FCC PART 90
EMI MEASUREMENT AND TEST REPORT

For

Wilson Electronics, Inc.

3301 EAST DESERET DRIVE
SAINT GEORGE, UTAH, 84790

FCC ID: PWO806WV

2003-09-17

This Report Concerns:	**Equipment Type:**
☒ Original Report	IDEN Mobile Bi-Directional Amplifier

Test Engineer:	Benjamin Jing /
Report No.:	R0308081
Test Date:	2003-09-04
Reviewed By:	Hans Mellberg /
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1 - GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

The *Wilson Electronics, Inc.'s* product, M/N: *BD800NM*, Part Number: *804002 or the* "EUT" as referred to in this report is an IDEN Mobile bi-directional amplifier . The EUT measures approximately 5.5"L x 4.3"W x 1.4"H.

The EUT operates at the frequency range of 806-866MHz. The output power is 30.5dBm (1.122W).

The system was fed by 12Vdc power supply.

There are 7 antennas used with the EUT. They are listed below:

Stealth Antenna (in the vehicle)
Trucker Antenna (out of the vehicle)
Mini Magnet Antenna (out of the vehicle)
Mini Gas Antenna (out of the vehicle)
Magnet Mount Antenna (out of the vehicle)
Glass Mount Antenna (out of the vehicle)
Nmo Mount Antenna (out of the vehicle)

Among them, three antennas (Stealth, Trucker and Min Magnet) were chosen for the three types of the entire 7 antennas, because they have the greatest antenna gains among the same type.

** The test data gathered are from typical production samples provided by the manufacturer.*

1.2 Objective

This report is prepared on behalf of *Wilson Electronics, Inc.* in accordance with Part 90 Subpart A, and Subpart I of the Federal Communication Commissions rules.

The objective of the manufacturer is to demonstrate compliance with FCC rules for conducted output power, emission bandwidth, spurious emission at antenna terminal, two-tone test, radiated spurious emissions, modulation characteristics, frequency stability, conducted emission and RF exposure.

1.3 Related Submittal(s)/Grant(s)

No Related Submittals

1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2001 and TIA/EIA 603A, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All radiated and conducted emissions measurement was performed by Bay Area Compliance Laboratory, Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

1.5 Test Facility

The Open Area Test site used by BACL to collect radiated and conducted emission measurement data is located in the back parking lot of the building at 230 Commercial Street, Sunnyvale, California, USA.

Test site at BACL has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports has been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997 and Article 8 of the VCCI regulations on December 25, 1997. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2001.

The Federal Communications Commission and Voluntary Control Council for Interference has the reports on file and is listed under FCC file 31040/SIT 1300F2 and VCCI Registration No.: C-1298 and R-1234. The test site has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200167-0). The scope of the accreditation covers the FCC Method – 47 CFR Part – Digital Devices, CISPER 22: 1997: Electromagnetic Interference – Limits and Methods of Measurement of Information Technology Equipment test methods.

1.6 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Cal. Due Date
HP	Spectrum Analyzer	8565EC	2517A01610	2004-01-22
HP	Spectrum Analyzer	8593A	29190A00242	2004-05-01
HP	Amplifier	8447E	1937A01054	2004-05-01
HP	Quasi-Peak Adapter	85650A	2521A00718	2004-05-01
Com-Power	Biconical Antenna	AB-100	14012	2004-05-01
Com-Power	Log Periodic Antenna	AL-100	16091	2004-05-01
Com-Power	Log Periodic Antenna	AB-900	15049	2004-05-01
Rohde & Schwarz	EMI Test Receiver	ESPI	1147 8007 07	2003-12-03
HP	Spectrum Analyzer (9KHz – 40GHz)	8564E	08303	2004-08-01
HP	Spectrum Analyzer (9KHz – 50GHz)	8565EC	06042	2004-05-03
HP	Amplifier (1-26.5GHz)	8449B	3147A00400	2004-03-14
A.H.System	Horn Antenna (700MHz-18GHz)	SAS-200/571	261	2004-05-31
KIKUSUI	Voltmeter	PL2303W	N/A	2004-07-28
Electro Impulse	1000W Attenuator	AX-1000-30	N/A	2004-07-29
Tektronix	Storage Scope	TDS7104	N/A	2003-10-31
Versa	Temperature Chamber	DPSG-PI	124318	2004-04-23
HP	Plotter	7470A	N/A	Not Required

Statement of Traceability: Bay Area Compliance Laboratory Corp. declares that all equipment has been performed calibration using suitable standard traceable to National Institute of Standard and Technology (NIST).

1.7 External I/O Cabling List and Details

Cable Description	Length (M)	Port/From	To
Shielded Cable	2.0	RF Port/EUT	RF Output/Generator

2 - SYSTEM TEST CONFIGURATION

2.1 Justification

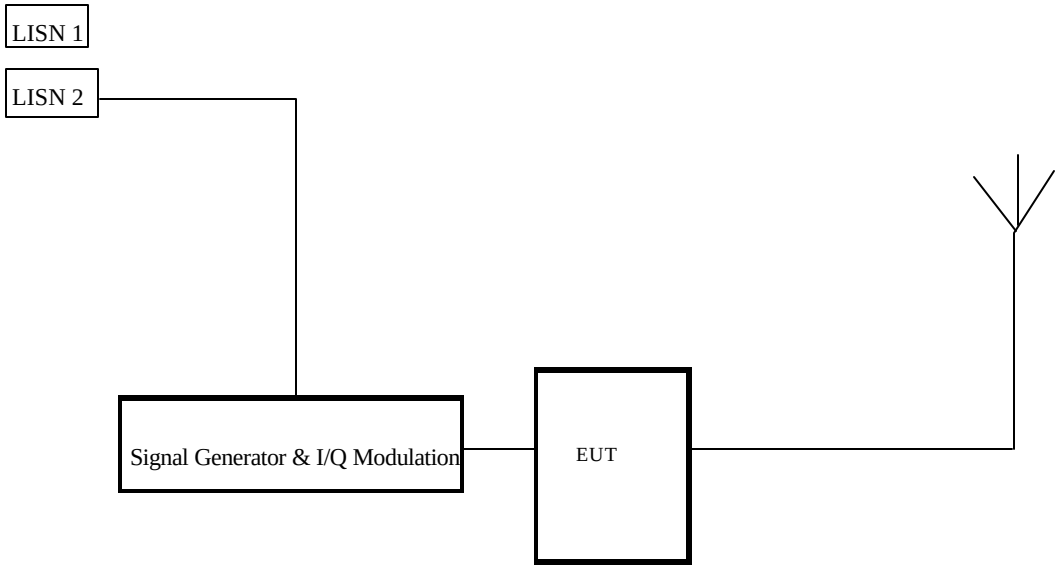
The EUT was configured for testing in a typical fashion (as normally used in a typical application).

The final qualification test was performed with the EUT operating at normal mode.

2.2 Schematics/Block Diagram

Please refer to Exhibit D.

2.3 Test Setup Block Diagram



2.4 Equipment Modifications

No modifications were necessary for the EUT to comply with the applicable standard and limit.

3 - SUMMARY OF TEST RESULTS

FCC RULE	DESCRIPTION OF TEST	Measured	Result
§2.1046 § 90.205	Conducted Output Power	30.5dBm	Compliant
§ 2.1049 § 90.209	Emission Bandwidth	18.58kHz	Compliant
2.1051 § 90.210	Spurious emissions at antenna terminals	<-13dBm	Compliant
2.1053 § 90.210	Radiated Spurious Emission	Section 8	Compliant
§ 2.1055 (a) § 2.1055 (d)	Frequency stability vs. temperature Frequency stability vs. voltage	N/A	Compliant
§ 2.1047	Modulation Characteristics	N/A	Compliant

4 – CONDUTED OUTPUT POWER

4.1 Applicable Standard

Per FCC §2.1046, §90.205: the maximum amplifier output power depends on HAAT and service area radius.

4.2 Test Procedure

The antenna was removed and SMA connector was connected to the amplifier output. The amplifier output was connected to a calibrated coaxial attenuator (50 Ohm), the other end of which was connected to a spectrum analyzer. Amplifier output was read off the spectrum analyzer in dBm. The power output at the amplifier was determined by adding the value of the attenuator to the spectrum analyzer reading.

The test was performed at three frequencies (low, middle, and high channels) and on all power levels which can be setup on the amplifier.

4.3 Test equipment

Hewlett Packard HP8564E Spectrum Analyzer, Cal. Due Date: 2004-08-01
Rohde & Schwarz SMIQ03 Signal Generator, Cal. Due Date: 2004-07-05
Rohde & Schwarz AMIQ I/Q Modulation Generator, Cal. Due Date: 2004-07-05

4.4 Test Results

Mode	Channel	Frequency MHz	Input Power in dBm	Output Power in dBm
Up-link	Low	806.1125	-6	30.33
	Mid	813.1125	-6	30.17
	High	820.1125	-6	30.50
Down-link	Low	851.1125	-22	14.83
	Mid	858.1125	-22	14.00
	High	865.1125	-22	14.33

5 - EMISSION BANDWIDTH

5.1 Applicable Standards

Per FCC §2.1049, §90.209

5.2 Test Procedure

The RF output of the amplifier was connected to the input of the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 1KHz and the spectrum was recorded.

