

Certification Test Report

**FCC ID: U90-SM240
IC: 7084A-SM240**

**FCC Rule Part: 15.247
IC Radio Standards Specification: RSS-210**

ACS Report Number: 12-2121.W06.1A

**Manufacturer: Synapse Wireless, Inc.
Model: SM240**

**Test Begin Date: September 24, 2012
Test End Date: December 18, 2012**

Report Issue Date: January 08, 2013



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 ACCLASS, ANSI, or any agency of the Federal Government.

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This report contains 32 pages

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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 and Industry Canada's Radio Standards Specification RSS-210 for a modular approval.

1.2 Product description

The SM240 is an IEEE 802.15.4 compliant 2.4 GHz wireless module.

Technical Information:

Band of Operation: 2405 MHz - 2480 MHz
Number of Channels: 16
Modulation Format: O-QPSK
Antenna Type/Gain: Printed Inverted-F Antenna, 0 dBi
Operating Voltage: 5 VDC

Manufacturer Information:

Synapse Wireless Inc
500 Discovery Dr
Huntsville, AL 35806

Test Sample Serial Number(s): 5DC89B, 5DC86C

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

1.3 Test Methodology and Considerations

The SM240 was tested while integrated on a host board, which provides the printed inverted-F antenna. The host board was on idle mode during the evaluation.

For the radiated emissions evaluation, preliminary measurements were performed with the SM240 set in three orthogonal orientations. The data is reported for the orientation leading to the highest emissions.

The RF conducted measurements were performed on a sample providing a u. FL. connector at the antenna port.

The EUT was programmed using the Synapse Portal software. RF power settings to which the EUT was configured are listed below:

2405 MHz: 6
2440 MHz: 6
2480 MHz: 15

The EUT was also evaluated for unintentional emissions. The results are documented separately in a Verification Report.

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 #: 587595
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:

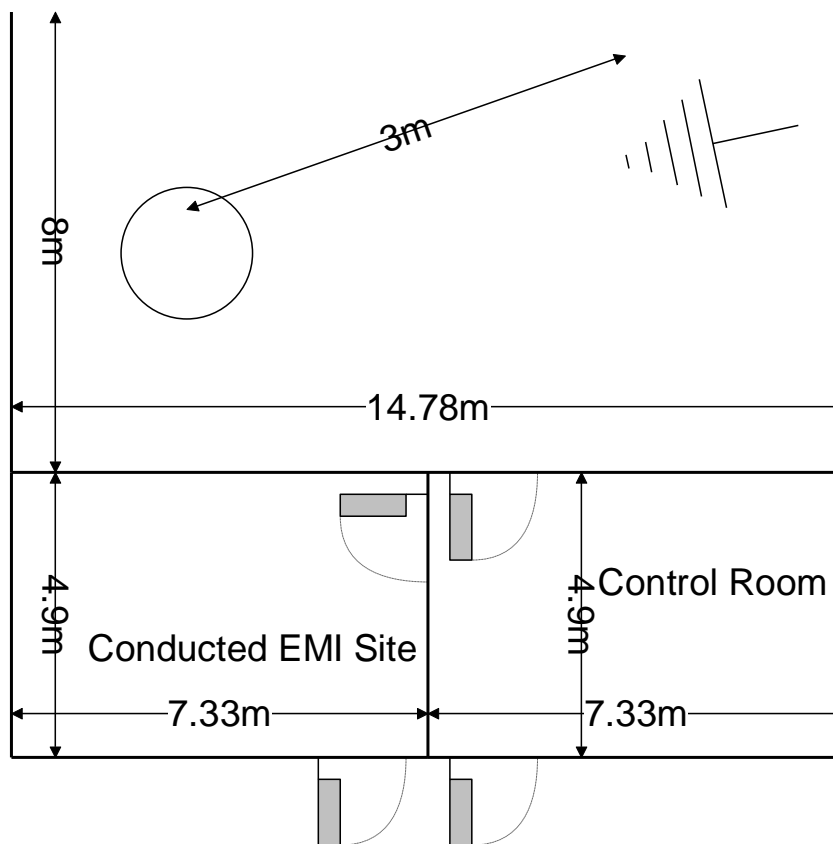
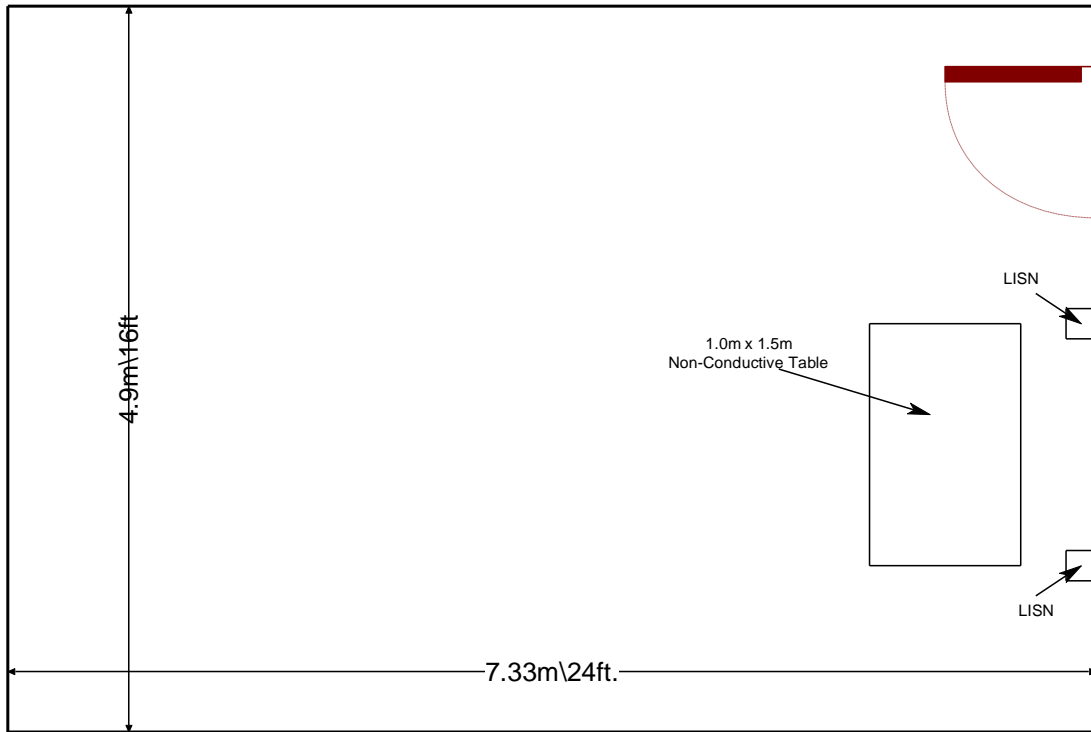


Figure 2.3.1-1: Semi-Anechoic Chamber Test Site

2.3.2 Conducted Emissions Test Site Description

The dimensions of the shielded conducted room are 7.3 x 4.9 x 3 m³. 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:



2.3.2-1: AC Mains Conducted EMI Site

Figure

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
- ❖ US Code of Federal Regulations (CFR): Title 47, Part 2, Subpart J: Equipment Authorization Procedures, 2012
- ❖ US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 2012
- ❖ KDB Publication No. 558074 – Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247, October 2012.
- ❖ Industry Canada Radio Standards Specification: RSS-210 - Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment, Issue 8, December 2010.
- ❖ Industry Canada Radio Standards Specification: RSS-GEN – General Requirements and Information for the Certification of Radiocommunication Equipment, Issue 3, December 2010.

