



FCC Test Report
for
47CFR15, Subpart B for Unintentional Radiators, per Section 101
Equipment authorization of unintentional radiators,
and
47CFR15, Subpart C for Intentional Radiators, per Section 247
Operation within the bands 902 to 928 MHz

on
kV2C Meter
[FCC ID: OWS-930]

models
kV2C Meter with external antenna
kV2C Meter with internal antenna

report number
20050512-02-F15

manufacturer
Silver Spring Networks, Inc.
13000 West Silver Spring Drive
Butler, WI 53007

judgement
Complies as tested

tests and report by
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Lab Code: 200172-0

EN45001 Accredited Compliance Laboratory (RES-GmbH)
Registration number: TTI-P-G 159/98-00 (RES-GmbH)

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PART 1 General

SECTION 1.1 TEST INFORMATION

GENERAL INFORMATION

Product Type Model	kV2C Meters kV2C Meter with external antenna kV2C Meter with external antenna	
Manufacturer's Name Manufacturer's Address Contact	Silver Spring Networks Inc. 13000 West Silver Springs Drive Butler, WI 53007 United States Tel: +1 (262) 364-5317 Juan Luglio, PhD	Fax: +1 (262) 783-0200 email : juan.luglio@silverspringnetworks.com
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Test Number and Report Numbers	20050512-02	20050512-02-F15
Test Date(s) & Issue Date	May 25 - May 27, 2005	June 17, 2005
Test Engineer(s)	Femi Ojo and Robert Kershaw	
Chief Engineer	Michael Gbadebo, P.E	
Documentation	George Brown.	
Test Results	<input checked="" type="checkbox"/> Complies as Tested	<input type="checkbox"/> Fail

The electromagnetic interference tests, which this report describes, were performed by an independent electromagnetic compatibility consultant, ITC Engineering Services, Inc. (ITC), in accordance with the emissions requirements specified in the FCC rules, 47CFR Part 15, Subparts B and C. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics. Any modifications specified in this report for compliance must be implemented in all production units for compliance to be maintained.

SECTION 1.2 TESTS PERFORMED:

Emissions Requirements:

- OPEN FIELD RADIATED EMISSIONS in accordance with the FCC 47 CFR 15.109

RF Requirements:

- MAXIMUM PEAK OUTPUT OF FUNDAMENTAL in accordance with the FCC 47 CFR 15.247(b) (1)
- OPERATING BAND in accordance with FCC 47 CFR 15.247(a)
- BAND-EDGE in accordance with the FCC 47 CFR 15.247(c)
- 6dB BANDWIDTH in accordance with FCC 47 CFR 15.247(a)(2)
- SPECTRAL DENSITY in accordance with FCC 47 CFR 15.247(d)
- HARMONIC/SPURIOUS EMISSIONS in accordance with the FCC 47 CFR 15.247(c)
- RESTRICTED BAND EMISSIONS in accordance with the FCC 47 CFR 15.205(c)

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Products: kV2C Meter with external antenna
kV2C Meter with internal antenna
FCC ID OWS – 930:

PART 1 General (Cont)

SECTION 1.3 DECLARATION/DISCLAIMER

ITC Engineering Services, Inc. (ITC) reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. ITC Engineering Services, Inc. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from ITC Engineering Services, Inc. issued reports.

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ITC Engineering Services, Inc. (ITC) is:

Accepted by the Federal Communications Commission (FCC) for FCC Methods, CISPR Methods and AUSTEL Technical Standards (Ref: NVLAP Lab Code 200172-0)

Approved by the Industry Canada for Telecom Testing

Certified by Rockford Engineering Services GmbH for EMC Testing according to the European EMC Directive 89/336/EEC per EN45001

Certified by Reg. TP for EMC Testing according to the European EMC Directive 89/336/EEC per EN45001 for RES GmbH (DAR-Registration number: TTI-P-G 159/98-00)

Certified by the Voluntary Control Council for Interference by Information Technology Equipment (VCCI) for EMC testing, in accordance with the Regulations for Voluntary Control Measures, Article 8, Registration Numbers - Site 1: C-1582 and R-1497.

PART 1 General (Cont)

SECTION 1.4 TEST METHODOLOGY

The electromagnetic interference tests, which this report describes, were performed by an independent electromagnetic compatibility consultant, ITC Engineering Services, Inc., in accordance with the FCC test procedure ANSI C63.4-1992.

SECTION 1.5 TEST FACILITY

The open area test site, the conducted measurement facility, and the test equipment used to collect the emissions data is located in Sunol, California, and is fully described in a site attenuation report. The approved site attenuation description is on file at the Federal Communications Commission.

Table 1 Radio Device Measurement Information

Product Type Models	kV2C Meter kV2C Meter with external antenna kV2C Meter with external antenna	
Applicant / Manufacturer Address	Silver Spring Networks, Inc. 13000 West Silver Spring Drive Butler, WI 53007	
Contact	Mr Juan Luglio Tel: (262) 364-5317	juan.luglio@silverspringnetworks.com Fax: (262) 783-0200
Test Results	<input checked="" type="checkbox"/> Complies	<input type="checkbox"/> Not Compliant
Total Number of Pages including Appendices	51 Pages	
Test Report File No.	20050512-02-F15	

Table 2 Measurement Uncertainty

RF frequency	$\pm 1 \times 10^{-7}$ HP8565E
RF power, conducted	± 1.5 dB
Adjacent channel power	± 3 dB
Conducted emission of transmitter, valid up to 1 GHz	± 1.5 dB
Conducted emission of transmitter, valid up to 18 GHz	± 1.5 dB
Conducted emission of receivers	± 1.5 dB
Radiated emission of transmitter, valid up to 1 GHz	± 1.5 dB
Radiated emission of transmitter, valid up to 18 GHz	± 1.5 dB
Radiated emission of transmitter, valid up to 26 GHz	± 3 dB
Radiated emission of transmitter, valid up to 40 GHz	± 3 dB
Radiated emission of transmitter, valid up to 75 GHz	± 3 dB

SECTION 1.6 ACCURACY OF TEST DATA

The test results contained in this report accurately represent the emissions generated by the sample equipment under test. ITC Engineering Services, Inc. (ITC) as an independent testing laboratory declares that the equipment as tested complies with the requirements of:

1. FCC standard 47CFR15.247.

for Intentional Radiators Operation within the bands 902MHz to 928MHz

PART 2 RECEIVER MEASUREMENTS

OPEN FIELD RADIATED EMISSIONS

SECTION 2.1 TEST SPECIFICATION: 47 CFR PART 15, SUB-PART B

The kV2C Meters (or the EUT) was set up at 3 or 10 meters in accordance with the suggested configuration given in FCC Measurement Procedure ANSI C63.4-1992. The measurement instrumentation used was a receiver with bandwidth parameters as stipulated in ANSI C63.4-1992. The EUT was set up on a wooden non-conductive tabletop, 80 cm above the ground reference plane, in an open field. The transmit function was de-activated for the tests. For measurements below 1GHz, kV2 Meter (or the EUT) was set up at a 10 meters distance from the search antenna with the EUT running in a continuous mode. The EUT was rotated 360 degrees azimuth and the search antenna height varied 1 to 4m in order to maximize the emissions. Significant peaks from the EUT were then recorded to determine margin to the limits. For measurements above 1GHz, the EUT running in continuous mode was set up at a 3 meter distance from the search antenna and was rotated 360 degrees azimuth and also rotated in its x-y-z axis positions to determine the precise amplitude of the emissions

Table 3 Test Equipment and Software Used– Radiated Emissions Tests

Equipment Description	Manufacturer	Model Name	Serial Number	Calibration Due
Spectrum Analyzer	Hewlett-Packard	8568B	2841A04315	11-29-05
Spectrum Analyzer Display	Hewlett-Packard	85662A	2848A17028	11-29-05
Quasi Peak Adapter	Hewlett-Packard	85650	2521A00871	11-29-05
Preselector	Hewlett-Packard	85685A	2620A00265	11-29-05
Spectrum Analyzer	Hewlett-Packard	8565E	2618A02909	03-29-06
Signal Generator	Hewlett-Packard	83650A	3420A00599	09-09-06
Power Supply	BK Precision	1688	2250558	No Cal. Needed
Biconical Antenna	EMCO	3104	3667	02-03-06
L. P. Ant. (200-1000 MHz)	EMCO	3146	9510-4202	02-03-06
Horn Antenna (Below 18GHz)	EMCO	3115	8812-3050	12-19-05

Software Used	Manufacturer	Model Name	Version Number	Calibration/Validation Date
Test Software	ITC	1.04b1	Rev. 4	02-05-06
Antenna Software	ITC	L.P-V/H 10m	Rev. 4	02-05-06
Antenna Software	ITC	B-V/H 10m	Rev. 4	02-05-06
Cable Software	ITC	OATS 30MHz-1GHz	Rev. 4	02-01-06

Table 4 Support Equipment – Radiated Emissions Tests

No	Description	Manufacturer	Model Name	Serial Number
1	FSU	N/A	N/A	BF00000034
2	NOTEBOOK	SONY	PCG – 974L	283293303418746

Test Voltage: 120V/480V, 60Hz

OPEN FIELD RADIATED EMISSIONS (cont)

SECTION 2.2 TEST RANGE RADIATED EMISSIONS TESTS

The frequency search range investigated was from 30 MHz to 2.48 GHz.

SECTION 2.3 SPECTRUM ANALYZER CONFIGURATION (SWEPT FREQUENCY SCANS)-

IF Bandwidth.....	120 kHz
Measurements below 1000 MHz (unless stated otherwise)	
Analyzer Mode (for Peak Measurements)	Peak/Log
Resolution Bandwidth.....	100 kHz
Video Bandwidth.....	100 kHz
Analyzer Mode (for Quasi-Peak Measurements)	
Quasi-Peak/Linear Resolution Bandwidth.....	1000 kHz
Video Bandwidth.....	1000 kHz
Measurements above 1000 MHz (unless stated otherwise)	
Quasi-Peak Adapter Mode	Disabled
Analyzer Mode (for Peak Measurements)	Peak
Resolution Bandwidth.....	1000 kHz
Video Bandwidth.....	1000 kHz
Analyzer Mode (for Average Measurements).....	Video Filter
Resolution Bandwidth.....	1000 kHz
Video Bandwidth.....	10 Hz

Table 5 Data Table Legend and Field Strength Calculation – Radiated Emissions Tests

Detector mode: Peak (P) or Quasi-Peak (QP) or Average (A)

	Polarization	Antenna	Freq Range (MHz)
VB	Vertical	EMCO 3104/sn 3549 Biconical	30 – 200
HB	Horizontal	EMCO 3104/sn 3549 Biconical	30 – 200
VL	Vertical	EMCO 3146/sn. 2075 Log Periodic	200 – 1000
HL	Horizontal	EMCO 3146/sn. 2075 Log Periodic	200 – 1000
VH1	Vertical	EMC 3115/sn. 2362 Horn	Below 18000
HH1	Horizontal	EMC 3115/sn. 2362 Horn	Below 18000
VH2	Vertical	EMC 3116/sn. 2655 Horn	Below 26500
HH2	Horizontal	EMC 3116/sn. 2655 Horn	Below 26500
VH4	Vertical	S&D DBD-520 Horn	Below 75000
HH4	Horizontal	S&D DBD-520 Horn	Below 75000

The margin in the Table 6 is calculated as follows:

Margin = Corrected Amplitude – Limit, where Corrected Amplitude = Spectrum Analyzer Amplitude + Cable Loss + Antenna Factor – Pre-Amp Gain.

SECTION 2.4 OPEN FIELD RADIATED EMISSIONS RESULTS

- Test Site 1 - Shielded Room: 16' x 12' x 9'
- Test Site 1 - 3m Open Field Radiated Site
- Test Site 1 - 10m Open Field Radiated Site
- Test Site 2 - Environmental Lab
- EMC Lab 1 - Test Laboratory
- Semi-Anechoic Absorber Lined Shielded Room
- Other: _____

SECTION 2.5 ADMINISTRATIVE AND ENVIRONMENTAL CONDITIONS DETAILS – RADIATED EMISSIONS

Test Date:	May 27 th , 2005
Test Engineer:	Bob Kershaw and Femi Ojo
Temperature	78°F
Humidity	52%

SECTION 2.6 OPEN FIELD RADIATED EMISSIONS TEST RESULTS

Table 6 Test Data for Radiated Emissions Measurement (Below 1 GHz)

The table below shows a summary of the highest amplitudes of the radiated emissions from the equipment under test at various antenna heights, antenna polarization, and EUT orientations.

INDICATED		CORRECTION		CORR	TURNTABLE ANT			CLASS A		CLASS B		FILTER	
FREQ	AMPL	ANT	CAB	AMPL	ANG	HT	POL	AMPL	MARG	AMPL	MARG	MODE	NOTES
MHz	dBuV/m	dB	dB	dBuV/m	DEG	m	-	dBuV/m	dB	dBuV/m	db		
43.89	6.3	11.7	2.5	20.5	45	2.0	VB			30.0	-9.5	P	
51.16	3.2	11.6	2.3	17.0	90	2.0	HB			30.0	-13.0	P	
58.04	5.4	9.4	2.6	17.4	45	2.0	VB			30.0	-12.6	P	
73.95	4.7	6.9	2.7	14.3	90	2.0	HB			30.0	-15.7	P	
85.07	4.4	8.2	3.0	15.6	90	2.0	VB			30.0	-14.4	P	
112.23	6.3	12.6	3.2	22.2	90	2.0	HB			33.0	-10.8	P	
112.23	8.5	12.6	3.2	24.4	90	2.0	VB			33.0	-8.6	P	
132.75	5.6	12.5	3.4	21.5	0	2.0	VB			33.0	-11.5	P	
146.11	6.6	12.0	3.7	22.4	180	2.0	VB			33.0	-10.6	P	
168.50	1.8	14.6	3.8	20.3	90	2.0	HB			33.0	-12.7	P	
221.81	6.6	10.8	3.8	21.2	45	1.0	HL			30.0	-8.8	P	
240.09	6.0	11.1	4.5	21.6	90	2.0	VL			36.0	-14.4	P	
240.11	6.9	11.0	4.5	22.4	180	1.0	HL			36.0	-13.6	P	
325.80	8.1	14.4	6.3	28.8	0	2.0	VL			36.0	-7.2	P	
347.39	3.5	14.2	6.3	24.0	45	2.0	HL			36.0	-12.0	P	
393.58	2.9	15.3	6.4	24.6	45	2.0	VL			36.0	-11.4	P	
400.19	3.5	14.5	6.3	24.3	45	2.0	HL			36.0	-11.7	P	
409.04	6.6	14.8	6.2	27.6	90	2.0	HL			36.0	-8.4	P	
436.36	2.4	15.8	6.5	24.7	180	2.0	VL			36.0	-11.3	P	
459.12	2.3	16.0	7.6	25.9	45	2.0	HL			36.0	-10.1	P	
501.32	6.3	17.3	8.2	31.8	90	2.0	HL			36.0	-4.2	P	
505.82	5.4	17.3	8.2	30.9	90	2.0	VL			36.0	-5.1	P	
519.38	2.2	18.0	8.3	28.4	90	2.0	HL			36.0	-7.6	P	
530.36	7.1	16.8	8.2	32.1	180	2.0	HL			36.0	-3.9	P	
634.06	5.9	18.8	8.7	33.4	180	2.0	VL			36.0	-2.6	P	
660.34	3.3	19.6	9.4	32.3	45	2.0	HL			36.0	-3.7	P	

No emissions of significant level were observed between 30MHz – 43.89MHz and 660.34MHz -1GHz.

