50.65	-16.00	34.65	46.00	-11.35	peak		
3		381.1400	45.59	-14.54	31.05	46.00	-14.95	peak		
4		583.8700	42.30	-14.23	28.07	46.00	-17.93	peak		
5		749.7400	35.55	-6.88	28.67	46.00	-17.33	peak		
6		958.2900	33.17	-5.04	28.13	46.00	-17.87	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	*	250.1900	59.35	-21.54	37.81	46.00	-8.19	peak	
2		413.1500	51.36	-14.49	36.87	46.00	-9.13	peak	
3		458.7400	48.45	-13.33	35.12	46.00	-10.88	peak	
4	7	658.5600	35.83	-10.75	25.08	46.00	-20.92	peak	
5		749.7400	34.48	-8.04	26.44	46.00	-19.56	peak	
6		934.0400	30.37	-5.80	24.57	46.00	-21.43	peak	

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ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ	'.)

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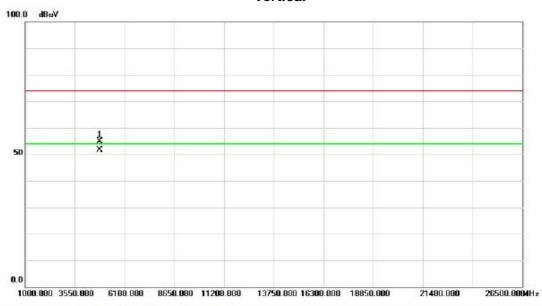


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		2390.000	24.24	31.88	56.12	74.00	-17.88	peak		
2		2390.000	14.32	31.88	46.20	54.00	-7.80	AVG		
3	*	2411.200	67.81	31.91	99.72	54.00	45.72	AVG	No Limit	
4	Χ	2411.700	69.78	31.91	101.69	74.00	27.69	peak	No Limit	

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Vertical



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4823.920	51.32	3.62	54.94	74.00	-19.06	peak		
2	*	4824.020	47.94	3.62	51.56	54.00	-2.44	AVG		

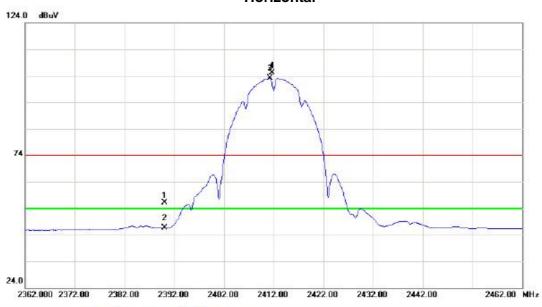
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Orthogonal Axis: X

Test Mode: TX B MODE 2412MHz

Horizontal



No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Š.		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		2390.000	24.15	31.88	56.03	74.00	-17.97	peak		
2		2390.000	14.79	31.88	46.67	54.00	-7.33	AVG		
3	*	2411.200	71.20	31.91	103.11	54.00	49.11	AVG	No Limit	
4	X	2411.700	73.10	31.91	105.01	74.00	31.01	peak	No Limit	

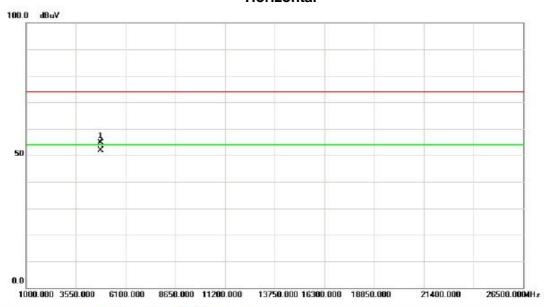
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Orthogonal Axis: X

Test Mode : TX B MODE 2412MHz

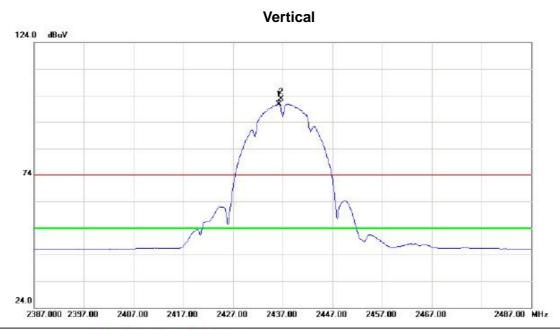
Horizontal



No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4824.000	50.95	3.62	54.57	74.00	-19.43	peak		
2	*	4824.020	48.19	3.62	51.81	54.00	-2.19	AVG		

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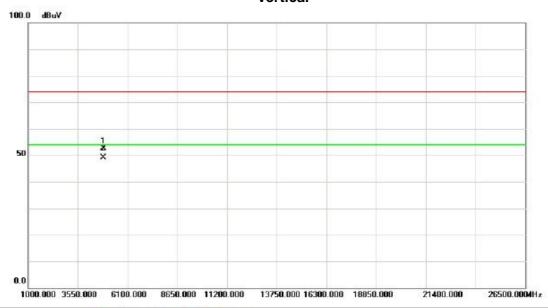


No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	2436.200	68.77	31.94	100.71	54.00	46.71	AVG	No Limit	
2	Х	2436.600	70.69	31.94	102.63	74.00	28.63	peak	No Limit	

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Vertical



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4873.960	48.85	3.72	52.57	74.00	-21.43	peak		
2	*	4874.020	45.46	3.72	49.18	54.00	-4.82	AVG		

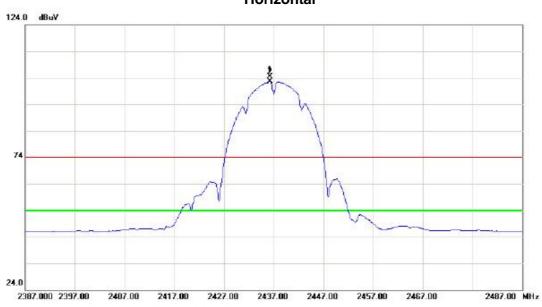
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Orthogonal Axis: X

Test Mode: TX B MODE 2437MHz

Horizontal

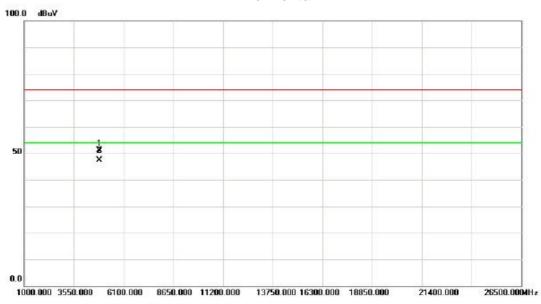


No.	Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	Х	2436.200	72.52	31.94	104.46	74.00	30.46	peak	No Limit	
2	*	2436.200	70.65	31.94	102.59	54.00	48.59	AVG	No Limit	

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Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4874.020	47.45	3.72	51.17	74.00	-22.83	peak		
2	*	4874.020	43.60	3.72	47.32	54.00	-6.68	AVG		

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Vertical 124.0 dBuV 74 24.0 2412.000 2422.00 2432.00 2442.00 2452.00 2462.00 2472.00 2482.00 2492.00 2512.00 MHz

No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	X	2461.200	71.34	31.98	103.32	74.00	29.32	peak	No Limit	
2	*	2461.200	69.46	31.98	101.44	54.00	47.44	AVG	No Limit	
3		2483.500	23.60	32.01	55.61	74.00	-18.39	peak		
4		2483.500	14.74	32.01	46.75	54.00	-7.25	AVG		

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Vertical



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4923.980	49.76	3.80	53.56	74.00	-20.44	peak		
2	*	4924.020	47.15	3.80	50.95	54.00	-3.05	AVG		

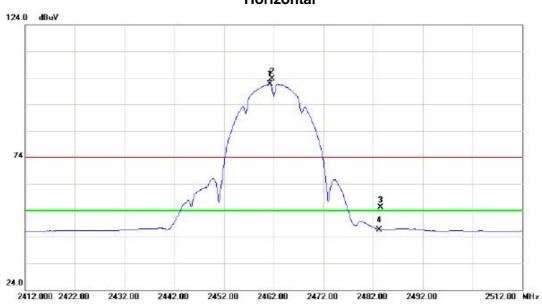
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Orthogonal Axis: X

Test Mode : TX B MODE 2462MHz

Horizontal



No.	M	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Ě		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	2461.200	69.72	31.98	101.70	54.00	47.70	AVG	No Limit	
2	Х	2461.700	71.63	31.98	103.61	74.00	29.61	peak	No Limit	
3		2483.500	23.01	32.01	55.02	74.00	-18.98	peak		
4		2483.500	14.64	32.01	46.65	54.00	-7.35	AVG		

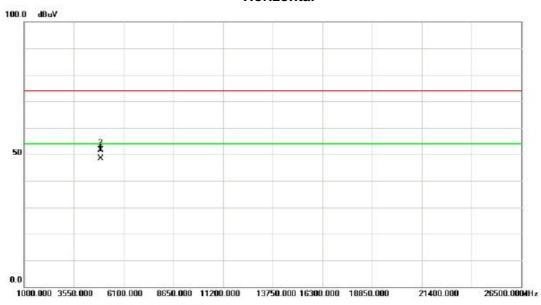
Report No.: BTL-FCCP-1-1502C166 Page 53 of 143