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
523	Agilent	E7405	Spectrum Analyzers	MY45103293	1/5/2011	1/5/2013
524	Chase	CBL6111	Antennas	1138	1/7/2011	1/7/2013
2006	EMCO	3115	Antennas	2573	3/2/2011	3/2/2013
2008	COM-Power	AH-826	Antennas	81009	NCR	NCR
2011	Hewlett-Packard	HP 8447D	Amplifiers	2443A03952	1/2/2012	1/2/2013
2022	EMCO	LISN3825/2R	LISN	1095	8/19/2011	8/19/2013
2037	ACS Boca	Chamber EMI Cable Set	Cable Set	2037	1/2/2012	1/2/2013
2044	QMI	N/A	Cables	2044	1/2/2012	1/2/2013
2045	ACS Boca	Conducted Cable Set	Cable Set	2045	1/2/2012	1/2/2013
2064	CIR Q-TEL	FHT/22-10K-13/50-3A/3A	Filter	9	12/30/2011	12/30/2012
2070	Mini Circuits	VHF-8400+	Filter	2070	1/19/2012	1/19/2013
2072	Mini Circuits	VHF-3100+	Filter	30737	1/19/2012	1/19/2013
2075	Hewlett Packard	8495B	Attenuators	2626A11012	1/2/2012	1/2/2013
2076	Hewlett Packard	HP5061-5458	Cables	2076	1/2/2012	1/2/2013
2082	Teledyne Storm Products	90-010-048	Cables	2082	5/31/2012	5/31/2013
2086	Merrimac	FAN-6-10K	Attenuators	23148-83-1	12/30/2011	12/30/2012
2089	Agilent Technologies, Inc.	83017A	Amplifiers	3123A00214	12/22/2011	12/22/2012
2091	Agilent Technologies, Inc.	8573A	Spectrum Analyzers	2407A03233	12/12/2011	12/12/2013
2095	ETS Lindgren	TILE4! - Version 4.2.A	Software	85242	NCR	NCR

NCR=No Calibration Required

5 SUPPORT EQUIPMENT

Table 5-1: EUT and Support Equipment (Radiated and Power Line Conducted Setup)

Item #	Type Device	Manufacturer	Model/Part #	Serial #
1	EUT	Synapse Wireless, Inc.	SM240	5DC89B
2	Evaluation Board	Synapse Wireless, Inc	500409-09CLF	Rev CtoD
3	5 V Power Supply	V-Infinity	HK-C113-A05	0410C

Table 5-2: EUT and Support Equipment (RF Conducted Emissions Setup)

Item #	Type Device	Manufacturer	Model/Part #	Serial #
1	EUT	Synapse Wireless, Inc.	SM240	5DC86C
2	Evaluation Board	Synapse Wireless, Inc	500202.01A	90760199
3	9 V Power Supply	Tamura Corp.	318AS09035	0705

Table 5-3: Cable Description (Radiated and Power Line Conducted Setup)

Cable #	Cable Type	Length	Shield	Termination
A	Power	1.9m	No	Evaluation Board to Power Supply
B	Extension Cord	2.7m	No	Power Supply to AC Mains
C	Power	0.3m	No	Lopped Back

Table 5-4: Cable Description (RF Conducted Emissions Setup)

Cable #	Cable Type	Length	Shield	Termination
A	Power	0.25m	No	Evaluation Board to EUT
B	Power	1.95	No	Power Supply to AC Mains

6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM

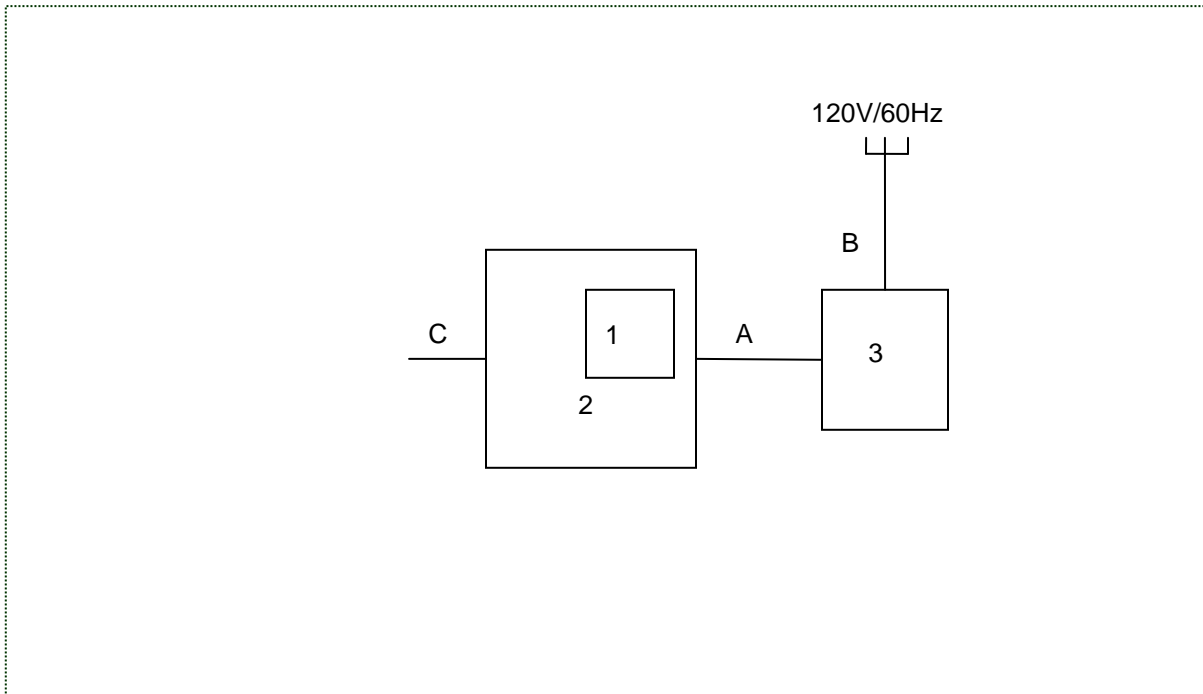


Figure 6-1: Radiated and Power Line Emissions Test Setup

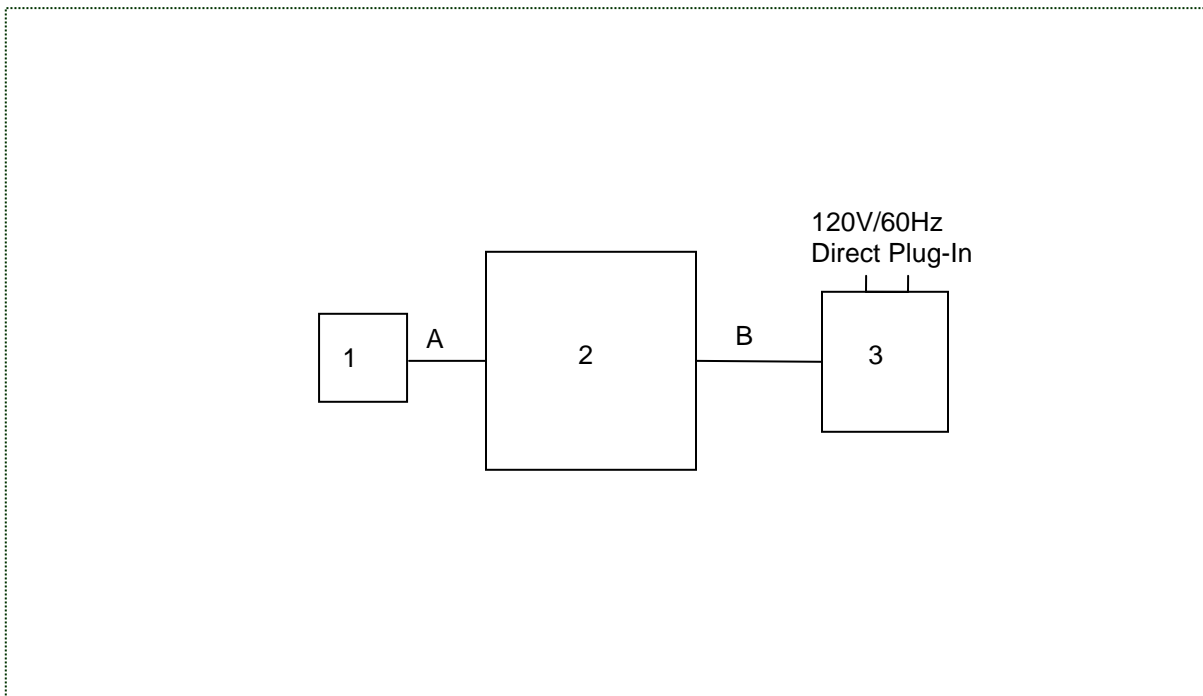


Figure 6-2: RF Conducted Emissions Test Setup

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 SM240 does not provide a standard connector for antenna connection but uses a PCB inverted-F antenna which is incorporated into the OEM's PCB onto which the module is mounted, thus meeting the requirements of 15.203.

