Excellence in Compliance Testing

Certification Test Report

FCC ID: ZBGAWR-1

FCC Rule Part: FCC 47 CFR 15 Subpart H

ACS Report Number: 11-2056.W03.16.A

Manufacturer: **KTS WIRELESS**
Model: **ADR 1200**

Test Begin Date: **June 25,2011**
Test End Date: **July 25, 2011**

Report Issue Date: **July 28, 2011**

Project Manager:

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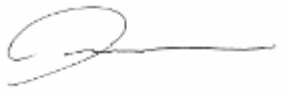

Kirby Munroe
Director, Wireless Certifications
Advanced Compliance Solutions, Inc.

This report contains 27 pages

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1 GENERAL

1.1 Purpose

The purpose of this report is to demonstrate compliance with Part 15 Subpart H of the FCC's Code of Federal Regulations.

1.2 Product description

The ADR 1200 is part of the KTS Wireless Agility Data Radio which operates in the VHF television band as a fixed TVBD. A wide variety of applications are supported including SCADA, Video Surveillance and broadband wireless Internet access. The radio may be used to create Point-to-Point (PTP), Point-to-Multipoint (PTM) or simplex (one-way) networks with priority routing support for voice, video and SCADA traffic.

Local and remote network management is provided through a secure shell (SSH) network connection. Remote management is supported over the wireless link. Local management is provided through a PC-based Element Management System provided by KTS Wireless or an embedded client accessible with any Internet browser. The Ethernet port functions as a bridge for IP subnets via the wireless link

Mode of Operation	Frequency Range (MHz)	Number of Channels	Channel Separation (kHz)	Data Rates Supported (kbps)
SOQPSK	177 - 213	7	6000	3125

Manufacturer Information:
KTS Wireless
1025 Greenwood Blvd. Suite 391
Lake Mary FL, 32746

Contact: Ed Gerhardt
Phone: 407 260 0564
FAX: 407 333 3620

Test Sample Serial Number(s): 332

Test Sample Condition: Good

1.3 Test Methodology and Considerations

The radiated emissions were performed on the EUT tested with a 7.5 dBi VHF antenna. The RF output power of the EUT had to be limited to 20 dBm in order to meet the power spectral density requirements.

Radiated emissions were performed for the EUT set in three orthogonal orientations. Final measurements were performed using the orientation leading to the highest emissions. The serial port is not an active port per the customer. The radiated emissions were performed without a termination on the serial port per customer request.

A FAIR-RITE (Model No.: 0431167281) ferrite clamp had to be added on the power supply cable to meet the unintentional radiated emissions requirements.

Power line conducted emissions was performed on the EUT in both transmit and receive modes. Data is provided for the worst case configuration.

TVBD Channel	Frequency (MHz)	Power (dBm)	Modulation	Data Rate (Mbps)
7	177	20	SOQPSK	3.125
10	195	20	SOQPSK	3.125
13	213	20	SOQPSK	3.125

Compliance to 602 MHz to 620 MHz band was investigated for the EUT tuned to 201 MHz and 207 MHz, respectively.

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

2.2 Radiated & Conducted Emissions Test Site Description

2.2.1 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:

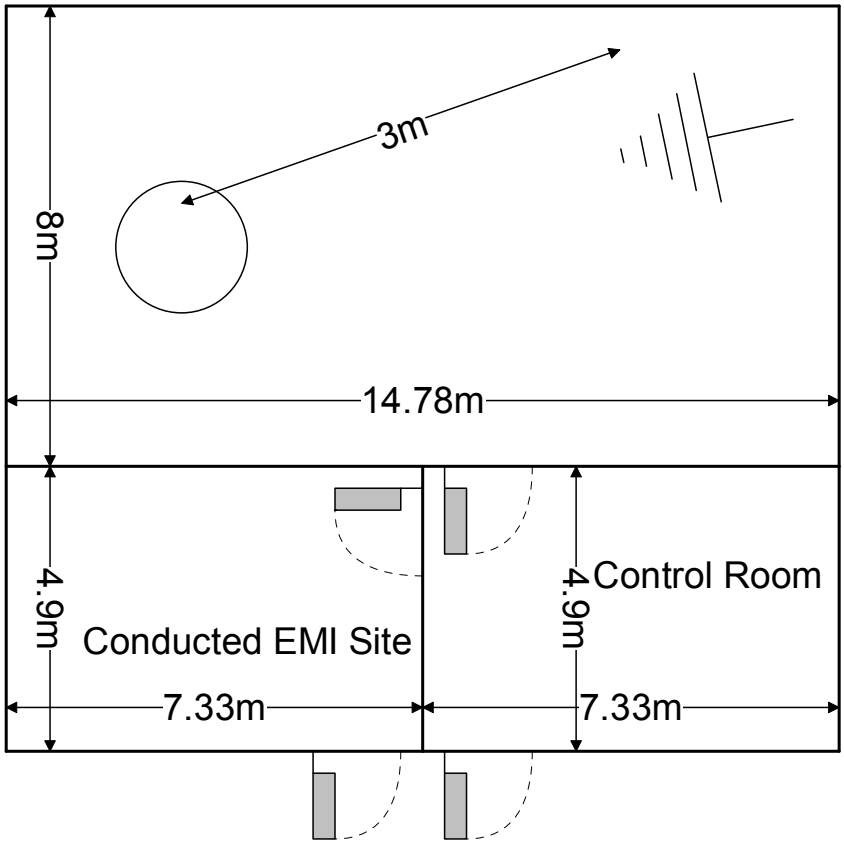


Figure 2.3.1-1: Semi-Anechoic Chamber Test Site

2.2.2 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:

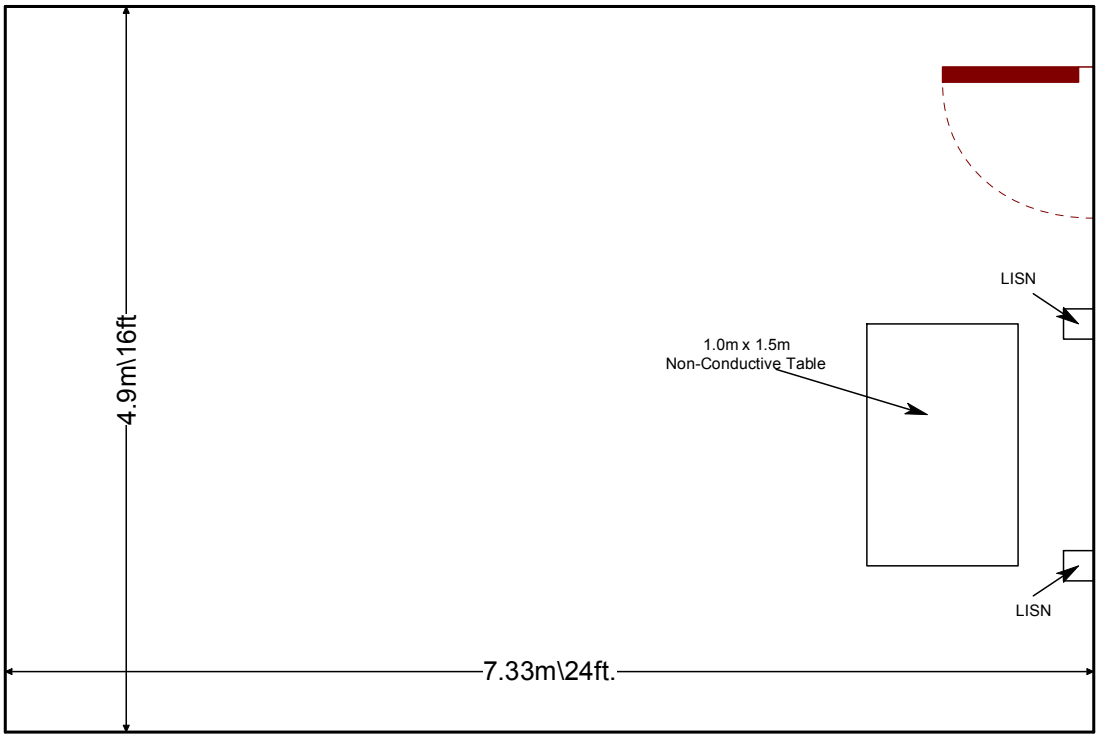


Figure 2.3.2-1: AC Mains Conducted EMI Site

3 APPLICABLE STANDARD REFERENCES

The following standards were used:

