ADDENDUM TO IP MOBILENET TEST REPORT FC05-060

FOR THE

MOBILE DATA RADIO, M64450G25

FCC PART 90 AND RSS-119

COMPLIANCE

DATE OF ISSUE: OCTOBER 25, 2005

PREPARED FOR:

IP MobileNet
16842 Von Karman Avenue
Irvine, CA 92606

P.O. No.: 004248-00
W.O. No.: 84043

PREPARED BY:

Mary Ellen Clayton
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Date of test: August 26 - September 9, 2005

Report No.: FC05-060A

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ADMINISTRATIVE INFORMATION

DATE OF TEST:	August 26 - September 9, 2005
DATE OF RECEIPT:	August 26, 2005
FREQUENCY RANGE TESTED:	4MHz - 5.6GHz
MANUFACTURER:	IP MobileNet 16842 Von Karman Avenue Irvine, CA 92606
REPRESENTATIVE:	Eric Tanner
TEST LOCATION:	CKC Laboratories, Inc. 110 Olinda Place Brea, CA 92621
TEST METHOD:	ANSI/TIA/EIA-603-B (2002), RSS Gen and RSS-119
PURPOSE OF TEST:	To demonstrate the compliance of the Mobile Data Radio, M64450G25 with the requirements for FCC Part 90 and RSS-119 devices. **Addendum A** is to correct the modulation in the report with no new testing.

FCC TO CANADA STANDARD CORRELATION MATRIX

Canadian Standard	Canadian Section	FCC Standard	FCC Section	Test Description
RSS119	5.5	90	90.209	Bandwidth Limitations
RSS119	5.5.1	NA	NA	Specific Requirements for Channel BW > 12.5kHz
RSS119	5.5.7	90	90.217	Exemption from technical standards
RSS119	5.7	90	90.207	Authorized Modulation Types
RSS119	5.8	NA	NA	Equivalent Channels (>12.5kHz)
RSS119	6.2	90	90.205	Power Output
RSS119	6.3	90	90.210	Spurious Emissions OATS
RSS119	6.3	90	90.210	Spurious Emissions Ant Terminal
RSS119	6.4	90	90.210	Emissions Mask
RSS119	6.5	90	90.214	Transient Freq Behavior
RSS119	6.6	2	2.1047	Modulation Limiting
RSS119	6.9	NA	NA	Data Modem Requirements
RSS119	7	90	90.213	Frequency Stability
RSS119	8	15	Subpart B	Receiver Requirements
RSS119	9	OET	65 Sup. C	RF Exposure Requirements

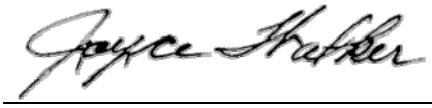
CONDITIONS FOR COMPLIANCE

No modifications to the EUT were necessary to comply.

APPROVALS

Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:



Joyce Walker, Quality Assurance Administrative Manager

TEST PERSONNEL:

Stuart Yamamoto, EMC Engineer

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The customer declares the EUT tested by CKC Laboratories was representative of a production unit.

EQUIPMENT UNDER TEST

Mobile Data Radio
Manuf: IPMobileNet
Model: M64450G25
Serial: 0513ENGR01
FCC ID: pending

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

Laptop Computer
Manuf: Dell Corporation
Model: PP02L Inspiron I2500
Serial: 5TZ6611

DC Power Supply
Manuf: Samlex America
Model: SEC 1223
Serial: 03061-0D01-0632

High Power Termination
Manuf: Weinschel Corporation
Model: 45-40-43
Serial: MN216

GPS Antenna
Manuf: San Jose Navigation, Inc.
Model: SM-25
Serial: 2569790

TEMPERATURE AND HUMIDITY DURING TESTING
The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

FCC 2.1033(c)(3) USER'S MANUAL
The necessary information is contained in a separate document.

FCC 2.1033 (c)(4) TYPE OF EMISSIONS
20K0F1D.

FCC 2.1033 (c)(5) FREQUENCY RANGE
450MHz – 505.5MHz Transmitter
455MHz – 510MHz Receiver

FCC 2.1033 (c)(6) OPERATING POWER
44.7 Watts.

FCC 2.1033 (c)(7) MAXIMUM POWER RATING
Per 90.307 and 90.309.

FCC 2.1033 (c)(8) DC VOLTAGES
The necessary information is contained in a separate document.

FCC 2.1033 (c)(9) TUNE-UP PROCEDURE
The necessary information is contained in a separate document.

FCC 2.1033(c)(10) SCHEMATICS AND CIRCUITRY DESCRIPTION
The necessary information is contained in a separate document.

FCC 2.1033(c)(11) LABEL AND PLACEMENT
The necessary information is contained in a separate document.

FCC 2.1033(c)(12) SUBMITTAL PHOTOS
The necessary information is contained in a separate document.

FCC 2.1033 (c)(13) MODULATION INFORMATION
FSK

FCC 2.1033(c)(14)/2.1046/90.205 - RF POWER OUTPUT

EUT Test Conditions: The EUT was connected to a laptop computer via the ethernet port and an unshielded cat. 5E cable. The laptop computer was used to command the EUT to begin transmitting or stop transmitting as well as to change the EUT from channel to channel. Also connected to the EUT was a GPS antenna. This GPS antenna was placed outside the room so that it had no obstructions to the sky. A separate DC power supply was used to provide 13.8 VDC 10A to the EUT. On the output of the EUT was place a high power termination/attenuator which went to either a power meter or spectrum analyzer to measure the RF Output Power. The EUT was set to output the rated power of 45 watts.

Measured Values from the EUT:

Low Channel (450MHz). Measured value was 43.7 Watts.
Middle Channel (480MHz). Measured value was 40.7 Watts.
High Channel (505.5MHz). Measured value was 44.7 Watts.

FCC 90.205 RF Power Output

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
RF Power meter	02082	HP	435B	2445A11881	061704	061706
Power Sensor	02036	HP	8482A	1551A01004	061804	061806
Spectrum Analyzer	02672	Agilent	E4446A	US44300438	011405	011407
High Power Attenuator	NA	JFW	50FH-040-100-2N	NA	NCR	NCR

NCR = No Calibration Required because a check of the attenuator insertion loss was performed just prior to this test at the discrete frequencies used (450MHz, 480MHz, and 505.5MHz).

PHOTOGRAPH SHOWING RF POWER OUTPUT

FCC 2.1033(c)(14)/2.1047(a) - MODULATION CHARACTERISTICS - AUDIO FREQUENCY RESPONSE

Not applicable to this unit.

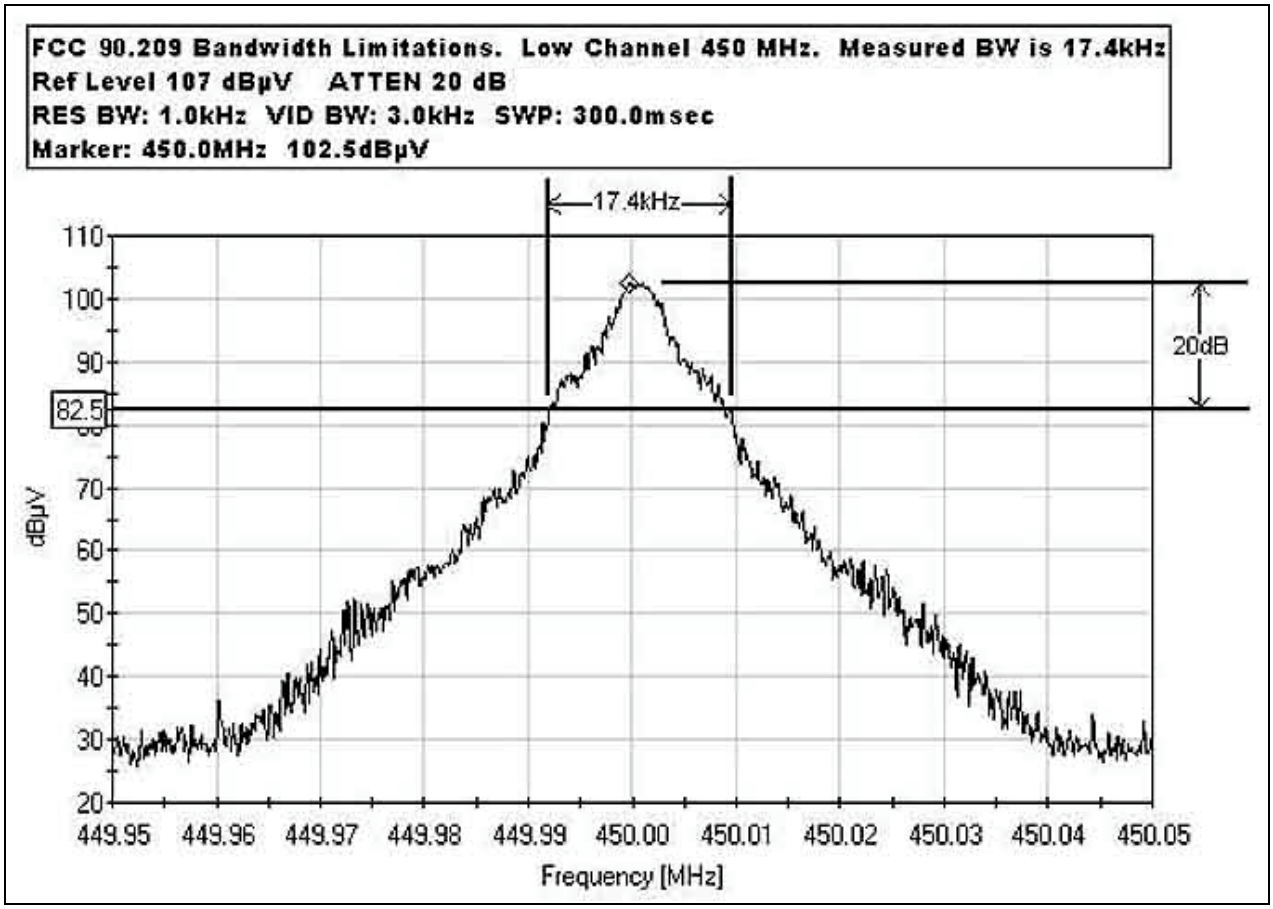
FCC 2.1033(c)(14)/2.1047(b) MODULATION CHARACTERISTICS– Modulation Limiting Response

Not applicable to this unit.