Orthogonal Axis: X

Test Mode : TX B MODE 2462MHz

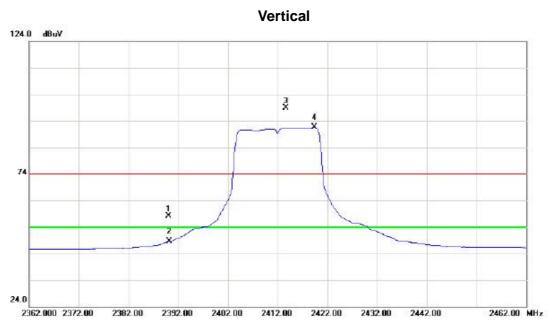
Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	4924.020	44.54	3.80	48.34	54.00	-5.66	AVG		
2		4924.120	47.93	3.80	51.73	74.00	-22.27	peak		

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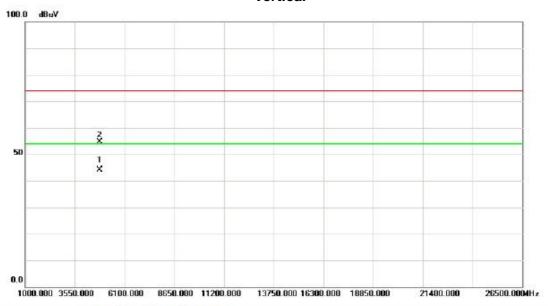


No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		2390.000	26.21	31.88	58.09	74.00	-15.91	peak		
2		2390.000	16.69	31.88	48.57	54.00	-5.43	AVG		
3	X	2413.600	66.99	31.91	98.90	74.00	24.90	peak	No Limit	
4	*	2419.400	59.61	31.92	91.53	54.00	37.53	AVG	No Limit	

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Vertical

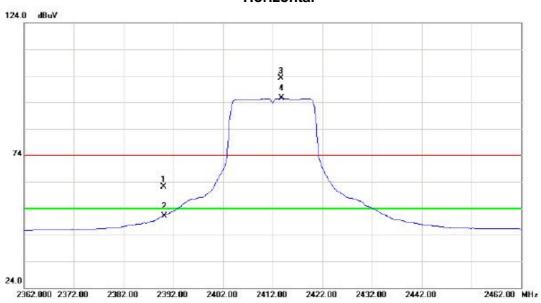


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	4824.000	40.56	3.62	44.18	54.00	-9.82	AVG		
2		4824.150	51.07	3.62	54.69	74.00	-19.31	peak		

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Horizontal

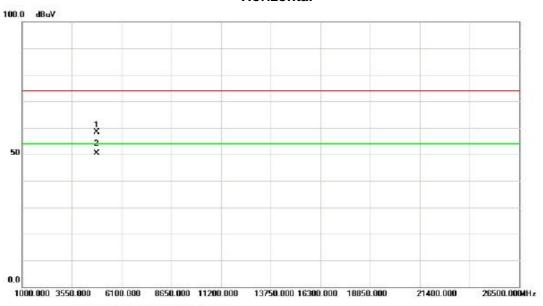


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	ř.		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		2390.000	30.21	31.88	62.09	74.00	-11.91	peak		
2		2390.000	19.32	31.88	51.20	54.00	-2.80	AVG		
3	X	2413.700	71.26	31.91	103.17	74.00	29.17	peak	No Limit	
4	*	2413.800	63.64	31.91	95.55	54.00	41.55	AVG	No Limit	

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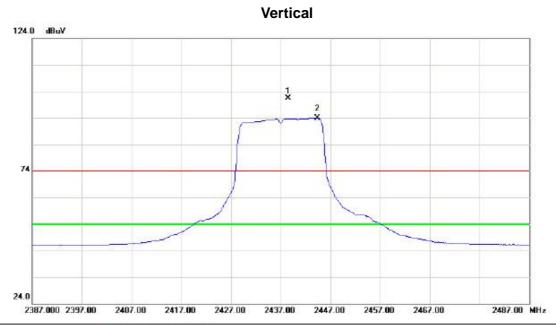
Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4823.950	54.64	3.62	58.26	74.00	-15.74	peak		
2	*	4823.950	46.78	3.62	50.40	54.00	-3.60	AVG		

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No.	M	k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
			MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	X	24	38.500	69.44	31.94	101.38	74.00	27.38	peak	No Limit	
2	*	24	44.400	61.97	31.96	93.93	54.00	39.93	AVG	No Limit	

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Vertical



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	4874.000	40.21	3.72	43.93	54.00	-10.07	AVG		
2		4874.100	50.56	3.72	54.28	74.00	-19.72	peak		

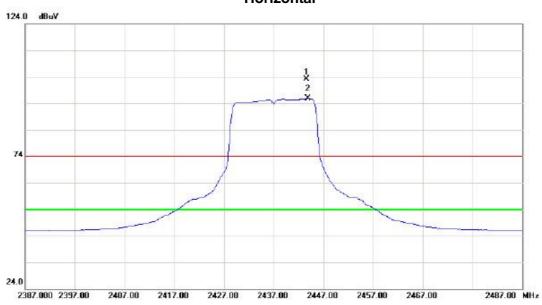
Report No.: BTL-FCCP-1-1502C166 Page 60 of 143



Orthogonal Axis: X

Test Mode: TX G MODE 2437MHz

Horizontal

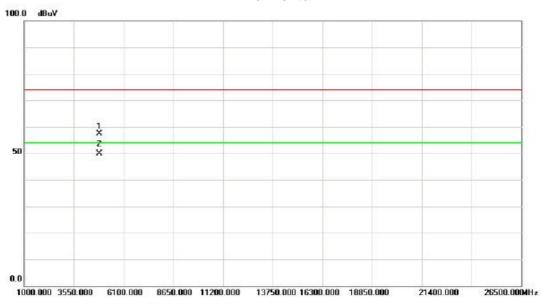


No.	MI	k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
			MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	X	24	143.600	71.21	31.95	103.16	74.00	29.16	peak	No Limit	
2	*	24	143.800	63.80	31.96	95.76	54.00	41.76	AVG	No Limit	

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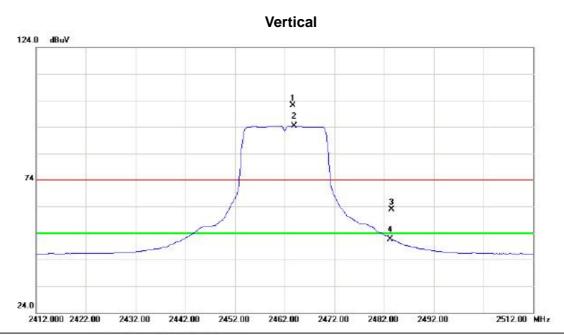
Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4874.050	53.62	3.72	57.34	74.00	-16.66	peak		
2	*	4874.060	46.24	3.72	49.96	54.00	-4.04	AVG		

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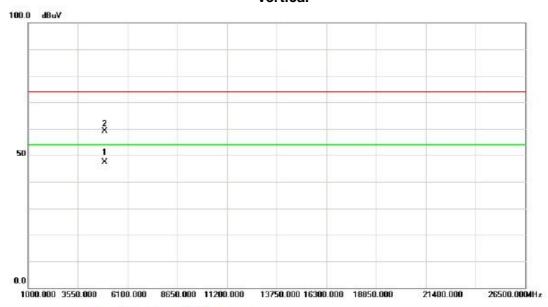


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	X	2463.600	70.11	31.98	102.09	74.00	28.09	peak	No Limit	
2	*	2463.900	62.33	31.98	94.31	54.00	40.31	AVG	No Limit	
3		2483.500	30.78	32.01	62.79	74.00	-11.21	peak		
4		2483.500	19.74	32.01	51.75	54.00	-2.25	AVG		

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Vertical

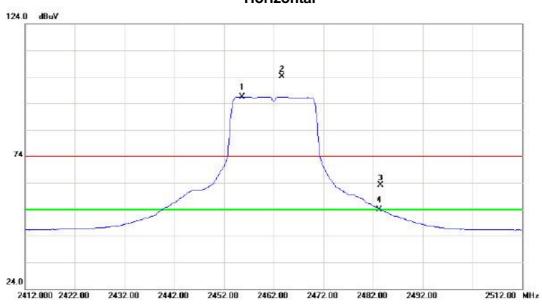


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Š.		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	4924.100	43.54	3.80	47.34	54.00	-6.66	AVG		
2		4924.600	55.41	3.80	59.21	74.00	-14.79	peak		

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Horizontal

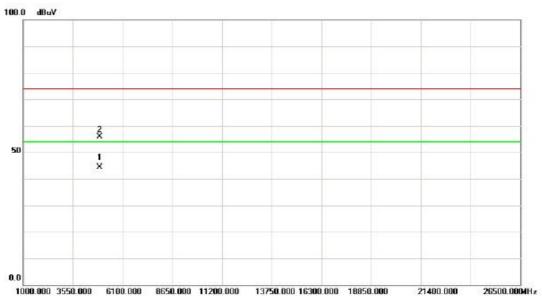


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	2455.700	64.53	31.96	96.49	54.00	42.49	AVG	No Limit	
2	Х	2463.600	72.11	31.98	104.09	74.00	30.09	peak	No Limit	
3		2483.500	31.00	32.01	63.01	74.00	-10.99	peak		
4		2483.500	21.93	32.01	53.94	54.00	-0.06	AVG		