5.3 Test Equipment

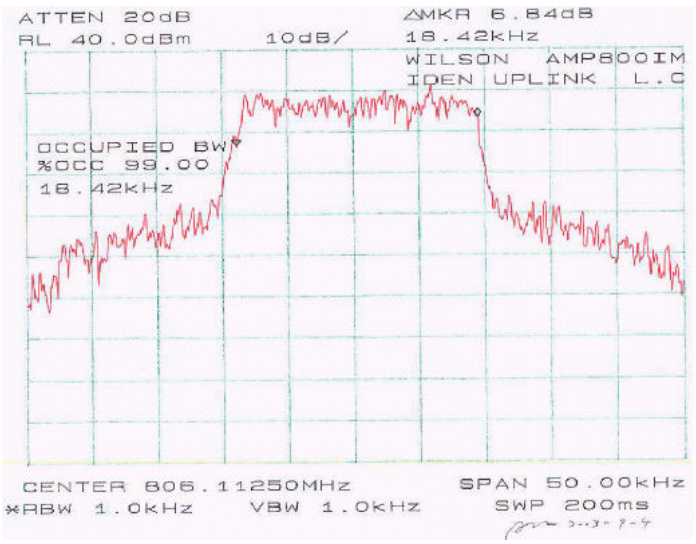
Hewlett Packard HP8568B Spectrum Analyzer, Cal. Due Date: 2003-10-30
Rohde & Schwarz SMIQ03B Signal Generator, Cal. Due Date: 2004-07-05
Rohde & Schwarz AMIQ I/Q Modulation Generator, Cal. Due Date: 2004-07-05

5.4 Plots of Occupied Bandwidth

Please refer to plots hereinafter.

