Excellence in Compliance Testing

Certification Test Report

FCC ID: VEYCN3200W1

FCC Rule Part: 15.247

ACS Report Number: 14-2097.W04.1A

Manufacturer: xG Technology, Inc
Model: CN3200W1

Test Begin Date: **September 8, 2014**
Test End Date: **September 24, 2014**

Report Issue Date: September, 24 2014

ACCREDITED TESTING

FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER AT-1533

This report must not be used by the client to claim product certification, approval, or endorsement by ACLASS, ANSI, or any agency of the Federal Government.

Reviewed by:

Thierry Jean-Charles
EMC Engineer
Advanced Compliance Solutions, Inc.

This report contains 36 pages

TABLE OF CONTENTS

1 GENERAL

1.1 Purpose

The purpose of this report is to demonstrate compliance with Part 15 Subpart C of the FCC's Code of Federal Regulations for a Class II Permissive Change.

The purpose of the Class II permissive change is to certify the model CN3200W1 as a limited module, for integration within specific host device with a new antenna configuration.

1.2 Product Description

The model CN3200W1 is an IEEE 802.11b,g,n WLAN transceiver. The unit is integrate within the xG Technology model CN3200 (FCC ID: VEYCN3200R1) which includes a 900 MHz radio.

Technical Information:

Modes of Operations:	WLAN 802.11b/g/n
Band of Operation:	802.11 b/g/n 20 MHz: 2412 MHz - 2462 MHz
	802.11n 40 MHz: 2422 MHz - 2452 MHz
Number of Channels:	802.11b/g/n 20 MHz: 11
	802.11n 40 MHz: 7
Modulation Format:	802.11b: CCK
	802.11g/n: OFDM
Antenna Type/Gain:	Panel Antenna, 15 dBi
Operating Voltage:	48 VDC through POE Injector

Manufacturer Information:
xG Technology, Inc
7771 West Oakland Park Blvd, Suite 231
Sunrise, FL 33351

Test Sample Serial Number(s): N/A

Test Sample Condition: The unit was in good operating condition with no physical damages.

1.3 Test Methodology and Considerations

The EUT was evaluated for radiated and RF conducted and power line conducted emissions for all modulation formats.

The EUT was evaluated while integrated within the CN3200 host configuration with the 15 dBi panel antenna. Intermodulation products from the co-located 900 MHz and 2.4 GHz radios when transmitting at the same time were also investigated. All intermodulation products were found to be compliant to the limits of FCC 15.209.

The RF conducted measurements were limited to the RF output power evaluation to account for the power reduction for compliance at the band-edges with the 15 dBi antenna.

The CN3200W1 was also evaluated for unintentional radiated emissions with the panel antenna. The results are documented separately in a verification report.

The test software configuration used for the evaluation is provided below.

Table 1.4-1: 802.1b/g/n Radio Test Configuration

Mode of Operation	Frequency (MHz)	Channel	Test Software Power Setting	Data Rate Setting)
802.11b	2412	1	21	1 MBPS
	2437	6	23	
	2462	11	21	
802.11g	2412	1	19	6 MBPS
	2437	6	23	
	2462	11	19	
802.11n 20 MHz	2412	1	19	MCS0
	2437	6	21	
	2462	11	19	
802.11n 40 MHz	2422	3	14	
	2437	6	21	
	2452	9	11	

2 TEST FACILITIES

2.1 Location

The radiated and conducted emissions test sites are located at the following address:

Advanced Compliance Solutions, Inc.
3998 FAU Blvd, Suite 310
Boca Raton, Florida 33431
Phone: (561) 961-5585
Fax: (561) 961-5587
www.acstestlab.com

FCC Test Firm Registration #: 475089
Industry Canada Lab Code: 4175C

2.2 Laboratory Accreditations/Recognitions/Certifications

ACS is accredited to ISO/IEC 17025 by ANSI-ASQ National Accreditation Board under their ACLASS program and has been issued certificate number AT-1533 in recognition of this accreditation. Unless otherwise specified, all test methods described within this report are covered under the ISO/IEC 17025 scope of accreditation.

2.3 Radiated & Conducted Emissions Test Site Description

2.3.1 Semi-Anechoic Chamber Test Site

The EMC radiated test facility consists of an RF-shielded enclosure. The interior dimensions of the indoor semi-anechoic chamber are approximately 48 feet (14.6 m) long by 36 feet (10.8 m) wide by 24 feet (7.3 m) high and consist of rigid, 1/8 inch (0.32 cm) steel-clad, wood core modular panels with steel framing. In the shielded enclosure, the faces of the panels are galvanized and the chamber is self-supporting. 8-foot RF absorbing cones are installed on 4 walls and the ceiling. The steel-clad ground plane is covered with vinyl floor.

The turntable is driven by pneumatic motor, which is capable of supporting a 2000 lb. load. The turntable is flushed with the chamber floor which it is connected to, around its circumference, with a continuous metallic loaded spring. An EMCO Model 1050 Multi-device Controller controls the turntable position.

A pneumatic motor is used to control antenna polarizations and height relative to the ground. The height information is displayed on the control unit EMCO Model 1050.

The control room is an RF shielded enclosure attached to the semi-anechoic chamber with two bulkhead panels for connecting RF, and control cables. The dimension of the room is 7.3 m x 4.9 m x 3 m high and the entrance doors of both control and conducted rooms are 3 feet (0.91 m) by 7 feet (2.13 m).

A diagram of the Semi-Anechoic Chamber Test Site is shown in Figure 2.3.1-1 below:

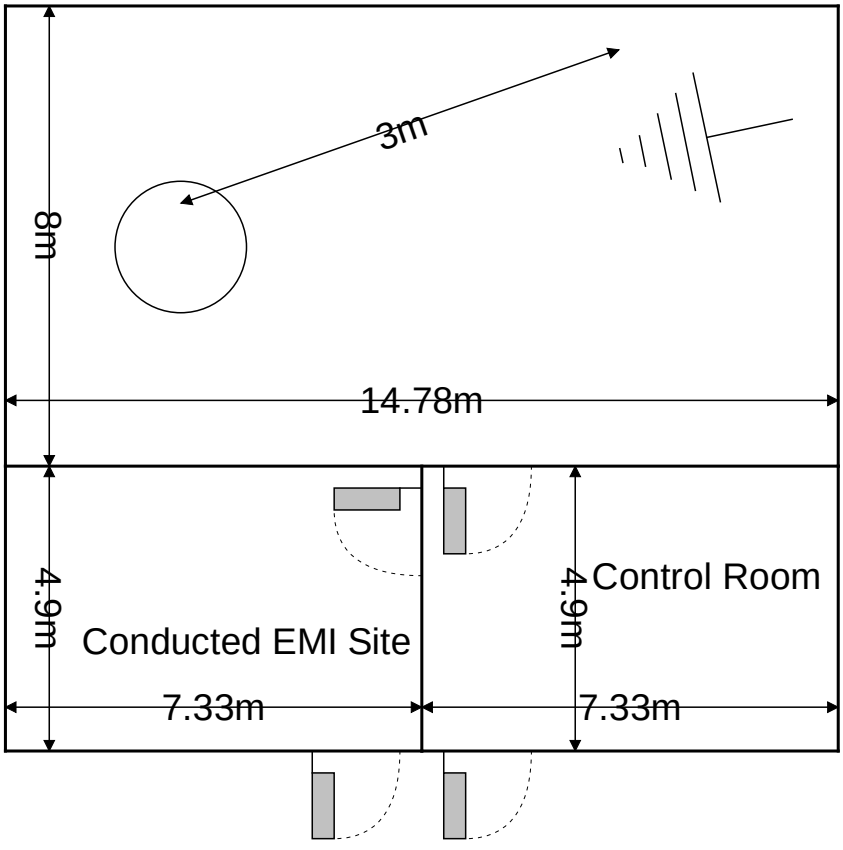

Figure 2.3.1-1: Semi-Anechoic Chamber Test Site

2.3.2 Conducted Emissions Test Site Description

The dimensions of the shielded conducted room are 7.3 x 4.9 x 3 m^3. As per ANSI C63.4 2003 requirements, the data were taken using two LISNs; a Solar Model 8028-50 50 Ω/50 µH and an EMCO Model 3825, which are installed as shown in Photograph 3. For 220 V, 50 Hz, a Polarad LISN (S/N 879341/048) is used in conjunction with a 1 kVA, 50 Hz/220 V EDGAR variable frequency generator, Model 1001B, to filter conducted noise from the generator.