Table 7 Test Data for Radiated Emissions Measurement (Above 1 GHz)

The table below shows a summary of the highest amplitudes of the radiated emissions from the equipment under test at various antenna heights, antenna polarization, and EUT orientations.

INDICATED		CORRECTION		CORR	TURNTABLE ANT			CLASS A		CLASS B		FILTER	
FREQ	AMPL	ANT	CAB	AMPL	ANG	HT	POL	AMPL	MAR G	AMPL	MARG		
MHz	dBuV/m	dB	dB	dBuV/m	DEG	m	-	dBuV/m	dB	dBuV/m	db	MODE	NOTES
1060.00	19.3	24.3	2.1	45.8	0	3.0	HH	-	-	54.0	-8.2	A	
1078.00	18.3	24.3	2.2	44.8	90	3.0	VH	-	-	54.0	-9.2	A	
1180.00	20.0	24.5	2.4	46.9	90	3.0	HH	-	-	54.0	-7.1	A	
1180.00	19.8	24.5	2.4	46.7	90	3.0	VH	-	-	54.0	-7.3	A	
1210.00	18.7	24.6	2.4	45.7	180	3.0	HH	-	-	54.0	-8.3	A	
1230.00	18.7	24.6	2.5	45.7	180	3.0	VH	-	-	54.0	-8.3	A	
1340.00	18.3	24.8	2.6	45.7	90	3.0	VH	-	-	54.0	-8.3	A	
1440.00	19.2	25.0	2.7	46.8	180	3.0	VH	-	-	54.0	-7.2	A	
1530.00	19.5	25.3	2.8	47.6	45	3.0	HH	-	-	54.0	-6.4	A	
2000.00	20.0	27.9	3.0	50.9	90	3.0	HH	-	-	54.0	-3.1	A	
2072.00	19.5	28.0	2.9	50.4	180	3.0	HH	-	-	54.0	-3.6	A	
2100.00	19.2	27.9	2.8	49.8	90	3.0	VH	-	-	54.0	-4.2	A	
2270.00	19.0	28.3	2.5	49.8	45	3.0	HH	-	-	54.0	-4.2	A	
2400.00	19.7	28.4	2.8	50.9	90	3.0	VH	-	-	54.0	-3.1	A	
2480.00	19.7	28.6	3.0	51.2	90	3.0	HH	-	-	54.0	-2.8	A	

No emission of significant level were observed between 1 GHz - 1.06 GHz and 2.48 GHz -10 GHz

SECTION 2.7 TEST DATA SUMMARY

The margin is calculated as follows:

Margin = Corrected Amplitude - Limit; where Corrected Amplitude = Amplitude + Cable Loss + Antenna Factor.

SECTION 2.8 CONCLUSION

The kV2C Meter meets the requirements for open field radiated emissions Class B.

OPEN FIELD RADIATED EMISSIONS Results (cont)

SECTION 2.9 RADIATED EMISSIONS TEST SETUP PHOTOGRAPHS



Figure 1: Radiated Emissions Test Setup (Front View)



Figure 2 Radiated Emissions Test Setup (Rear View)

OPEN FIELD RADIATED EMISSIONS Results (cont)

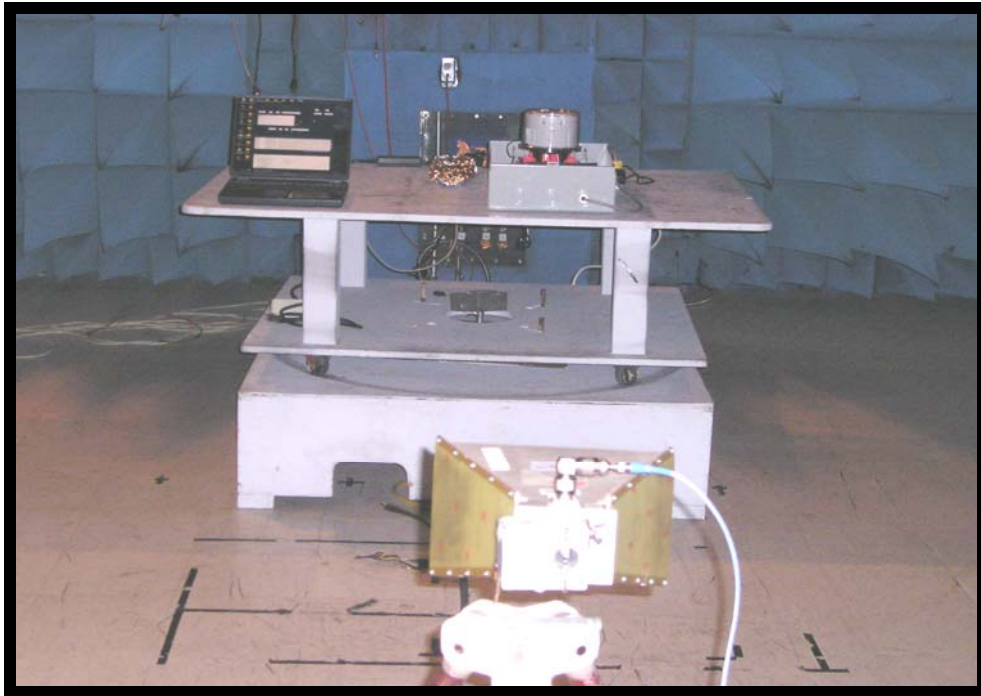


Figure 3: Radiated Emissions Test Setup (Above 1 GHz) Front View

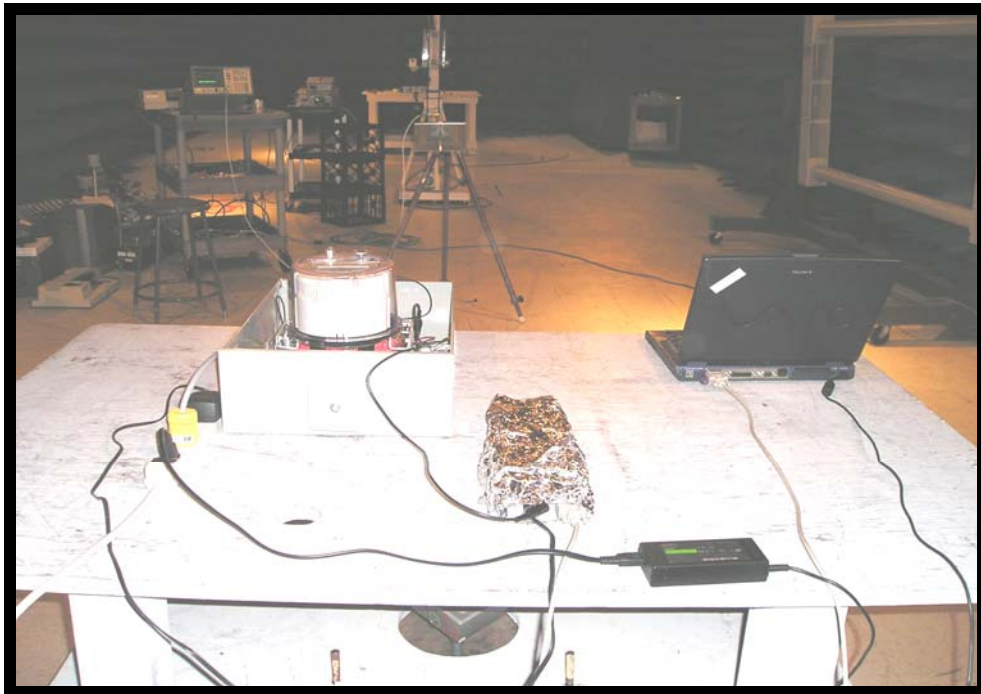


Figure 4: Radiated Emissions Test Setup (Above 1 GHz) Rear View

PART 3 RF MEASUREMENTS

SECTION 3.1 LIST OF EQUIPMENT USED DURING RF TESTS

Table 8: Support Equipment – RF Measurements

No	Description	Manufacturer	Model Name	Serial Number
1	FSU	N/A	N/A	BF00000034
2	PLOTTER	HEWLETT PACKARD	7440A	N/A
3	NOTEBOOK	SONY	PCG – 974L	283293303418746

Table 9: Test Equipment – RF Measurements

Equipment Description	Manufacturer	Model Name	Serial Number	Calibration Due
Spectrum Analyzer	Hewlett-Packard	8568B	2841A04315	11-29-05
Spectrum Analyzer Display	Hewlett-Packard	85662A	2848A17028	11-29-05
Quasi Peak Adapter	Hewlett-Packard	85650	2521A00871	11-29-05
Preselector	Hewlett-Packard	85685A	2620A00265	11-29-05
Spectrum Analyzer	Hewlett-Packard	8565E	2618A02909	03-29-06
Signal Generator	Hewlett-Packard	83650A	3420A00599	09-09-06
Power Supply	BK Precision	1688	2250558	No Cal. Needed
Biconical Antenna	EMCO	3104	3667	02-03-06
L. P. Ant. (200-1000 MHz)	EMCO	3146	9510-4202	02-03-06
Horn Antenna (Below 18GHz)	EMCO	3115	8812-3050	12-19-05

Software Used	Manufacturer	Model Name	Version Number	Calibration/Validation Date
Test Software	ITC	1.04b1	Rev. 4	02-05-06
Antenna Software	ITC	L.P-V/H 10m	Rev. 4	02-05-06
Antenna Software	ITC	B-V/H 10m	Rev. 4	02-05-06
Cable Software	ITC	OATS 30MHz-1GHz	Rev. 4	02-01-06

Table 10: Data Table Legend and Field Strength Calculation

Detector mode: Peak (P) or Quasi-Peak (QP) or Average (A)

	Polarization	Antenna	Freq Range (MHz)
VB	Vertical	EMCO 3104/sn 3549 Biconical	30 – 200
HB	Horizontal	EMCO 3104/sn 3549 Biconical	30 – 200
VL	Vertical	EMCO 3146/sn. 2075 Log Periodic	200 – 1000
HL	Horizontal	EMCO 3146/sn. 2075 Log Periodic	200 – 1000
VH1	Vertical	EMC 3115/sn. 2362 Horn	Below 18000
HH1	Horizontal	EMC 3115/sn. 2362 Horn	Below 18000
VH2	Vertical	EMC 3116/sn. 2655 Horn	Below 26500
HH2	Horizontal	EMC 3116/sn. 2655 Horn	Below 26500
VH4	Vertical	S&D DBD-520 Horn	Below 75000
HH4	Horizontal	S&D DBD-520 Horn	Below 75000

RF Conducted Measurements

SECTION 3.3 SETUP PHOTOGRAPHS



Figure 5 General Test Set Up - Front View

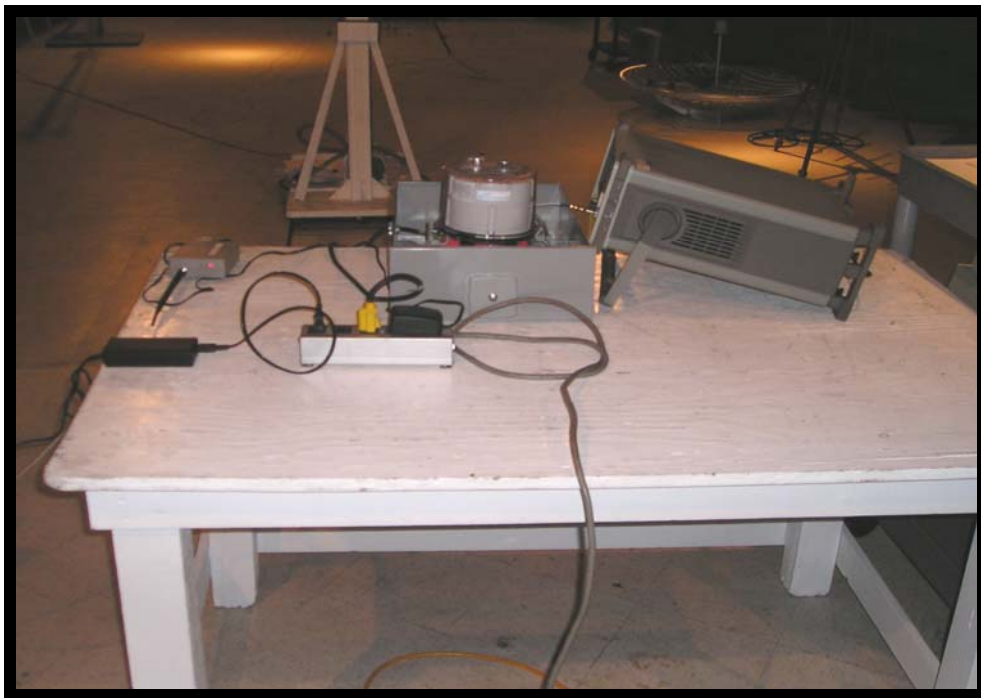


Figure 6 General Test Set Up - Rear View

PART 4 MAXIMUM IN-BAND PEAK / NUMBER OF CHANNELS

SECTION 4.1 MAXIMUM PEAK MEASUREMENT

The EUT was set up on a wooden non-conductive tabletop, attached at the antenna connector to the measuring device. The measurement instrumentation used was a receiver with bandwidth parameters as stipulated in ANSI C63.4-1992. The EUT was configured to run in continuous mode during the tests. The measurement data below represents the maximum worst-case result from the measurement performed in accordance to the requirements of this section.

