Engineering and Testing for EMC and Safety Compliance

FCC Certification Report

Airorlite Communications, Inc.
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Model: 50289 Bi-Directional Booster (Uplink)
(480 – 490 MHz)

FCC ID: UT650289BA8480UL

June 27, 2007

Standards Referenced for this Report	
Part 2: 2006	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
Part 90: 2006	Private Land Mobile Radio Services
ANSI/TIA-603-C-2004	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards

Frequency Range (MHz)	Measured Transmit Power (dBm) Conducted	Frequency Tolerance (ppm)	Emission Designator
480 - 490	27.3*	Amp	F8E

** Power listed is conducted per carrier*

Report Prepared by Test Engineer: Daniel Biggs

Document Number: 2007151B

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1 General Information

The following Certification Report is prepared on behalf of **Airorlite Communications, Inc**. in accordance with the Federal Communications Commission Part 90 Rules and Regulations. The Equipment Under Test (EUT) was the **Model 50289 Bi-directional Booster (Uplink), FCC ID: UT650289BA8480UL**. The test results reported in this document relate only to the item that was tested.

All measurements contained in this application were conducted in accordance with the applicable FCC Rules and Regulations in CFR 47. Calibration checks are performed regularly on the instruments, and all accessories including high pass filter, coaxial attenuator, preamplifier and cables.

1.1 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the parking lot of Rhein Tech Laboratories, Inc., 360 Herndon Parkway, Suite 1400, Herndon, Virginia, 20170. This site has been fully described in a report submitted to and approved by the Federal Communications Commission to perform AC line conducted and radiated emissions testing.

1.2 Related Submittal(s)/Grant(s)

This is an original application report.

2 Tested System Details

The test sample was received on April 3, 2007. Listed below are the identifiers and descriptions of all equipment, cables, and internal devices used with the EUT for this test, as applicable.

The Airorlite Communications, Inc. Model 50289 Bi-Directional Booster (Uplink) is an eight channel bi-directional amplifier utilizing 16 channels of synchronized down-up conversions.

The multi-channel booster is divided into two independent 8 channel systems (8 high channels and 8 low channels) for full duplex operations. Downlink signals are received at the roof antenna, 8 selected frequencies are processed (filtering and amplification), and rebroadcast on a radiating cable (reference FCC ID: UT650289BA8470DL). Conversely, uplink signals induced onto radiating cable are similarly processed and rebroadcast on the roof antenna. The uplink channels are the high band channels (480 - 490 MHz), and the 8 downlink channels are the low band (470 - 480 MHz). Note that the system as a whole is a “bi-directional booster”; this application is only for the uplink channels (the downlink channels are certified under FCC ID: UT650289BA8470DL). We request that the grant notes reflect: “Part of booster system used with FCC ID: UT650289BA8470DL.”

Each system consists of a LNA/8-way splitter, 8 channel modules (down-up converters with synthesized LO), 8-way combiner, and RF power amplifiers with an 8-way power combiner. In addition, a duplexer combines the uplink RF output and downlink RF input to a common “Off the Air” antenna.

The RF signal flow of the two systems is identical. RF band pass filters internal to the system modules determine high band or low band operations.

Note that the device does not translate frequencies, and therefore, the RF output will not change with temperature or voltage variation. Additionally, the device is designed to be used with FM input/output signals.

An AGC limits the maximum composite out to 31 dBm.

The EUT is a Class A signal booster which has narrowband filtering via crystal filters.

The input drive level was set at the maximum input rating of -50 dBm for all tests. The gain of the amplifier was set to maximum gain by the manufacturer before testing began.

The device cannot operate in saturation. The channel card is band limited by crystal filters which prevent spectral regrowth. The channel cards are limited to a max output of -20 dBm and the power amplifier is level controlled via an AGC loop. All of these prevent saturation in the power amp and also prevent over modulation.

Table 2-1: Test System Details

Model Tested	Model 50289 Bi-Directional Booster (Uplink)
Frequency Band	480 - 490 MHz
Maximum Output Power	27.3 dBm/carrier
Number of Channels	8
Channel Bandwidth	25 kHz nominal
Channel Spacing	25 kHz
Primary Power	95-132 VAC, 45-64 Hz
Duty Cycle	Continuous

Table 2-2: Equipment Under Test (EUT)

Part	Manufacturer	Model	PN/SN	FCC ID	RTL Bar Code
Bi-Directional Booster	Airorlite Communications, Inc.	50289	52100-02-06	UT650289BA8480UL	17857

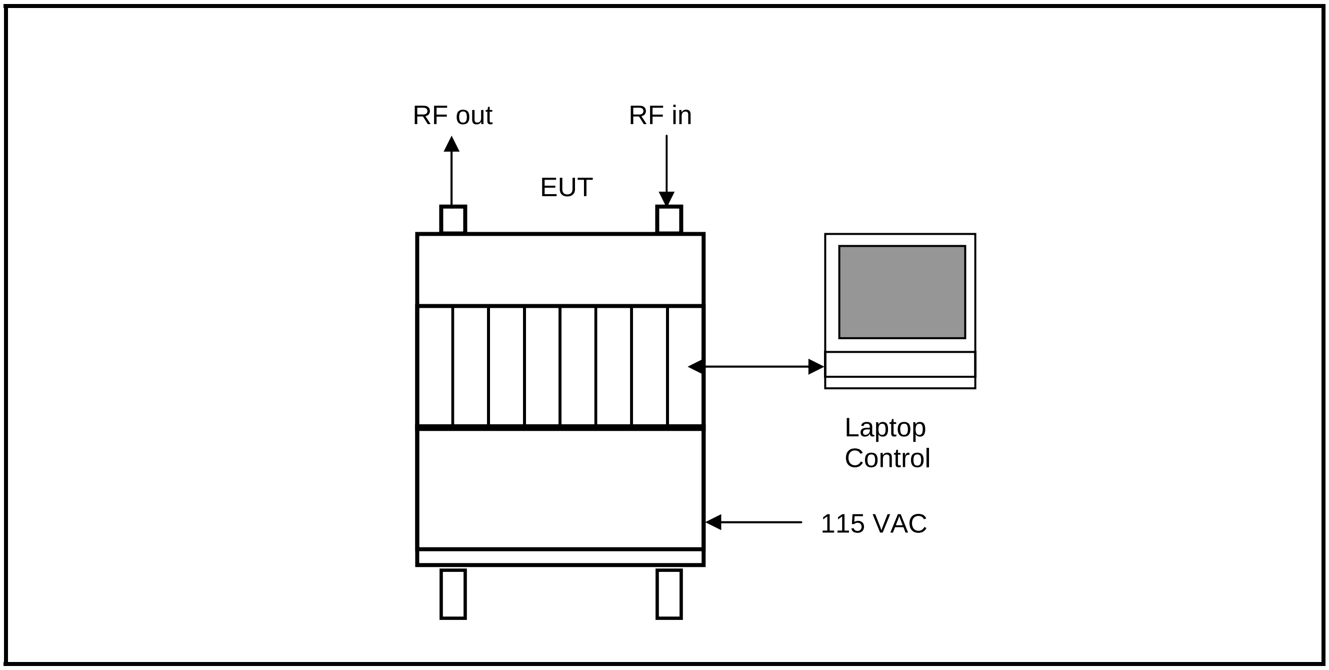
Table 2-3: Ports and Cabling (EUT)

Port	Cable Type	Quantity	Length (feet)	Shield
RF In	N type	1	N/A	N/A
RF Out	N type	1	N/A	N/A

Table 2-4: Support Equipment

Part	Manufacturer	Model	PN/SN	FCC ID	RTL Bar Code
Notebook Computer	Panasonic	Toughbook	N/A	N/A	13954
Serial Interface Cable	N/A	DB-9	N/A	N/A	N/A

Figure 2-1: Configuration of Tested System



3 FCC Rules and Regulations Part 2 §2.1033(c)(8) Voltages and Currents Through The Final Amplifying Stage

Nominal DC Voltage: 12 VDC
Current: 1.3 A

4 FCC Rules and Regulations Part 90 §90.1215(a) and Part 2 §2.1046(a): Peak Output Power

4.1 Test Procedure

ANSI TIA-603-2004, section 2.2.1.

The EUT was connected to a coaxial attenuator having a 50 Ω load impedance. Any cable losses were accounted for. The maximum gain antenna to be used with the system is 8 dBi = 5.86 dBd.

4.2 Test Data

Table 4-1: RF Power Output: Carrier Output Power

Frequency MHz	Power Level Measured (dBm/carrier)	Antenna Gain (dBd)	ERP (W)	Limit § 90.219 (W)
480.0125	26.5	5.86	1.7	5
484.9375	25.8	5.86	1.5	5
489.9500	27.3	5.86	2.1	5

*Measurement accuracy: +/-0.3 dB

Table 4-2: RF Power Output: Composite Output Power

Frequency MHz	Composite Power (dBm)	Antenna Gain (dBd)	ERP (W)	Limit § 90.219 (W)
480 – 490	31	5.86	4.9	5

*Measurement accuracy: +/-0.3 dB

Table 4-3: Test Equipment for Testing RF Power Output - Conducted

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
901184	Agilent Technologies	E4416A	Power Meter	GB41050573	10/3/07
901356	Agilent Technologies	E9323A	Power Sensor	31764-264	10/3/07
901396	MCE Weinschel	48-40-34	Attenuator, 40 dB, DC-18 GHz, 100 W	93453	12/02/08

Test Personnel:

Daniel Biggs	Daniel Biggs	April 20, 2007
Test Engineer	Signature	Date Of Tests

5 FCC Rules and Regulations Part 90 §90.210(b) and Part 2 §2.1049(c): Occupied Bandwidth (Emissions Masks)

5.1 Test Procedure

ANSI TIA-603-C-2004, Section 2.2.11.

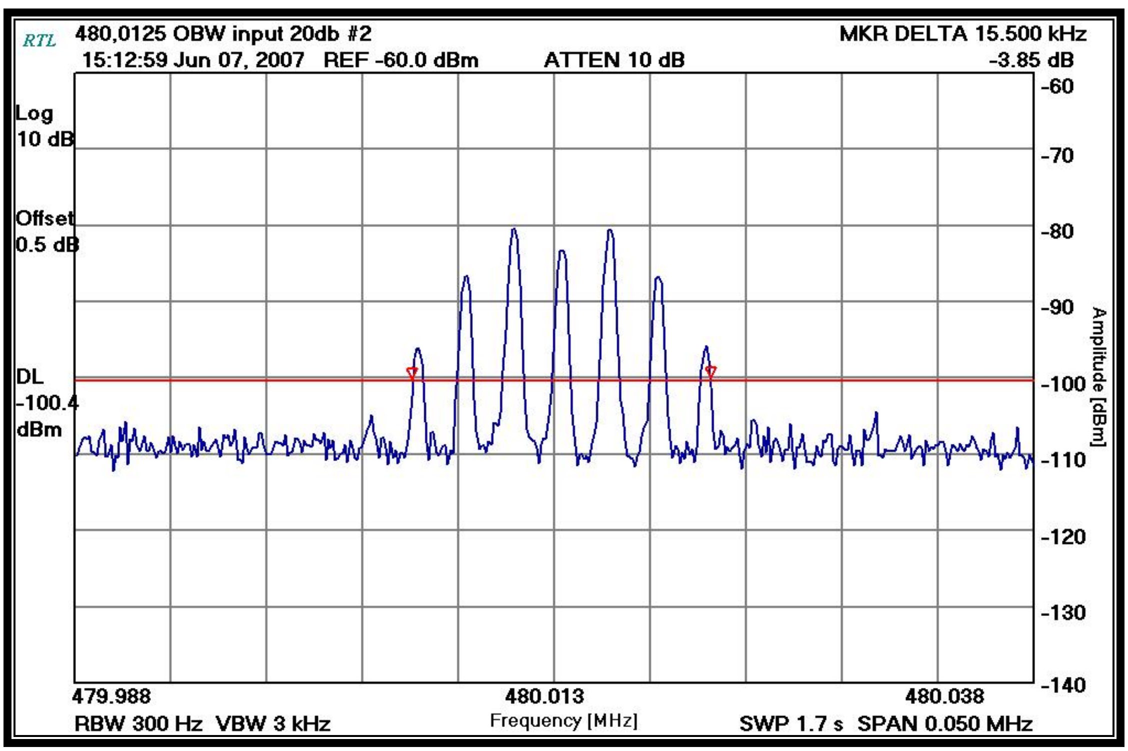
The transmitter is terminated with a 50 Ω load and interfaced with a spectrum analyzer. Cable losses were accounted for in measurement.

Full modulation was applied with 5 kHz deviation and a 2500 Hz tone.