A diagram of the room is shown below in figure 2.3.2-1:

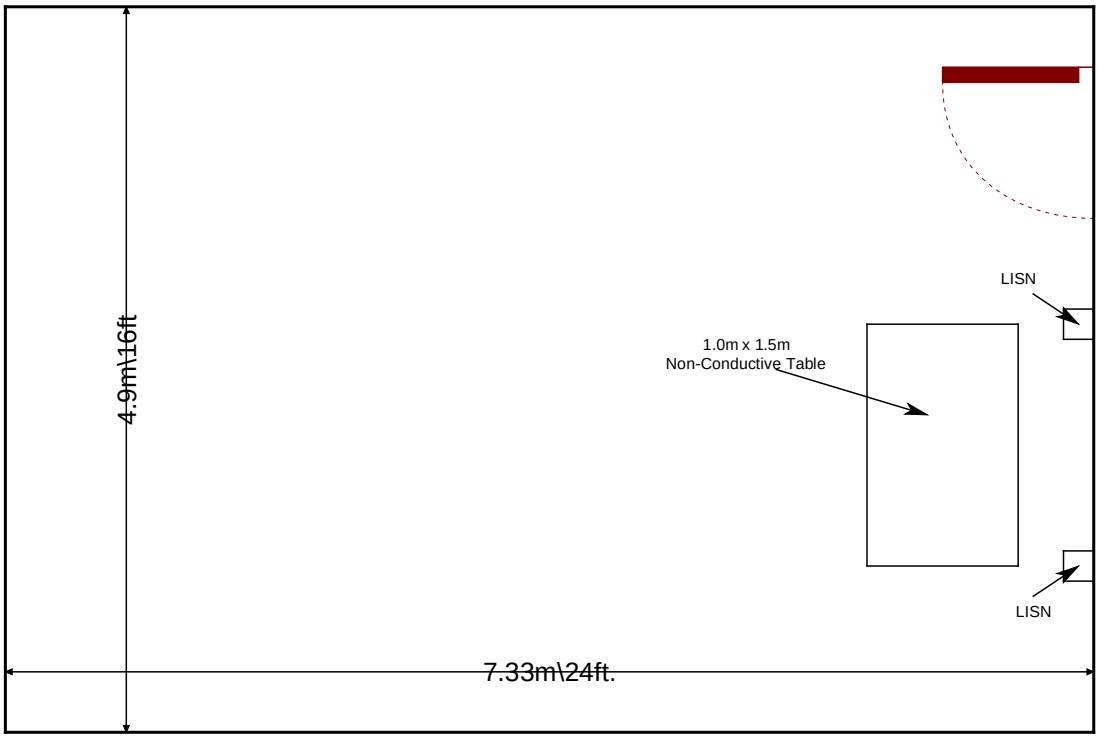

Figure 2.3.2-1: AC Mains Conducted EMI Site

3 APPLICABLE STANDARD REFERENCES

The following standards were used:

- ANSI C63.4-2003: Method of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the 9KHz to 40GHz
- ANSI C63.10-2009: American National Standard for Testing Unlicensed Wireless Devices.
- US Code of Federal Regulations (CFR): Title 47, Part 2, Subpart J: Equipment Authorization Procedures, 2014
- US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 2014
- KDB Publication No. 558074 D01 Meas Guidance v03r02 – Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247, June 5, 2014.

4 LIST OF TEST EQUIPMENT

The calibration interval of test equipment is annually or the manufacturer's recommendations. Where the calibration interval deviates from the annual cycle based on the instrument manufacturer's recommendations, it shall be stated below.

Table 4-1: Test Equipment

AssetID	Manufacturer	Model #	Equipment Type	Serial #	Last Calibration Date	Calibration Due Date
2070	Mini Circuits	VHF-8400+	Filter	2070	1/1/2014	1/1/2015
2072	Mini Circuits	VHF-3100+	Filter	30737	1/1/2014	1/1/2015
2008	COM-Power	AH-826	Antennas	81009	1/1/2014	1/1/2015
2111	Aeroflex Inmet	40AH2W-20	Attenuator	2111	1/2/2014	1/2/2015
2082	Teledyne Storm Products	90-010-048	Cables	2082	5/8/2014	5/8/2015
2086	Merrimac	FAN-6-10K	Attenuators	23148-83-1	12/31/2013	12/31/2014
283	Rohde & Schwarz	FSP40	Spectrum Analyzers	1000033	9/18/2013	9/18/2015
523	Agilent	E7405	Spectrum Analyzers	MY45103293	1/8/2013	1/8/2015
2002	EMCO	3108	Antennas	2147	11/22/2013	11/22/2015
2004	EMCO	3146	Antennas	1385	11/22/2013	11/22/2015
2006	EMCO	3115	Antennas	2573	4/24/2013	4/24/2015
2011	Hewlett-Packard	HP 8447D	Amplifiers	2443A03952	12/31/2013	12/31/2014
2037	ACS Boca	Chamber EMI Cable Set	Cable Set	2037	2/27/2014	2/27/2015
2044	QMI	N/A	Cables	2044	12/31/2013	12/31/2014
2076	Hewlett Packard	HP5061-5458	Cables	2076	12/31/2013	12/31/2014
2089	Agilent Technologies, Inc.	83017A	Amplifiers	3123A00214	12/16/2013	12/16/2014
2095	ETS Lindgren	TILE4! - Version 4.2.A	Software	85242	NCR	NCR
2022	EMCO	LISN3825/2R	LISN	1095	9/9/2013	9/9/2015
2045	ACS Boca	Conducted Cable Set	Cable Set	2045	1/1/2014	1/1/2015
3004	Teseq	CFL 9206A	Attenuators	34720	10/21/2013	10/21/2015

Note: NCR=No Calibration Required

5 SUPPORT EQUIPMENT

Table 5-1: EUT and Support Equipment

Item #	Type Device	Manufacturer	Model/Part #	Serial #
1	POE Adaptor	Tycon Power Systems	TP-POE-HP-48	116011421D
2	4x Ferrites	FAIR-RITE	0443164251	N/A
3	4x Ferrites	FAIR-RITE	0443164251	N/A
4	Laptop	Dell	Latitude D620	CN-0TD761-12961-68G-3106
5	Power Supply	Dell	PA-1650-05D2	CN-0F7970-71615-54P-C958
6	WLAN Antenna	Antenna World	COM-24015PN	ACS#5
7	900 MHz Antenna	KP Performance Antennas	KPPA-900MHZ4P90S	201404-153
8	Host Device	xG Technology	CN3200	VMTRP19140034

Table 5-2: Cable Description

Cable #	Cable Type	Length	Shield	Termination
A	Ethernet	1.08 m	Yes	EUT to POE adapter
B	Power Cord	1.83 m	No	Power Supply to AC Mains
C	Ethernet	1.2 m	No	POE to Laptop
D	Dell Power Supply Cable	1.83 m	No	Laptop to Power Supply
E	Dell Power Supply Cord	0.90 m	No	Power Supply to AC Mains
F	Coaxial model AMP1996-0048	1.2m	Yes	EUT to WLAN antenna
G	2xCoaxial	0.32m	Yes	EUT to 900 MHz Panel Antenna
H	2xCoaxial	0.32m	Yes	EUT to Panel 900 MHz Antenna

6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM

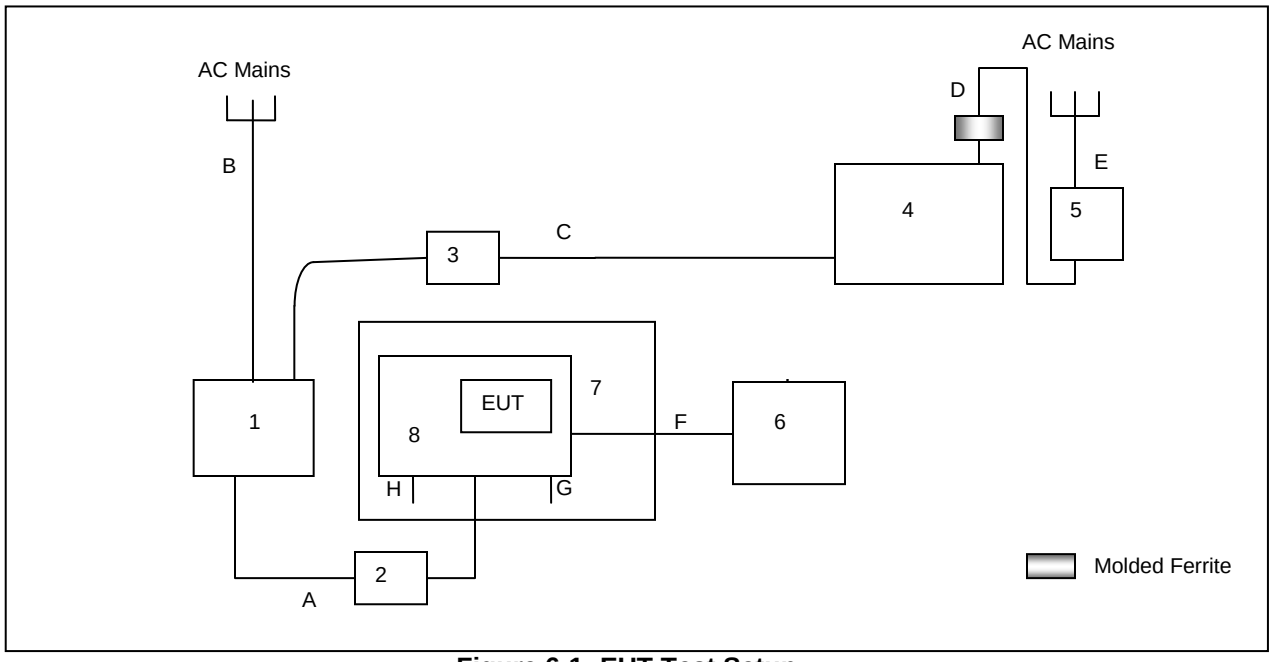

Figure 6-1: EUT Test Setup

7 SUMMARY OF TESTS

Along with the tabular data shown below, plots were taken of all signals deemed important enough to document.