SECTION 4.2 SITE USED – MAXIMUM IN-BAND PEAK MEASUREMENT

- Test Site 1 - Shielded Room: 16' x 12' x 9'
- Test Site 1 - 3m Open Field Radiated Site
- Test Site 1 - 10m Open Field Radiated Site
- Test Site 2 - Environmental Lab
- EMC Lab 1 - Test Laboratory
- Semi-Anechoic Absorber Lined Shielded Room

SECTION 4.3 ADMINISTRATIVE AND ENVIRONMENTAL DETAILS –MAXIMUM IN-BAND PEAK DATA

Test Date(s):	May 25 th , 2005
Test Engineer(s):	Bob Kershaw and Femi Ojo
Temperature	68°F
Humidity	45%

SECTION 4.4 TEST DATA – MAXIMUM IN-BAND PEAK MEASUREMENT

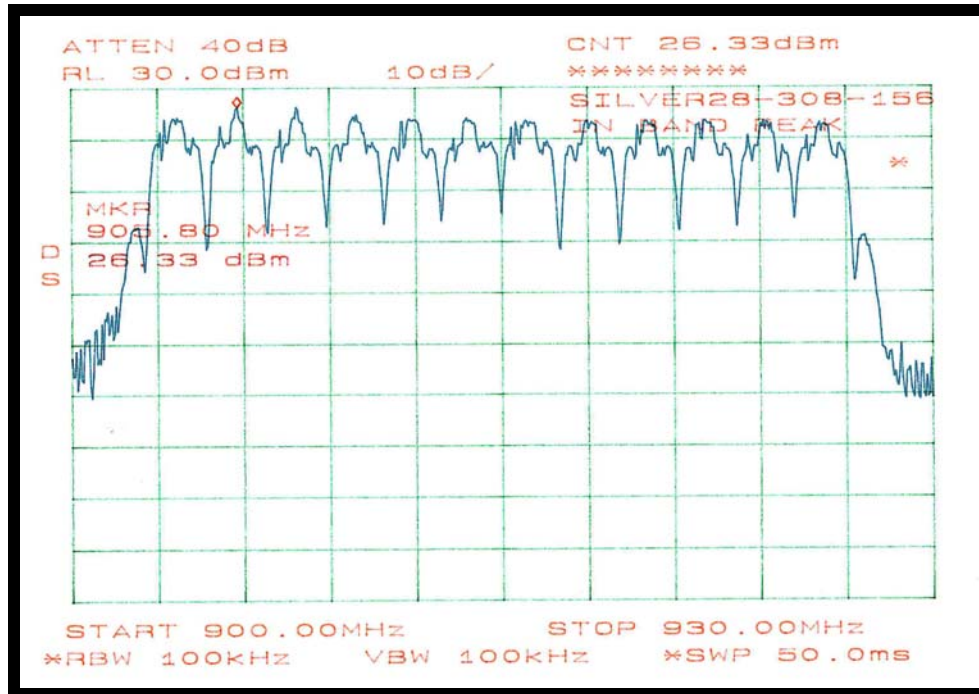


Figure 7: Plot of In-Band Peak Measurement

Test-Data Summary – Peak Measurement:

Peak Frequency = 906.80 MHz
 Peak Level: = 26.33 dBm
 Number of Channels = 11

PART 5 CHANNEL SEPARATION MEASUREMENT

SECTION 5.1 CHANNEL SEPARATION MEASUREMENT

The EUT was set up on a wooden non-conductive tabletop, attached at the antenna connector to the measuring device. The measurement instrumentation used was a receiver with bandwidth parameters as stipulated in ANSI C63.4-1992. The EUT was configured to run in continuous mode during the tests. The measurement data below represents the maximum worst-case result from the measurement performed in accordance to the requirements of this section.

SECTION 5.2 SITE USED – CHANNEL SEPARATION MEASUREMENT

- Test Site 1 - Shielded Room: 16' x 12' x 9'
- Test Site 1 - 3m Open Field Radiated Site
- Test Site 1 - 10m Open Field Radiated Site
- Test Site 2 - Environmental Lab
- EMC Lab 1 - Test Laboratory
- Semi-Anechoic Absorber Lined Shielded Room
- Other: _____

SECTION 5.3 ADMINISTRATIVE AND ENVIRONMENTAL DETAILS – CHANNEL SEPARATION MEASUREMENT

Test Date(s):	May 25 th , 2005
Test Engineer(s):	Femi Ojo and Bob Kershaw
Temperature	68°F
Humidity	45%

SECTION 5.4 TEST DATA – CHANNEL SEPARATION MEASUREMENT

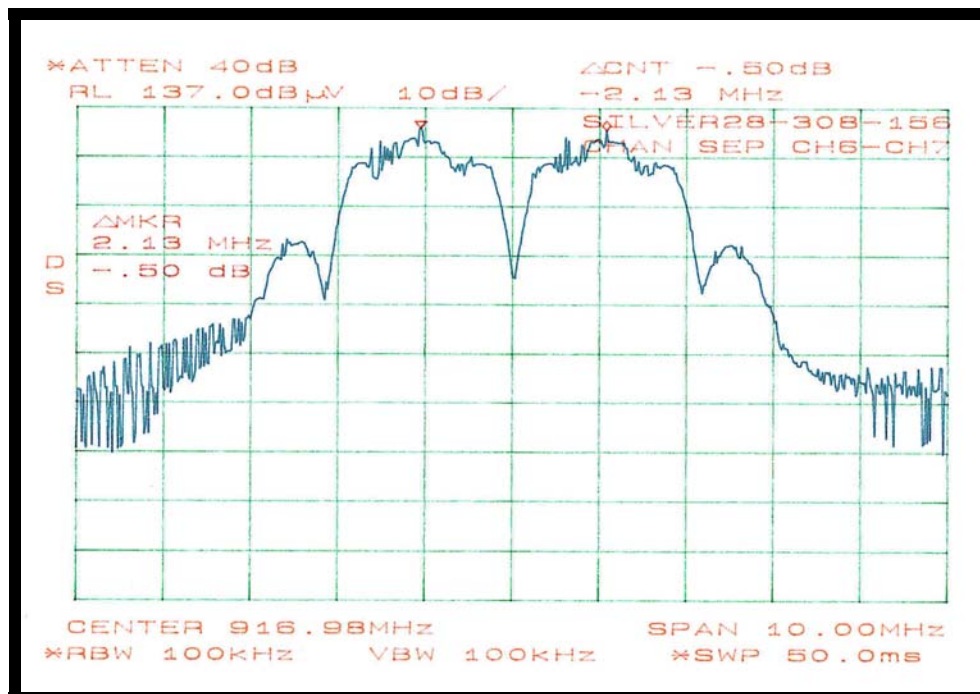


Figure 8: Plot of Channel Separation Measurement at 916.98 MHz

Test-Data Summary – Channel Separation Measurement:

Peak Frequencies = 915.968 MHz (CH 6) & 918.106 MHz (CH 7)
 Channel Separation (measured) = 2.13 MHz

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Products: kV2C Meter with external antenna
 kV2C Meter with internal antenna
 FCC ID OWS – 930:

PART 6 MAXIMUM POWER OUTPUT PER 47 CFR 15.247(B) (1)

SECTION 6.1 MAXIMUM POWER MEASUREMENT

The EUT was set up on a wooden non-conductive tabletop, attached at the antenna connector to the measuring device. The measurement instrumentation used was a receiver with bandwidth parameters as stipulated in ANSI C63.4-1992. The EUT was configured to run in continuous mode during the tests. The measurement data below represents the maximum worst-case result from the measurement performed in accordance to the requirements of this section.

SECTION 6.2 SITE USED – MAXIMUM POWER MEASUREMENT

- Test Site 1 - Shielded Room: 16' x 12' x 9'
- Test Site 1 - 3m Open Field Radiated Site
- Test Site 1 - 10m Open Field Radiated Site
- Test Site 2 - Environmental Lab
- EMC Lab 1 - Test Laboratory
- Semi-Anechoic Absorber Lined Shielded Room

SECTION 6.3 ADMINISTRATIVE DETAILS – MAXIMUM POWER MEASUREMENT

Test Date(s):	May 25 th , 2005
Test Engineer(s):	Bob Kershaw and Femi Ojo
Temperature	68°F
Humidity	45%

SECTION 6.4 TEST DATA – MAXIMUM POWER MEASUREMENT (CH 1 - 906MHZ)

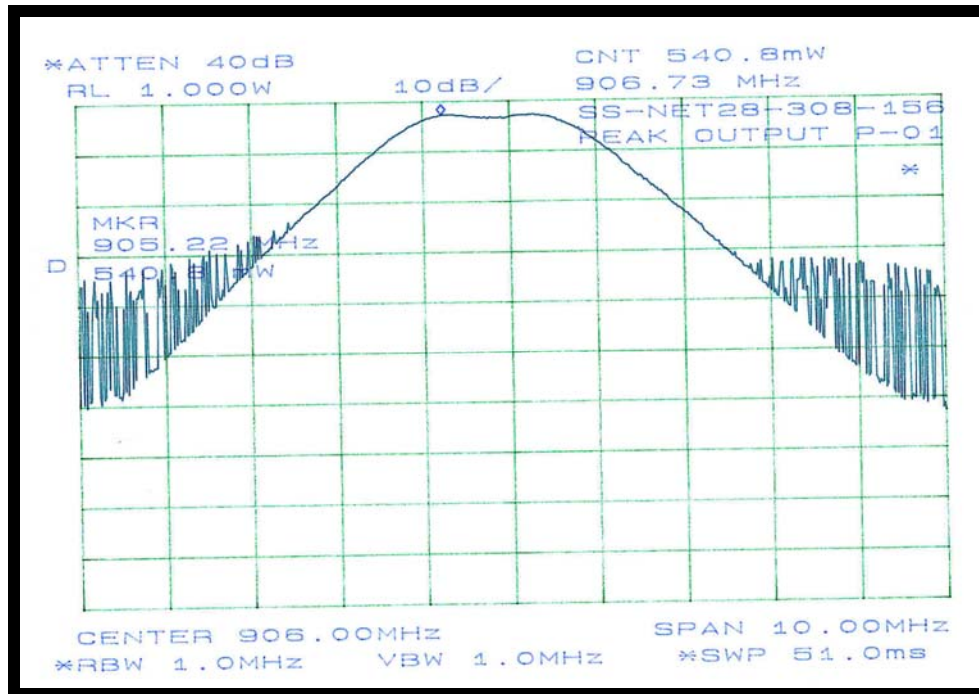


Figure 9: Plot of Maximum Power Measurement at Channel 1

Test-Data Summary – Peak Measurement (CH 1 – 906MHz):

Center Frequency = 906 MHz
 Peak Level: = 540.8 mW
 Limit per 15.247(b)(1) = 1 W

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 kV2C Meter with internal antenna
 FCC ID OWS – 930:

MAXIMUM POWER OUTPUT (cont)

SECTION 6.5 TEST DATA – MAXIMUM POWER MEASUREMENT (CH 6 - 916MHZ)

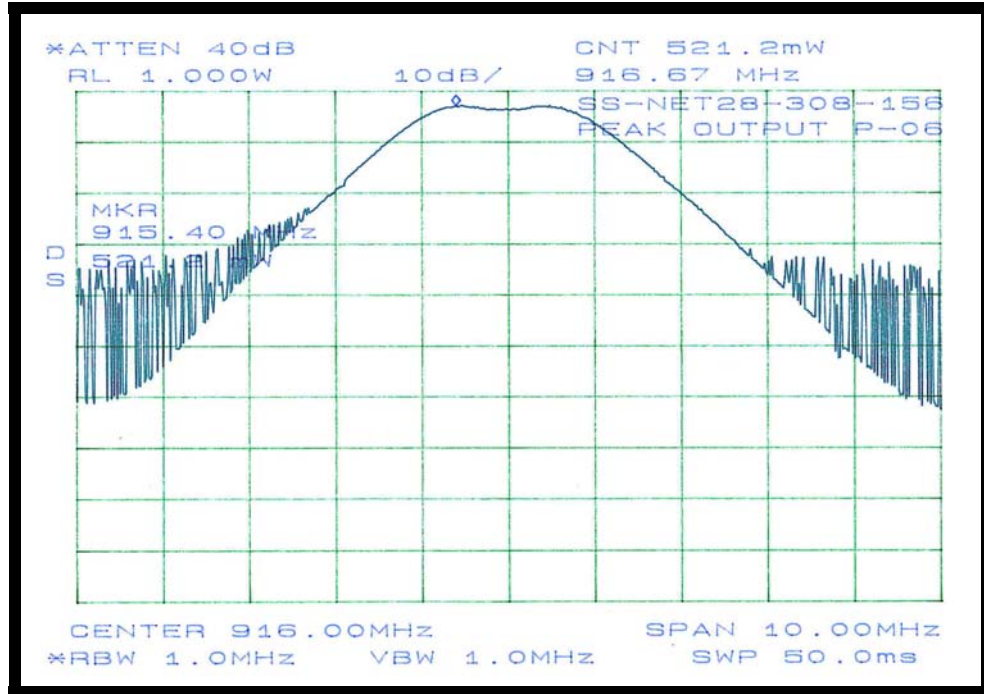


Figure 10: Plot of Maximum Power Measurement at 915MHz

Test-Data Summary – Maximum Power Measurement (CH 6 – 916MHz):

Center Frequency = 916 MHz
 Peak Level: = 521.2 mW
 Limit per 15.247(b)(1) = 1 W

SECTION 6.5 TEST DATA – MAXIMUM POWER MEASUREMENT (CH 11 - 926MHZ)

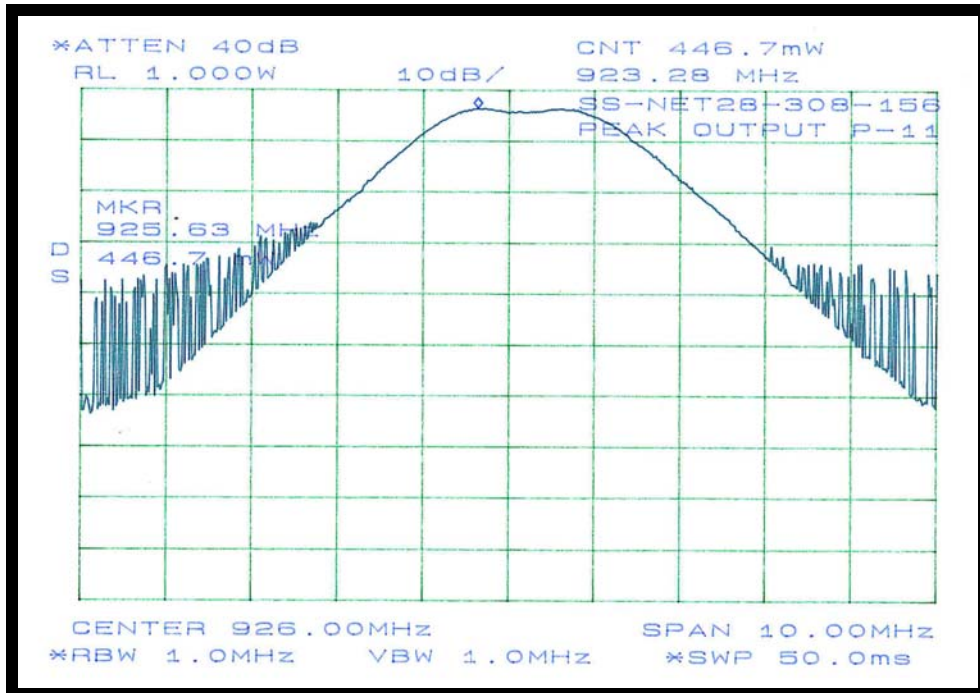


Figure 11: Plot of Maximum Power Measurement at 926MHz on Channel 11

Test-Data Summary – Maximum Power Measurement (CH 11 – 926MHz):

Center Frequency = 926 MHz
 Peak Level: = 446.7mW
 Limit per 15.247(b)(1) = 1 W

PART 7 SPECTRAL DENSITY per 47 CFR 15.247(c)

SECTION 7.1 SPECTRAL DENSITY MEASUREMENT

The kv2 Meter (or the EUT) was set up at 3m in accordance with the suggested configuration given in FCC Measurement Procedure ANSI C63.4-1992. The measurement instrumentation used was a receiver with bandwidth parameters as stipulated in ANSI C63.4-1992. The EUT was set up on a wooden non-conductive tabletop, 80 cm above the ground reference plane, in a semi-anechoic absorber lined shielded room.

