

Test Report:

3W07618, ISSUE 2

Applicant:

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

Equipment Under Test: (EUT) E5860, E5865, E580-1, E580-2

In Accordance With:

FCC Part 15, Subpart C Frequency Hopping Transmitters

Tested By:

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

Authorized By:

Glen Westwell, Wireless Technologist

Date:

11 December 2003

Total Number of Pages: 46

EQUIPMENT: E5860, E5865, E580-1, E580-2

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EQUIPMENT: E5860, E5865, E580-1, E580-2

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 is 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. See "Summary of Test Data".

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TESTED BY:

Kevin Carr, EMC/EMI/Wireless Specialist

DATE: 11 December 2003

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This report applies only to the items tested.

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:	The handset & base pair are using the same RF module, so only one handset & one base. Model ES5865 was selected due to it's extra keypad circuitry on the base unit.
Modification:	During test the client added a 1 nF capacitor to the base spare battery charging circuitry base. At which time the client stated the change would not worsen either AC conducted emissions or the pre-scan data used to generate the frequency list needed for OATS measurements. As a result, re-test was not performed after modification.
Test Conditions:	
Indoor	Temperature: 23°C Humidity: 28%
Outdoor	Temperature: 7°C

Humidity: 65%

Section 2. General Equipment Specification

General Equipment Information

Manufacturer:	VTech (Dongguan) Electronics and Communications Ltd. Xia Ling Bei Management Zone, Liaobu, Dongguan, guangdong, China 523411		
Model No.:	E5860, E5865, E580-1, E580-2		
Serial No.:	H.S.:PA09, Base: None		
Date Received In Laboratory:	11 Nov. 2003		
Nemko Identification No.:	HS: 3, BS: 2		
Frequency Range:	BS TX5744.736 - 5825.952 MHzHS TX2401.056 - 2482.272 MHzHS RX5744.736 - 5825.952 MHzBS RX2401.056 - 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 Base Station	849kHz 855kHz		
Emissions Designator: Handset Base Station	625KF1D 592KF1D		
User Frequency Adjustment:	None		
Rated Output Power: Handset Base Station	0.0857W, 19.3dBm 0.93W, 29.7 dBm		

Section 3. **Powerline Conducted Emissions**

Para. No.: 15.207 (a)

Test Performed By: Ke	evin Carr	Date of Test: 12 Nov 2003
Test Results:	Complies	
Measurement Data:	See attached graph(s).	







FCC PART 15, SUBPART C FREQUENCY HOPPING TRANSMITTERS PROJECT NO.:3W07618, ISSUE 2

EQUIPMENT: E5860, E5865, E580-1, E580-2

Set-up Photo:





Section 4. Channel Separation

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

Test Results:

Complies

Measurement Data:

Channel Separation:Base:855kHzHandset:849kHz

EQUIPMENT: E5860, E5865, E580-1, E580-2

Channel Separation Plots:

Base



Section 5. Number of Hopping Channels

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

Test Performed By: K	evin Carr	Date of Test: 11 Nov. 2003		
Test Results:	Complies			
Measurement Data:	Base: Number of Hopping Frequencies	s: 75		
	Handset: Number of Hopping Frequencie	s: 17		

EQUIPMENT: E5860, E5865, E580-1, E580-2

Number of Hopping Channel Plots:

Base:





EQUIPMENT: E5860, E5865, E580-1, E580-2



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START 2.40000GHz STOP 2.43000GHz *RBW 300kHz VBW 1.0MHz *SWP 120sec

V

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Section 6. Time of Occupancy

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

Test Performed By: Ke	evin Carr	Date of Test: 11 Nov. 2003
Test Results:	Complies	
Measurement Data:	Maximum I See Plots.	Dwell Time On Any Channel:
	Base: Handset:	11.84mS 146.2mS

Time Of Occupancy Plots.