7.1 Antenna Requirement – FCC: Section 15.203

The CN3200W1 PCB provides an MMCX antenna connector, thus showing compliance to the requirements of FCC 15.203. The module is integrated inside of the CN3200 host device which provides and external TNC-type connector for WLAN antennas. The CN3200 host device requires professional installation per the manufacturer's user's guide.

7.2 Occupied Bandwidth (OBW)

7.2.1 Measurement Procedure

The occupied bandwidth (OBW) as defined in the FCC KDB Publication No. 558074 “Guidance for Performing Compliance Measurements on Digital Transmission Systems (47 CFR 15.247)” was measured in accordance with ANSI C63.10. The Span of the Spectrum Analyzer was configured between two to five times the OBW. The RBW of the SA was set to 1% to 5% of the OBW. The reference level was set to the highest amplitude signal observed. The occupied OBW was measured 20 dB down from the reference level.

7.2.2 Measurement Results

Results are shown below.

Table 7.2.2-1: OBW 802.11b

Frequency [MHz]	Bandwidth (OBW) (MHz)
2412	18.4000
2437	18.4500
2462	18.4000

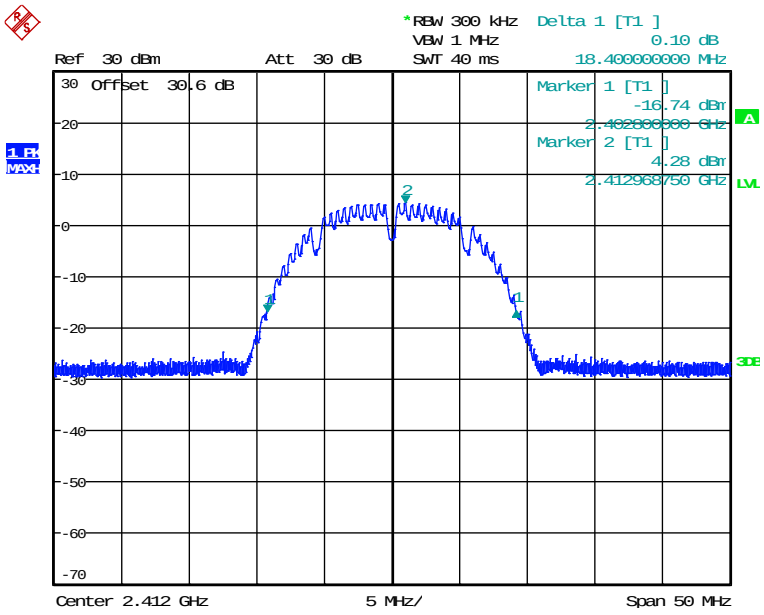

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Figure 7.2.2-1: 20 dB BW - Low Channel

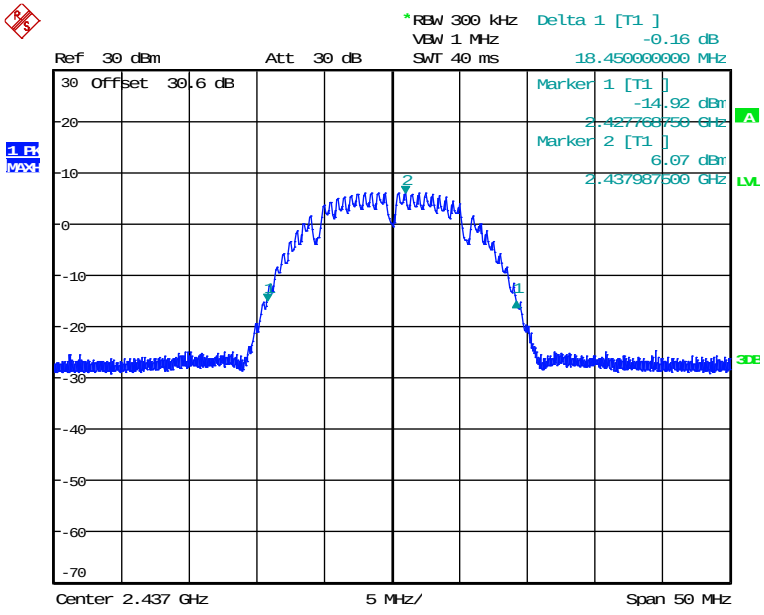

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Figure 7.2.2-2: 20 dB BW - Middle Channel