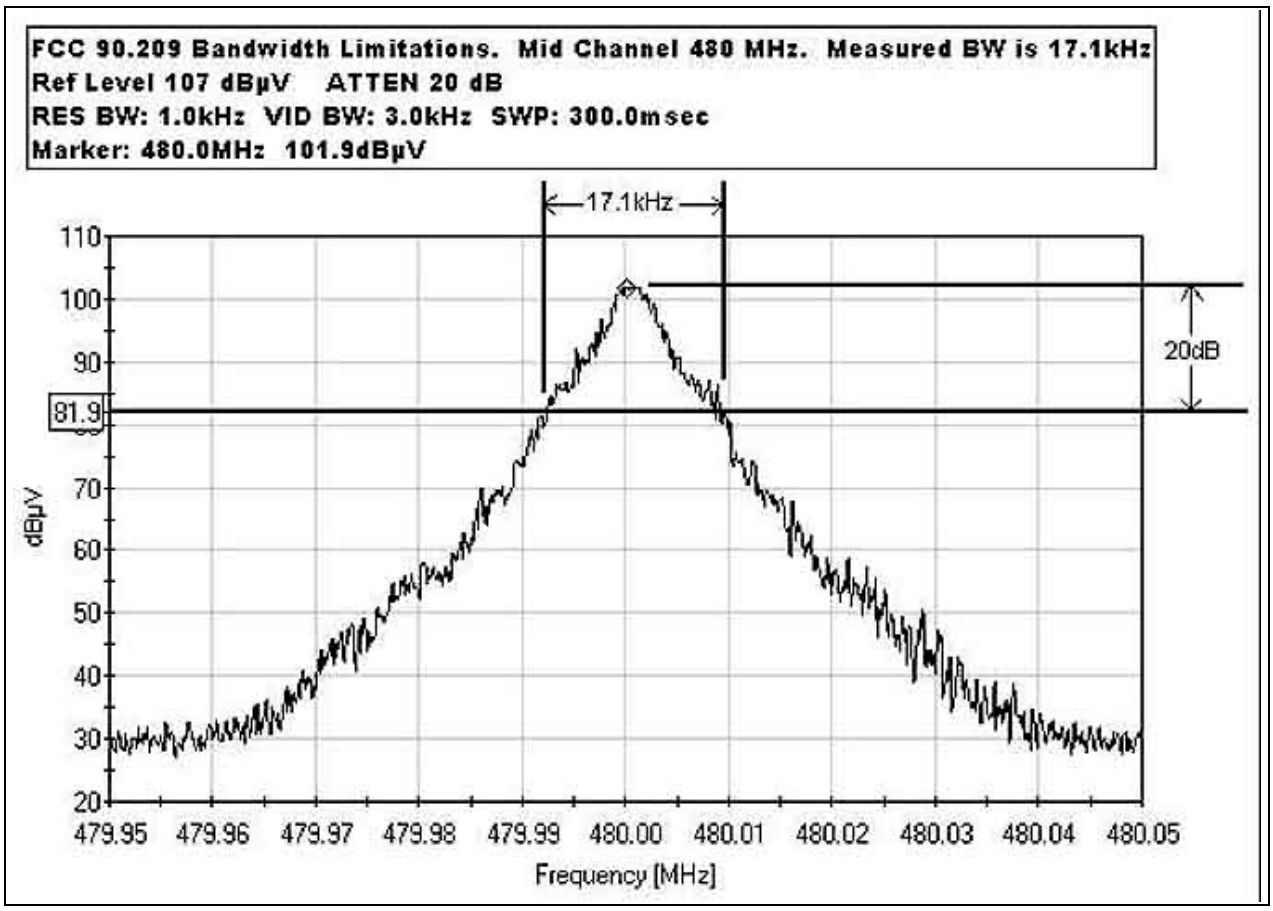
FCC 2.1033(c)(14)/2.1049/90.209 – BANDWIDTH LIMITATIONS

Test Conditions: The EUT's ethernet port was connected to a laptop computer via and unshielded cat 5E cable. The laptop computer was used to command the EUT to begin transmitting or stop transmitting as well as to change the EUT from channel to channel. Also connected to the EUT was a GPS antenna. This GPS antenna was placed outside the room so that it had no obstructions to the sky. A separate DC power supply was used to provide the EUT with 13.8 VDC/10A. On the RF output of the EUT was place a high power attenuator and a coaxial cable connected to the spectrum analyzer to measure the EUT's bandwidth. The EUT was configured to output its rated output power.

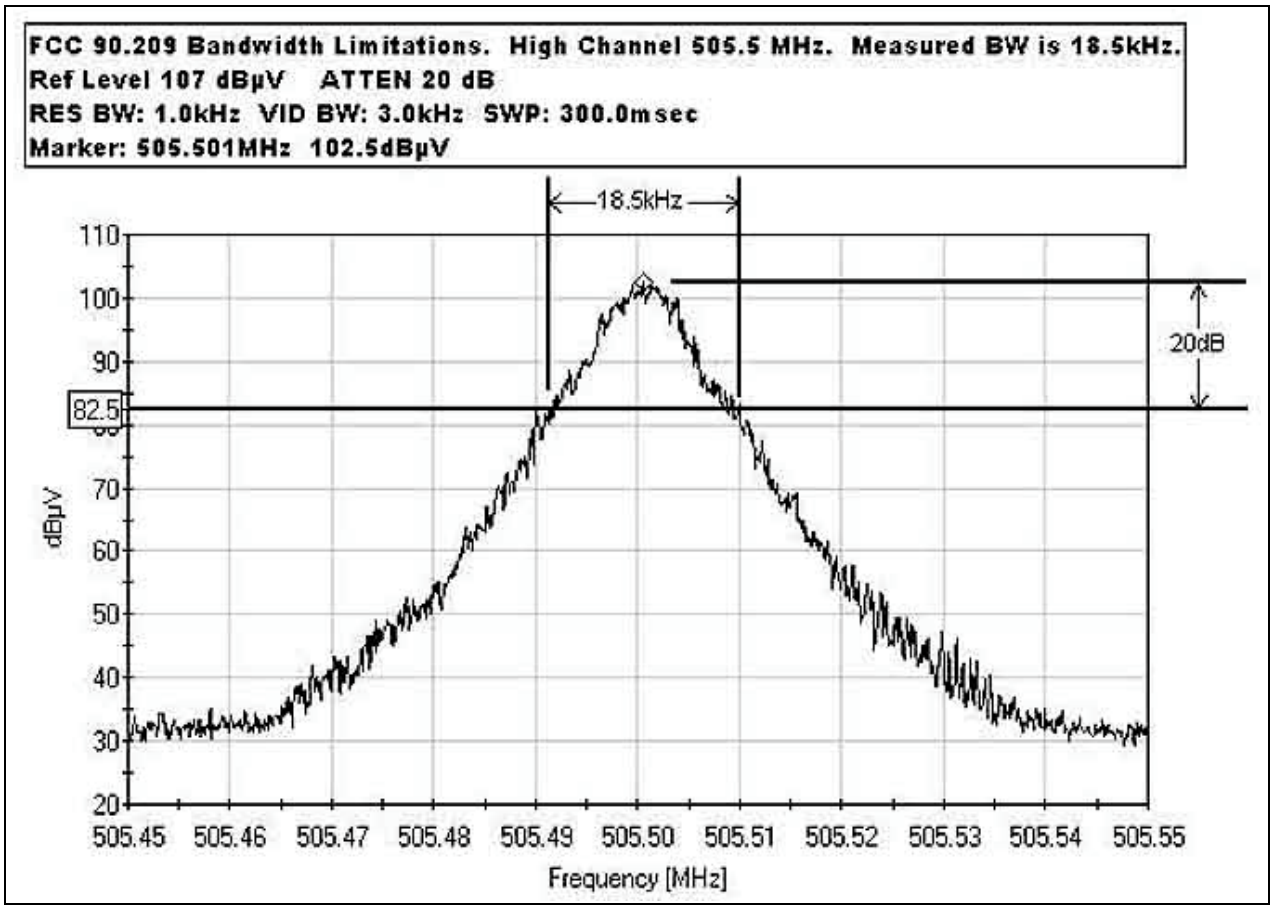
FCC 90.209 BANDWIDTH LIMITATIONS LOW CHANNEL



FCC 90.209 BANDWIDTH LIMITATIONS MID CHANNEL



FCC 90.209 BANDWIDTH LIMITATIONS HIGH CHANNEL



FCC 90.209 Bandwidth Limitations

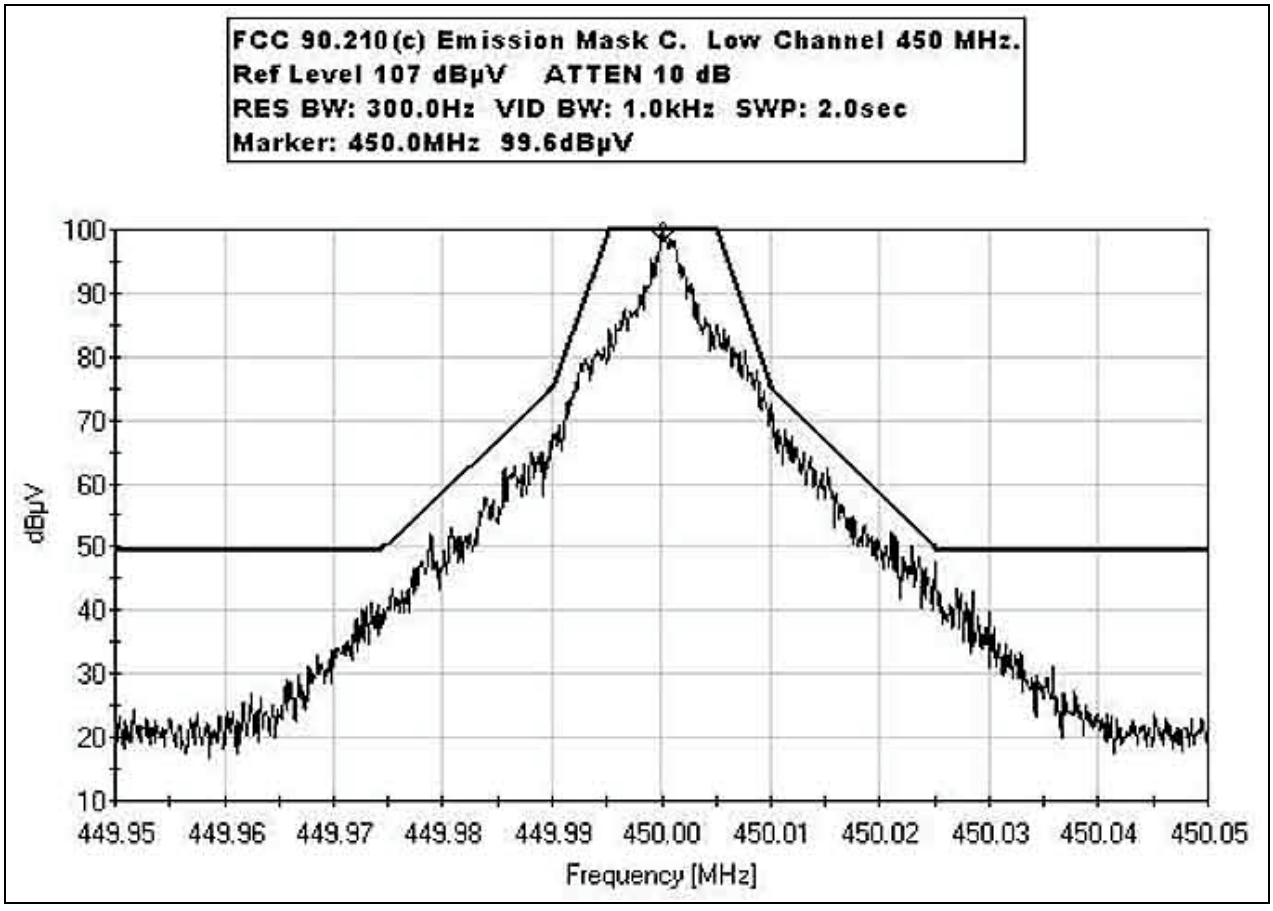
Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer RF Section	00989A	HP	8568A	2049A01287	040805	040807
Spectrum Analyzer Display Section	00034	HP	85662A	2349A06091	040805	040807
Quasi Peak Adapter	00200	HP	85650A	2043A00221	040805	040807