FCC PART 15, SUBPART C FREQUENCY HOPPING TRANSMITTERS PROJECT NO.:3W07618, ISSUE 2

3W07618 Base

Occupancy Time

EQUIPMENT: E5860, E5865, E580-1, E580-2

Base

CENTER 5.784474000GHz



SPAN ØHz







Section 7. Occupied Bandwidth

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

Test Performed By: Ko	evin Carr	Date of Test: 11 Nov. 2003	
Test Results:	Complies		
Measurement Data:	See Plots		
	Base: 99%: 20 dB:	592kHz 658kHz	
	Handset 99%: 20 dB:	625kHz 692kHz	

EQUIPMENT: E5860, E5865, E580-1, E580-2

Occupied Bandwidth Plots:

Base







EQUIPMENT: E5860, E5865, E580-1, E580-2

Handset







Section 8. Peak Power Output

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

Test Performed By: Kev	in Carr Date of Test: 12 Nov. 2003			
Test Results:	Complies. The maximum peak power output of the transmitter is			
	Base = 0.93W, 29.7dBm Handset = 0.0857W, 19.3dBm			
	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 axis 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 (worst Case) Field Strength: 130.5dBuV/m@3m			
	Handset (worst Case) Field Strength: 115.5dBuV/m@3m			
Antennas:				

Device	Gain (dBi)	Gain Numeric	
Handset	1.0 dBi	1.26	
Base Station	5.6 dBi	3.63	

Radiated Disturbance Test Data

Test Date: 17 Nov.2003							
Engineer's N	lame: Kev	in Carr					
Base Statio	n						
Tested as pe	er: Table	Тор					
Test Distance	e (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)
5785.5100	Horn2	V	85.0	34.5	N/A	9.8	129.3
5785.5400	Horn2	Н	78.8	34.7	N/A	9.8	123.3
5744.7900	Horn2	V	86.3	34.5	N/A	9.7	130.5
5744.8500	Horn2	Н	79.7	34.7	N/A	9.7	124.1
5826.1300	Horn2	V	84.1	34.5	N/A	10.2	128.8
5826.1000	Horn2	Н	77.6	34.7	N/A	10.2	122.5
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:	Notes: Measurement Receiver = H.P.8565E, RBW/VBW = 1/3MHz						
<u> </u>							

Test Date: 14	4 Nov. 20	03								
Engineer's Name: Kevin Carr										
Handset										
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)			
2441.6000	Horn2	V	78.7	28.9	N/A	5.3	112.9			
2441.7600	Horn2	Н	81.3	28.9	N/A	5.3	115.5			
2401.0500	Horn2	V	80.8	28.9	N/A	4.8	114.5			
2401.3500	Horn2	Н	80.4	28.9	N/A	4.8	114.1			
2482.5500	Horn2	V	75.8	28.9	N/A	5.9	110.6			
2482.3500	Horn2	Н	77.3	28.9	N/A	5.9	112.1			
2482.3300 Hom2 H 77.3 26.9 N/A 3.9 112.1 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										

Section 9. Spurious Emissions (Radiated)

Para. No.: 15.247 (c)

Test Performed By: Ke	evin Carr	Date of Test: 13 Nov. 2003
Test Results:	Complies	
	The worst case emissions MHz. This is 5.1 dB belo	s level is 48.9 dB μ V/m @ 3m @ 17234.5 ow the specification limit.
Measurement Data:	See attached table.	
	This EUT's were searche case emissions. The hand Batteries. Fundamental T Harmonic. Digital emission of the highest frequency u	d in 3 orthogonal axis to determine worst set was tested with a fresh set of x frequencies where searched to the 10 th ons where searched to the 5 th Harmonic used by the device.

