



Test Report: 4W08260

Applicant: VTech Engineering Canada Ltd.
Suite 200 – 7671 Alderbridge Way
Richmond, B.C., Canada V6X 1Z9

Equipment Under Test: 5853, 5866, 5803, 5807
(EUT)

FCC ID: **Base** EW780-5412-00
 Handset EW780-5412-01

In Accordance With: **FCC Part 15, Subpart C**
 Frequency Hopping Systems
 Class II Permissive Change

Tested By: Nemko Canada Inc.
 303 River Road, R.R. 5
 Ottawa, Ontario K1V 1H2

Authorized By:

A handwritten signature in blue ink that reads 'Kevin Carr'.

Kevin Carr, EMC/EMI/Wireless Specialist

Date: 27 July 2004

Total Number of Pages: 50

EQUIPMENT: 5853, 5866, 5803, 5807

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EQUIPMENT: 5853, 5866, 5803, 5807

Section 1. Summary of Test Results

General

All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, Subpart C, Paragraph 15.247 for Frequency Hopping Spread Spectrum devices. Radiated tests were conducted in accordance with ANSI C63.4-1992. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE
TEST SPECIFICATIONS HAVE BEEN MADE. TESTING FOR SUPPORT OF A CLASS 1
PERMISSIVE CHANGE
See "Summary of Test Data".

TESTED BY: _____
Daxesh Thakker, Wireless Test Engineer

DATE: 16 July 2004

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Nemko Canada Inc., a testing laboratory, is accredited by the Standards Council of Canada.
The tests included in this report are within the scope of this accreditation.

EQUIPMENT: 5853, 5866, 5803, 5807

Summary Of Test Data

Name Of Test	Para. No.	Result
Powerline Conducted Emissions	15.207(a)	Complied
Channel Separation	15.247(a)(1)	Complied
Time of Occupancy	15.247(a)(1)(iii)	Complied
20 dB Occupied Bandwidth	15.247(a)(1)	Complied
Number of Hopping Channels	15.247(a)(1)(iii)	Complied
Peak Power Output	15.247(b)(1)	Complied
Spurious Emissions (Antenna Conducted)	15.247(c)	N/A
Spurious Emissions (Radiated)	15.247(c)	Complied

Footnotes For N/A's: No Access Port**Additional Note:** This report is intended to support a class 1 permissive change as dictated by the client

The two systems use the same RF modules, so only one handset & one base were assessed. Base station, Model i5853 was selected due to it's extra keypad circuitry. Handset, model i5807 was selected due to its additional USB port.

Test Conditions:**Indoor** Temperature: 22°C
Humidity: 40%**Outdoor** Temperature: 20°C
Humidity: 42%

This submission is for Reassessment as a Class II Permissive Change. Please refer the following information provided by the customer.

The original testing was (for new FCC ID) on AT&T model: Nemko Project # 3W07618. For VTech model, Class I verification report is 4W07733. This is a cost reduction for Class II permissive change testing.

The Base & the handset have been tested fully and all new results are used in this report.

EQUIPMENT: 5853, 5866, 5803, 5807

CLASS I CHANGES

BS RF Module changes

- 1) PLL, 3.3GHz VCO (LO for Up conversion), Up converter and Driver amplifier will be replaced by Microlinear (ML5824) Transverter
- 2) 5.8GHz 1 watt PA changed for the cost reduction purpose from MuRata XM5060PC to MuRata XM5060PE
- 3) 2.4GHz Rx Antenna changes from Coax Dipole to Metal Wire L – Antenna.
- 4) Base Station Tx Ant. Gain from 5.6dBi to 2.0dBi

HS RF Module Changes

- 1) 5.8GHz LNA, PLL, 3.3GHz VCO (LO for Down conversion) and Down Converter will be replaced by Microlinear (ML5824) Transverter
- 2) 2.4GHz Tx Discrete Lumped LPF is replaced by MuRata 2.4GHz LPF (to reduces the Power and Harmonic suppression variations).

The original FCC ID# of the Nemko project report 3W07618 is EW780-5412-00/01.

EQUIPMENT: 5853, 5866, 5803, 5807

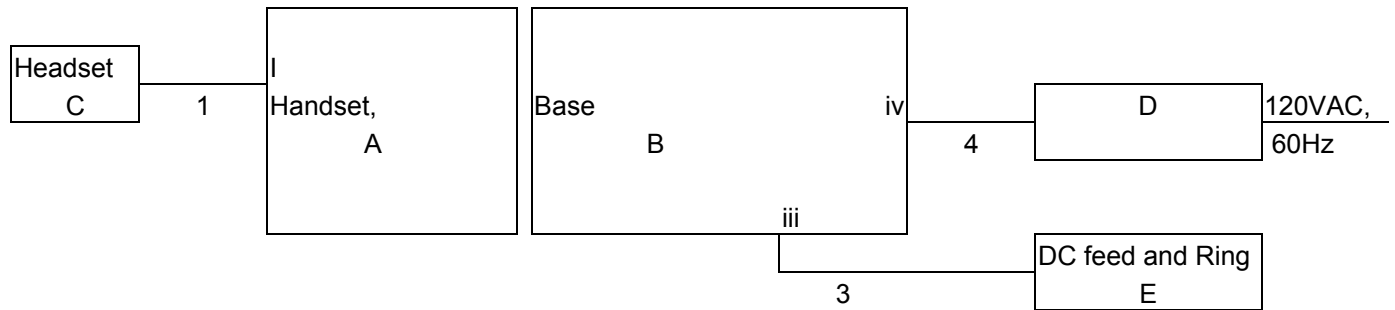
Section 2. General Equipment Specification

Manufacturer:	VTech (Dongguan) Electronics and Communications Ltd. Xia Ling Bei Management Zone, Liaobu, Dongguan, guangdong, China 523411	
Model No.:	5853, 5866, 5803, 5807	
Serial No.:	None	
Date Received In Laboratory:	9 July. 2004	
Nemko Identification No.:	1, 2, 3 & 4	
Frequency Range:	BS TX	5744.736 – 5825.952 MHz
	HS TX	2401.056 – 2482.272 MHz
	HS RX	5744.736 – 5825.952 MHz
	BS RX	2401.056 – 2482.272 MHz
Tunable Bands:	1	
Number of Channels:	2.4GHz Link (HS->BS) is a 17 channel system 5.8GHz Link (BS->HS) is a 75 channel system	
Min. Channel Spacing:	Handset	867kHz
	Base	858kHz
Emissions Designator:	Handset	700KF1D
	Base	675KF1D
User Frequency Adjustment:	None	
Rated Output Power:	Base	0.754W, 28.77dBm, measured
	Handset	0.072W, 18.57dBm, measured

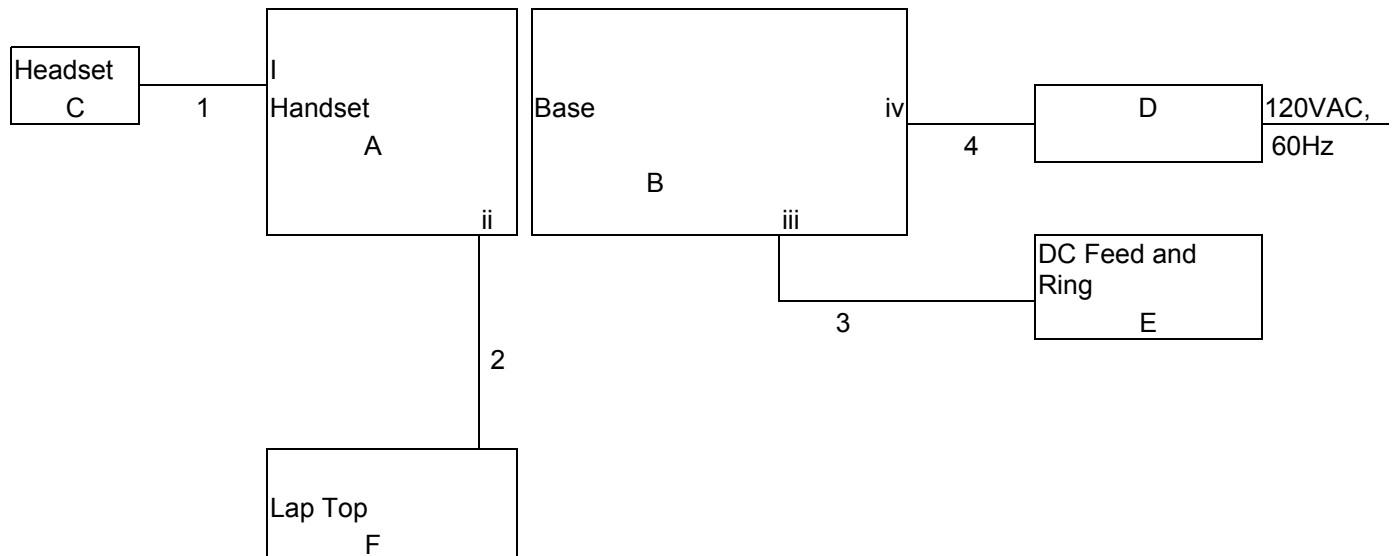
EQUIPMENT: 5853, 5866, 5803, 5807

Test Configurations:

Set-up 1, Normal operation, Off Hook



Set up 2, USB Mode , On Hook



EQUIPMENT: 5853, 5866, 5803, 5807

Equipment Configuration List:				
Item	Description	Identification: (M/N #, S/N #, P/N #, Rev.)		
(A)	Handset	P/N 5807, S/N None		
(B)	Base	P/N 5853, S/N None		
(C)	Headset	None		
(D)	VTech Power Adapter	M/NU070090D3001		
(E)	DC Feed and Ring-up Unit	P/N CL01, S/N 001		
(F)	Toshiba Lap Top	M/N PS210C-199K6 S/N 9014309		
EUT Ports:				
Item	Description	Qty		
i.	Headset	1		
ii.	USB Port	1		
iii.	POTS Port	1		
iv.	Power Port	1		
Inter-Connection Cables:				
Item	Description	Shielded?	Ferrite	Length (m)
(1)	Integrated headset cable	Y	N	1.0
(2)	USB Cable	Y	Y	2.0
(3)	4 Conductor Telco cable	N	N	2.0
(4)	Integrated 2 Conductor	N	N	1.5

EQUIPMENT: 5853, 5866, 5803, 5807

Section 3. Power line Conducted Emissions

Para. No.: 15.207 (a)

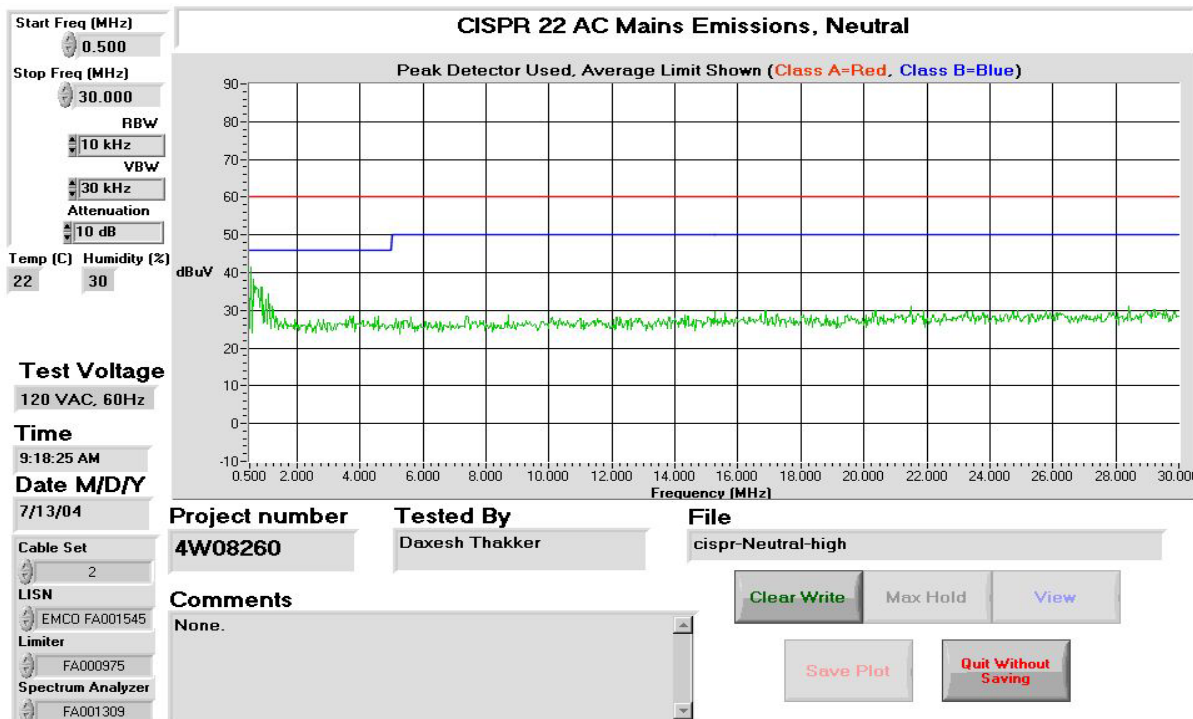
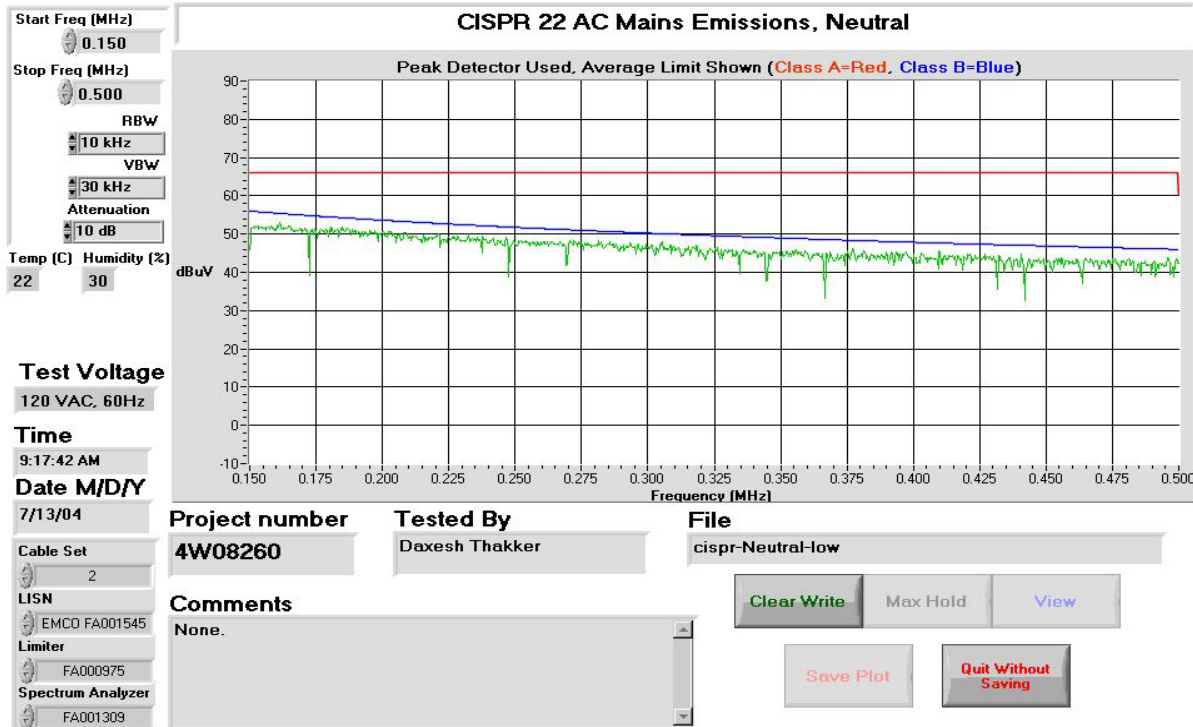
Test Performed By: Daxesh Thakker	Date of Test: July 13, 2004
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Test Results: Complied