PHOTOGRAPH SHOWING BANDWIDTH LIMITATIONS

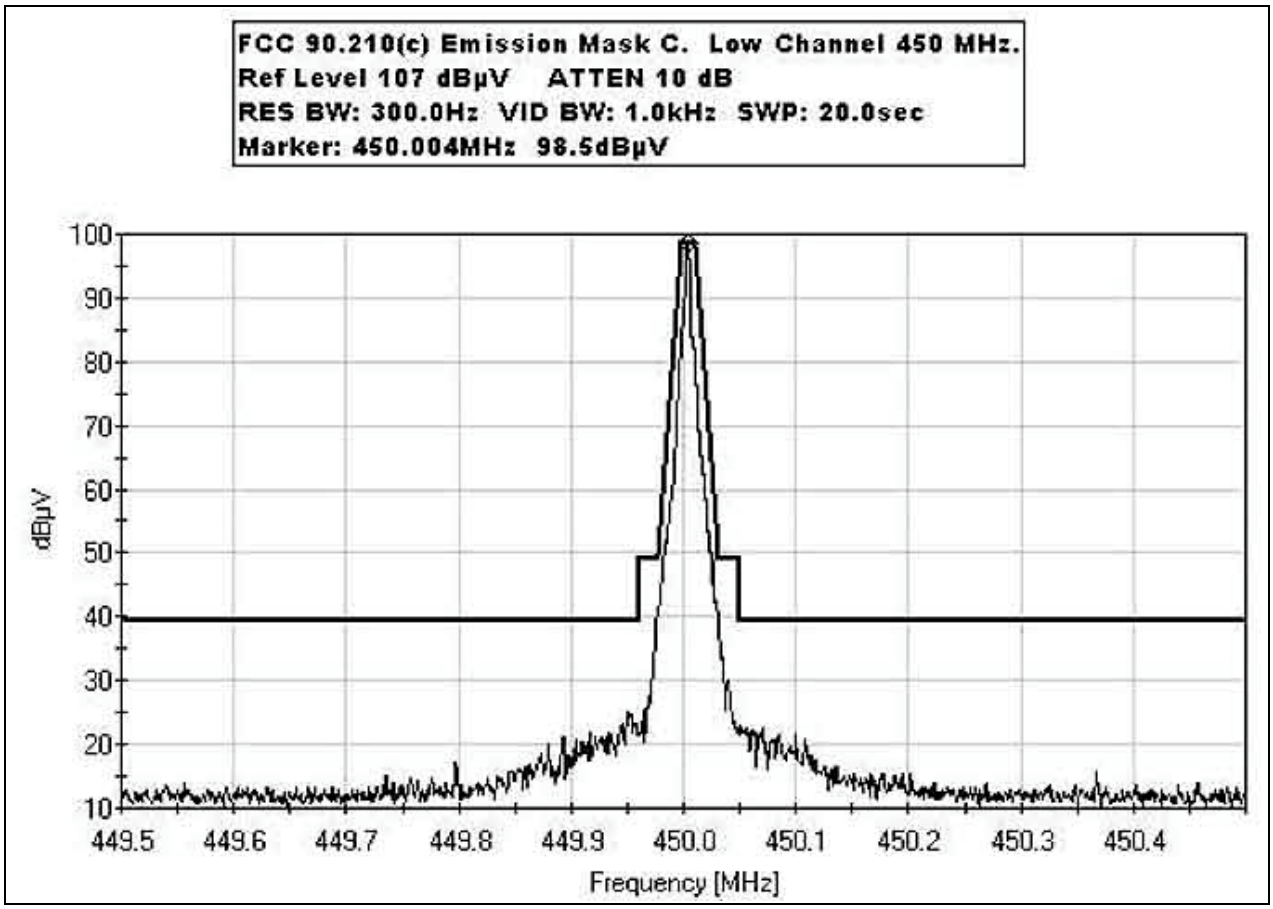
FCC 2.1033(c)(14)/2.1049/90.210(c) - EMISSIONS MASK

FCC 90.210(c) EMISSIONS MASK LOW CHANNEL SMALL SPAN

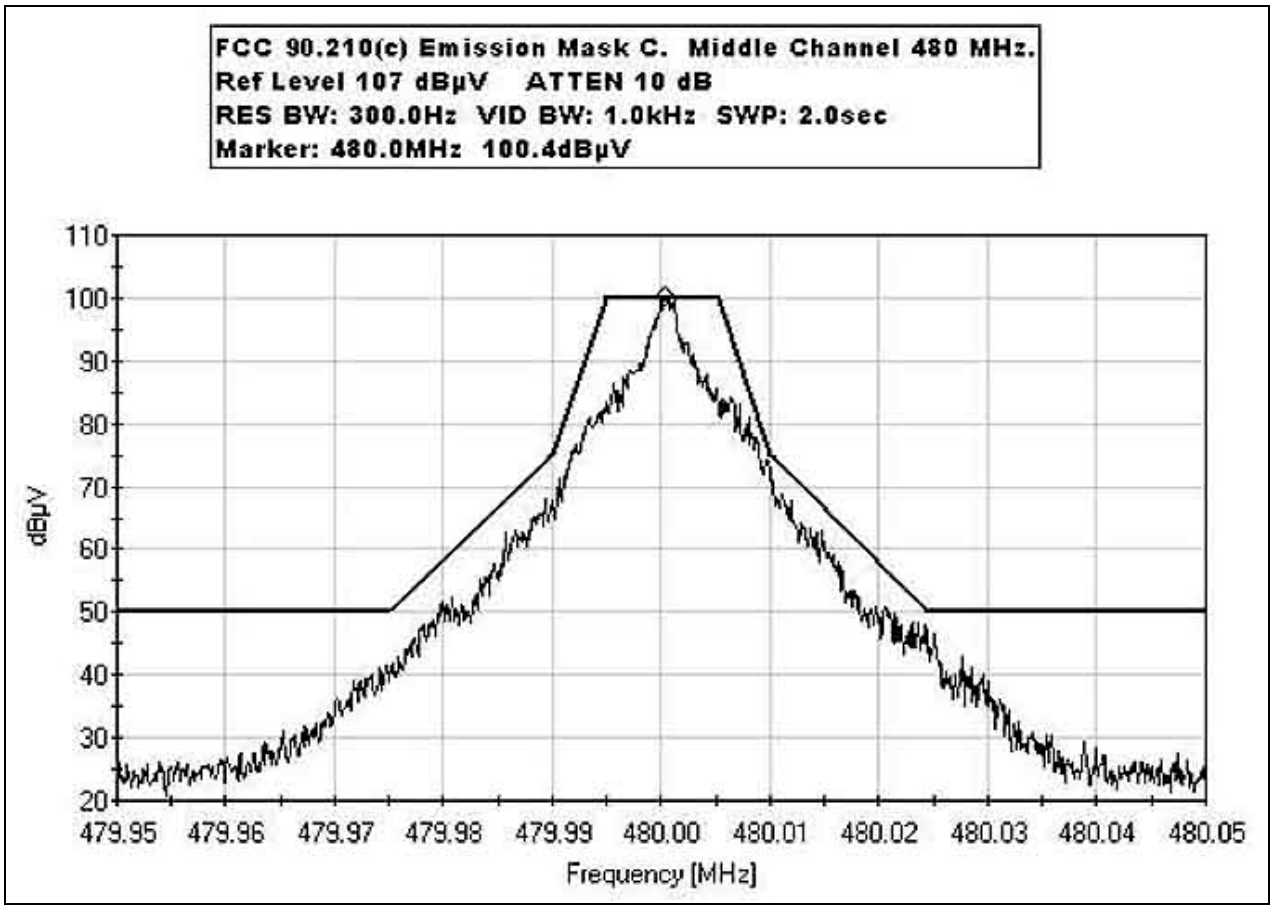
Test conditions: The EUT's ethernet port was connected to a laptop computer via and unshielded cat 5E cable. The laptop computer was used to command the EUT to begin transmitting or stop transmitting as well as to change the EUT from channel to channel. Also connected to the EUT was a GPS antenna. This GPS antenna was placed outside the room so that it had no obstructions to the sky. A separate DC power supply was used to provide the EUT with 13.8 VDC/10A. On the RF output of the EUT was place a high power attenuator and a coaxial cable connected to the spectrum analyzer to measure the EUT's bandwidth. The EUT was configured to output its rated output power.



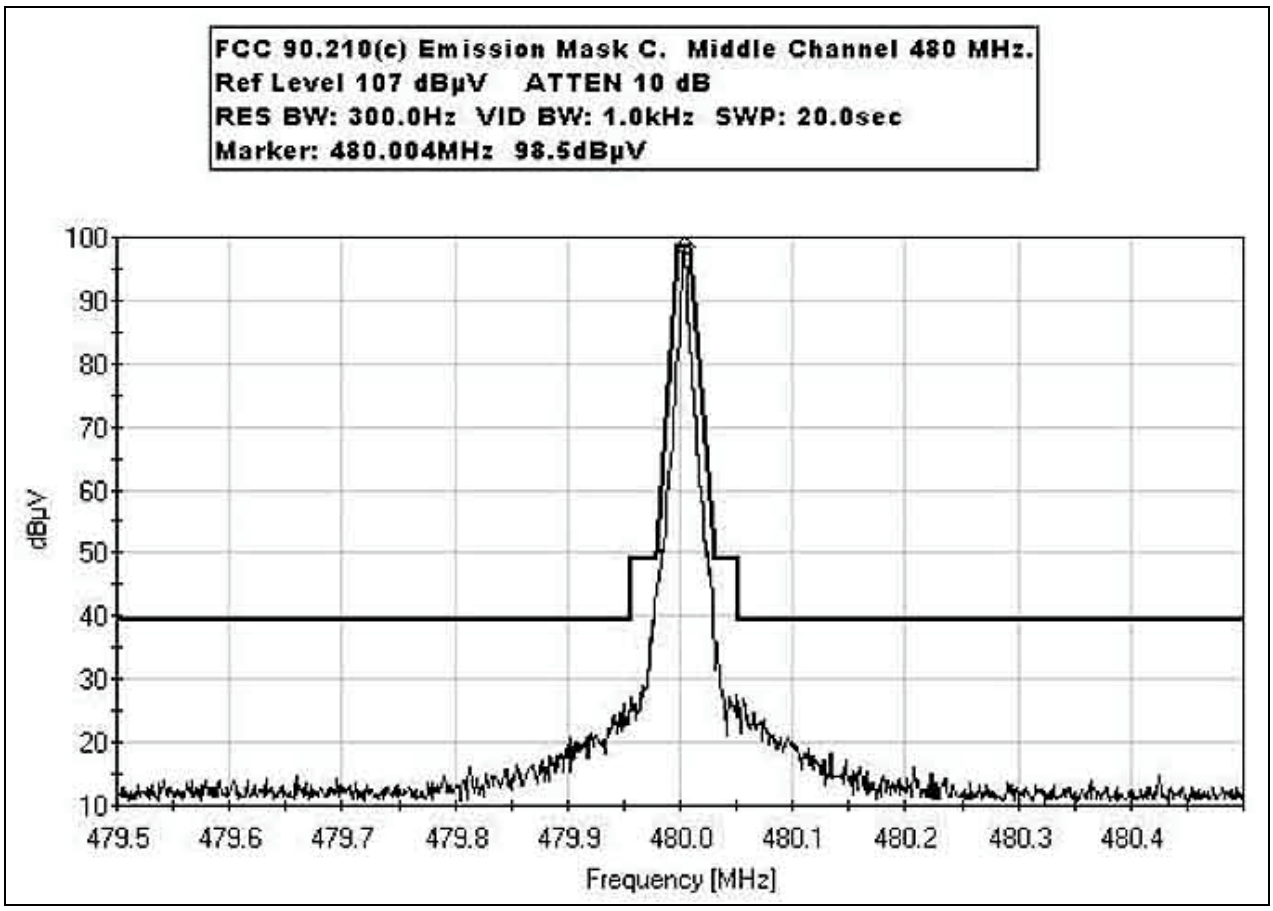
FCC 90.210(c) EMISSIONS MASK LOW CHANNEL BIG SPAN