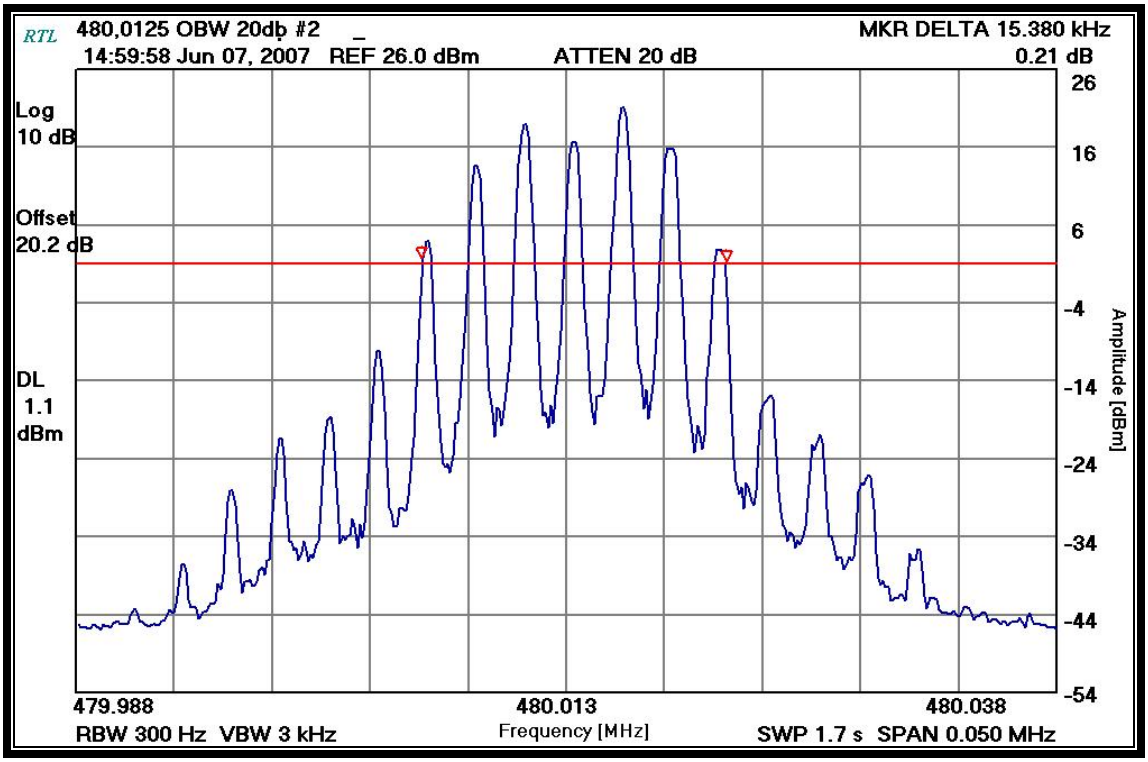
5.2 Test Data

Bandwidth Limit: 1 MHz

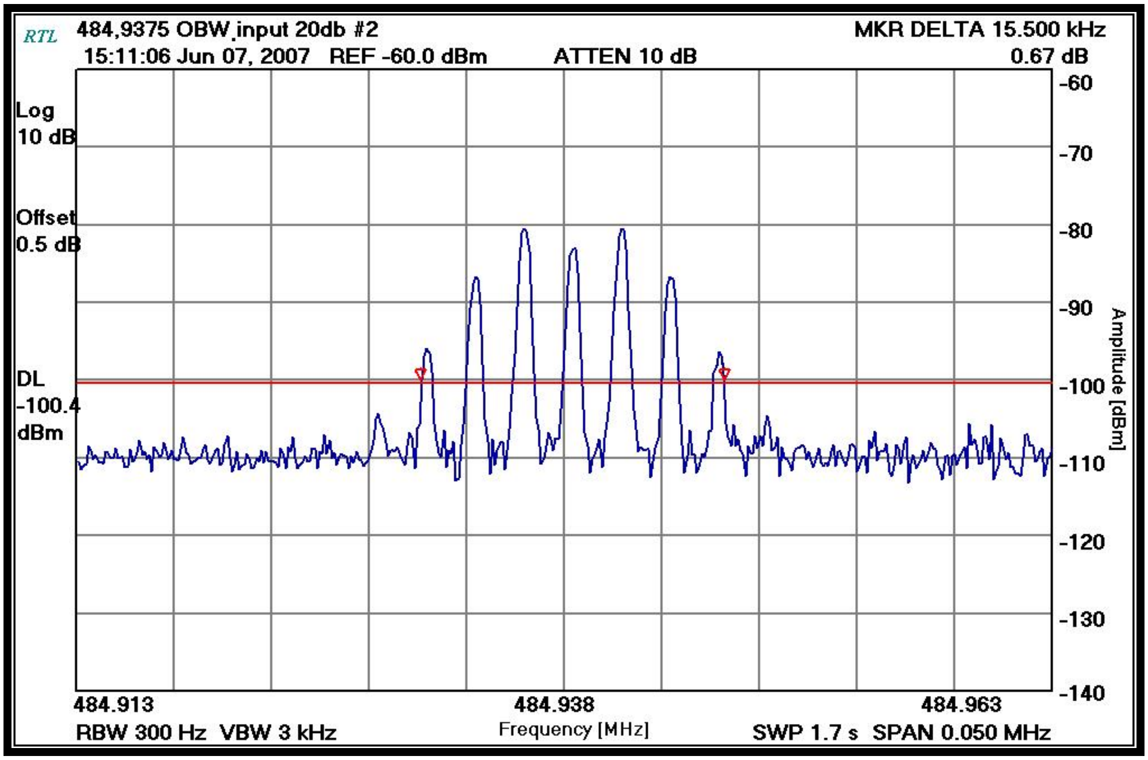
Plot 5-1: Occupied Bandwidth: Input to Booster; 20 dB bandwidth - 480.0125 MHz



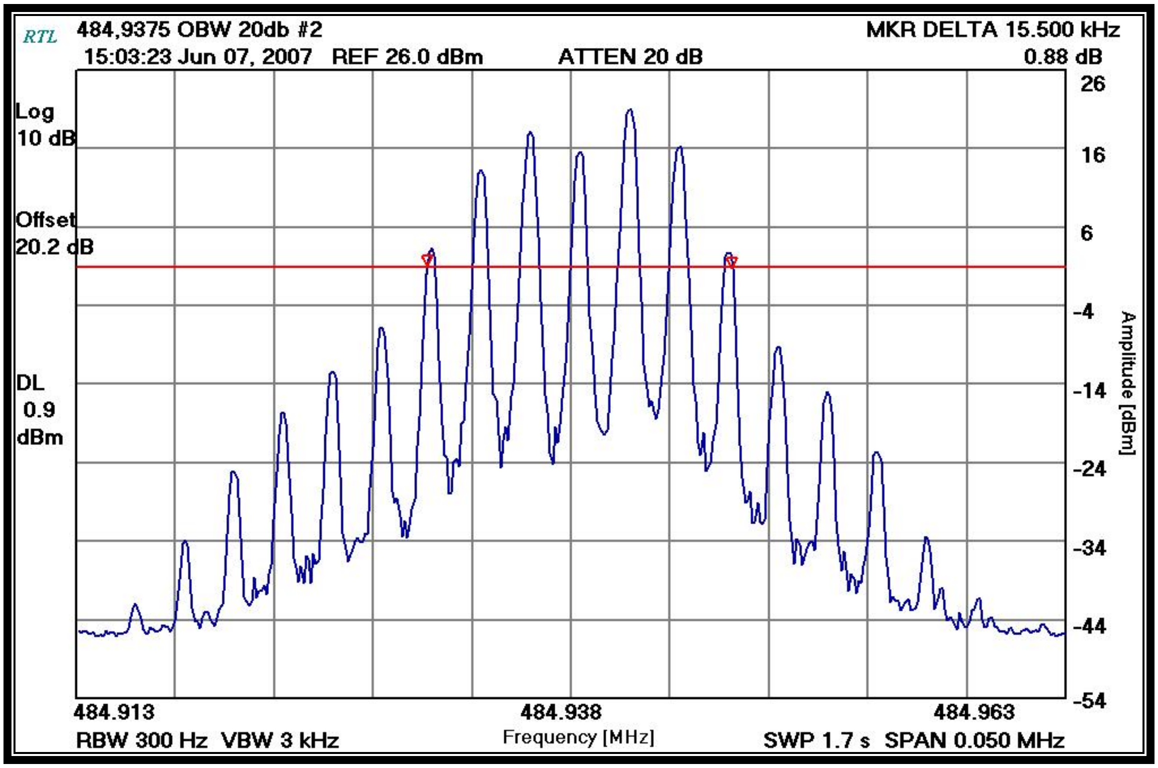
Plot 5-2: Occupied Bandwidth: Booster Output; 20 dB bandwidth - 480.0125 MHz



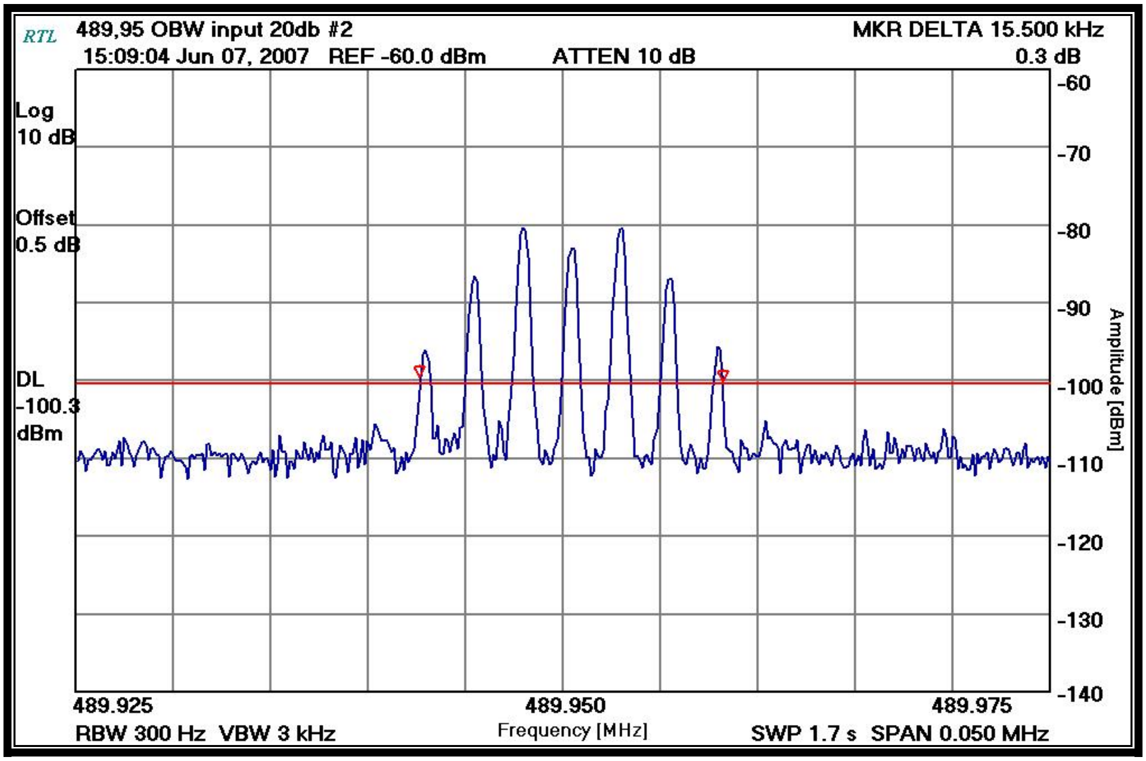
Plot 5-3: Occupied Bandwidth: Input to Booster; 20 dB bandwidth - 484.9375 MHz



Plot 5-4: Occupied Bandwidth: Booster Output; 20 dB bandwidth - 484.9375 MHz



Plot 5-5: Occupied Bandwidth: Input to Booster; 20 dB bandwidth - 489.95 MHz



Plot 5-6: Occupied Bandwidth: Booster Output; 20 dB bandwidth - 489.95 MHz

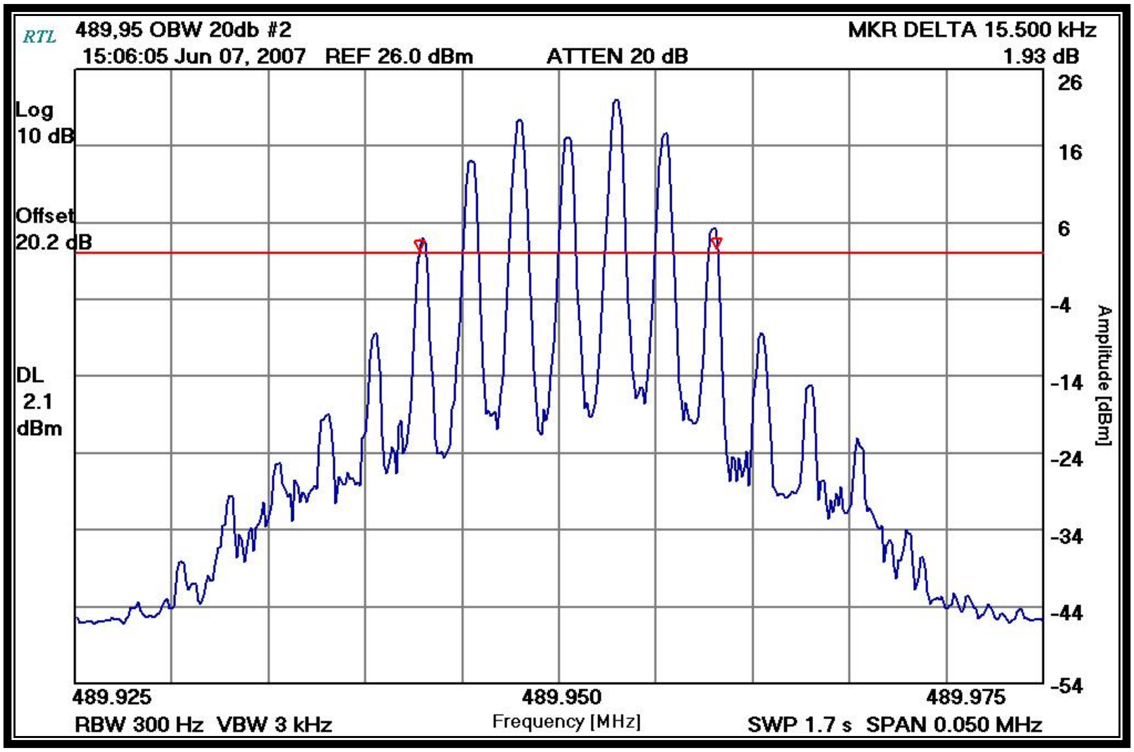


Table 5-1: Test Equipment for Testing Occupied Bandwidth

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
901215	Hewlett Packard	8596EM	EMC Analyzer (9 kHz – 12.8 GHz)	3826A00144	10/16/07
901057	Hewlett Packard	3336B	Synthesizer/Level Generator (100Hz-20 MHz)	2514A02585	12/19/2007
901118	Hewlett Packard	HP8901B	Modulation Analyzer 150kHz-1300MHz	2406A00178	07/24/2007
901396	MCE Weinschel	48-40-34	Attenuator, 40 dB, DC-18 GHz, 100 W	93453	12/02/08

Test Personnel:

Daniel Biggs	Daniel Biggs	June 7, 2007
Test Technician/Engineer	Signature	Date of Tests

6 Bandwidth Rejection

6.1 Test Procedure

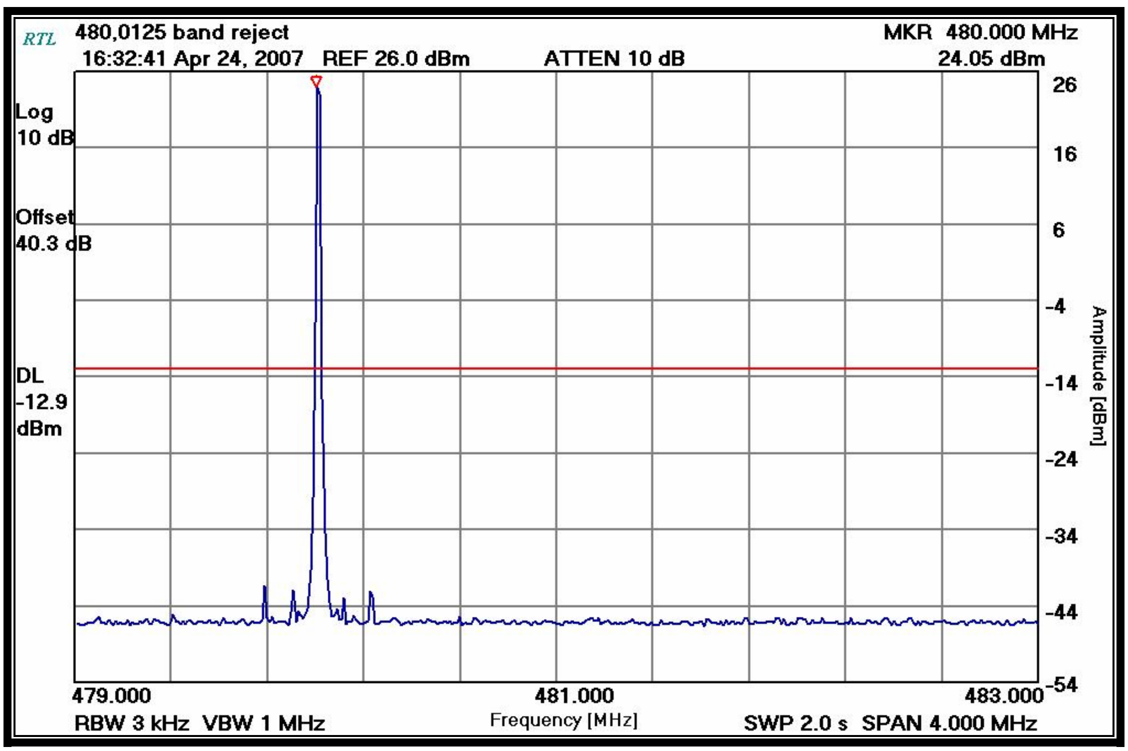
ANSI TIA-603-C-2004, Section 2.2.11.