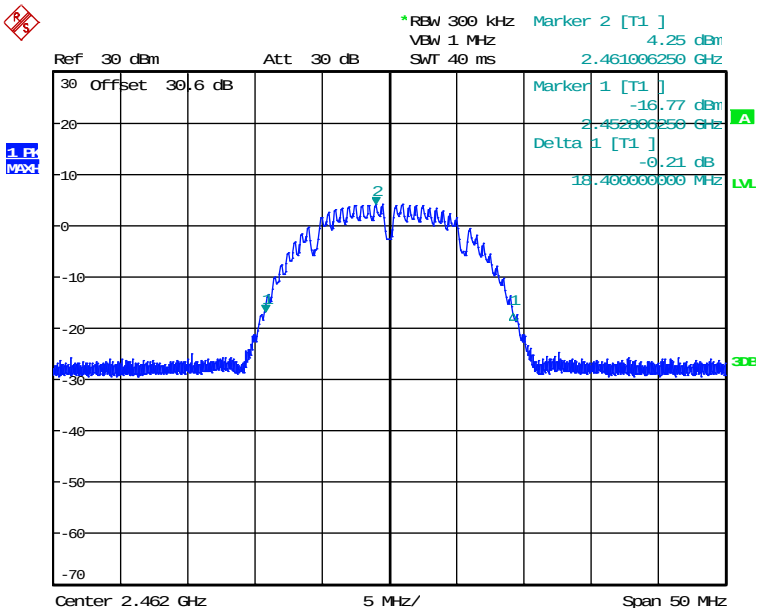


Figure 7.2.2-3: 20 dB BW - High Channel

Table 7.2.2-1: OBW 802.11g

Frequency [MHz]	Bandwidth (OBW) (MHz)
2412	21.1875
2437	22.1000
2462	22.2563

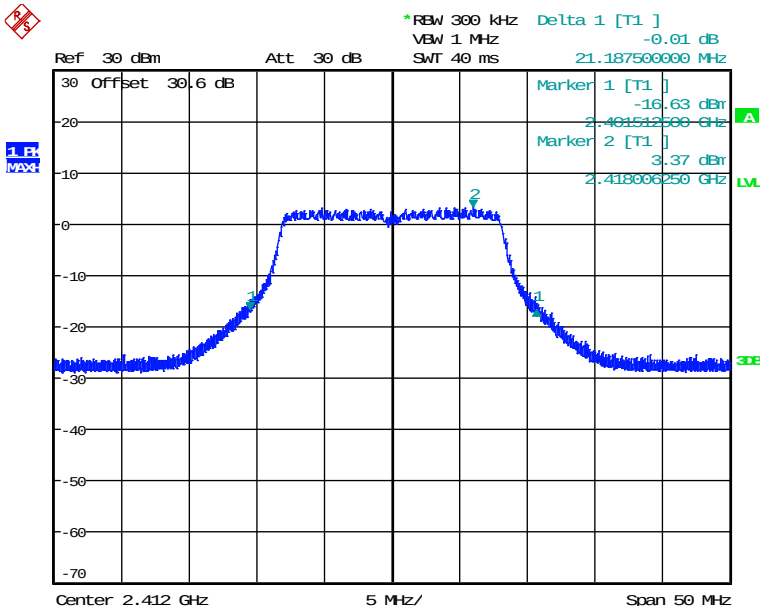
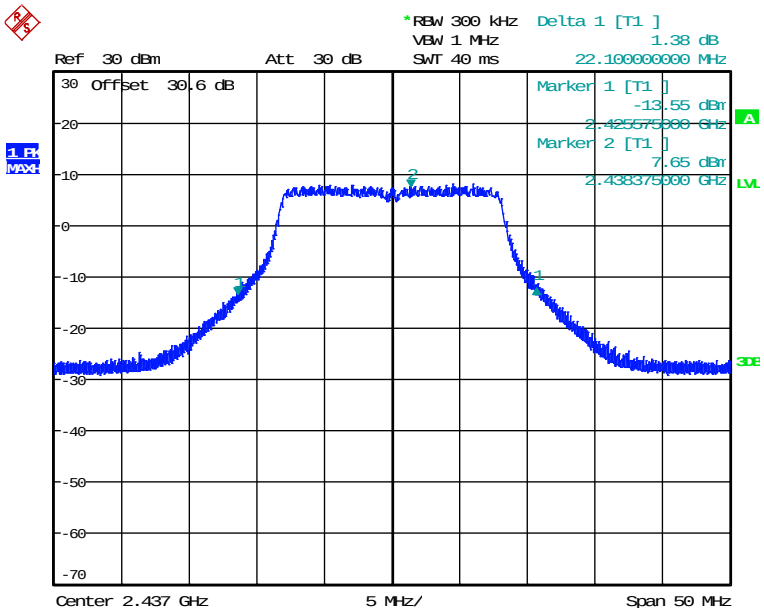
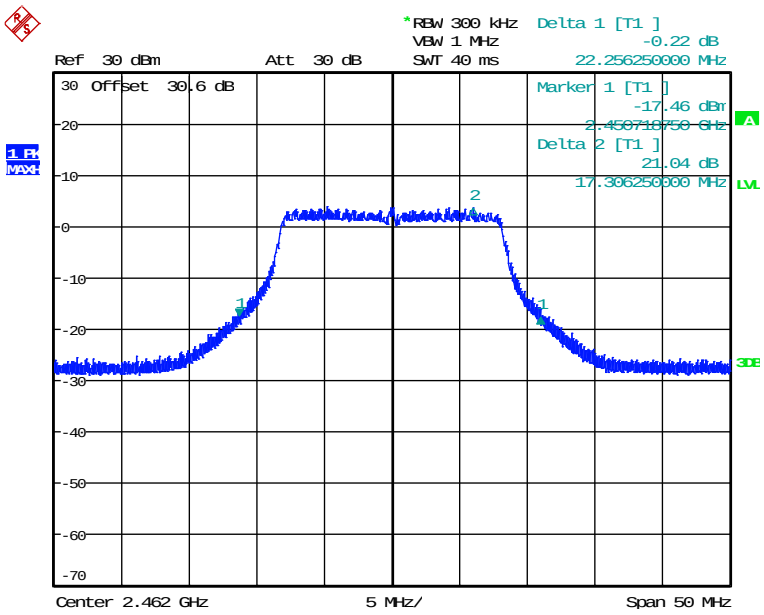


Figure 7.2.2-4: 20 dB OBW - Low Channel



Date: 20.SEP.2014 23:32:55

Figure 7.2.2-5: 20 dB OBW - Middle Channel



Date: 20.SEP.2014 23:44:54

Figure 7.2.2-6: 20 dB OBW - High Channel

Table 7.2.2-1: OBW 802.11n 20 MHz

Frequency [MHz]	Bandwidth (OBW) (MHz)
2412	23.0000
2437	22.8875
2462	22.6000

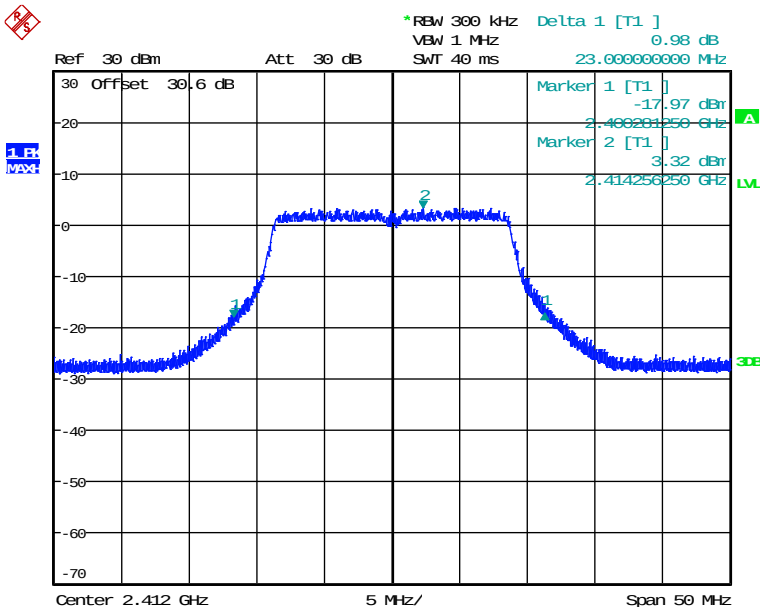


Figure 7.2.2-7: 20 dB BW - Low Channel

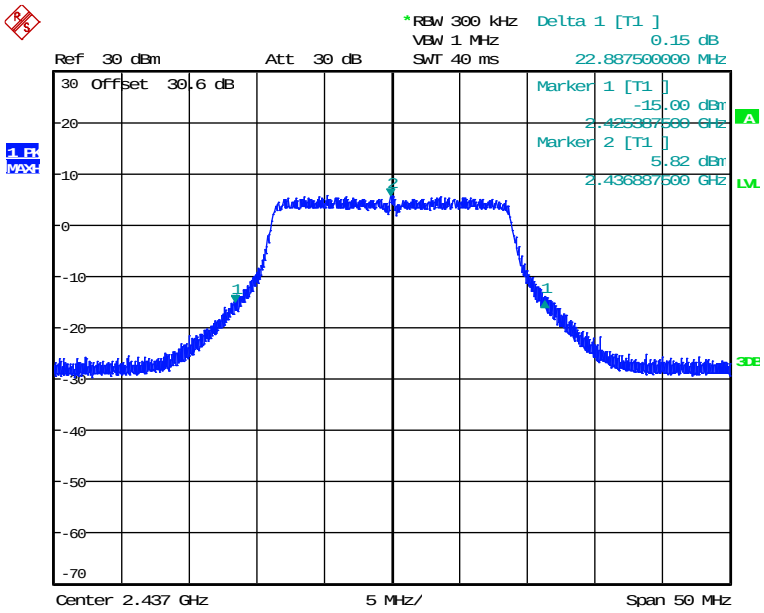


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Figure 7.2.2-8: 20 dB BW - Middle Channel