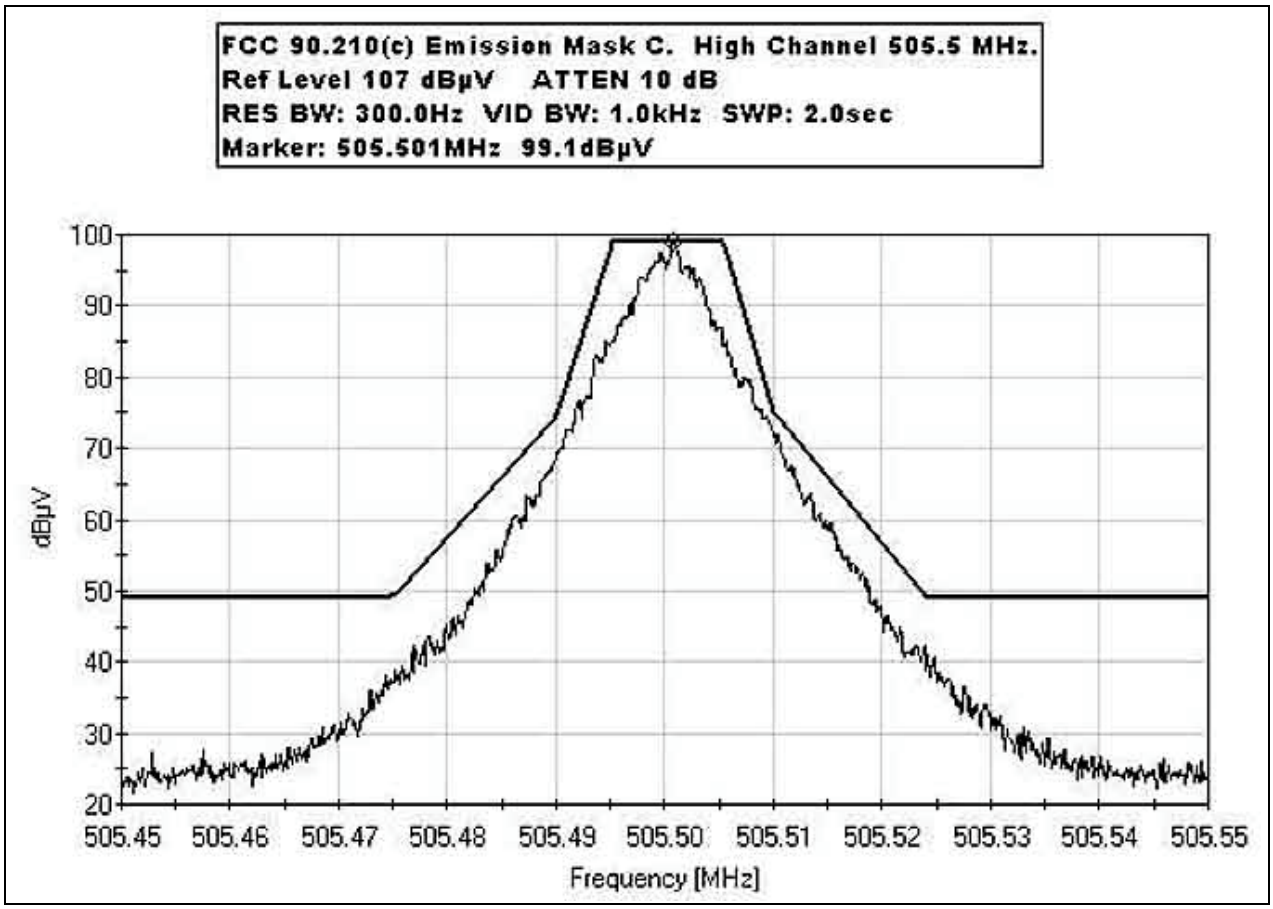
FCC 90.210(c) EMISSIONS MASK MID CHANNEL SMALL SPAN



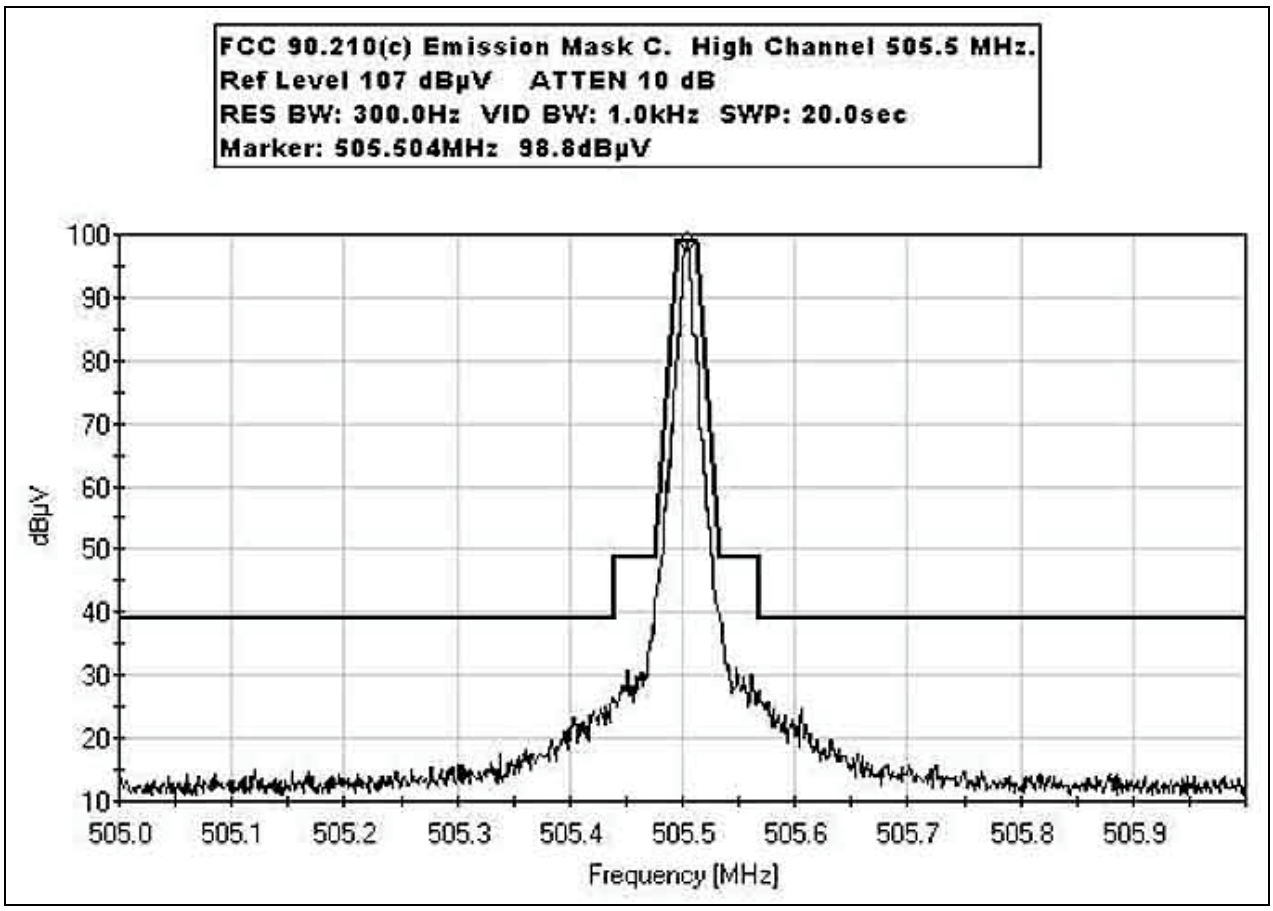
FCC 90.210(c) EMISSIONS MASK MID CHANNEL BIG SPAN



FCC 90.210(c) EMISSIONS MASK HIGH CHANNEL 2 SMALL SPAN



FCC 90.210(c) EMISSIONS MASK HIGH CHANNEL BIG SPAN



FCC 90.210(c) Occupied Bandwidth/Emission Mask

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer RF Section	00989A	HP	8568A	2049A01287	040805	040807
Spectrum Analyzer Display Section	00034	HP	85662A	2349A06091	040805	040807
Quasi Peak Adapter	00200	HP	85650A	2043A00221	040805	040807

PHOTOGRAPH SHOWING EMISSIONS MASK

FCC 2.1033(c)(14)/2.1051/90.210 - SPURIOUS EMISSIONS AT ANTENNA TERMINAL

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **IP MobileNet**
Specification: **FCC 90.210 Antenna Spurious Emission**
Work Order #: **84043** Date: 8/29/2005
Test Type: **Maximized Emissions** Time: 16:27:45
Equipment: **Mobile Data Radio** Sequence#: 1
Manufacturer: IPMobileNet Tested By: Stuart Yamamoto
Model: M64450G25
S/N: 0513ENGR01

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Mobile Data Radio*	IPMobileNet	M64450G25	0513ENGR01

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop Computer	Dell Corporation	PP02L Inspiron I2500	5TZ6611
DC Power Supply	Samlex America	SEC 1223	03061-0D01-0632
High Power Termination	Weinschel Corporation	45-40-43	MN216
GPS Antenna	San Jose Navigation, Inc.	SM-25	2569790

Test Conditions / Notes:

The EUT, support equipment, and the test equipment are located on the table top. Connected to the EUT Tx/Rx port is one high powered attenuator and then a coaxial cable to the spectrum analyzer. Connected to the EUT serial port is an unterminated shielded serial cable. Connected to the EUT Rx2 port is a terminated shielded coaxial cable. Connected to the EUT GPS port is a standard GPS antenna with 5 meter long coaxial cable. The EUT ethernet port is connected to the laptop computer using an unshielded cat. 5E cable. Power to the EUT is supplied by an external DC Power supply. The laptop computer is used to check the status of the EUT as well as send commands to have it transmit continuously. Voltage to the EUT is 13.8 VDC. Temperature: 22°C, Humidity: 33%, Pressure: 100kPa. 4MHz - 30MHz RBW=9kHz, VBW=9kHz; 30MHz - 1000MHz RBW=120kHz, VBW=120kHz; 1000MHz - 6000MHz RBW=1MHz, VBW=1MHz. Frequency range scanned and maximized, 4MHz to 5600MHz. This data sheet is for the EUT transmitting at rated power on Low (450MHz), Mid (480MHz), and High (505.5MHz) channels.

Transducer Legend:

T1=1-40 GHz Cable_122306	T2=40dB Attenuator JFW

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	3542.000M	44.1	+1.6	+44.2			+0.0	89.9	94.0	-4.1	None
2	3600.000M	44.5	+1.7	+43.7			+0.0	89.9	94.0	-4.1	None
3	4500.000M	46.1	+1.9	+41.3			+0.0	89.3	94.0	-4.7	None
4	3840.000M	43.5	+1.7	+43.8			+0.0	89.0	94.0	-5.0	None
5	1518.000M	48.0	+1.0	+40.0			+0.0	89.0	94.0	-5.0	None

6	3150.000M	45.5	+1.6	+41.6		+0.0	88.7	94.0	-5.3	None
7	4554.000M	46.8	+1.9	+39.7		+0.0	88.4	94.0	-5.6	None
8	1012.000M	46.9	+0.8	+40.0		+0.0	87.7	94.0	-6.3	None
9	3360.000M	43.0	+1.6	+43.0		+0.0	87.6	94.0	-6.4	None
10	1440.000M	46.5	+1.0	+40.0		+0.0	87.5	94.0	-6.5	None
11	4048.000M	44.1	+1.7	+40.9		+0.0	86.7	94.0	-7.3	None
12	1350.000M	45.5	+1.0	+40.0		+0.0	86.5	94.0	-7.5	None
13	960.000M	45.7	+0.8	+40.0		+0.0	86.5	94.0	-7.5	None
14	4050.000M	43.8	+1.8	+40.7		+0.0	86.3	94.0	-7.7	None
15	2024.000M	44.7	+1.2	+40.0		+0.0	85.9	94.0	-8.1	None
16	2700.000M	44.6	+1.4	+39.9		+0.0	85.9	94.0	-8.1	None
17	3036.000M	43.4	+1.5	+40.8		+0.0	85.7	94.0	-8.3	None
18	2880.000M	44.1	+1.5	+40.1		+0.0	85.7	94.0	-8.3	None
19	5060.000M	47.5	+2.0	+35.5		+0.0	85.0	94.0	-9.0	None
20	900.000M	43.7	+0.8	+40.0		+0.0	84.5	94.0	-9.5	None
21	1920.000M	43.1	+1.2	+40.0		+0.0	84.3	94.0	-9.7	None
22	2400.000M	42.7	+1.3	+40.0		+0.0	84.0	94.0	-10.0	None
23	2530.000M	42.1	+1.4	+40.1		+0.0	83.6	94.0	-10.4	None
24	2250.000M	42.4	+1.3	+39.9		+0.0	83.6	94.0	-10.4	None
25	1800.000M	42.3	+1.1	+40.0		+0.0	83.4	94.0	-10.6	None
26	4800.000M	48.1	+1.9	+32.8		+0.0	82.8	94.0	-11.2	None
27	4950.000M	44.4	+2.0	+34.4		+0.0	80.8	94.0	-13.2	None
28	4320.000M	48.0	+1.9	+27.6		+0.0	77.5	94.0	-16.5	None
29	421.800M	36.1	+0.7	+40.0		+0.0	76.8	94.0	-17.2	None
30	478.200M	36.0	+0.7	+40.0		+0.0	76.7	94.0	-17.3	None