Bandwidth rejection was performed by sweeping below and through the channel band with the spectrum analyzer on max hold. The transmitter is terminated with a 50 Ω load and interfaced with a spectrum analyzer. Cable losses were accounted for in measurement.

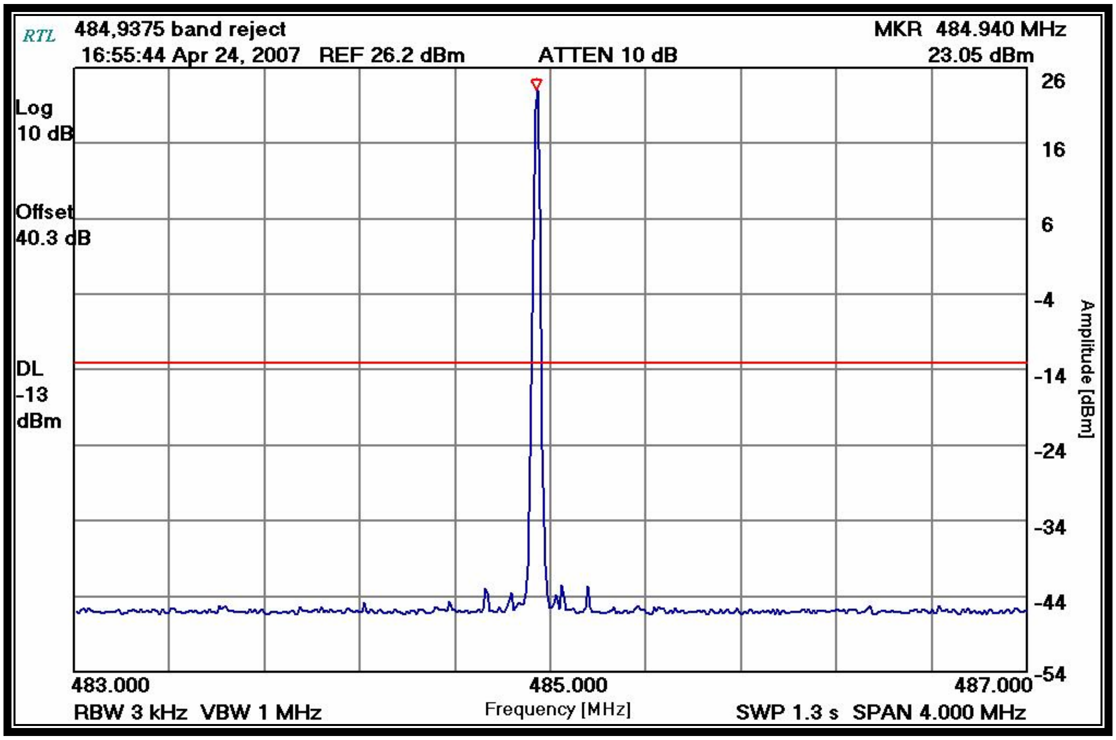
Full modulation was applied with 5 kHz deviation and a 2500 Hz tone.

6.2 Test Data

Plot 6-1: Bandwidth Rejection - 480.0125 MHz



Plot 6-2: Bandwidth Rejection - 484.9375 MHz



Plot 6-3: Bandwidth Rejection - 489.9500 MHz

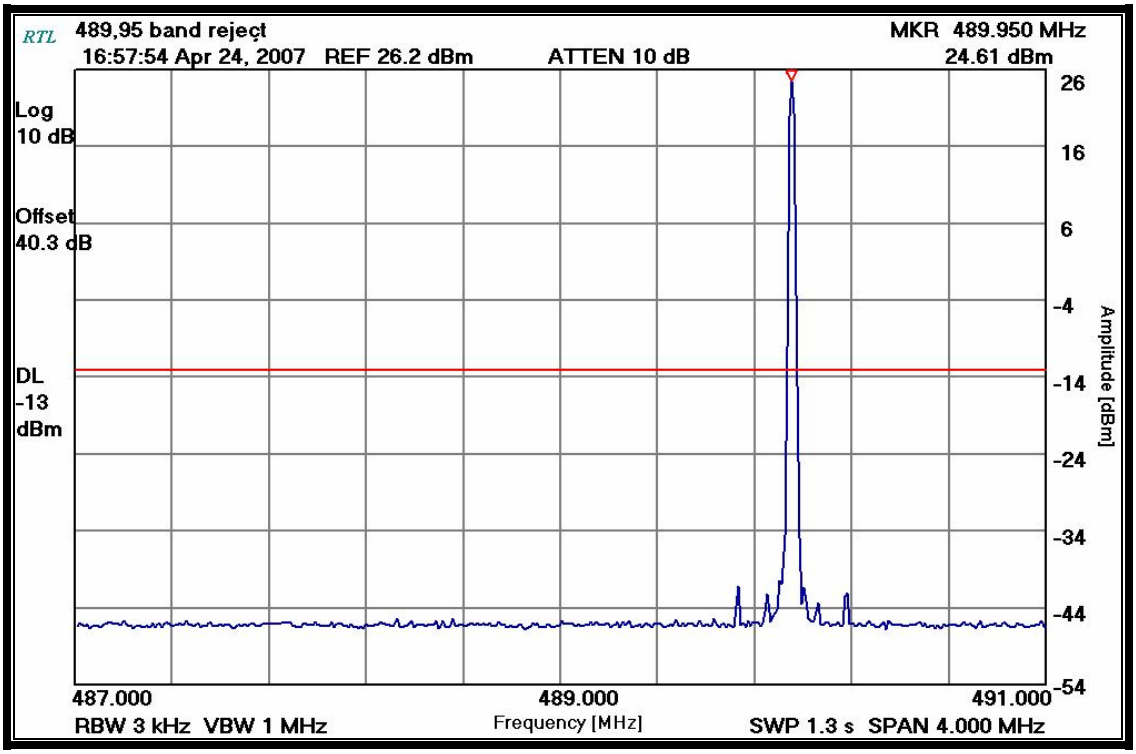


Table 6-1: Test Equipment for Testing Bandwidth Rejection

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
901215	Hewlett Packard	8596EM	EMC Analyzer (9 kHz – 12.8 GHz)	3826A00144	10/16/07
901396	MCE Weinschel	48-40-34	Attenuator, 40 dB, DC-18 GHz, 100 W	93453	12/02/08
901057	Hewlett Packard	3336B	Synthesizer/Level Generator (100Hz-20 MHz)	2514A02585	12/19/07
901118	Hewlett Packard	HP8901B	Modulation Analyzer 150kHz-1300MHz	2406A00178	07/24/07
901424	Insulated Wire Inc.	KPS-1503-360-KPS	RF cable 36"	NA	12/12/07

Test Personnel:

Daniel Biggs	Daniel Biggs	April 24, 2007
Test Engineer	Signature	Date Of Tests

7 FCC Rules and Regulations Part 2 §2.1051: Spurious Emissions at Antenna Terminals; Part 90 §90.210: Emissions Masks

7.1 Test Procedure

ANSI TIA-603-C-2004, Section 2.2.13.

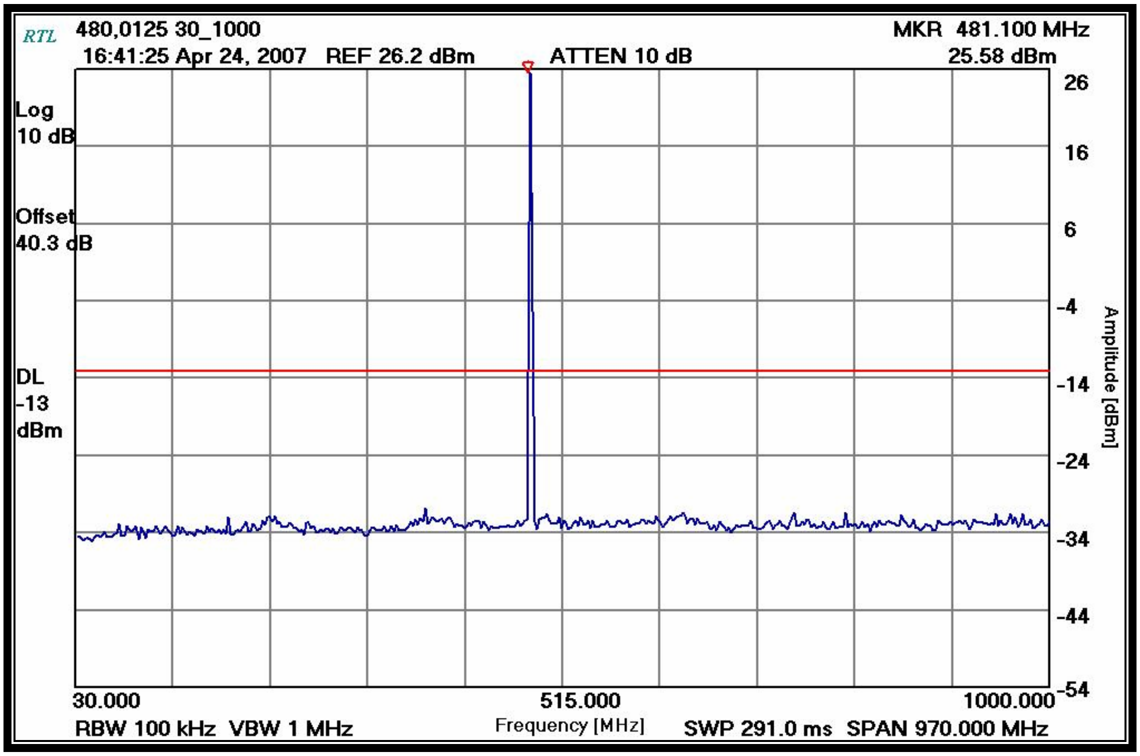
The transmitter is terminated with a 50 Ω load and interfaced with a spectrum analyzer. Cable losses were accounted for in measurement.

7.2 Test Data

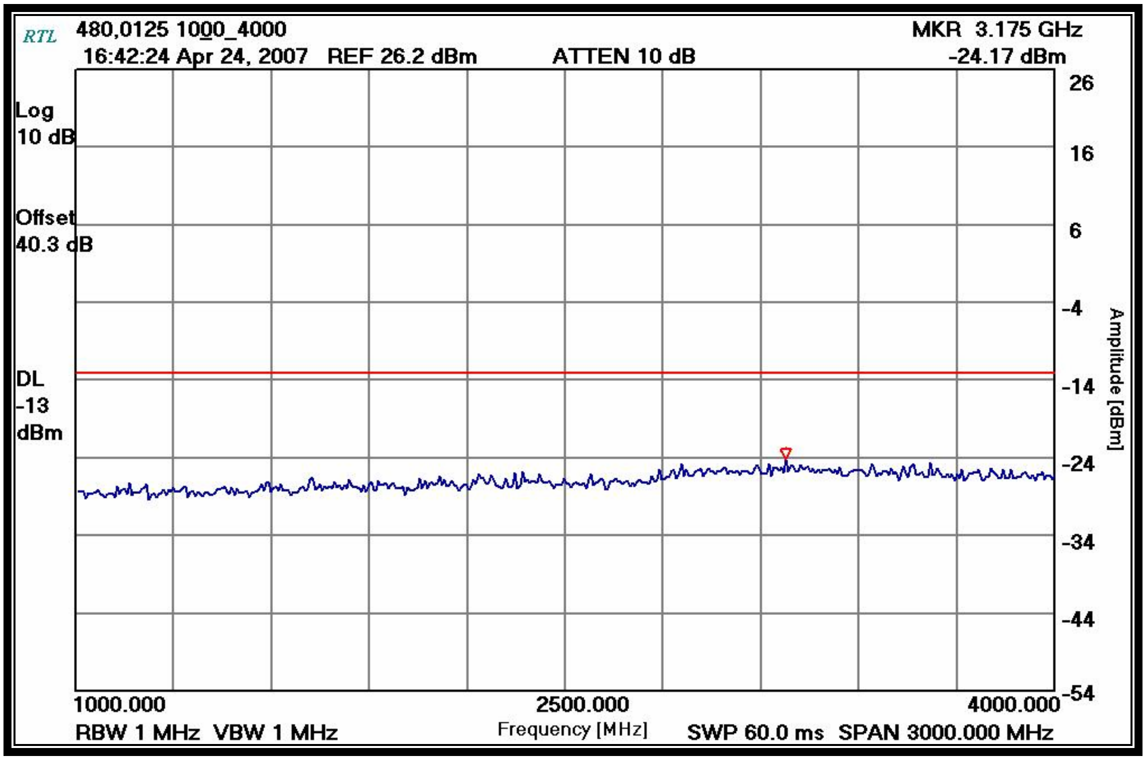
Frequency range of measurement per Part 2.1057: 9 kHz to 10xFc.