Test Data Summary

Mode	Channel	Frequency (MHz)	Emission Bandwidth in kHz
Up-link	Low	806.1125	18.42
	Mid	813.1125	18.58
	High	820.1125	18.25
Down-link	Low	851.1125	18.08
	Mid	858.1125	18.33
	High	865.1125	18.42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10dB/
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WILSON AMP800IM
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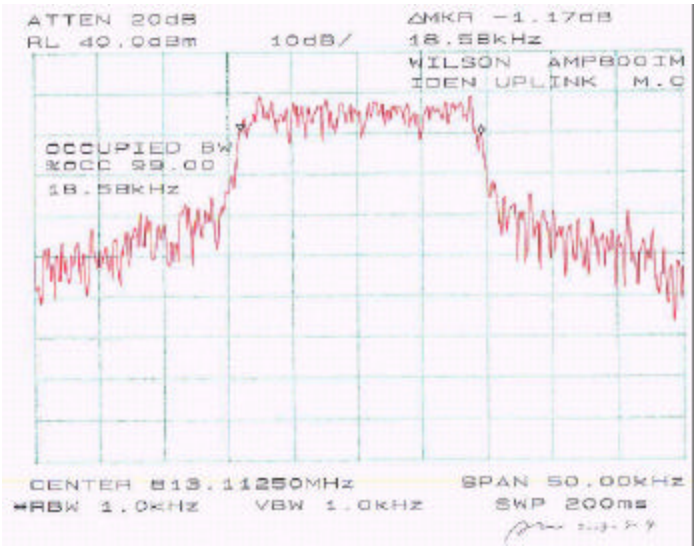
SPAN 50.00kHz
*RBW 1.0kHz
VBW 1.0kHz
SWP 200ms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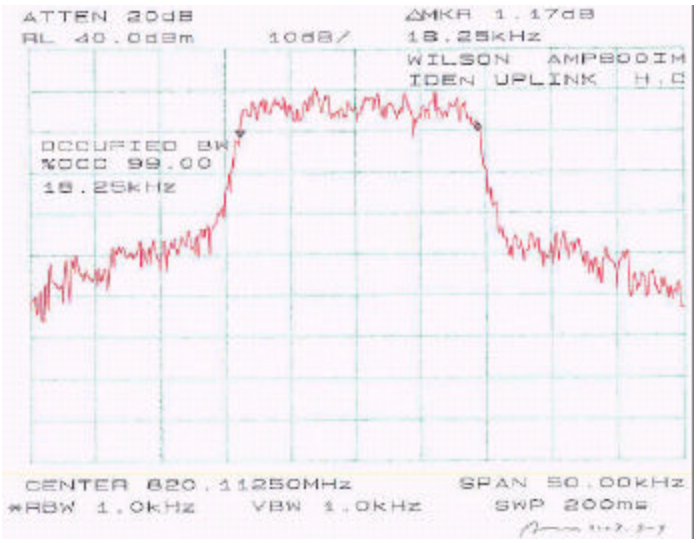
VBW 1.0kHz
SWP 200ms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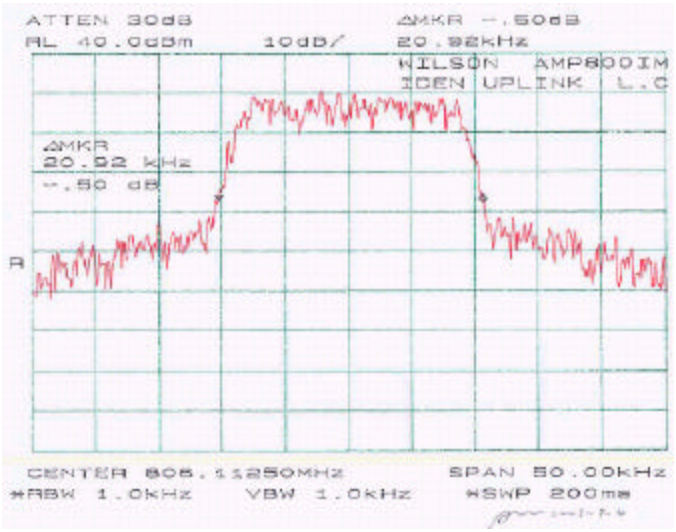
VBW 1.0kHz
SWP 200ms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10dB/
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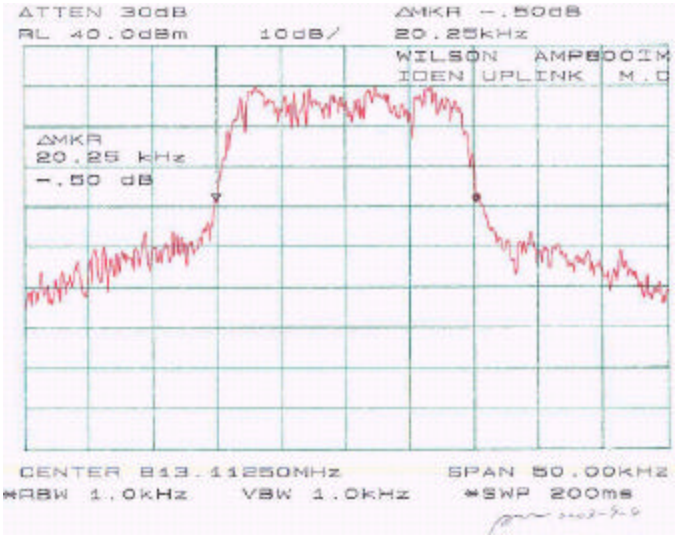
20.92 kHz
-.50 dB
CENTER 806.11250MHz
SPAN 50.00kHz
*RBW 1.0kHz
VBW 1.0kHz
*SWP 200ms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-.50 dB
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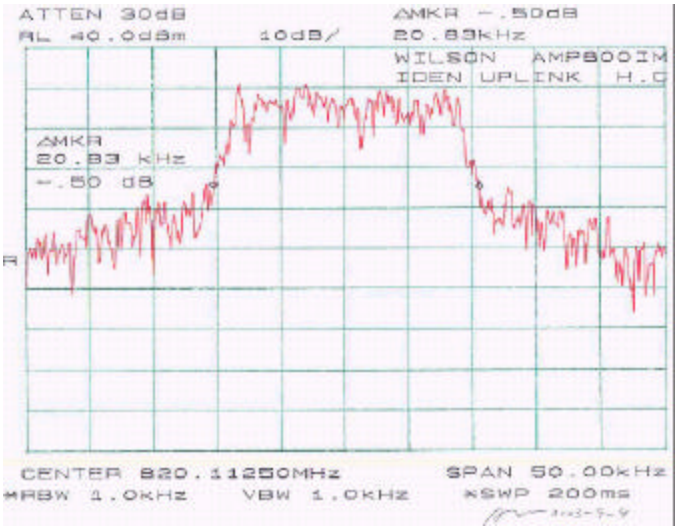
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10dB/
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IDEN UPLINK H.C
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-.50 dB
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SPAN 50.00kHz
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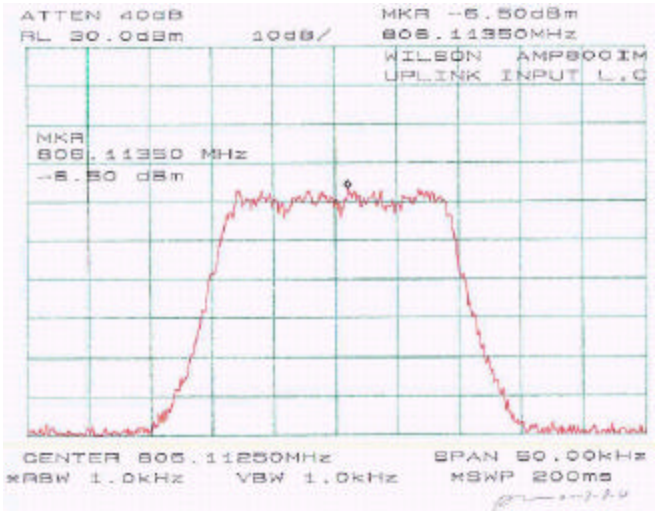
VBW 1.0kHz
*SWP 200ms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10dB/
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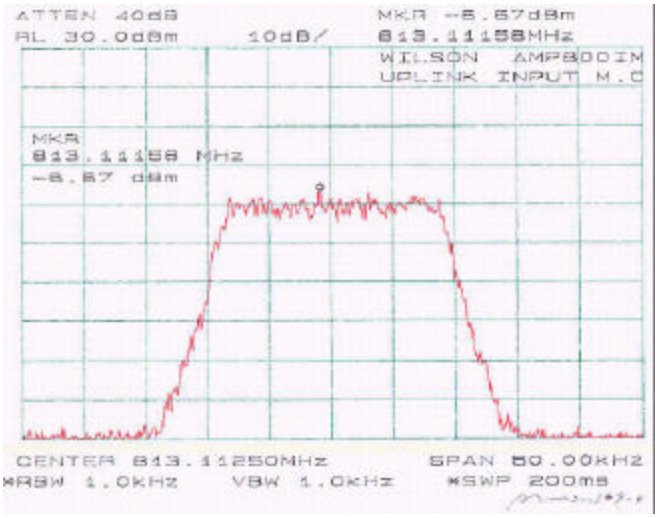
WILSON AMP800IM
UPLINK INPUT L.C
MKR
806.11350 MHz
-6.50 dBm
CENTER 806.11250MHz
SPAN 50.00kHz
*RBW 1.0kHz
VBW 1.0kHz
*SWP 200ms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10dB/
MKR -6.67dBm
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UPLINK INPUT M.C
MKR
813.11158 MHz
-6.67 dBm
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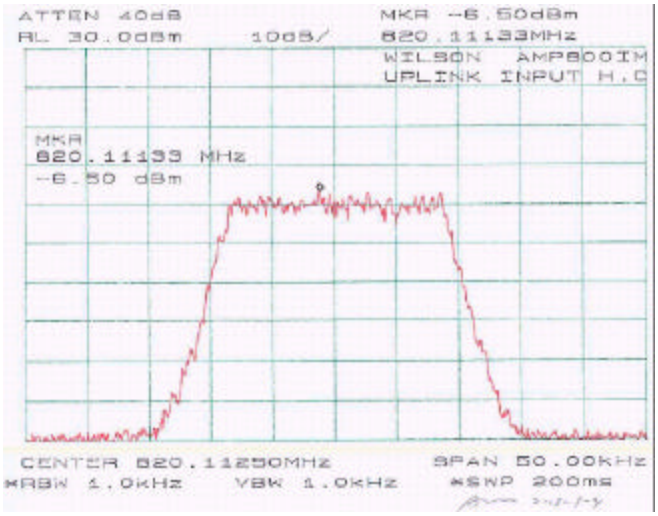
VBW 1.0kHz
*SWP 200ms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10dB/
MKR -6.50dBm
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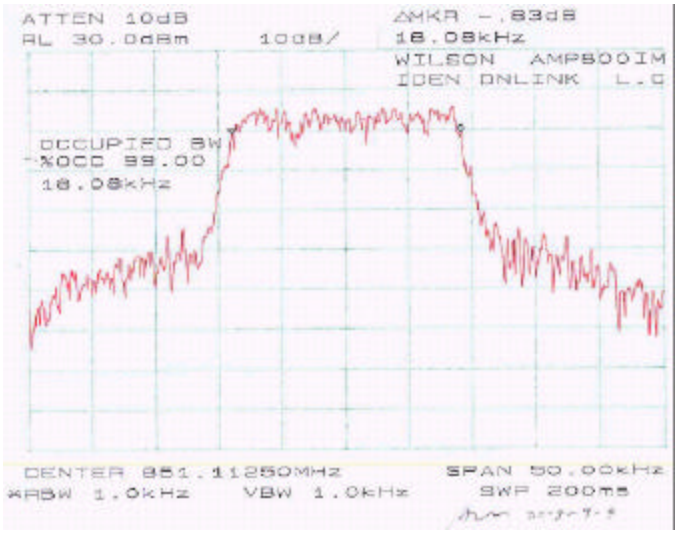
WILSON AMP800IM
UPLINK INPUT H.C
MKR
820.11133 MHz
-6.50 dBm
CENTER 820.11250MHz
SPAN 50.00kHz
*RBW 1.0kHz
VBW 1.0kHz
*SWP 200ms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10dB/
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18.08kHz
WILSON AMP800IM
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OCCUPIED BW
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18.08kHz
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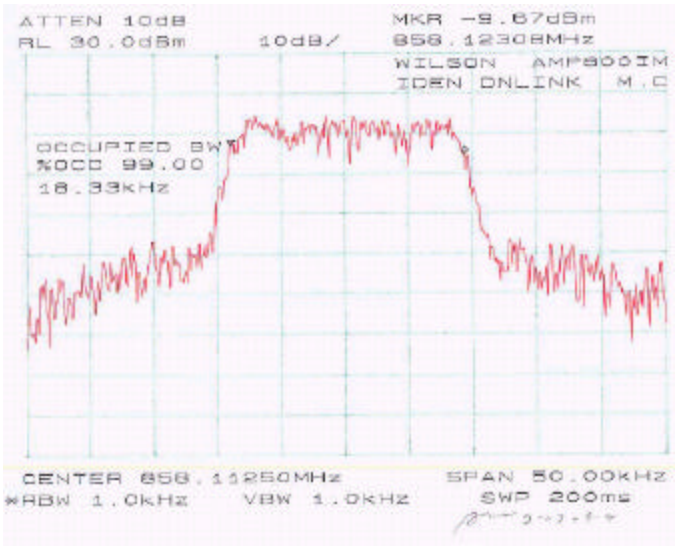
VBW 1.0kHz
SWP 200ms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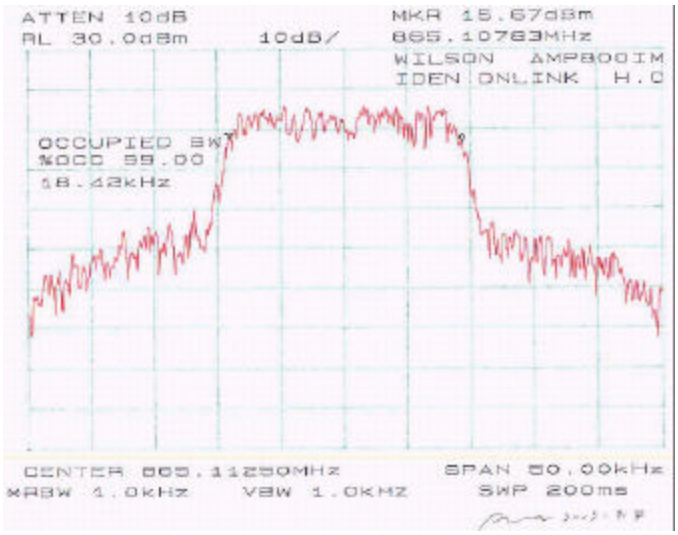
SWP 200ms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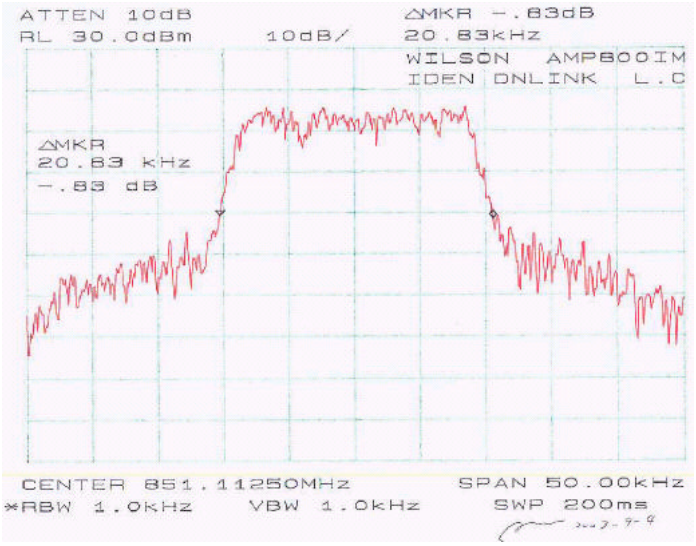
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WILSON AMP800IM
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-.83 dB
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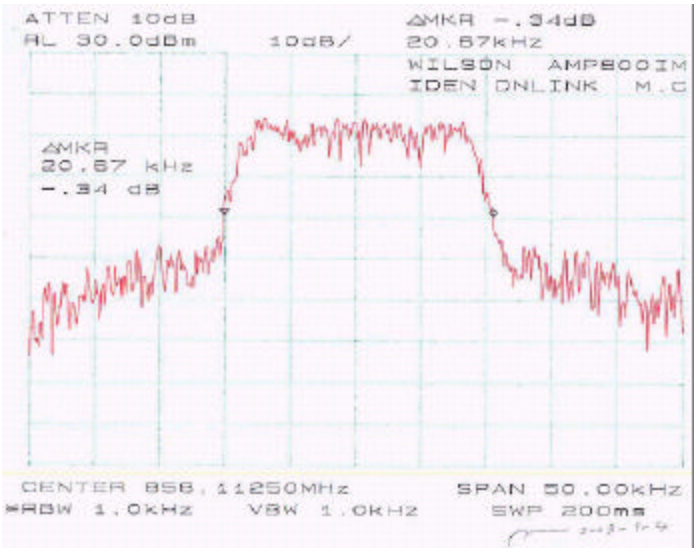
VBW 1.0kHz
SWP 200ms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-.34 dB
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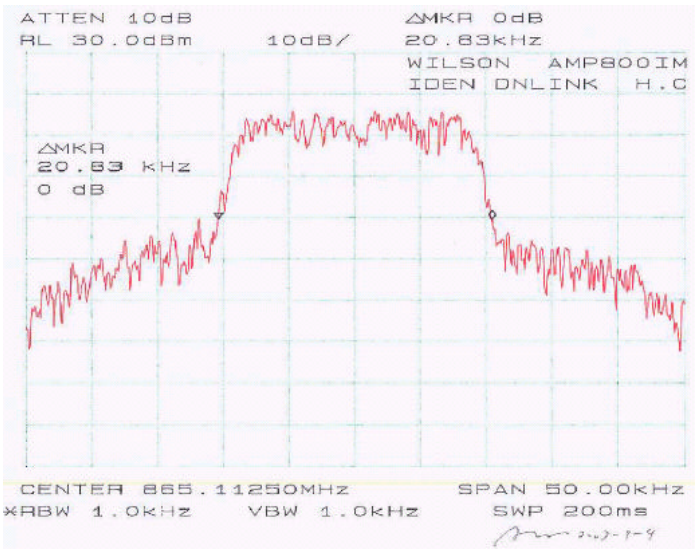
VBW 1.0kHz
SWP 200ms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10dB/
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IDEN DNLINK H.C
ΔMKR
20.83 kHz
0 dB
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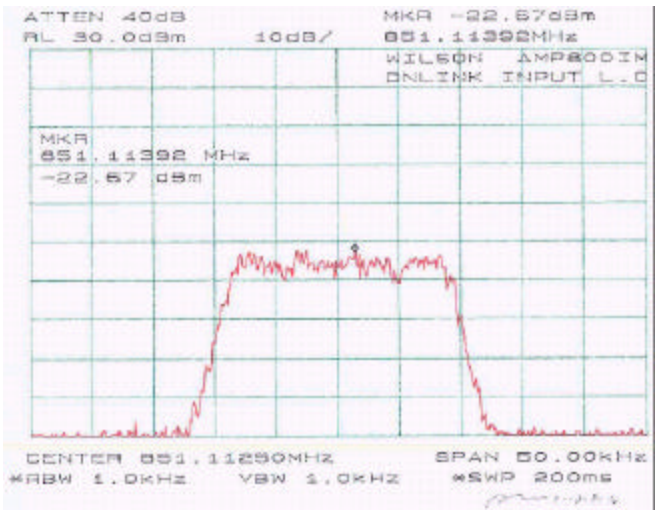
VBW 1.0kHz
SWP 200ms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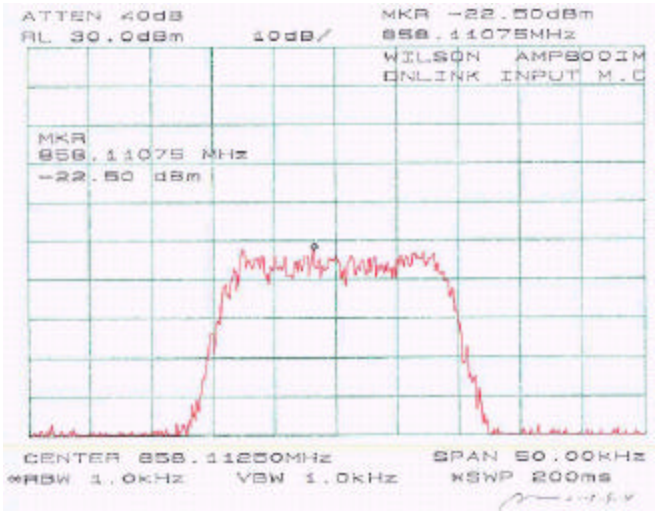
VBW 1.0kHz
*SWP 200ms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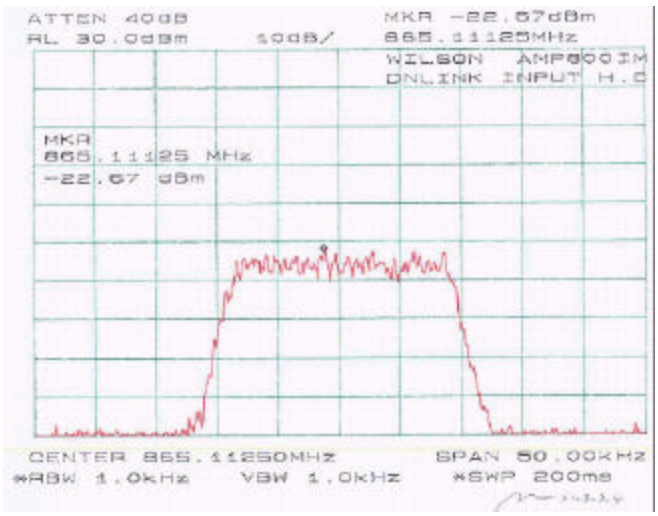
VBW 1.0kHz
*SWP 200ms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-22.67 dBm
CENTER 865.11250MHz
SPAN 50.00kHz
*RBW 1.0kHz
VBW 1.0kHz
*SWP 200ms