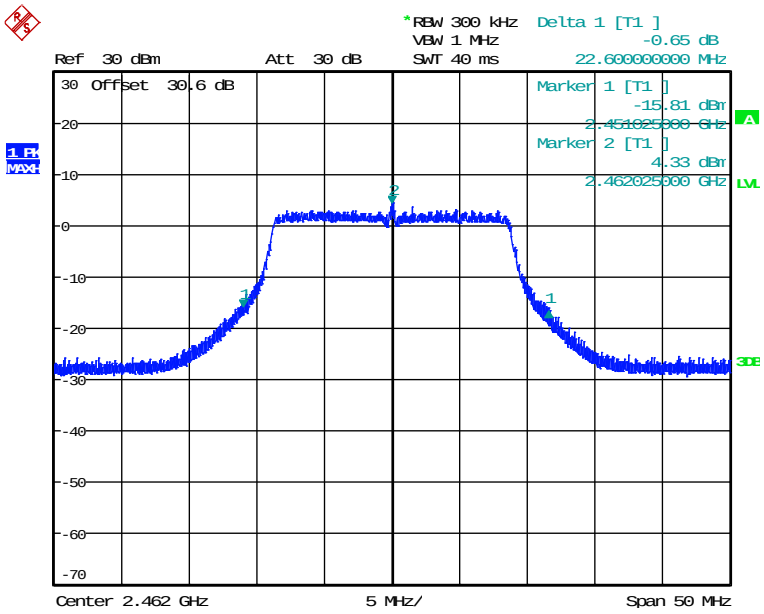

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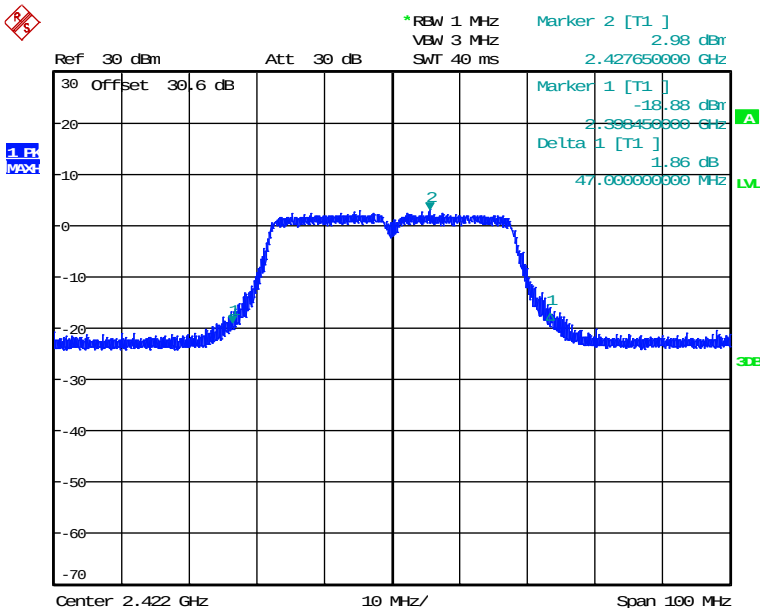
Figure 7.2.2-9: 20 dB BW - High Channel

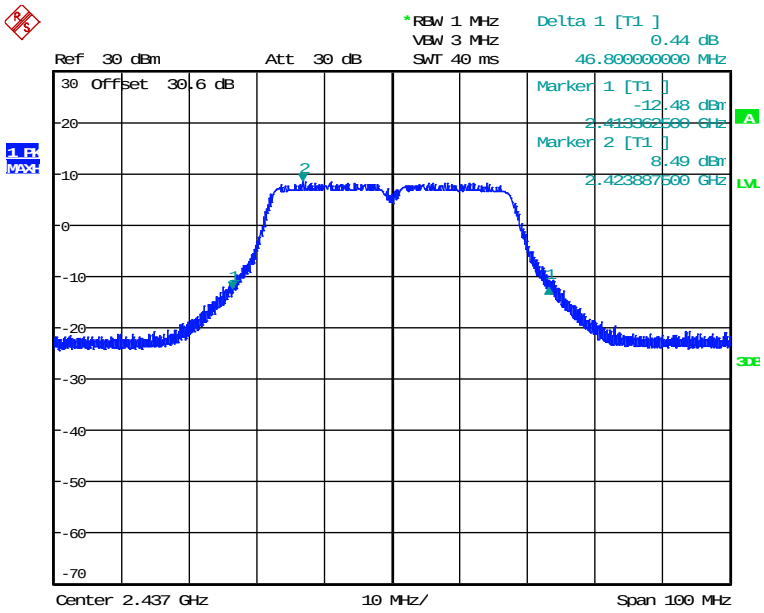
Table 7.2.2-1: OBW 802.11n 40 MHz

Frequency [MHz]	Bandwidth (OBW) (MHz)
2412	47.0000
2437	46.8000
2462	48.2000



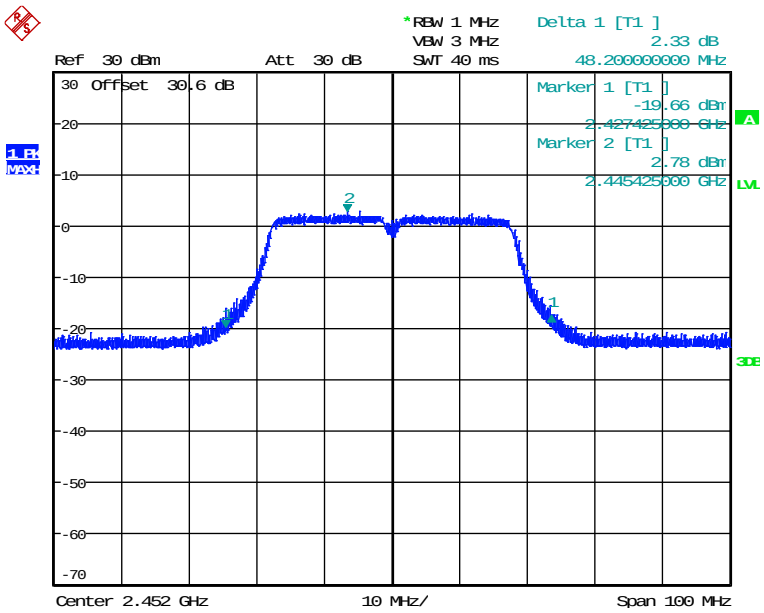
Date: 21.SEP.2014 00:44:57

Figure 7.2.2-10: 20 dB OBW - Low Channel



Date: 21.SEP.2014 00:28:48

Figure 7.2.2-11: 20 dB OBW - Middle Channel



Date: 21.SEP.2014 00:57:43

Figure 7.2.2-12: 20 dB OBW - High Channel

7.3 Maximum Conducted Output Power - FCC Section 15.247(b)(3)

7.3.1 Measurement Procedure (Conducted Method)

The Peak Output Power was measured in accordance with the FCC KDB Publication No. 558074 "Guidance for Performing Compliance Measurements on Digital Transmission Systems (47 CFR 15.247)" Section 9.2.2 Method AVGSA-1 (trace averaging with the EUT transmitting at full power throughout each sweep). The RF output of the equipment under test was directly connected to the input of the spectrum analyzer through suitable attenuation.

7.3.2 Measurement Results

Results are shown below.

802.11b

Table 7.3.2-1: RF Output Power

Frequency [MHz]	Level [dBm]
2412	12.94
2437	15.21
2462	12.96

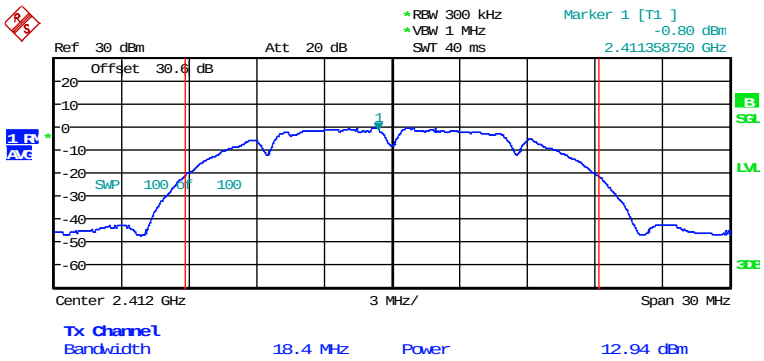


Figure 7.3.2-1: RF Output Power - Low Channel

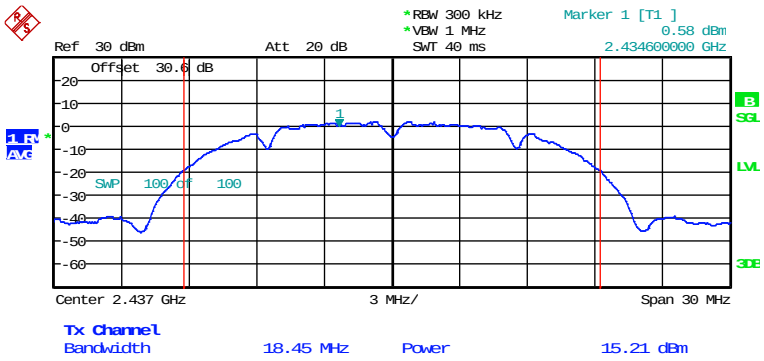


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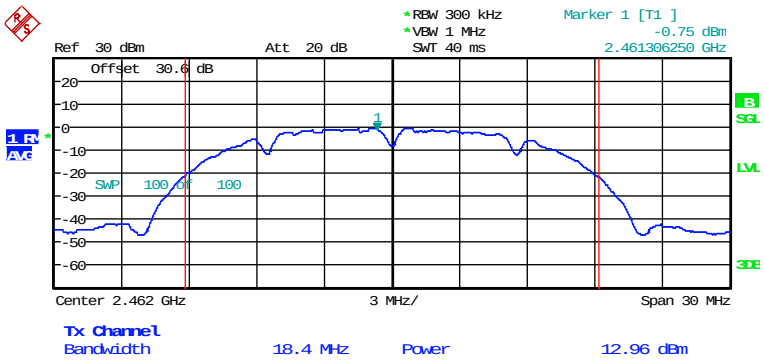
Figure 7.3.2-2: RF Output Power - Middle Channel