The worst case (unwanted emissions) channels are shown. The magnitude of emissions attenuated more than 20 dB below the FCC limit need not be recorded.

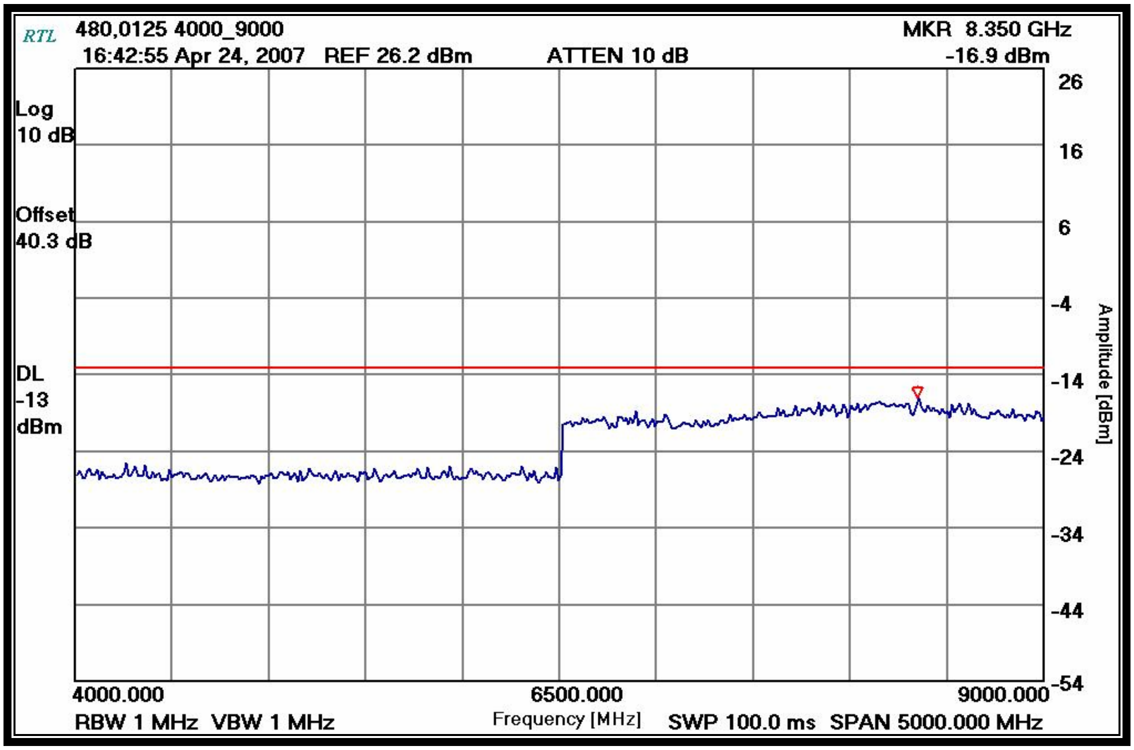
Plot 7-1: Conducted Spurious Emissions: 30 MHz - 1,000 MHz – 480.0125 MHz



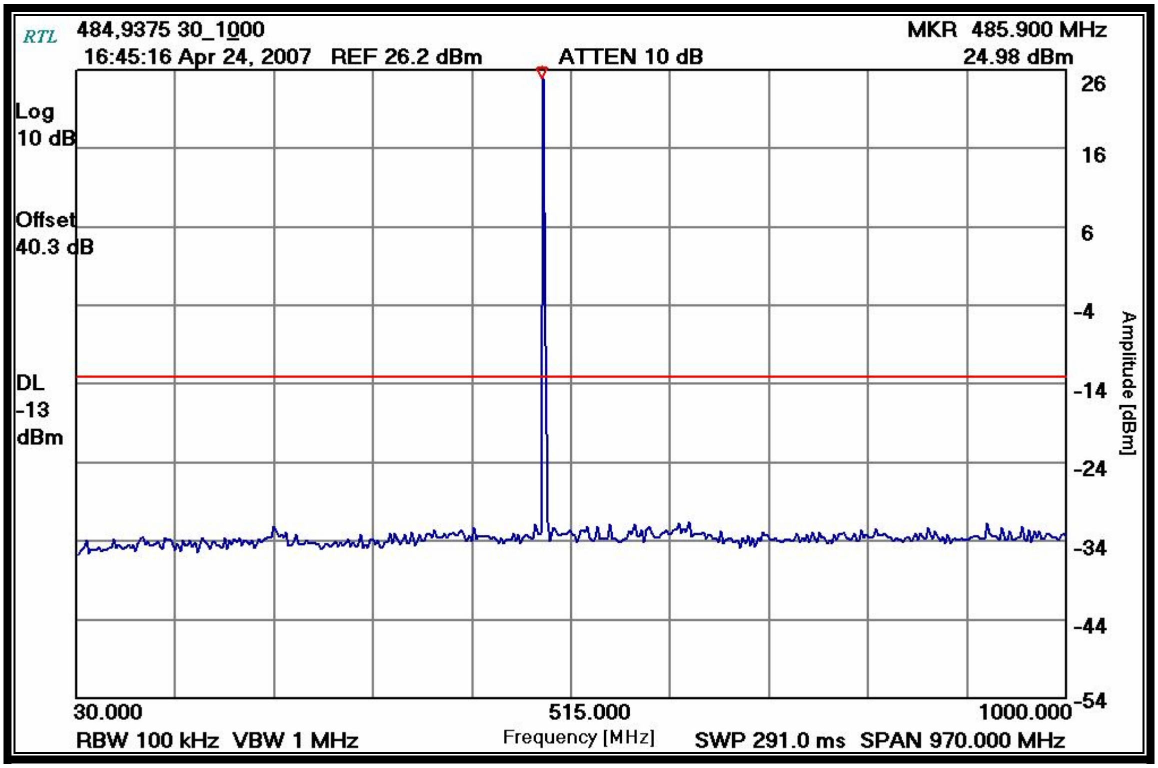
Plot 7-2: Conducted Spurious Emissions: 1,000 MHz - 4,000 MHz – 480.0125 MHz



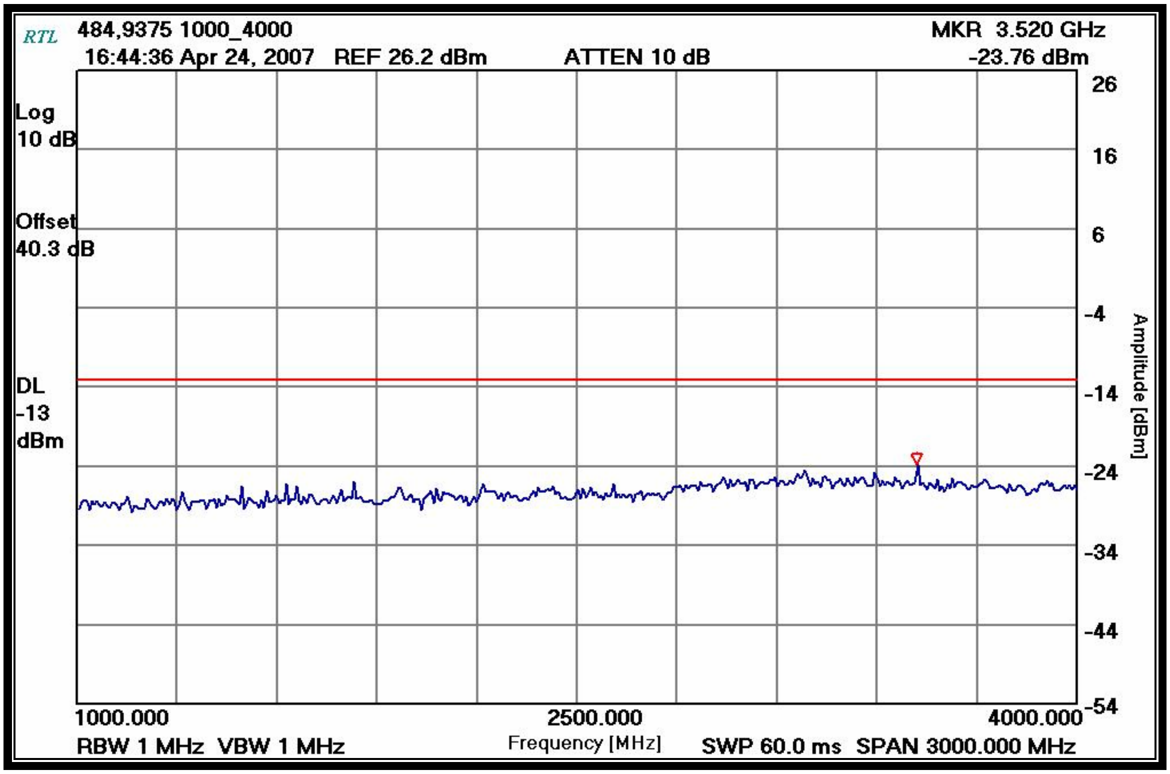
Plot 7-3: Conducted Spurious Emissions: 4,000 MHz – 9,000 MHz – 480.0125 MHz



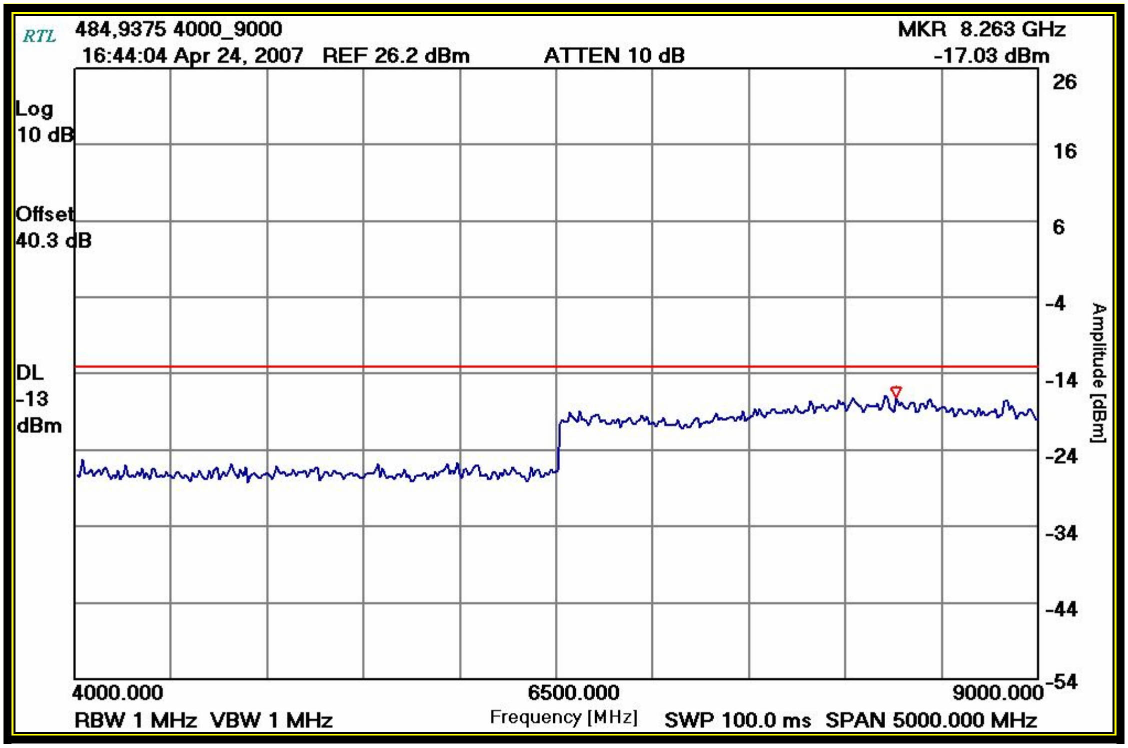
Plot 7-4: Conducted Spurious Emissions: 30 MHz - 1,000 MHz – 484.9375 MHz



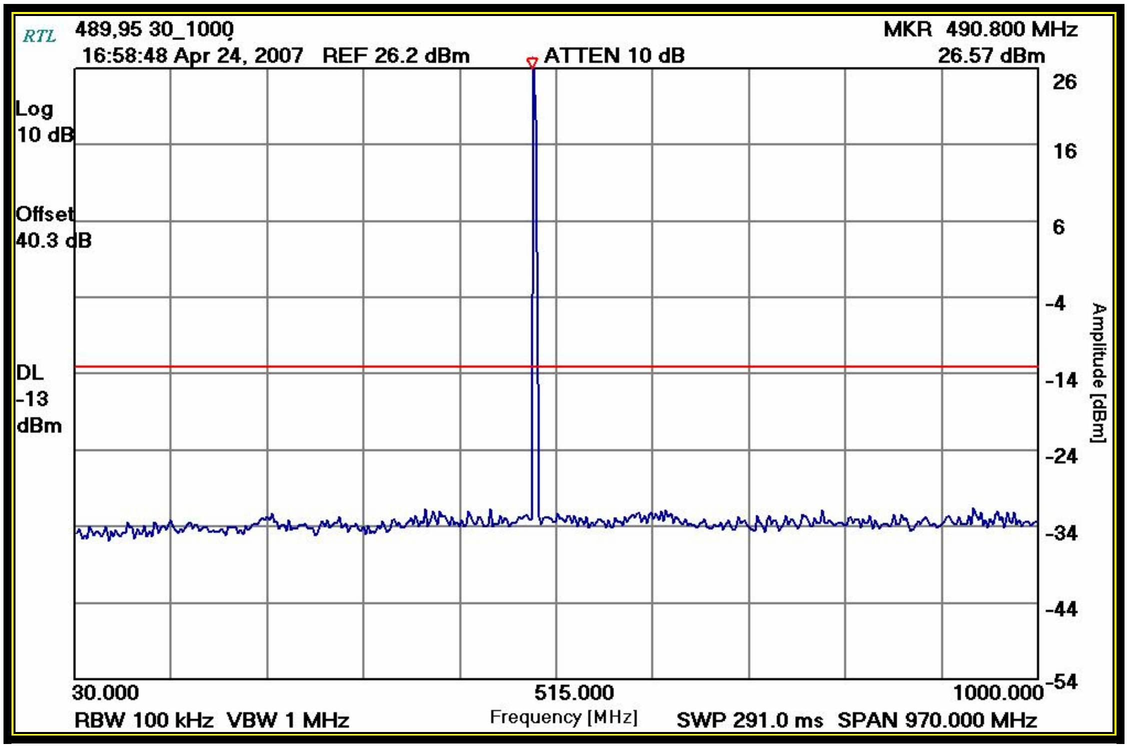
Plot 7-5: Conducted Spurious Emissions: 1,000 MHz - 4,000 MHz – 484.9375 MHz