6 – SPURIOUS EMISSIONS AT ANTENNA TERMINALS

6.1 Applicable Standards

Per FCC §2.1051and FCC §90.210

On any frequency removed from the center of the assigned channel by more than 250 percent at least:

43 + 10 log(P) dB

6.2 Test Procedure

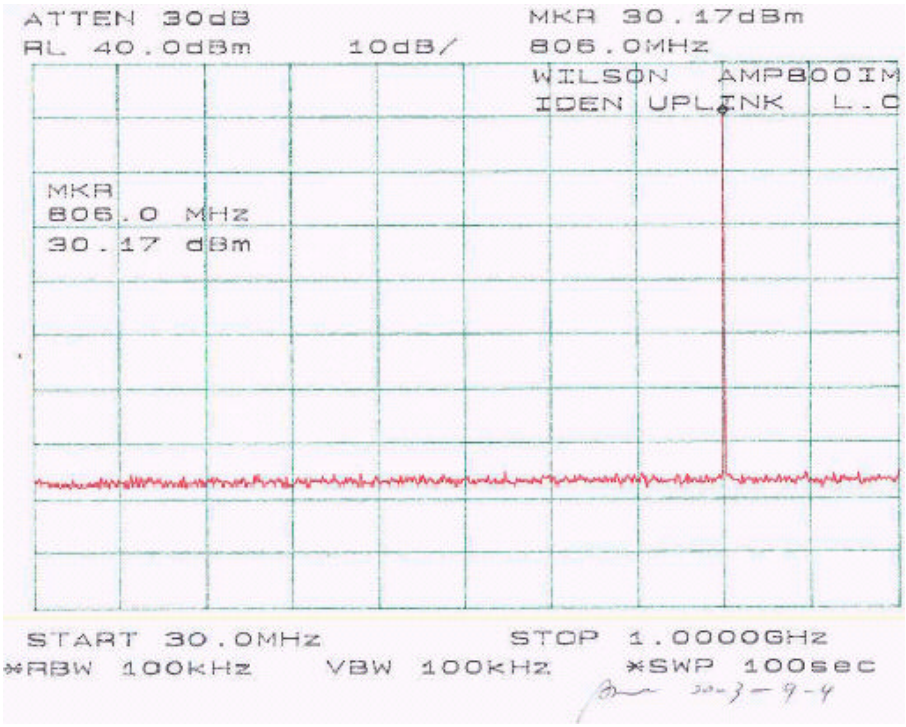
The RF output of the amplifier was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1 MHz. Sufficient scans were taken to show any out of band emissions up to 10^{th} harmonic.