Duty Cycle Calculation: Hand Set: 20Log{(1mSX10)/100} = -20dB

Base: 20Log{0.917mSX10}/100} = -20.8dB

Max. allowed: -20dB

EQUIPMENT: E5860, E5865, E580-1, E580-2

Test Date: 13 Nov. 2003												
Engineer's Name: Kevin Carr												
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												
4802.4500	Horn2	V	68.3	34.1	53.2	-20.0	8.1	37.3	54.0	16.7	4-8GHz	
4802.5100	Horn2	Н	69.3	34.3	53.2	-20.0	8.1	38.5	54.0	15.5	4-8GHz	
7203.1700	Horn2	V	60.5	36.8	53.7	-20.0	11.3	34.9	54.0	19.1	4-8GHz	
7203.7700	Horn2	Н	59.9	37.0	53.7	-20.0	11.3	34.5	54.0	19.5	4-8GHz	
Ch. 47												
4883.8900	Horn2	V	66.8	34.2	52.6	-20.0	8.9	37.2	54.0	16.8	4-8GHz	
4883.2300	Horn2	Н	73.2	34.4	52.6	-20.0	8.9	43.8	54.0	10.2	4-8GHz	
7325.3900	Horn2	V	60.3	36.8	53.6	-20.0	10.1	33.6	54.0	20.4	4-8GHz	
7325.7300	Horn2	Н	61.4	37.0	53.6	-20.0	10.1	34.9	54.0	19.1	4-8GHz	
Ch. 94												
4964.4900	Horn2	V	72.0	34.2	52.3	-20.0	9.5	43.3	54.0	10.7	4-8GHz	
4964.9800	Horn2	Н	72.3	34.4	52.3	-20.0	9.5	43.9	54.0	10.1	4-8GHz	
7446.7500	Horn2	V	60.8	36.8	53.2	-20.0	11.1	35.6	54.0	18.4	4-8GHz	
7446.7500	Horn2	Н	58.8	37.0	53.2	-20.0	11.1	33.8	54.0	20.2	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												
Notes: Measurement Receiver = H.P.8565E, RBW/VBW = 1/3MHz, using a peak detector												

Radiated Disturbance Test Data: Handset Harmonics, Avg.

Test Date:	12 Nov. 20	003	<u>est Dutu</u>	Duse		<u>i, 11ui 1110</u>	1105, 1100	uge			
Engineer's	Engineer's Name: Kevin Carr										
		viii Cu	11								
Tested as	ner: Table	Ton									
Test Distance (maters): 2 Test Distance (maters): 2											
Test Distance (meters). 5											
						D 1 1	D (1
Freq	Ant	Pol	RCVD	Ant.	Amp	Passband filter	Duty Cycle	Dist Corr	Level	Limit	Margin
(MHz)		V/H	Signal	Factor	Gain	Loss	Corr.	(dB)	(dBuV)	(dBuV)	(dB)
			(авил)	(ub)	(-dB)	(dB)	(-dB)				
Low Ch.											
11489.8	Hr2	V	54.2	40.9	38.8	2.7	20	0	39	54	15
11489.1	Hr2	Н	49.5	40.9	38.8	2.7	20	0	34.3	54	19.7
17234.5	Hr2	V	61.7	43.5	38.5	2.2	20	0	48.9	54	5.1
17234.3	Hr2	Н	52.3	43.5	38.5	2.2	20	0	39.5	54	14.5
22979.5	18-40GHz	V	57.5	45.7	39.3	0	20	0	43.9	54	10.1
22978.6	18-40GHz	Н	56.2	45.7	39.3	0	20	0	42.6	54	11.4
Mid Ch.											
11570.53	Hr 2	V	51.2	40.9	38.8	2.7	20	0	36	54	18
11571.3	Hr 2	Н	51.8	40.9	38.8	2.7	20	0	36.6	54	17.4
17356.3	Hr 2	V	58	43.5	38.5	2.2	20	0	45.2	54	8.8
17356.4	Hr 2	Н	50.2	43.5	38.5	2.2	20	0	37.4	54	16.6
23141.8	18-40GHz	V	57.5	45.7	39.3	0	20	0	43.9	54	10.1
23141.1	18-40GHz	Н	55.5	45.7	39.3	0	20	0	41.9	54	12.1
High Ch.											
11652.3	Hr 2	V	47.3	40.9	38.8	2.7	20	0	32.1	54	21.9
11652.3	Hr 2	Н	50.8	40.9	38.8	2.7	20	0	35.6	54	18.4
17477.2	Hr 2	V	57.5	43.5	38.5	2.2	20	0	44.7	54	9.3
17477.6	Hr 2	Н	49.8	43.5	38.5	2.2	20	0	37	54	17
23304.4	18-40GHz	V	59	45.7	39.3	0	20	0	45.4	54	8.6
23303.3	18-40GHz	Н	55.3	45.7	39.3	0	20	0	41.7	54	12.3
Noto 1: Anto	nno Logandi	DC = D	icomical DI	- Dilag	ID – Ia	a Doriodio I	Iorra — Horra	ED – EMCO I	Dinala		
Note 2: Dete	ctor Legend	O-Peak	= 120 kHz	S = BH0g, RBW Av	rage = 1	l 0 MHz RBV	ют – потт, N	ED – ENICO I	Jipole		
Notes:		Measu	rement R	eceiver	= HPS	8565E RR	$W = 1MH_{2}$	7			