- ANSI C63.4-2009: 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, 2010
- US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart H: Television Band Devices, 2010
- US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 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
2011	Hewlett-Packard	HP 8447D	Amplifiers	2443A03952	1/3/2011	1/3/2012
2012	Hewlett-Packard	HP83017A	Amplifiers	3123A00324	2/25/2011	2/25/2012
2013	Hewlett Packard	HP8566B	Spectrum Analyzers	2407A03233	8/5/2010	8/5/2012
2037	ACS Boca	Chamber EMI Cable Set	Cable Set	2037	1/7/2011	1/7/2012
2066	Hewlett -Packard	11170B	Cables	2066	7/4/2011	7/4/2012
2088	Hewlett-Packard	11770B	Cables	2088	7/4/2011	7/4/2012
2022	EMCO	LISN3825/2R	LISN	1095	8/10/2009	8/10/2011
2045	ACS Boca	Conducted Cable Set	Cable Set	2045	1/6/2011	1/6/2012
2087	Mini-Circuit	NHP-400	Filter	7772700640	7/4/2011	7/4/2012
RE571	Narda	26298	Attenuators	A500	6/21/2011	6/21/2012
2073	Mini-Circuit	NHP 800	Filter	10247	2/3/2011	2/3/2012
2064	CIR Q-TEL	FHT/22-10K-13/50-3A/3A	Filter	9	1/15/2011	1/15/2012

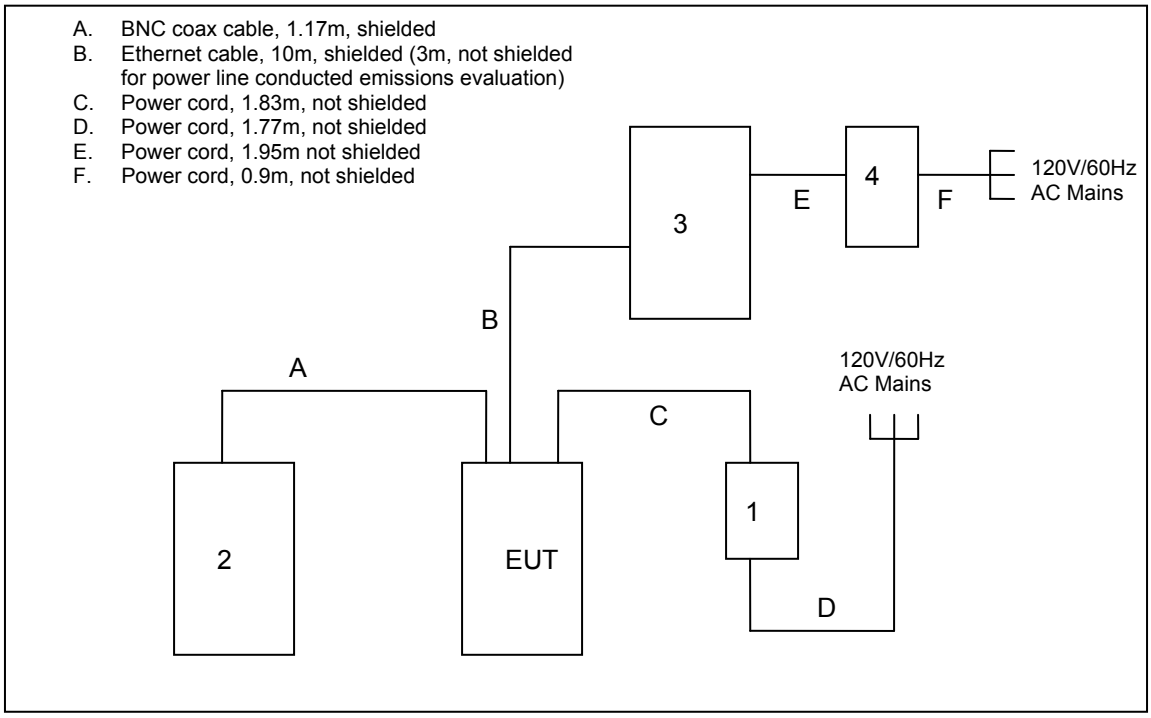
NCR=No Calibration Required

5 SUPPORT EQUIPMENT

Table 5-1: Support Equipment

Item	Equipment Type	Manufacturer	Model Number	Serial Number
1	ITE Power Supply	SL Power and Ault	PW173KB1203F01	N/A
2	Antenna	KTS Wireless	KTS Wireless VHF-1	N/A
3	Laptop Computer	Dell	Latitude D531	CN-0XM006-48643-75L-2833
4	Laptop Charger	Dell	HA65NS0-00	CN-0DF261-47890-6CF-0864

6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM



Note: The laptop computer was set outside of the test chamber for the radiated emissions evaluation.

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 ADR 1200 utilizes a KTS Wireless VHF-1 7.5 dBi log periodic antenna. The ADR 1200 uses a standard BNC connector. The EUT is meant to be professionally installed per the customer.

7.2 Power Line Conducted Emissions – FCC: Section 15.207

7.2.1 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

The EUT was evaluated in both transmit and receive mode. The data reported corresponds to the configuration leading to the highest emissions.

7.2.2 Measurement Results

Results of the test are shown below in and Table 7.2.2-1.

Table 7.2.2-1: Line 1 Conducted EMI Results

☒ Line 1 ☒ Line 2
☒ To Ground ☐ Floating
☐ Telecom Port _____
☒ dBµV ☐ dBµA

Plot Number: 11-2056CE01
Power Supply Description: 12 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									
0.591288	46.086	45.836	0.34	46.42	46.17	73.00	60.00	26.6	13.8
0.722362	42.714	42.525	0.34	43.05	42.86	73.00	60.00	29.9	17.1
5.97051	39.85	38.06	0.66	40.51	38.72	73.00	60.00	32.5	21.3
6.56	42.269	38.882	0.60	42.87	39.48	73.00	60.00	30.1	20.5
6.75764	38.965	35.96	0.63	39.60	36.59	73.00	60.00	33.4	23.4
7.34307	40.533	38.56	0.63	41.17	39.19	73.00	60.00	31.8	20.8
8.1942	40.434	37.649	0.75	41.19	38.40	73.00	60.00	31.8	21.6
11.6746	31.816	28.929	2.79	34.60	31.72	73.00	60.00	38.4	28.3
11.9286	39.19	35.967	2.79	41.98	38.76	73.00	60.00	31.0	21.2
11.9955	37.621	34.853	2.79	40.41	37.64	73.00	60.00	32.6	22.4
Line 2									
0.196025	50.052	44.09	0.55	50.60	44.64	79.00	66.00	28.4	21.4
0.588587	45.6	45.392	0.41	46.01	45.80	73.00	60.00	27.0	14.2
0.719513	42.215	42.034	0.40	42.61	42.43	73.00	60.00	30.4	17.6
6.0863	39.311	37.335	0.62	39.93	37.95	73.00	60.00	33.1	22.0
6.28062	40.657	37.408	0.66	41.31	38.06	73.00	60.00	31.7	21.9
6.34539	42.148	39.079	0.67	42.82	39.75	73.00	60.00	30.2	20.3
6.67064	38.931	37.276	0.73	39.66	38.00	73.00	60.00	33.3	22.0
7.13105	39.367	36.948	0.72	40.09	37.67	73.00	60.00	32.9	22.3
7.91461	40.033	37.438	0.86	40.89	38.29	73.00	60.00	32.1	21.7
11.4476	38.744	36.621	2.88	41.62	39.50	73.00	60.00	31.4	20.5

7.3 Radiated Emissions – FCC: Section 15.109(Unintentional Radiation)

7.3.1 Measurement Procedure

Radiated emissions tests were performed over the frequency range of 30MHz to 2 GHz. Measurements of the radiated field strength were made at a distance of 3m from the boundary of the equipment under test (EUT) and the receiving antenna. The antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. Radiated measurements above 30MHz and below 1GHz were made with the Spectrum Analyzer's resolution bandwidth set to 120 KHz using a Quasi-peak detector. Above 1GHz, peak and average measurements are taken with the RBW and VBW were set to 1MHz.