The EUT was configured to run in continuous mode during the tests. The measurement data below represents the maximum worst-case result from the measurement performed in accordance to the requirements of this section.

SECTION 7.2 SITE USED – SPECTRAL DENSITY MEASUREMENT

- Test Site 1 - Shielded Room: 16' x 12' x 9'
- Test Site 1 - 3m Open Field Radiated Site
- Test Site 1 - 10m Open Field Radiated Site
- Test Site 2 - Environmental Lab
- EMC Lab 1 - Test Laboratory
- Semi-Anechoic Absorber Lined Shielded Room
- Other: _____

SECTION 7.3 ADMINISTRATIVE AND ENVIRONMENTAL DETAILS-

Test Date(s):	May 26 th , 2005
Test Engineer(s):	Bob Kershaw and Femi Ojo
Temperature	68°F
Humidity	45%

SECTION 7.4 TEST DATA – SPECTRAL DENSITY MEASUREMENT

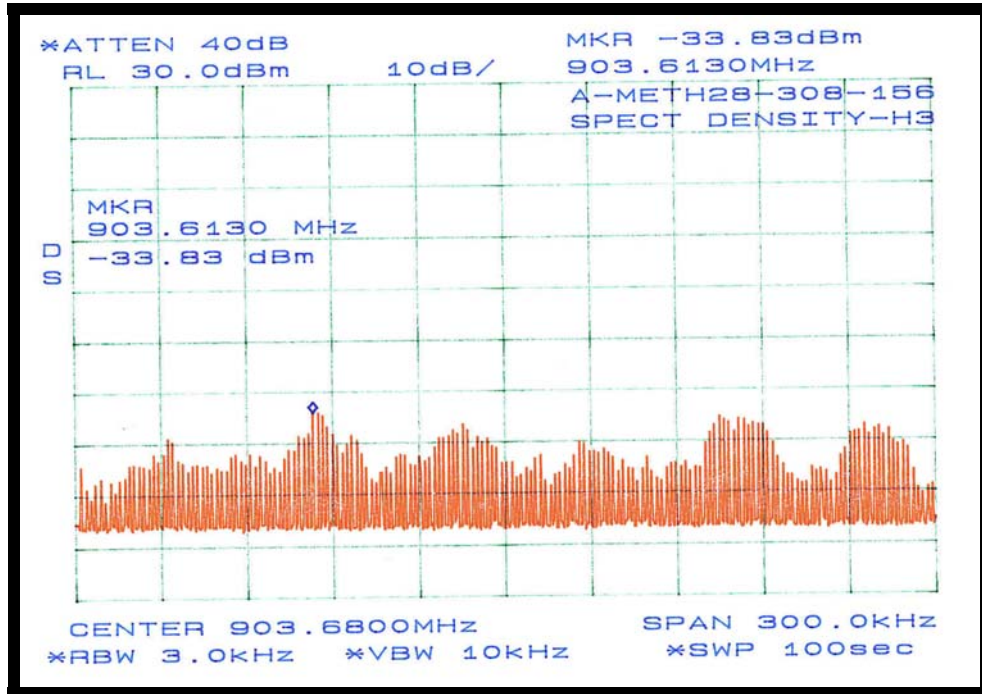


Figure 12: Plot of Spectral Density Measurement at 903.613MHz (ch 1)

Test-Data Summary – Spectral Density Measurement (903.613MHz):

Center Frequency = 903.613 MHz
Peak Level: = -33.83dBm = 73.17dBμV
Field Strength: = 73.17+21.3+0.5=94.97dBμV
 94.97dBμV = -12.03dBm.

Power Spectral Density (alternate method) per FCC Appendix C

$$P = (Ed)^2 / (30G)$$

$$P = (-12.03 \times 3)^2 / (30 \times 5.56) = 7.8dBm$$

P = Power Spectral Density
 E = Field strength = -12.03dBm.
 d = Distance (m) = 3m
 G = Gain of the transmitting antenna = 5.56
Limit per 15.247(c) = 8dBm

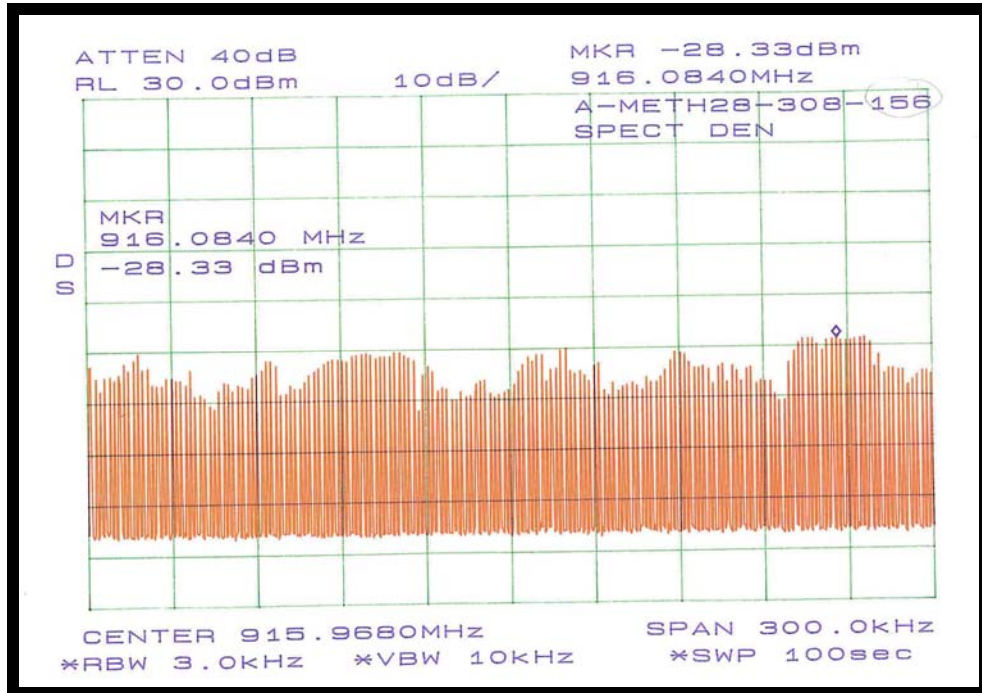


Figure 13: Plot of Spectral Density Measurement at 916.084MHz (ch 6)

Test-Data Summary – Spectral Density Measurement (916.084MHz):

Center Frequency = 915.968 MHz
 Peak Level: = -28.333dBm = 78.67dBμV
 Field Strength: = 78.677+21.7+0.5=100.87dBμV
 100.87dBμV = -6.13dBm.

Power Spectral Density (alternate method) per FCC Appendix C

$$P = (Ed)^2 / (30G)$$

$$P = (-6.13 \times 3)^2 / (30 \times 5.56) = 2.03dBm$$

P = Power Spectral Density
 E = Field strength = -6.13dBm.
 d = Distance (m) = 3m
 G = Gain of the transmitting antenna = 5.56
 Limit per 15.247(c) = 8dBm

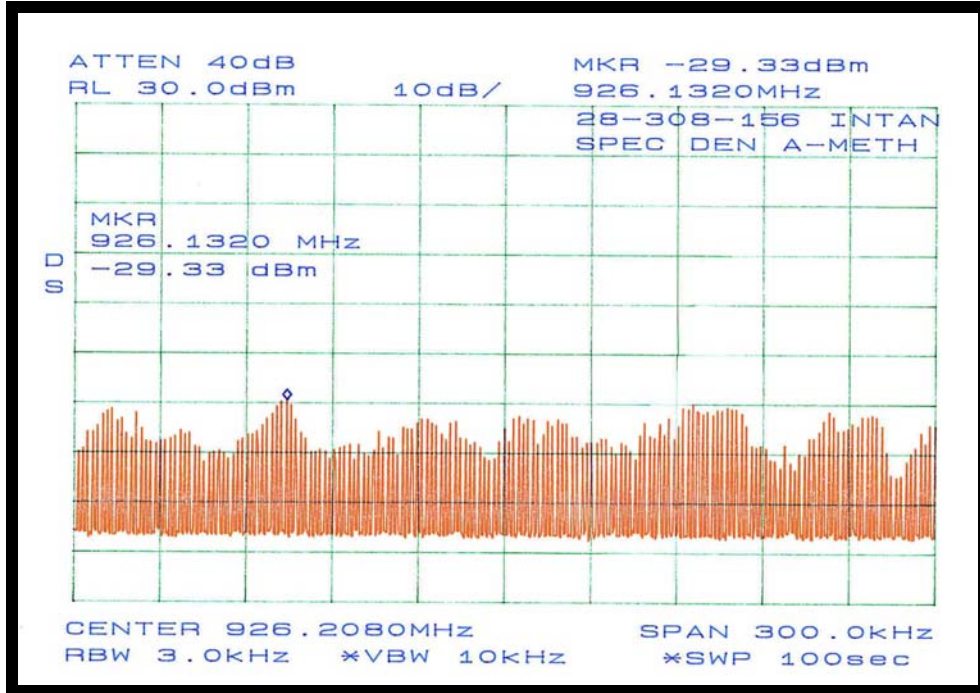


Figure 14: Plot of Spectral Density Measurement at 926.132MHz (ch 11)

Test-Data Summary – Spectral Density Measurement (926.132MHz):

Center Frequency = 926.208 MHz
 Peak Level: = -29.333dBm = 77.67dBμV
 Field Strength: = 77.677+22.6+0.5=100.77dBμV
 100.77dBμV = -6.23dBm.

Power Spectral Density (alternate method) per FCC Appendix C

$$P = (Ed)^2 / (30G)$$

$$P = (-6.23 \times 3)^2 / (30 \times 5.56) = 2.1dBm$$

P = Power Spectral Density
 E = Field strength = -6.23dBm.
 d = Distance (m) = 3m
 G = Gain of the transmitting antenna = 5.56
Limit per 15.247(c) = 8dBm

PART 8 6dB BANDWIDTH per 47 CFR 15.247(a) (2)

SECTION 8.1 6DB BANDWIDTH MEASUREMENT

The EUT was set up on a wooden non-conductive tabletop, attached at the antenna connector to the measuring device. The measurement instrumentation used was a receiver with bandwidth parameters as stipulated in ANSI C63.4-1992. The EUT was configured to run in continuous mode during the tests. The measurement data below represents the maximum worst-case result from the measurement performed in accordance to the requirements of this section.

SECTION 8.2 SITE USED – 6DB BANDWIDTH MEASUREMENT

- Test Site 1 - Shielded Room: 16' x 12' x 9'
- Test Site 1 - 3m Open Field Radiated Site
- Test Site 1 - 10m Open Field Radiated Site
- Test Site 2 - Environmental Lab
- EMC Lab 1 - Test Laboratory
- Semi-Anechoic Absorber Lined Shielded Room
- Other: _____

SECTION 8.3 ADMINISTRATIVE & ENVIRONMENTAL - 6DB BANDWIDTH DETAILS

Test Date(s):	May 25 th , 2005
Test Engineer(s):	Bob Kershaw and Femi Ojo
Temperature	68°F
Humidity	45%

SECTION 8.4 TEST DATA – 6DB BANDWIDTH MEASUREMENT (CH 1 – 905.728 MHZ)

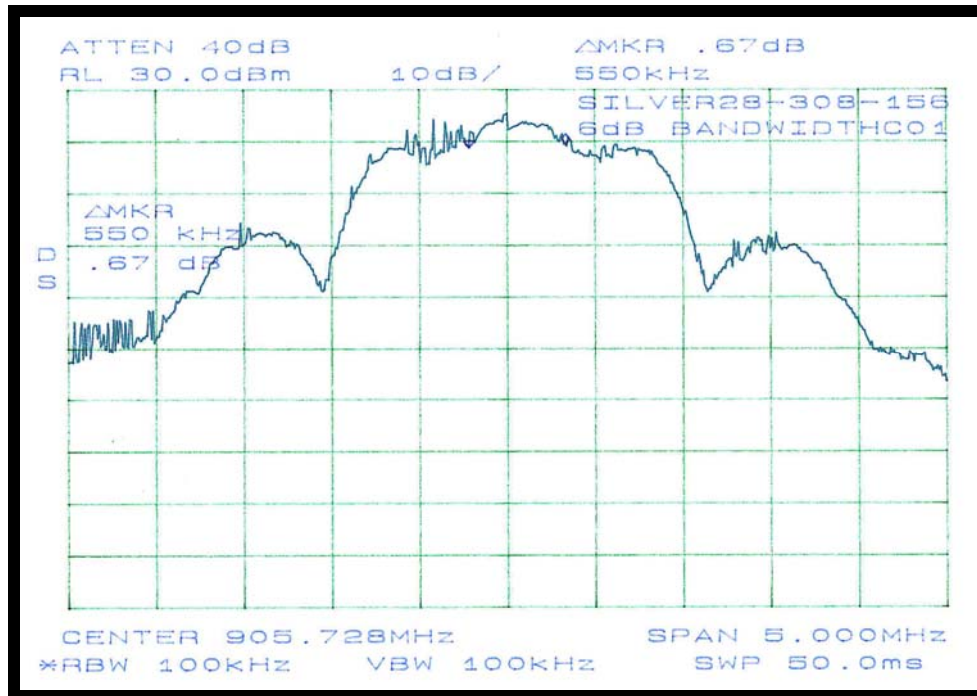


Figure 15: Plot of 6dB Bandwidth Measurement at 905.728MHz

Test-Data Summary – 6dB Bandwidth Measurement (CH 1 – 905.728MHz):

Center Frequency = 905.728 MHz
 6dB Bandwidth = 550KHz
 Limit per 15.247(a)(2) = 500KHz minimum

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 kV2C Meter with internal antenna
 FCC ID OWS – 930

6dB BANDWIDTH (cont)

SECTION 8.5 TEST DATA – 6DB BANDWIDTH MEASUREMENT (CH 6 – 915.9 MHZ)