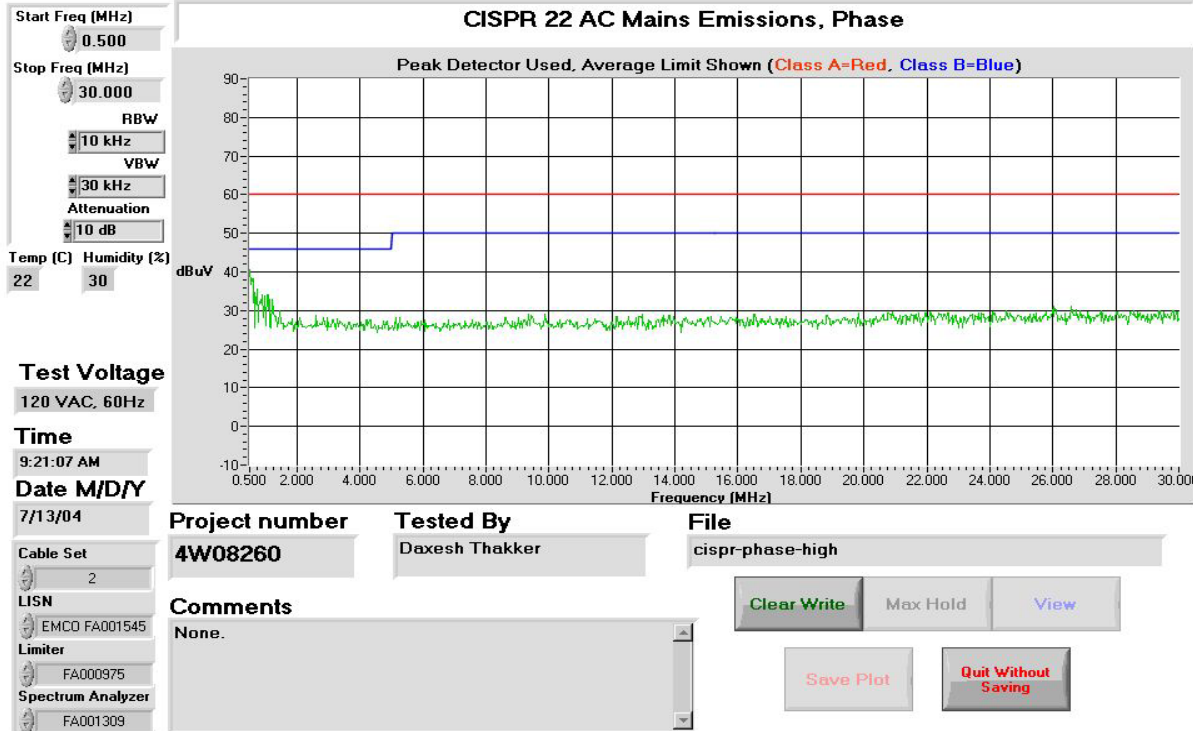
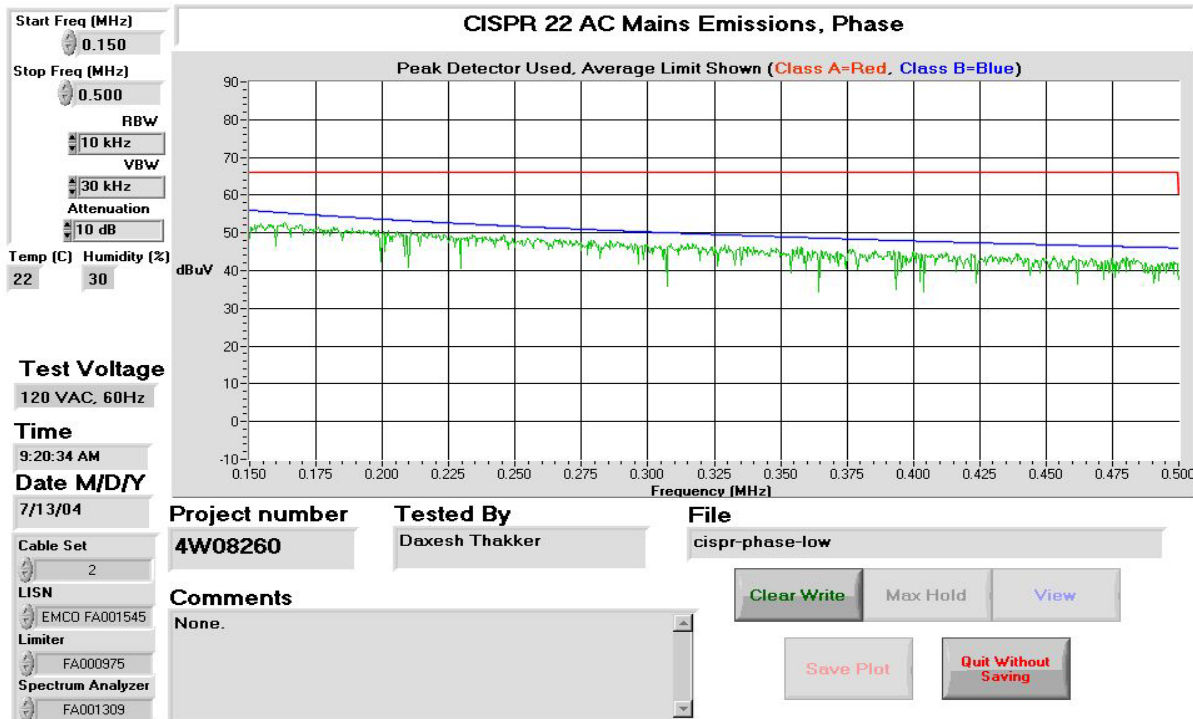
Measurement Data: The EUT was tested with flat batteries in the base units charge compartment in addition the system was off hook. This was deemed worst case. See attached graph(s).

EQUIPMENT: 5853, 5866, 5803, 5807

Power line Conducted Emission Plots

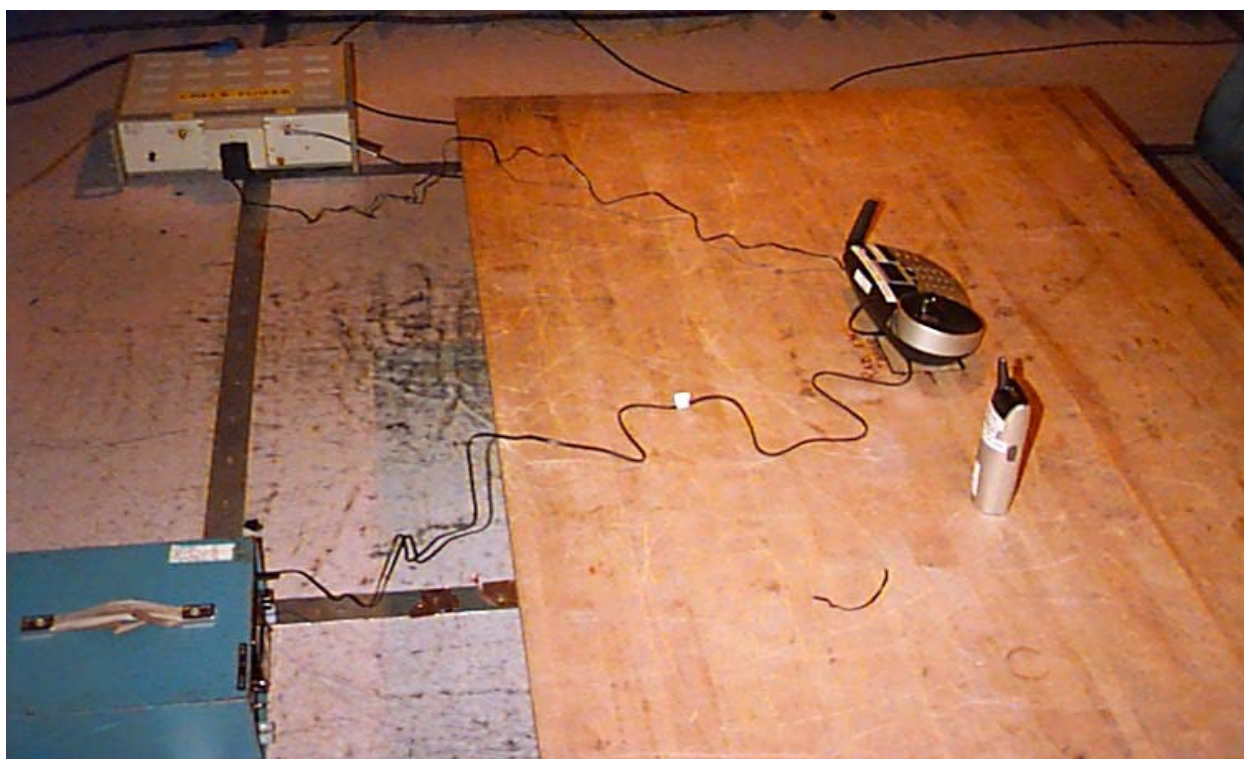


EQUIPMENT: 5853, 5866, 5803, 5807



EQUIPMENT: 5853, 5866, 5803, 5807

Set-up Photo:



EQUIPMENT: 5853, 5866, 5803, 5807

Section 4. Channel Separation

Para. No.: 15.247 (a)(1)

Test Performed By: Daxesh Thakker	Date of Test: July 12, 2004
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Test Results: Complies

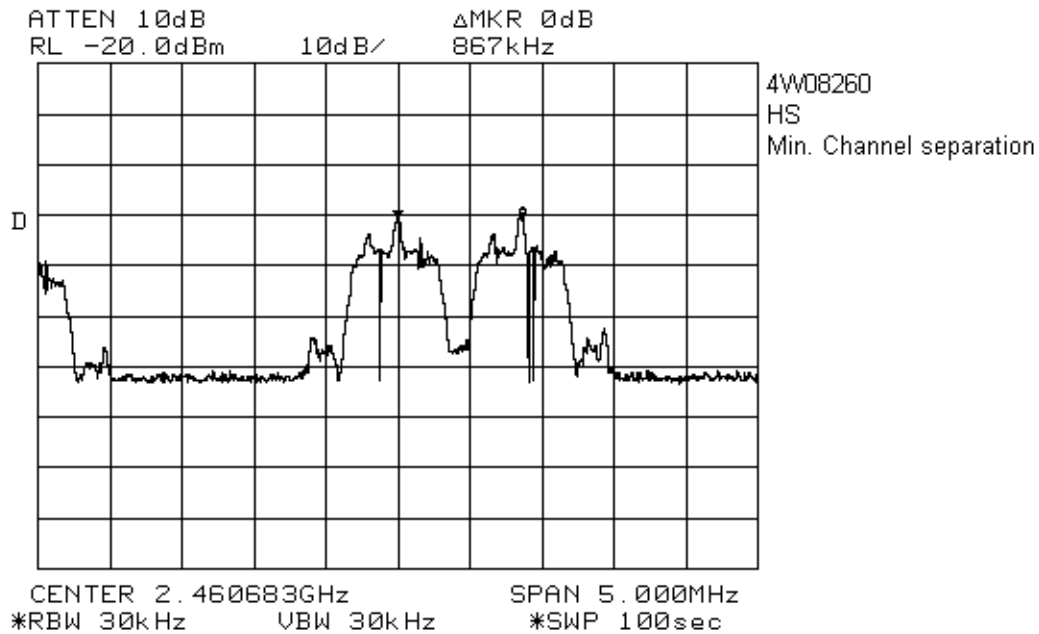
Measurement Data: Measured 20 dB bandwidth:
Channel Separation:

Base: 858kHz
Handset: 867kHz

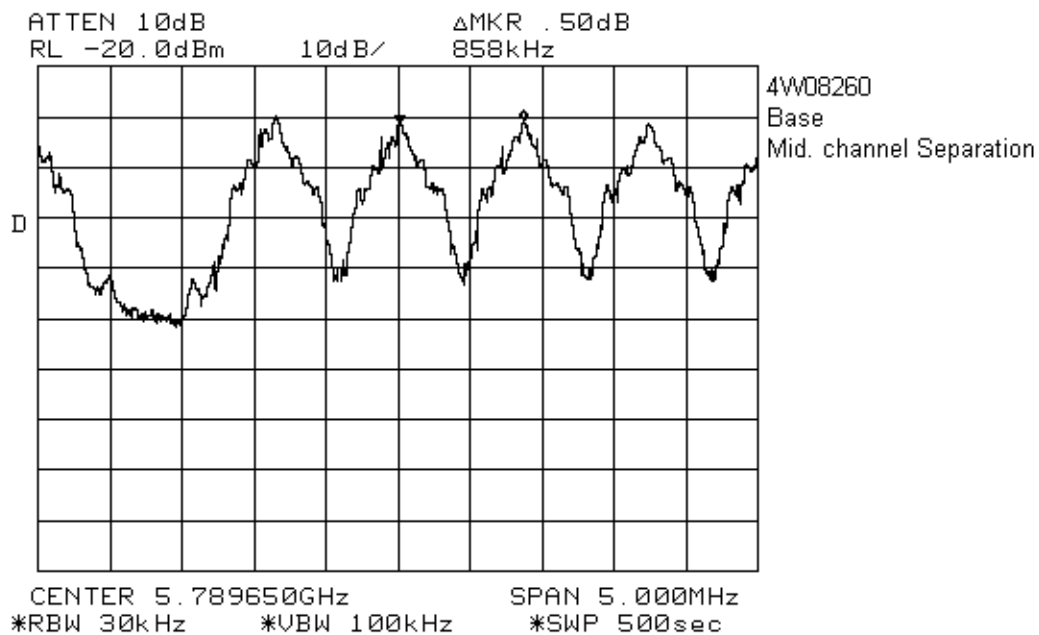
EQUIPMENT: 5853, 5866, 5803, 5807

Channel Separation Plots:

Handset



Base



EQUIPMENT: 5853, 5866, 5803, 5807

Section 5. Number of Hopping Channels

Para. No.: 15.247(a)(1)(iii)

Test Performed By: Daxesh Thakker	Date of Test: July 12, 2004
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Test Results: Complies

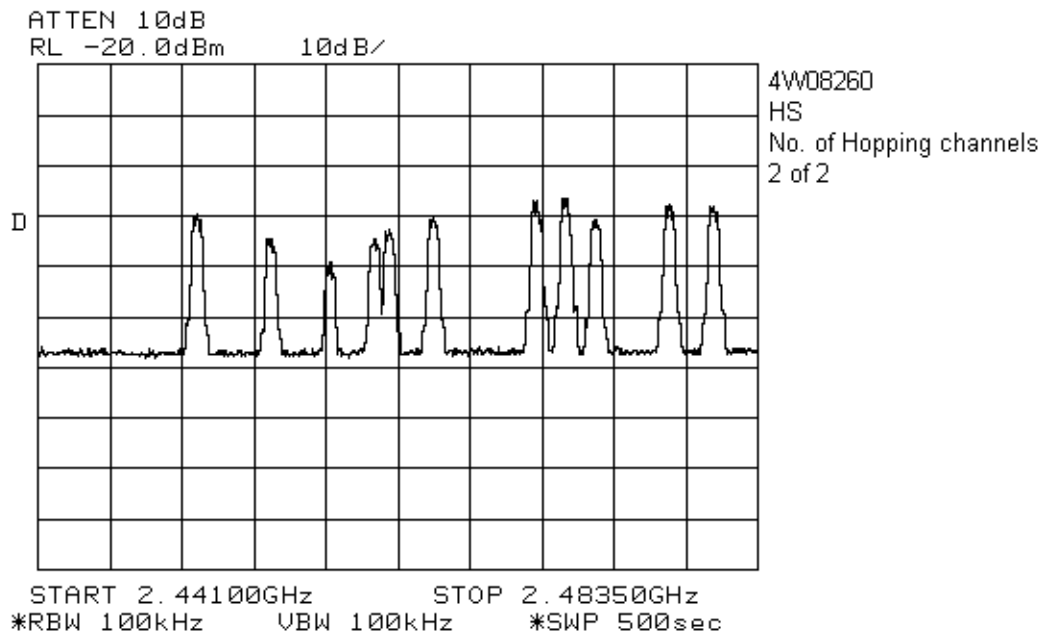
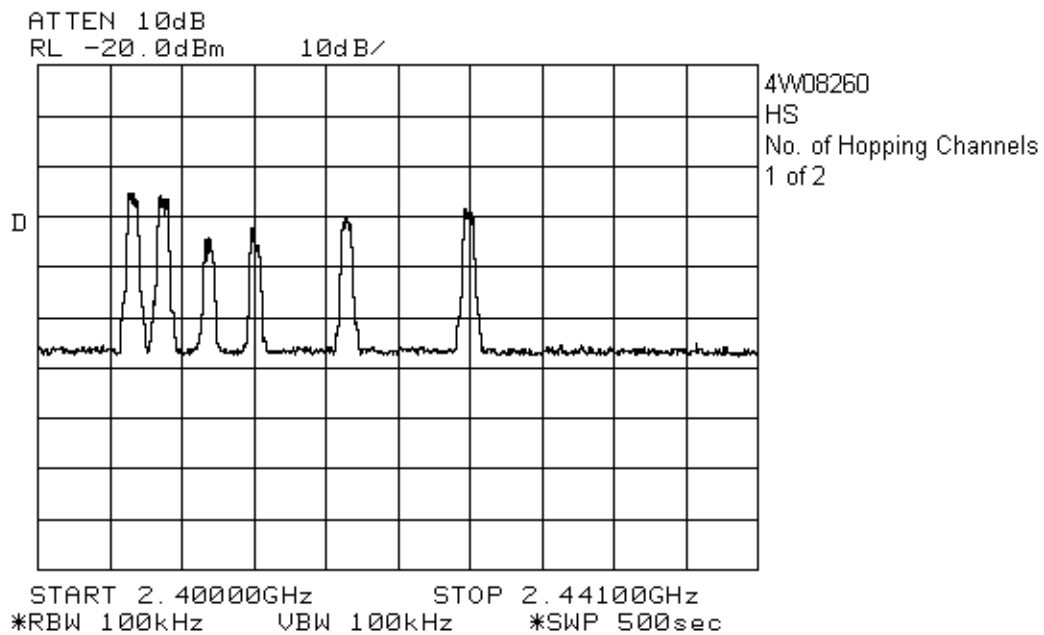
Measurement Data: Number of Hopping Frequencies:

Base: 75
Handset: 17

EQUIPMENT: 5853, 5866, 5803, 5807

Number of Hopping Channel Plots:

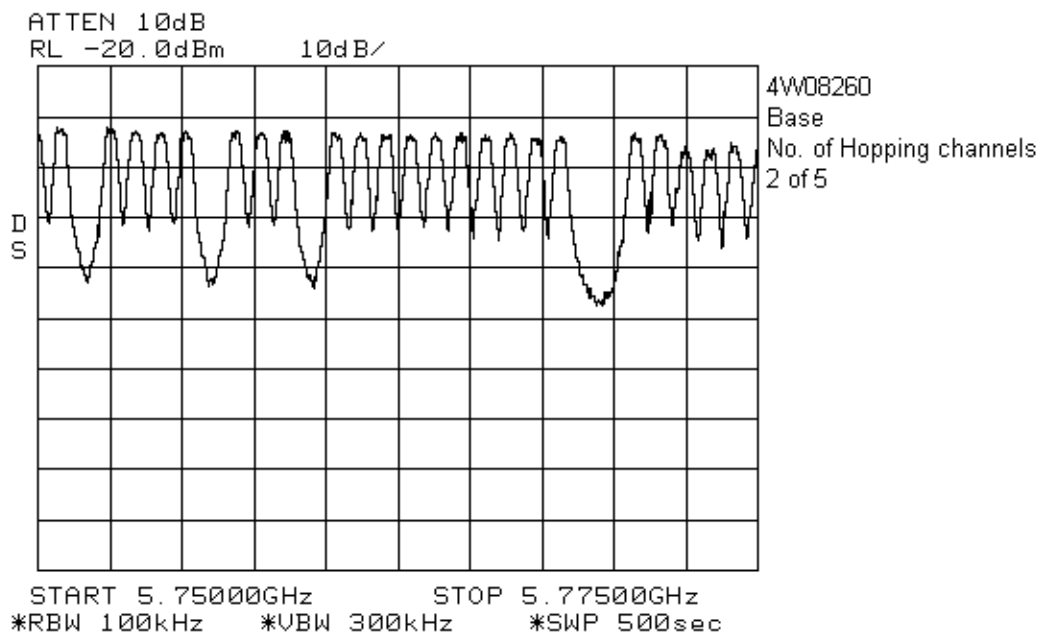
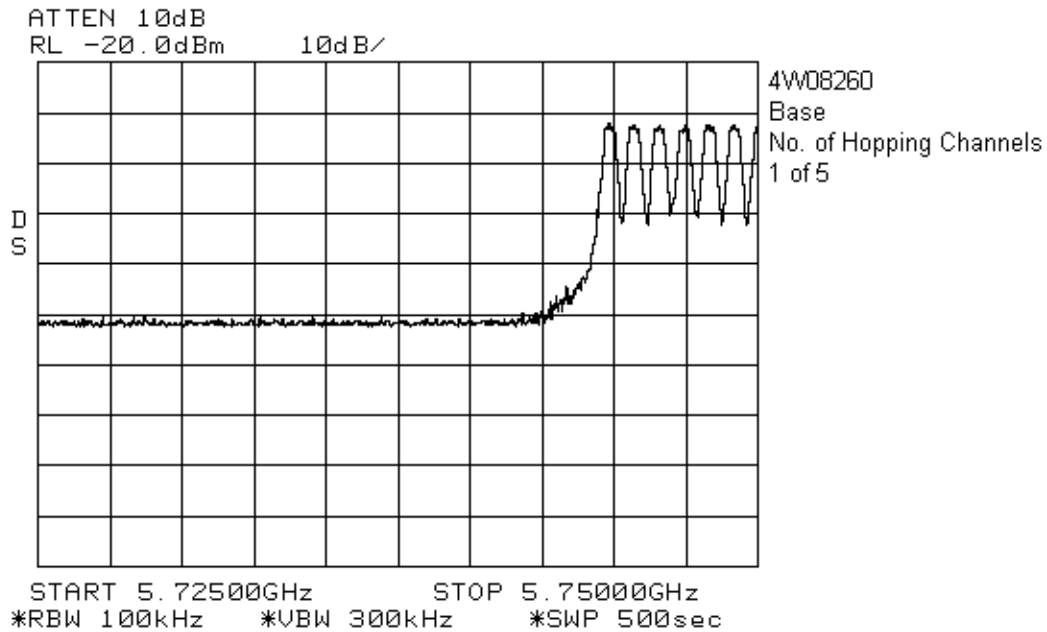
Handset



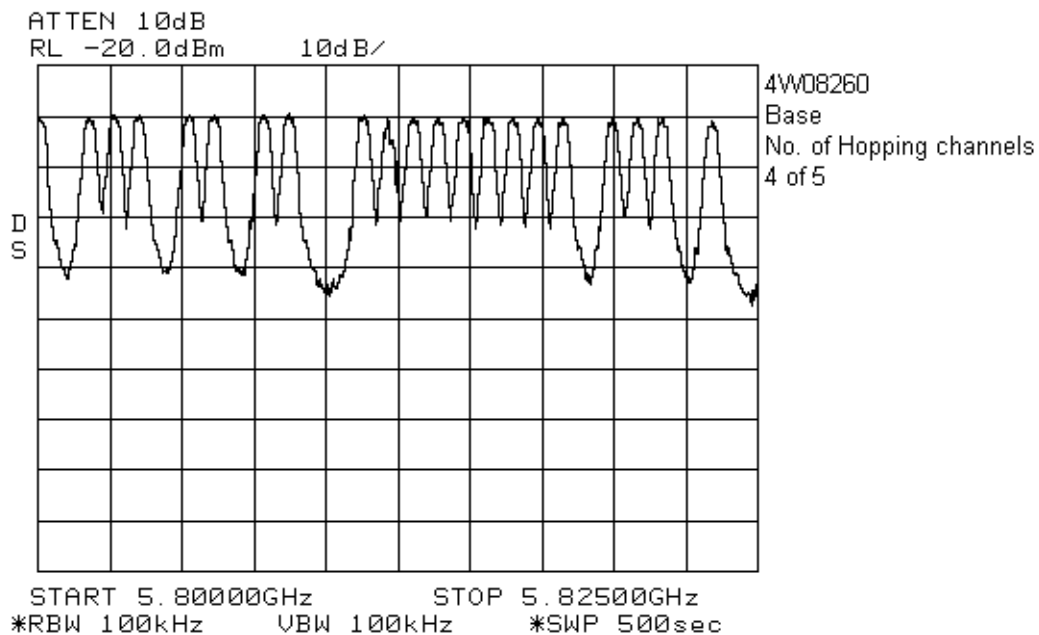
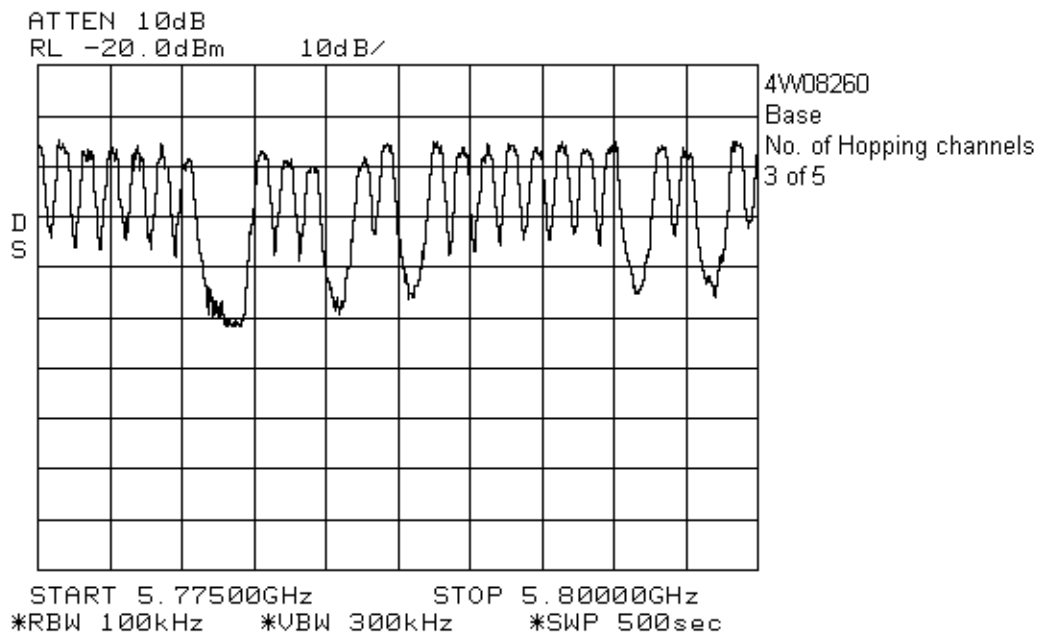
Total No. of channels = 6 + 11 = 17

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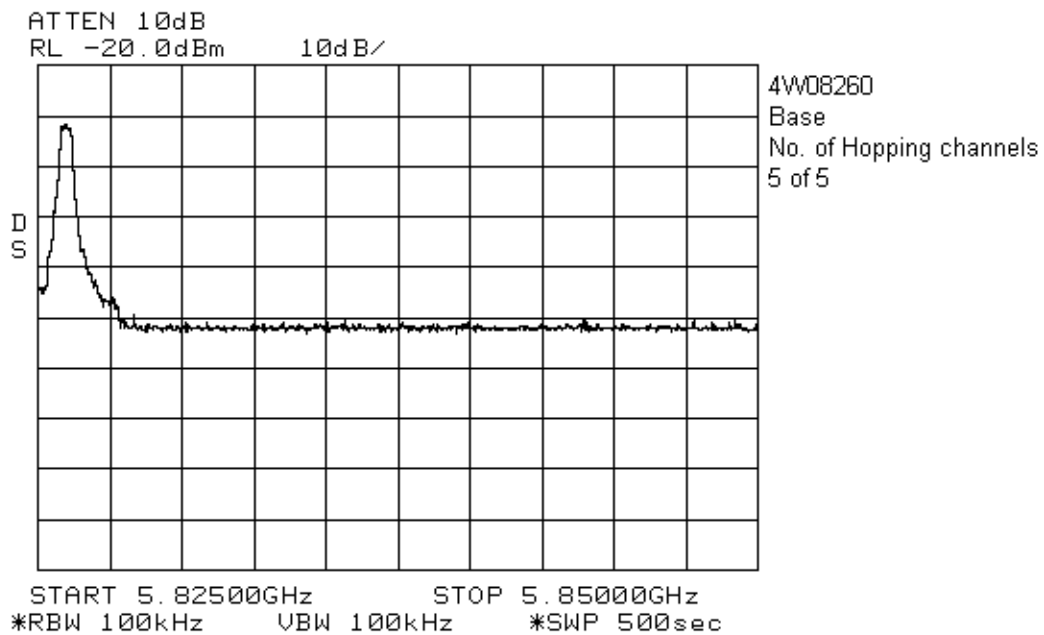
Base



EQUIPMENT: 5853, 5866, 5803, 5807



EQUIPMENT: 5853, 5866, 5803, 5807



Total No. of channels = 6 + 24 + 23 + 21 + 1 = 75

EQUIPMENT: 5853, 5866, 5803, 5807

Section 6. Time of Occupancy

Para. No.: 15.247 (a)(1)(iii)

Test Performed By: Daxesh Thakker	Date of Test: 12 July, 2004
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Test Results: Complies

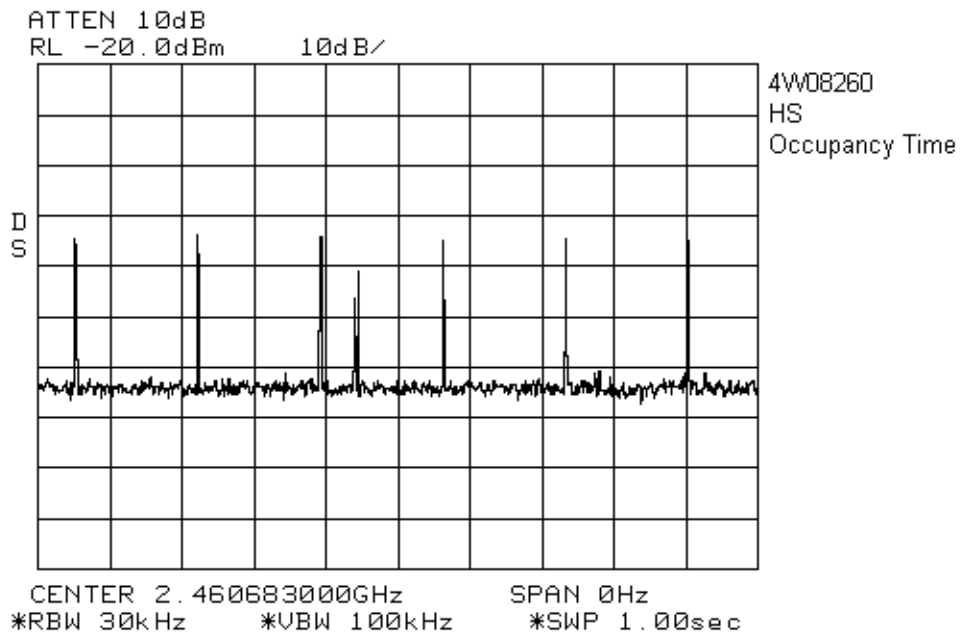
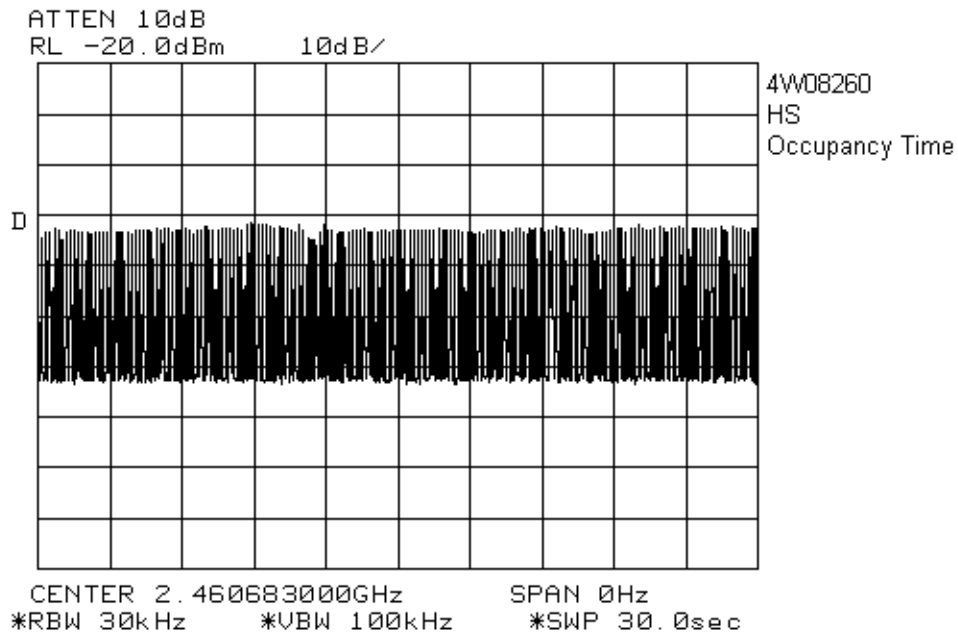
Measurement Data: Maximum Dwell Time On Any Channel:
See Plots.