6.3 Test Results

Mode	Channel	Frequency MHz	Measured
Up-link	Low	806.0	< -13dBm
	Mid	814.1	< -13dBm
	High	820.6	< -13dBm
Down-link	Low	851.3	< -13dBm
	Mid	857.7	< -13dBm
	High	865.8	< -13dBm

6.4 Plots of Out-of-Band Emissions at Antenna Terminal

Please refer to plots hereinafter.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10dB/
MKR 30.17dBm
806.0MHz
WILSON AMP800IM
IDEN UPLINK L.C
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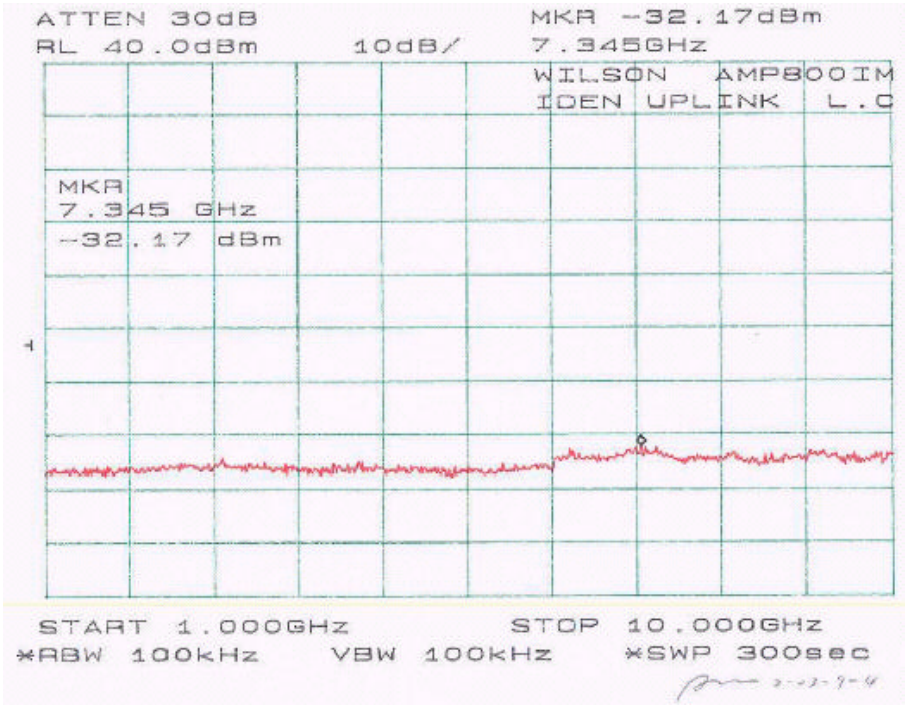
30.17 dBm
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 100sec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10dB/
MKR -32.17dBm
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WILSON AMP800IM
IDEN UPLINK L.C
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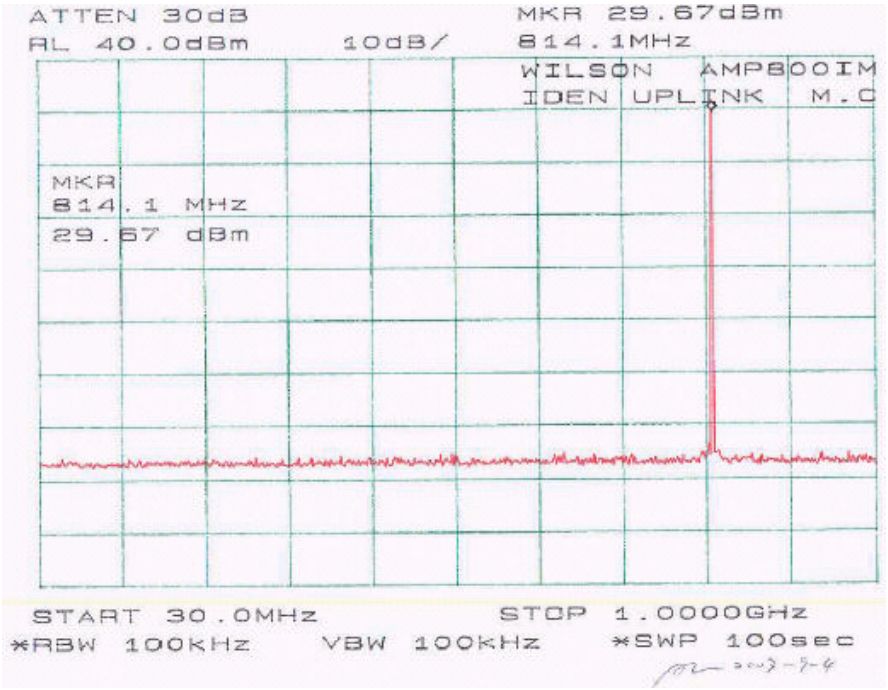
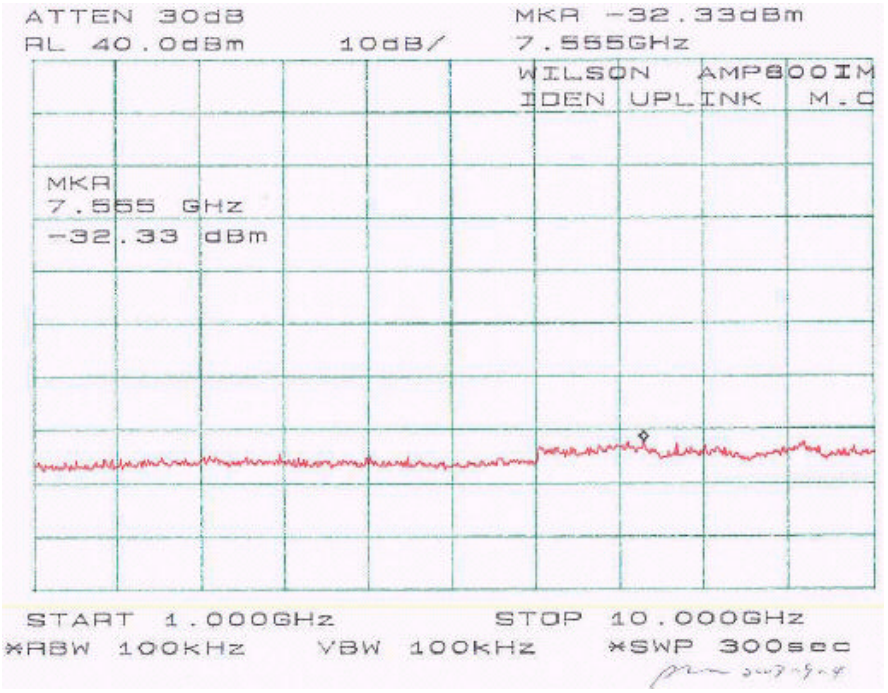
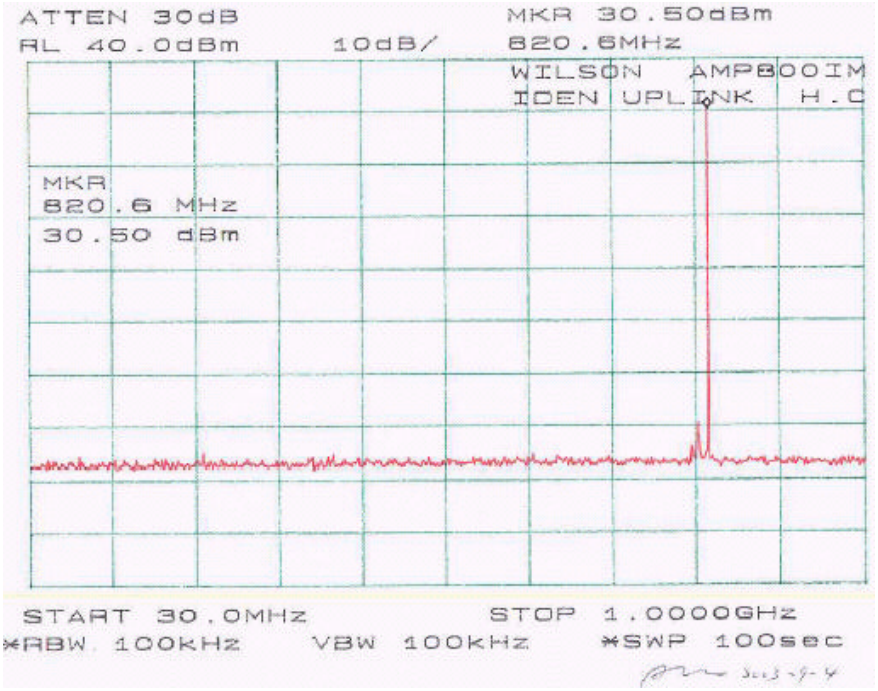
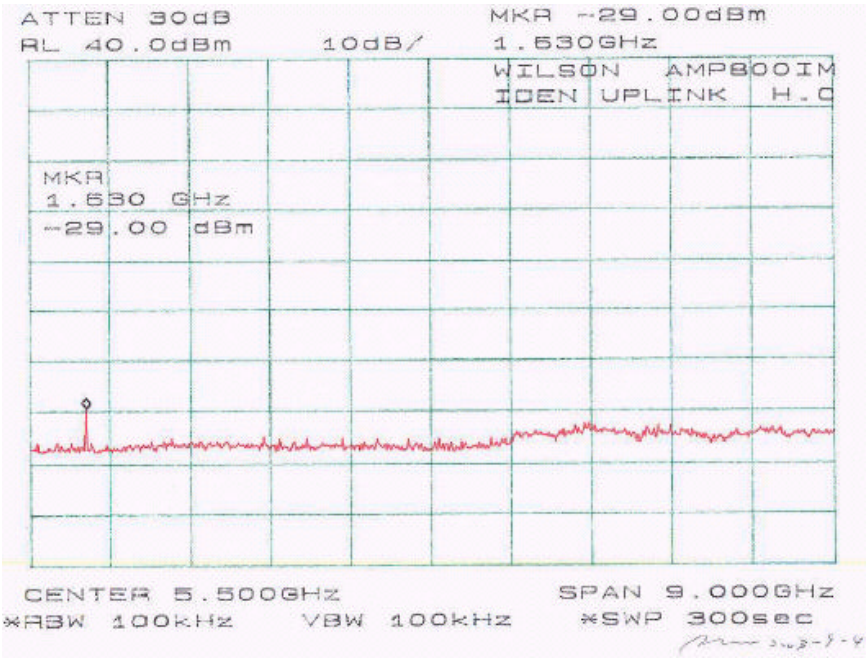
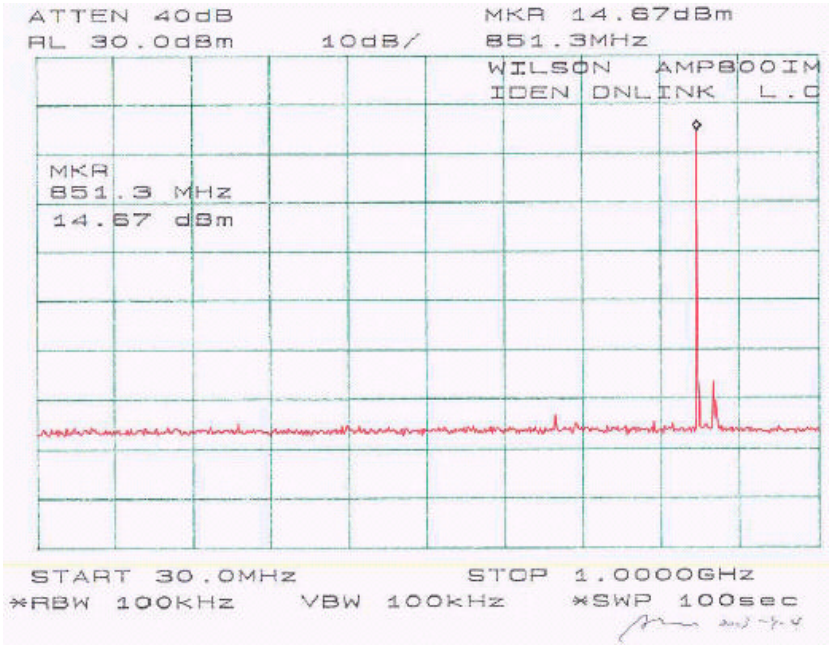
VBW 100kHz
*SWP 300sec