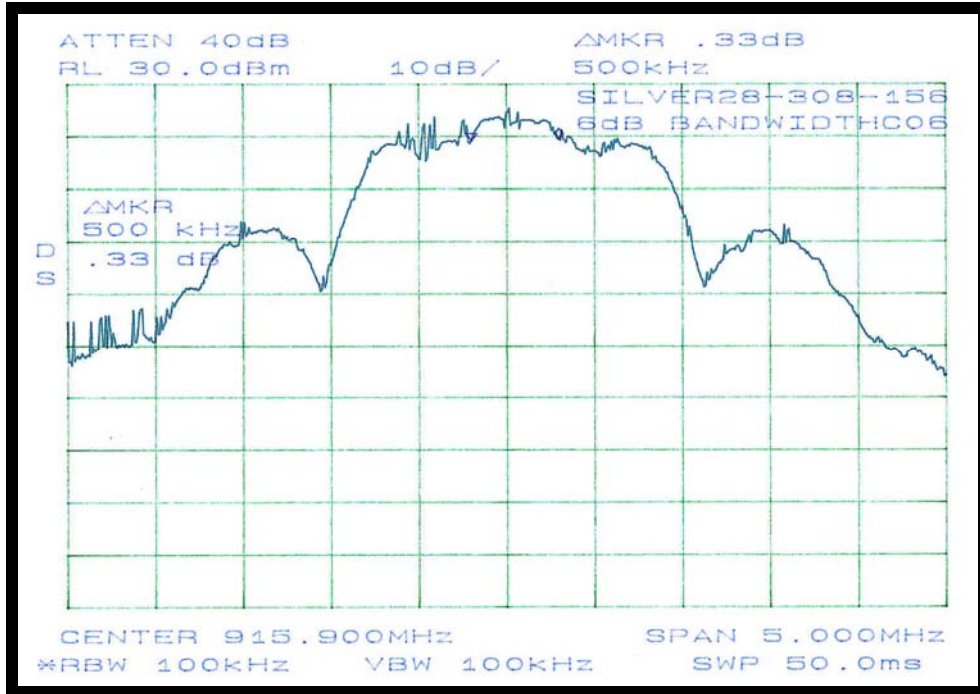


Figure 16: Plot of Maximum Power Measurement at 915.900MHz

Test-Data Summary – 6dB Bandwidth Measurement (CH 6 – 915.900MHz):

Center Frequency = 915.900 MHz
 6dB Bandwidth = 500KHz
 Limit per 15.247(a)(2) = 500KHz minimum

SECTION 8.6 TEST DATA – 6DB BANDWIDTH MEASUREMENT (CH 11 – 926.208MHZ)

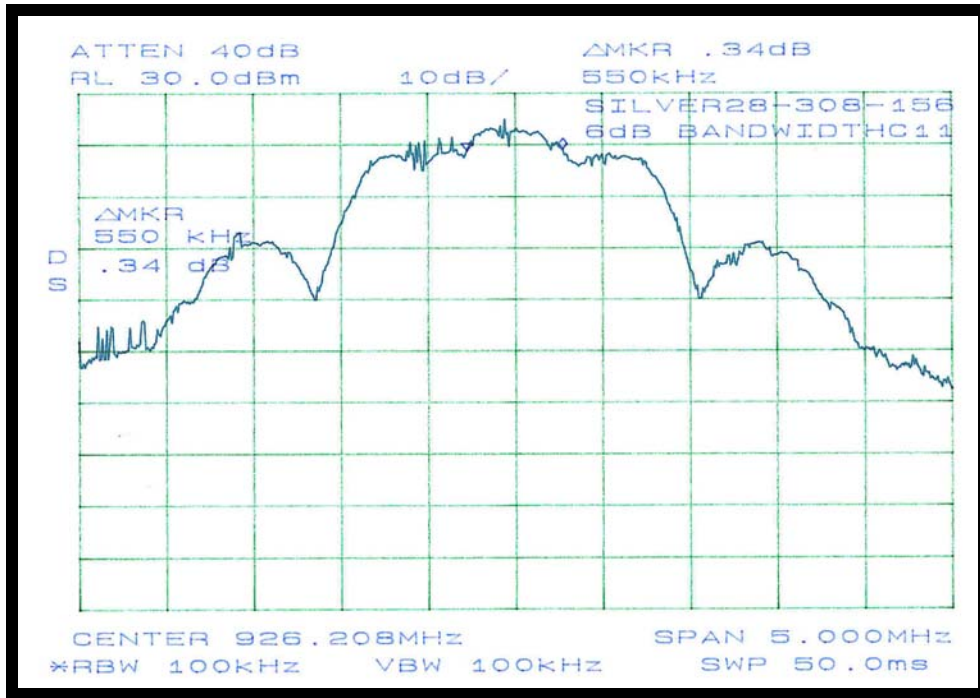


Figure 17: Plot of 6dB Bandwidth Measurement at 926.208MHz

Test-Data Summary – 6dB Bandwidth Measurement (Channel 11) :

Center Frequency = 926.208 MHz
 6dB Bandwidth = 550KHz
 Limit per 15.247(a)(2) = 500KHz minimum

PART 9 6DB BANDEDGE MEASUREMENT

6dB BAND-EDGE per 47 CFR 15.247(c)

SECTION 9.1 6DB BAND-EDGE MEASUREMENT

The EUT was set up on a wooden non-conductive tabletop, attached at the antenna connector to the measuring device. The measurement instrumentation used was a receiver with bandwidth parameters as stipulated in ANSI C63.4-1992. The EUT was configured to run in continuous mode during the tests. The measurement data below represents the maximum worst-case result from the measurement performed in accordance to the requirements of this section.

SECTION 9.2 SITE USED –BAND-EDGE MEASUREMENT

- Test Site 1 - Shielded Room: 16' x 12' x 9'
- Test Site 1 - 3m Open Field Radiated Site
- Test Site 1 - 10m Open Field Radiated Site
- Test Site 2 - Environmental Lab
- EMC Lab 1 - Test Laboratory
- Semi-Anechoic Absorber Lined Shielded Room
- Other: _____

SECTION 9.3 ADMINISTRATIVE AND ENVIRONMENTAL DETAILS–BAND-EDGE MEASUREMENT

Test Date(s):	May 25 th , 2005
Test Engineer(s):	Bob Kershaw and Femi Ojo
Temperature	68°F
Humidity	45%

SECTION 9.4 TEST DATA –BAND-EDGE MEASUREMENT (LOWER BANDEDGE - 902MHZ)

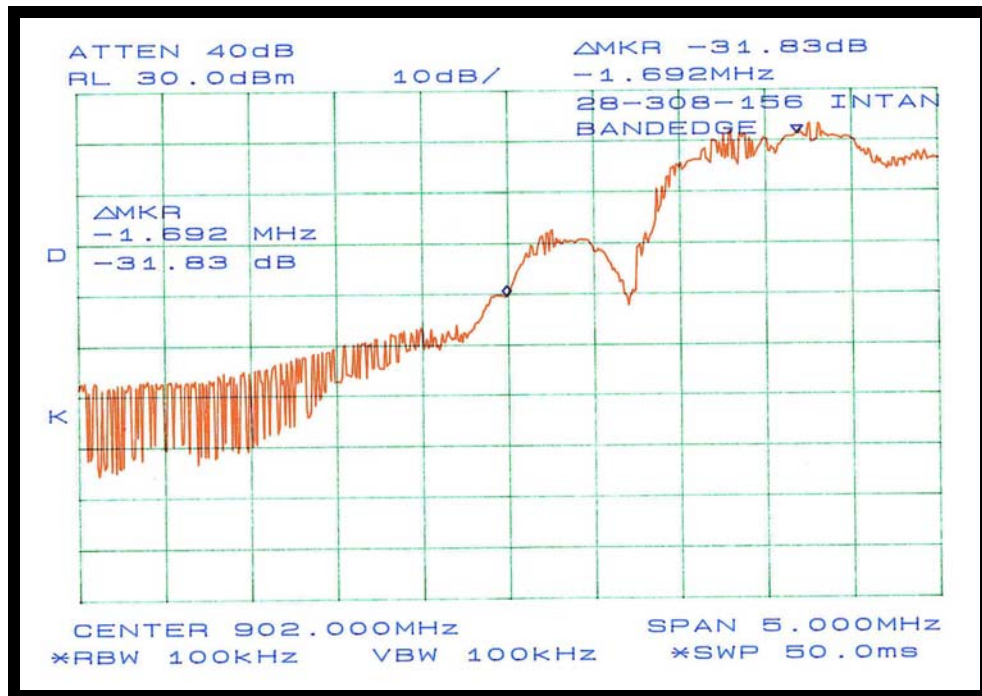


Figure 18: Plot of Lower Band-Edge Measurement at 902MHz

Test-Data Summary –Band-Edge Measurement (Lower Band Edge – 902MHz):

Center Frequency = 902 MHz
 Band-Edge Level = -31dB
 Limit per 15.247(c) = 20dB below in-band peak (or -20dB)

BAND-EDGE MEASUREMENT (cont)

SECTION 9.5 TEST DATA –BAND-EDGE MEASUREMENT (UPPER BAND EDGE - 928MHZ)

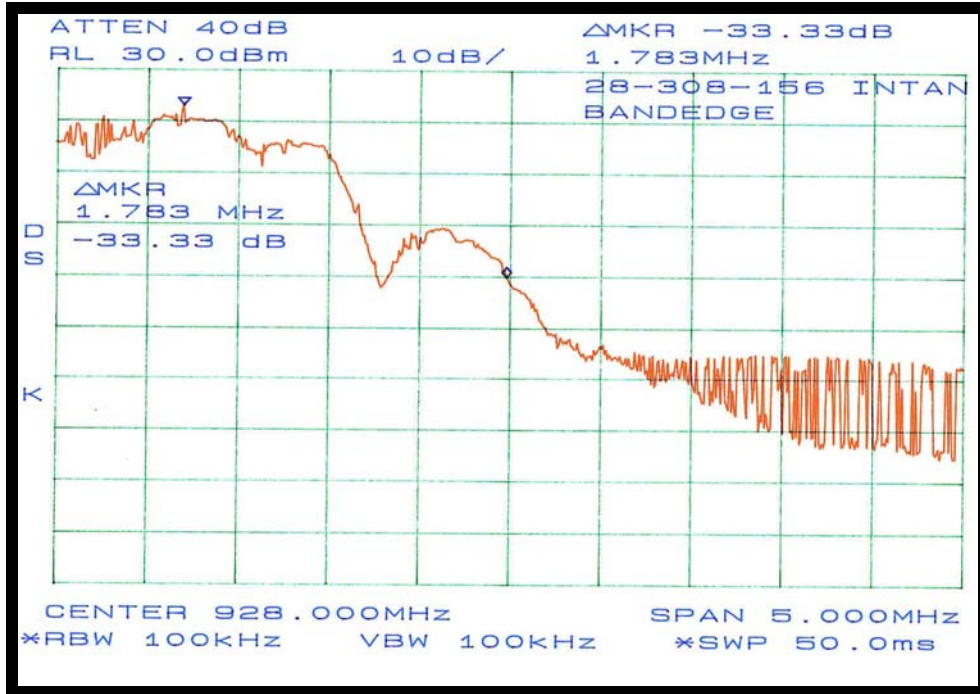


Figure 19: Plot of Band-Edge Measurement at 928MHz

Test-Data Summary –Band-Edge Measurement (Upper Band Edge – 928MHz):

Center Frequency = 928MHz
 Band-Edge Level = -33.33dB
 Limit per 15.247(c) = 20dB below in-band peak (or -20dB)

PART 10 100kHz Bandwidth Out-of-Band Emissions per 47 CFR 15.247(a) (2)

SECTION 10.1 100KHZ BANDWIDTH OUT-OF-BAND EMISSIONS MEASUREMENT

The EUT was set up on a wooden non-conductive tabletop, attached at the antenna connector to the measuring device. The measurement instrumentation used was a receiver with bandwidth parameters as stipulated in ANSI C63.4-1992. The EUT was configured to run in continuous mode during the tests. The measurement data below represents the maximum worst-case result from the measurement performed in accordance to the requirements of this section.

SECTION 10.2 SITE USED – 100 KHZ BANDWIDTH OUT-OF-BAND MEASUREMENT

- Test Site 1 - Shielded Room: 16' x 12' x 9'
- Test Site 1 - 3m Open Field Radiated Site
- Test Site 1 - 10m Open Field Radiated Site
- Test Site 2 - Environmental Lab
- EMC Lab 1 - Test Laboratory
- Semi-Anechoic Absorber Lined Shielded Room
- Other: _____

SECTION 10.3 ADMINISTRATIVE & ENVIRONMENTAL - (OUT OF BAND DETAILS)

Test Date(s):	May 25 th , 2005
Test Engineer(s):	Femi Ojo and Bob Kershaw
Temperature	68°F
Humidity	45%

SECTION 10.4 TEST DATA – 100KHZ (OUT-OF-BAND) MEASUREMENT (IN-BAND PEAK)

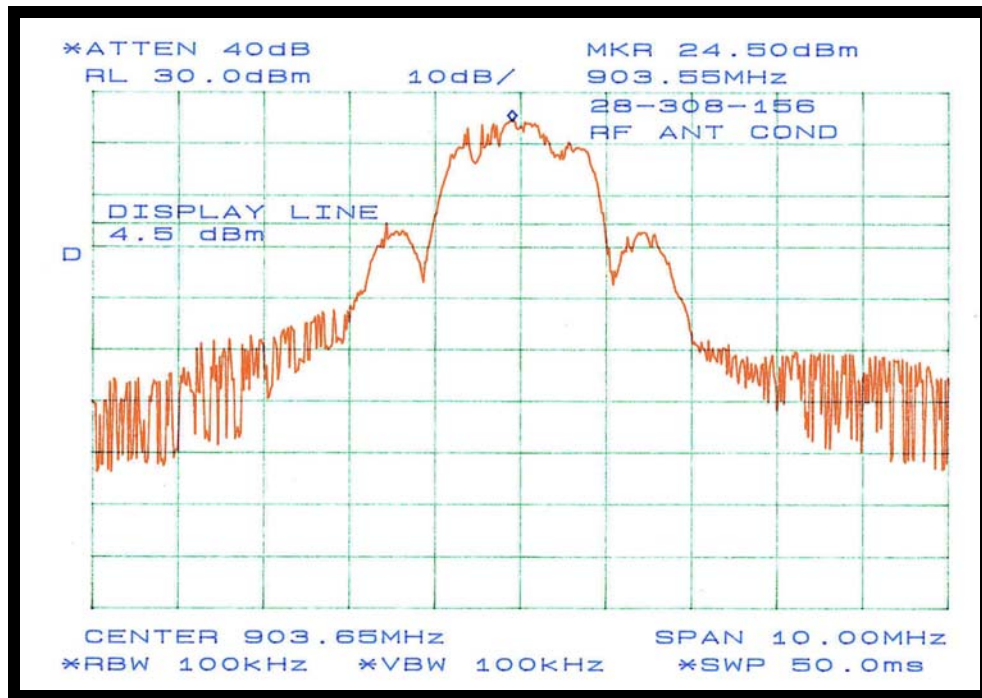


Figure 20: Plot of 100 kHz Bandwidth Out-of-Band Measurement (In-Band Peak)

Test-Data Summary – 100 kHz Bandwidth Out-of-Band Measurement (In-Band Peak):

Center Frequency	=	903 MHz
Center Frequency Peak	=	24.50dBm
20dB Limit (measured) per 15.247(c)	=	4.5dBm

OUT-of-BAND EMISSIONS (cont)