Base: 10.72ms
Handset: 176.4ms

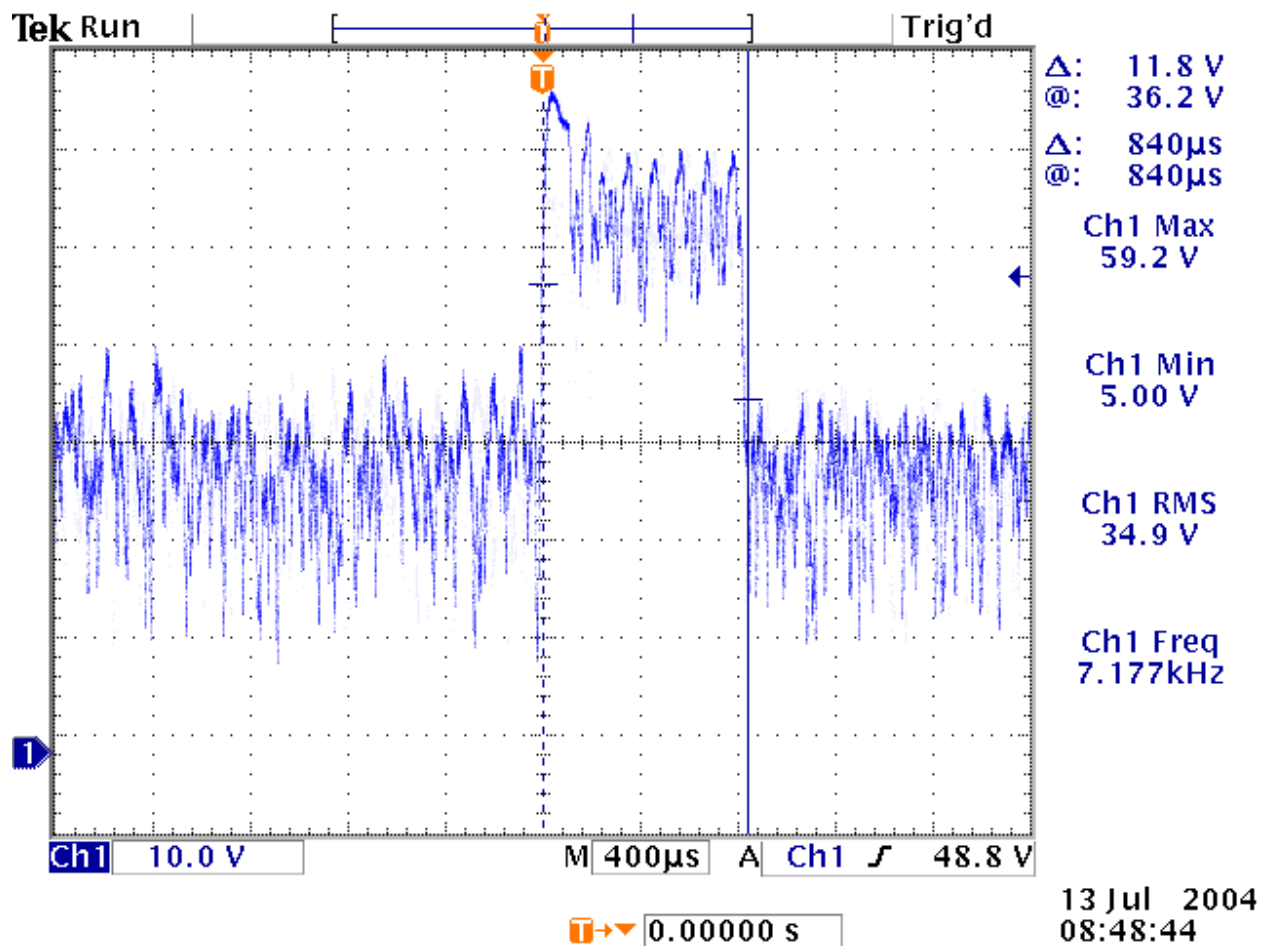
EQUIPMENT: 5853, 5866, 5803, 5807

Time Of Occupancy Plots

Handset



EQUIPMENT: 5853, 5866, 5803, 5807



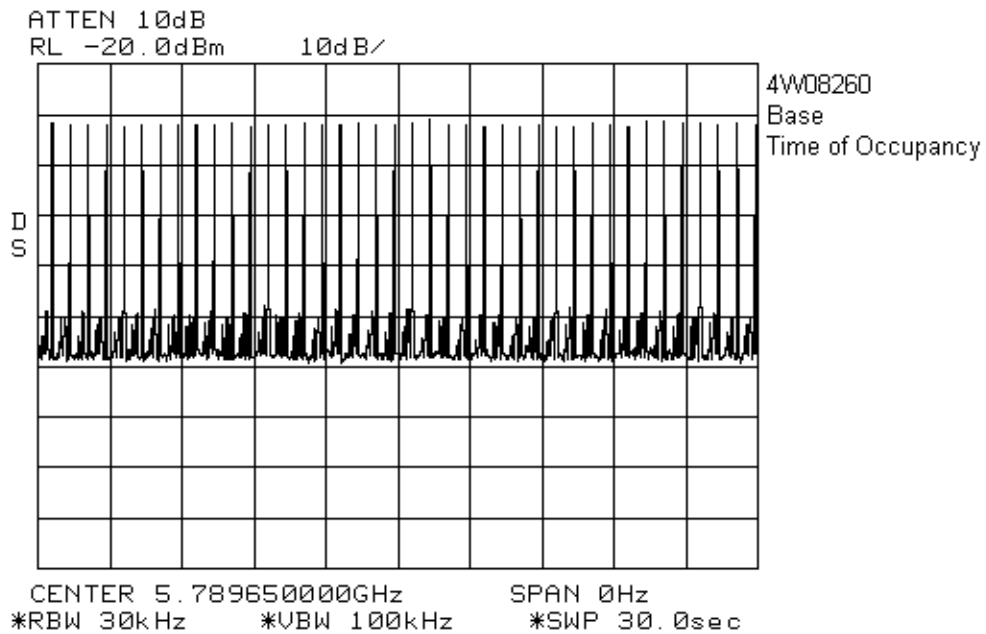
Active Slot showing 840us On-Time

Time of Occupancy Showing 210 hits per 30 sec

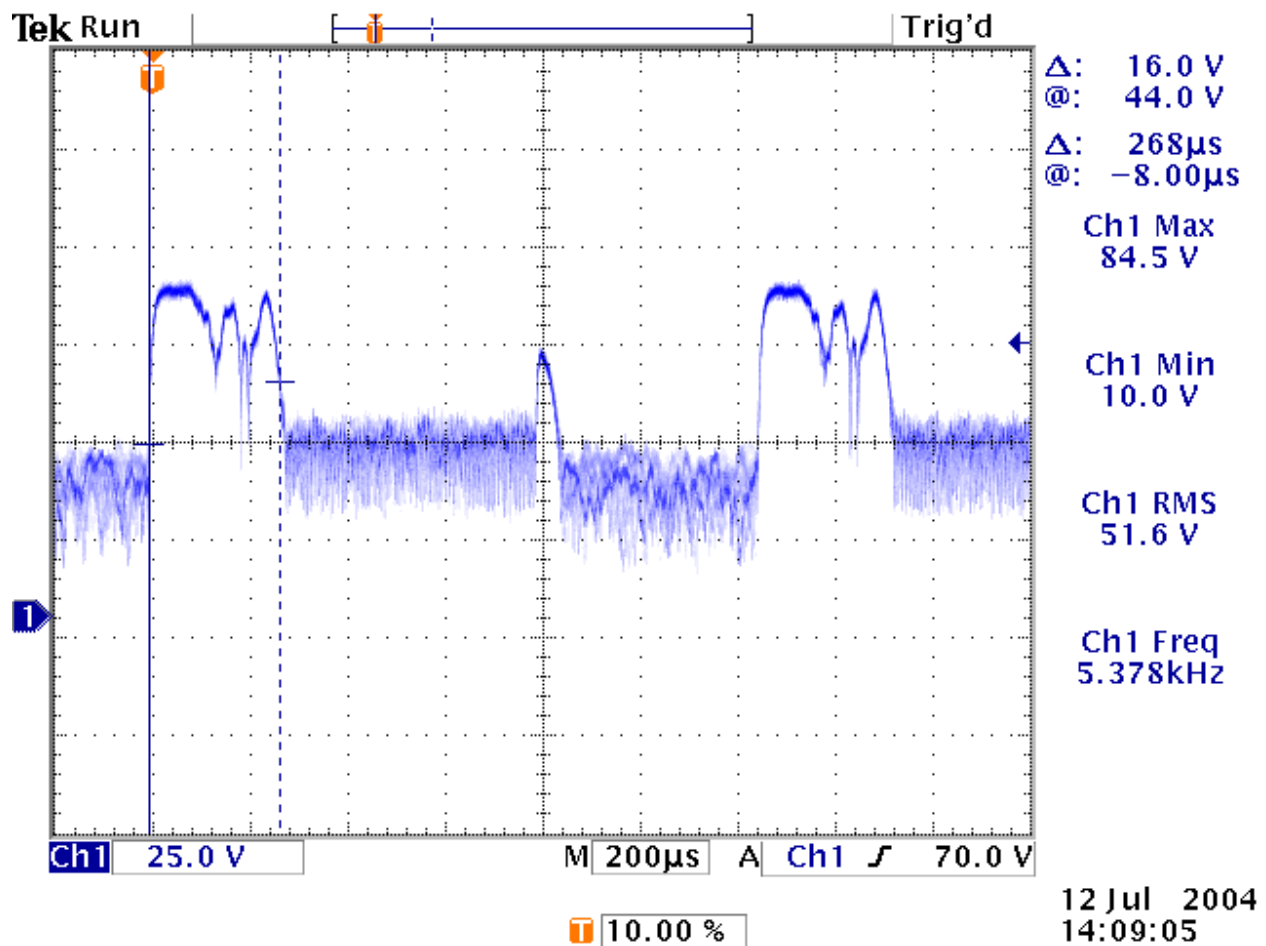
$$210 * 0.840 = 176.4\text{ms}$$

EQUIPMENT: 5853, 5866, 5803, 5807

Base



EQUIPMENT: 5853, 5866, 5803, 5807



Active Slot showing 268us On-Time

Time of Occupancy Showing 40 hits per 30 sec

$$40 * 0.268 = 10.72\text{ms}$$

EQUIPMENT: 5853, 5866, 5803, 5807

Section 7. Occupied Bandwidth

Para. No.: 15.247 (a)(1))

Test Performed By: Daxesh Thakker	Date of Test: July 12, 2004
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Test Results: Complied.

Measurement Data: See Plots.

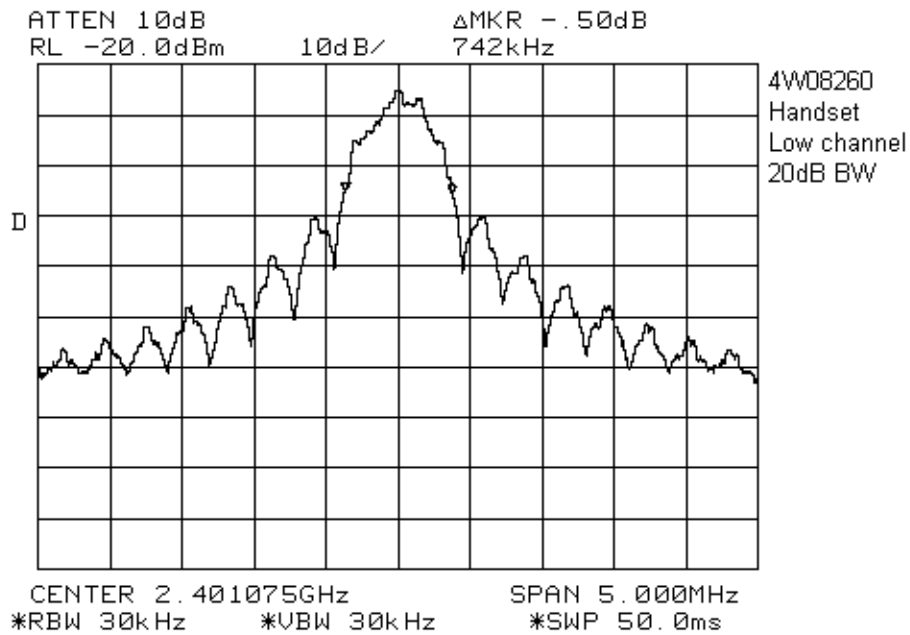
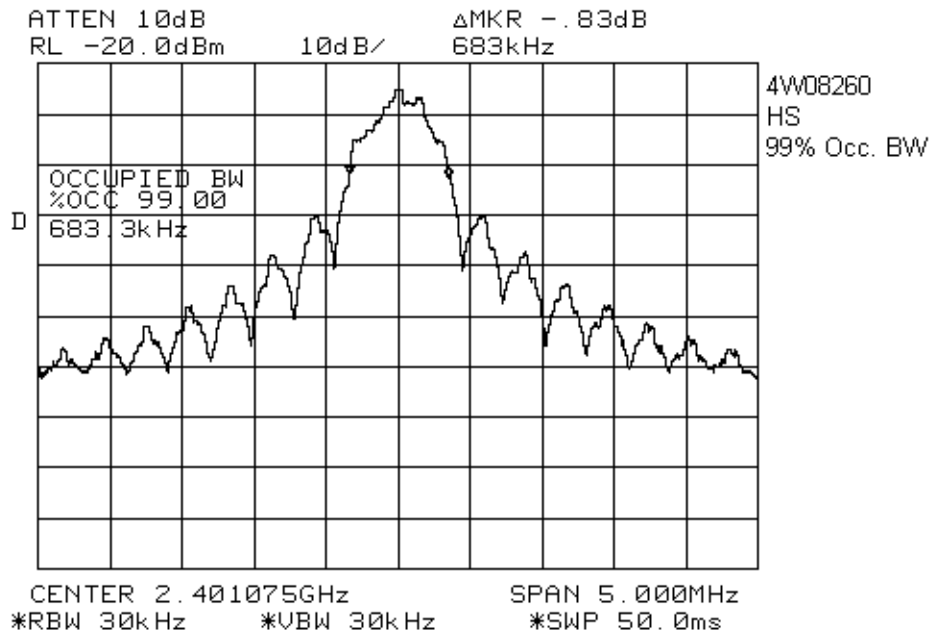
Base:
99%: 675kHz
20 dB: 750kHz