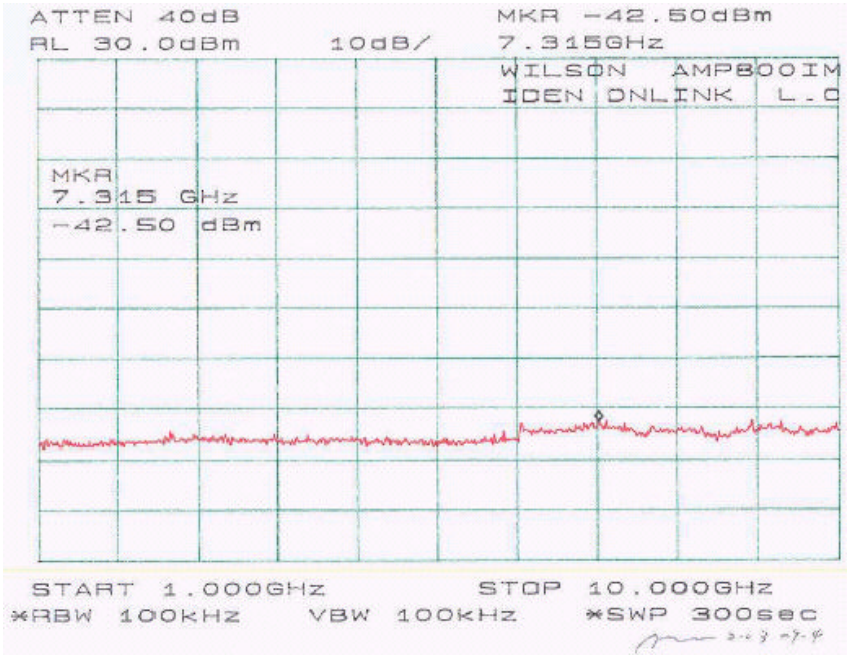

ATTEN 30dB
RL 40.0dBm
10dB/
MKR 29.67dBm
814.1MHz
WILSON AMP800IM
IDEN UPLINK M.C
MKR
814.1 MHz
29.67 dBm
START 30.0MHz
STOP 1.0000GHz
*RBW 100KHz
VBW 100KHz
*SWP 100sec

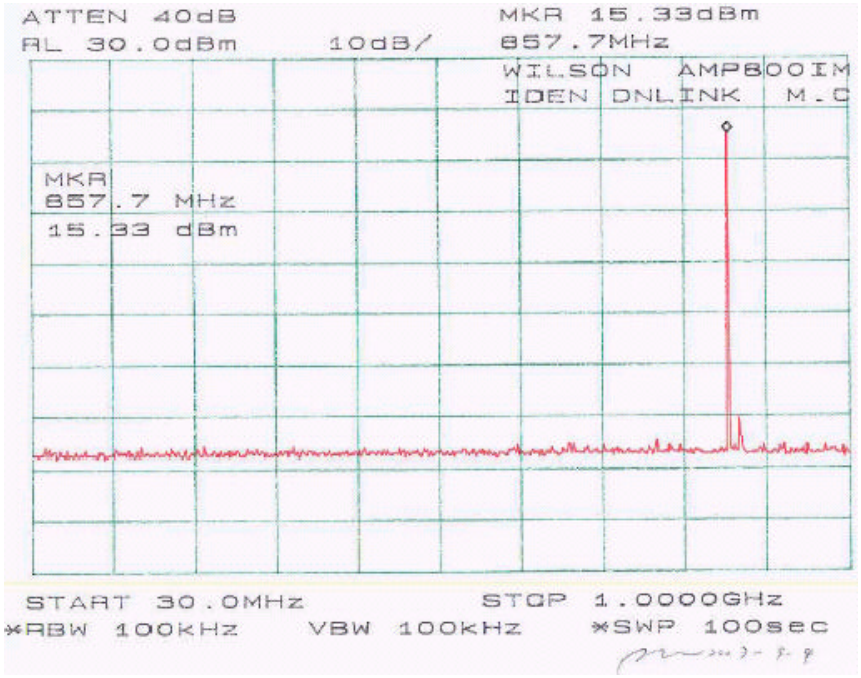

ATTEN 30dB
RL 40.0dBm
10dB/
MKR -32.33dBm
7.555GHz
WILSON AMP800IM
IDEN UPLINK M.C
MKR
7.555 GHz
-32.33 dBm
START 1.000GHz
STOP 10.000GHz
*RBW 100KHz
VBW 100KHz
*SWP 300sec

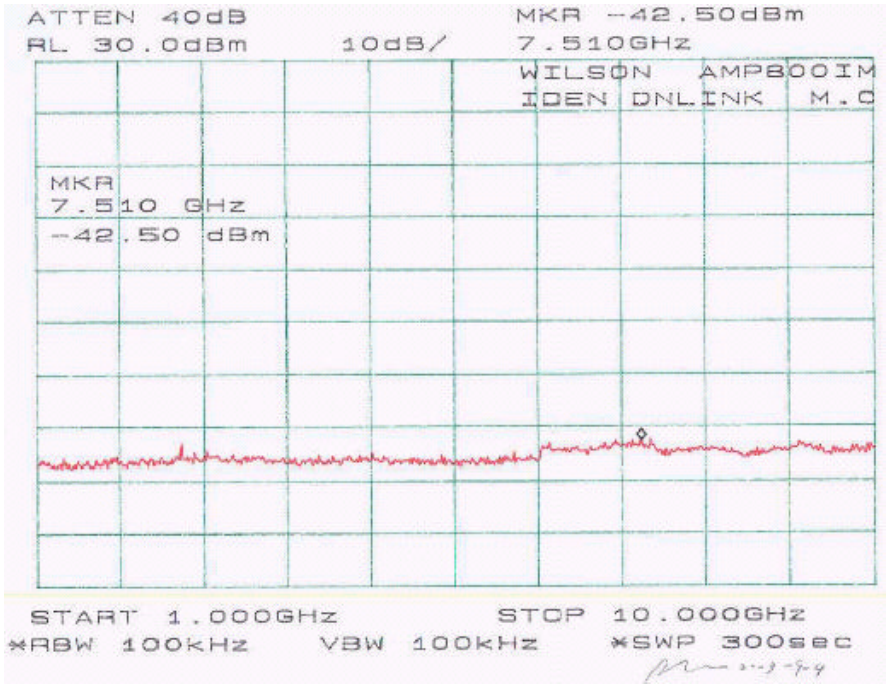

ATTEN 30dB
RL 40.0dBm
10dB/
MKR 30.50dBm
820.6MHz
WILSON AMP800IM
IDEN UPLINK H.C
MKR
820.6 MHz
30.50 dBm
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 100sec