Date: 20.SEP.2014 23:12:08

Figure 7.3.2-3: RF Output Power - High Channel

802.11g

Table 7.3.2-2: RF Output Power

Frequency [MHz]	Level [dBm]
2412	10.10
2437	15.16
2462	10.15

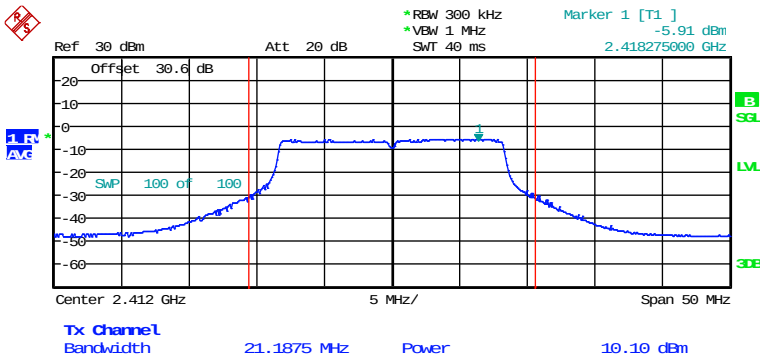


Figure 7.3.2-4: RF Output Power - Low Channel

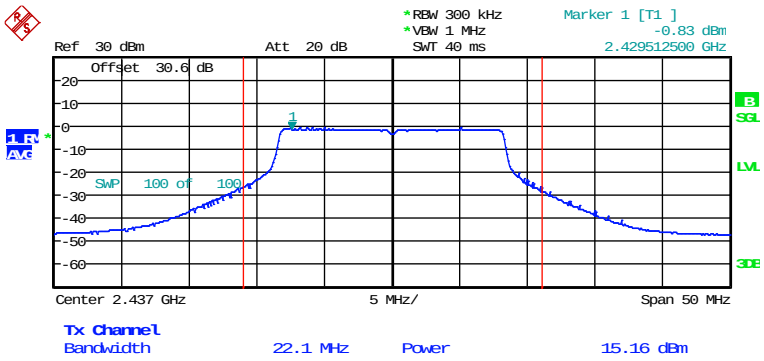


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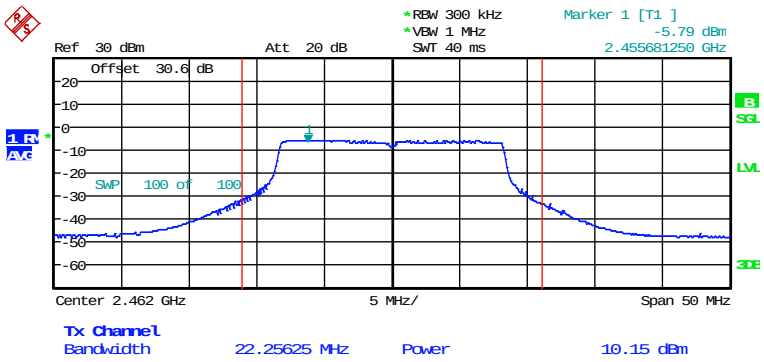
Figure 7.3.2-5: RF Output Power - Middle Channel



Date: 20.SEP.2014 23:46:24

Figure 7.3.2-6: RF Output Power - High Channel

802.11n 20 MHz

Table 7.3.2-3: RF Output Power

Frequency [MHz]	Level [dBm]
2412	10.31
2437	13.03
2462	10.18

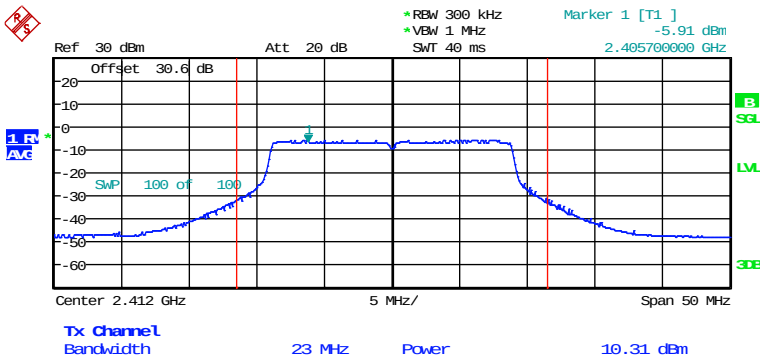


Figure 7.3.2-7: RF Output Power - Low Channel

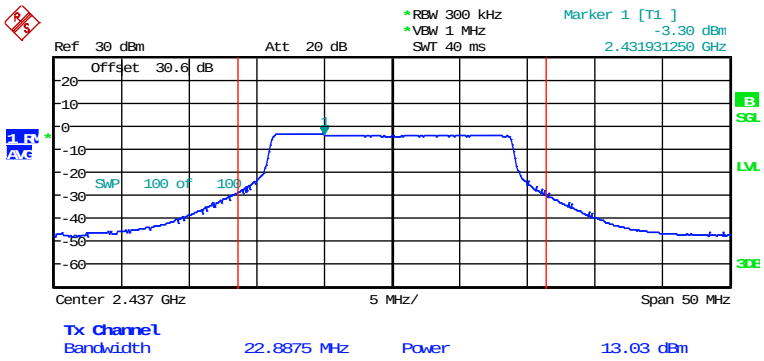


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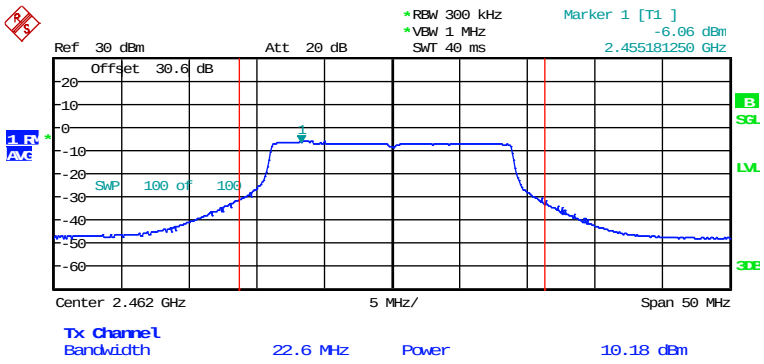
Figure 7.3.2-8: RF Output Power - Middle Channel



Date: 20.SEP.2014 23:53:56

Figure 7.3.2-9: RF Output Power - High Channel

802.11n 40 MHz

Table 7.3.2-4: RF Output Power

Frequency [MHz]	Level [dBm]
2422	4.07
2437	13.10
2452	3.90

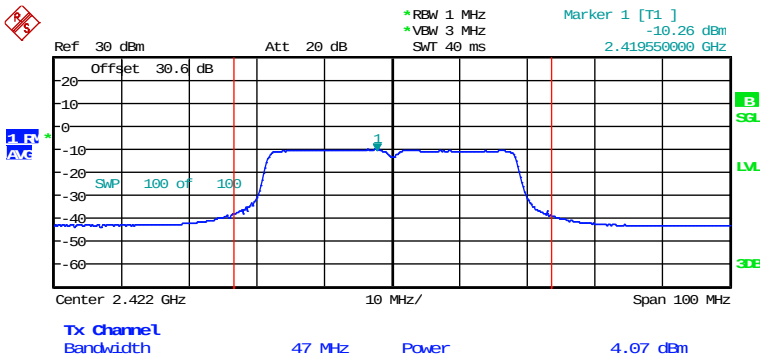


Figure 7.3.2-10: RF Output Power - Low Channel

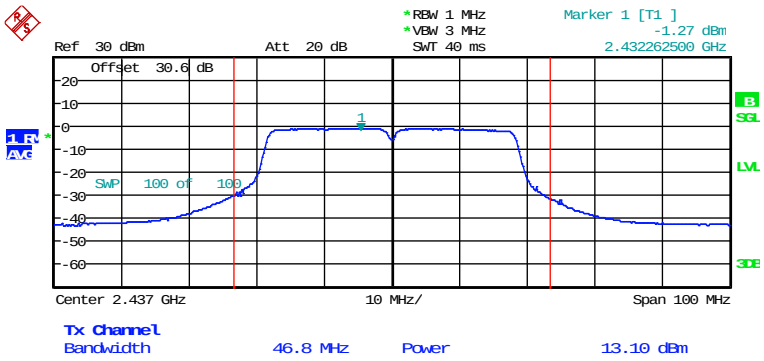


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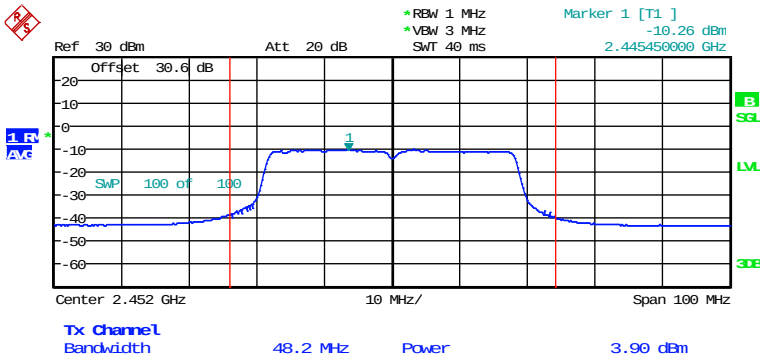
Figure 7.3.2-11: RF Output Power - Middle Channel