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Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	4924.100	40.55	3.80	44.35	54.00	-9.65	AVG		
2		4924.700	52.15	3.80	55.95	74.00	-18.05	peak		

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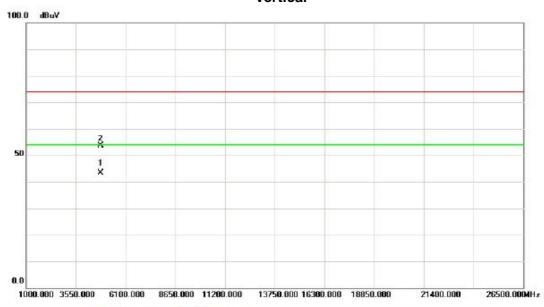
Vertical 124.0 dBuV 74 124.0 2 24.0 2382.00 2382.00 2382.00 2402.00 2412.00 2422.00 2432.00 2442.00 2462.00 MHz

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		2390.000	26.65	31.88	58.53	74.00	-15.47	peak		
2		2390.000	16.58	31.88	48.46	54.00	-5.54	AVG		
3	X	2419.100	66.91	31.92	98.83	74.00	24.83	peak	No Limit	
4	*	2419.900	58.49	31.92	90.41	54.00	36.41	AVG	No Limit	

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Vertical

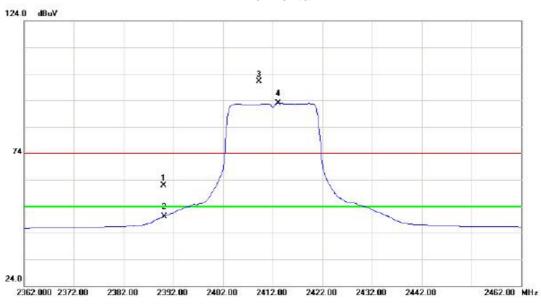


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Š.		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	4824.000	39.69	3.62	43.31	54.00	-10.69	AVG		
2		4824.110	50.10	3.62	53.72	74.00	-20.28	peak		

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Horizontal

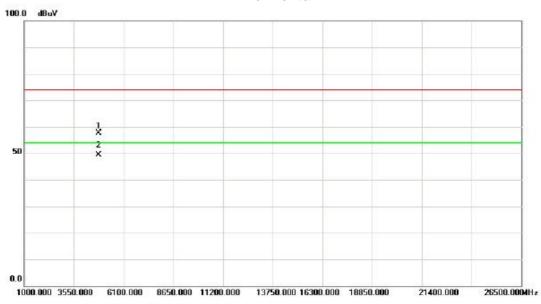


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		2390.000	30.04	31.88	61.92	74.00	-12.08	peak		
2		2390.000	18.21	31.88	50.09	54.00	-3.91	AVG		
3	Χ	2409.200	69.13	31.91	101.04	74.00	27.04	peak	No Limit	
4	*	2413.100	60.91	31.91	92.82	54.00	38.82	AVG	No Limit	

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Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4824.020	53.98	3.62	57.60	74.00	-16.40	peak		
2	*	4824.030	45.85	3.62	49.47	54.00	-4.53	AVG		

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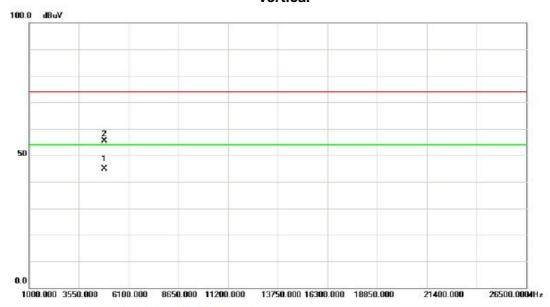
Vertical 124.0 dBuV 2 2 4.0 2397.000 2397.00 2407.00 2417.00 2427.00 2437.00 2447.00 2457.00 2467.00 2487.00 MHz

No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	X	2435.100	68.04	31.94	99.98	74.00	25.98	peak	No Limit	
2	*	2444.400	59.62	31.96	91.58	54.00	37.58	AVG	No Limit	

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Vertical



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	4874.030	41.12	3.72	44.84	54.00	-9.16	AVG		
2		4874.040	51.67	3.72	55.39	74.00	-18.61	peak		

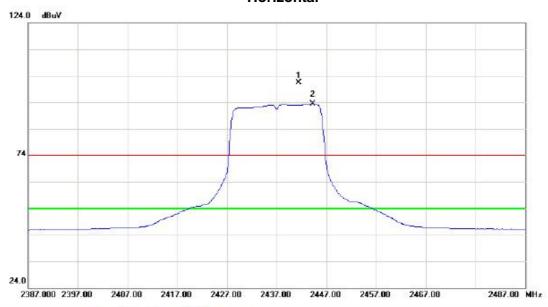
Report No.: BTL-FCCP-1-1502C166 Page 72 of 143



Orthogonal Axis: X

Test Mode: TX N-20M MODE 2437MHz

Horizontal

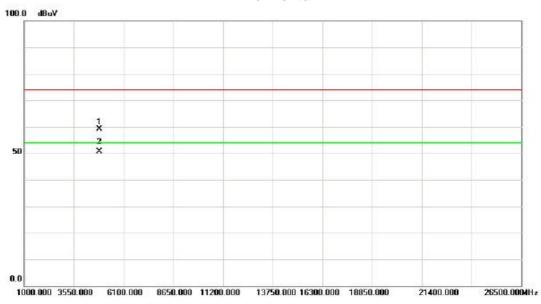


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	X	2441.400	69.40	31.95	101.35	74.00	27.35	peak	No Limit	
2	*	2444.200	61.32	31.96	93.28	54.00	39.28	AVG	No Limit	

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Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4873.980	55.38	3.72	59.10	74.00	-14.90	peak		
2	*	4873.990	46.82	3.72	50.54	54.00	-3.46	AVG		

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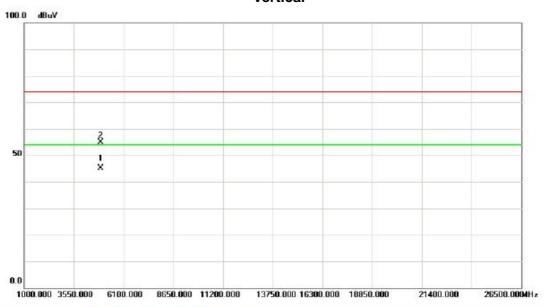


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	X	2459.900	69.38	31.98	101.36	74.00	27.36	peak	No Limit	
2	*	2461.000	60.26	31.98	92.24	54.00	38.24	AVG	No Limit	
3		2483.500	31.97	32.01	63.98	74.00	-10.02	peak		
4		2483.500	19.48	32.01	51.49	54.00	-2.51	AVG		

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Vertical

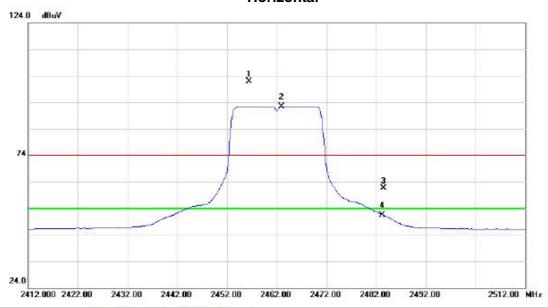


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	4924.000	41.41	3.80	45.21	54.00	-8.79	AVG		
2		4924.050	51.06	3.80	54.86	74.00	-19.14	peak		

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Horizontal

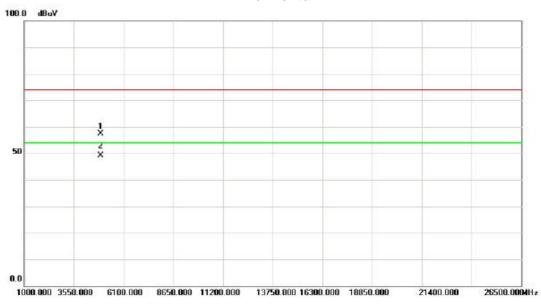


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	ř.		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	X	2456.500	69.81	31.97	101.78	74.00	27.78	peak	No Limit	
2	*	2463.000	60.48	31.98	92.46	54.00	38.46	AVG	No Limit	
3		2483.500	29.69	32.01	61.70	74.00	-12.30	peak		
4		2483.500	19.34	32.01	51.35	54.00	-2.65	AVG		

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Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4924.020	53.52	3.80	57.32	74.00	-16.68	peak		
2	*	4924.050	45.26	3.80	49.06	54.00	-4.94	AVG		

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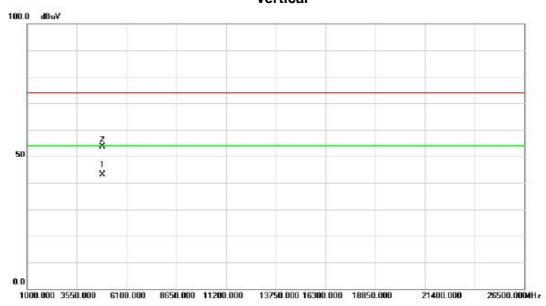