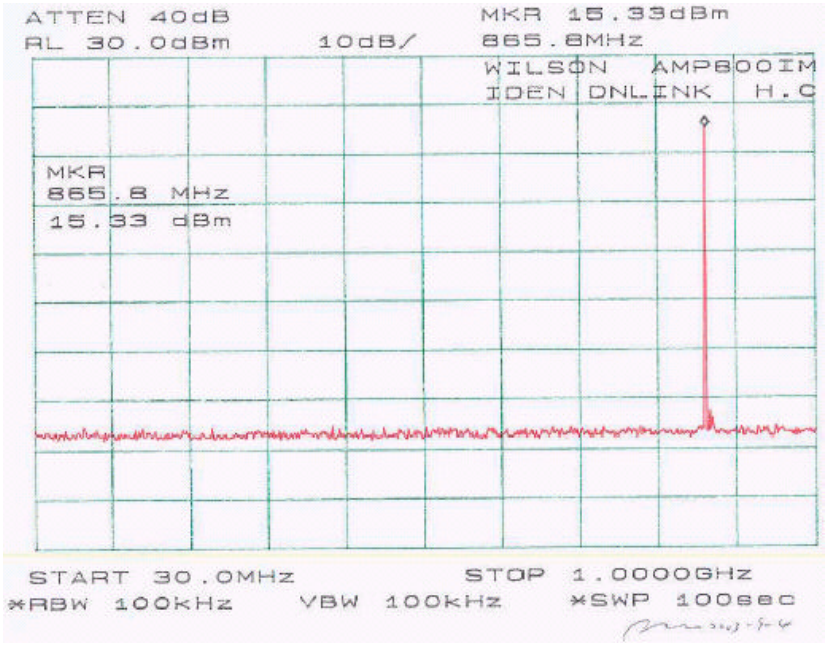

ATTEN 30dB
RL 40.0dBm
10dB/
MKR -29.00dBm
1.630GHz
WILSON AMP800IM
IDEN UPLINK H.C
MKR
1.630 GHz
-29.00 dBm
CENTER 5.500GHz
SPAN 9.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 300sec

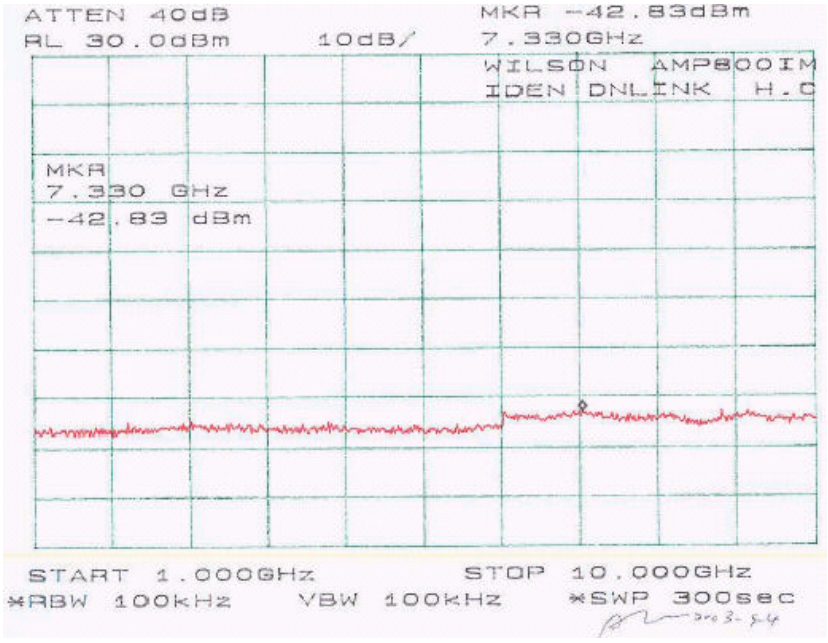

ATTEN 40dB
RL 30.0dBm
10dB/
MKR 14.67dBm
851.3MHz
WILSON AMP800IM
IDEN DNLINK L.O
MKR
851.3 MHz
14.67 dBm
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 100sec


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -42.50dBm
7.315GHz
WILSON AMP800IM
IDEN DNLINK L.O
MKR
7.315 GHz
-42.50 dBm
START 1.000GHz
STOP 10.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 300sec


ATTEN 40dB
RL 30.0dBm
10dB/
MKR 15.33dBm
857.7MHz
WILSON AMP800IM
IDEN DNLINK M.C
MKR
857.7 MHz
15.33 dBm
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 100sec


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -42.50dBm
7.510GHz
WILSON AMP800IM
IDEN DNLINK M.C
MKR
7.510 GHz
-42.50 dBm
START 1.000GHz
STOP 10.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 300sec


ATTEN 40dB
RL 30.0dBm
10dB/
MKR 15.33dBm
865.8MHz
WILSON AMP800IM
IDEN DNLINK H.C
MKR
865.8 MHz
15.33 dBm
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 100sec


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -42.83dBm
7.330GHz
WILSON AMP800IM
IDEN DNLINK H.C
MKR
7.330 GHz
-42.83 dBm
START 1.000GHz
STOP 10.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 300sec

7 – RADIATED SPURIOUS EMISSION

7.1 Applicable Standard

Per FCC §2.1051and FCC §90.210

On any frequency removed from the center of the assigned channel by more than 250 percent at least:

43 + 10 log(P) dB

7.2 Test Procedure

The amplifier was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TXpwr in Watts/0.001) – the absolute level

Spurious attenuation limit in dB = 43 + 10 Log_{10} (power out in Watts)

The substitution antenna gain used is the gain referenced to a standard dipole. Because the substitution antenna used by BACL is a standard dipole, the substitution gain is 1 in numeric or 0 in dB (the substitution antenna lengths can match the signal wavelengths) Per TIA/EIA-603 Sec 2.2.12, the absolute level is the calculating power by reducing the substitution signal reading by the cable loss and further corrected for the substitution antenna gain (the gain here is 0dB).

7.3 Test Equipment

Com-Power AL-100 Antenna, Cal. Due Date: 2004-05-01
Com-Power AB-100 Antenna, Cal. Due Date: 2004-05-01
Com-Power AB-900 Antenna, Cal. Due Date: 2004-05-01
HP 8564E Spectrum Analyzer, Cal. Due Date: 2004-08-01
A.H.System SAS-200 Antenna, Cal. Due Date: 2004-05-31
HP 8449B Preamplifiers, Cal. Due Date: 2004-03-14
Rohde & Schwarz SICQ03 Generator, Cal. Due Date: 2004-07-05
HP Amplifier, Cal. Due Date: 2004-05-01

7.4 Test Result

Up-link:

Mini Magnet Antenna:
Low Frequency: -6.2 dBm at 1612.225 MHz
Middle Frequency: -6.1 dBm at 1626.225 MHz
High Frequency: -6.5 dBm at 1640.225 MHz

Trucker Antenna:
Low Frequency: -5.9 dBm at 1612.225 MHz
Middle Frequency: -6.2 dBm at 1626.225 MHz
High Frequency: -6.7 dBm at 1640.225 MHz

Down-link:

Stealth Antenna:
Low Frequency: -11.4 dBm at 1702.225 MHz
Middle Frequency: -11.1 dBm at 1716.225 MHz
High Frequency: -11.6 dBm at 1730.225 MHz

Mini Magnet Antenna:

Up-Link, Low Channel at 806.1125 MHz

EUT					Generator						Standard	
Indicated		Table	Test Antenna		Substitution			Antenna	Cable	Absolute	FCC	FCC
Frequency MHz	Ampl. dBuV/m	Angle Degree	Height Meter	Polar H/V	Frequency MHz	Level dBm	Polar H/V	Gain Corrected	Loss dBm	Level dB	Limit dBm	Margin dB
806.1125	122.1	90	1.8	V	806.1125	28.7	V	0	0.1	28.6		
806.1125	121.9	180	1.6	H	806.1125	28.2	H	0	0.1	28.1		
1612.225	39.8	90	1.6	V	1612.225	-18.9	V	0	0.3	-19.2	-13	-6.2
1612.225	33.4	300	1.5	H	1612.225	-25.5	H	0	0.3	-25.8	-13	-12.8
2418.3375	28.8	180	1.6	V	2418.338	-32.1	V	0	0.5	-32.6	-13	-19.6
2418.3375	27.5	330	2.5	H	2418.338	-33.9	H	0	0.5	-34.4	-13	-21.4

