DATE: 28 February 2010

I.T.L. (PRODUCT TESTING) LTD.

FCC Radio Test Report

for

The Sapling Company, Inc.

Equipment under test:

ERS Pendant

ES-600-WP

Written by: _____

E. Ever, Documentation

Approved by: _____

E. Ever, Test Engineer

Approved by: _____

I. Raz, EMC Laboratory Manager

Measurement/Technical Report for

The Sapling Company, Inc.

ERS Pendant

ES-600-WP

FCC ID: R73ERS002

IC ID: 6116A-ERS002

28 February 2010

This report concerns: Original Grant: x
Class I change:
Class II change:

Equipment type: Part 15 Security/Remote Control Transceiver

47CFR15 Section 15.231 (a-d)

Measurement procedure used is ANSI C63.4-2003.

Application for Certification
prepared by:
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1. General Information

1.1 Administrative Information

Manufacturer:	The Sapling Company, Inc.
Manufacturer's Address:	65 Weizman St. Givatayim Israel 53468 Tel: +972-3-573-1801 Fax: +972- 3-573-1807
Manufacturer's Representative:	Rafy Regev
Equipment Under Test (E.U.T):	ERS Pendant
Equipment Model No.:	ES-600-WP
Equipment Serial No.:	Not Designated
Date of Receipt of E.U.T:	24.08.2009
Start of Test:	14.09.2009
End of Test:	30.10.2009
Test Laboratory Location:	I.T.L (Product Testing) Ltd. Kfar Bin Nun, ISRAEL 99780
Test Specifications:	FCC Part 15 Sub-part C

1.2 List of Accreditations

The EMC laboratory of I.T.L. is accredited by the following bodies:

1. The American Association for Laboratory Accreditation (A2LA) (U.S.A.), Certificate No. 1152.01.
2. The Federal Communications Commission (FCC) (U.S.A.), Registration No. 90715.
3. The Israel Ministry of the Environment (Israel), Registration No. 1104/01.
4. The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) (Japan), Registration Numbers: C-1350, R-1285.
5. Industry Canada (Canada), IC File No.: 46405-4025; Site No. IC 4025B-1.
6. TUV Product Services, England, ASLLAS No. 97201.
7. Nemko (Norway), Authorization No. ELA 207.

I.T.L. Product Testing Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this test report have been determined in accordance with I.T.L.'s terms of accreditation unless stated otherwise in the report.

1.3 Product Description

The Wireless Pendant is worn by a VS-600 Resident user to allow him or her to move freely about a room yet have the ability to place a call. Calls are initiated by pressing a red call button on the Pendant.

The Wireless Pendant works in conjunction with a ERS Resident Unit. The Resident Unit is designed for use with Sapling's ERS System to allow hands free and two-way communication between the resident and an attendant (the Wireless Pendant). The Unit includes a Call Button to initiate calls to a designated administrative staff location, a Call Cancel Button, a Volume Control, and Menu and Activity Information Buttons. A built-in call cord jack provides the ability to plug in a traditional call cord, allowing the resident to remotely initiate a call from the bedside.

1.4 Test Methodology

Radiated testing was performed according to the procedures in ANSI C63.4: 2003. Radiated testing was performed at an antenna to EUT distance of 3 meters.

1.5 Test Facility

The radiated emissions tests were performed at I.T.L.'s testing facility at Kfar Bin-Nun, Israel. This site is a FCC listed test laboratory (FCC Registration No. 90715, date of listing August 22, 2006).
I.T.L.'s EMC Laboratory is also accredited by A2LA, certificate No. 1152.01.

1.6 Measurement Uncertainty

Radiated Emission

The Open Site complies with the ±4 dB Normalized Site Attenuation requirements of ANSI C63.4-2003. In accordance with Paragraph 5.4.6.1 of this standard, this tolerance includes instrumentation calibration errors, measurement technique errors, and errors due to site anomalies.

2. System Test Configuration

2.1 Justification

Radiated emission screening was performed in 3 orthogonal orientations. The worst case orientation was the vertical position.

2.2 EUT Exercise Software

Standard system software was used to test the EUT.

2.3 Special Accessories

No special accessories were needed.