7.3.2 Measurement Results

Results of the test are given in Table 7.3-1 below:

Table 7.3-1: Radiated 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
157.897	57.89	56.80	H	-15.56	---------	41.24	---------	54.0	---------	12.80
157.185	63.65	62.31	V	-15.51	---------	46.80	---------	54.0	---------	7.20
210.35	59.46	56.99	H	-16.73	---------	40.26	---------	54.0	---------	13.70
210	65.43	62.47	V	-16.76	---------	45.71	---------	54.0	---------	8.30
262.85	64.22	60.62	H	-12.29	---------	48.33	---------	56.9	---------	8.60
209.679	64.69	62.28	V	-16.75	---------	45.53	---------	54.0	---------	8.50
314.088	60.41	56.81	H	-11.87	---------	44.94	---------	56.9	---------	12.00
313.962	56.45	52.45	V	-11.87	---------	40.58	---------	56.9	---------	16.30
239.974	60.53	59.22	H	-14.13	---------	45.09	---------	56.9	---------	11.80
239.98	58.15	56.24	V	-14.13	---------	42.11	---------	56.9	---------	14.80
374.975	50.11	47.04	H	-9.40	---------	37.64	---------	56.9	---------	19.30
1559.925	56.39	54.03	V	-3.83	52.56	50.20	80.0	60.0	27.40	9.80
1559.925	51.27	46.04	H	-3.83	47.44	42.21	80.0	60.0	32.60	17.80
1125	52.76	47.55	V	-7.51	45.25	40.04	80.0	60.0	34.80	20.00
1950.05	48.36	38.60	H	-0.53	47.83	38.07	80.0	60.0	32.20	21.90
1999.9	47.79	37.28	H	-0.10	47.69	37.18	80.0	60.0	32.30	22.80

* Note: All emissions above 1999.9 MHz were attenuated below the permissible limit.

Note: The measurements were assessed in relation to the FCC CFR 15.109 Class A limits, corrected for 3m measurements using a distance factor of 20*log(10/3) dB ≈ 10.46 dB

7.4 Peak Output Power - FCC Section 15.709 (a)

7.4.1 Measurement Procedure (Conducted Method)

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's averaging detector was selected and the span was set to 10 MHz. The resolution bandwidth and the video bandwidth were set to 100 kHz and 300 kHz, respectively. The sweep time was set to allow one millisecond per trace point integration time.

The power was measured by using the integrated band/channel power analyzer function over the 6 MHz channel bandwidth. The power spectral density was measured as the peak power per the 100 kHz bandwidth.

The 12.2 dBm power spectral density limit was adjusted to 10.7 dBm in order to account for the antenna gain over 6 dBi.

7.4.2 Measurement Results

Results are shown below in Table 7.4.2-1 to Table 7.4.2-2 and Figures 7.4.2-1 to Figure 7.4.2-3 below:

Table 7.4.2-1: RF Output Power

Frequency [MHz]	Level [dBm]
177.0	20.32
195.0	20.68
213.0	20.06

Table 7.4.2-2: Power Spectral Density

Frequency [MHz]	Level [dBm]
177.0	10.06
195.0	10.42
213.0	9.86

Note : The PSD limit for fixed TVBD was further corrected by taking into consideration the antenna gain over 6 dBi.