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		2390.000	26.71	31.88	58.59	74.00	-15.41	peak		
2		2390.000	17.59	31.88	49.47	54.00	-4.53	AVG		
3	*	2435.200	55.06	31.94	87.00	54.00	33.00	AVG	No Limit	
4	Х	2436.400	64.06	31.94	96.00	74.00	22.00	peak	No Limit	

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Vertical

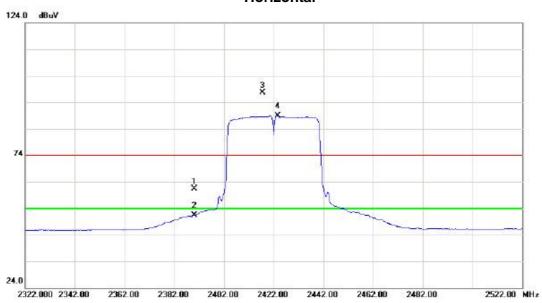


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	4844.000	39.42	3.66	43.08	54.00	-10.92	AVG		
2		4844.200	50.03	3.66	53.69	74.00	-20.31	peak		

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Horizontal

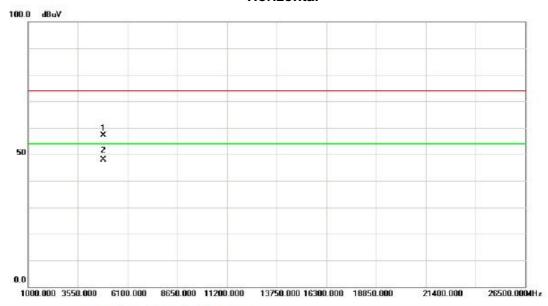


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Š.		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		2390.000	29.38	31.88	61.26	74.00	-12.74	peak		
2		2390.000	19.57	31.88	51.45	54.00	-2.55	AVG		
3	X	2417.600	65.75	31.91	97.66	74.00	23.66	peak	No Limit	
4	*	2423.600	56.91	31.93	88.84	54.00	34.84	AVG	No Limit	

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Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4843.950	53.52	3.66	57.18	74.00	-16.82	peak		
2	*	4843.990	44.25	3.66	47.91	54.00	-6.09	AVG		

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No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	X	2443.000	64.07	31.95	96.02	74.00	22.02	peak	No Limit	
2	*	2445.200	55.69	31.96	87.65	54.00	33.65	AVG	No Limit	

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Vertical



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1.	*	4874.000	39.46	3.72	43.18	54.00	-10.82	AVG		
2		4874.090	48.97	3.72	52.69	74.00	-21.31	peak		

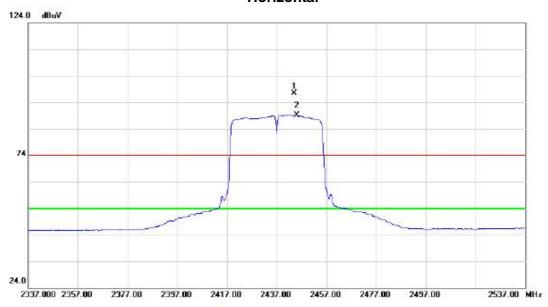
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Orthogonal Axis: X

Test Mode: TX N-40M MODE 2437MHz

Horizontal

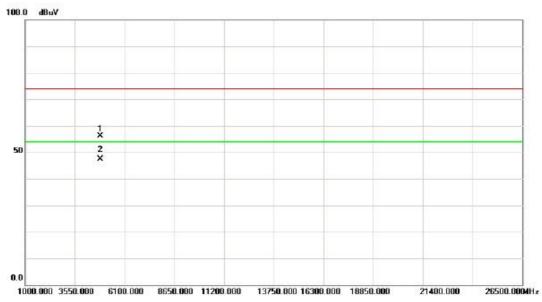


No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	0		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1.	X	2444.000	65.38	31.96	97.34	74.00	23.34	peak	No Limit	
2	*	2445.000	57.22	31.96	89.18	54.00	35.18	AVG	No Limit	

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Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4874.020	52.41	3.72	56.13	74.00	-17.87	peak		
2	*	4874.050	43.73	3.72	47.45	54.00	-6.55	AVG		

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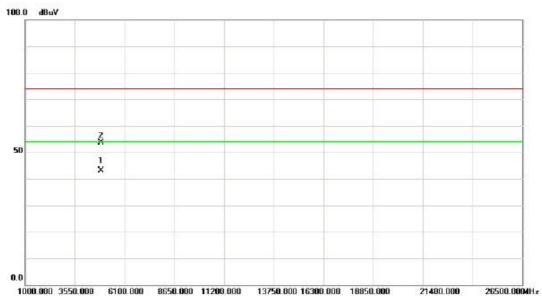
Vertical 124.0 dBuV 24.0 2352.000 2372.00 2392.00 2412.00 2432.00 2452.00 2472.00 2492.00 2512.00 2552.00 MHz

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	2460.000	53.79	31.98	85.77	54.00	31.77	AVG	No Limit	
2	Х	2466.200	64.39	31.98	96.37	74.00	22.37	peak	No Limit	
3		2483.500	29.66	32.01	61.67	74.00	-12.33	peak		
4		2483.500	18.25	32.01	50.26	54.00	-3.74	AVG		

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Vertical

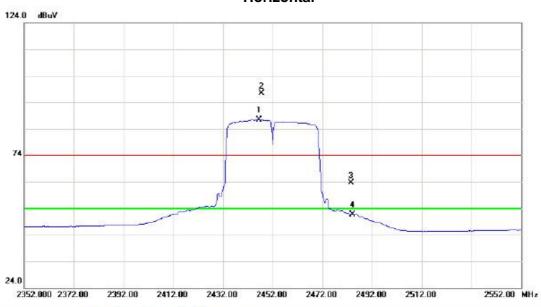


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	4904.010	39.26	3.77	43.03	54.00	-10.97	AVG		
2		4904.030	49.83	3.77	53.60	74.00	-20.40	peak		

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Horizontal

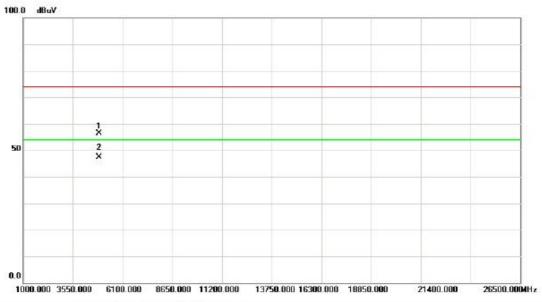


No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Š.		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	2446.400	55.45	31.96	87.41	54.00	33.41	AVG	No Limit	
2	Х	2447.600	65.33	31.96	97.29	74.00	23.29	peak	No Limit	
3		2483.500	31.61	32.01	63.62	74.00	-10.38	peak		
4		2483.500	19.67	32.01	51.68	54.00	-2.32	AVG		

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Horizontal



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		4903.960	52.49	3.77	56.26	74.00	-17.74	peak		
2	*	4903.980	43.52	3.77	47.29	54.00	-6.71	AVG		

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ATTACHMENT E - BANDWIDTH

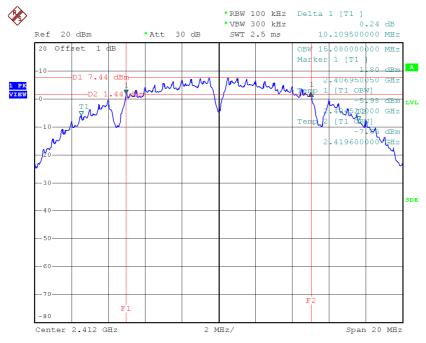
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Test Mode: TX B Mode_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	10.11	15.08	500	Complies
2437	10.11	15.12	500	Complies
2462	10.05	15.08	500	Complies

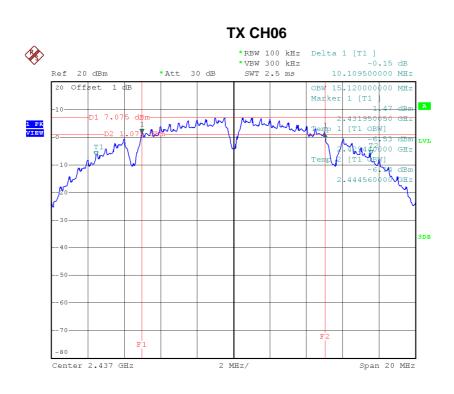
TX CH01



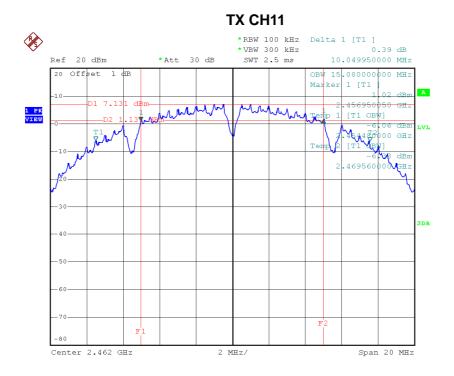
Date: 10.MAR.2015 10:32:17

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Date: 10.MAR.2015 10:33:18



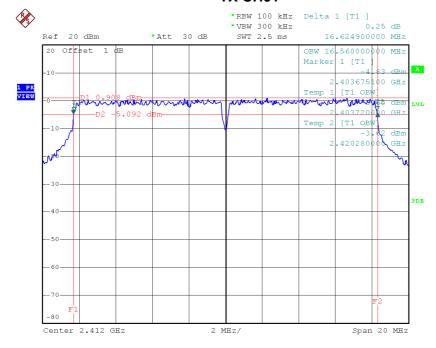
Date: 10.MAR.2015 10:34:04



Test Mode: TX G Mode_CH01/06/11

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	16.62	16.56	500	Complies
2437	16.60	16.52	500	Complies
2462	16.62	16.52	500	Complies