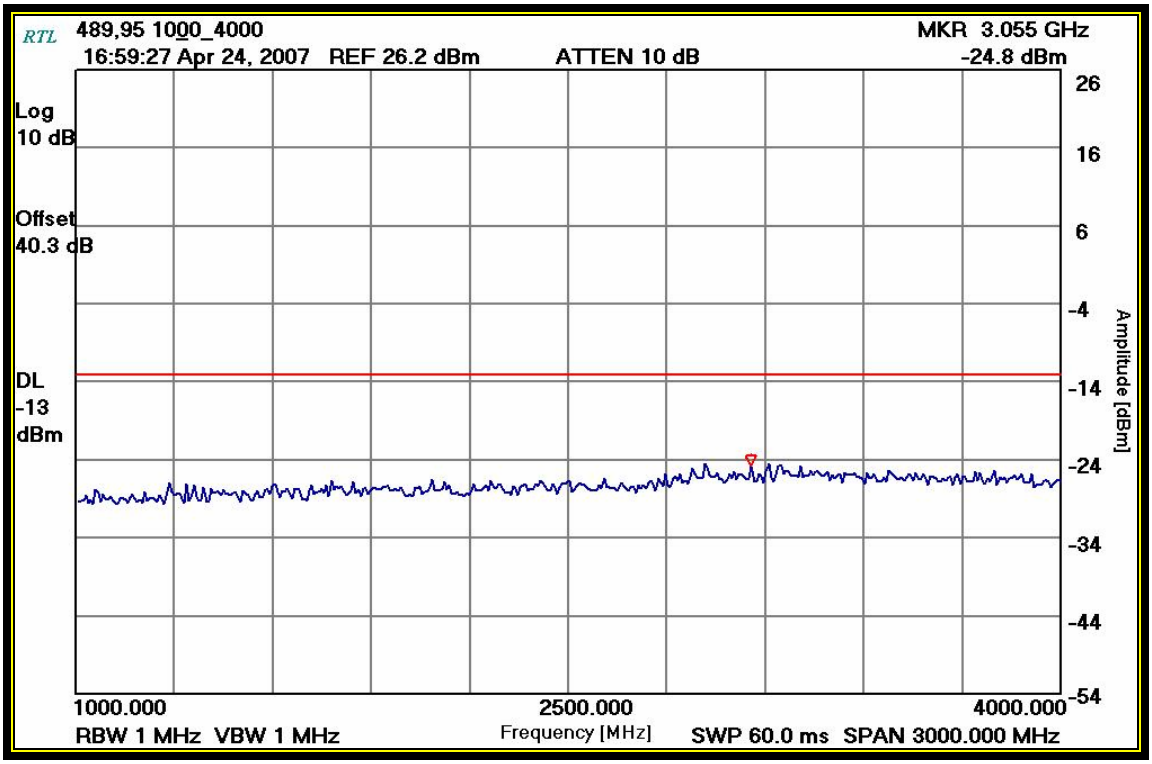
Plot 7-6: Conducted Spurious: 4,000 MHz - 9,000 MHz – 484.9375 MHz



Plot 7-7: Conducted Spurious Emissions: 30 MHz - 1,000 MHz – 489.9500 MHz



Plot 7-8: Conducted Spurious Emissions: 1,000 MHz - 4,000 MHz – 489.9500 MHz



Plot 7-9: Conducted Spurious Emissions: 4,000 MHz - 9,000 MHz – 489.9500 MHz

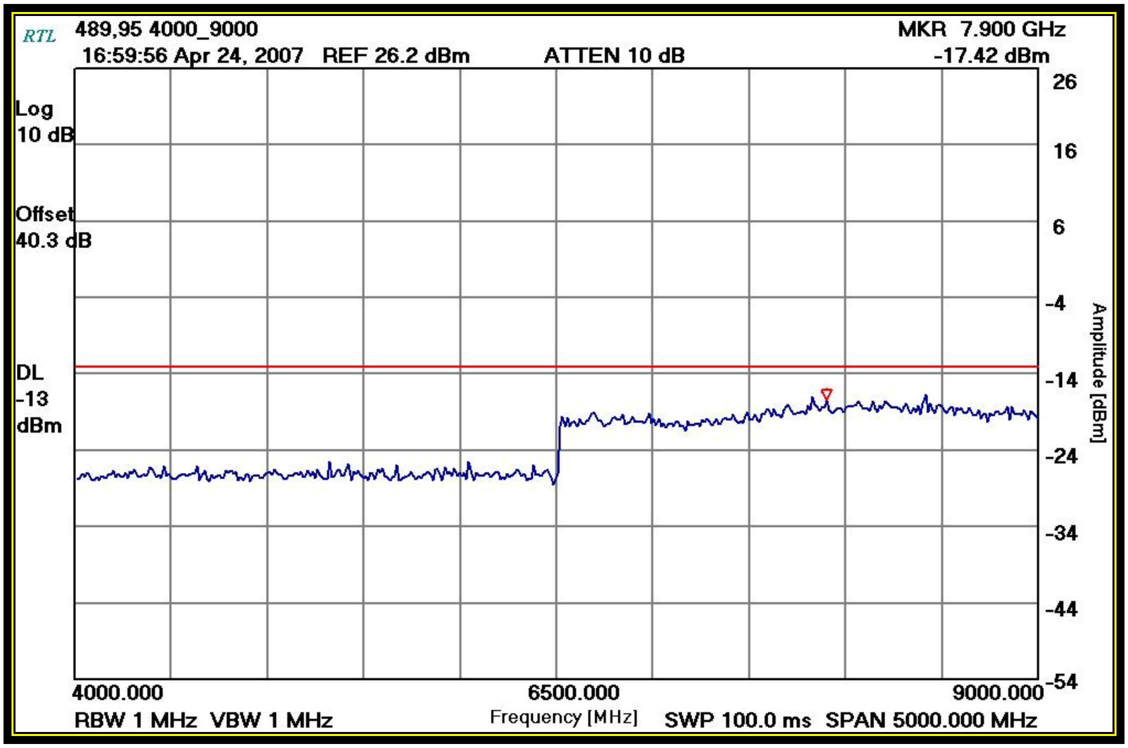


Table 7-1: Test Equipment for Testing Conducted Spurious Emissions

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
901215	Hewlett Packard	8596EM	EMC Analyzer (9 kHz – 12.8 GHz)	3826A00144	10/16/07
901396	MCE Weinschel	48-40-34	Attenuator, 40 dB, DC-18 GHz, 100 W	93453	12/02/08
901057	Hewlett Packard	3336B	Synthesizer/Level Generator (100Hz-20 MHz)	2514A02585	12/19/07
901118	Hewlett Packard	HP8901B	Modulation Analyzer 150kHz-1300MHz	2406A00178	07/24/07
901424	Insulated Wire Inc.	KPS-1503-360-KPS	RF cable 36"	NA	12/12/07

Test Personnel:

Daniel Biggs	Daniel Biggs	April 24, 2007
Test Engineer	Signature	Date Of Tests

8 Intermodulated Spurious Emissions

8.1 Test Procedure

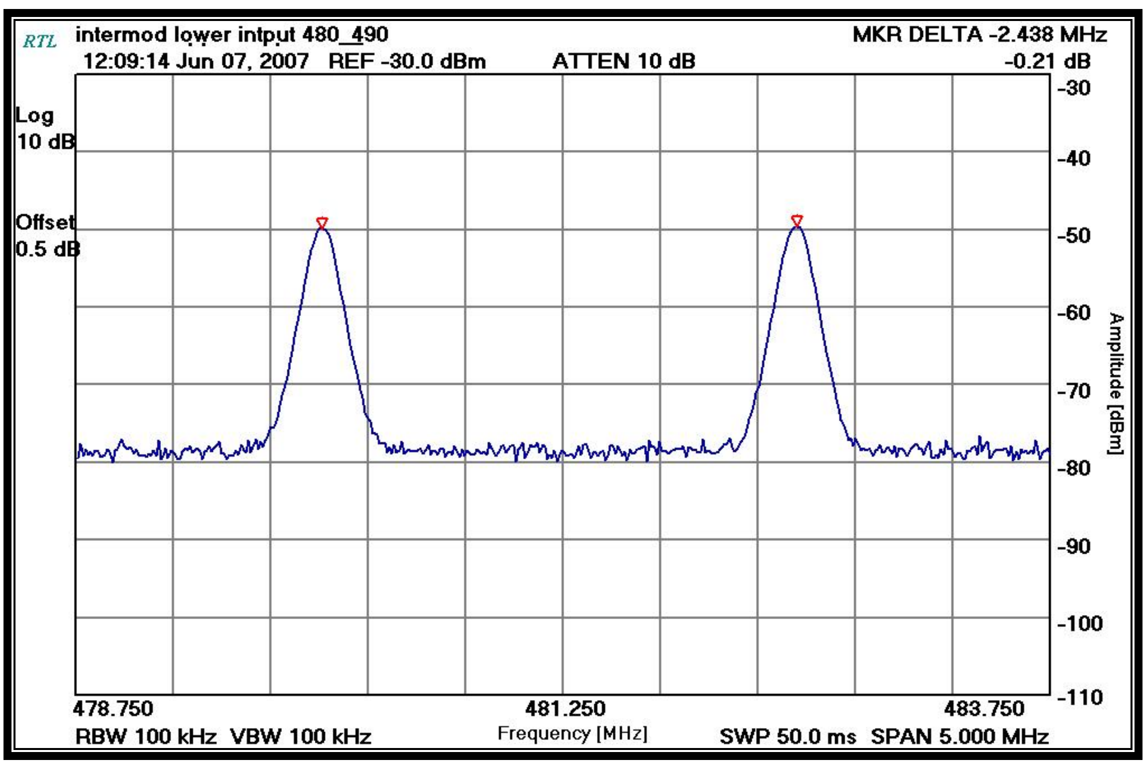
The transmitter is terminated with a 50 Ω load and interfaced with a spectrum analyzer. Cable losses were accounted for in measurement. Two signal generators were used to produce interference signals. Two signals were injected on low end of band and two signals were injected on high end of band. Testing was performed from 30 MHz – 9 GHz.

Low end: Plots 1-7
480.0125 MHz – 5 kHz deviation, 1 kHz tone at -50 dBm
482.5625 MHz - 5 kHz deviation, 2.5 kHz tone at -50 dBm

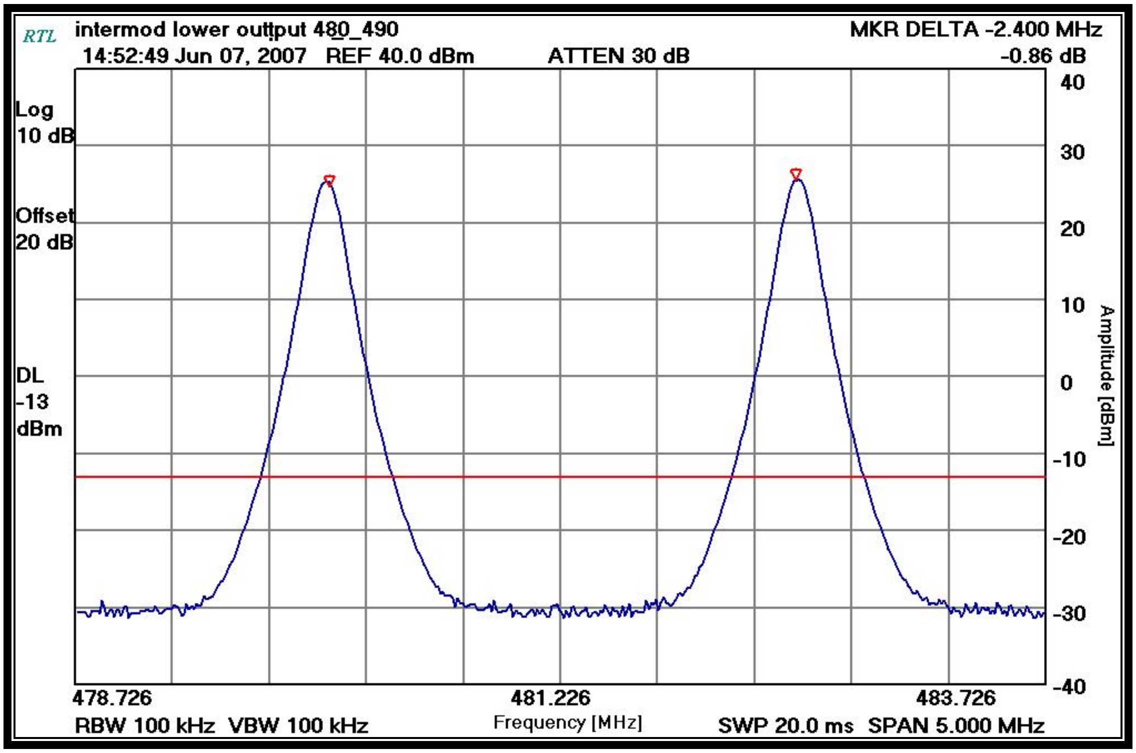
High end: Plots 8-14
487.9375 MHz – 5 kHz deviation, 1 kHz tone at -50 dBm
489.95 MHz - 5 kHz deviation, 2.5 kHz tone at -50 dBm