SECTION 10.5 TEST DATA – 100 KHZ BANDWIDTH (OUT-OF-BAND) (CH 0 – 903MHZ) 27MHZ TO 928MHZ

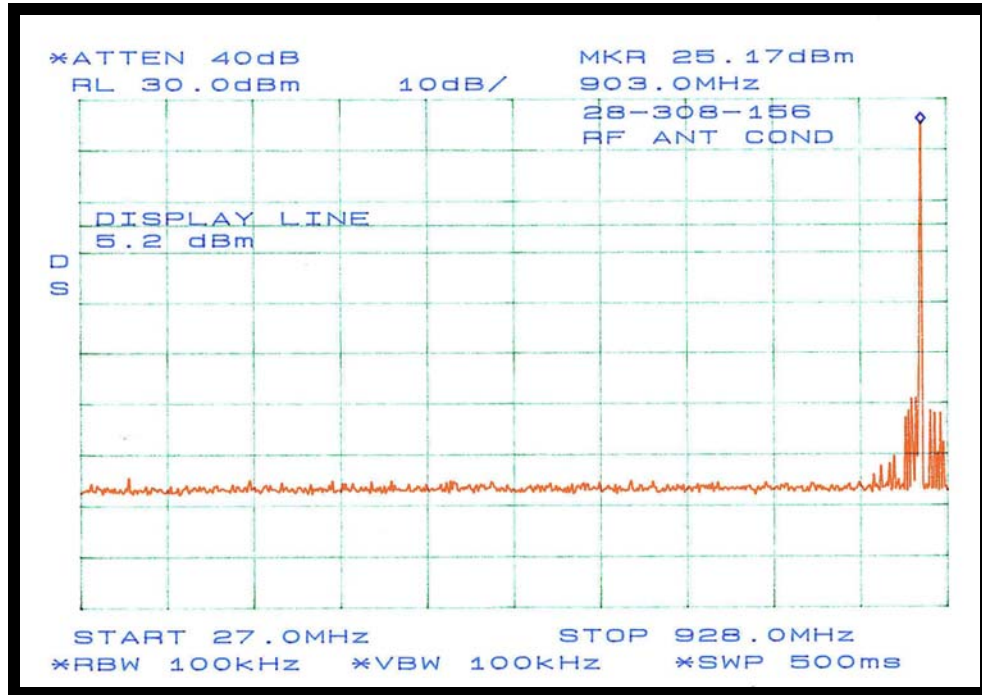


Figure 21: Plot of 100 kHz Bandwidth Out-of-Band Measurement at 903MHz (27 to 928MHz)

Test-Data Summary – 6dB Bandwidth Measurement (Channel 1) 27 to 928 MHz:

Peak Frequency (Fundamental)	=	903 MHz
Maximum Peak (27MHz to 928 MHz)	=	Noise Floor
20dB Limit (measured) per 15.247(c)	=	5.2dBm

SECTION 10.6 TEST DATA – 100 KHZ BANDWIDTH (OUT-OF-BAND) (CH 1 - 903MHZ) 902 MHZ TO 5 GHZ

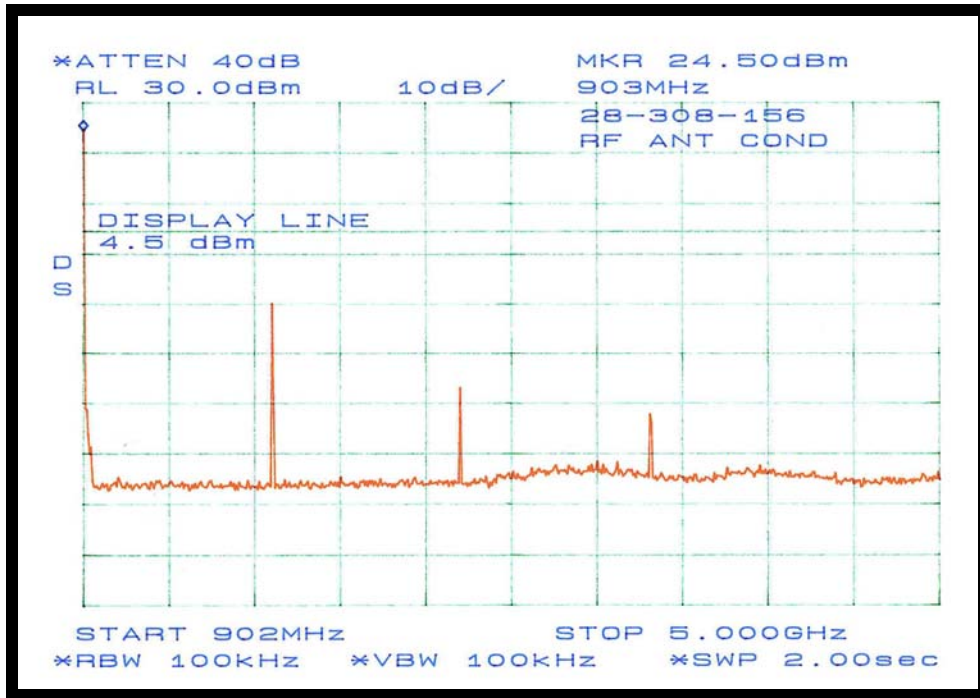


Figure 22: Plot of 100 kHz Bandwidth Out-of-Band Measurement at 903MHz (902 to 5 GHz)

Test-Data Summary – 100 kHz Bandwidth Out-of-Band Measurement (Channel 1) 902MHz to 5 GHz:

Peak Frequency (Fundamental) = 903 MHz
 Maximum Peak (902MHz to 5GHz) = Below 20dB limit
 20dB Limit (measured) per 15.247(c) = 4.5dBm

OUT-of-BAND EMISSIONS (cont)

SECTION 10.6 TEST DATA – 100 KHZ BANDWIDTH OUT-OF-BAND (CHANNEL 1) 5 GHZ TO 10 GHZ

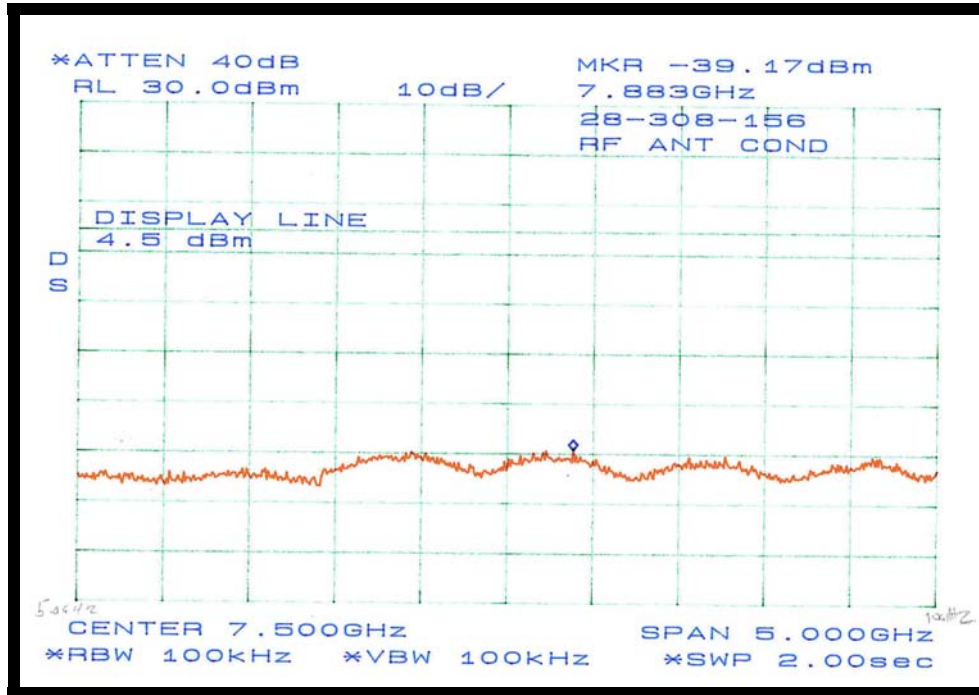


Figure 23: Plot of 100 kHz Bandwidth Out-of-Band Measurement at 906MHz (5 GHz to 10 GHz)

Test-Data Summary – 100 kHz Bandwidth Out-of-Band Measurement (Channel 1) 5 GHz to 10 GHz:

Peak Frequency (Fundamental)	=	903 MHz
Maximum Peak (5GHz to 10GHz)	=	Noise Floor
20dB Limit (measured) per 15.247(c)	=	4.5dBm

SECTION 10.7 TEST DATA – 100 KHZ BANDWIDTH OUT-OF-BAND (CHANNEL 6) 27 MHZ TO 928 MHZ

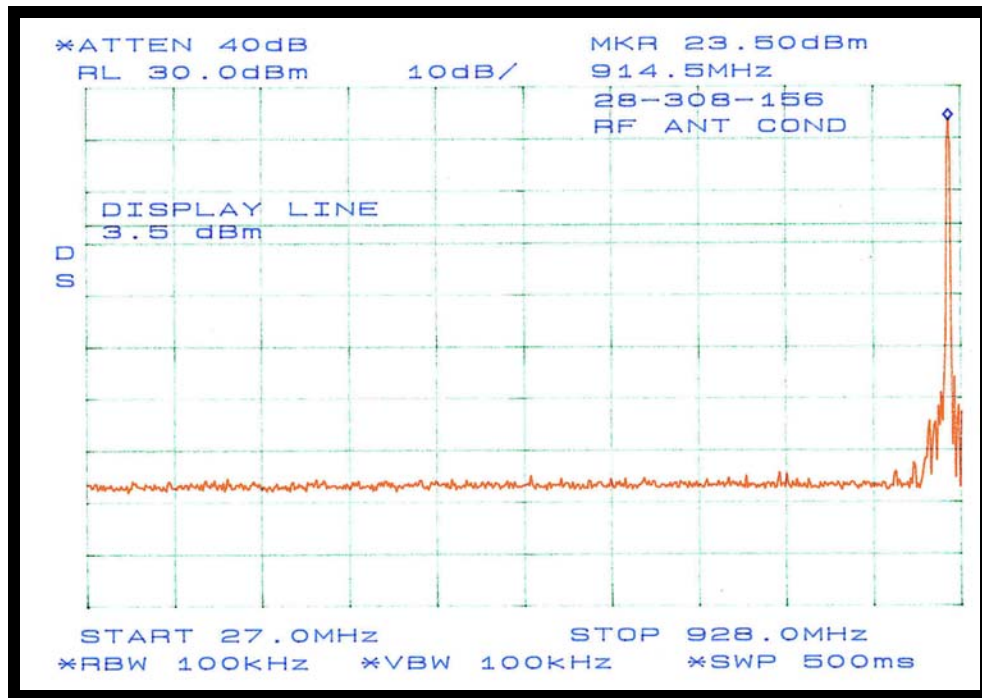


Figure 24: Plot of 100 kHz Bandwidth Out-of-Band Measurement at 914.5MHz (27 to 928 MHz)

Test-Data Summary – 100 kHz Bandwidth Out-of-Band Measurement (Channel 6) 27 MHz to 928 MHz:

Peak Frequency (Fundamental)	=	914.5 MHz
Maximum Peak (27 to 928MHz)	=	Noise Floor
20dB Limit (measured) per 15.247(c)	=	3.5dBm

OUT-of-BAND EMISSIONS (cont)

SECTION 10.8 TEST DATA – 100 KHZ BANDWIDTH OUT-OF-BAND (CHANNEL 6) 902 MHZ TO 5 GHZ

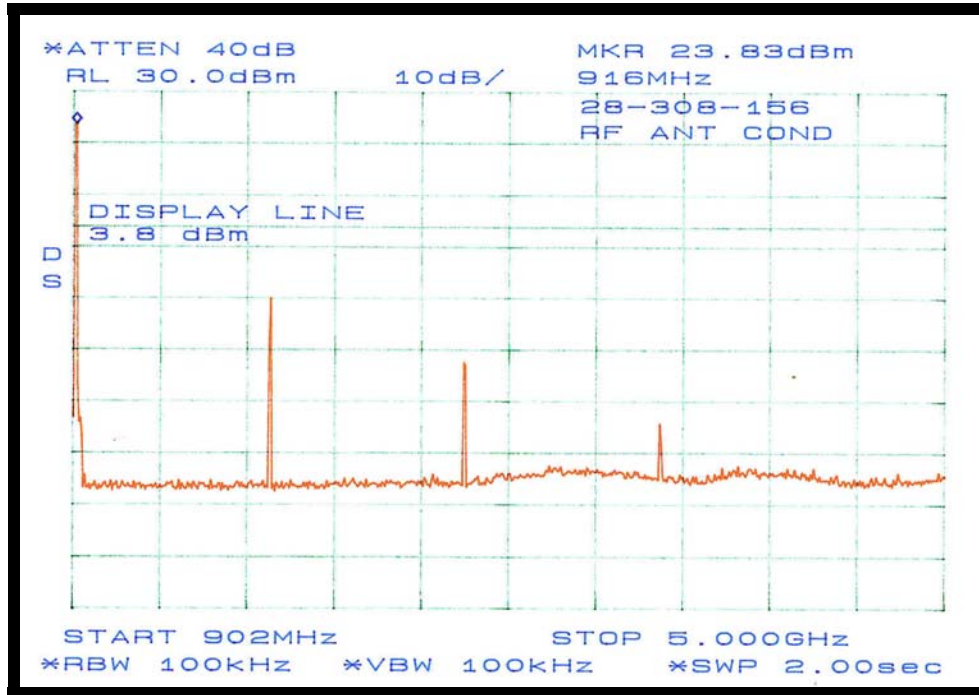


Figure 25: Plot of 100 kHz Bandwidth Out-of-Band Measurement at 916MHz (902 MHz to 5 GHz)

Test-Data Summary – 100 kHz Bandwidth Out-of-Band Measurement (Channel 6) between 902 MHz to 5 GHz:

Peak Frequency (Fundamental) = 916 MHz
 Maximum Peak (902MHz to 5GHz) = Below 20dB limit
 20dB Limit (measured) per 15.247(c) = 3.8