Date: 21.SEP.2014 01:00:40

Figure 7.3.2-12: RF Output Power - High Channel

7.4 Band-Edge Compliance and Spurious Emissions-FCC 15.247(d) IC: RSS-210 A8.5

7.4.1 Radiated Spurious Emissions into Restricted Frequency Bands - FCC 15.205, 15.209; IC: RSS-210 2.2, RSS-Gen 7.2.2, 7.2.5

7.4.1.1 Measurement Procedure

Radiated emissions tests were made over the frequency range of 30 MHz to 26 GHz, 10 times the highest fundamental frequency. Each emission found to be in a restricted band as defined by section 15.205, including any emission at the operational band-edge, was compared to the radiated emission limits as defined in section 15.209.

The EUT was rotated through 360° and the receive antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. For frequencies below 1000MHz, quasi-peak measurements were made using a resolution bandwidth RBW of 120 kHz and a video bandwidth VBW of 300 kHz. For frequencies above 1000 MHz, peak measurements are made with RBW of 1 MHz and VBW of 3 MHz. Average measurements are performed in the linear scale using VBW of 30 Hz over a 5 second sweep.

7.4.1.2 Measurement Results

Radiated band-edge and spurious emissions found in the restricted frequency bands of 30MHz to 26 GHz are reported in the tables below.

802.11b

Table 7.4.1.2-1: Radiated Spurious Emissions Tabulated Data

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel = 2412 MHz										
2390	72.17	58.91	V	-8.00	64.17	50.91	74.0	54.0	9.8	3.1
4824	54.00	51.82	H	-0.21	53.79	51.61	74.0	54.0	20.2	2.4
4824	54.63	51.88	V	-0.21	54.42	51.67	74.0	54.0	19.6	2.3
Middle Channel = 2437 MHz										
4874	54.58	51.35	H	-0.06	54.52	51.29	74.0	54.0	19.5	2.7
4874	55.82	53.79	V	-0.06	55.76	53.73	74.0	54.0	18.2	0.3
High Channel = 2462 MHz										
2483.5	69.05	55.07	H	-7.61	61.44	47.46	74.0	54.0	12.6	6.5
2483.5	73.36	57.78	V	-7.61	65.75	50.17	74.0	54.0	8.2	3.8
4924	53.76	50.35	V	0.09	53.85	50.44	74.0	54.0	20.1	3.6
4924	55.16	52.59	H	0.09	55.25	52.68	74.0	54.0	18.7	1.3

Note: All emissions above 4924 MHz were attenuated below the limits and the noise floor of the measurement equipment.

802.11g

Table 7.4.1.2-2: Radiated Spurious Emissions Tabulated Data

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel = 2412 MHz										
2390	68.11	55.35	H	-8.00	60.11	47.35	74.0	54.0	13.9	6.6
2390	77.75	60.94	V	-8.00	69.75	52.94	74.0	54.0	4.2	1.1
4824	48.58	35.53	H	-0.21	48.37	35.32	74.0	54.0	25.6	18.7
4824	48.40	35.87	V	-0.21	48.19	35.66	74.0	54.0	25.8	18.3
Middle Channel = 2437 MHz										
4874	55.40	40.16	H	-0.06	55.34	40.10	74.0	54.0	18.7	13.9
4874	52.86	39.45	V	-0.06	52.80	39.39	74.0	54.0	21.2	14.6
High Channel = 2462 MHz										
2483.5	68.71	55.34	H	-7.61	61.10	47.73	74.0	54.0	12.9	6.3
2483.5	80.94	61.16	V	-7.61	73.33	53.55	74.0	54.0	0.7	0.4
4924	50.36	37.40	H	0.09	50.45	37.49	74.0	54.0	23.5	16.5
4924	48.75	36.21	V	0.09	48.84	36.30	74.0	54.0	25.2	17.7

Note: All emissions above 4924 MHz were attenuated below the limits and the noise floor of the measurement equipment.

802.11n 20 MHz

Table 7.4.1.2-3: Radiated Spurious Emissions Tabulated Data

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel = 2412 MHz										
2390	64.62	55.86	H	-8.00	56.62	47.86	74.0	54.0	17.4	6.1
2390	80.57	61.70	V	-8.00	72.57	53.70	74.0	54.0	1.4	0.3
4824	48.31	34.82	H	-0.21	48.10	34.61	74.0	54.0	25.9	19.4
4824	48.00	35.24	V	-0.21	47.79	35.03	74.0	54.0	26.2	19.0
Middle Channel = 2437 MHz										
4874	54.74	39.72	H	-0.06	54.68	39.66	74.0	54.0	19.3	14.3
4874	53.15	38.29	V	-0.06	53.09	38.23	74.0	54.0	20.9	15.8
High Channel = 2462 MHz										
2483.5	67.94	55.20	H	-7.61	60.33	47.59	74.0	54.0	13.7	6.4
2483.5	79.08	61.31	V	-7.61	71.47	53.70	74.0	54.0	2.5	0.3
4924	49.30	37.06	H	0.09	49.39	37.15	74.0	54.0	24.6	16.8
4924	47.57	35.36	V	0.09	47.66	35.45	74.0	54.0	26.3	18.5

Note: All emissions above 4924 MHz were attenuated below the limits and the noise floor of the measurement equipment.

802.11n 40 MHz

Table 7.4.1.2-4: Radiated Spurious Emissions Tabulated Data

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel = 2422 MHz										
2390	80.26	61.57	V	-8.00	72.26	53.57	74.0	54.0	1.7	0.4
4844	46.15	33.68	H	-0.15	46.00	33.53	74.0	54.0	28.0	20.5
4844	44.90	33.43	V	-0.15	44.75	33.28	74.0	54.0	29.3	20.7
Middle Channel = 2437 MHz										
4874	49.38	36.84	H	-0.06	49.32	36.78	74.0	54.0	24.7	17.2
4874	47.75	35.51	V	-0.06	47.69	35.45	74.0	54.0	26.3	18.6
High Channel = 2452 MHz										
2483.5	70.13	55.94	H	-7.61	62.52	48.33	74.0	54.0	11.5	5.7
2483.5	81.26	61.37	V	-7.61	73.65	53.76	74.0	54.0	0.3	0.2
4904	46.26	33.40	H	0.03	46.29	33.43	74.0	54.0	27.7	20.6
4904	45.48	33.05	V	0.03	45.51	33.08	74.0	54.0	28.5	20.9

Note: All emissions above 4904 MHz were attenuated below the limits and the noise floor of the measurement equipment.

7.4.1.3 Sample Calculation:

$R_C = R_U + CF_T$

Where:

CF_T	=	Total Correction Factor (AF+CA+AG)-DC (Average Measurements Only)
R_U	=	Uncorrected Reading
R_C	=	Corrected Level
AF	=	Antenna Factor
CA	=	Cable Attenuation
AG	=	Amplifier Gain
DC	=	Duty Cycle Correction Factor

Example Calculation: Peak
Corrected Level: 72.17 - 8.00 = 64.17 dBµV/m
Margin: 74 dBµV/m – 64.17 dBµV/m = 9.8 dB

Example Calculation: Average
Corrected Level: 58.91 - 8.00= 50.91 dBµV/m
Margin: 54 dBµV/m – 50.91 dBµV/m = 3.1 dB

7.5 Power Line Conducted Emissions – FCC: Section 15.207

7.5.1 Measurement Procedure

ANSI C63.4 sections 6 and 7 were the guiding documents for this evaluation. Conducted emissions were performed from 150 kHz to 30 MHz with the spectrum analyzer's resolution bandwidth set to 9 kHz and the video bandwidth set to 30 kHz. The calculation for the conducted emissions is as follows:

Corrected Reading = Analyzer Reading + LISN Loss + Cable Loss
Margin = Applicable Limit - Corrected Reading

7.5.2 Measurement Results

Results are shown below.