8.2 Test Data

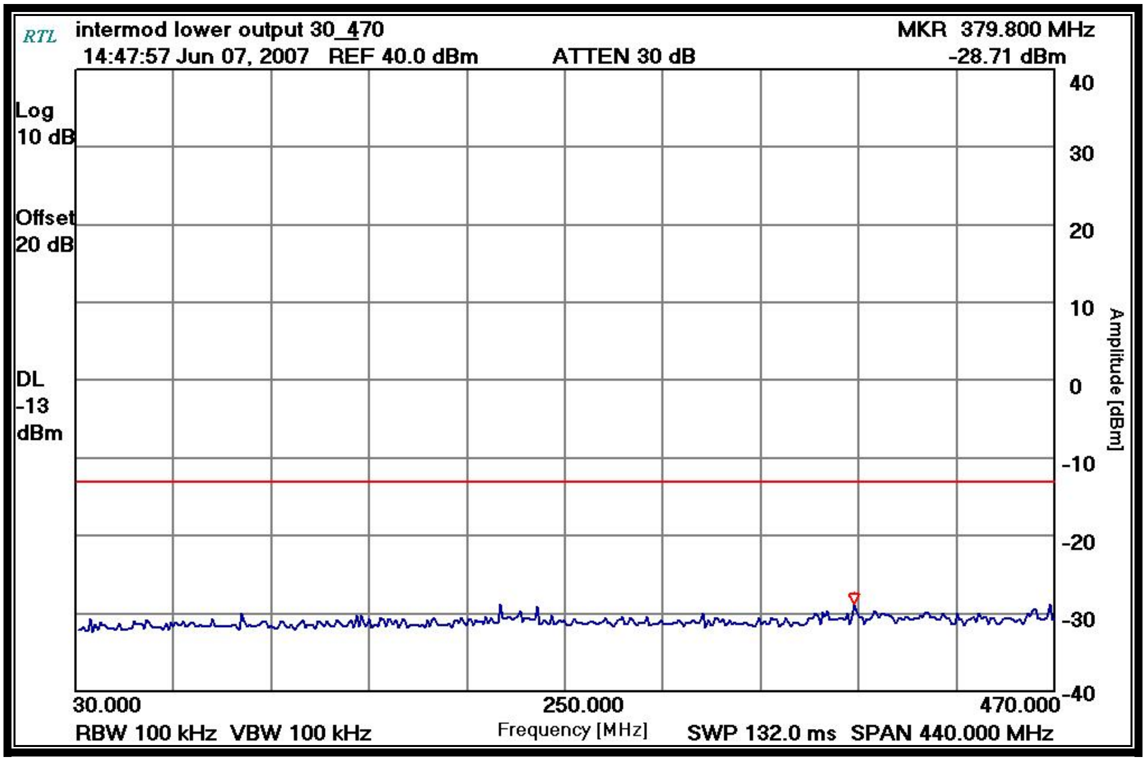
Plot 8-1: Intermodulated Spurious Emissions: In-Band Input Signals to Booster



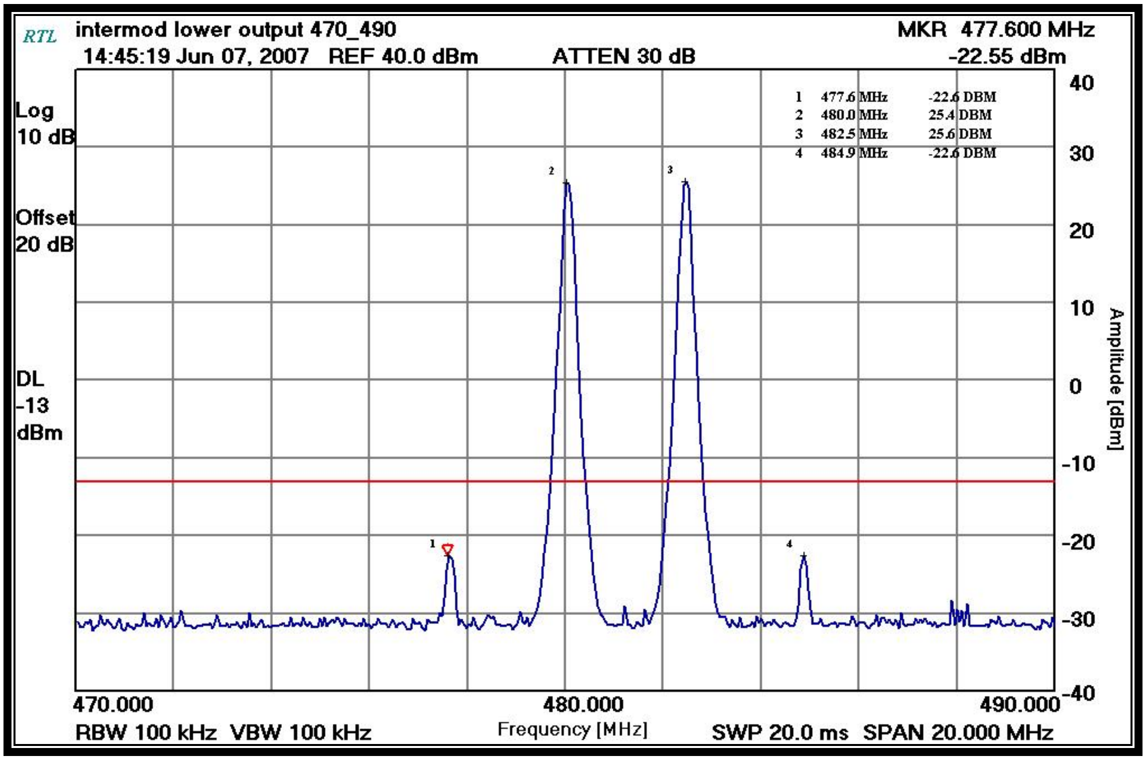
Plot 8-2: Intermodulated Spurious Emissions: In-Band Input Signals through Booster



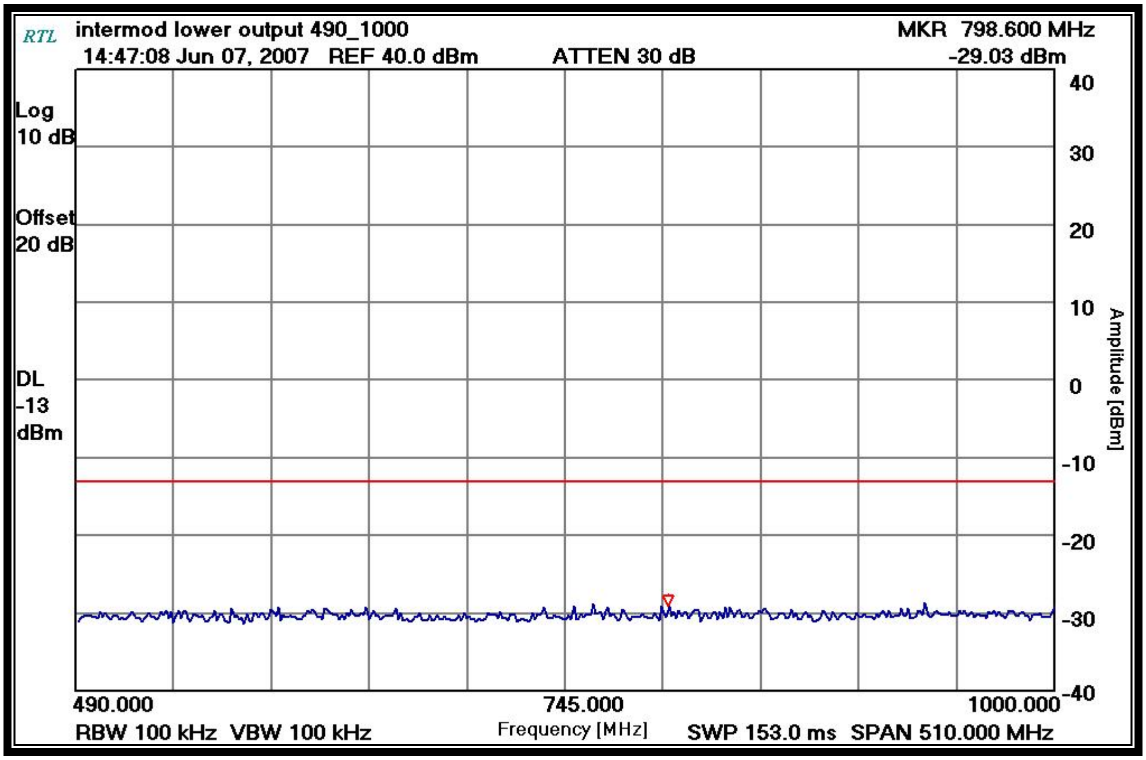
Plot 8-3: Intermodulated Spurious Emissions: 30 – 470 MHz



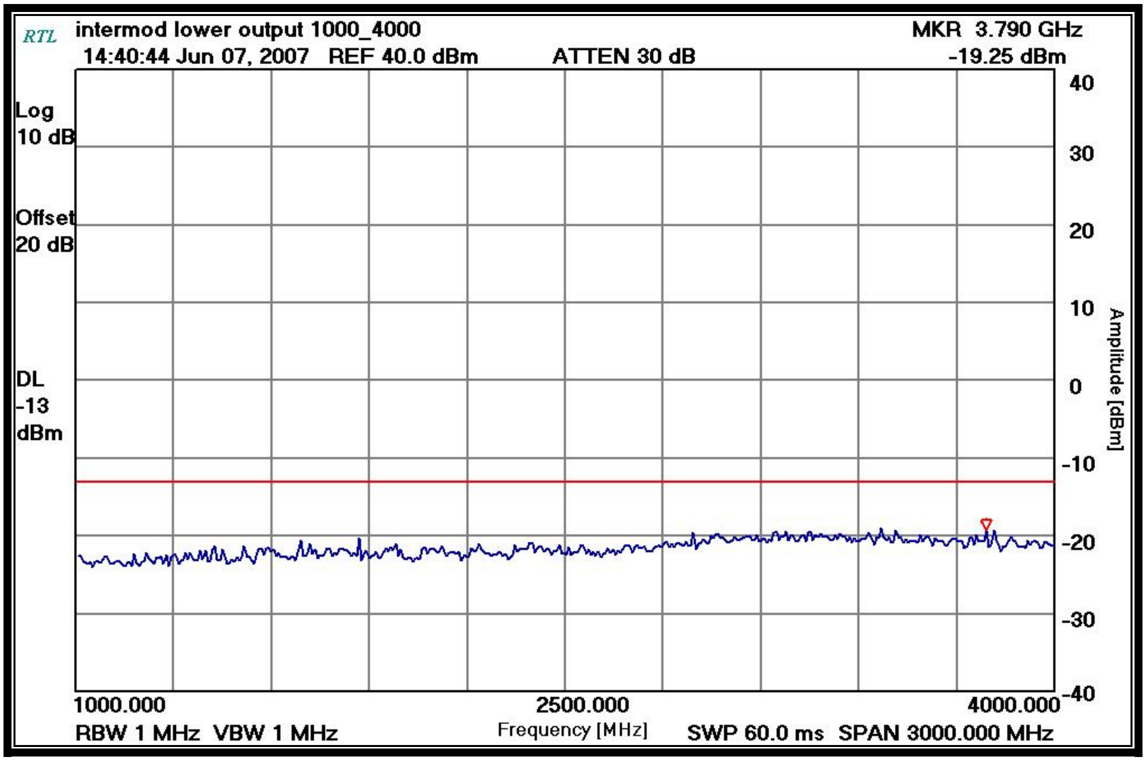
Plot 8-4: Intermodulated Spurious Emissions: 470 – 490 MHz



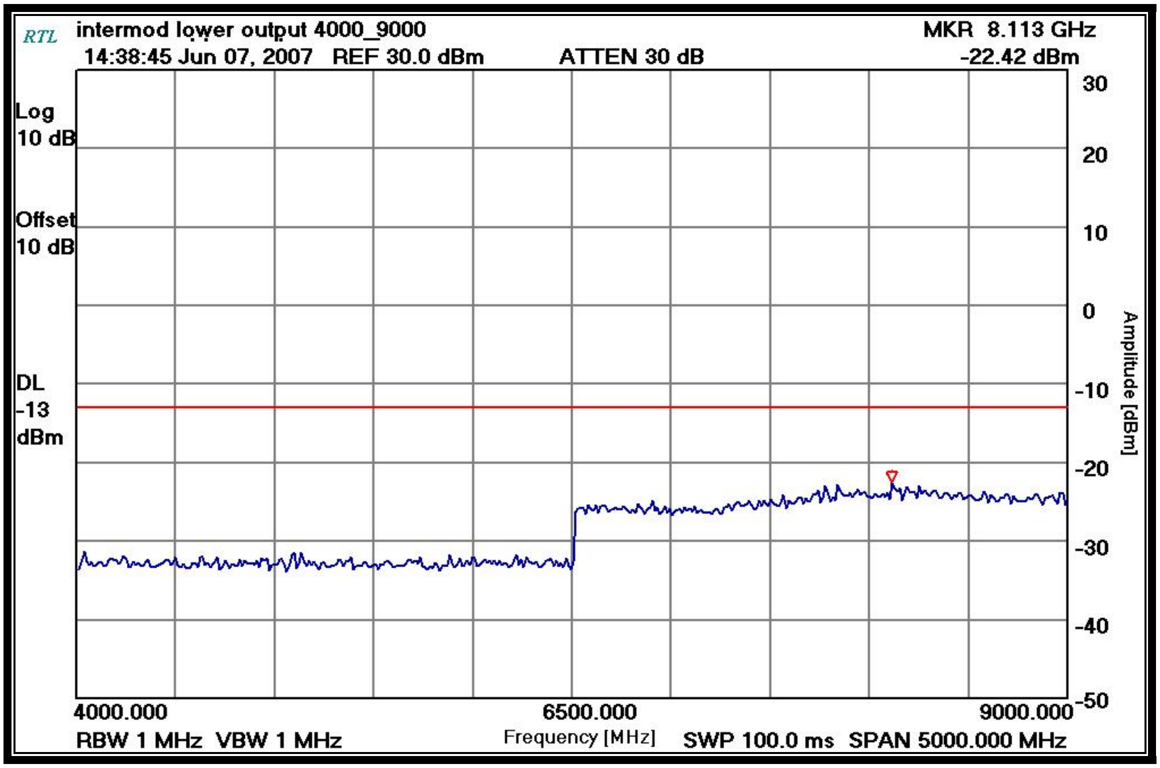
Plot 8-5: Intermodulated Spurious Emissions: 490 – 1000 MHz