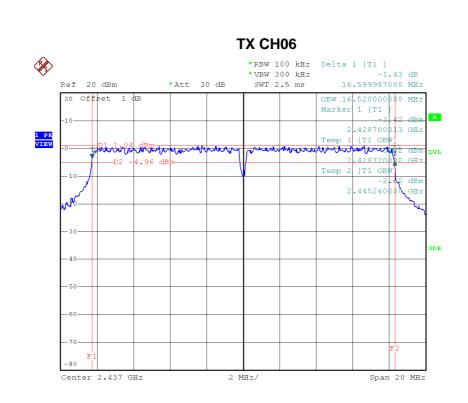
TX CH01



Date: 10.MAR.2015 10:35:08

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Date: 10.MAR.2015 10:36:09

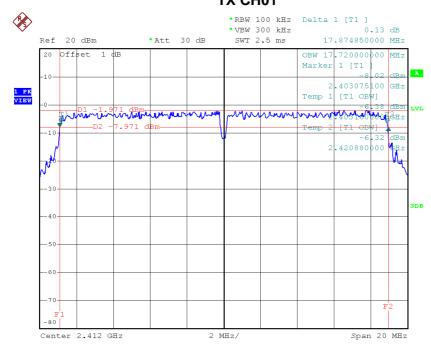
Date: 10.MAR.2015 10:36:52



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

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2412	17.87	17.72	500	Complies
2437	17.89	17.72	500	Complies
2462	17.86	17.72	500	Complies

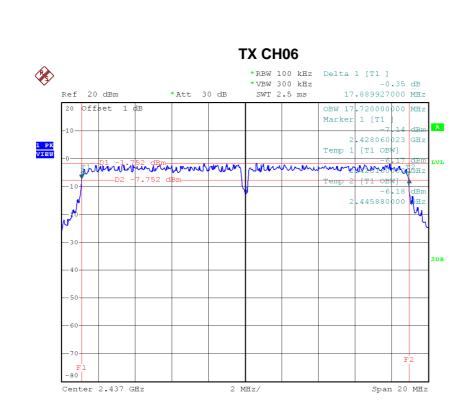
TX CH01



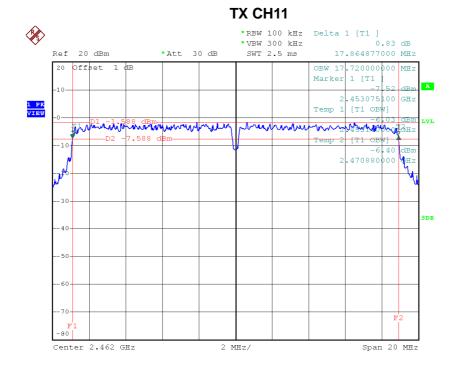
Date: 10.MAR.2015 10:37:59

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Date: 10.MAR.2015 10:38:50



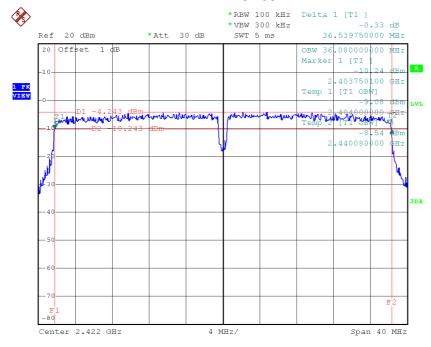
Date: 10.MAR.2015 10:39:53



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

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2422	36.54	36.08	500	Complies
2437	36.45	36.16	500	Complies
2452	36.56	36.16	500	Complies

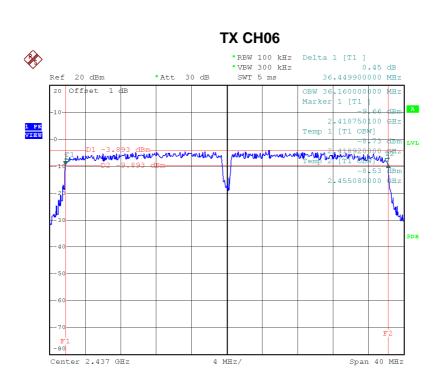
TX CH03



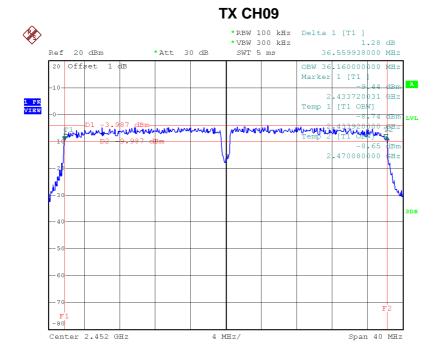
Date: 10.MAR.2015 10:43:49

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Date: 10.MAR.2015 10:44:46



Date: 10.MAR.2015 10:45:56



ATTACHMENT F – MAXIMUM PEAK CONDUCTED OUTPUT POWER

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Test Mode :TX B Mode_CH01/06/11_ANT 2

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	16.86	0.05	30.00	1.00	Complies
2437	16.85	0.05	30.00	1.00	Complies
2462	16.75	0.05	30.00	1.00	Complies

Test Mode :TX G Mode_CH01/06/11_ANT 2

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	22.04	0.16	30.00	1.00	Complies
2437	22.21	0.17	30.00	1.00	Complies
2462	22.08	0.16	30.00	1.00	Complies

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Test Mode :TX N20 Mode_CH01/06/11_ANT 2

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	19.37	0.09	30.00	1.00	Complies
2437	19.13	0.08	30.00	1.00	Complies
2462	19.01	0.08	30.00	1.00	Complies

Test Mode :TX N20 Mode_CH01/06/11_ANT 3

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	19.03	0.08	30.00	1.00	Complies
2462	19.40	0.09	30.00	1.00	Complies

Test Mode :TX N20 Mode_CH01/06/11_Total

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2412	22.21	0.17	30.00	1.00	Complies
2437	22.09	0.16	30.00	1.00	Complies
2462	22.22	0.17	30.00	1.00	Complies

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Test Mode :TX N40 Mode_CH03/06/09_ANT 2

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	18.55	0.07	30.00	1.00	Complies
2437	18.35	0.07	30.00	1.00	Complies
2452	18.65	0.07	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09_ANT 3

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	18.42	0.07	30.00	1.00	Complies
2437	18.52	0.07	30.00	1.00	Complies
2452	18.32	0.07	30.00	1.00	Complies

Test Mode :TX N40 Mode_CH03/06/09_Total

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Result
2422	21.50	0.14	30.00	1.00	Complies
2437	21.45	0.14	30.00	1.00	Complies
2452	21.50	0.14	30.00	1.00	Complies

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ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

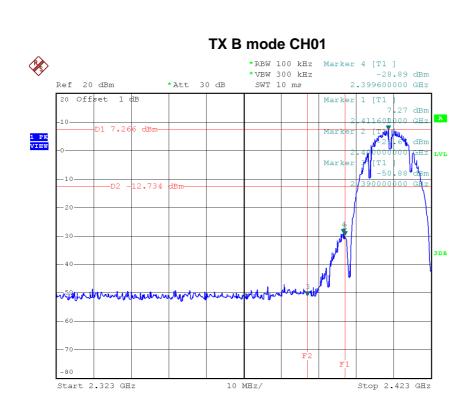
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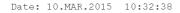


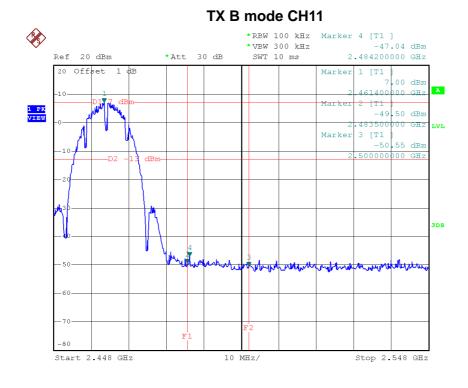
est Mode :	TX B Mode_ANT 2
	1111-

Report No.: BTL-FCCP-1-1502C166





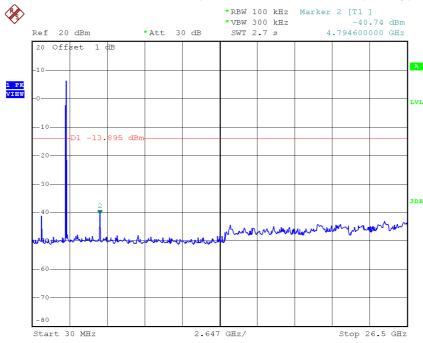




Date: 10.MAR.2015 10:34:25

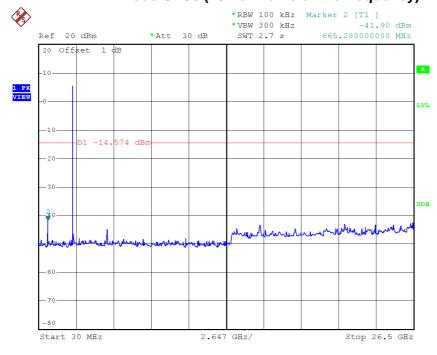






Date: 10.MAR.2015 10:32:31

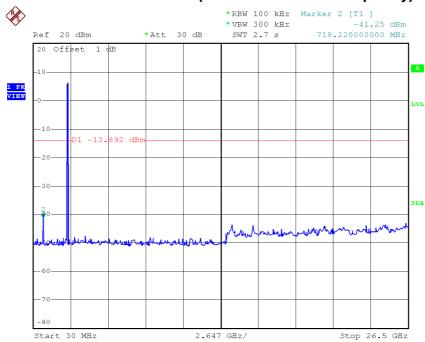
TX B mode CH06 (10 Harmonic of the frequency)