7.2 6 dB Bandwidth - FCC: Section 15.247(a)(2) 99% Bandwidth IC: RSS-210 A8.2(a)

7.2.1 Measurement Procedure

The 6dB bandwidth was measured in accordance with the FCC KDB Publication No. 558074 "Guidance for Performing Compliance Measurements on Digital Transmission Systems (47 CFR 15.247)" Option 1. The RBW of the spectrum analyzer was set to 30 kHz and VBW 100 kHz. Span was set large enough to capture the entire emissions and >> RBW.

The 99% occupied bandwidth was measured with the spectrum analyzer span set to fully display the emission, including the emissions skirts. The RBW was to 1% of the span. The occupied 99% bandwidth was measured by using a delta marker at the lower and upper frequencies leading to 0.5% of the total power.

7.2.2 Measurement Results

Results are shown below.

Table 7.2.2-1: 6dB / 99% Bandwidth

Frequency [MHz]	6dB Bandwidth [kHz]	99% Bandwidth (kHz)
2405	1525	2490
2440	1540	2540
2480	1505	2560

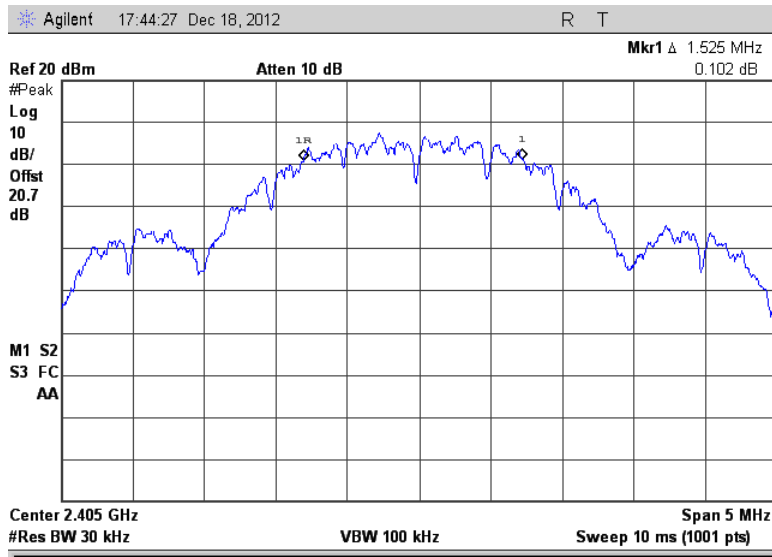


Figure 7.2.2-1: 6dB BW - Low Channel

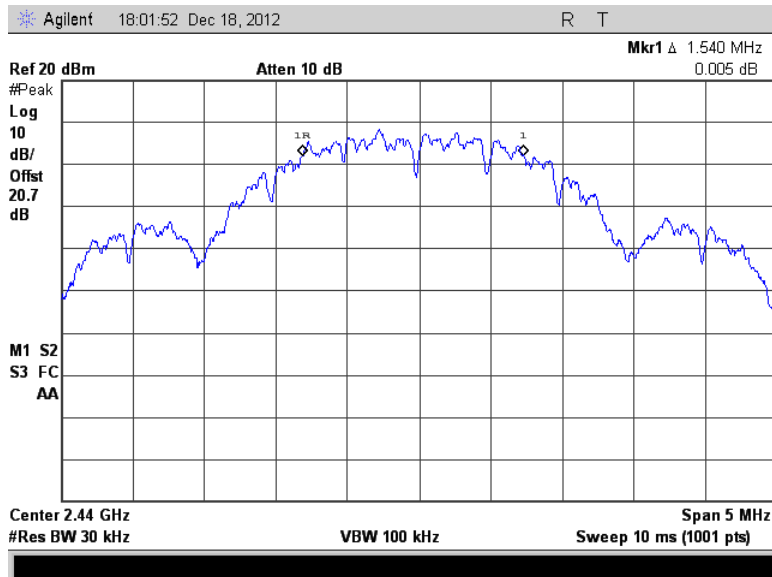


Figure 7.2.2-2: 6dB BW - Middle Channel

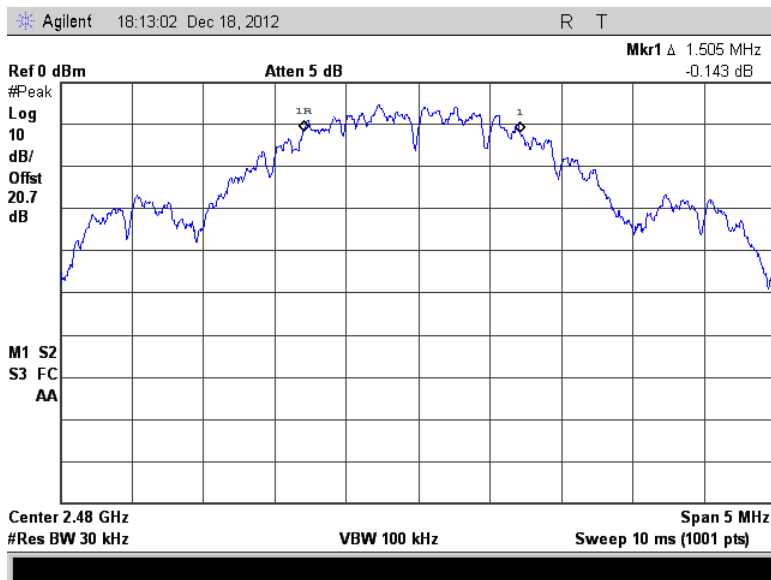


Figure 7.2.2-3: 6dB BW - High Channel

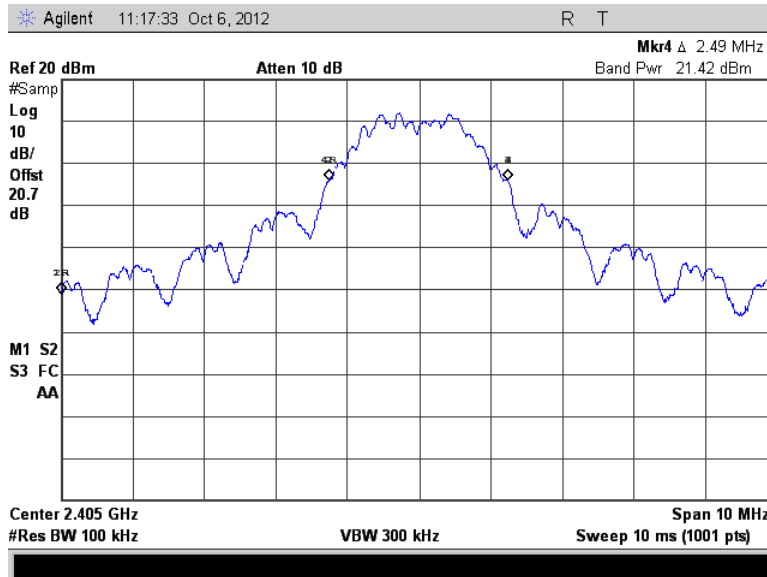


Figure 7.2.2-4: 99% OBW - Low Channel

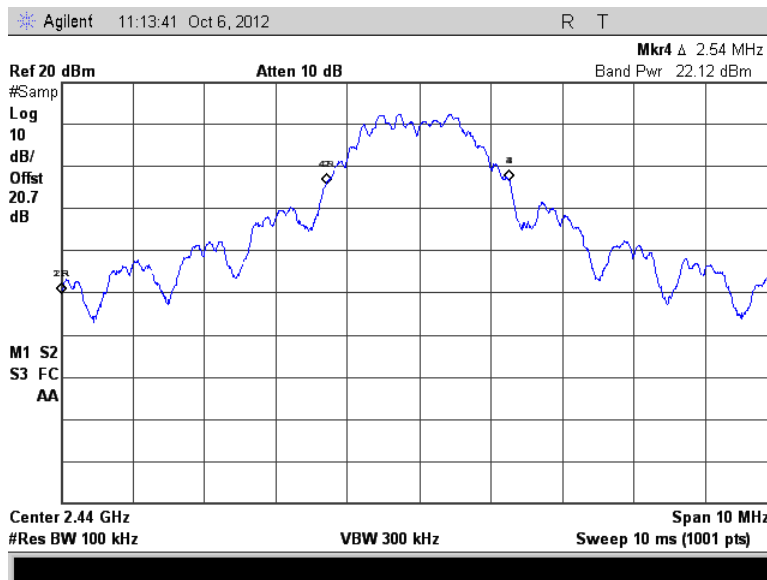


Figure 7.2.2-5: 99% OBW - Middle Channel

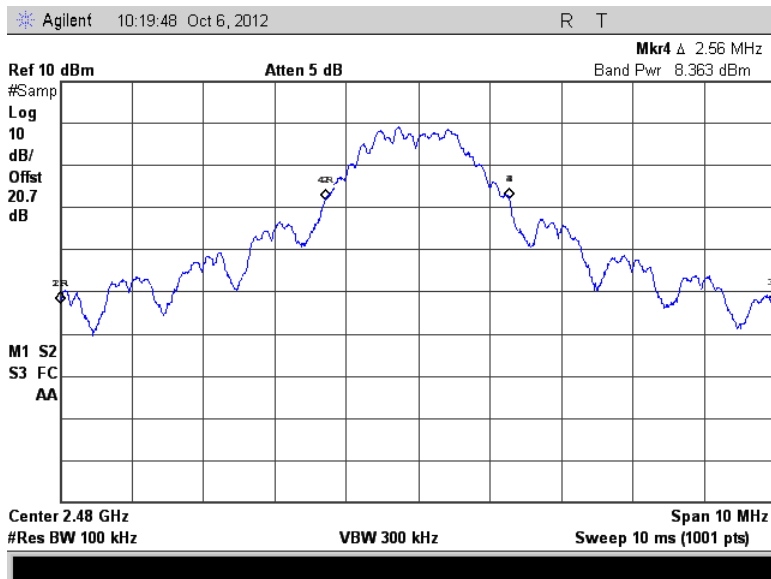


Figure 7.2.2-6: 99% OBW - High Channel

7.3 Peak Output Power - FCC Section 15.247(b)(3) IC: RSS-210 A8.4(4)