Up-link, Mid. Channel at 813.1125 MHz

EUT					Generator						Standard	
Indicated		Table	Test Antenna		Substitution			Antenna	Cable	Absolute	FCC	FCC
Frequency MHz	Ampl. dBuV/m	Angle Degree	Height Meter	Polar H/V	Frequency MHz	Level dBm	Polar H/V	Gain Corrected	Loss dBm	Level dB	Limit dBm	Margin dB
813.1125	122.2	160	1.8	V	813.1125	28.8	V	0	0.1	28.7		
813.1125	121.8	180	1.5	H	813.1125	27.9	H	0	0.1	27.8		
1626.225	40.1	90	2	V	1626.225	-18.8	V	0	0.3	-19.1	-13	-6.1
1626.225	33.6	110	1.8	H	1626.225	-25.6	H	0	0.3	-25.9	-13	-12.9
2439.3375	28.9	270	1.5	V	2439.338	-31.9	V	0	0.5	-32.4	-13	-19.4
2439.3375	27.4	150	2	H	2439.338	-33.8	H	0	0.5	-34.3	-13	-21.3

Up-Link, High Channel at 820.1125 MHz

EUT					Generator						Standard	
Indicated		Table	Test Antenna		Substitution			Antenna	Cable	Absolute	FCC	FCC
Frequency MHz	Ampl. dBuV/m	Angle Degree	Height Meter	Polar H/V	Frequency MHz	Level dBm	Polar H/V	Gain Corrected	Loss dBm	Level dB	Limit dBm	Margin dB
820.1125	121.9	180	1.6	V	820.1125	28.6	V	0	0.1	28.5		
820.1125	121.7	210	1.5	H	820.1125	27.5	H	0	0.1	27.4		
1640.225	39.8	330	1.8	V	1640.225	-19.2	V	0	0.3	-19.5	-13	-6.5
1640.225	33.2	90	1.5	H	1640.225	-25.8	H	0	0.3	-26.1	-13	-13.1
2460.3375	28.6	180	1.5	V	2460.338	-32.3	V	0	0.5	-32.8	-13	-19.8
2460.3375	27.3	150	1.8	H	2460.338	-34.1	H	0	0.5	-34.6	-13	-21.6

Trucker Antenna:

Up-Link, Low Channel at 806.1125 MHz

EUT					Generator						Standard	
Indicated		Table	Test Antenna		Substitution			Antenna	Cable	Absolute	FCC	FCC
Frequency MHz	Ampl. dBuV/m	Angle Degree	Height Meter	Polar H/V	Frequency MHz	Level dBm	Polar H/V	Gain Corrected	Loss dBm	Level dB	Limit dBm	Margin dB
806.1125	122.4	90	1.5	V	806.1125	29.2	V	0	0.1	29.1		
806.1125	121.9	150	1.5	H	806.1125	27.8	H	0	0.1	27.7		
1612.225	40.5	0	2	V	1612.225	-18.6	V	0	0.3	-18.9	-13	-5.9
1612.225	33.9	60	1.5	H	1612.225	-25.3	H	0	0.3	-25.6	-13	-12.6
2418.3375	29.4	270	1.8	V	2418.338	-31.9	V	0	0.5	-32.4	-13	-19.4
2418.3375	28.1	310	2.5	H	2418.338	-33.6	H	0	0.5	-34.1	-13	-21.1

Up-Link, Mid. Channel at 813.1125 MHz

EUT					Generator						Standard	
Indicated		Table	Test Antenna		Substitution			Antenna	Cable	Absolute	FCC	FCC
Frequency MHz	Ampl. dBuV/m	Angle Degree	Height Meter	Polar H/V	Frequency MHz	Level dBm	Polar H/V	Gain Corrected	Loss dBm	Level dB	Limit dBm	Margin dB
813.1125	122.2	0	2	V	813.1125	28.9	V	0	0.1	28.8		
813.1125	121.5	120	1.8	H	813.1125	27.6	H	0	0.1	27.5		
1626.225	40.4	330	2	V	1626.225	-18.9	V	0	0.3	-19.2	-13	-6.2
1626.225	33.7	150	2.2	H	1626.225	-25.6	H	0	0.3	-25.9	-13	-12.9
2439.3375	29.2	300	1.8	V	2439.338	-32.4	V	0	0.5	-32.9	-13	-19.9
2439.3375	27.8	150	2.2	H	2439.338	-34.1	H	0	0.5	-34.6	-13	-21.6

Up-Link, High Channel at 820.1125 MHz

EUT					Generator						Standard	
Indicated		Table	Test Antenna		Substitution			Antenna	Cable	Absolute	FCC	FCC
Frequency MHz	Ampl. dBuV/m	Angle Degree	Height Meter	Polar H/V	Frequency MHz	Level dBm	Polar H/V	Gain Corrected	Loss dBm	Level dB	Limit dBm	Margin dB
820.1125	122.1	90	1.5	V	820.1125	28.7	V	0	0.1	28.6		
820.1125	121.3	110	1.5	H	820.1125	27.5	H	0	0.1	27.4		
1640.225	40.2	230	2.5	V	1640.225	-19.4	V	0	0.3	-19.7	-13	-6.7
1640.225	33.5	270	2.5	H	1640.225	-26.1	H	0	0.3	-26.4	-13	-13.4
2460.3375	29.1	0	2.2	V	2460.338	-32.6	V	0	0.5	-33.1	-13	-20.1
2460.3375	27.7	330	2.2	H	2460.338	-34.3	H	0	0.5	-34.8	-13	-21.8

Stealth Antenna:

Down-Link, Low Channel at 851.1125 MHz

EUT					Generator						Standard	
Indicated		Table	Test Antenna		Substitution			Antenna	Cable	Absolute	FCC	FCC
Frequency MHz	Ampl. dBuV/m	Angle Degree	Height Meter	Polar H/V	Frequency MHz	Level dBm	Polar H/V	Gain Corrected	Loss dBm	Level dB	Limit dBm	Margin dB
851.1125	65.6	270	1.5	V	851.1125	12.5	V	0	0.1	12.4		
851.1125	63.7	150	1.5	H	851.1125	10.9	H	0	0.1	10.8		
1702.225	34.2	90	1.8	V	1702.225	-24.1	V	0	0.3	-24.4	-13	-11.4
1702.225	33.1	110	1.5	H	1702.225	-25.3	H	0	0.3	-25.6	-13	-12.6
2553.3375	25.8	230	1.8	V	2553.338	-36.2	V	0	0.5	-36.7	-13	-23.7
2553.3375	25.4	270	1.5	H	2553.338	-36.9	H	0	0.5	-37.4	-13	-24.4

Down-Link, Mid. Channel at 858.1125 MHz

EUT					Generator						Standard	
Indicated		Table	Test Antenna		Substitution			Antenna	Cable	Absolute	FCC	FCC
Frequency MHz	Ampl. dBuV/m	Angle Degree	Height Meter	Polar H/V	Frequency MHz	Level dBm	Polar H/V	Gain Corrected	Loss dBm	Level dB	Limit dBm	Margin dB
858.1125	65.8	0	1.5	V	858.1125	12.7	V	0	0.1	12.6		
858.1125	63.9	120	1.5	H	858.1125	11.2	H	0	0.1	11.1		
1716.225	34.4	330	1.8	V	1716.225	-23.8	V	0	0.3	-24.1	-13	-11.1
1716.225	33.5	150	1.5	H	1716.225	-25.1	H	0	0.3	-25.4	-13	-12.4
2574.3375	26.1	300	1.8	V	2574.338	-35.9	V	0	0.5	-36.4	-13	-23.4
2574.3375	25.6	150	1.5	H	2574.338	-36.6	H	0	0.5	-37.1	-13	-24.1

Down-Link, High Channel at 865.1125 MHz

EUT					Generator						Standard	
Indicated		Table	Test Antenna		Substitution			Antenna	Cable	Absolute	FCC	FCC
Frequency MHz	Ampl. dBuV/m	Angle Degree	Height Meter	Polar H/V	Frequency MHz	Level dBm	Polar H/V	Gain Corrected	Loss dBm	Level dB	Limit dBm	Margin dB
865.1125	65.7	120	1.5	V	865.1125	12.3	V	0	0.1	12.2		
865.1125	63.5	330	1.5	H	865.1125	10.7	H	0	0.1	10.6		
1730.225	34.1	330	1.8	V	1730.225	-24.3	V	0	0.3	-24.6	-13	-11.6
1730.225	32.9	90	1.5	H	1730.225	-25.5	H	0	0.3	-25.8	-13	-12.8
2595.3375	25.6	100	1.8	V	2595.338	-36.4	V	0	0.5	-36.9	-13	-23.9
2595.3375	25.2	150	1.5	H	2595.338	-37.1	H	0	0.5	-37.6	-13	-24.6

8 – Modulation Characteristics

This EUT only is an amplifier, it is not a transmitter. There is no modulating circuit in the EUT and no modulating characteristics measurement required.

9 - FREQUENCY STABILITY

This EUT only is an amplifier, it is not a transmitter. There is no oscillator circuit in the EUT, and no frequency stability measurement required.

10 - CONDUCTED EMISSION

Not Applicable.