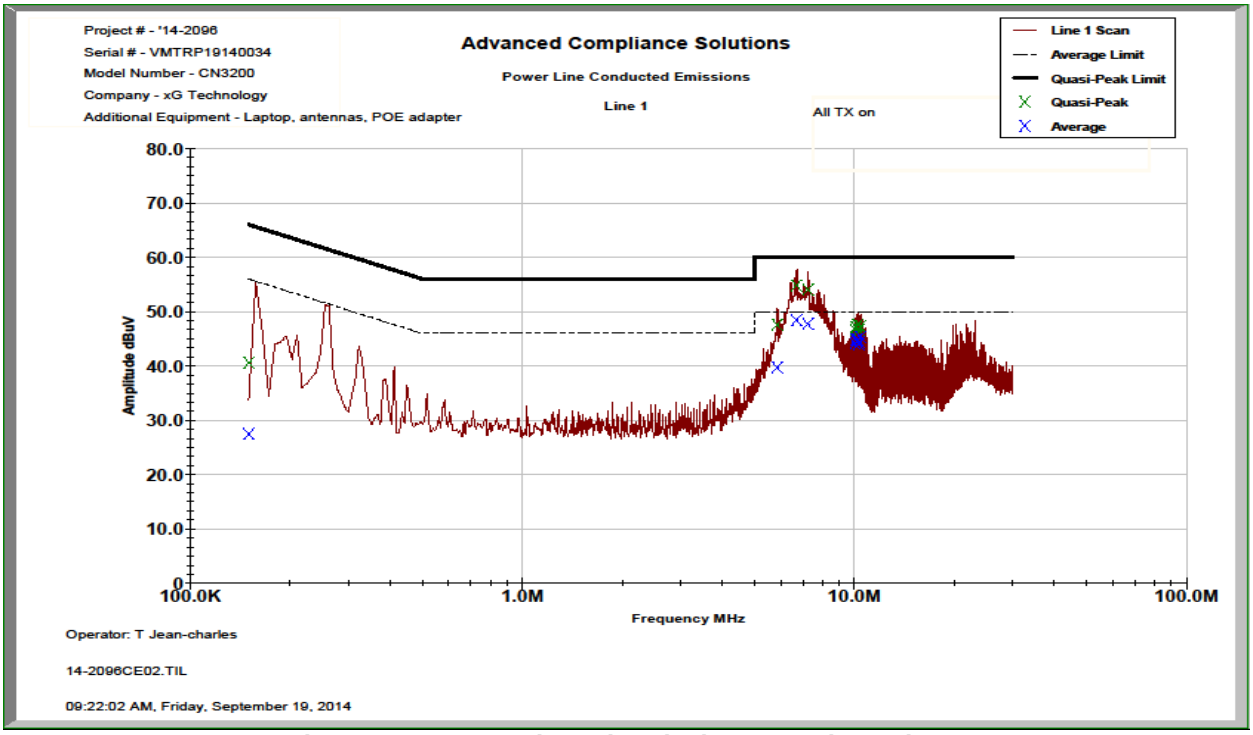


Figure 7.5.2-1: Conducted Emissions Results – Line 1

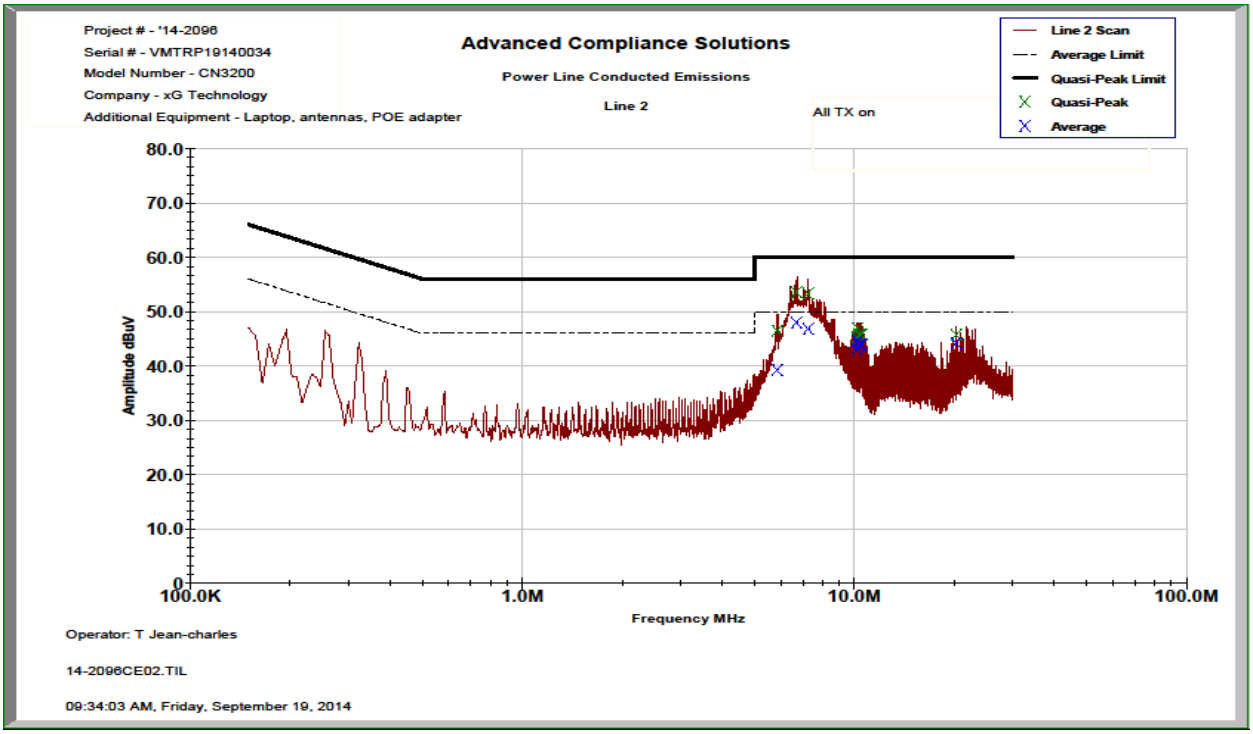


Figure 7.5.2-2: Conducted Emissions Results – Line 2

Table 7.5.2-1: Conducted EMI Results

☒ Line 1 ☒ Line 2 ☐ Line 3 ☐ Line 4
☒ To Ground ☐ Floating
☐ Telecom Port ____
☒ dBµV ☐ dBµA

Plot Number: 14-2096CE02
Power Supply Description: 48V POE

Frequency (MHz)	Uncorrected Reading		Total Correction Factor (dB)	Corrected Level		Limit		Margin (dB)	
	Quasi-Peak	Average		Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
Line 1									
0.150505	30.492	17.361	10.10	40.59	27.46	65.97	55.97	25.4	28.5
5.86476	37.188	29.341	10.37	47.56	39.71	60.00	50.00	12.4	10.3
6.70472	44.409	38.003	10.41	54.82	48.41	60.00	50.00	5.2	1.6
7.25125	43.53	37.226	10.41	53.94	47.63	60.00	50.00	6.1	2.4
10.0576	36.081	33.55	10.59	46.67	44.14	60.00	50.00	13.3	5.9
10.1198	36.606	34.282	10.59	47.20	44.87	60.00	50.00	12.8	5.1
10.2434	37.055	34.204	10.59	47.65	44.80	60.00	50.00	12.4	5.2
10.3148	36.086	33.44	10.60	46.68	44.04	60.00	50.00	13.3	6.0
10.3728	36.033	33.78	10.60	46.63	44.38	60.00	50.00	13.4	5.6
10.4404	36.653	34.724	10.60	47.25	45.33	60.00	50.00	12.7	4.7
Line 2									
5.86481	36.142	28.908	10.33	46.47	39.24	60.00	50.00	13.5	10.8
6.70147	43.22	37.56	10.37	53.59	47.93	60.00	50.00	6.4	2.1
7.26267	42.862	36.406	10.36	53.22	46.76	60.00	50.00	6.8	3.2
10.1838	34.799	32.536	10.55	45.35	43.08	60.00	50.00	14.7	6.9
10.2437	36.403	34.031	10.55	46.95	44.58	60.00	50.00	13.0	5.4
10.3114	35.215	33.344	10.55	45.77	43.90	60.00	50.00	14.2	6.1
10.3761	35.235	33.157	10.55	45.79	43.71	60.00	50.00	14.2	6.3
10.4404	35.322	33.507	10.56	45.88	44.06	60.00	50.00	14.1	5.9
10.504	35.214	33.483	10.56	45.77	44.04	60.00	50.00	14.2	6.0
20.2579	34.909	33.383	10.85	45.76	44.23	60.00	50.00	14.2	5.8

8 CONCLUSION

In the opinion of ACS, Inc. the CN3200W1, manufactured by xG Technology, Inc meets the requirements of FCC Part 15 subpart C for the tests reported in this document.

END REPORT