SECTION 10.9 TEST DATA – 100 KHZ BANDWIDTH OUT-OF-BAND (CHANNEL 6) 5 GHZ TO 10 GHZ

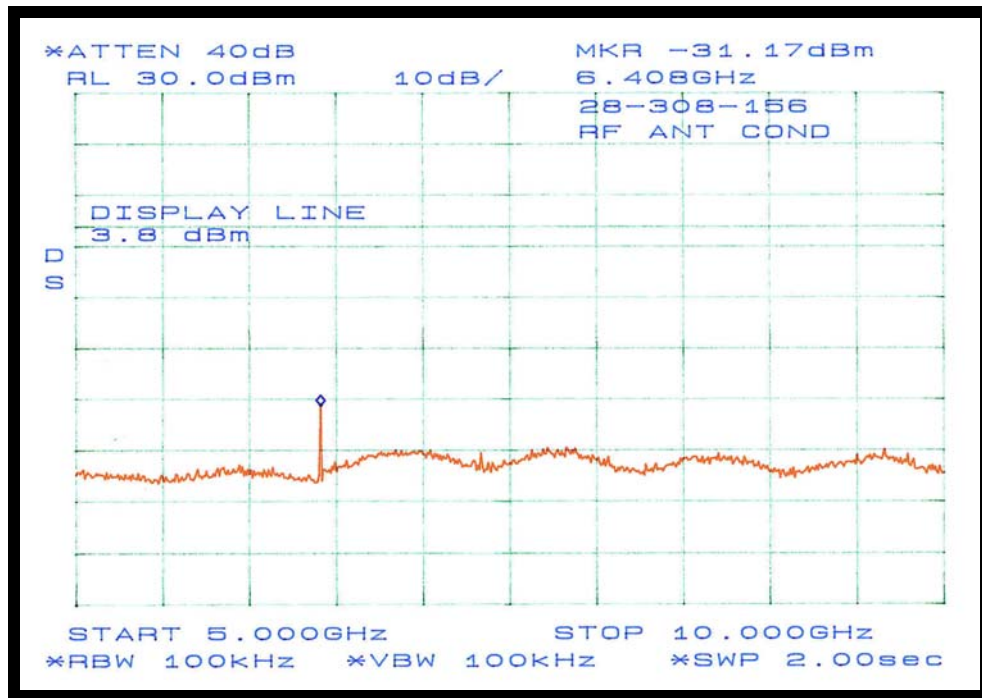


Figure 26: Plot of 100 kHz Bandwidth Out-of-Band Measurement at 916MHz (5 to 10 GHz)

Test-Data Summary – 100 kHz Bandwidth Out-of-Band Measurement (Channel 6) 5GHz to 10 GHz:

Peak Frequency (Fundamental)	=	916 MHz
Maximum Peak (5GHz to 10 GHz)	=	-31.17dBm
20dB Limit (measured) per 15.247(c)	=	3.8dBm

OUT-of-BAND EMISSIONS (cont)

SECTION 10.10 TEST DATA – 100 KHZ BANDWIDTH OUT-OF-BAND (CHANNEL 11) 27 MHZ TO 940 MHZ

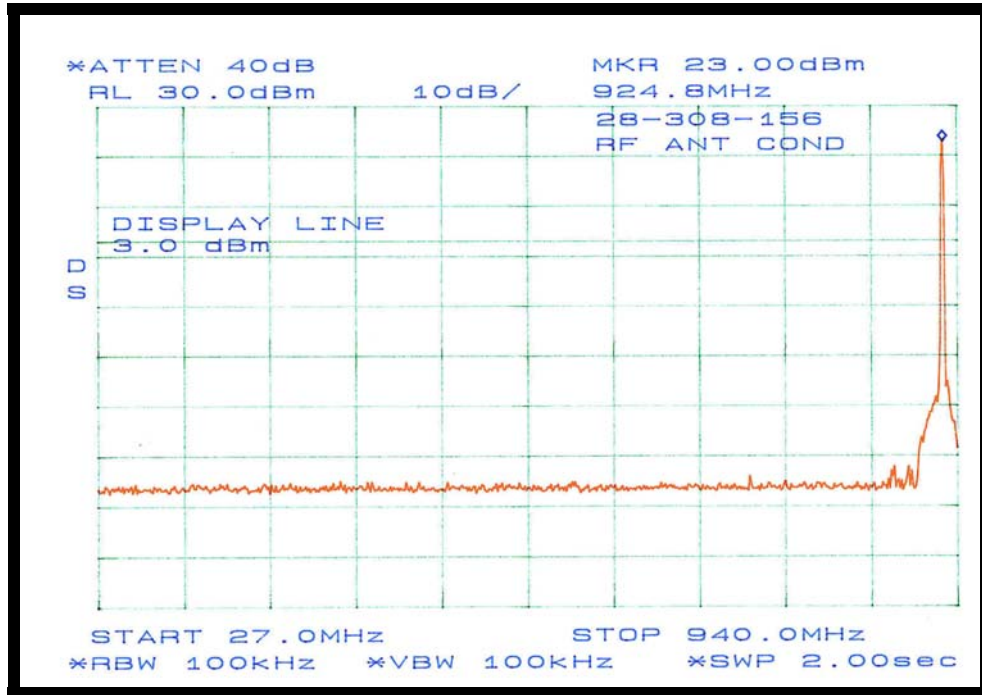


Figure 27: Plot of 100 kHz Bandwidth Out-of-Band Measurement at 924.8MHz (27 to 940 MHz)

Test-Data Summary – 100 kHz Bandwidth Out-of-Band Measurement (Channel 11) between (27 to 940 MHz)

Peak Frequency (Fundamental) = 924.8MHz
Maximum Peak (27MHz to 940 MHz) = Noise Floor
20dB Limit (measured) per 15.247(c) = 3.0dBm

SECTION 10.11 TEST DATA – 100 KHZ BANDWIDTH OUT-OF-BAND (CHANNEL 11)

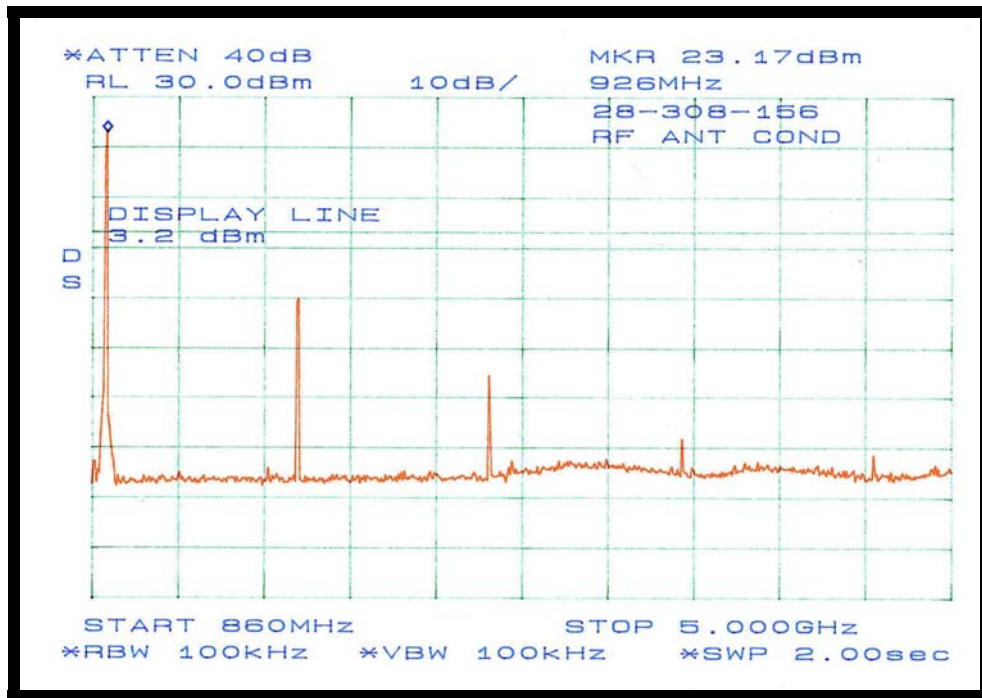


Figure 28: Plot of 100 kHz Bandwidth Out-of-Band Measurement at 926.0MHz (860 MHz to 5 GHz)

Test-Data Summary –100 kHz Bandwidth Out-of-Band Measurement (Channel 11) Between (860 MHz to 5 GHz)

Peak Frequency (Fundamental)	=	926 MHz
Maximum Peak (924.2 to 5000 MHz)	=	Below 20dB limit
20dB Limit (measured) per 15.247(c)	=	3.2dBm

PART 11 SPURIOUS/HARMONIC EMISSIONS IN THE RESTRICTED BANDS

SECTION 11.1 TEST SPECIFICATIONS:

FCC PART 15 SECTION 47 CFR 15.205
 FCC PART 15 SECTION 47 CFR 15.247(c)

SECTION 11.2 TEST RANGE – SPURIOUS/HARMONICS EMISSIONS:

The measurement range investigated was from 30 MHz to 10GHz.

SECTION 11.3 SITE USED – SPURIOUS/HARMONICS EMISSIONS MEASUREMENTS

- Test Site 1 - Shielded Room: 16' x 12' x 9'
- Test Site 1 - 3m Open Field Radiated Site
- Test Site 1 - 10m Open Field Radiated Site
- Test Site 2 - Environmental Lab
- EMC Lab 1 - Test Laboratory
- Semi-Anechoic Absorber Lined Shielded Room
- Other: _____

SECTION 11.4 ADMINISTRATIVE AND ENVIRONMENTAL DETAILS

Test Date:	July 03, 2003
Test Engineer:	Bob Kershaw and Femi Ojo
Temperature	68°F
Humidity	45%

SECTION 11.5 SPURIOUS AND HARMONIC EMISSION IN THE RESTRICTED BANDS DATA

Table 11 Test Data – Spurious Emissions (Below 1 GHz)

The table below shows the summary of the highest amplitudes of the spurious RF radiated emissions from the equipment under test.

INDICATED		CORRECTION		CORR	TURNTABLE ANT			CLASS A		CLASS B		FILTER	
FREQ	AMPL	ANT	CAB	AMPL	ANG	HT	POL	AMPL	MARG	AMPL	MARG	MODE	NOTES
MHz	dBuV/m	dB	dB	dBuV/m	DEG	m	-	dBuV/m	dB	dBuV/m	db		
43.89	6.3	11.7	2.5	20.5	45	2.0	VB			30.0	-9.5	P	
51.16	3.2	11.6	2.3	17.0	90	2.0	HB			30.0	-13.0	P	
58.04	5.4	9.4	2.6	17.4	45	2.0	VB			30.0	-12.6	P	
73.95	4.7	6.9	2.7	14.3	90	2.0	HB			30.0	-15.7	P	
85.07	4.4	8.2	3.0	15.6	90	2.0	VB			30.0	-14.4	P	
113.98	7.8	12.7	3.2	23.8	45	2.0	HB			33.0	-9.2	P	
132.74	5.3	12.5	3.4	21.2	180	2.0	VB			33.0	-11.8	P	
168.35	7.7	15.2	3.8	26.8	90	2.0	VB			33.0	-6.2	P	
172.08	5.8	15.0	3.8	24.7	45	2.0	HB			33.0	-8.3	P	
215.83	6.6	11.1	3.8	21.6	45	2.0	VL			33.0	-11.4	P	
221.81	6.6	10.8	3.8	21.2	45	1.0	HL			33.0	-11.8	P	
240.09	6.0	11.1	4.5	21.6	90	2.0	VL			36.0	-14.4	P	
240.11	6.9	11.0	4.5	22.4	180	1.0	HL			36.0	-13.6	P	
321.42	7.3	14.5	6.3	28.1	90	2.0	VL			36.0	-7.9	P	
347.39	3.5	14.2	6.3	24.0	45	2.0	HL			36.0	-12.0	P	
393.58	2.9	15.3	6.4	24.6	45	2.0	VL			36.0	-11.4	P	
400.19	3.5	14.5	6.3	24.3	45	2.0	HL			36.0	-11.7	P	
409.04	6.6	14.8	6.2	27.6	90	2.0	HL			36.0	-8.4	P	
436.36	2.4	15.8	6.5	24.7	180	2.0	VL			36.0	-11.3	P	
459.12	2.3	16.0	7.6	25.9	45	2.0	HL			36.0	-10.1	P	
501.32	6.3	17.3	8.2	31.8	90	2.0	HL			36.0	-4.2	P	
505.82	5.4	17.3	8.2	30.9	90	2.0	VL			36.0	-5.1	P	
519.38	2.2	18.0	8.3	28.5	90	2.0	HL			36.0	-7.5	P	
530.36	7.1	16.8	8.2	32.1	180	2.0	HL			36.0	-3.9	P	
617.70	2.5	19.3	8.7	30.5	45	2.0	VL			36.0	-5.5	P	
660.34	3.3	19.6	9.4	32.3	45	2.0	HL			36.0	-3.7	P	

Note: No emissions of significant levels were observed between 30MHz-43.89MHz and 660.34MHz-1000MHz.

SPURIOUS and HARMONICS Emissions (cont)

Table 12 Test Data – Spurious and Harmonics Emissions (Above 1 GHz)

The table below shows a summary of the highest amplitudes of the radiated emissions from the equipment under test at various antenna heights, antenna polarization, and EUT orientations

INDICATED		CORRECTIO N		CORR	TURNTABLE ANT			CLASS A		CLASS B			
FREQ	AMPL	ANT	CAB	AMPL	ANG	HT	POL	AMPL	MARG	AMPL	MARG	FILTER	
MHz	dBuV/ m	dB	dB	dBuV/m	DEG	m	-	dBuV/m	dB	dBuV/m	db	MODE	NOTES
926.21	100.3	23.3	4.3	127.9	0	1.0	HL	-	-	143.0	-15.1	P	
926.21	92.8	23.3	4.3	120.4	45	1.0	HL	-	-	143.0	-22.6	P	
1069.83	19.3	24.3	2.1	45.8	0	1.0	HH	-	-	54.0	-8.2	A	
1069.83	19.7	24.3	2.1	46.1	0	1.0	VH	-	-	54.0	-7.9	A	
1118.93	19.2	24.4	2.2	45.8	0	1.0	HH	-	-	54.0	-8.2	A	
1118.93	20.0	24.4	2.2	46.7	0	1.0	VH	-	-	54.0	-7.3	A	
1151.87	20.3	24.5	2.3	47.1	90	1.0	VH	-	-	54.0	-6.9	A	
1151.87	20.5	24.5	2.3	47.3	0	1.0	VH	-	-	54.0	-6.7	A	
1310.93	20.3	24.8	2.5	47.6	0	1.0	VH	-	-	54.0	-6.4	A	
1310.93	19.5	24.8	2.5	46.8	0	1.0	HH	-	-	54.0	-7.2	A	
1517.60	19.5	25.2	2.8	47.5	0	1.0	HH	-	-	54.0	-6.5	A	
1517.60	19.5	25.2	2.8	47.4	90	1.0	VH	-	-	54.0	-6.6	A	
1852.38	19.5	27.1	3.3	49.9	30	1.0	HH	-	-	54.0	-4.1	A	
1852.38	19.2	26.9	3.3	49.4	30	1.0	VH	-	-	54.0	-4.6	A	
2090.70	19.1	28.0	2.8	49.9	180	1.0	HH	-	-	54.0	-4.1	A	
2090.70	19.3	27.9	2.8	50.0	90	1.0	VH	-	-	54.0	-4.0	A	
2516.57	20.5	28.6	3.0	52.1	45	1.0	HH	-	-	54.0	-1.9	A	
2516.57	20.0	28.6	3.0	51.6	90	1.0	VH	-	-	54.0	-2.4	A	
2778.62	20.5	29.4	2.8	52.7	0	1.0	HH	-	-	54.0	-1.3	A	
2778.62	20.3	29.4	2.8	52.5	0	1.0	VH	-	-	54.0	-1.5	A	

Note: No emissions of significant level was observed between 2.778GHz and 10GHz.