FCC 90.210(c) Spurious Emissions Antenna Terminal

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	00783	HP	8596E	3346A00225	071604	071606
24" SMA Cable (White)	P5183	Pasterneck	NA	1-40GHz_white	122304	122306

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

FCC 2.1033(c)(14)/2.1053/90.210 - FIELD STRENGTH OF SPURIOUS RADIATION

Test Location: CKC Laboratories Inc. •180 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: **IP MobileNet**
Specification: **FCC 90.210C OATS**
Work Order #: **84043** Date: 8/31/2005
Test Type: **Maximized Emissions** Time: 17:14:01
Equipment: **Mobile Data Radio** Sequence#: 2
Manufacturer: IPMobileNet Tested By: Stuart Yamamoto
Model: M64450G25
S/N: 0513ENGR01

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Mobile Data Radio*	IPMobileNet	M64450G25	0513ENGR01

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop Computer	Dell Corporation	PP02L Inspiron I2500	5TZ6611
DC Power Supply	Samlex America	SEC 1223	03061-0D01-0632
High Power Termination	Weinschel Corporation	45-40-43	MN216
GPS Antenna	San Jose Navigation, Inc.	SM-25	2569790

Test Conditions / Notes:

The EUT is located on the wooden table top. Connected to the EUT Tx/Rx port is one high power load attenuator. Connected to the EUT serial port is an unterminated shielded serial cable. Connected to the EUT Rx2 port is a terminated shielded coaxial cable. Connected to the EUT GPS port is a standard GPS antenna with 5 meter long coaxial cable. The EUT ethernet port is connected to the remotely located laptop computer using an unshielded cat. 5E cable. Power to the EUT is supplied by an external DC Power supply. The laptop computer is used to check the status of the EUT as well as send commands to have it transmit continuously. Voltage to the EUT is 13.8 VDC. Temperature: 27°C, Humidity: 43%, Pressure: 100kPa. Frequency 4MHz - 30MHz RBW=9kHz, VBW=9kHz; 30MHz - 1000MHz RBW=120kHz, VBW=120kHz. Frequency range scanned and maximized, 4MHz to 1000MHz. Frequency 1000MHz - 5600MHz RBW=1MHz, VBW=1MHz. Frequency range scanned and maximized, 1000MHz to 5600MHz. This data sheet is for the EUT transmitting at rated power on Low (450MHz), Mid (480MHz), and High (505.5MHz) channels.

Operating Frequency: 450MHz - 505.5MHz
Channels: Low, Mid and High
Highest Measured Output Power: 46.50 ERP(dBm)= 44.7 ERP(Watts)
Distance: 3 meters
Limit: 43+10Log(P) 59.50 dBc

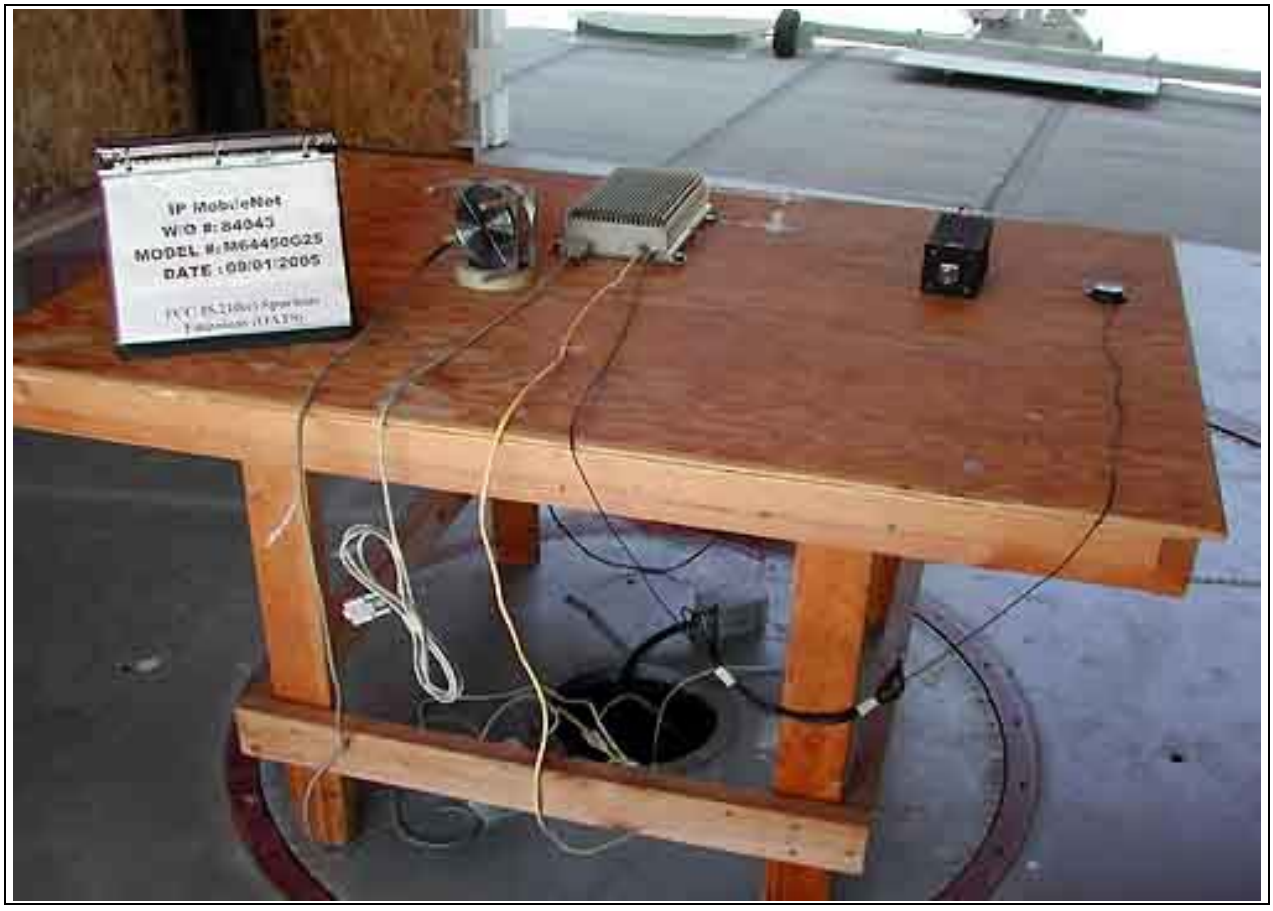
Freq. (MHz)	Reference Level (dBm)	Antenna Polarity (H/V)	dBc
960.03	-28.3	Horiz	74.80
899.99	-29.5	Horiz	76.00
960.02	-29.5	Vert	76.00
899.99	-32.1	Vert	78.60
2,400.00	-17.2	Vert	63.70

Freq. (MHz)	Reference Level (dBm)	Antenna Polarity (H/V)	dBc
1,440.00	-17.5	Horiz	64.00
2,400.00	-18.9	Horiz	65.40
1,440.00	-20.9	Vert	67.40
3,036.00	-23	Vert	69.50
1,518.00	-25.6	Vert	72.10
1,518.00	-26.5	Horiz	73.00
1,800.01	-26.6	Vert	73.10
3,150.01	-27.4	Vert	73.90
3,036.00	-27.9	Horiz	74.40
3,542.00	-28.6	Vert	75.10
4,500.00	-28.6	Horiz	75.10
4,554.00	-28.8	Horiz	75.30
2,530.00	-29.2	Horiz	75.70
1,800.00	-29.3	Horiz	75.80
5,060.00	-29.4	Vert	75.90
4,500.01	-29.4	Vert	75.90
2,024.00	-29.5	Vert	76.00
5,060.00	-29.9	Horiz	76.40
1,012.00	-29.9	Horiz	76.40
2,530.00	-30	Vert	76.50
2,024.00	-30.2	Horiz	76.70
3,600.01	-30.3	Vert	76.80
1,012.00	-30.6	Vert	77.10
3,150.00	-30.7	Horiz	77.20
2,880.00	-30.9	Vert	77.40
3,360.00	-31.3	Vert	77.80
4,800.00	-31.7	Horiz	78.20
1,350.00	-31.8	Horiz	78.30
2,250.00	-31.9	Horiz	78.40
1,920.00	-32	Horiz	78.50
4,554.00	-32.2	Vert	78.70
4,320.00	-32.5	Vert	79.00
4,320.00	-32.6	Horiz	79.10
2,880.00	-32.9	Horiz	79.40
4,800.00	-33	Vert	79.50
1,920.00	-33.1	Vert	79.60
4,048.00	-33.3	Vert	79.80
3,360.00	-33.5	Horiz	80.00
1,350.01	-34.4	Vert	80.90
4,050.01	-34.6	Vert	81.10
3,600.00	-34.7	Horiz	81.20
3,542.00	-35.8	Horiz	82.30
2,250.01	-36.1	Vert	82.60
2,700.01	-37.6	Vert	84.10
4,048.00	-38.4	Horiz	84.90
2,700.00	-38.6	Horiz	85.10
3,840.00	-40.3	Vert	86.80
4,050.00	-40.6	Horiz	87.10
3,840.00	-45.3	Horiz	91.80