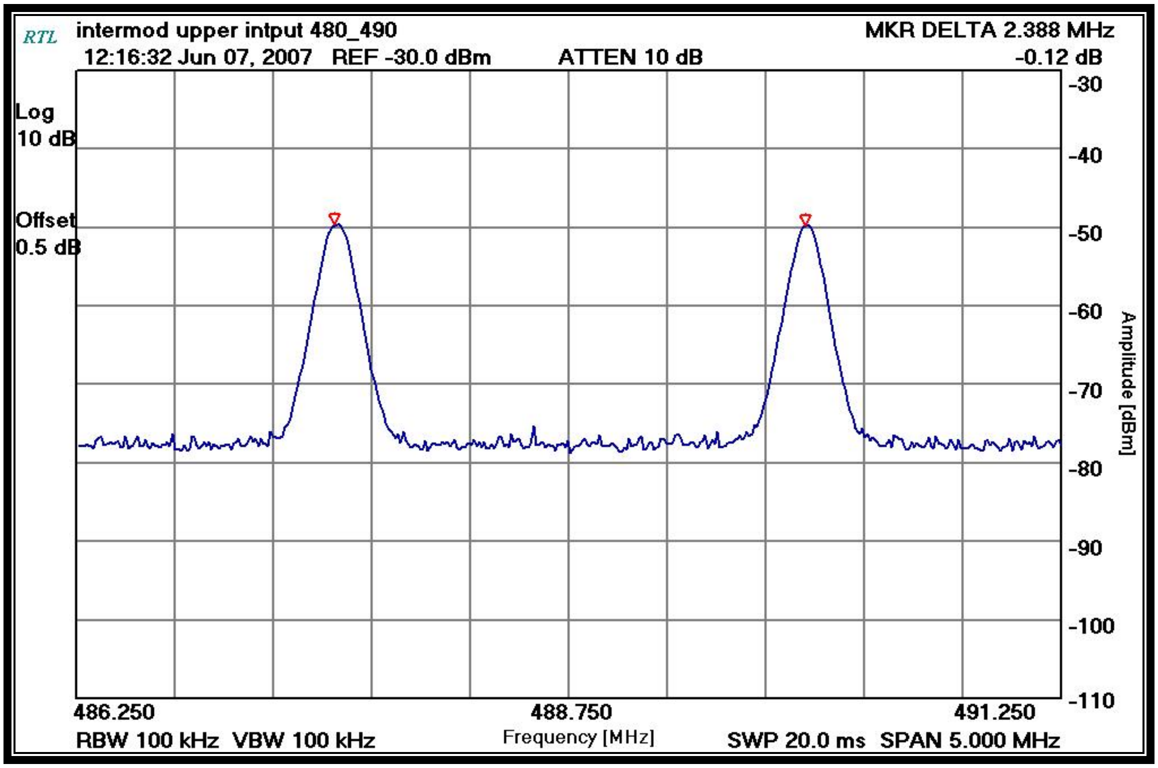
Plot 8-6: Intermodulated Spurious Emissions: 1000 – 4000 MHz



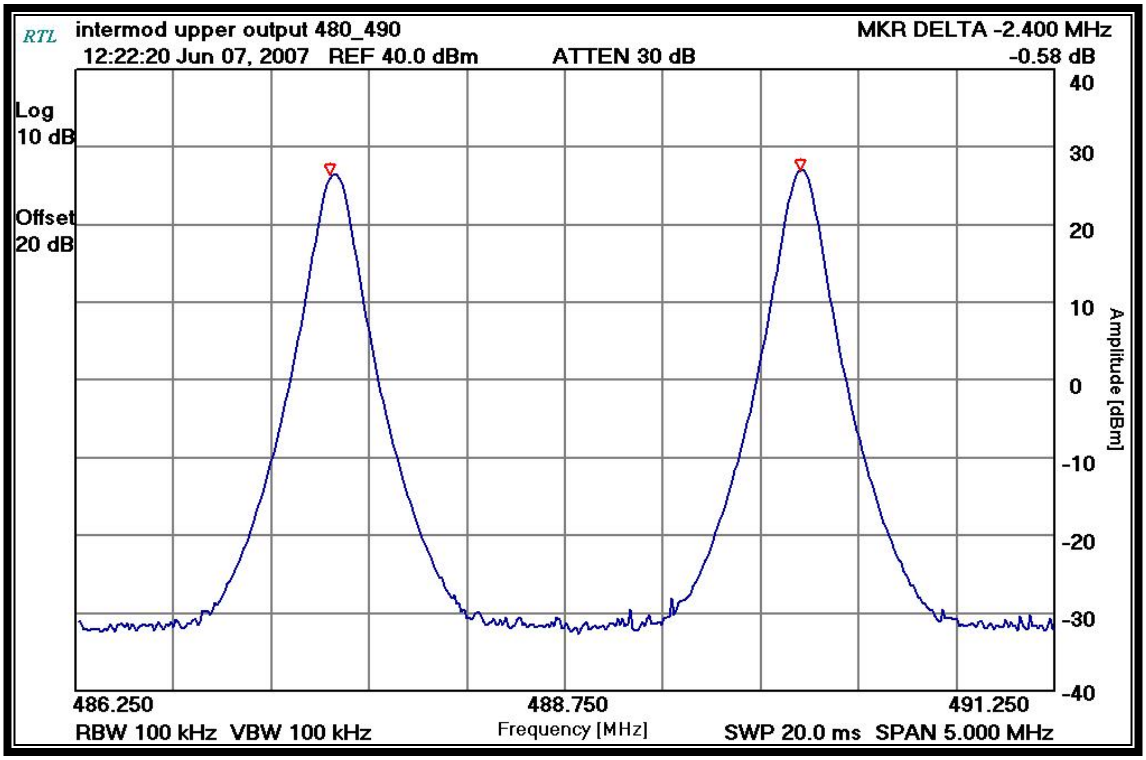
Plot 8-7: Intermodulated Spurious Emissions: 4000 – 9000 MHz



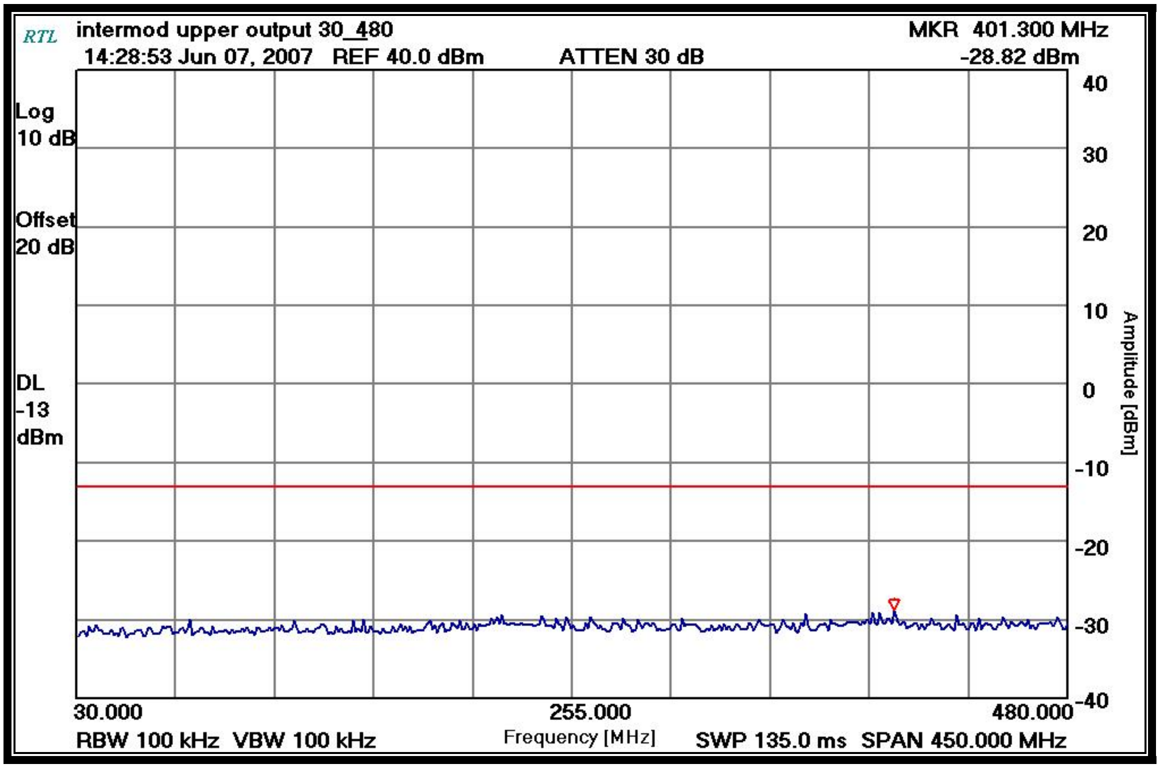
Plot 8-8: Intermodulated Spurious Emissions: In-Band Input Signals to Booster



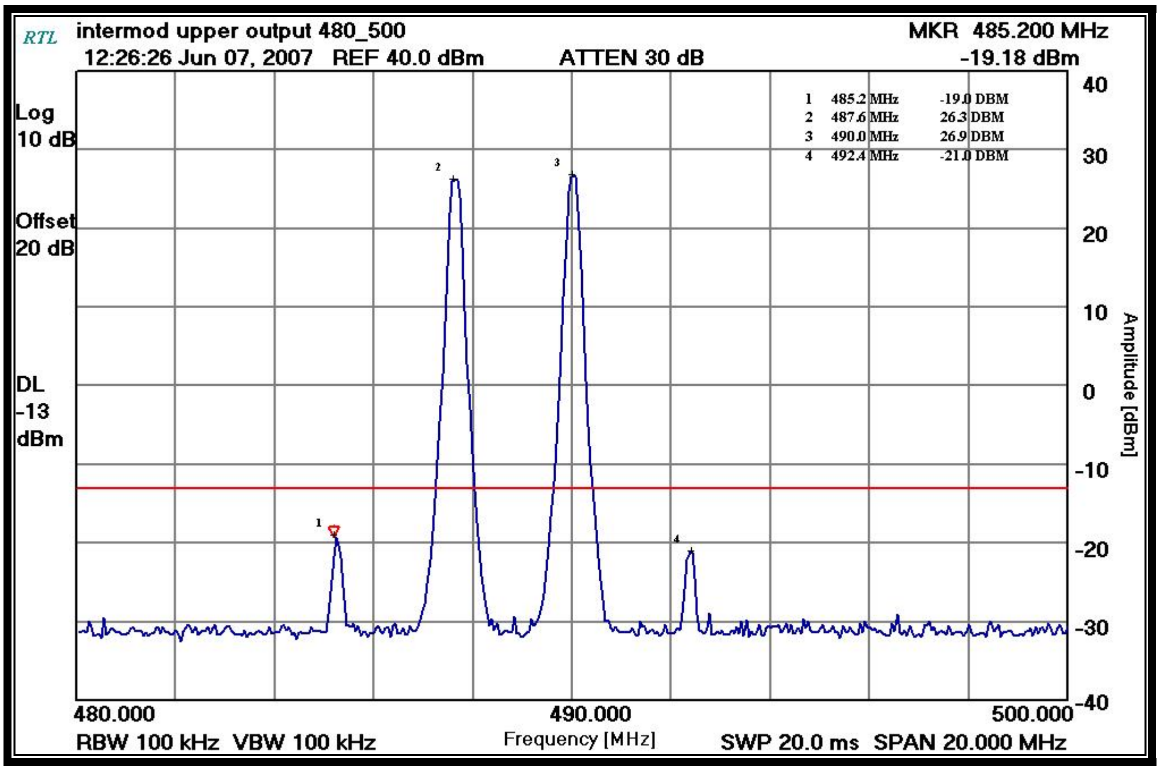
Plot 8-9: Intermodulated Spurious Emissions: In-Band Input Signals through Booster



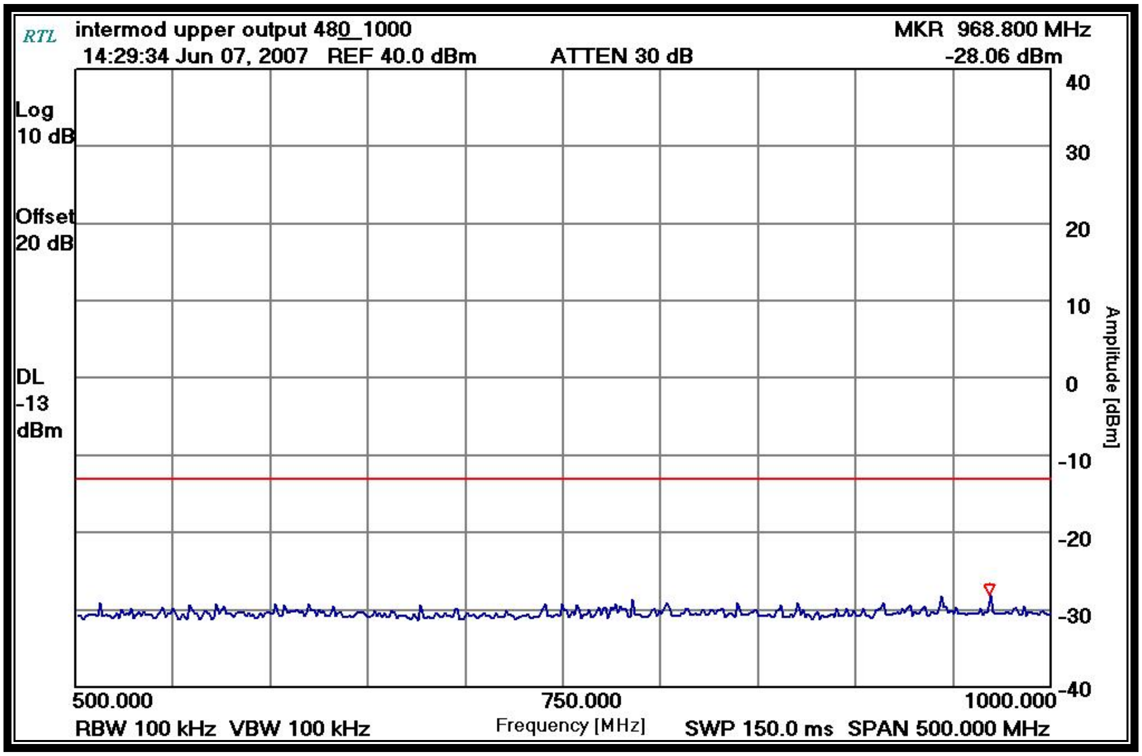
Plot 8-10: Intermodulated Spurious Emissions: 30 – 480 MHz