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)” Measurement Procedure “Maximum Peak Conducted Output Power Option 2”. The RF output of the equipment under test was directly connected to the input of the Spectrum Analyzer through suitable attenuation. Data was collected with the EUT operating at maximum power per channelization.

7.3.2 Measurement Results

Results are shown below.

Table 7.3.2-1: RF Output Power

Frequency [MHz]	Level [dBm]
2405	17.720
2440	18.410
2480	4.714

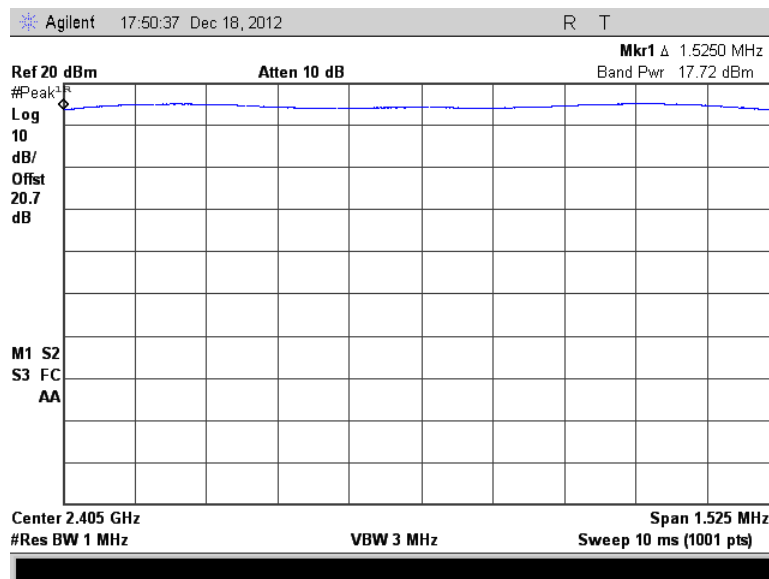


Figure 7.3.2-1: RF Output Power - Low Channel

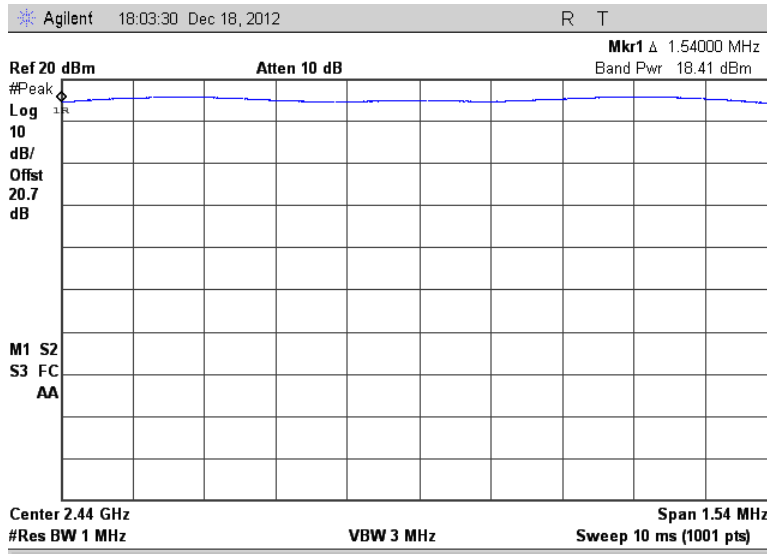


Figure 7.3.2-2: RF Output Power - Middle Channel

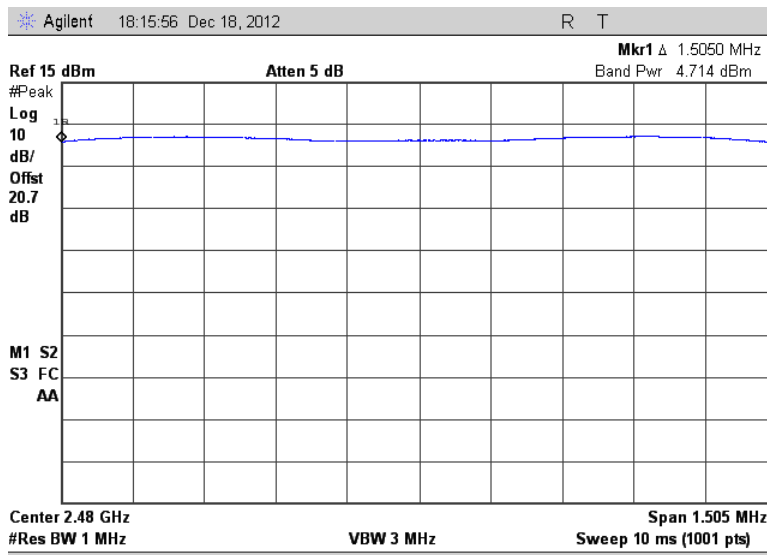


Figure 7.3.2-3: RF Output Power - High Channel

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

7.4.1 Band-Edge Compliance of RF Conducted Emissions

7.4.1.1 Measurement Procedure

The RF conducted band edge emissions were measured in accordance with FCC KDB 558074 D01 DTS Meas Guidance v02. The RF output of the equipment under test was directly connected to the input of the spectrum analyzer applying suitable attenuation. The Resolution Bandwidth (RBW) of the spectrum analyzer was set to 100 kHz. The Video Bandwidth (VBW) was set to ≥ 300 kHz. Span was set to 1.5 times the DTS bandwidth. The trace was set to max hold with a peak detector active. The resulting spectrum analyzer peak level was used to determine the reference level with respect to the 20 dBc limit. For each measurement the spectrum analyzer's RBW was set to 100 kHz, and the VBW was set to 300 kHz.