Handset
99%: 700kHz
20 dB: 750kHz

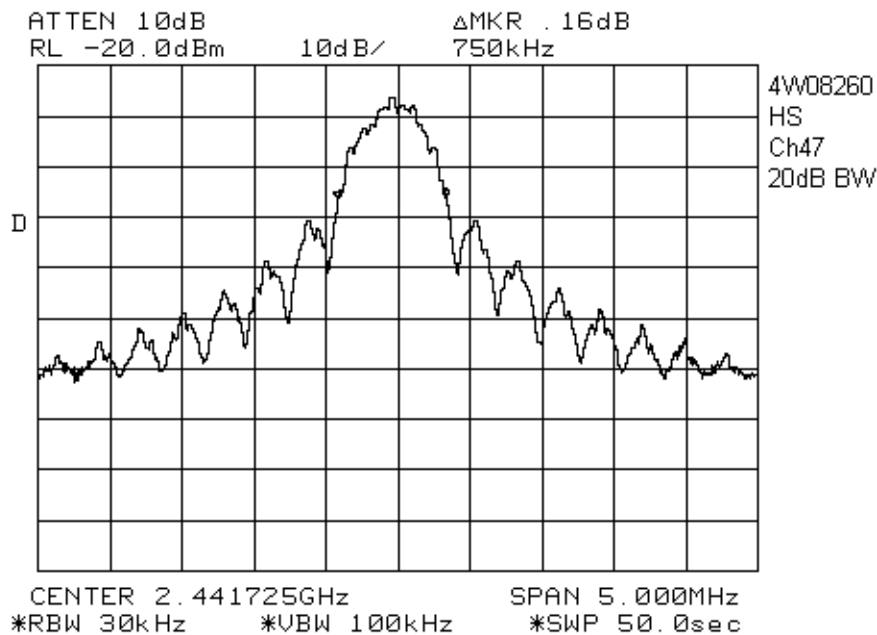
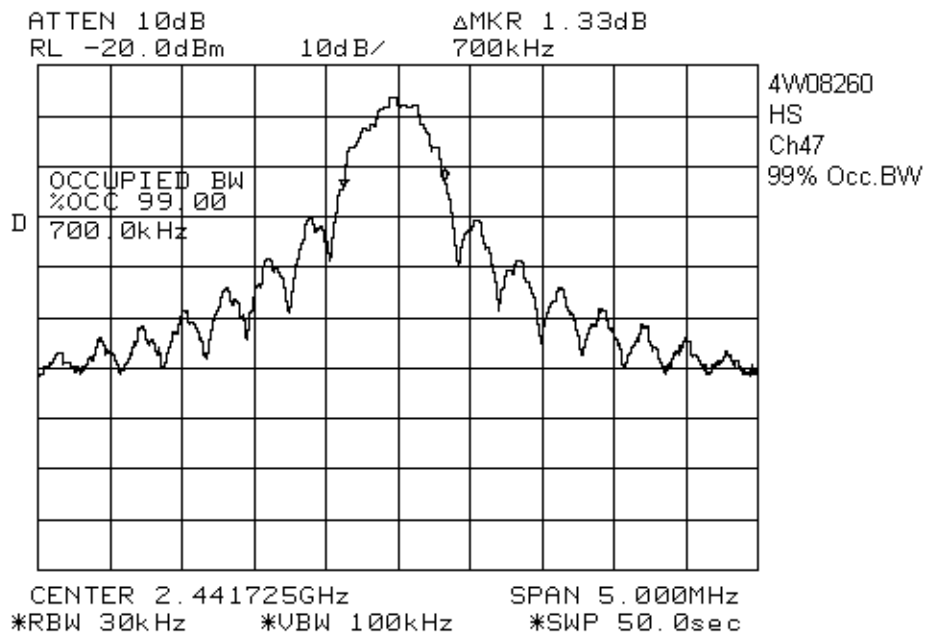
EQUIPMENT: 5853, 5866, 5803, 5807

Occupied Bandwidth Plots:

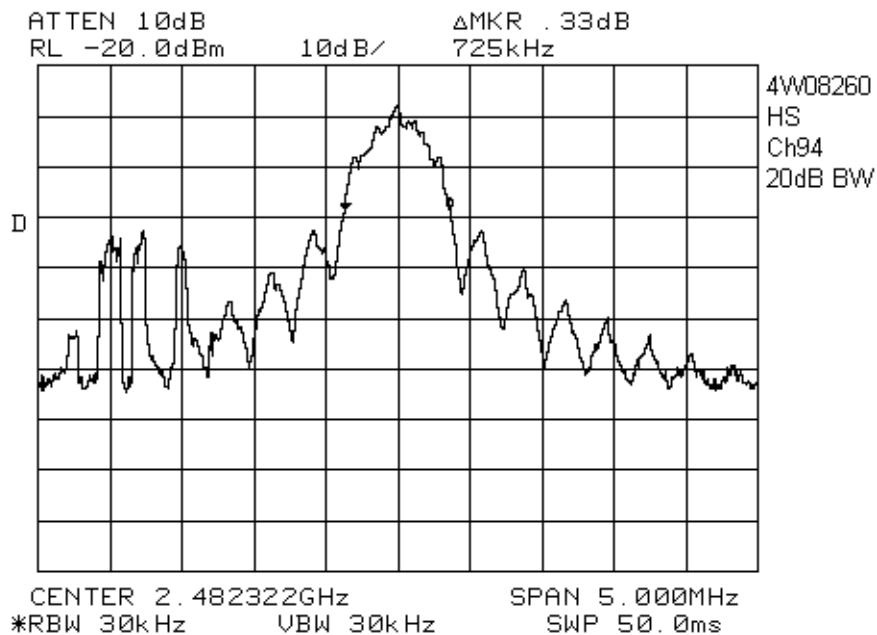
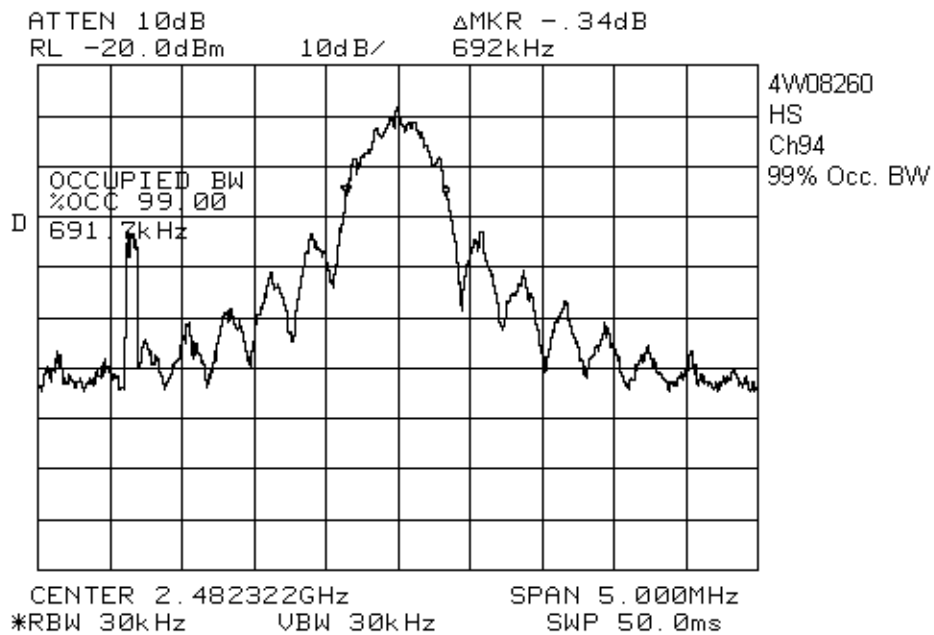
Handset



EQUIPMENT: 5853, 5866, 5803, 5807

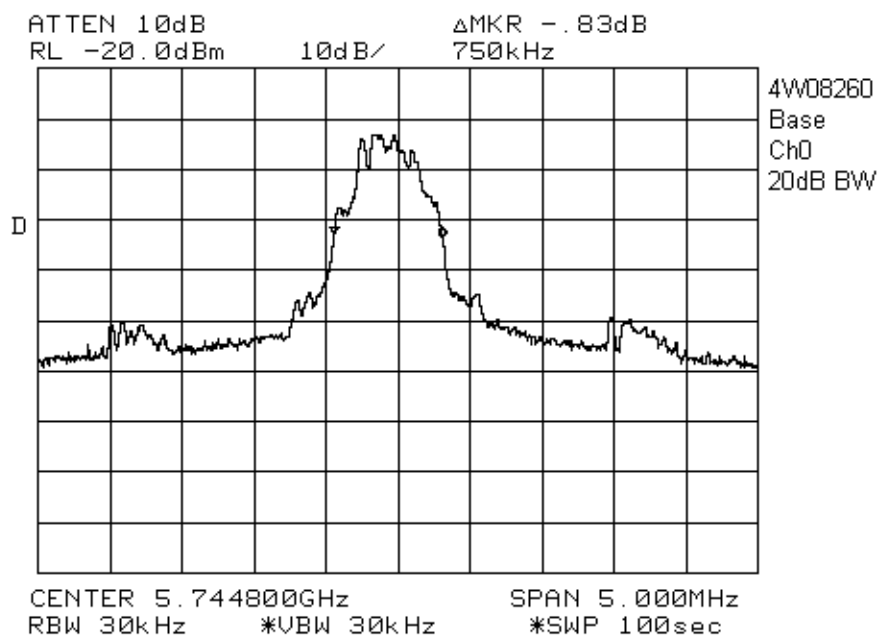
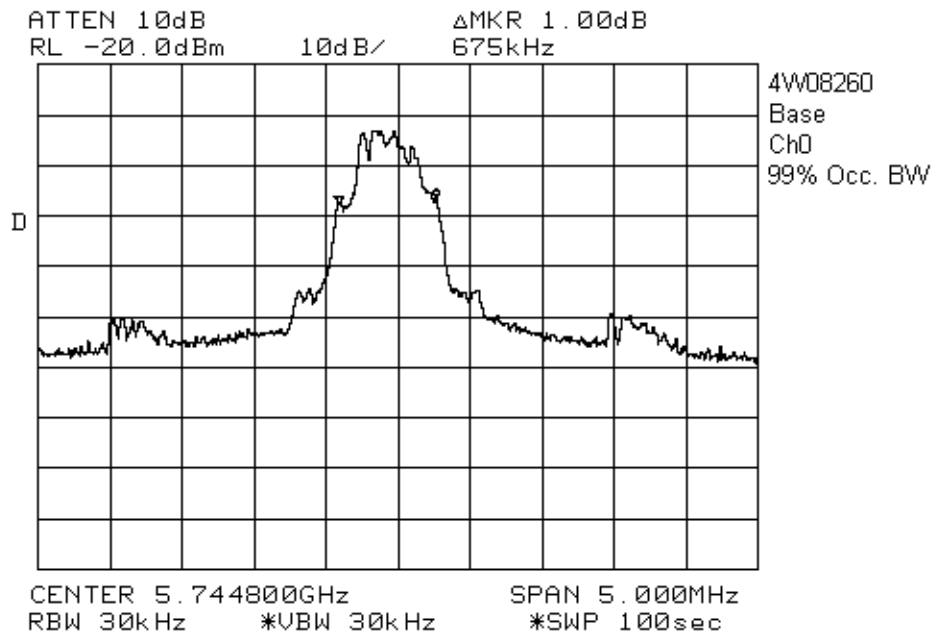


EQUIPMENT: 5853, 5866, 5803, 5807

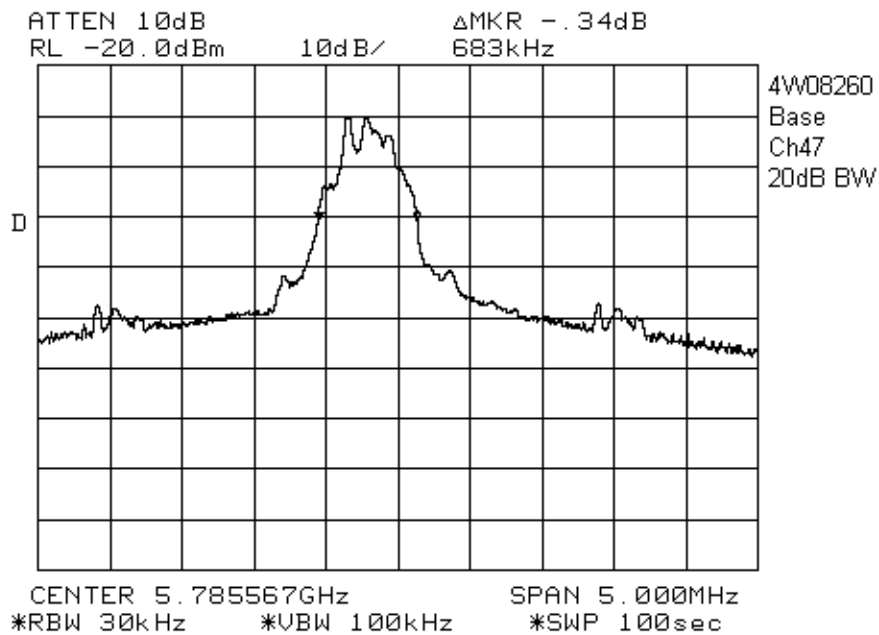
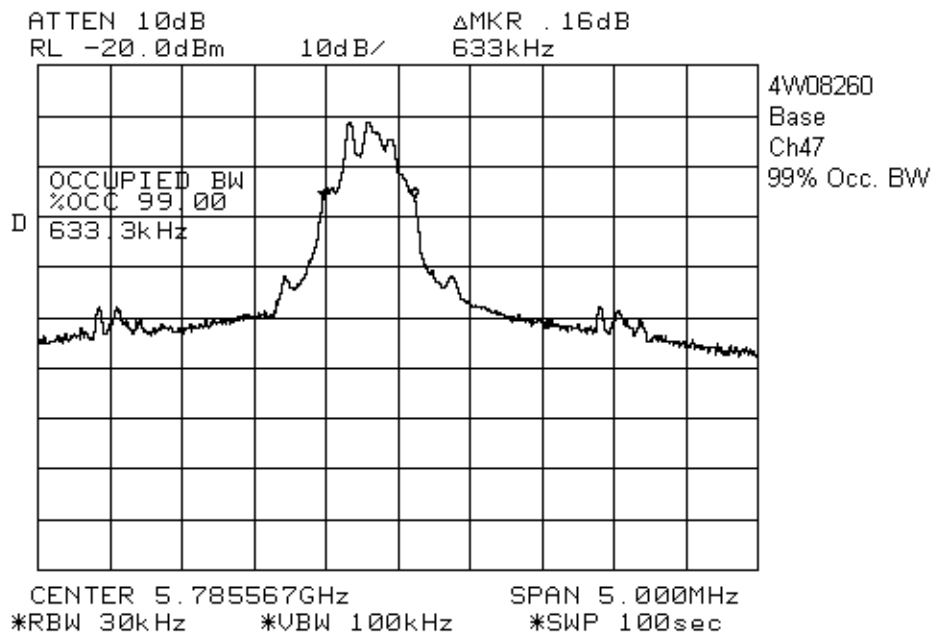


EQUIPMENT: 5853, 5866, 5803, 5807

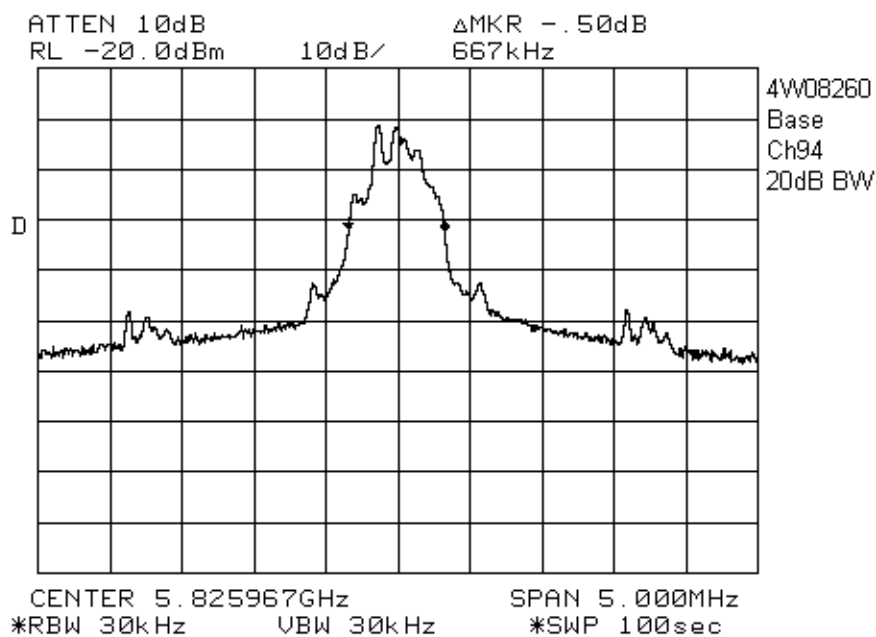
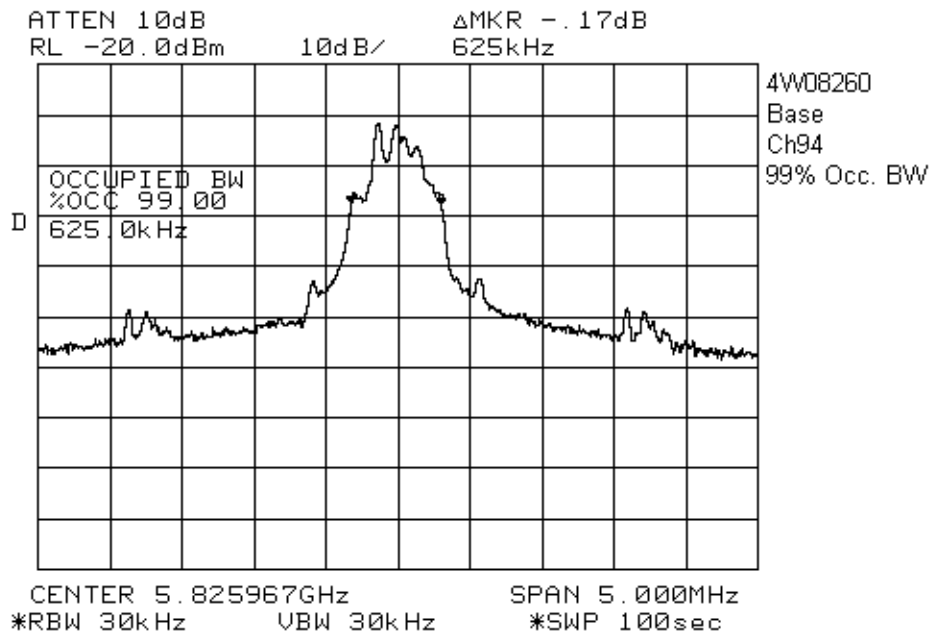
Base



EQUIPMENT: 5853, 5866, 5803, 5807



EQUIPMENT: 5853, 5866, 5803, 5807



*EQUIPMENT: 5853, 5866, 5803, 5807***Section 8. Peak Power Output**

Para. No.: 15.247 (b)(1)

Test Performed By: Daxesh Thakker	Date of Test: July 15, 2004
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Test Results: Complies. The maximum peak power output of the transmitter is

$$P = \{E^2 R^2 / 30G\} \text{ where}$$

	E, V/mtr @ 3m	R, mtr	G
Base	2.0	3	1.58
Handset	0.55	3	1.26

Base = 0.754W, 28.77dBm

Handset = 0.072W, 18.57dBm

The Base Station was tested at +/- 15% of AC line voltage. The received level did not change

The Handset was tested with fresh batteries.