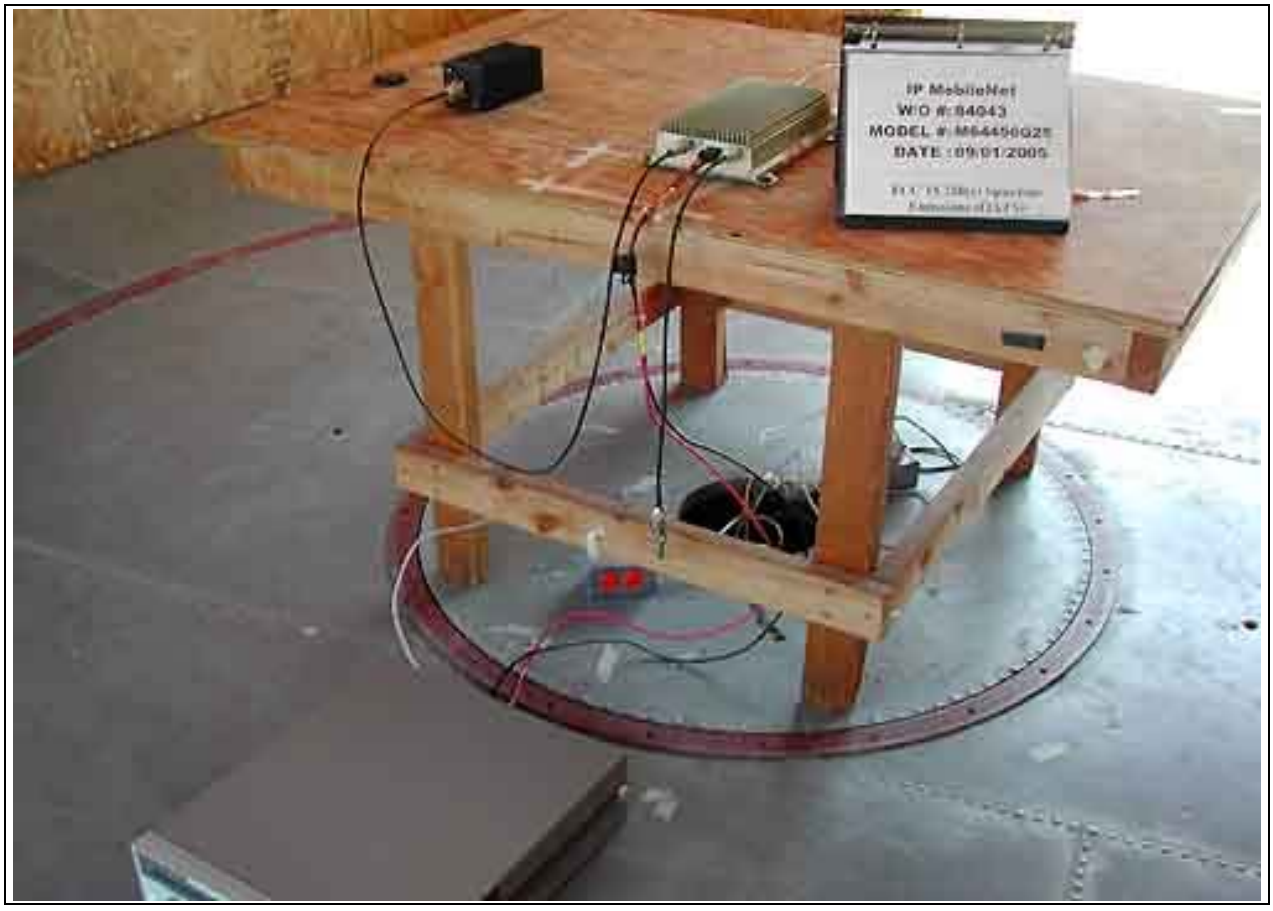
FCC 90.210(c) Spurious Emissions OATS

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer RF Section	00989A	HP	8568A	2049A01287	040805	040807
Spectrum Analyzer Display Section	00034	HP	85662A	2349A06091	040805	040807
Quasi Peak Adapter	00200	HP	85650A	2043A00221	040805	040807
Spectrum Analyzer	00783	HP	8596E	3346A00225	071604	071606
Bilog Antenna	00851	Schaffner-Chase EMC	CBL6111C	2629	031604	031606
Antenna cable (10 meter site D)	NA	Andrew	LDF1-50	Cable#17	100204	100205
Antenna cable from bulkhead to antenna	N/A	Pasternack	RG-214/U	Cable #33	040105	040106
Preamp to SA Cable (3 feet)	NA	Pasternack	E100316-I	Cable #22	080904	080906
Pre-amp	00010	HP	8447D	2727A05392	070204	070206
Antenna cable (Heliax)	NA	Andrew	LDF1-50	Cable#19	101303	101305
Horn Antenna	01646	EMCO	3115	9603-4683	072204	072206
Microwave Pre-amp	00787	HP	83017A	3123A00282	052705	052707
Magnetic Loop Antenna	00314	Emco	6502	2014	072804	072806
24” SMA Cable (White)	P5183	Pasterneck	NA	1-40GHz_white	122304	122306

PHOTOGRAPH SHOWING RADIATED EMISSIONS



PHOTOGRAPH SHOWING RADIATED EMISSIONS



FCC 2.1033(c)(14)/2.1055/90.213- FREQUENCY STABILITY

Test Conditions: The EUT is placed in the temperature chamber. RF signal is monitored from the antenna port. A spectrum analyzer is employed to measured the frequency stability of the EUT.

Customer: IP MobileNet
WO#: 84043
Date: 09/01,02,06/2005
Test Engineer: S. Yamamoto

Device Model #: M64450G25
Operating Voltage: 13.8 **Vdc**

Frequency Limit: 5 **ppm** 5 **ppm** 5 **ppm**

Temperature Variations

Channel Frequency:		Channel 1 (MHz) 450.000000000	Dev (ppm)	Channel 2 (MHz) 480.000000000	Dev (ppm)	Channel 3 (MHz) 505.500000	Dev (ppm)
Temp (C)	Voltage						
-30	13.8	449.999955000	-0.100000	479.999850000	-0.312500	505.499870	-0.257171
-20	13.8	449.999935000	-0.144444	479.999985000	-0.031250	505.500000	0.000000
-10	13.8	450.000010000	0.022222	479.999895000	-0.218750	505.500005	0.009891
0	13.8	449.999990000	-0.022222	479.999930000	-0.145833	505.500035000	0.069238
10	13.8	450.000055000	0.122222	480.000090000	0.187500	505.500100000	0.197824
20	13.8	450.000115000	0.255555	480.000180000	0.375000	505.500265	0.524233
30	13.8	450.000190000	0.422222	480.000135000	0.281250	505.500060000	0.118694
40	13.8	450.000115000	0.255555	480.000030000	0.062500	505.500085000	0.168150
50	13.8	450.000085000	0.188889	480.000065000	0.135417	505.500006000	0.011869

Voltage Variations (±15%)

Temp (C)	Voltage	Channel 1 (MHz)	Dev. (ppm)	Channel 2 (MHz)	Dev. (ppm)	Channel 3 (MHz)	Dev. (ppm)
20	11.7	450.000190000	0.422222	480.000195000	0.406250	505.500160	0.316518
20	13.8	450.000115000	0.255555	480.000180000	0.375000	505.500265	0.524233
20	15.9	450.000145000	0.322222	480.000175000	0.364583	505.500205	0.405539

Max Deviation (ppm)		**+**	**0.42222**		**+**	**0.40625**	**+**	**0.52423**
Max Deviation (ppm)		**-**	**0.14444**		**-**	**0.31250**	**-**	**0.25717**
			PASS			**PASS**		**PASS**

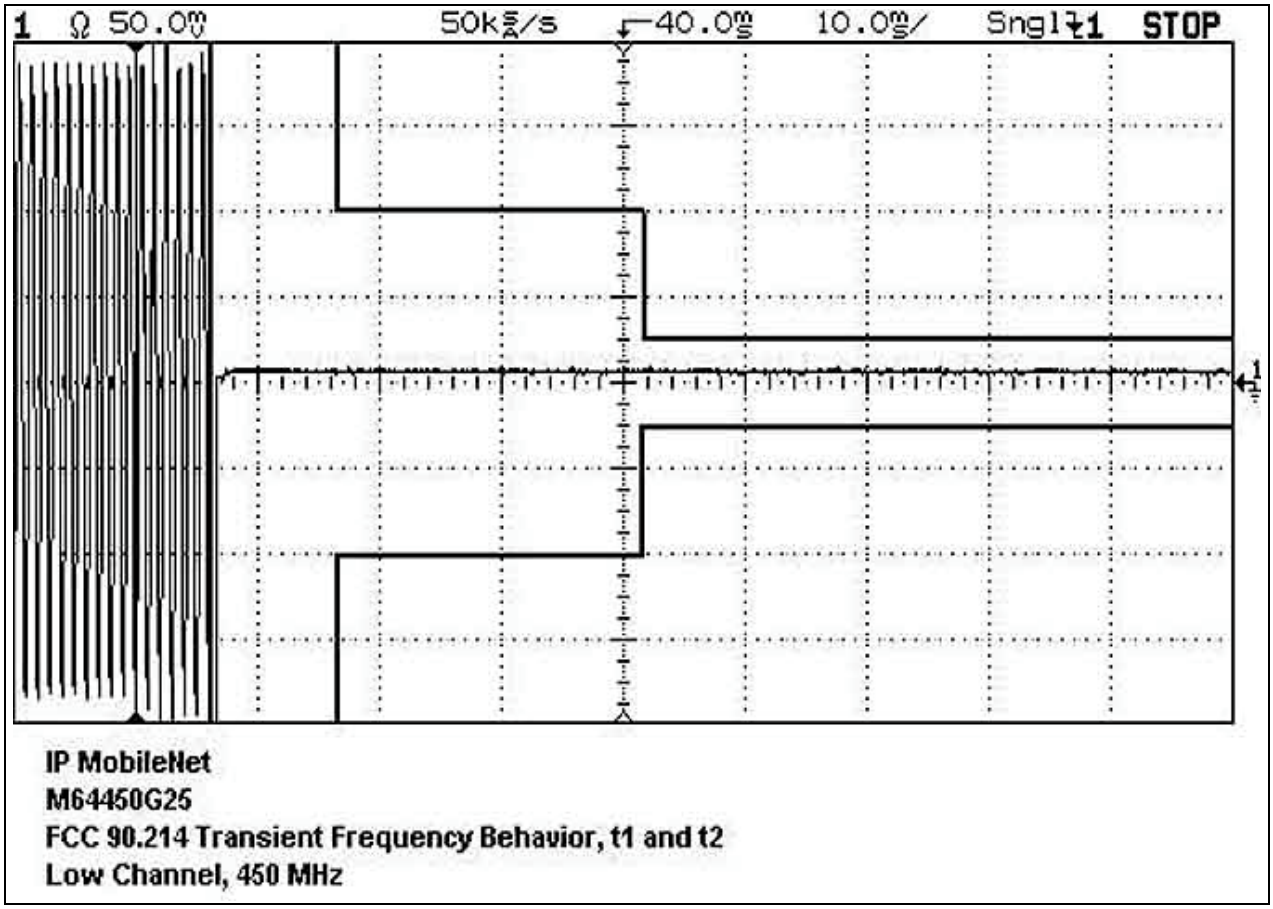
FCC 90.213 Frequency Stability

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer RF Section	00989A	HP	8568A	2049A01287	040805	040807
Spectrum Analyzer Display Section	00034	HP	85662A	2349A06091	040805	040807
Quasi Peak Adapter	00200	HP	85650A	2043A00221	040805	040807
Temperature Chamber	01878	Thermotron	S1.2 Mini Max	(none)	071904	071906
Digital Multimeter	01830	Fluke	45	6949042	012405	012406