7.4.1.2 Measurement Results

Results are shown below.

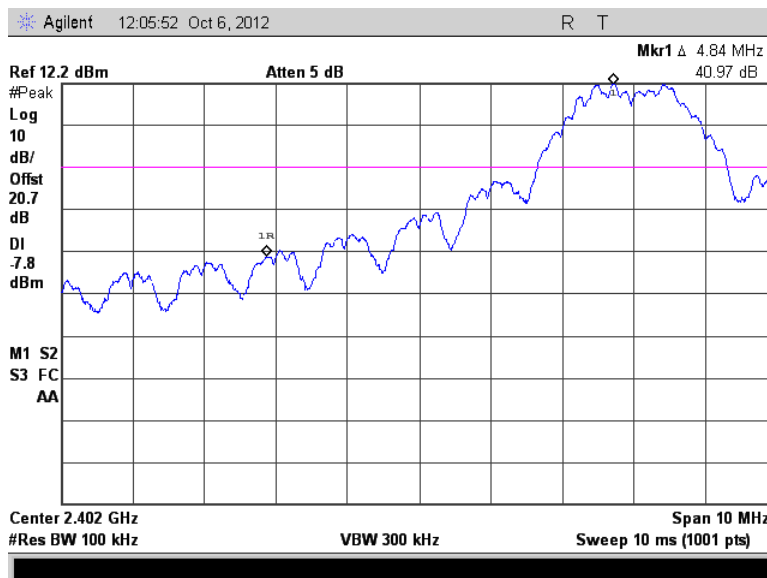


Figure 7.4.1.2-1: Lower Band-edge

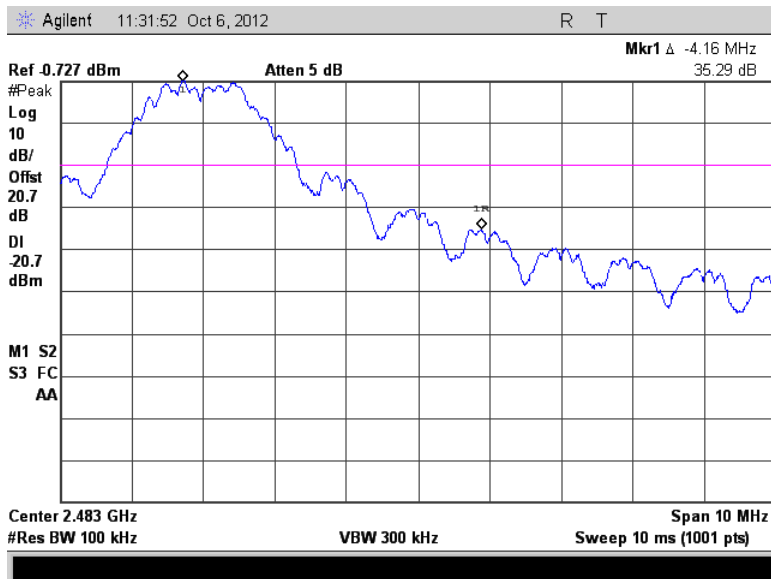


Figure 7.4.1.2-2: Upper Band-edge

7.4.2 RF Conducted Spurious Emissions

7.4.2.1 Measurement Procedure

The RF Conducted Spurious Emissions were measured in accordance with the FCC KDB Publication No. 558074 "Guidance for Performing Compliance Measurements on Digital Transmission Systems (47 CFR 15.247)". The RF output port of the equipment under test was directly connected to the input of the spectrum analyzer. The Resolution Bandwidth (RBW) of the spectrum analyzer was set to 100 kHz. The Video Bandwidth (VBW) was set to ≥ 300 kHz. Span was set to 1.5 times the DTS bandwidth. The trace was set to max hold with a peak detector active. The resulting spectrum analyzer peak level was used to determine the reference level with respect to the 20 dBc limit.

The EUT was investigated for conducted spurious emissions from 30MHz to 26 GHz, 10 times the highest fundamental frequency. Measurements were made at the low, center and high channels of the EUT. For each measurement, the spectrum analyzer's RBW was set to 100 kHz and the VBW was set to 300 kHz. The peak Max Hold function of the analyzer was utilized.

7.4.2.2 Measurement Results

Results are shown below.