This EUT was searched in 3 orthogonal axes to determine worst-case emissions.

Measurement Data: Detachable antenna? ☐ Yes ☒ No

If yes, state the type of non-standard connector used at the antenna port:

Base

Field Strength: 126.0 dBuV/m@ 3m or 2.0 V/m @ 3m

Handset

Field Strength: 114.8 dBuV/m@ 3m or 0.55 V/m @ 3m.

Antennas:

Device	Gain (dBi)	Gain Numeric
Handset	1.0 dBi	1.26
Base Station	2.0dBi	1.58

*EQUIPMENT: 5853, 5866, 5803, 5807***Radiated Disturbance Test Data**

Test Date: 14 July 2004							
Engineer's Name: Daxesh Thakker							
Base Station fundamental emissions							
Tested as per: Table Top							
Test Distance (meters): 3				Range: 1			
Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Field Strength (dBμV/m)
5744.79	Horn2	V	80.7	34.5	N/A	9.7	125.2
5744.79	Horn2	H	74.5	34.7	N/A	9.7	118.8
5785.51	Horn2	V	80.8	34.5	N/A	9.8	125.4
5785.54	Horn2	H	77.3	34.7	N/A	9.8	121.8
5826.13	Horn2	V	81.0	34.5	N/A	10.2	126.0
5826.13	Horn2	H	77.2	34.7	N/A	10.2	122.1
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole							
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW							
Notes:		Measurement Receiver = H.P.8565E, RBW/VBW = 1/3MHz					

Test Date: 14 July 2004							
Engineer's Name: Daxesh Thakker							
Handset fundamental emissions							
Tested as per: Table Top							
Test Distance (meters): 3				Range: 1			
Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Field Strength (dBμV/m)
2401.2500	Horn2	V	81.1	28.9	N/A	4.8	114.8
2401.0300	Horn2	H	80.8	28.9	N/A	4.8	114.5
2441.6500	Horn2	V	79.3	28.9	N/A	5.3	113.5
2441.8000	Horn2	H	80.0	28.9	N/A	5.3	114.2
2482.4500	Horn2	V	78.9	29.2	N/A	5.9	114.0
2482.3500	Horn2	H	78.5	28.9	N/A	5.9	113.3
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole							
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW							
Notes:		Measurement Receiver = H.P.8565E, RBW/VBW = 1/3MHz					

EQUIPMENT: 5853, 5866, 5803, 5807

Section 9. Spurious Emissions (Radiated)**Para. No.: 15.247 (c)**

Test Performed By: Daxesh Thakker	Date of Test: July 15, 2004
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Test Results: Complies

The worst-case emission level is 42.6 dB μ V/m @ 3m at 11489.5 MHz. This is 11.4 dB below the specification limit.

Measurement Data: See attached table.**Duty Cycle Calculation:** See Plots

Handset: $20\text{Log}\{(10 \times 0.91\text{mS})/100\} = -20.9\text{dB}$, max. allowed
20dB

Base: $20\text{Log}\{(10 \times 0.856\text{mS})/100\} = -21.41\text{dB}$, max. allowed
20dB

Notes:

The EUT was assed in the shield room using both modes of operation. “Off Hook, normal operation” as well as “On Hook, USB upload mode. The Base Station was left in the chamber during the On hook test. From the test data yielded from both sets of Pre-scans USB mode was deemed worst case.

This EUT’s were searched in 3 orthogonal axes to determine worst-case emissions. The handset was tested with a fresh set of Batteries. Fundamental Tx frequencies where searched to the 10th Harmonic. Digital emissions where searched to the 5th Harmonic of the highest frequency used by the device.

*EQUIPMENT: 5853, 5866, 5803, 5807***Radiated Disturbance Test Data: Digital Emissions**

Test Date: July 16, 2004											
Engineer's Name: Daxesh Thakker											
Temperature (C°): 22							Humidity %: 42				
Tested as per Table Top											
Test Distance (meters): 3							Range: 1				
Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Amp.
39.8050	BC2	V	13.1	11.0	N/A	0.8	24.9	40.0	15.1	Q-Peak	None
39.8050	BC2	H	6.4	12.4	N/A	0.8	19.6	40.0	20.4	Q-Peak	None
43.1960	BC2	V	17.0	10.6	N/A	0.8	28.4	40.0	11.6	Q-Peak	None
43.1960	BC1	H	6.9	11.7	N/A	0.8	19.4	40.0	20.6	Q-Peak	None
51.8400	BC2	V	21.0	9.8	N/A	0.8	31.6	40.0	8.4	Q-Peak	None
51.8400	BC2	H	6.3	10.7	N/A	0.8	17.8	40.0	22.2	Q-Peak	None
580.6130	LP1	V	9.5	18.8	N/A	3.1	31.4	46.0	14.6	Q-Peak	None
580.6130	LP1	H	11.1	19.3	N/A	3.1	33.5	46.0	12.5	Q-Peak	None
601.3470	LP1	V	14.5	18.9	N/A	3.2	36.6	46.0	9.4	Q-Peak	None
601.3470	LP1	H	13.6	19.9	N/A	3.2	36.7	46.0	9.3	Q-Peak	None
622.0800	LP1	V	9.1	19.4	N/A	3.3	31.8	46.0	14.3	Q-Peak	None
622.0800	LP1	H	8.2	20.1	N/A	3.3	31.6	46.0	14.4	Q-Peak	None
1202.0000	Horn2	V	58.3	25.8	46.5	3.1	40.7	54.0	13.3	Peak	1-2GHz
1202.8700	Horn2	H	52.3	25.8	46.5	3.1	34.7	54.0	19.3	Peak	1-2GHz
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole											
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW											
Notes:											

EQUIPMENT: 5853, 5866, 5803, 5807

Radiated Disturbance Test Data: Handset Harmonics, Avg.

Test Date: July 15, 2004											
Engineer's Name: Daxesh Thakker											
Tested as per: Table Top											
Test Distance (meters): 3							Range: 1				
Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp. Gain (-dB)	Duty Cycle Corr. Factor (-dB)	Cable Loss (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Amp.
Ch. 00											
4802.0000	Horn1	V	62.0	34.3	53.2	-20	8.1	31.2	54.0	22.8	4-8GHz
4802.3700	Horn1	H	65.0	34.1	53.2	-20	8.1	34.0	54.0	20.0	4-8GHz
7203.5000	Horn1	V	62.8	36.5	53.7	-20	11.3	36.9	54.0	17.1	4-8GHz
7203.5700	Horn1	H	65.0	36.5	53.7	-20	11.3	39.1	54.0	14.9	4-8GHz
Ch. 47											
4843.5800	Horn1	V	61.7	34.3	52.9	-20	8.5	32.3	54.0	21.7	4-8GHz
4843.5500	Horn1	H	64.7	34.2	52.9	-20	8.5	35.1	54.0	18.9	4-8GHz
7245.4200	Horn1	V	62.1	36.5	53.7	-20	11.2	35.1	54.0	18.9	4-8GHz
7245.3000	Horn1	H	62.8	36.5	53.7	-20	11.2	35.8	54.0	18.2	4-8GHz
Ch. 94											
4964.5000	Horn1	V	62.3	34.4	52.3	-20	9.5	33.9	54.0	20.1	4-8GHz
4964.8200	Horn1	H	64.7	34.2	52.3	-20	9.5	36.1	54.0	17.9	4-8GHz
7446.9900	Horn1	V	62.7	36.5	53.2	-20	11.1	37.1	54.0	16.9	4-8GHz
7446.9700	Horn1	H	62.8	36.5	53.2	-20	11.1	37.3	54.0	16.7	4-8GHz
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole											
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW											
Note 3: The EUT was searched up to 10th harmonics of the fundamental.											
Notes:		Measurement Receiver = H.P.8565E, RBW/VBW = 1/3MHz, using a peak detector									

*EQUIPMENT: 5853, 5866, 5803, 5807***Radiated Disturbance Test Data: Base Station, Harmonics, Average**

Test Date: 16 July, 2004											
Engineer's Name: Daxesh Thakker											
Tested as per: Table Top											
Test Distance (meters): 3						Test Distance (meters): 3					
Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp Gain (-dB)	Passband filter Loss (dB)	Duty Cycle Corr. (-dB)	Dist Corr. (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)
Low Ch.											
11489.5	Hr2	V	57.8	40.9	38.8	2.7	-20	0	42.6	54	11.4
11489.5	Hr2	H	57.3	40.9	38.8	2.7	-20	0	42.1	54	11.9
22979.5	18-40GHz	V	56.1	45.7	39.3	0	-20	0	42.5	54	11.5
22978.6	18-40GHz	H	55.3	45.7	39.3	0	-20	0	41.7	54	12.3
Mid Ch.							-20				
11570.7	Hr 2	V	56.6	40.9	38.8	2.7	-20	0	41.4	54	12.6
11571.3	Hr 2	H	57.2	40.9	38.8	2.7	-20	0	42	54	12
High Ch.							-20				
11652.3	Hr 2	V	57.8	40.9	38.8	2.7	-20	0	42.6	54	11.4
11652.3	Hr 2	H	56	40.9	38.8	2.7	-20	0	40.8	54	13.2
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole											
Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW											
Note 3: The EUT was searched up to 10th harmonic of the fundamental.											
Notes:		Measurement Receiver = H.P.8565E, RBW = 1MHz									

EQUIPMENT: 5853, 5866, 5803, 5807

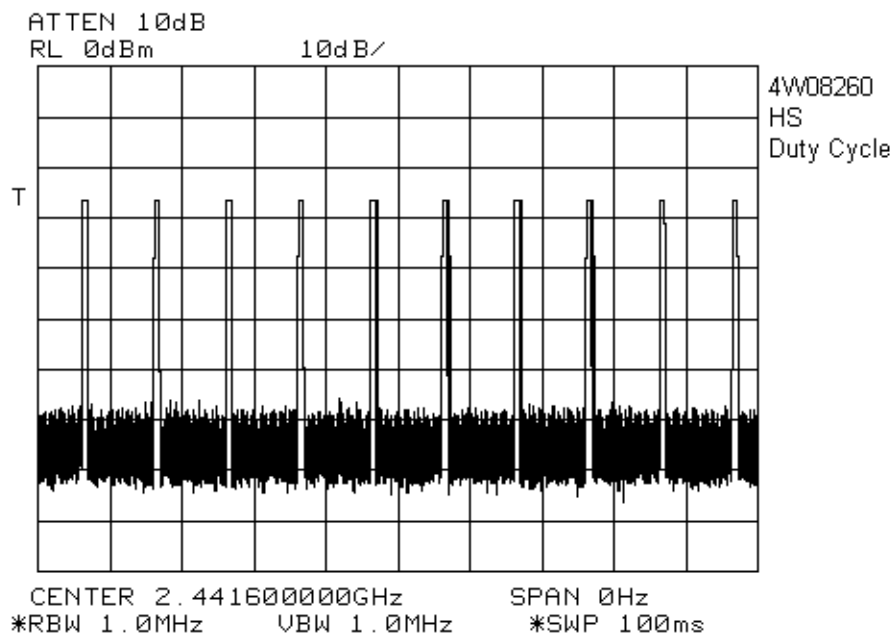
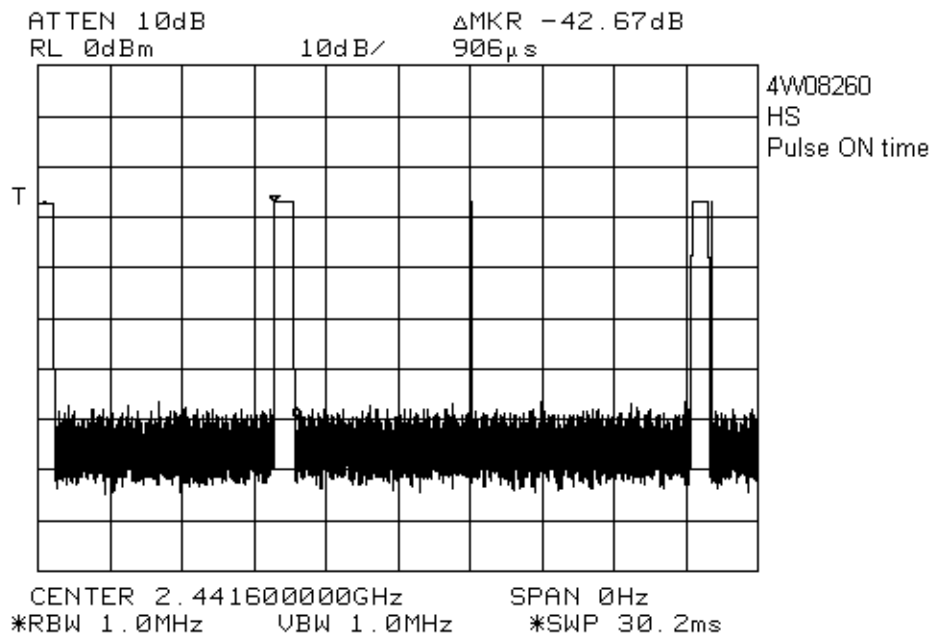
Radiated Disturbance Test Data: Base Station Harmonics, Peak

Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp. Gain (-dB)	Passband filter Loss (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)
Low Ch.									
17234.5	Hr2	V	67.8	43.5	38.5	2.2	75	104.4	29.4
17234.3	Hr2	H	67.3	43.5	38.5	2.2	74.5	104.4	29.9
Mid Ch.									
17356.3	Hr 2	V	64.4	43.5	38.5	2.2	71.6	104.4	32.8
17356.4	Hr 2	H	64.9	43.5	38.5	2.2	72.1	104.4	32.7
23141.8	18-40GHz	V	62.6	45.7	39.3	0	69	104.4	35.4
23141.1	18-40GHz	H	62.3	45.7	39.3	0	68.7	104.4	35.1
High Ch.									
174860	Hr 2	V	62	43.5	38.5	2.2	69.2	104.4	35.2
17477.6	Hr 2	H	62.1	43.5	38.5	2.2	69.3	104.4	35.1
23304.4	18-40GHz	V	63.1	45.7	39.3	0	69.5	104.4	34.9
23303.3	18-40GHz	H	62.8	45.7	39.3	0	69.2	104.4	35.2
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole Note 2: Detector Legend: Q-Peak = 120 kHz RBW, Average = 1.0 MHz RBW Note 3: The EUT was searched up to 10th harmonic of the fundamental.									
Notes:		Measurement Receiver = H.P.8565E, RBW = 1MHz							