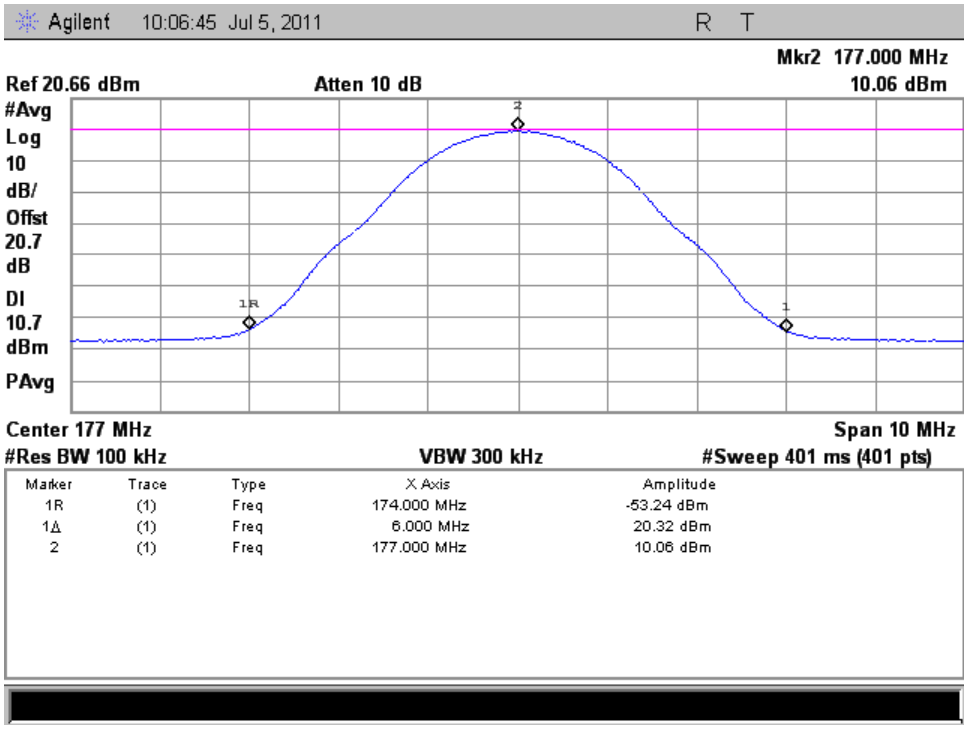


Figure 7.4.2-1: Channel Power and Power Spectral Density – Low Channel

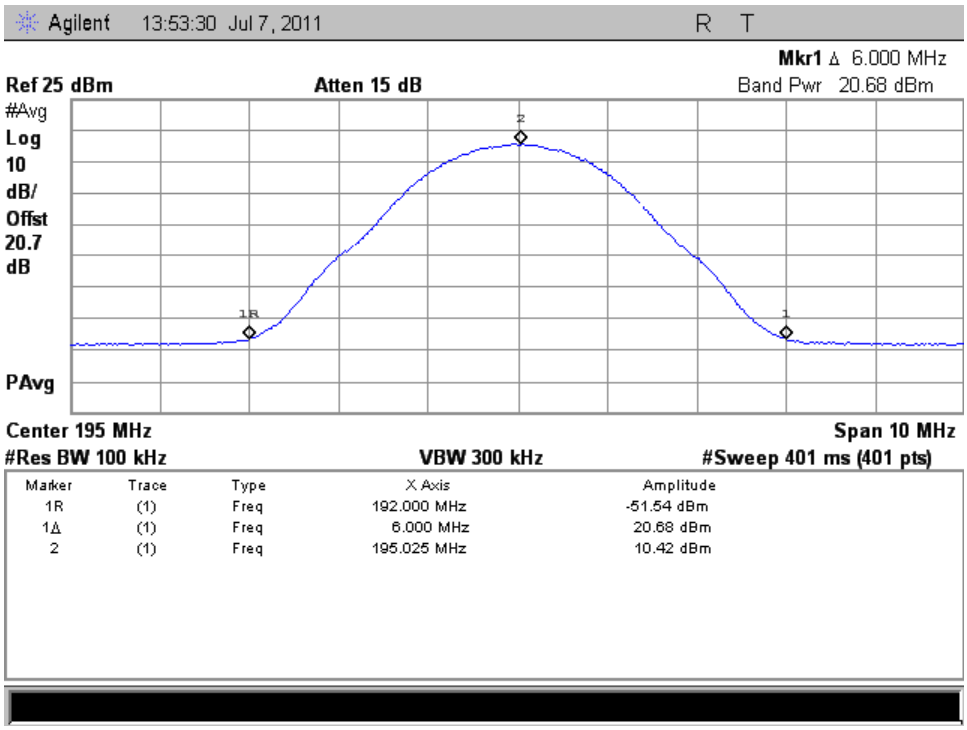


Figure 7.4.2-2: Channel Power and Power Spectral Density – Middle Channel

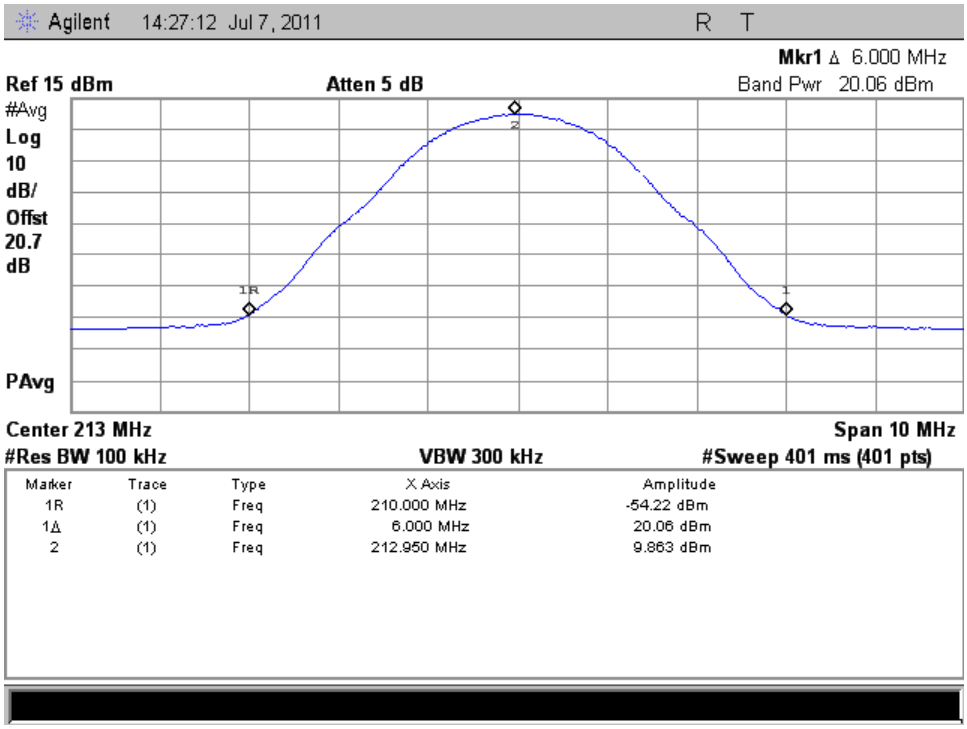


Figure 7.4.2-3: Channel Power and Power Spectral Density – High Channel

7.5 Adjacent Channel and Spurious Emissions - FCC 15.709 (c)

7.5.1 Band-Edge Compliance of RF Conducted Emissions

7.5.1.1 Measurement Procedure

The RF output port of the EUT was directly connected to the input of the spectrum analyzer. The EUT was investigated at the lowest, middle, and highest channel available to determine band-edge compliance. For each measurement the spectrum analyzer's RBW was set 10 kHz and the sweep time allowed one millisecond per trace point integration time. The channel edge level was measured as the RMS power over 100 kHz bandwidth at the edge of the operating channel.

7.5.1.2 Measurement Results

Results are shown in the in Table 7.5.1.2-1 and figures 7.5.1.2-1 to 7.5.1.2-6 below.

Table 7.5.1.2-1: Channel Edge Results

Frequency (MHz)	Level (dBm)	TX Power (dBm)	Delta (dB)	Status
Low Channel = 177 MHz				
174	-54.3	20.32	74.62	Pass
180	-55.86	20.32	76.18	Pass
Middle Channel = 195 MHz				
192	-54.83	20.68	75.51	Pass
198	-55.28	20.68	75.96	Pass
High Channel = 213 MHz				
210	-55.42	20.06	75.48	Pass
216	-54.76	20.06	74.82	Pass