Date: 10.MAR.2015 10:33:31







Date: 10.MAR.2015 10:34:17

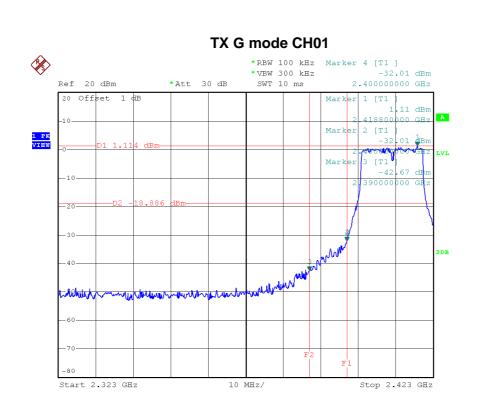
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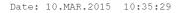


Test Mode:	TX G Mode_ANT 2

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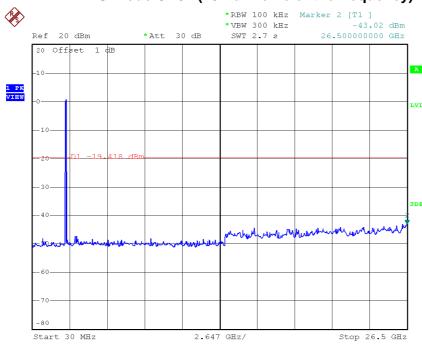




Date: 10.MAR.2015 10:37:12

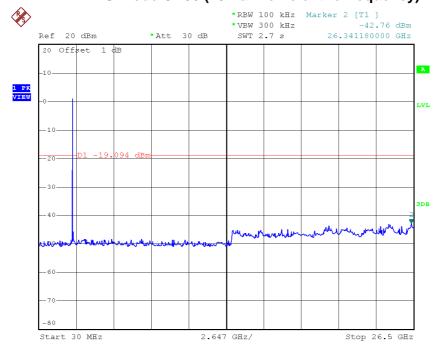






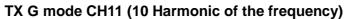
Date: 10.MAR.2015 10:35:21

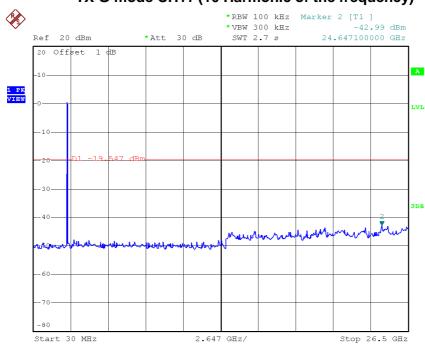
TX G mode CH06 (10 Harmonic of the frequency)



Date: 10.MAR.2015 10:36:23







Date: 10.MAR.2015 10:37:05

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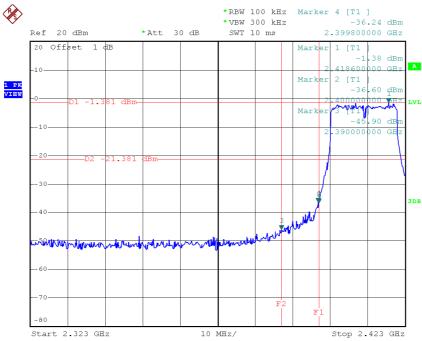


Test Mode :	TX N-20M Mode_ANT 2

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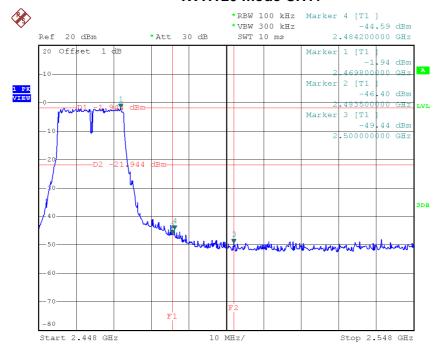






Date: 10.MAR.2015 10:38:21

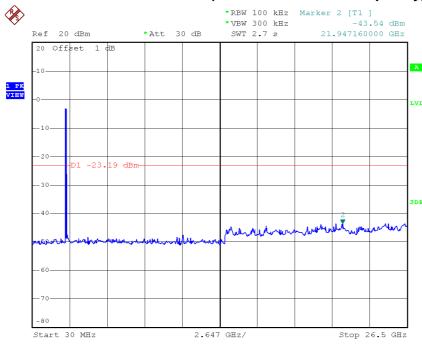
TX HT20 mode CH11



Date: 10.MAR.2015 10:40:14

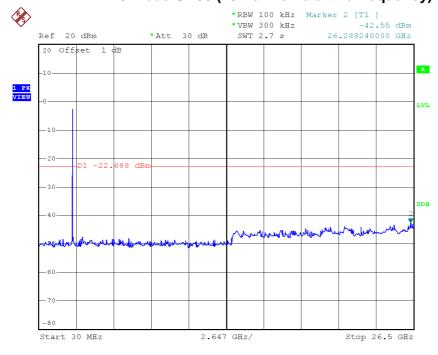






Date: 10.MAR.2015 10:38:13

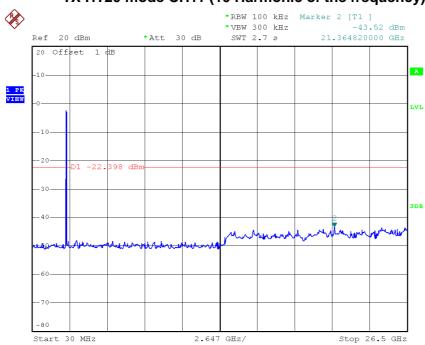
TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 10.MAR.2015 10:39:04



TX HT20 mode CH11 (10 Harmonic of the frequency)



Date: 10.MAR.2015 10:40:07

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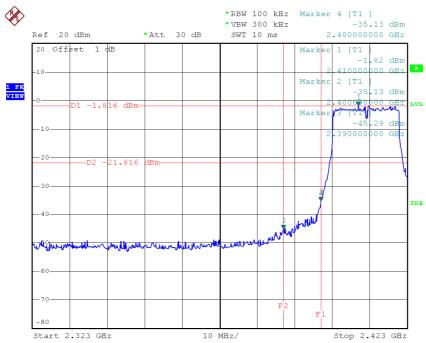


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lest Mode :	TX N-20M Mode_ANT 3

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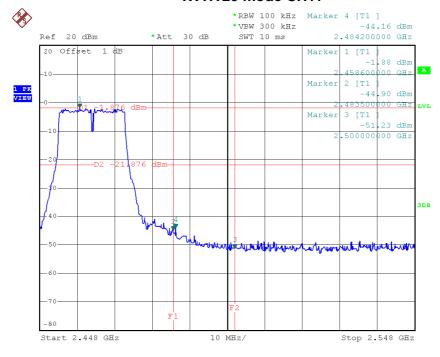






Date: 10.MAR.2015 10:41:35

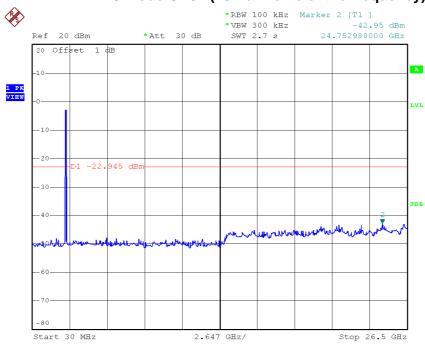
TX HT20 mode CH11



Date: 10.MAR.2015 10:43:14

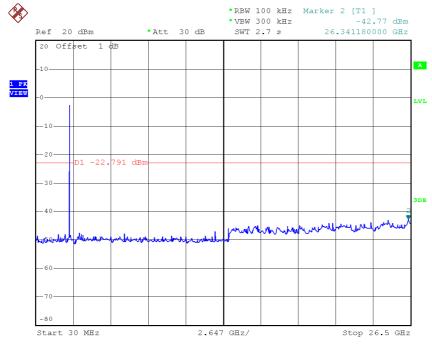






Date: 10.MAR.2015 10:41:28

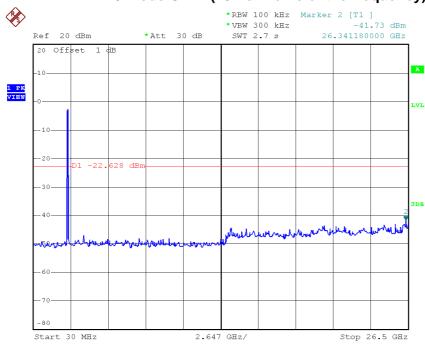
TX HT20 mode CH06 (10 Harmonic of the frequency)