EQUIPMENT: 5853, 5866, 5803, 5807

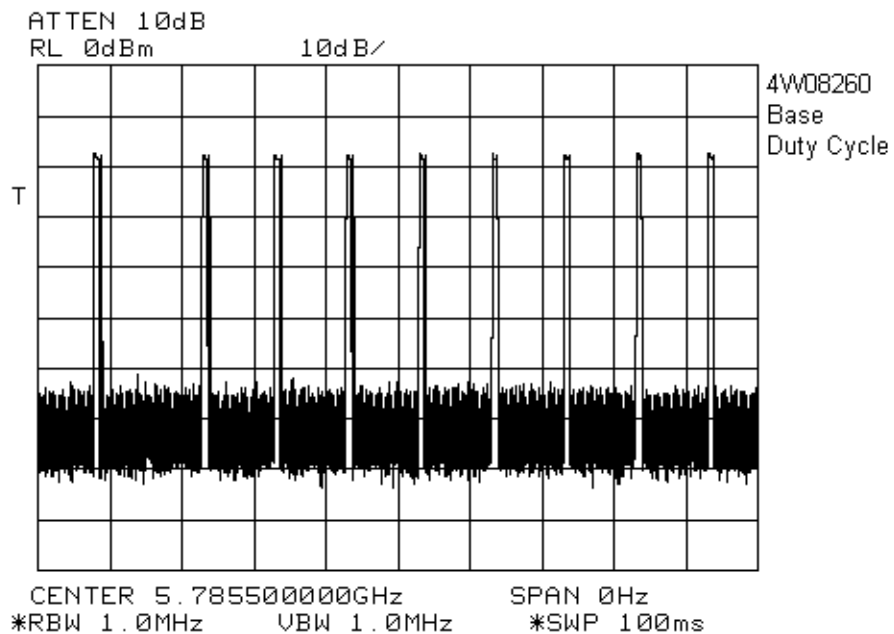
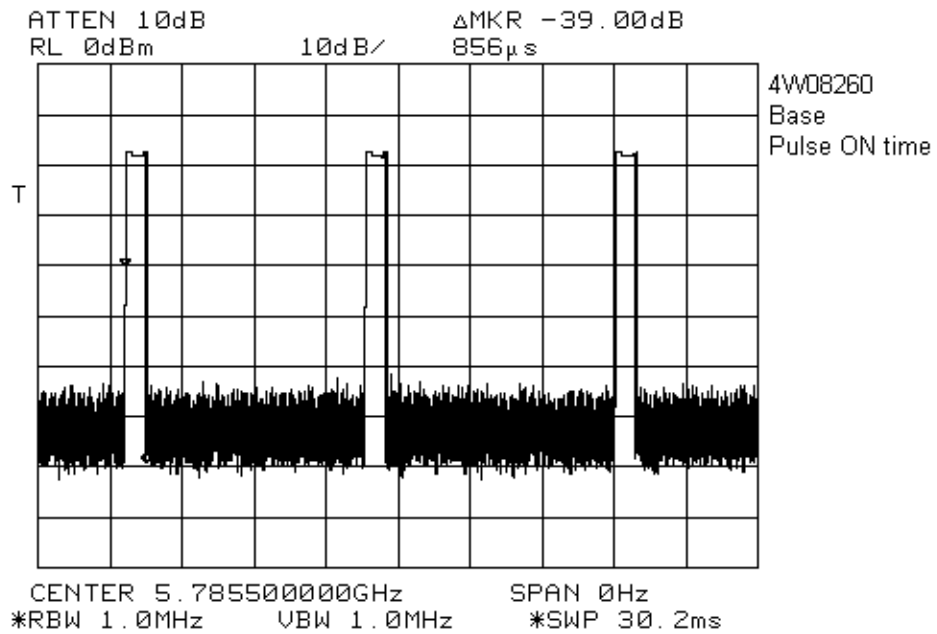
Duty Cycle Plots

Handset



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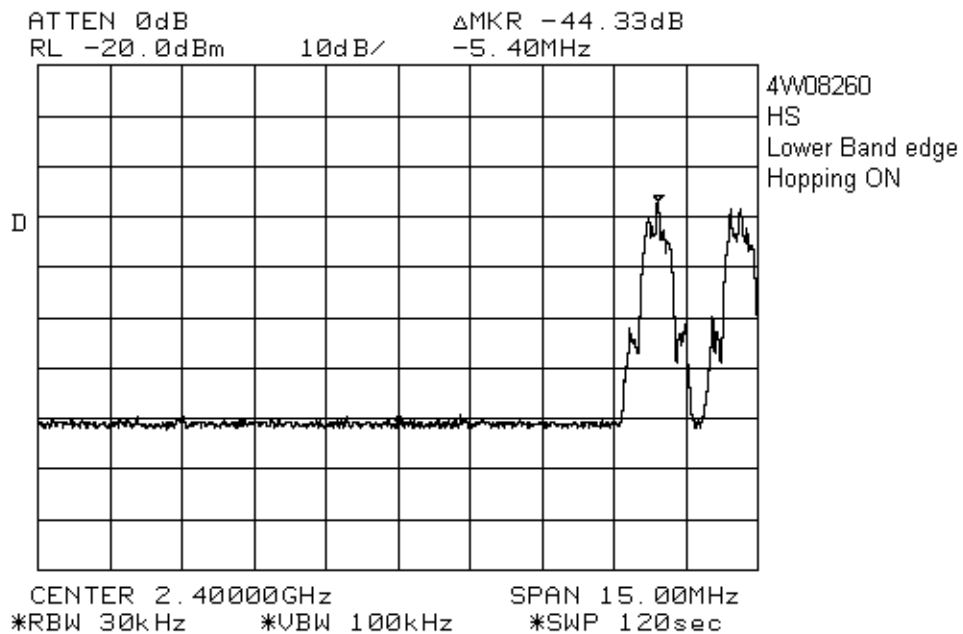
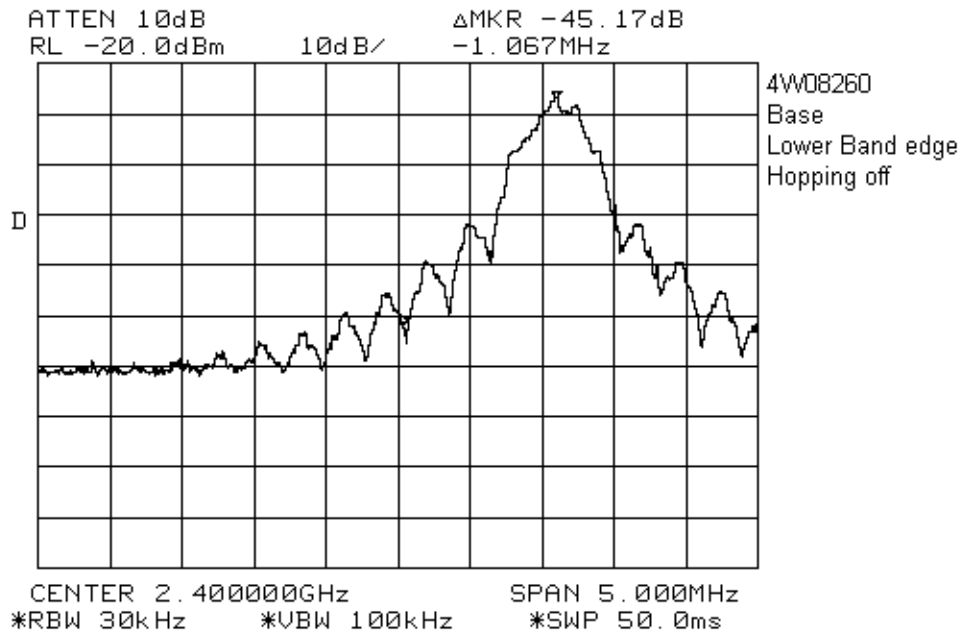
Base



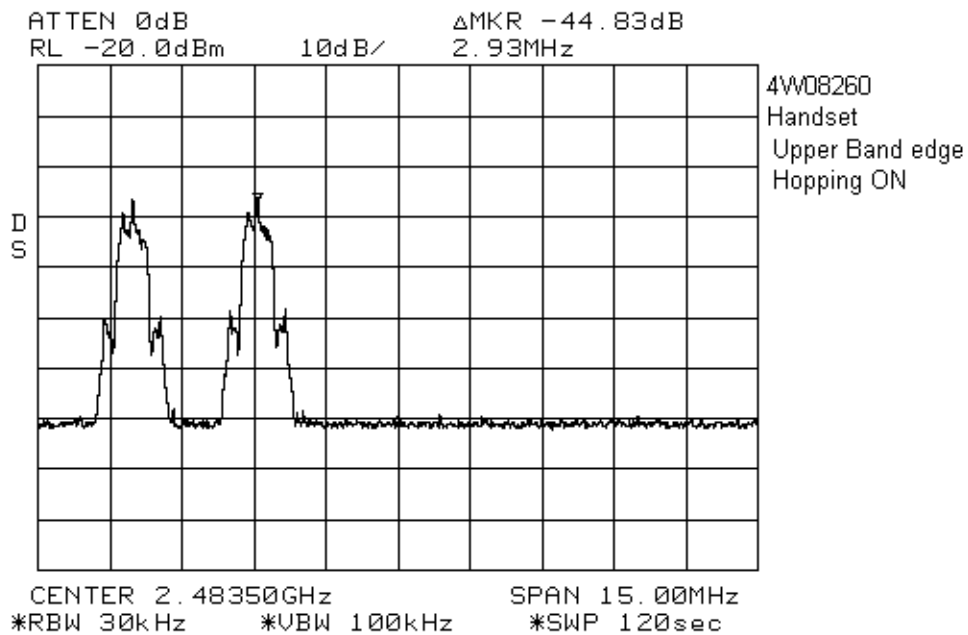
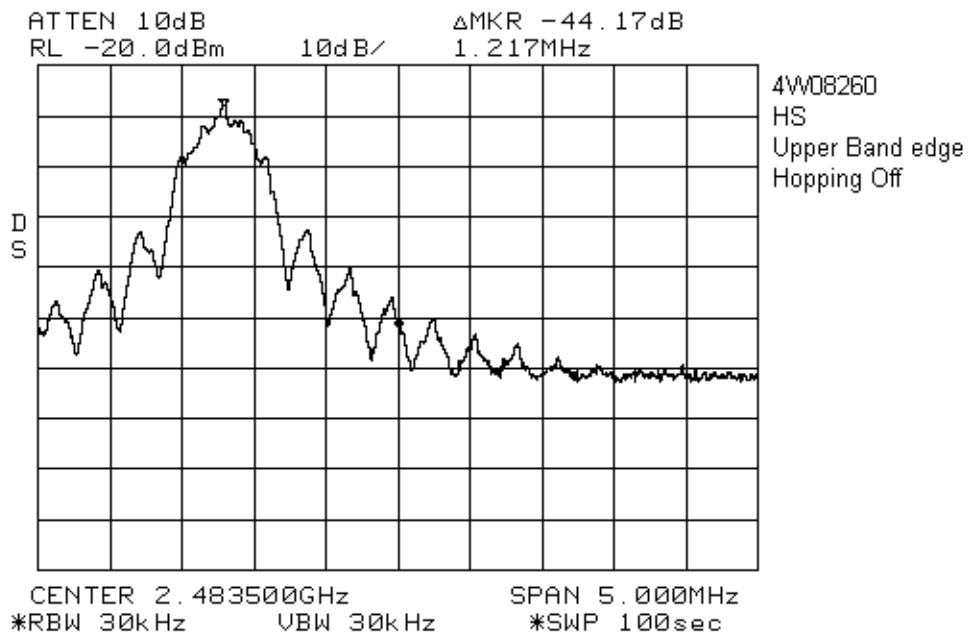
EQUIPMENT: 5853, 5866, 5803, 5807

Band Edge

Handset

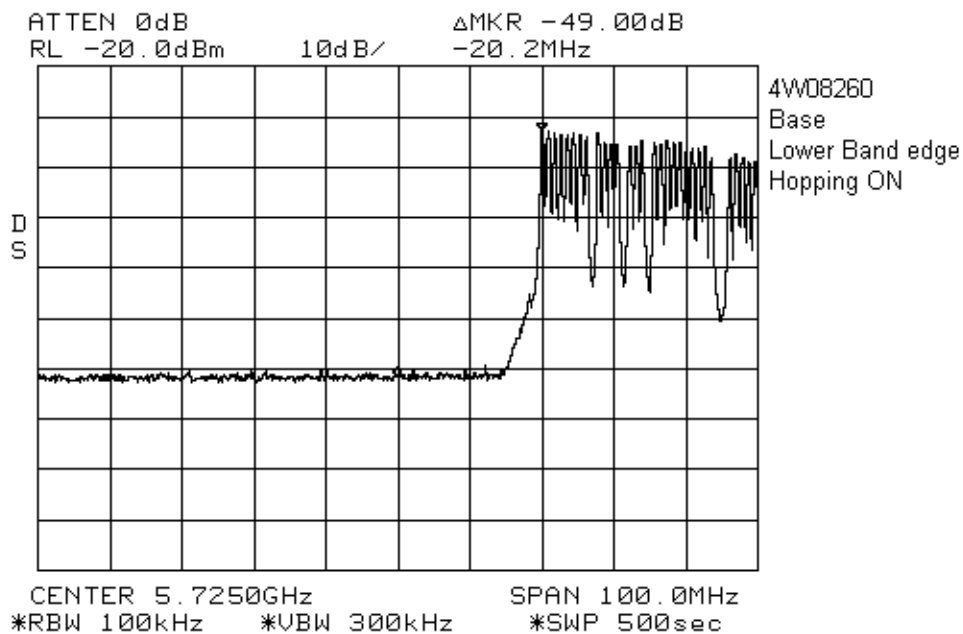
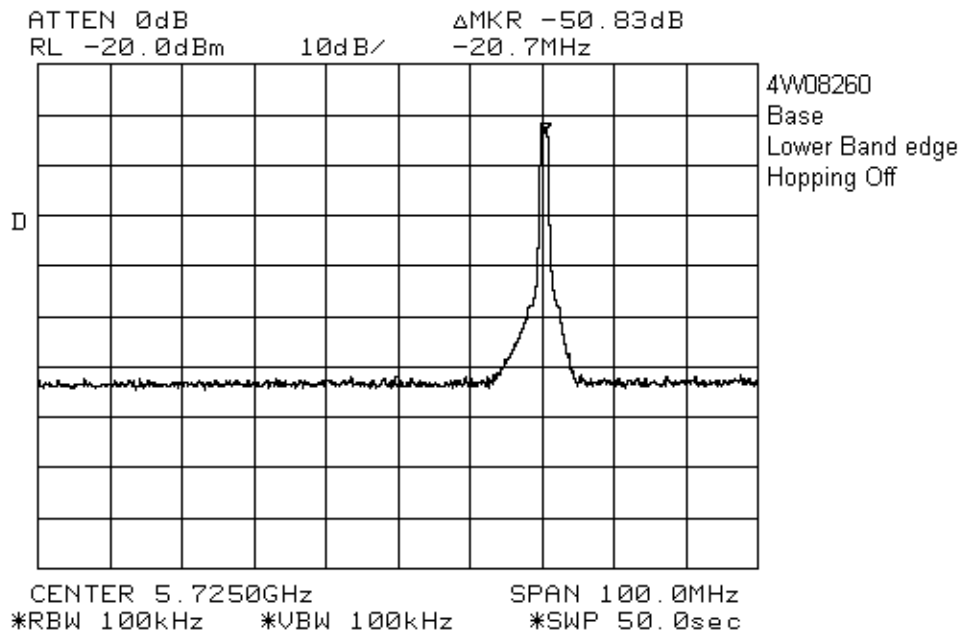