Radiated I	Disturba	nce Te	st Data: I	Digital	Emissio	ns						
Test Date:	17 Nov. 2	2003										
Engineer's Name: Kevin Carr												
Tested as per: Table Top												
Test Distance (meters): 3 Range: Dome 1												
Freq	Ant	Pol	RCVD	Ant	Amp	Cable	Field	Limit	Margin	Detector	Amn	
(MHz)		V/H	Signal	Factor	Gain	Loss	Strength	$(dB\mu V/m)$	(dB)	2000000	i iiip.	
			(dBµV)	(dB)	(dB)	(dB)	(dBµV/m)					
31.1000	BC2	V	22.2	12.6	N/A	0.7	35.5	40.0	4.5	Q-Peak	None	
31.1000	BC2	Н	9.4	13.8	N/A	0.7	23.9	40.0	16.1	Q-Peak	None	
62.2000	BC2	V	22.9	8.8	N/A	0.9	32.6	40.0	7.4	Q-Peak	None	
62.2000	BC2	Н	13.1	9.4	N/A	0.9	23.4	40.0	16.6	Q-Peak	None	
51.8000	BC2	V	25.4	9.8	N/A	0.8	36.0	40.0	4.0	Q-Peak	None	
51.8000	BC2	Н	17.1	10.7	N/A	0.8	28.6	40.0	11.4	Q-Peak	None	
37.2540	BC2	V	19.5	11.4	N/A	0.8	31.7	40.0	8.3	Q-Peak	None	
37.2540	BC2	Н	7.1	12.8	N/A	0.8	20.7	40.0	19.3	Q-Peak	None	
41.4700	BC2	V	24.3	10.8	N/A	0.8	35.9	40.0	4.1	Q-Peak	None	
41.4700	BC2	Н	8.5	12.2	N/A	0.8	21.5	40.0	18.5	Q-Peak	None	
124.4200	BC2	V	21.5	13.1	N/A	1.4	36.0	43.5	7.5	Q-Peak	None	
124.4200	BC2	Н	25.1	12.0	N/A	1.4	38.6	43.5	4.9	Q-Peak	None	
93.3100	BC2	V	27.1	9.5	N/A	1.1	37.7	43.5	5.8	Q-Peak	None	
93.3100	BC2	Н	30.6	8.3	N/A	1.1	40.1	43.5	3.5	Q-Peak	None	
257.7220	BC2	V	11.4	17.1	N/A	2.1	30.6	46.0	15.4	Q-Peak	None	
257.7220	BC2	Н	14.4	17.1	N/A	2.1	33.6	46.0	12.4	Q-Peak	None	
114.0480	BC2	V	24.0	11.4	N/A	1.3	36.7	43.5	6.8	Q-Peak	None	
114.0480	BC2	Н	17.2	10.9	N/A	1.3	29.4	43.5	14.1	Q-Peak	None	
907.7970	LP2	V	8.5	23.3	N/A	4.0	35.8	46.0	10.2	Q-Peak	None	
907.7970	LP2	Н	8.5	24.1	N/A	4.0	36.6	46.0	9.4	Q-Peak	None	
601.3450	LP2	V	15.5	19.6	N/A	3.2	38.3	46.0	7.7	Q-Peak	None	
601.3450	LP2	Н	9.4	20.3	N/A	3.2	32.9	46.0	13.1	Q-Peak	None	
622.0820	LP2	V	15.4	20.3	N/A	3.3	38.9	46.0	7.1	Q-Peak	None	
622.0820	LP2	Н	9.3	20.7	N/A	3.3	33.3	46.0	12.7	Q-Peak	None	
580.6100	LP2	V	15.1	19.1	N/A	3.1	37.3	46.0	8.7	Q-Peak	None	
580.6100	LP2	Н	9.5	19.9	N/A	3.1	32.5	46.0	13.5	Q-Peak	None	
559.8740	LP2	V	13.6	19.0	N/A	3.1	35.7	46.0	10.3	Q-Peak	None	
559.8740	LP2	Н	10.0	20.1	N/A	3.1	33.2	46.0	12.8	Q-Peak	None	
518.4000	LP2	V	15.1	18.6	N/A	2.9	36.6	46.0	9.4	Q-Peak	None	
Note 1: Anter Note 2: Detec	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, Peak = 1.0 MHz RBW											
Notes: RBW = 120kHz Below 1 GHz, RBW/VBW = 1/3MHz Above 1 GHz												