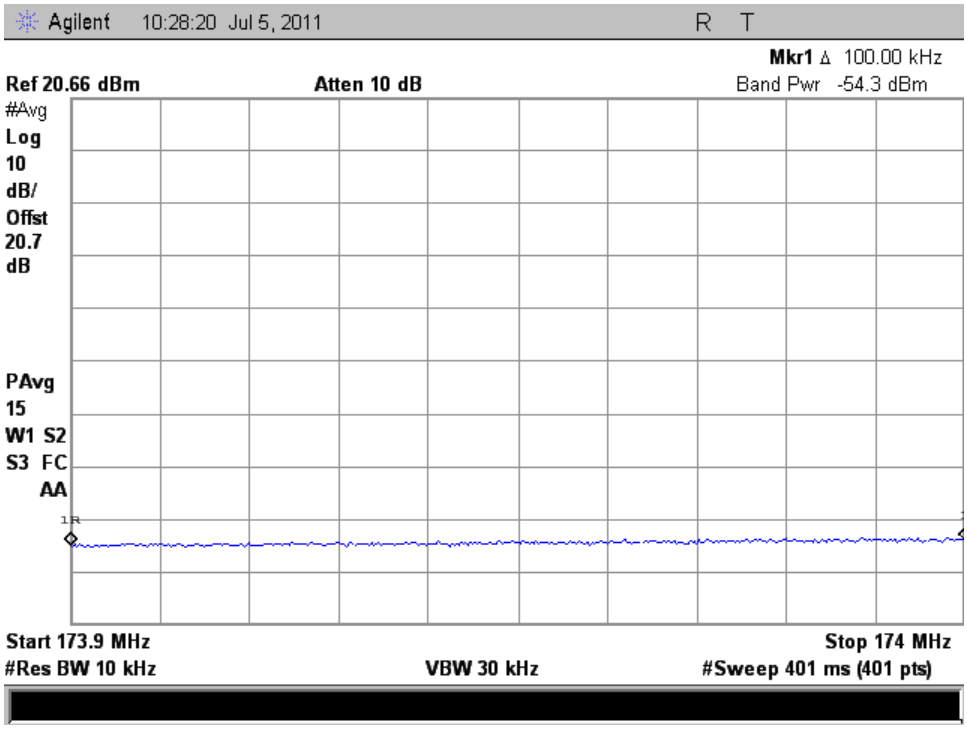


Figure 7.5.1.2-1: Lower Band-edge – Low Channel

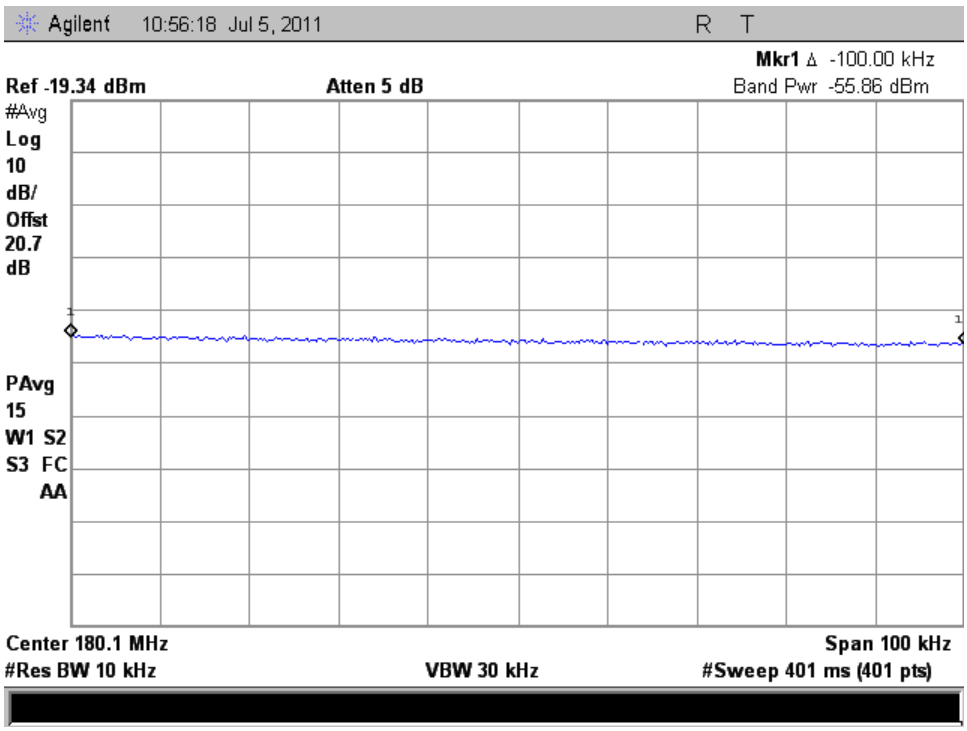


Figure 7.5.1.2-2: Upper Band-edge - Low Channel

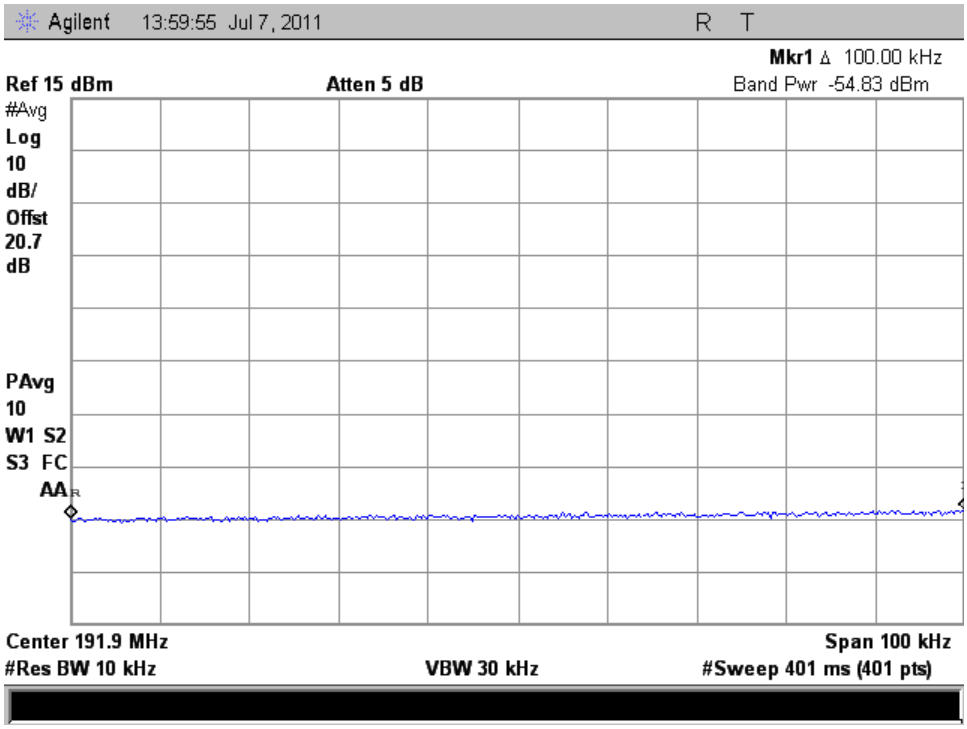


Figure 7.5.1.2-3: Lower Band-edge – Middle Channel

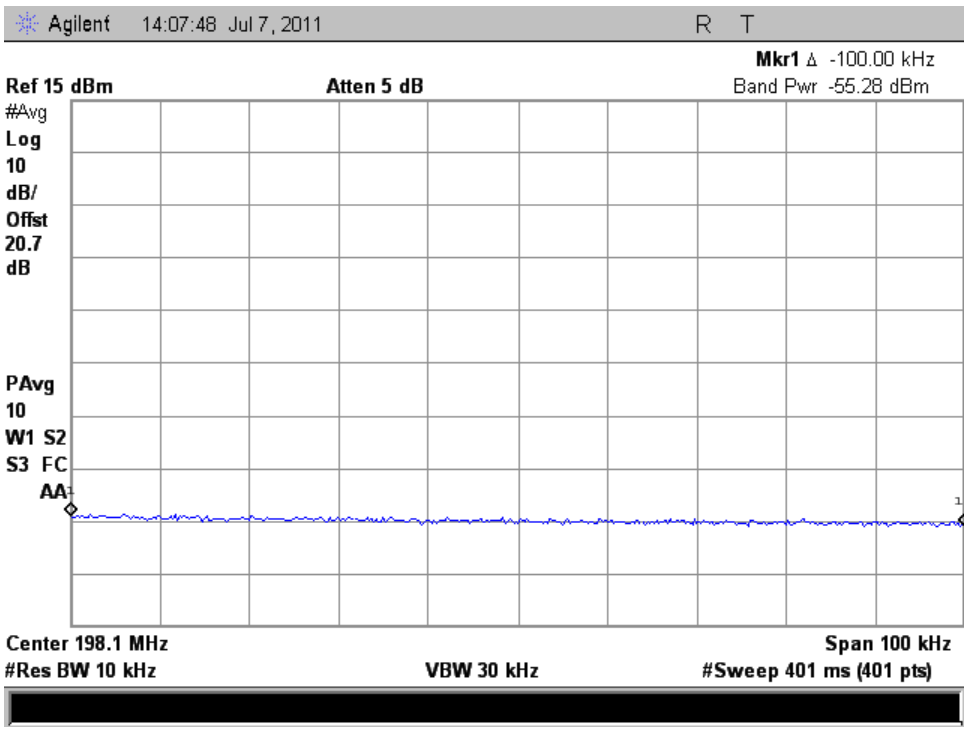


Figure 7.5.1.2-4: Upper Band-edge – Middle Channel

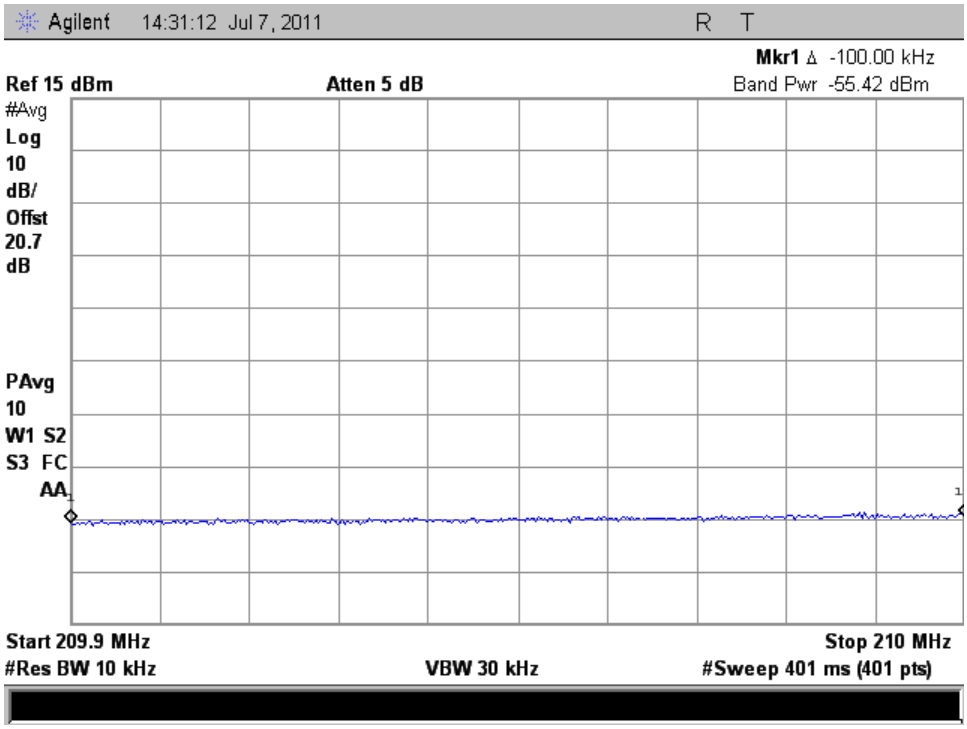


Figure 7.5.1.2-5: Lower Band-edge – High Channel

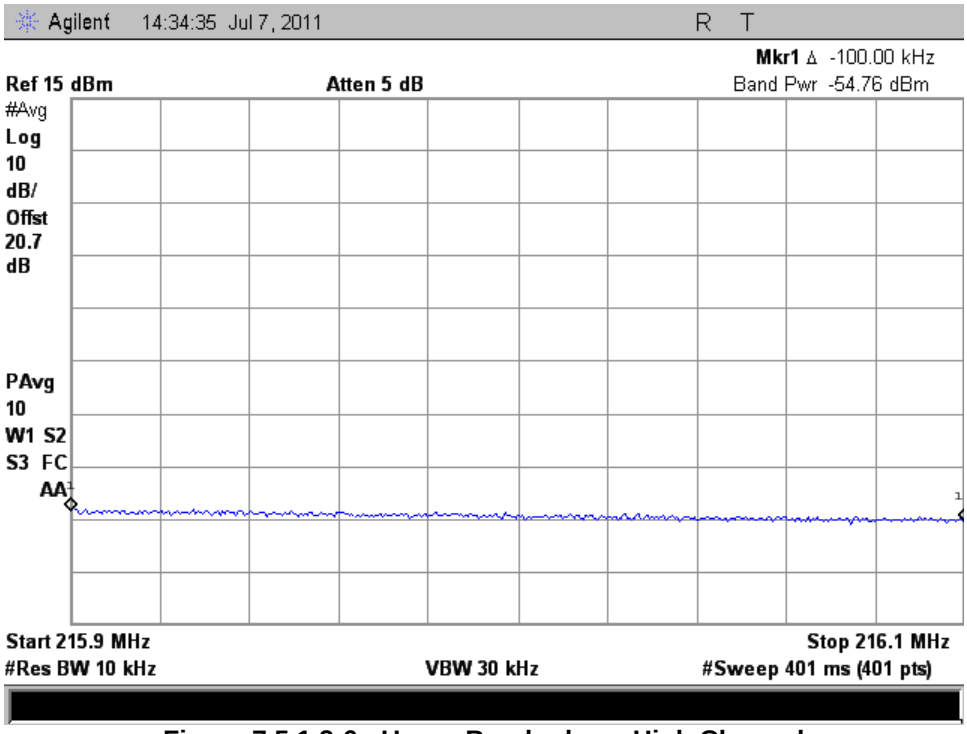


Figure 7.5.1.2-6: Upper Band-edge – High Channel

7.5.2 Adjacent Channel Compliance of RF Conducted Emissions

7.5.2.1 Measurement Procedure

The RF output port of the EUT was directly connected to the input of the spectrum analyzer. The EUT was investigated at the lowest, middle and highest channels available to determine compliance for the channels immediately adjacent to the channel of operation. For each measurement the spectrum analyzer's RBW was set to 100 kHz, and the VBW was set to 300 kHz. The highest level in the 6 MHz span of the adjacent channel is recorded.

7.5.2.2 Measurement Results

Results are shown in the Table 7.5.2.2-1 and figures 7.5.2.2-1 to 7.5.2.2-6 below.

Table 7.5.2.2-1: Adjacent Channel Results

Frequency (MHz)	Level (dBm)	TX Power (dBm)	Delta (dB)	Status
Low Channel = 177 MHz				
173.9	-55.61	20.32	75.93	Pass
180.1	-55.58	20.32	75.9	Pass
Middle Channel = 195 MHz				
191.9	-54.92	20.68	75.6	Pass
198.115	-55.48	20.68	76.16	Pass
High Channel = 213 MHz				
209.9	-55.81	20.06	75.87	Pass
216.1	-55.6	20.06	75.66	Pass