EQUIPMENT: 5853, 5866, 5803, 5807

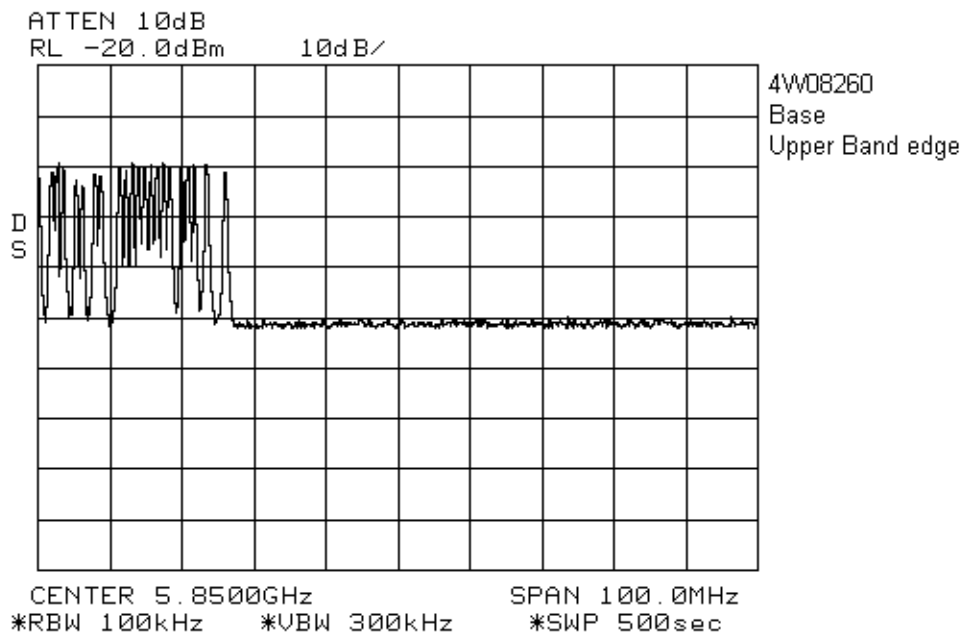
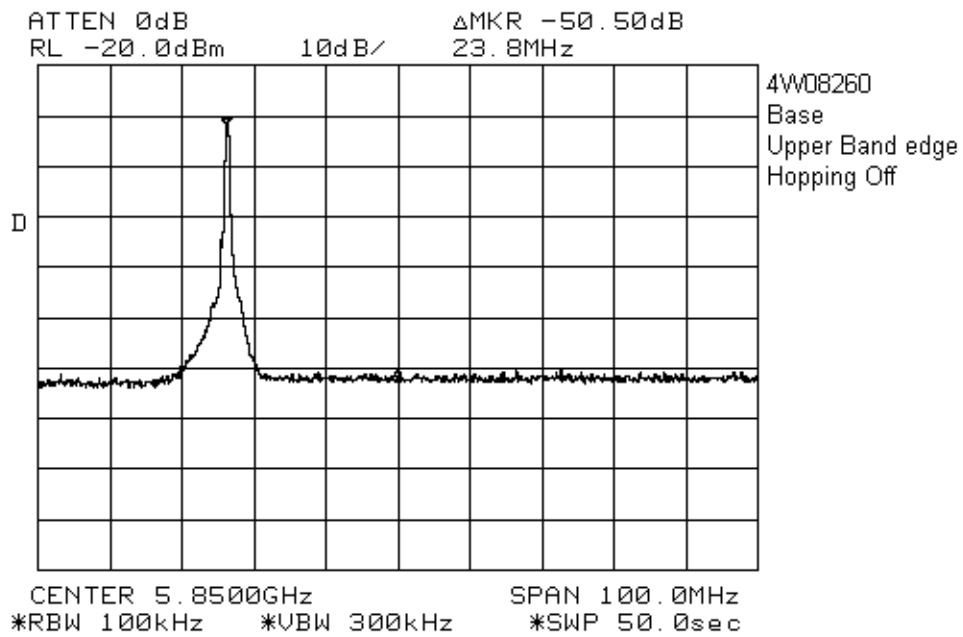


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Base

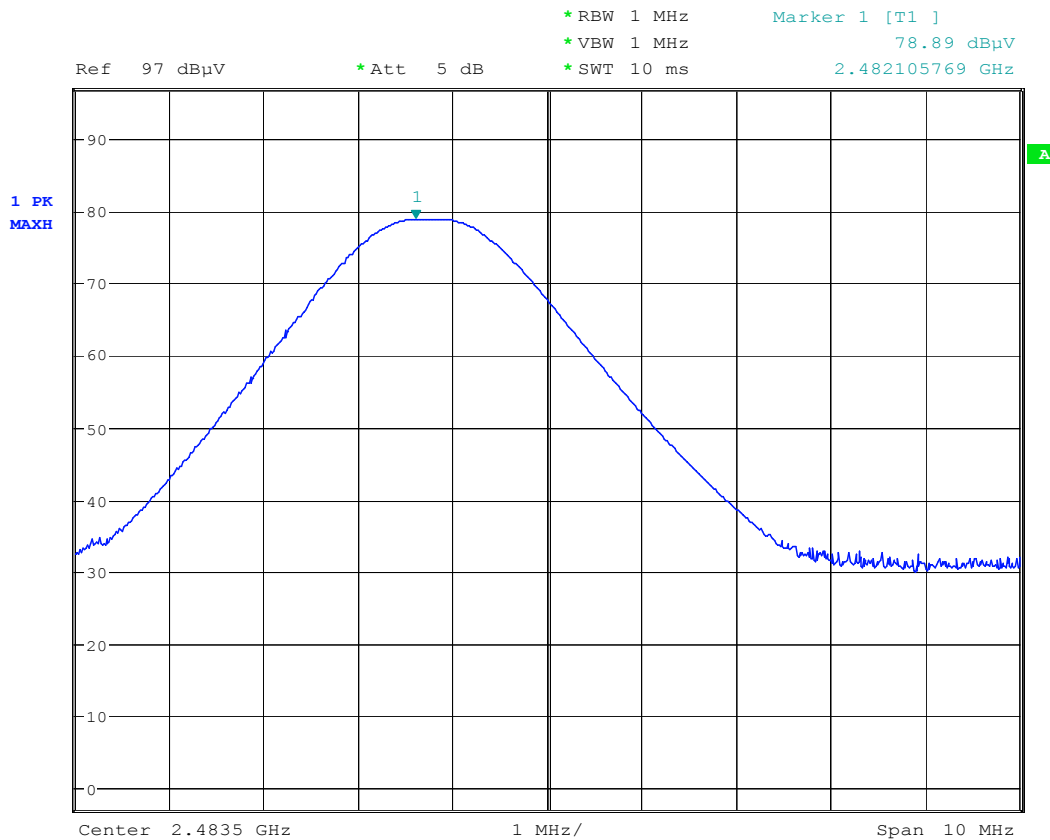


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EQUIPMENT: 5853, 5866, 5803, 5807

Band Edge (Restricted Band) Marker Delta Method calculation



Date: 14.JUL.2004 03:23:46

Peak Level, Band Edge = 78.9 dBuV/m + 29.2dB + 5.9 = 114dBuV/m @ 3m.

Peak Band Edge Level (Marker Delta): = 114 dBuV/m – 44.17 dB= 69.83 dBuV/m at 3 m.

Average = 69.83 – 20 dB = 49.83 dBuV/m @ 3m.

Limit is 54 dBuV/m @ 3m.

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Set up Photo's
Handset



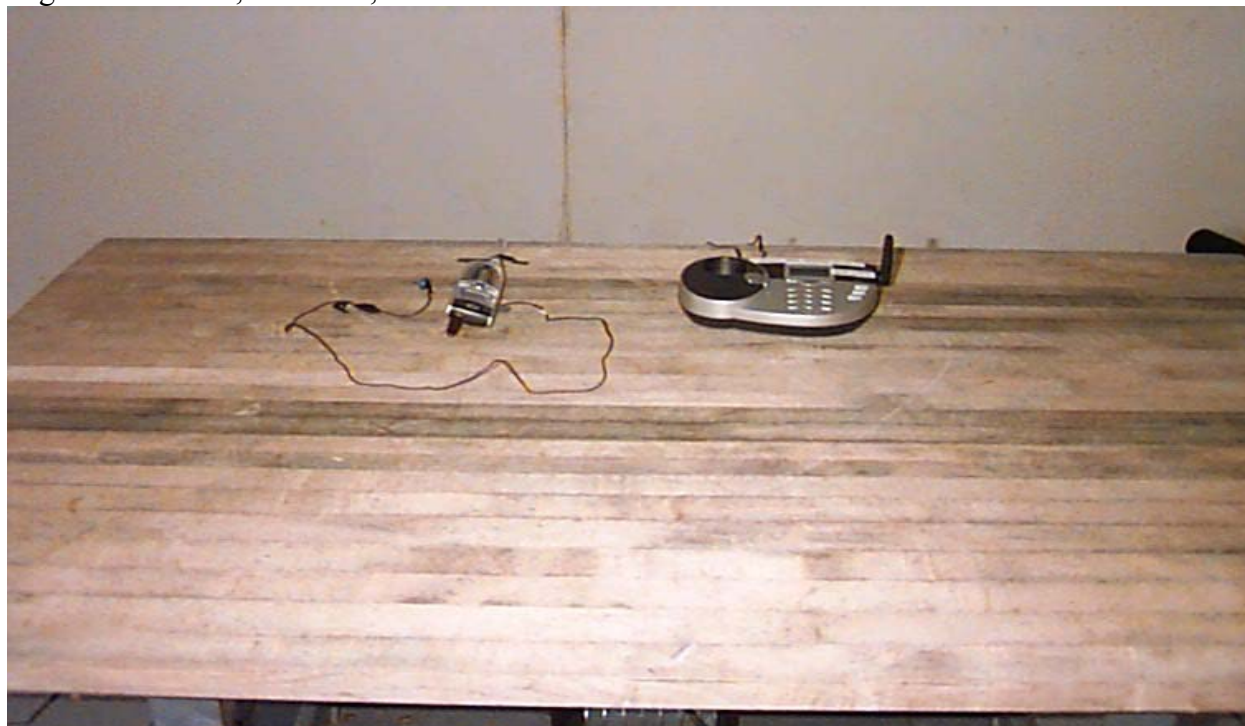
EQUIPMENT: 5853, 5866, 5803, 5807

Set up Photo's
Base



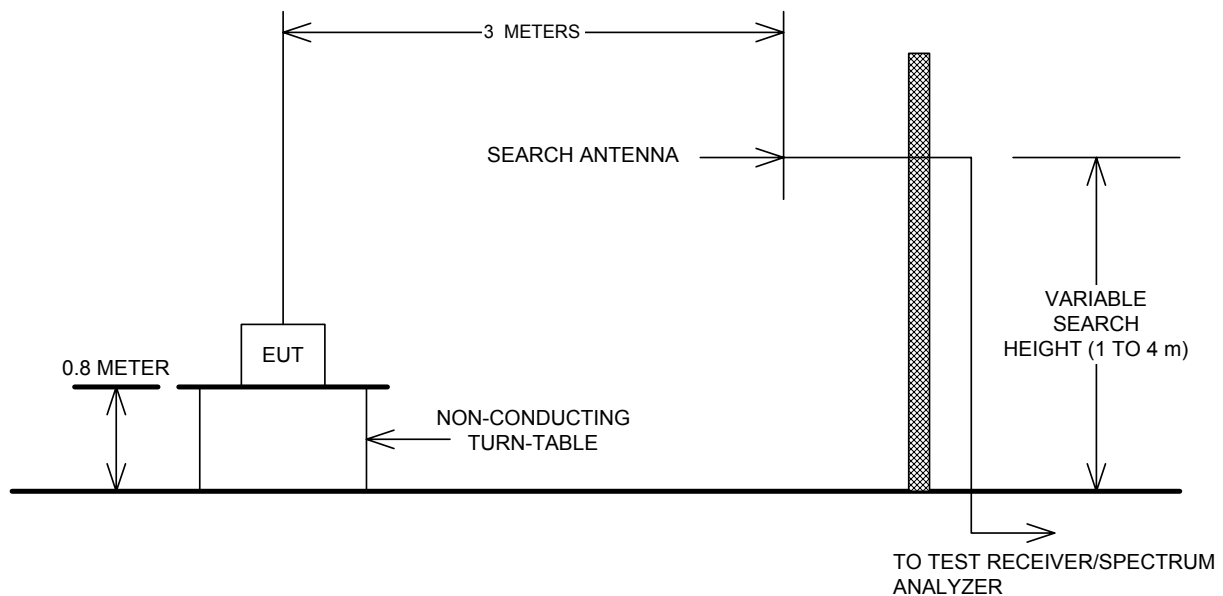
EQUIPMENT: 5853, 5866, 5803, 5807

Set up Photo's
Digital Emissions, On Hook, USB Mode

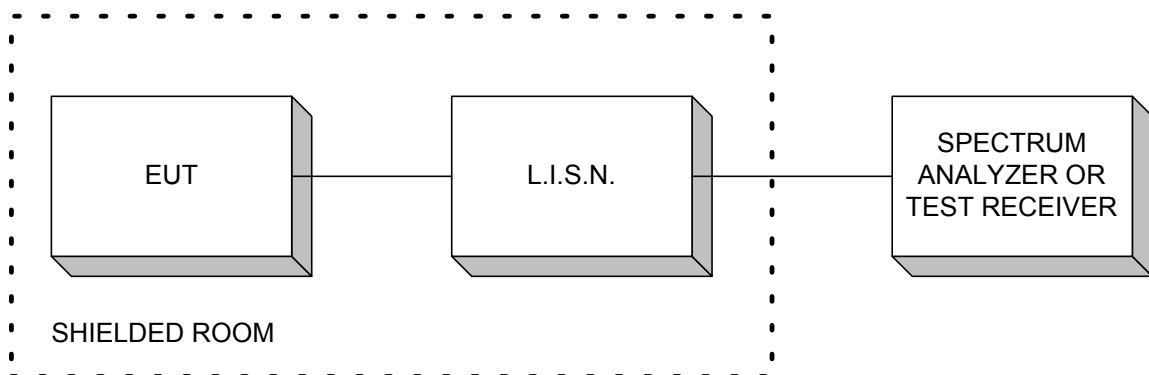


Section 10. Block Diagrams

Test Site For Radiated Emissions



Conducted Emissions



*EQUIPMENT: 5853, 5866, 5803, 5807***Section 11. Test Equipment List**

Conducted Disturbance at Mains Test Equipment Used:

CAL Cycle	Equipment	Manufacturer	Model No.	Asset/Serial No.	Last Cal.	Next Cal.
1 Year	LISN	EMCO	4825/2	FA001545	Oct. 30/03	Oct. 30/04
Extended	Spectrum Analyzer	Hewlett-Packard	8566B	FA001309	May 26/04	May. 26/05
Extended	Spectrum Analyzer Display	Hewlett-Packard	85662A	FA001309	May 26/04	May. 26/05
1 Year	Transient Limiter	Hewlett-Packard	1194 7A	FA000975	June 10, 04	June 10, 05
Note: N/A = Not Applicable, NCR = No Cal Required, COU = CAL On Use, OUT = Out For CAL/Repair						

Equipment List - Radiated Emissions

CAL Cycle	Equipment	Manufacturer	Model No.	Asset/Serial No.	Last Cal.	Next Cal.
1 Year	Receiver	Rohde & Schwarz	ESVS-30	FA001437	July. 24/03	July. 24/04
1 Year	Spectrum Analyzer	Hewlett-Packard	8565E	FA000981	May 31/04	May 31/05
1 Year	Biconical (1) Antenna	EMCO	3109	FA000805	Apr. 23/04	Apr. 23/05
1 Year	Horn Antenna #1	EMCO	3115	FA000649	Dec. 18/03	Dec. 18/04
1 Year	Log Periodic Antenna #1	EMCO	LPA-25	FA000477	Sept. 2/03	Sept. 2/04
1 Year	1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	June 18, 04	June 18, 05
1 Year	2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	June 18, 04	June 18, 05
1 Year	4.0 – 8.0 GHz Amplifier	JCA	48-600	FA001497	June 18, 04	June 18, 05
1 Year	18-40 GHz Horn Antenna #5	ETS	3116	FA001847	Jan. 19/04	Jan. 19/05
1 Year	Horn Antenna #2	EMCO	3115	FA000825	Dec. 10/03	Dec. 10/04
COU	5.0 – 18.0 GHz Amplifier	NARDA	DWT-186N23U40	FA001409	COU	COU
COU	18.0 – 26.0 GHz Amplifier	NARDA	BBS-1826N612	FA001550	COU	COU
Note: N/A = Not Applicable, NCR = No Cal Required, COU = CAL On Use, OUT = Out For CAL/Repair						