EQUIPMENT: E5860, E5865, E580-1, E580-2

Radiated I	Jistuidai	ice re	si Dala. I	Digital	<u>EIIIISSIO</u>	ns: Con	l					
Test Date: 17 Nov 2003												
Engineer's Name: Kevin Carr												
Tested as per: Table Top												
Test Distan	est Distance (meters): 3 Range: Dome 1											
Freq.	Ant.	Pol.	RCVD	Ant.	Amp.	Cable	Field	Limit	Margin	Detector	Amp.	
(MHz)		V/H	Signal	Factor	Gain	Loss	Strength	(dBµV/m)	(dB)			
			(dBµV)	(dB)	(dB)	(dB)	(dBµV/m)					
1718.0000	Horn1	V	42.5	27.4	46.6	3.9	27.1	54.0	26.8	Average	1-2GHz	
1718.0000	Horn1	Н	42.0	27.3	46.6	3.9	26.5	54.0	27.4	Average	1-2GHz	
1753.0000	Horn1	V	45.0	27.5	46.7	3.9	29.7	54.0	24.3	Average	1-2GHz	
1753.0000	Horn1	Н	40.3	27.4	46.7	3.9	24.9	54.0	29.1	Average	1-2GHz	
1248.0000	Horn1	V	46.0	25.7	46.5	3.2	28.4	54.0	25.5	Average	1-2GHz	
1248.0000	Horn1	Н	40.5	25.6	46.5	3.2	22.8	54.0	31.1	Average	1-2GHz	
5992.0000	Horn1	V	45.7	34.8	53.2	10.6	37.9	54.0	16.1	Average	4-8GHz	
5992.0000	Horn1	Н	45.3	34.7	53.2	10.6	37.4	54.0	16.6	Average	4-8GHz	
6692.0000	Horn1	V	45.3	35.8	53.0	11.0	39.1	54.0	14.9	Average	4-8GHz	
6692.0000	Horn1	Н	45.7	35.8	53.0	11.0	39.4	54.0	14.6	Average	4-8GHz	
5453.0000	Horn1	V	43.0	34.6	51.1	8.7	35.2	54.0	18.8	Average	4-8GHz	
5453.0000	Horn1	Н	43.6	34.4	51.1	8.7	35.6	54.0	18.4	Average	4-8GHz	
6127.0000	Horn1	V	43.6	34.9	53.3	10.6	35.8	54.0	18.1	Average	4-8GHz	
6127.0000	Horn1	Н	46.0	34.8	53.3	10.6	38.2	54.0	15.8	Average	4-8GHz	
3343.0000	Horn1	V	51.6	31.0	55.4	7.0	34.3	54.0	19.7	Average	2-4GHz	
3343.0000	Horn1	Н	50.5	31.2	55.4	7.0	33.3	54.0	20.7	Average	2-4GHz	
Note 1: Anter Note 2: Detec	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, Peak = 1.0 MHz RBW											
Notes:		RBW	$V = 120 \mathrm{kH}$	Iz Below	/ 1 GHz,	RBW/VE	BW = 1/3MF	Iz Above 1	GHz			

Radiated Disturbance Test Data: Digital Emissions: Cont.