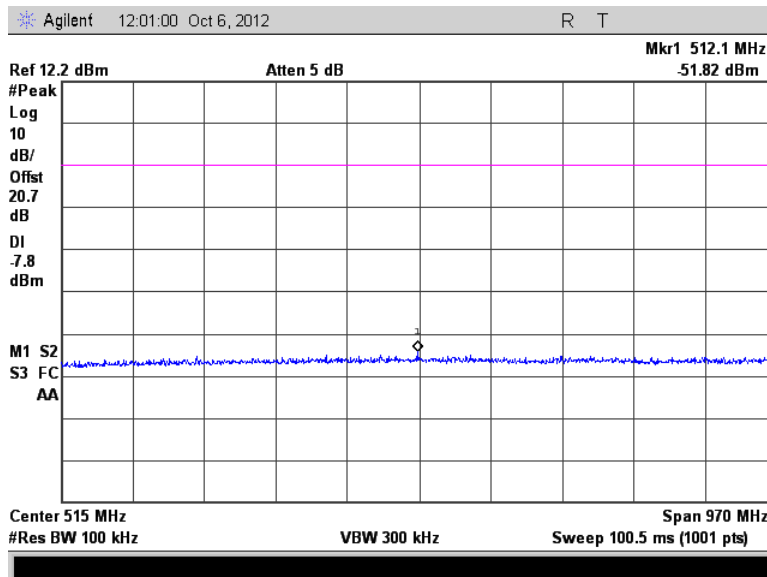


Figure 7.4.2.2-1: 30 MHz – 1 GHz – Low Channel

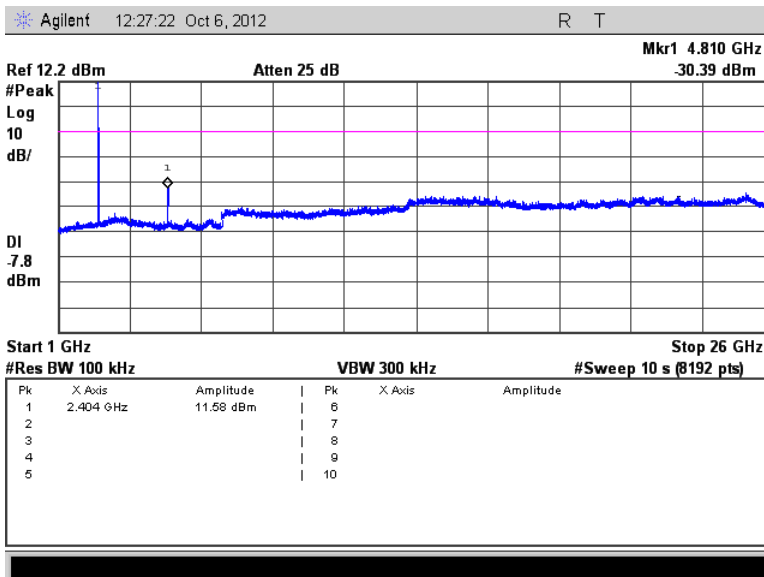


Figure 7.4.2.2-2: 1 GHz – 26 GHz – Low Channel

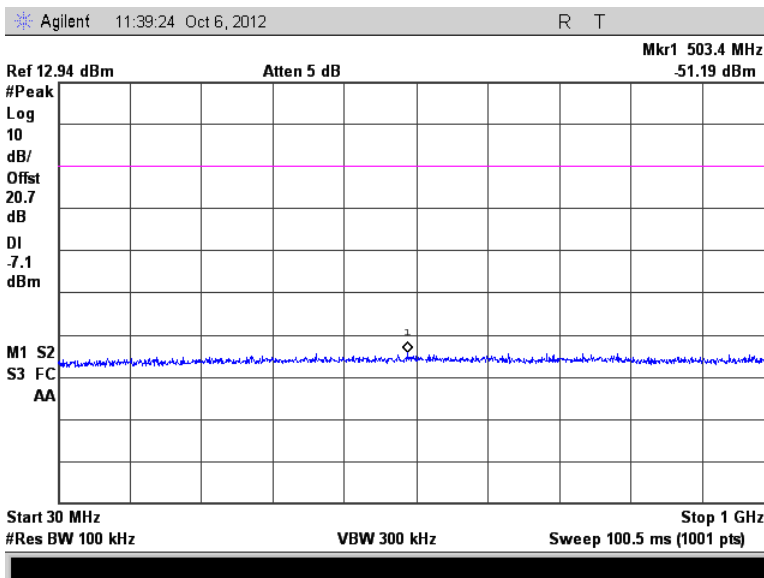


Figure 7.4.2.2-3: 30 MHz – 1 GHz – Middle Channel

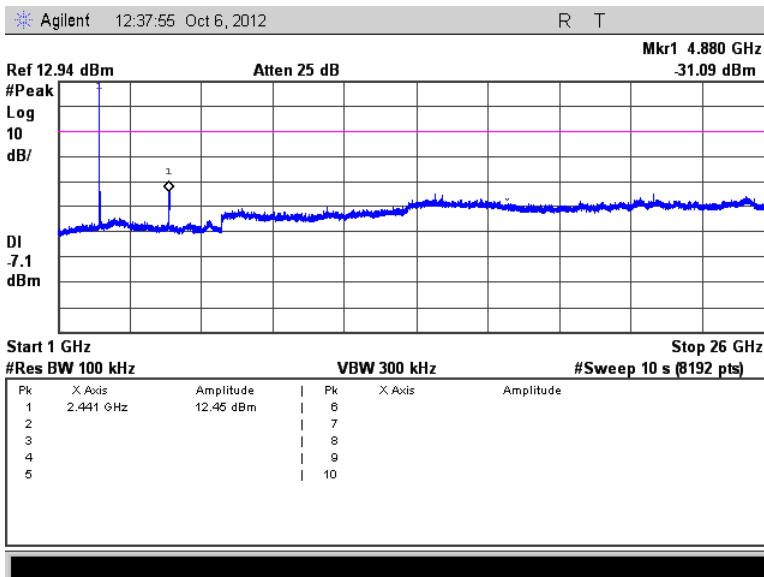


Figure 7.4.2.2-4: 1 GHz – 26 GHz – Middle Channel

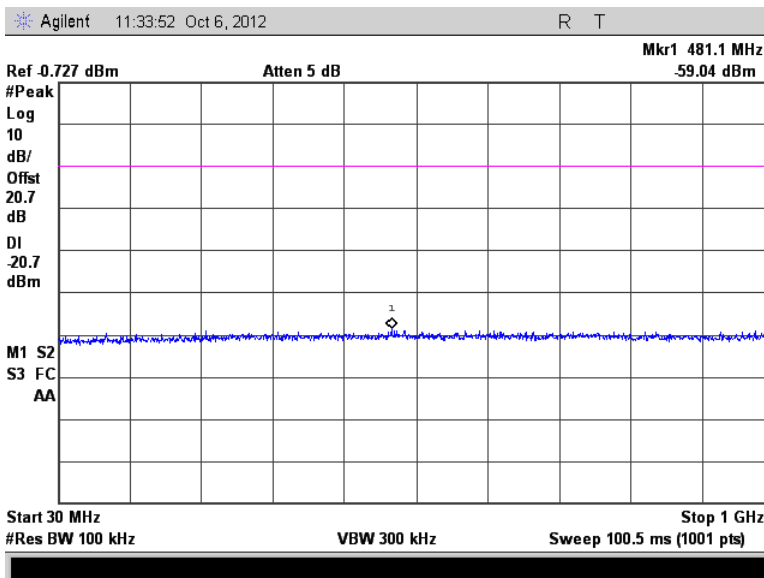


Figure 7.4.2.2-5: 30 MHz – 1 GHz – High Channel

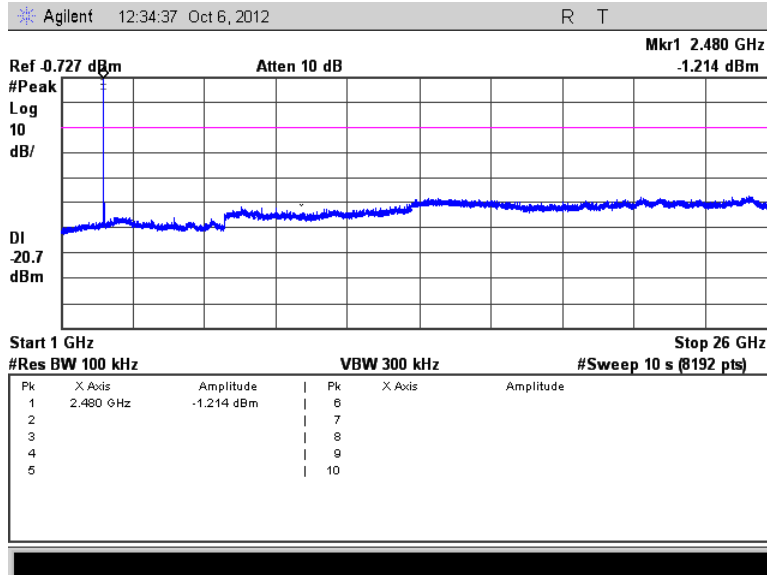


Figure 7.4.2.2-6: 1 GHz – 26 GHz –High Channel

7.4.3 Radiated Spurious Emissions - FCC Section 15.205 IC: RSS-210 2.2, RSS-GEN 7.2.5**7.4.3.1 Measurement Procedure**

Radiated emissions tests were made over the frequency range of 30MHz to 26GHz, 10 times the highest fundamental frequency.

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 1000MHz, peak and average measurements made with RBW of 1 MHz and VBW of 3MHz and 10 Hz respectively.

Each emission found to be in a restricted band was compared to the applicable radiated limits. A duty cycle correction factor of 14.1% \approx -17.02 dB was applied to the average measurements. The justification for the correction is documented in the customer's theory of operation.

7.4.3.2 Measurement Results

Band Edge and radiated spurious emissions found in the band of 30MHz to 26GHz are reported below.

Table 7.4.3.2-1: Radiated Spurious Emissions Tabulated Data

Frequency (MHz)	Level (dBuV)		Antenna Polarity (H/V)	Correction Factors (dB)	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg			pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel (2405 MHz)										
2390	65.70	57.17	H	-8.42	57.28	31.73	74.0	54.0	16.7	22.3
2390	62.22	52.52	V	-8.42	53.80	27.08	74.0	54.0	20.2	26.9
4810	63.20	57.08	H	-1.29	61.91	38.78	74.0	54.0	12.1	15.2
4810	63.22	56.75	V	-1.29	61.93	38.45	74.0	54.0	12.1	15.6
12025	55.07	46.44	H	11.58	66.65	41.00	83.5	63.5	16.9	22.5
12025	54.62	45.76	V	11.58	66.20	40.32	83.5	63.5	17.3	23.2
19240	45.73	34.17	H	8.75	54.48	25.91	83.5	63.5	29.0	37.6
19240	44.99	33.45	V	8.75	53.74	25.19	83.5	63.5	29.8	38.3
Middle Channel (2440 MHz)										
4880	62.28	55.80	H	-1.10	61.18	37.68	74.0	54.0	12.8	16.3
4880	62.85	56.40	V	-1.10	61.75	38.28	74.0	54.0	12.3	15.7
7320	61.24	53.96	H	3.54	64.78	40.49	74.0	54.0	9.2	13.5
7320	65.42	58.41	V	3.54	68.96	44.94	74.0	54.0	5.0	9.1
12200	54.75	46.63	H	11.69	66.44	41.31	83.5	63.5	17.1	22.2
12200	57.75	50.25	V	11.69	69.44	44.93	83.5	63.5	14.1	18.6
19520	43.88	31.29	H	8.51	52.39	22.79	83.5	63.5	31.1	40.7
19520	44.01	31.74	V	8.51	52.52	23.24	83.5	63.5	31.0	40.3
High Channel (2480 MHz)										
2483.5	80.73	71.01	H	-8.03	72.70	45.96	74.0	54.0	1.3	8.0
2483.5	77.84	68.12	V	-8.03	69.81	43.07	74.0	54.0	4.2	10.9