Date: 10.MAR.2015 10:42:26







Date: 10.MAR.2015 10:43:07

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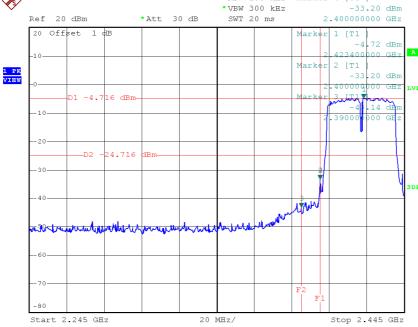


Test Mode :	TX N-40M Mode_ANT 2

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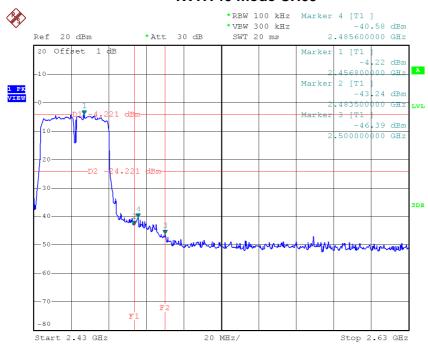




Date: 10.MAR.2015 10:44:10

%

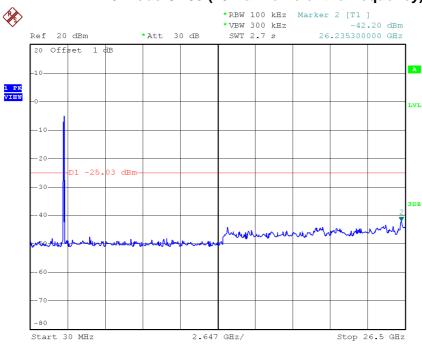
TX HT40 mode CH09



Date: 10.MAR.2015 10:46:17

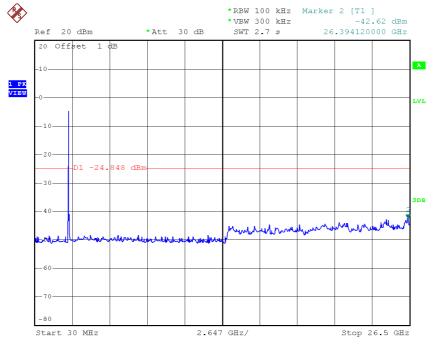






Date: 10.MAR.2015 10:44:02

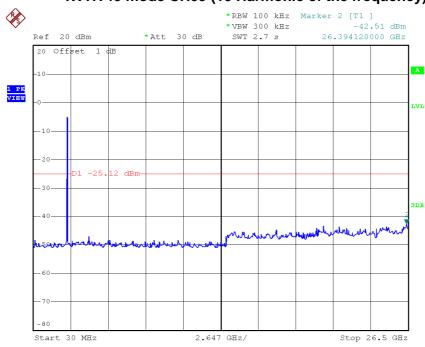
TX HT40 mode CH06 (10 Harmonic of the frequency)



Date: 10.MAR.2015 10:45:00



TX HT40 mode CH09 (10 Harmonic of the frequency)



Date: 10.MAR.2015 10:46:09

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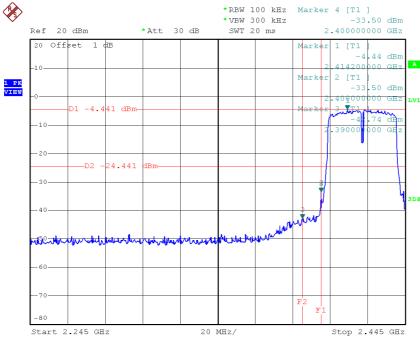


Test Mode :	TX N-40M Mode_ANT 3

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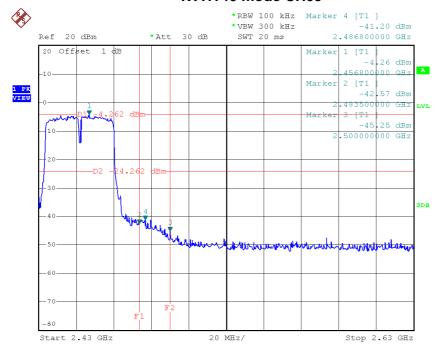






Date: 10.MAR.2015 10:47:08

TX HT40 mode CH09

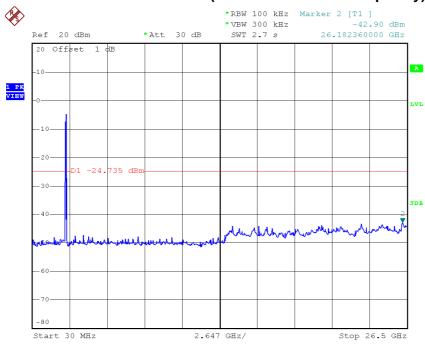


Date: 10.MAR.2015 10:48:42



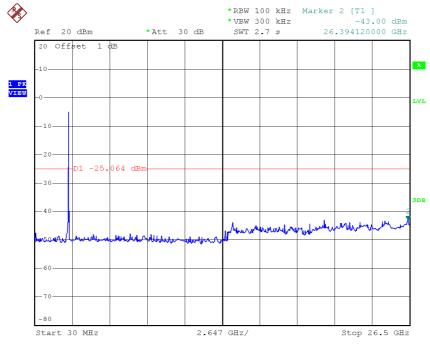
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Date: 10.MAR.2015 10:47:01

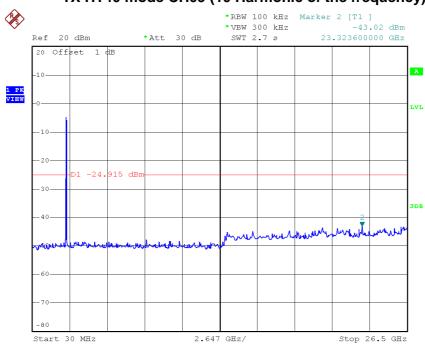
TX HT40 mode CH06 (10 Harmonic of the frequency)



Date: 10.MAR.2015 10:47:51



TX HT40 mode CH09 (10 Harmonic of the frequency)



Date: 10.MAR.2015 10:48:35

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ATTACHMENT H - POWER SPECTRAL DENSITY				

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Test Mode :TX B Mode_CH01/06/11_ANT 2

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-12.74	0.05	8.00	Complies
2437	-13.11	0.05	8.00	Complies
2462	-13.07	0.05	8.00	Complies

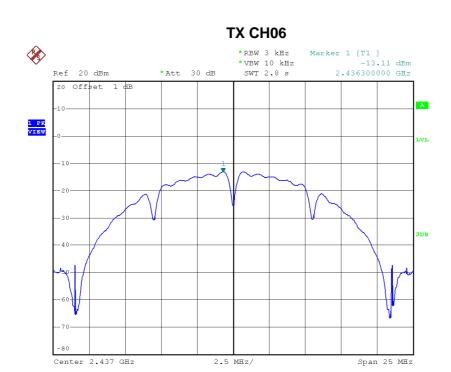
TX CH01



Date: 10.MAR.2015 10:32:47

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Date: 10.MAR.2015 10:33:40

*REW 3 kHz Marker 1 [T1] *VDW 10 kHz -13.07 dBm Ref 20 dBm *Att 30 dB SWT 2.8 s 2.462700000 GHz 20 Offset 1 dB -10 -20 -30 -40 -40 -60 -60 -70 -80 Center 2.462 GHz 2.5 MHz/ Span 25 MHz/

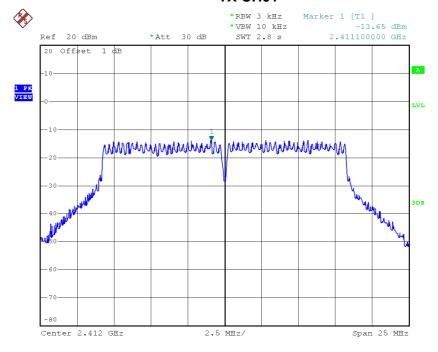
Date: 10.MAR.2015 10:34:34



Test Mode :TX G Mode_CH01/06/11_ANT 2

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-13.65	0.04	8.00	Complies
2437	-13.36	0.05	8.00	Complies
2462	-13.14	0.05	8.00	Complies

TX CH01

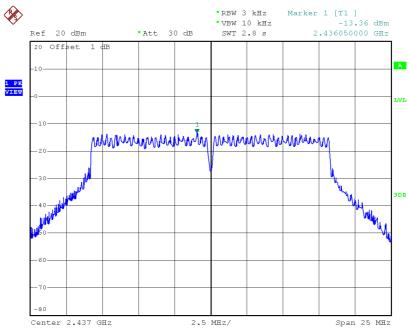


Date: 10.MAR.2015 10:35:37

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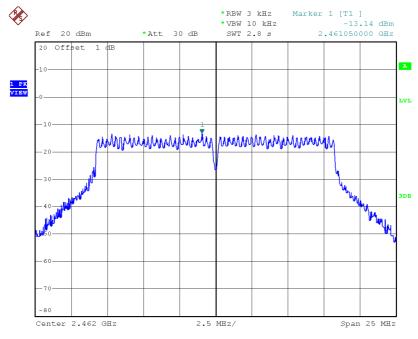