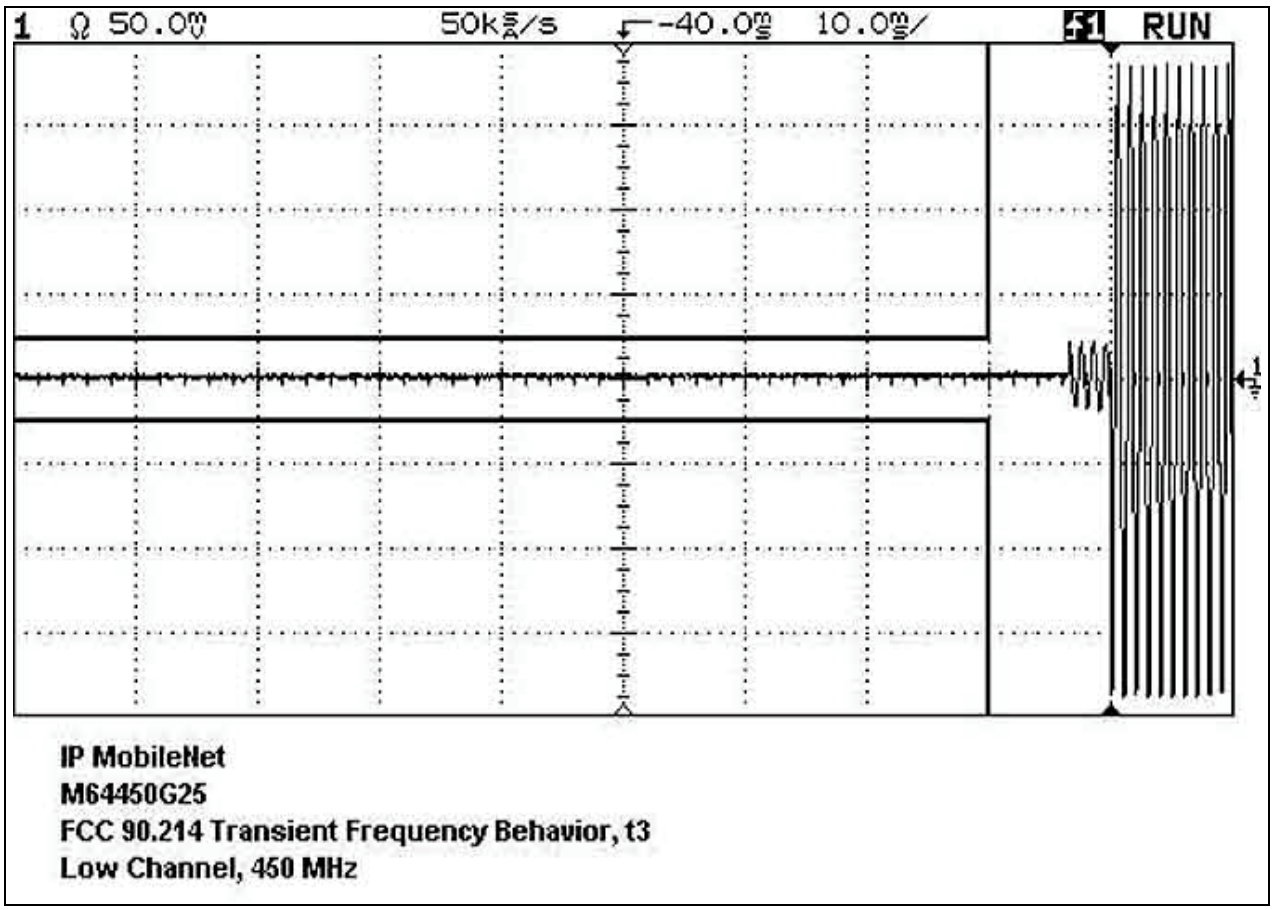
PHOTOGRAPH SHOWING TEMPERATURE TESTING

FCC 90.214 TRANSIENT FREQUENCY BEHAVIOR LOW CHANNEL t1 AND t2

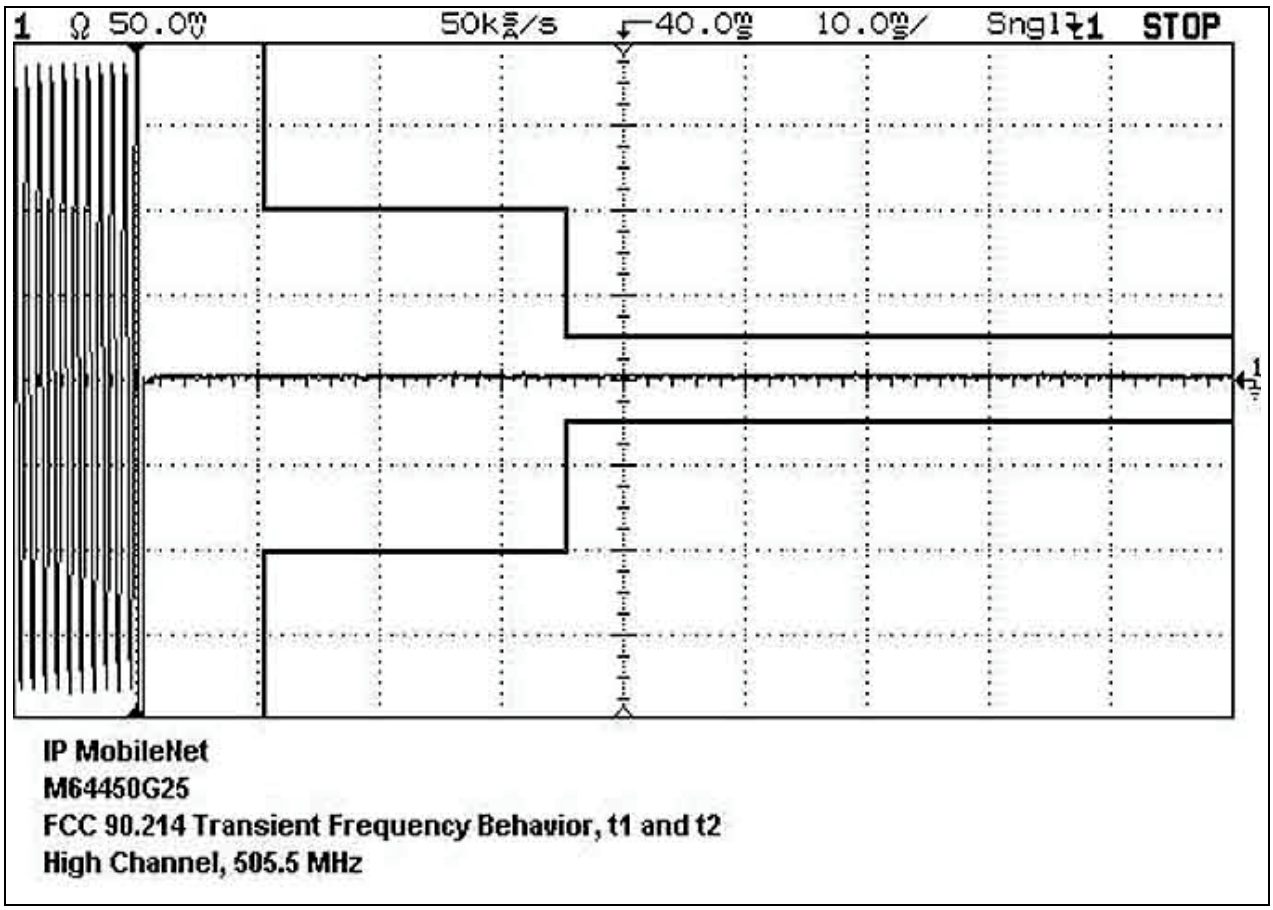
Test conditions: The EUT's ethernet port was connected to a laptop computer via and unshielded cat 5E cable. The laptop computer was used to command the EUT to begin transmitting or stop transmitting as well as to change the EUT from channel to channel. Also connected to the EUT was a GPS antenna. This GPS antenna was placed outside the room so that it had no obstructions to the sky. A separate DC power supply was used to provide the EUT with 13.8 VDC/10A. On the RF output of the EUT was place a high power attenuator and then a coaxial cable to the combiner. The signal generators output was set to the EUT transmit frequency with 25kHz deviation 1kHz FM and connected to the combiner. The top port of the combiner was connected to the input of the modulation analyzer and the modulation analyzers output to the oscilloscope. The remaining two ports of the combiner were terminated into fifty ohm loads. The EUT was configured to output its rated output power and measurement were made for the low and high channels.



FCC 90.214 TRANSIENT FREQUENCY BEHAVIOR LOW CHANNEL t3

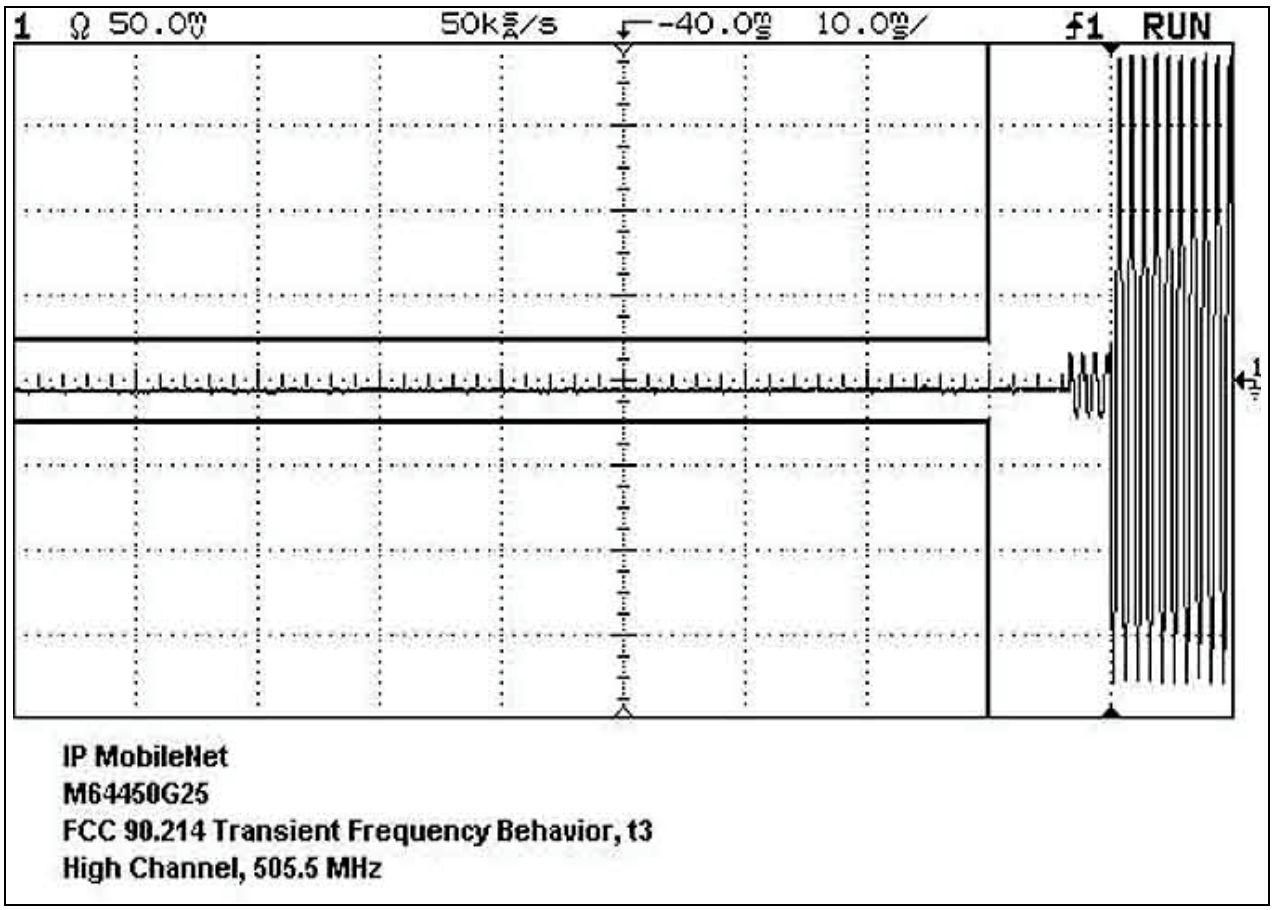


FCC 90.214 TRANSIENT FREQUENCY BEHAVIOR HIGH CHANNEL t1 AND t2



IP MobileNet
M64450G25
FCC 90.214 Transient Frequency Behavior, t1 and t2
High Channel, 505.5 MHz