*Notes:

- A duty cycle correction factor of $20 \cdot \log(14.1/100) \approx -17.02$ dB was applied to the average measurements.
- The measurements above 10 GHz were performed at 1m and the limits were corrected using a distance factor of $20 \cdot \log(1/3)$ dB ≈ 9.54 dB.
- All emissions above 19520 MHz were attenuated below the limits and the noise floor of the measurement equipment.

7.4.3.3 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

Duty Cycle Correction Factor = $20 \cdot \log(14.1/100) \approx -17.02$ dB

Example Calculation: Peak

Corrected Level: $65.7 - 8.42 = 57.28$ dB μ V/m

Margin: 74 dB μ V/m – 57.28 dB μ V/m = 16.7 dB

Example Calculation: Average

Corrected Level: $57.17 - 8.42 - 17.02 = 31.73$ dB μ V/m

Margin: 54 dB μ V/m – 24.25 dB μ V/m = 22.3 dB

7.5 Power Spectral Density - FCC Section 15.247(e) IC: RSS-210 A8.2(b)

7.5.1 PSD Measurement Procedure (Conducted Method)

The power spectral density was measured in accordance with the FCC KDB Publication No. 558074 "Guidance for Performing Compliance Measurements on Digital Transmission Systems (47 CFR 15.247)" Measurement Option 1. The RF output port of the EUT was directly connected to the input of the spectrum analyzer. Offset values were input for cable and attenuation. The spectrum analyzer RBW was set to 3 kHz and VBW 10 kHz. Span was adjusted to 1.5 times the 6 dB bandwidth and the sweep time was set to auto.

7.5.2 Measurement Results

Results are shown below.

Table 7.5.2-1: RF Output Power

Frequency (MHz)	PSD/3kHz (dBm)	Limit (dBm)	Margin (dB)
2405	1.001	8.0	6.999
2440	1.585	8.0	6.415
2480	-12.28	8.0	20.28

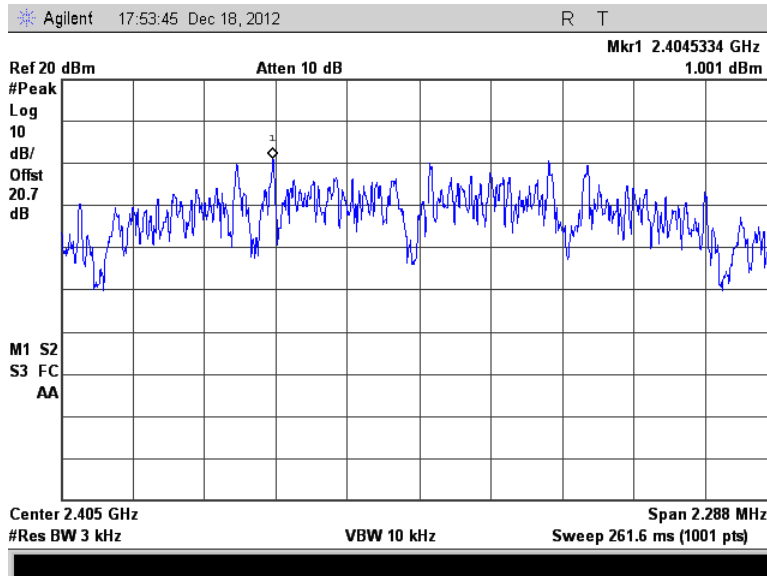


Figure 7.5.2-1: Power Spectral Density - Low Channel

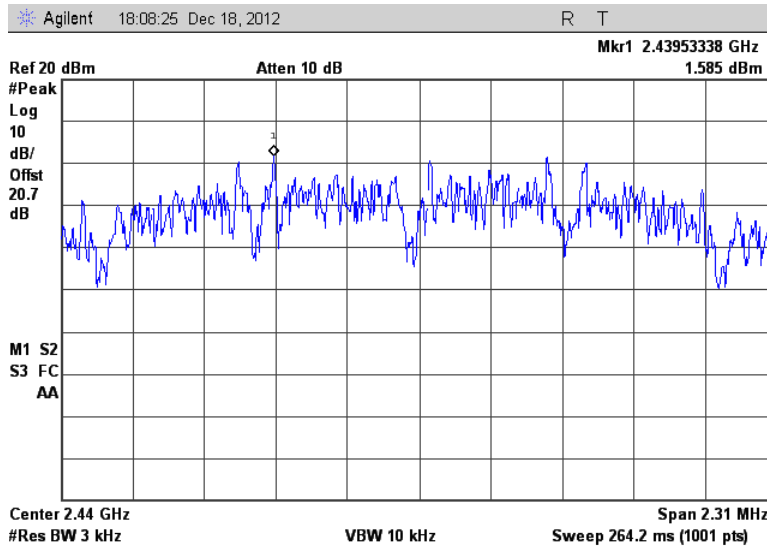


Figure 7.5.2-2: Power Spectral Density - Middle Channel

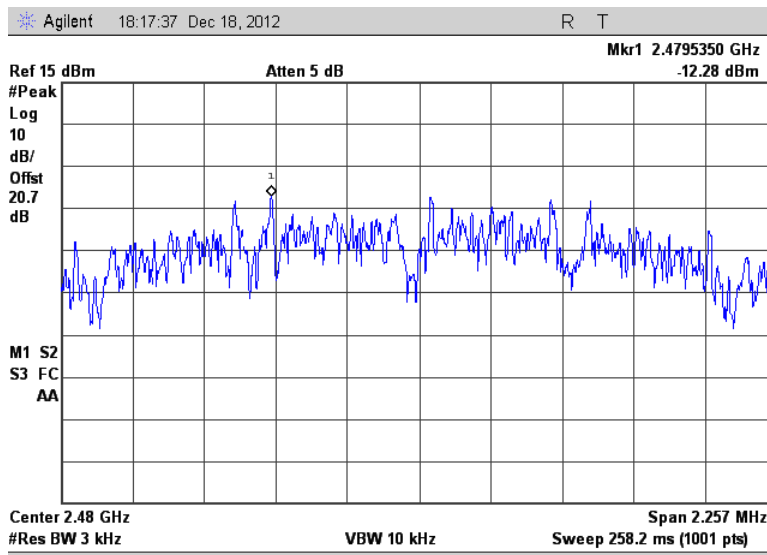


Figure 7.5.2-3: Power Spectral Density – High Channel

7.6 Power Line Conducted Emissions – FCC: Section 15.207 IC: RSS-Gen 7.2.2

7.6.1 Measurement Procedure

ANSI C63.4 sections 6 and 7 were the guiding documents for this evaluation. Conducted emissions were performed from 150 kHz to 30MHz 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

7.6.2 Measurement Results

Results of the test are shown below.