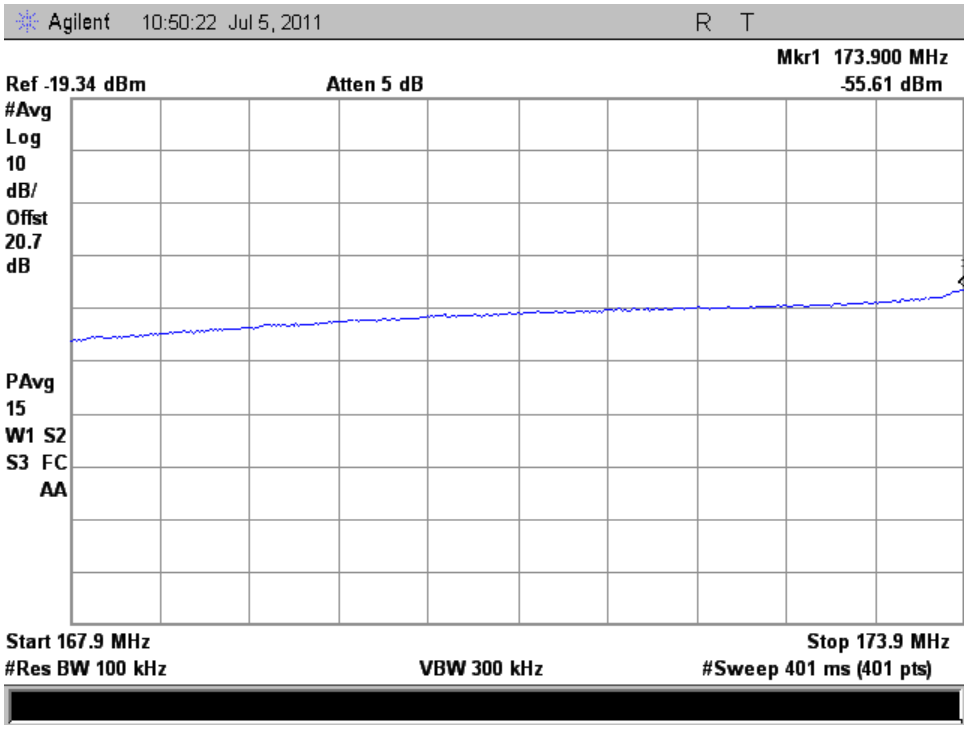


Figure 7.5.2.2-1: Lower Adjacent Channel – Low Channel

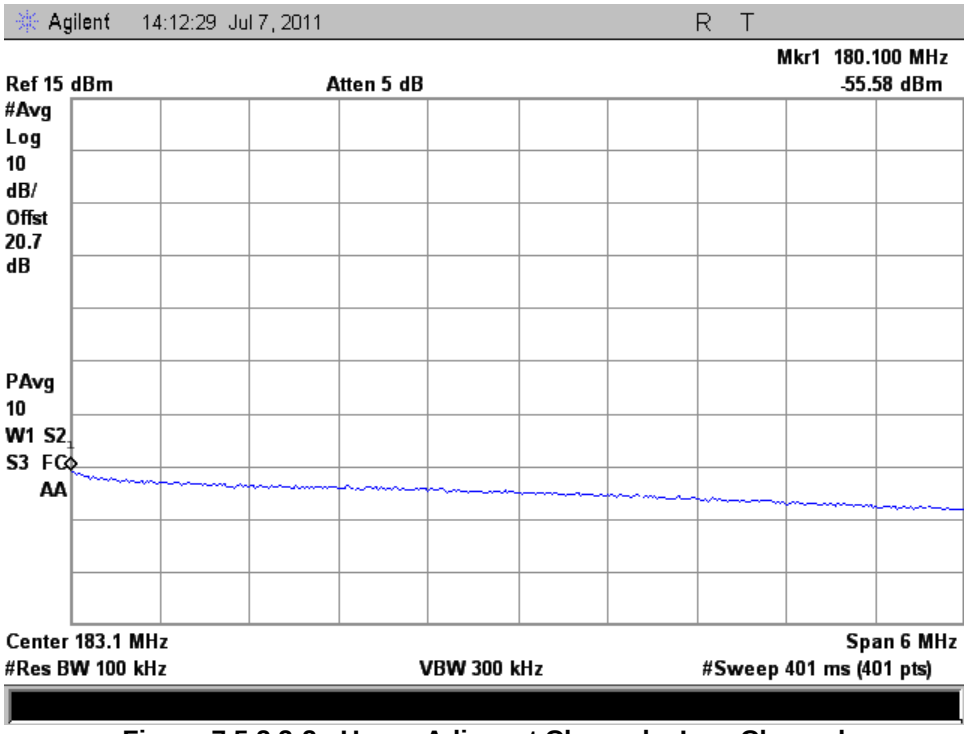


Figure 7.5.2.2-2: Upper Adjacent Channel – Low Channel

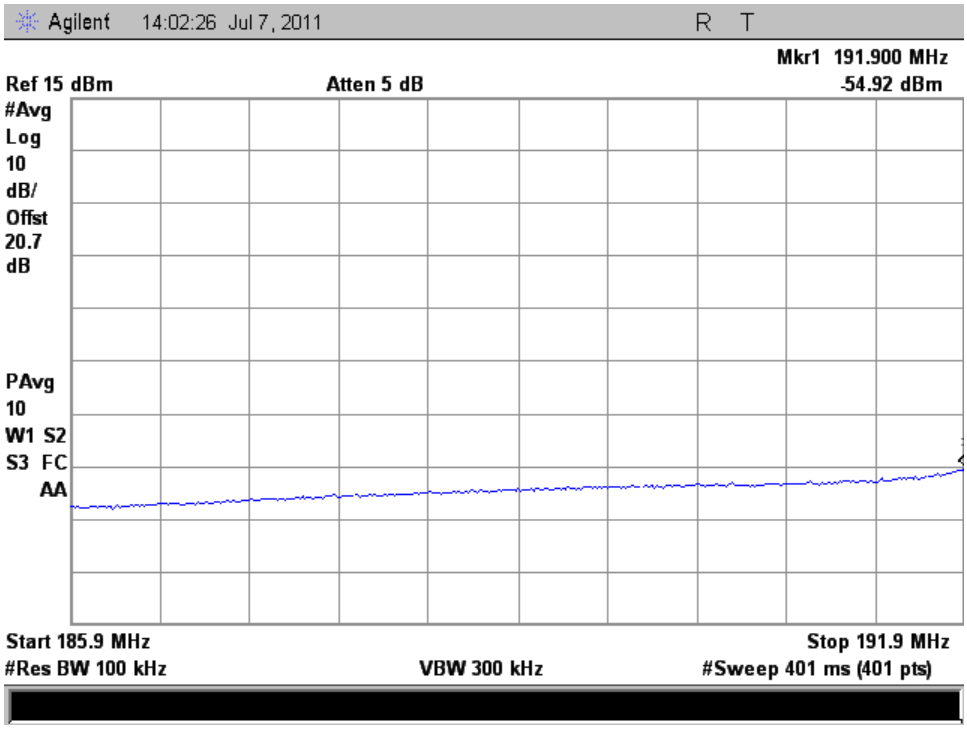


Figure 7.5.2.2-3: Lower Adjacent Channel – Middle Channel

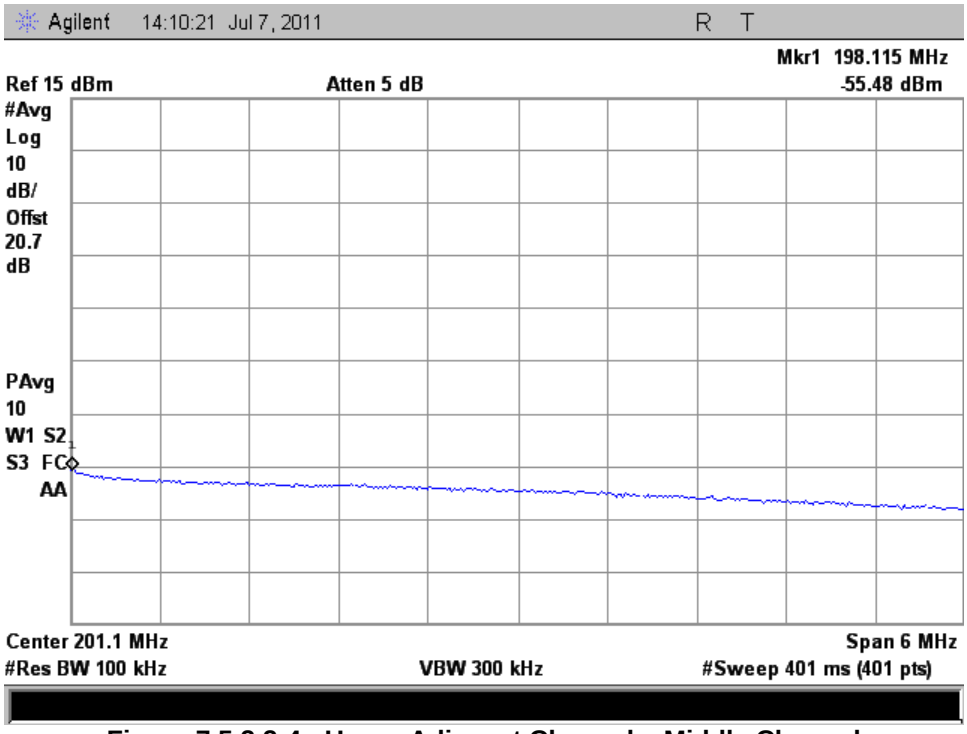


Figure 7.5.2.2-4: Upper Adjacent Channel – Middle Channel

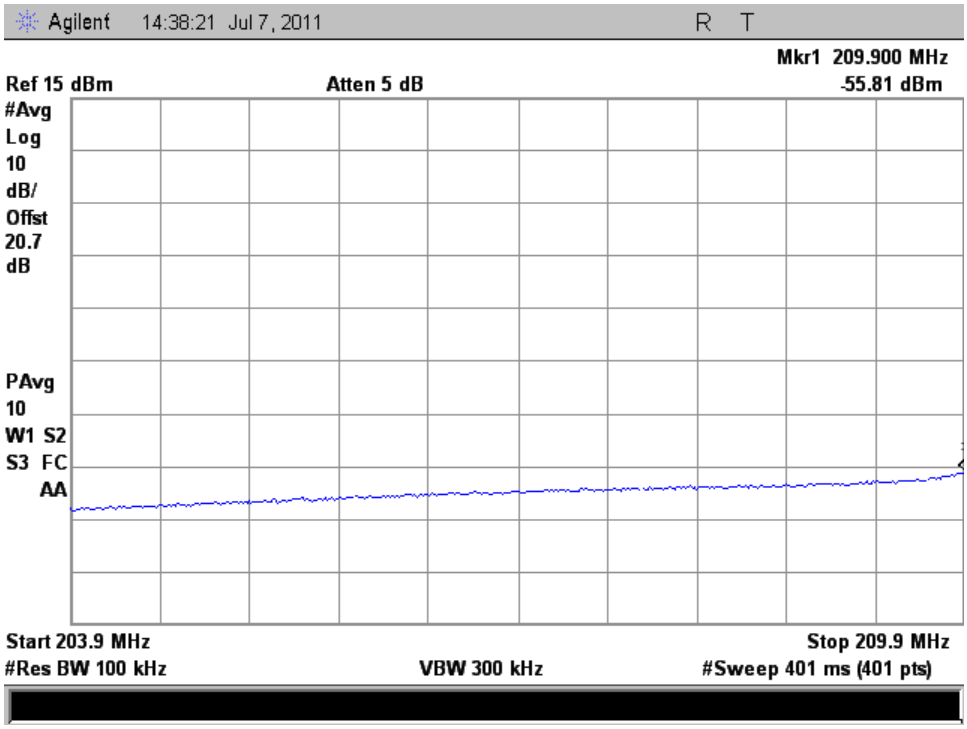


Figure 7.5.2.2-5: Lower Adjacent Channel – High Channel

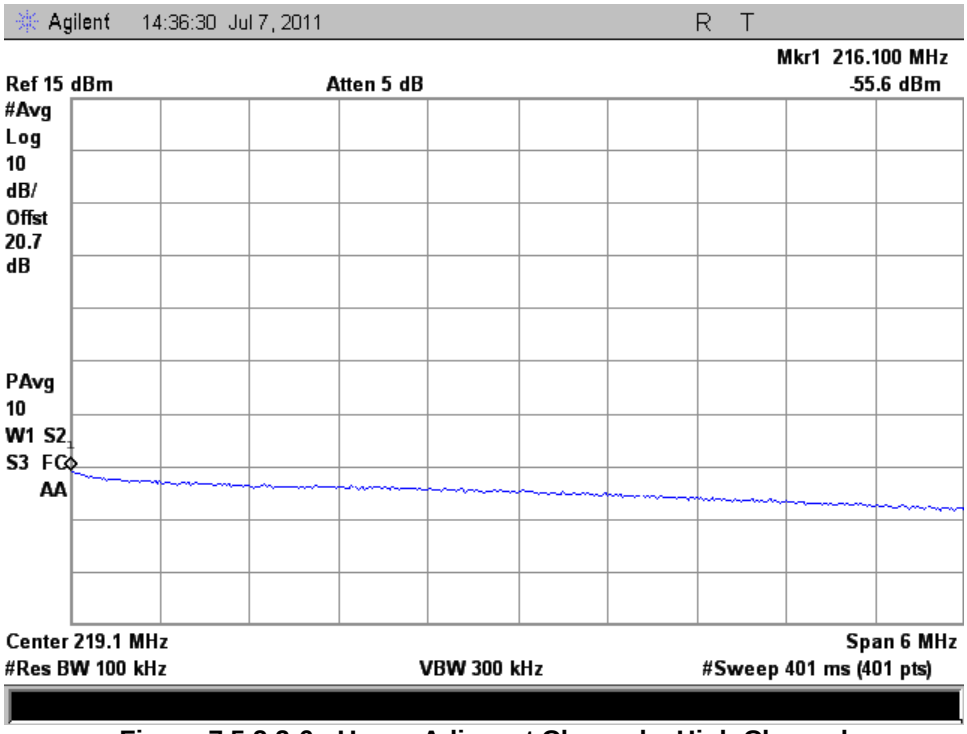


Figure 7.5.2.2-6: Upper Adjacent Channel – High Channel

7.5.3 Radiated Spurious Emissions - FCC Section 15.209

7.5.3.1 Measurement Procedure

Radiated emissions tests were made over the frequency range of 30MHz to 2.5GHz, 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 1000 MHz, 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 and average measurements made with RBW and VBW of 1 MHz and 3MHz respectively.

The EUT was caused to generate a continuous carrier signal on the hopping channel.

7.5.3.2 Measurement Results

Radiated spurious emissions found in the band of 30MHz to 2.5 GHz are reported in the Table 7.5.3.2-1 below.

Table 7.5.3.2-1: 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 (177 MHz)										
531	43.25	37.93	H	-4.87	---------	33.06	--------	46.0	---------	12.94
531	47.11	41.93	V	-4.87	---------	37.06	--------	46.0	---------	8.94
885	45.21	40.67	H	1.08	---------	41.75	--------	46.0	---------	4.25
885	44.49	40.64	V	1.08	---------	41.72	--------	46.0	---------	4.28
Middle Channel (195 MHz)										
585	44.50	39.31	H	-4.14	---------	35.17	--------	46.0	---------	10.83
585	47.00	41.22	V	-4.14	---------	37.08	--------	46.0	---------	8.92
975	46.99	42.13	H	2.81	---------	44.94	--------	54.0	---------	9.06
975	49.65	44.77	V	2.81	---------	47.58	--------	54.0	---------	6.42