FCC 90.214 TRANSIENT FREQUENCY BEHAVIOR HIGH CHANNEL t3



FCC 90.214 Transient Frequency Behavior

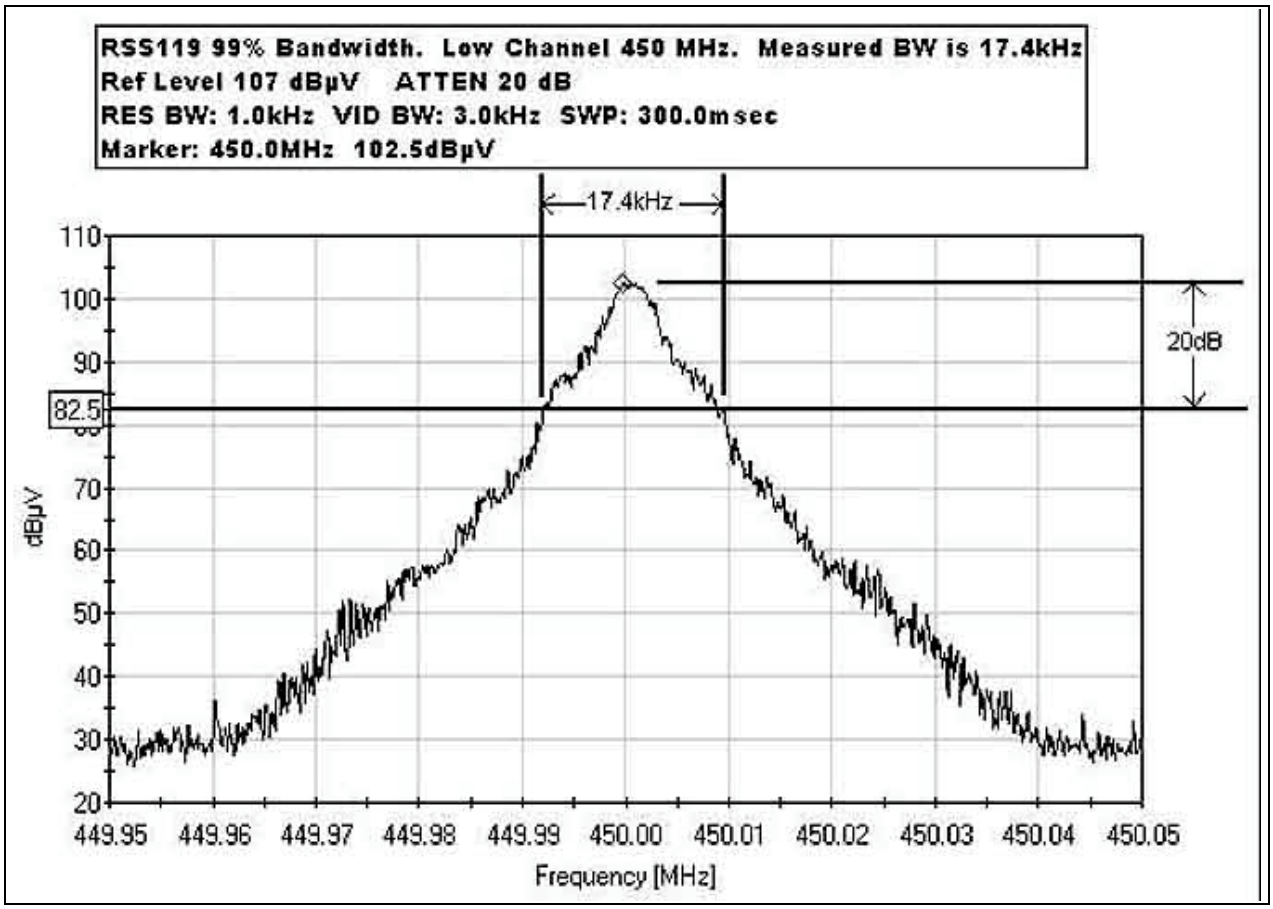
Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Power Meter	02082	HP	435B	2445A11881	061704	061706
Power Sensor	02036	HP	8482A	1551A01004	061804	061806
Signal Generator	02351	Marconi	2022D	119158/054	091003	091005
Digital Oscilloscope	00320	HP	54615B	US35420826	081204	081206
Modulation Analyzer	02072	HP	8901A	2751A05181	102504	102506
Combiner	P01313	Motorola	(none)	549TR18HQ	NCR	NCR

NCR = No Calibration Required

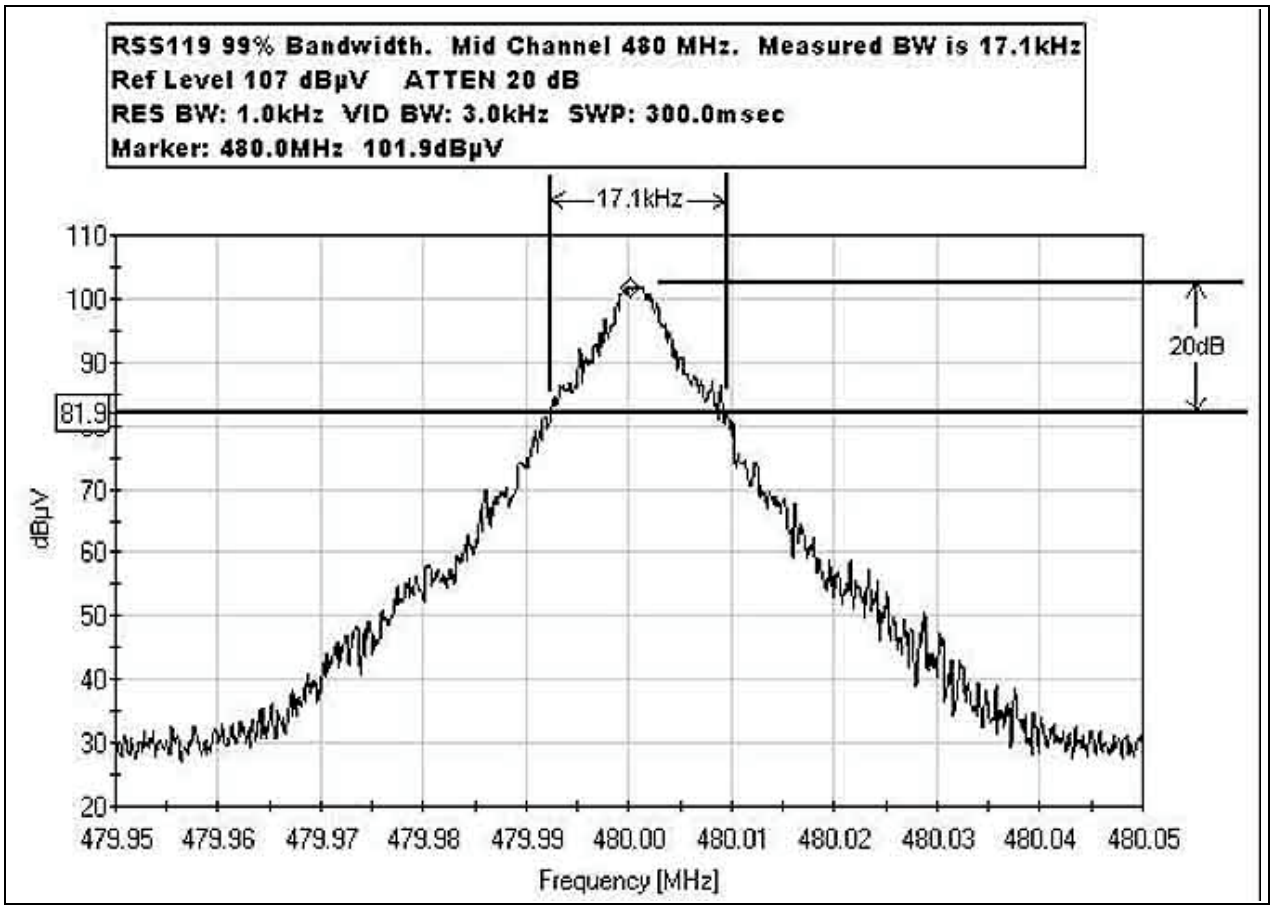
PHOTOGRAPH SHOWING TRANSIENT FREQUENCY BEHAVIOR

RSS-119 99% BANDWIDTH LOW CHANNEL

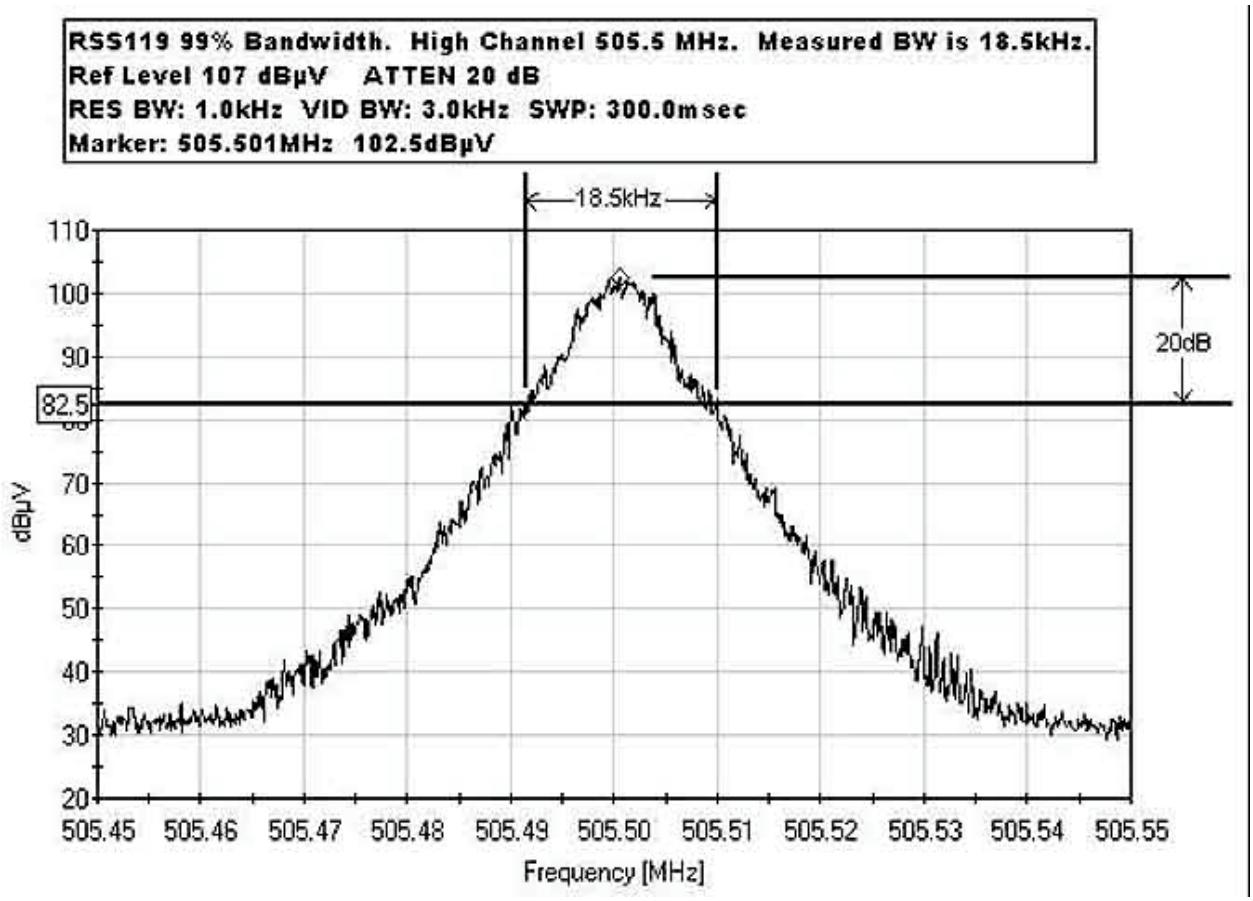
Test Conditions: The EUT's ethernet port was connected to a laptop computer via and unshielded cat 5E cable. The laptop computer was used to command the EUT to begin transmitting or stop transmitting as well as to change the EUT from channel to channel. Also connected to the EUT was a GPS antenna. This GPS antenna was placed outside the room so that it had no obstructions to the sky. A separate DC power supply was used to provide the EUT with 13.8 VDC/10A. On the RF output of the EUT was place a high power attenuator and a coaxial cable connected to the spectrum analyzer to measure the EUT's bandwidth. The EUT was configured to output its rated output power.



RSS-119 99% BANDWIDTH MID CHANNEL



RSS-119 99% BANDWIDTH HIGH CHANNEL



RSS-119 99% Bandwidth

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer RF Section	00989A	HP	8568A	2049A01287	040805	040807
Spectrum Analyzer Display Section	00034	HP	85662A	2349A06091	040805	040807
Quasi Peak Adapter	00200	HP	85650A	2043A00221	040805	040807

PHOTOGRAPH SHOWING 99% BANDWIDTH