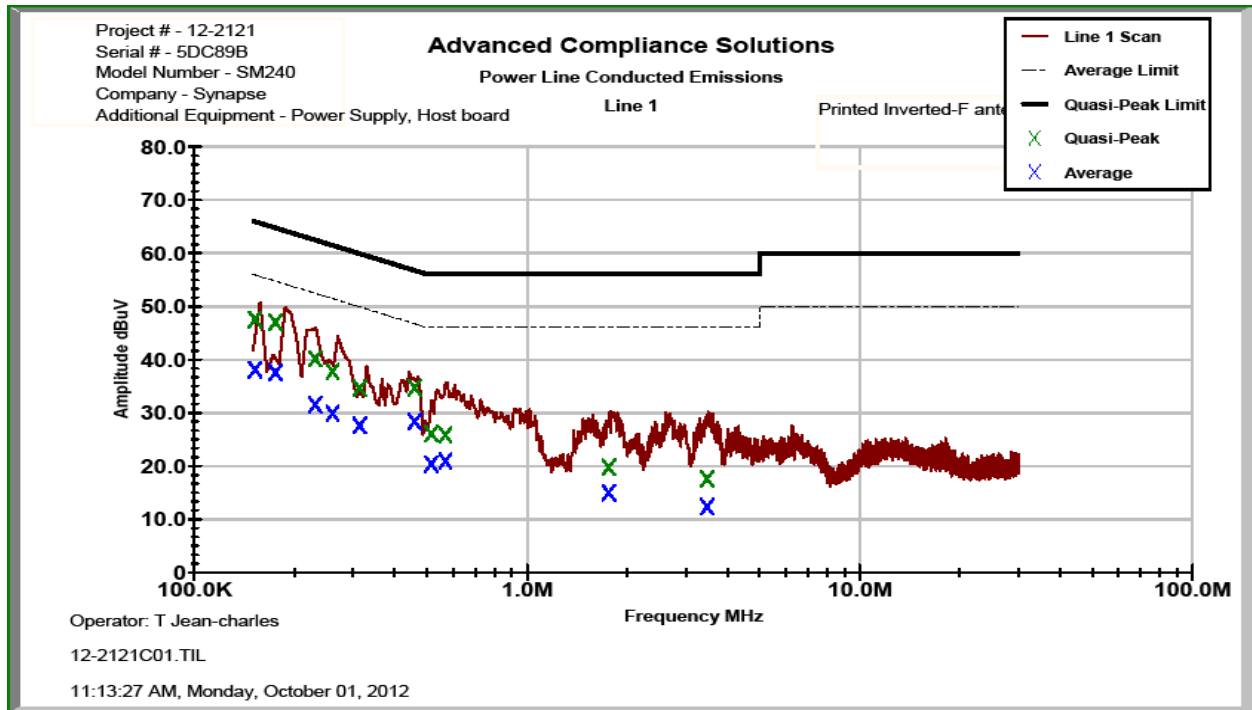


Figure 7.6.2-1: Power Line Conducted Emissions – Line 1

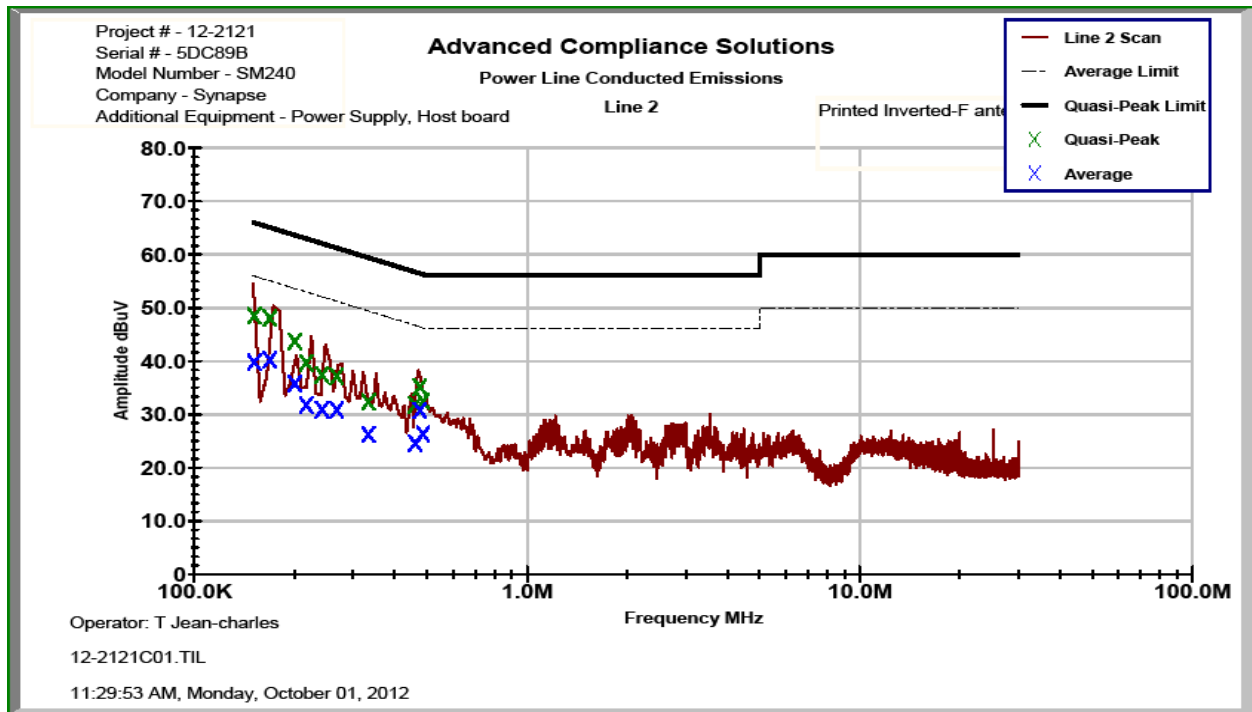


Figure 7.6.2-2: Power Line Conducted Emissions – Line 2

Table 7.6.2-1: Power Line Conducted Emissions Results

Line 1 Line 2 Line 3
 Line 4
 To Ground Floating
 Telecom Port _____
 dBµV dBµA

 Plot Number: 12-2121CE01
 Power Supply Description: 5 VDC

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									
0.151994	46.007	36.584	1.52	47.52	38.10	65.89	55.89	18.4	17.8
0.174912	45.729	36.24	1.31	47.04	37.55	64.72	54.72	17.7	17.2
0.230388	39.165	30.52	1.07	40.24	31.59	62.44	52.44	22.2	20.8
0.25995	36.883	28.956	0.89	37.78	29.85	61.43	51.43	23.7	21.6
0.3136	33.861	26.845	0.76	34.62	27.60	59.87	49.87	25.3	22.3
0.458338	34.128	27.762	0.58	34.71	28.34	56.72	46.72	22.0	18.4
0.5148	25.485	19.84	0.53	26.01	20.37	56.00	46.00	30.0	25.6
0.567912	25.295	20.371	0.52	25.81	20.89	56.00	46.00	30.2	25.1
1.75682	19.284	14.531	0.43	19.72	14.96	56.00	46.00	36.3	31.0
3.4732	17.059	11.73	0.52	17.58	12.25	56.00	46.00	38.4	33.8
Line 2									
0.15111	46.964	38.256	1.53	48.49	39.79	65.94	55.94	17.4	16.2
0.168488	46.663	38.852	1.49	48.16	40.35	65.03	55.03	16.9	14.7
0.200188	42.593	34.61	1.10	43.70	35.71	63.60	53.60	19.9	17.9
0.216524	38.62	30.7	1.08	39.70	31.78	62.95	52.95	23.2	21.2
0.241512	36.501	29.946	1.05	37.55	31.00	62.04	52.04	24.5	21.0
0.267512	36.273	29.992	0.87	37.14	30.86	61.19	51.19	24.1	20.3
0.333188	31.618	25.516	0.72	32.34	26.24	59.37	49.37	27.0	23.1
0.46025	31.276	24.017	0.58	31.86	24.60	56.69	46.69	24.8	22.1
0.476088	34.577	30.156	0.58	35.15	30.73	56.41	46.41	21.3	15.7
0.48675	31.879	25.713	0.58	32.45	26.29	56.22	46.22	23.8	19.9

8 CONCLUSION

In the opinion of ACS, Inc. the SM240, manufactured by Synapse Wireless, Inc. meets the requirements of FCC Part 15 subpart C and Industry Canada's Radio Standards Specification RSS-210.

END REPORT