Handset



EQUIPMENT: E5860, E5865, E580-1, E580-2

20 dB band Edge

Base





EQUIPMENT: E5860, E5865, E580-1, E580-2

Handset





EQUIPMENT: E5860, E5865, E580-1, E580-2



Peak Level Band Edge: 77.3dBuV+34.8dB = 112.1dBuV/m@3m Peak band Edge (Marker Delta): 102.9dBuV/m-48.0dB = 64.1dBuV/m@3m Average: 54.9dBuV/m-20dB = 44.1dBuV/m@3m

FCC PART 15, SUBPART C FREQUENCY HOPPING TRANSMITTERS PROJECT NO.:3W07618, ISSUE 2

EQUIPMENT: E5860, E5865, E580-1, E580-2

OATS Setup Photo's Handset



FCC PART 15, SUBPART C FREQUENCY HOPPING TRANSMITTERS PROJECT NO.:3W07618, ISSUE 2

EQUIPMENT: E5860, E5865, E580-1, E580-2



Base Station



EQUIPMENT: E5860, E5865, E580-1, E580-2

Section 10. Block Diagrams

Test Site For Radiated Emissions



Conducted Emissions



Section 11. Test Equipment List

Equipment Elst Conducted Emissions											
CAL Cycle	Equipment	Manufacturer	Model No.	Asset/Serial No.	Last Cal.	Next Cal.					
1 Year	LISN	EMCO	4825/2	FA001545	30 Oct. 2003	30 Oct. 2004					
1 Year	Spectrum Analyzer	Hewlett-Packard	8566B	FA001309	June. 05/03	June. 05/04					
1 Year	Spectrum Analyzer Display	Hewlett-Packard	85662A	FA001309	June. 05/03	June. 05/04					
1 Year	Transient Limiter	Hewlett-Packard	1194 7A	FA001855	May. 06/03	May. 06/04					

Equipment List – Conducted Emissions

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	July. 03/03	July. 03/04					
1 Year	Biconical (1) Antenna	EMCO	3109	FA000805	April. 15/03	April. 15/04					
1 Year	Biconical (2) Antenna	EMCO	3109	FA000904	July. 24/03	July. 24/04					
1 Year	Horn Antenna #2	EMCO	3115	FA000825	9 Dec. 2002	9 Dec. 2003					
1 Year	Horn 18 – 40 GHz	Electro-Metrics	3116	FA001847	13 Feb. 2003	13 Feb. 2004					
1 Year	Log Periodic Antenna #1	EMCO	LPA-25	FA000477	Sept. 02/03	Sept. 02/04					
1 Year	Log Periodic Antenna #2	EMCO	3148	FA001355	May. 09/03	May. 09/04					
1 Year	1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	June. 18/03	June. 18/04					
1 Year	2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	June. 18/03	June. 18/04					
1 Year	4.0 – 8.0 GHz Amplifier	JCA	48-600	FA001497	June. 18/03	June. 18/04					
COU	5.0 – 18.0 GHz Amplifier	NARDA	DWT-	FA001409	COU	COU					
			186N23U40								
COU	18.0 – 26.0 GHz Amplifier	NARDA	BBS-	FA001550	COU	COU					
			1826N612								
COU	26 – 40.0 GHz Amplifier	NARDA	DBL-	FA001556	COU	COU					
			2640N610								
Note: $N/A = 1$	Note: N/A = Not Applicable, NCR = No Cal Required, COU = CAL On Use, OUT = Out For CAL/Repair										