Conclusion

The kV2 Meter meets the requirements of the test reference for Spurious and Restricted Bands emissions levels specified in the 47CFR15.209

SECTION 11.6 SPURIOUS PHOTOGRAPHS



Figure 29: Spurious Emissions Front View (Below 1 GHz)

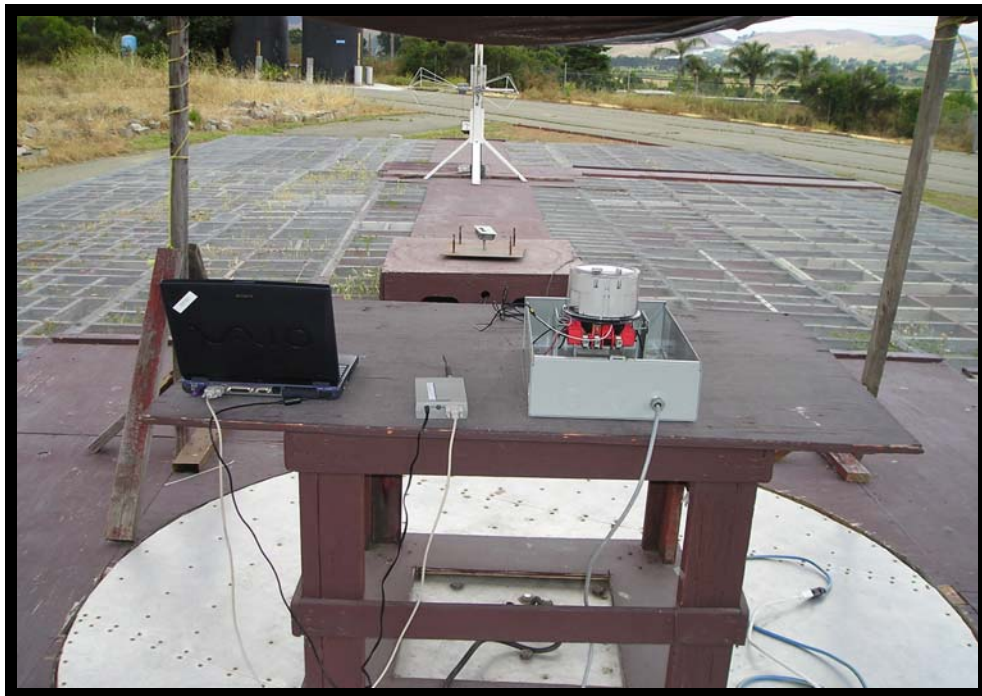


Figure 30: Spurious Emissions Rear View (Below 1 GHz)

Spurious Emissions (cont)

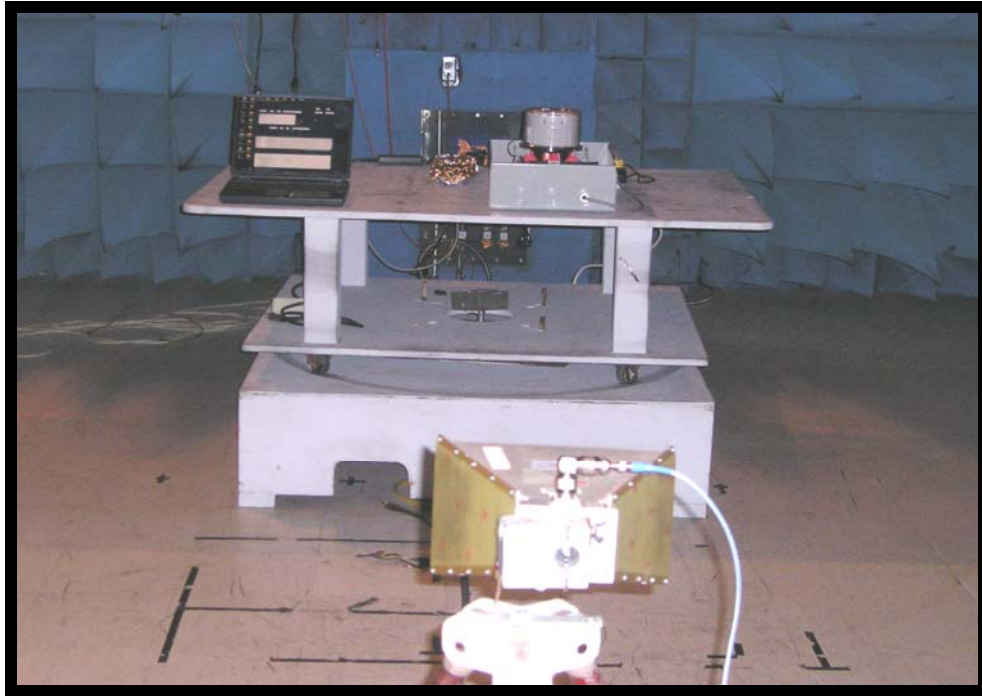


Figure 31: Spurious Emissions Front View (Above 1 GHz)

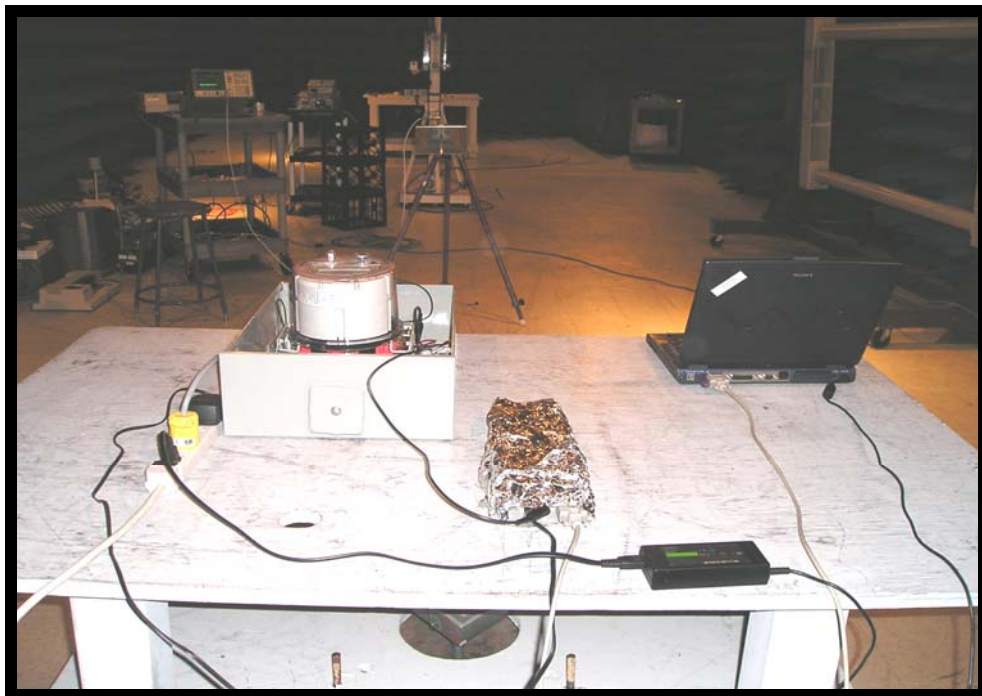


Figure 32: Spurious Emissions Rear View (Above 1 GHz)

PART 12 APPENDICES

A. EUT Technical Specification

Applicant	Silver Spring Networks
General Description	kV2C Meter
Model	kV2C Meter with internal antenna kV2C Meter with external antenna
Dimension	H= 6in ,D=6in ,W= 3.5lbs
Power Input	120/480V , 60 Hz.

B. EUT PHOTOGRAPHS



Figure 33: kV2C with external antenna (Top View)

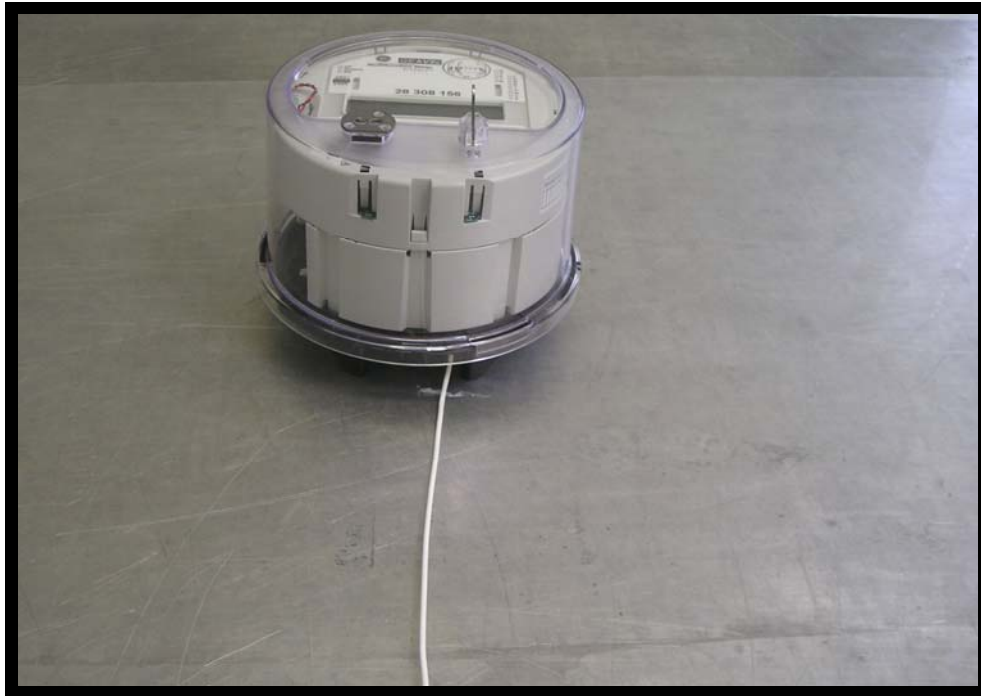


Figure 34: kV2C with external antenna (Front View)



Figure 35: kV2C with internal antenna (Top View)



Figure 36:kv2C with internal antenna (Front View)



Figure 37: EUT internal view

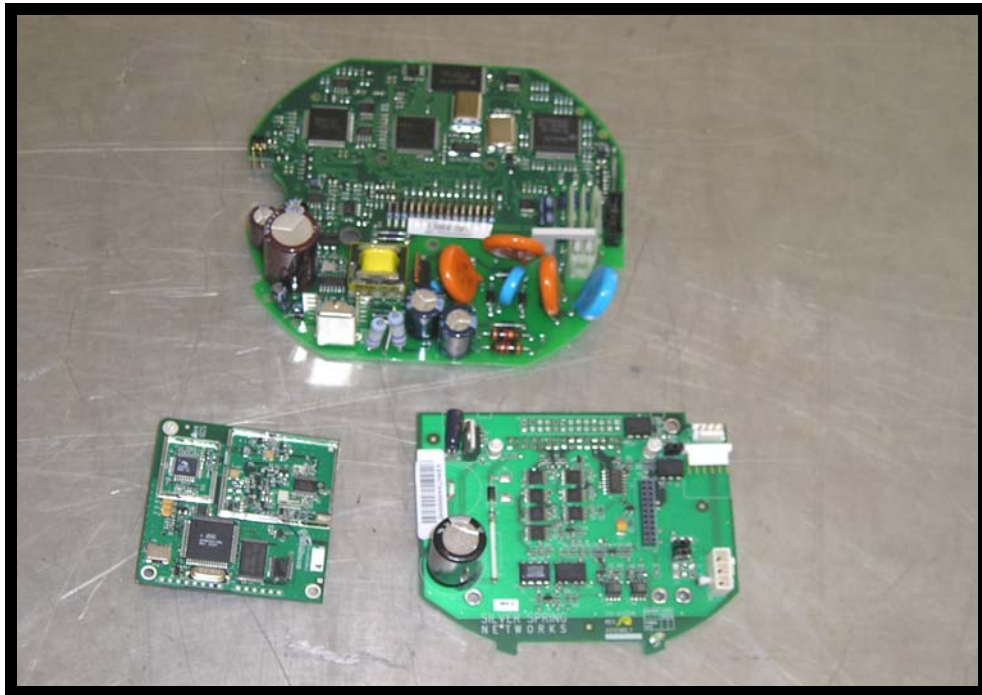


Figure 38: EUT Component View

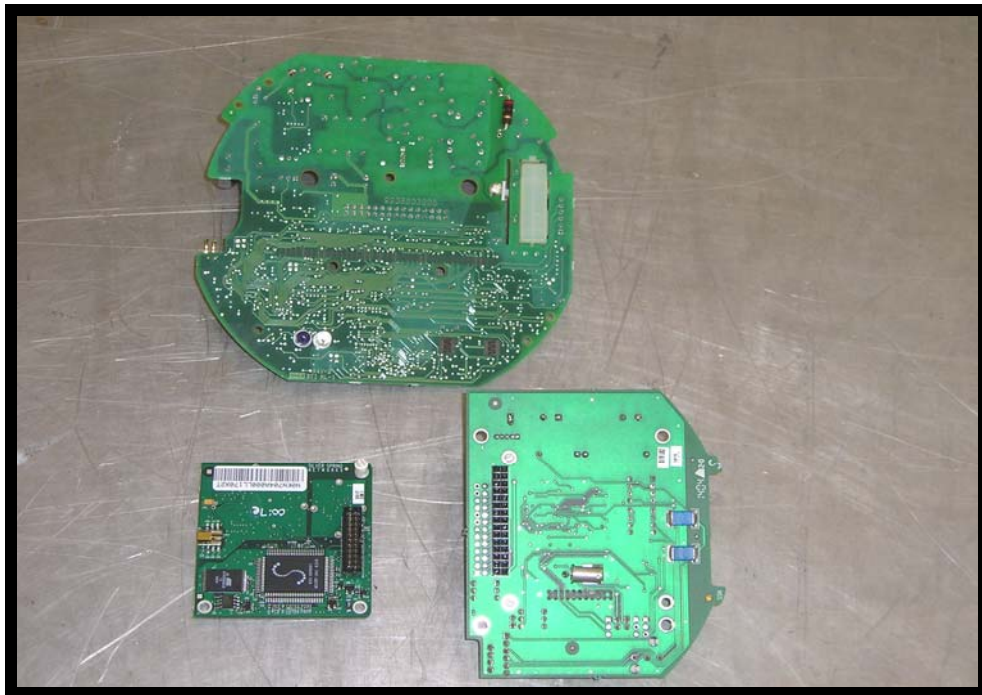


Figure 39: EUT solder View

C. MODIFICATION LETTER

To Whom It May Concern:

This is to certify that no modifications were necessary for Silver Spring networks kV2C meters(models with external antenna and internal antenna) in order to comply with the required Requirements of:

FCC Rules and Regulations per 47 CFR 15.247

It is the manufacturer's responsibility to ensure that additional production units of the kV2C meters are manufactured with identical electrical and mechanical characteristics.

For further information, please contact the manufacturer at:

Silver Spring Network, Inc.
13000 West Silver Spring Drive
Butler, WI 53007

ATTN: Juan Luglio, PhD
Tel: (262) 364-5317
juan.luglio@silverspringnetworks.com