Date: 10.MAR.2015 10:36:32

TX CH11



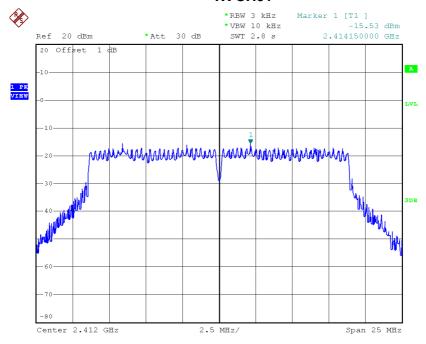
Date: 10.MAR.2015 10:37:21



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

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-15.53	0.03	8.00	Complies
2437	-15.08	0.03	8.00	Complies
2462	-15.76	0.03	8.00	Complies

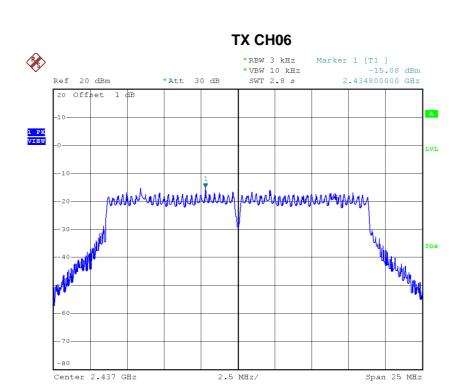
TX CH01



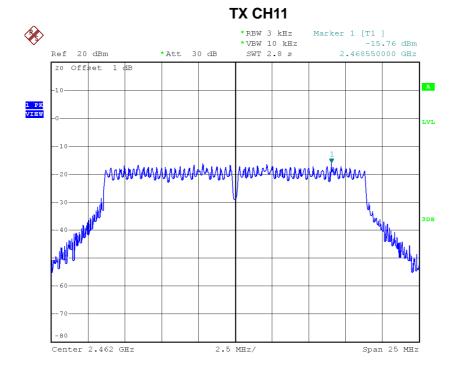
Date: 10.MAR.2015 10:38:29

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Date: 10.MAR.2015 10:39:12



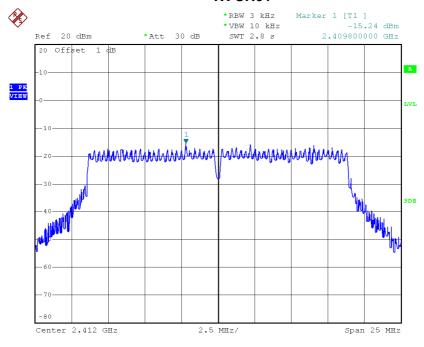
Date: 10.MAR.2015 10:40:23



Test Mode: TX N-20M Mode_CH01/06/11_ANT 3

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-15.24	0.03	8.00	Complies
2437	-16.59	0.02	8.00	Complies
2462	-15.44	0.03	8.00	Complies

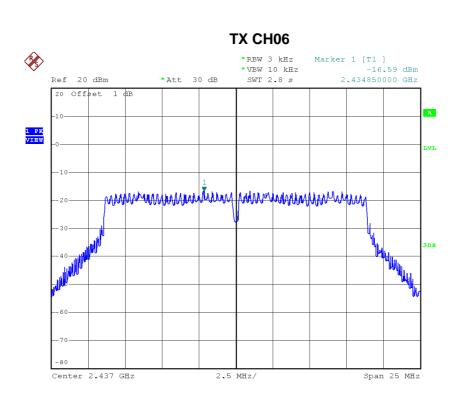
TX CH01



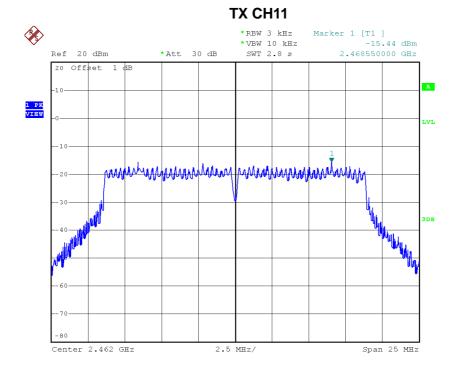
Date: 10.MAR.2015 10:41:44

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Date: 10.MAR.2015 10:42:35



Date: 10.MAR.2015 10:43:23



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

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2412	-12.37	0.06	8.00	Complies
2437	-12.76	0.05	8.00	Complies
2462	-12.58	0.06	8.00	Complies

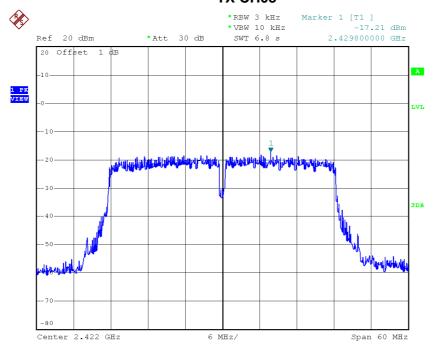
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Test Mode: TX N-40M Mode_CH03/06/09_ANT 2

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-17.21	0.02	8.00	Complies
2437	-18.11	0.02	8.00	Complies
2452	-17.62	0.02	8.00	Complies

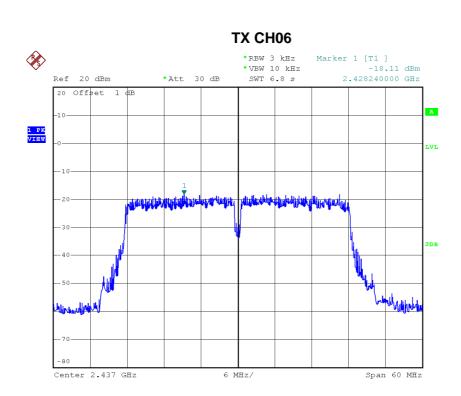
TX CH03



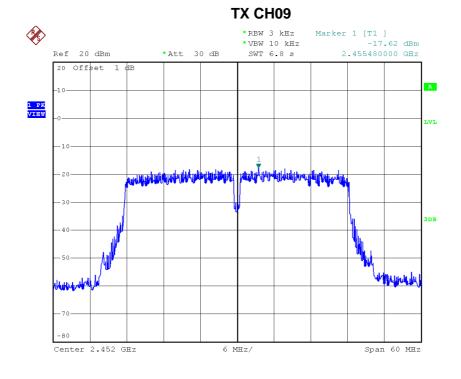
Date: 10.MAR.2015 10:44:21

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Date: 10.MAR.2015 10:45:11



Report No.: BTL-FCCP-1-1502C166

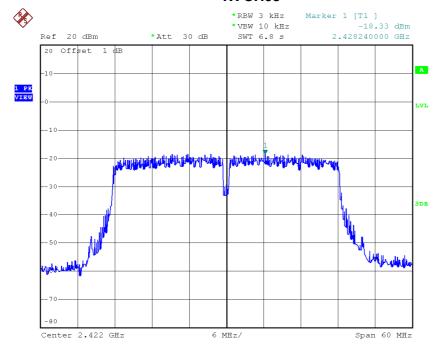
Date: 10.MAR.2015 10:46:28



Test Mode: TX N-40M Mode_CH03/06/09_ANT 3

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-18.33	0.01	8.00	Complies
2437	-18.19	0.02	8.00	Complies
2452	-17.45	0.02	8.00	Complies

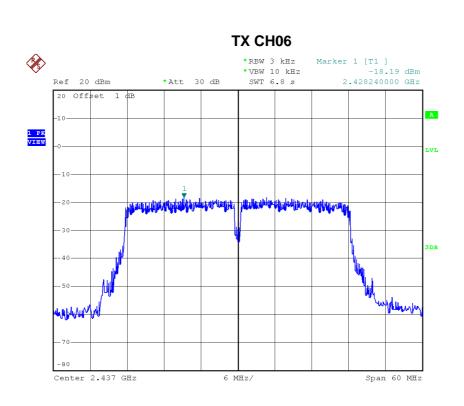
TX CH03



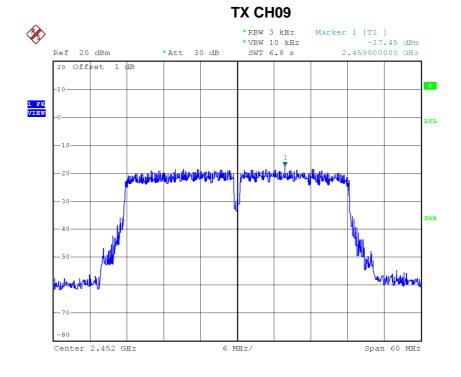
Date: 10.MAR.2015 10:47:20

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Date: 10.MAR.2015 10:48:03



Date: 10.MAR.2015 10:48:54



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

Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
2422	-14.72	0.03	8.00	Complies
2437	-15.14	0.03	8.00	Complies
2452	-14.52	0.04	8.00	Complies

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