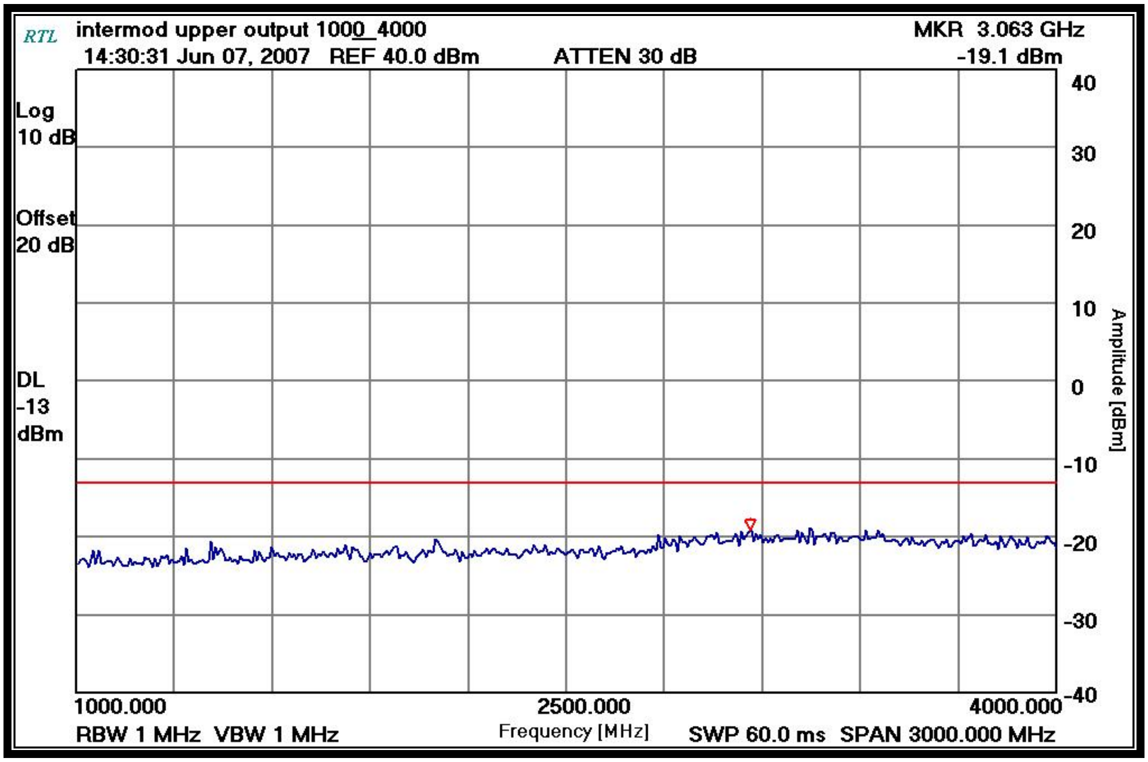
Plot 8-11: Intermodulated Spurious Emissions: 480 – 500 MHz



Plot 8-12: Intermodulated Spurious Emissions: 500 – 1000 MHz



Plot 8-13: Intermodulated Spurious Emissions: 1000 – 4000 MHz



Plot 8-14: Intermodulated Spurious Emissions: 4000 – 9000 MHz

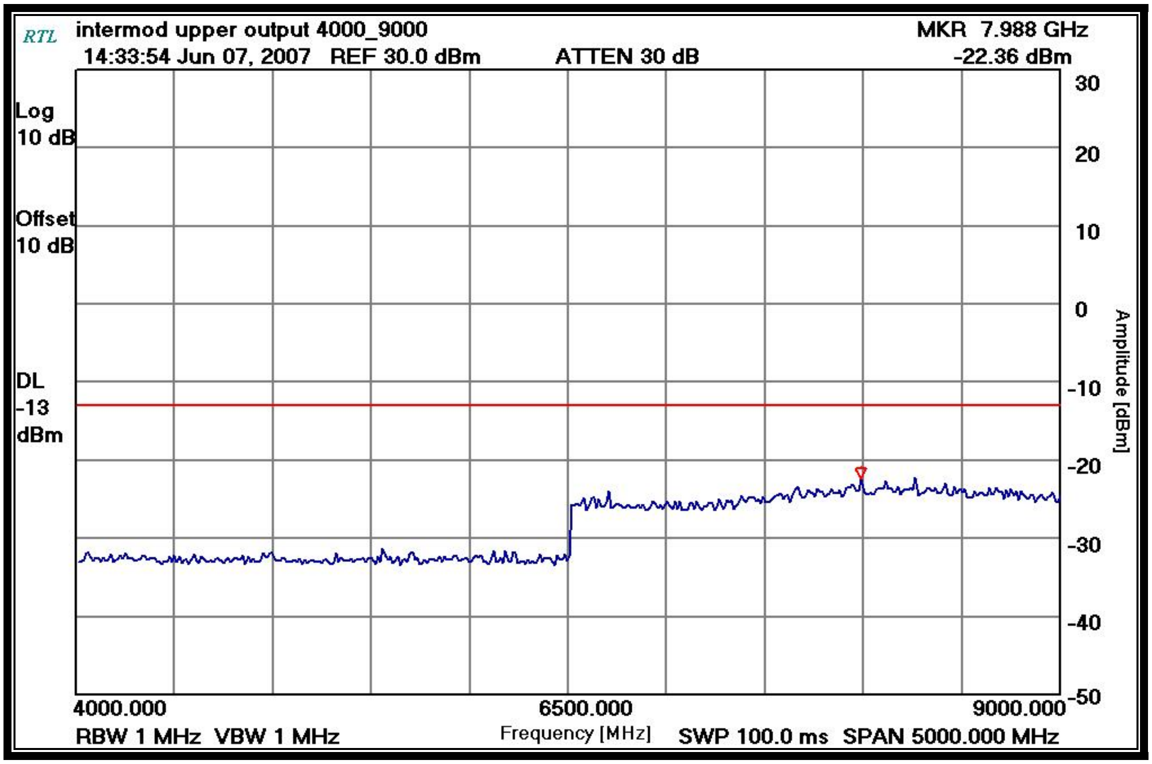


Table 8-1: Test Equipment for Testing Intermodulated Spurious Emissions

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
901215	Hewlett Packard	8596EM	EMC Analyzer (9 kHz – 12.8 GHz)	3826A00144	10/16/07
900352	Werlatone	C1795	Directional Coupler	4989	06/06/08
901157	Marconi Instruments	2022D	Signal Generator	119161/056	N/A
900948	Weinschel Corp.	47-10-43	Attenuator DC-18 GHz 10dB 50W	BH1487	12/05/08
900917	Hewlett Packard	8648C	Signal Generator	3537A01741	08/29/07
901396	MCE Weinschel	48-40-34	Attenuator, 40 dB, DC-18 GHz, 100 W	93453	12/02/08
901139	Weinschel Corp.	48-20-34	Attenuator, 100W 20dB, DC-18GHz	BK5859	01/13/09
901057	Hewlett Packard	3336B	Synthesizer/Level Generator (100Hz - 20 MHz)	2514A02585	12/19/07
901118	Hewlett Packard	HP8901B	Modulation Analyzer (150 kHz – 1300 MHz)	2406A00178	07/24/07
901424	Insulated Wire Inc.	KPS-1503-360-KPS	RF cable 36"	NA	12/12/07

Test Personnel:

Daniel Biggs		June 7, 2007
Test Engineer	Signature	Date Of Tests

9 FCC Rules and Regulations Part 90 §90.210 and Part 2 §2.1053(a): Field Strength of Spurious Radiation

9.1 Test Procedure

ANSI TIA-603-C-2004, section 2.2.12.

The EUT was placed on a floor-mounted turntable at a distance of 3 meters from the receiving antenna. The receiving antenna was varied between 1 – 4 meters to maximize emissions. The spurious emissions levels were measured and the device under test was replaced by a substitution antenna connected to a signal generator. This signal generator level was then corrected by subtracting the cable loss from the substitution antenna to the signal generator, and the gain of the antenna was further corrected to a half wave dipole.

The output was terminated with 50 ohm load.

9.2 Test Data

9.2.1 CFR 47 Part 90.210 Requirements

The worst-case emissions test data are shown.

The magnitude of emissions attenuated more than 20 dB below the FCC limit need not be recorded.

Limit: P(dBm) – (43 + 10xLOG P(W))

Table 9-1: Field Strength of Spurious Radiation: 480.0125 MHz

Frequency (MHz)	Measured Level (dBuv)		Signal Gen. Level (db)		Cable Loss (dB)	Antenna Gain (dBd)		ERP (dBm)		Limit (dBm)	Margin (dB)	
	H	V	H	V		H	V	H	V		H	V
960.0250	30.2	32.9	-80.3	-77.2	4.3	-1.0	-1.5	-85.6	-83.0	-13	-72.6	-70.0
1440.0375	30.2	33.8	-79.1	-75.1	5.1	4.4	4.5	-79.9	-75.7	-13	-66.9	-62.7
1920.0500	33.3	33.3	-72.3	-70.8	5.6	5.0	5.1	-73.0	-71.3	-13	-60.0	-58.3
2400.0625	33.0	31.6	-74.4	-76.4	6.2	6.6	6.8	-74.1	-75.8	-13	-61.1	-62.8
2880.0750	34.9	33.4	-71.2	-72.6	7.0	7.1	7.3	-71.2	-72.4	-13	-58.2	-59.4
3360.0875	34.6	33.7	-69.5	-70.2	7.8	7.4	7.6	-69.9	-70.4	-13	-56.9	-57.4
3840.1000	32.3	31.7	-69.4	-70.1	8.3	7.3	7.4	-70.4	-71.0	-13	-57.4	-58.0
4320.1125	31.5	31.0	-65.1	-65.8	8.8	7.6	7.9	-66.3	-66.7	-13	-53.3	-53.7
4800.1250	31.0	32.0	-65.0	-64.1	9.6	7.5	7.9	-67.2	-65.8	-13	-54.2	-52.8

*This insertion loss corresponds to the cable connecting the RF Signal Generator to the ½ wave dipole antenna.

Table 9-2: Field Strength of Spurious Radiation: 484.9375 MHz

Frequency (MHz)	Measured Level (dBuv)		Signal Gen. Level (db)		Cable Loss (dB)	Antenna Gain (dBd)		ERP (dBm)		Limit (dBm)	Margin (dB)	
	H	V	H	V		H	V	H	V		H	V
969.8750	32.3	32.7	-78.3	-77.5	4.3	-1.0	-1.5	-83.6	-83.3	-13	-70.6	-70.3
1454.8125	33.4	30.3	-75.9	-78.6	5.1	4.4	4.6	-76.7	-79.1	-13	-63.7	-66.1
1939.7500	32.5	31.6	-73.1	-72.7	5.7	5.0	5.1	-73.8	-73.3	-13	-60.8	-60.3
2424.6875	31.8	34.0	-75.0	-73.2	6.2	6.1	6.9	-75.2	-72.5	-13	-62.2	-59.5
2909.6250	30.9	34.0	-73.7	-71.1	7.1	7.1	7.3	-73.8	-70.9	-13	-60.8	-57.9
3394.5625	32.3	34.3	-72.3	-70.9	7.7	7.4	7.6	-72.6	-71.0	-13	-59.6	-58.0
3879.5000	31.8	32.6	-69.2	-68.8	8.5	7.2	7.3	-70.6	-70.1	-13	-57.6	-57.1
4364.4375	32.7	30.7	-63.0	-66.8	9.0	7.7	7.9	-64.4	-67.9	-13	-51.4	-54.9
4849.3750	31.9	32.3	-66.0	-64.8	9.5	7.6	7.9	-68.0	-66.4	-13	-55.0	-53.4

*This insertion loss corresponds to the cable connecting the RF Signal Generator to the ½ wave dipole antenna.

Table 9-3: Field Strength of Spurious Radiation: 489.9500 MHz

Frequency (MHz)	Measured Level (dBuv)		Signal Gen. Level (db)		Cable Loss (dB)	Antenna Gain (dBd)		ERP (dBm)		Limit (dBm)	Margin (dB)	
	H	V	H	V		H	V	H	V		H	V
979.9000	31.7	35.3	-79.2	-75.4	4.4	-1.0	-1.5	-84.6	-81.3	-13	-71.6	-68.3
1469.8500	31.9	34.7	-77.4	-73.9	5.1	4.4	4.6	-78.1	-74.4	-13	-65.1	-61.4
1959.8000	31.8	33.5	-74.3	-70.9	5.8	4.9	5.1	-75.3	-71.6	-13	-62.3	-58.6
2449.7500	30.8	31.8	-75.9	-75.2	6.3	6.7	6.9	-75.6	-74.6	-13	-62.6	-61.6
2939.7000	34.4	31.9	-71.5	-73.1	7.0	7.2	7.4	-71.4	-72.7	-13	-58.4	-59.7
3429.6500	32.9	34.4	-71.2	-70.8	7.8	7.4	7.6	-71.7	-71.0	-13	-58.7	-58.0
3919.6000	32.5	32.6	-68.8	-69.0	8.5	7.1	7.3	-70.3	-70.3	-13	-57.3	-57.3
4409.5500	32.4	31.9	-64.3	-65.0	9.1	7.7	7.9	-65.8	-66.2	-13	-52.8	-53.2
4899.5000	31.2	31.3	-65.0	-64.8	9.7	7.5	8.0	-67.3	-66.5	-13	-54.3	-53.5

*This insertion loss corresponds to the cable connecting the RF Signal Generator to the ½ wave dipole antenna.

Table 9-4: Test Equipment for Testing Field Strength of Spurious Radiation

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
901053	Schaffner-Chase	CBL6112	Antenna (25 MHz – 2 GHz)	2648	11/1/07
901364	MITEQ	JS4-01002600-36-5P	Preamplifier (1 - 26.5 GHz)	849863	N/A
901215	Hewlett Packard	8596EM	Portable Spectrum Analyzer (9 kHz – 12.8 GHz)	3826A00144	10/16/07
900928	Hewlett Packard	HP 83752A	Synthesized Sweeper (.01 – 20 GHz)	3610A00866	11/30/07
900772	EMCO	3161-02	Horn Antennas (2 – 4 GHz)	9504-1044	05/20/07
900321	EMCO	3161-03	Horn Antennas (4 – 8 GHz)	9508-1020	05/20/07
900814	Electrometrics	RGA-60	Double Ridge Horn Antenna (1 – 18 GHz)	2310	03/30/09
901423	Insulated Wire, Inc.	KPS-1503-2400-KPS	RF cable, 20'	NA	12/12/07
901424	Insulated Wire Inc.	KPS-1503-360-KPS	RF cable 36"	NA	12/12/07

Test Personnel:

Daniel Biggs	Daniel Biggs	April 27, 2007
Test Engineer	Signature	Date Of Tests

10 FCC Rules and Regulations Part 90 §90.213 and Part 2 §2.1055: Frequency Stability

There are no frequency determining elements, hence the EUT is not subject to frequency stability requirements.

11 Conclusion

The data in this measurement report shows that the **Airorlite Communications, Inc**. **Model 50289 Booster (Uplink), FCC ID: UT650289BA8480UL,** complies with all the applicable requirements of FCC Parts 90, 15 and 2.