High Channel (213 MHz)										
639	48.66	44.62	H	-2.33	---------	42.29	--------	46.0	---------	3.71
639	44.52	39.61	V	-2.33	---------	37.28	--------	46.0	---------	8.72
1065	48.72	40.45	V	-11.09	37.63	29.36	74.0	54.0	36.37	24.64
1491	45.03	34.42	H	-8.04	36.99	26.38	74.0	54.0	37.01	27.62
1491	46.01	36.63	V	-8.04	37.97	28.59	74.0	54.0	36.03	25.41

* Note: All emissions above 1491 MHz were attenuated below the permissible limit.

7.5.4 Radiated Spurious Emissions - FCC Section 15.709 (c)(4)

7.5.4.1 Measurement Procedure

Radiated emissions tests were made over the frequency range of 602 MHz to 620 MHz

The receive antenna was set at 1m from the EUT. 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. Quasi-peak measurements were made using a resolution bandwidth RBW of 120 kHz and a video bandwidth VBW of 300 kHz

7.5.4.2 Measurement Results

Radiated spurious emissions found in the band of 602 MHz to 620 MHz are reported in the Table 7.5.4.2-1 below.

Table 7.5.4.2-1: Radiated Spurious Emissions Tabulated Data _602 MHz – 620 MHz

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
TX = 201 MHz										
603.19	53.65	49.62	H	-3.89	---------	45.73	--------	114.1	---------	68.3
603.19	46.70	40.89	V	-3.89	---------	37.00	--------	114.1	---------	77.1
TX= 207 MHz										
620	45.50	43.94	H	-3.05	---------	40.89	--------	120.0	---------	79.1
620	40.03	34.93	V	-3.05	---------	31.88	--------	120.0	---------	88.1

Note: The EUT had to be tuned to 201 MHz and 207 MHz, respectively

7.5.5 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: 45.03 + (-8.04) = 36.99dBuV/m
Margin: 74dBuV/m – 36.99dBuV/m = 37.01dB

Example Calculation: Average
Corrected Level: 34.42 + (-8.04) - 0= 26.38dBuV
Margin: 54dBuV – 26.38dBuV = 27.62dB

8 CONCLUSION

In the opinion of ACS, Inc. the ADR 1200, manufactured by KTS Wireless meets the requirements of FCC Part 15 subpart H.

END REPORT