2.4 Equipment Modifications

No modifications were needed in order to achieve compliance

2.5 Configuration of Tested System

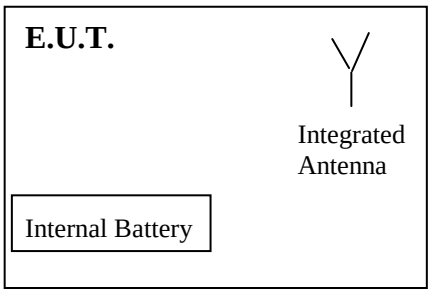

Figure 1. Configuration of Tested System

3. Test Set-up Photos

Figure 2. Open Site Radiated Emission Test

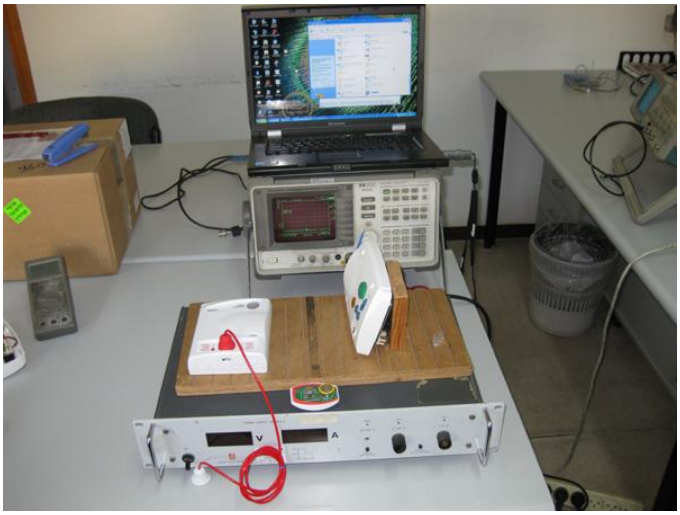

Figure 3. Radiated Emission Test

4. Average Factor Calculation

1. Transmission pulse duration = 2.3125 msec
2. Transmission pulse period = 1.65 msec
3. Burst duration = 78.5 msec
4. $$\text{Average Factor} = 20\log\left[\frac{\text{Pulse duration}}{\text{Pulse period}} \times \frac{\text{burst duration}}{100\text{msec}} \times \text{Num of burst within 100msec}\right]$$

$$\text{Average Factor} = 20\log\left[\frac{2.3125}{1.65} \times \frac{78.7}{100} \times 1\right] = -6.39dB$$

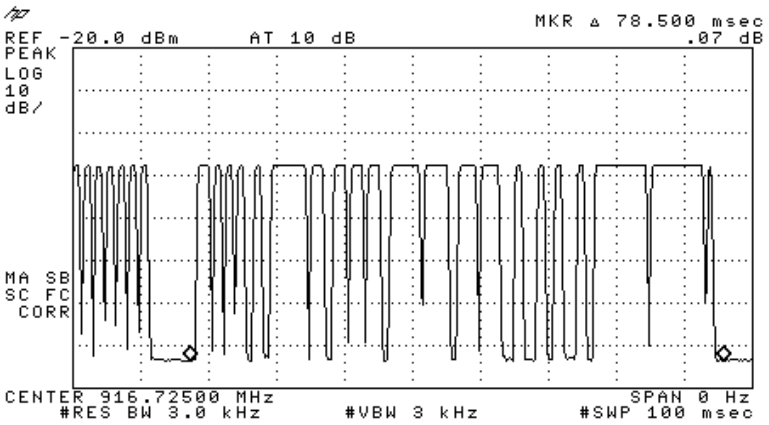

Figure 4. Burst duration = 78.50 msec

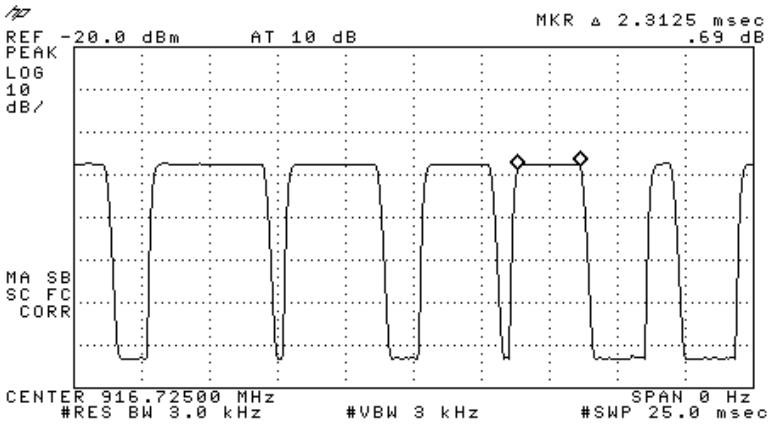

Figure 5. Transmission pulse duration = 2.3125 msec

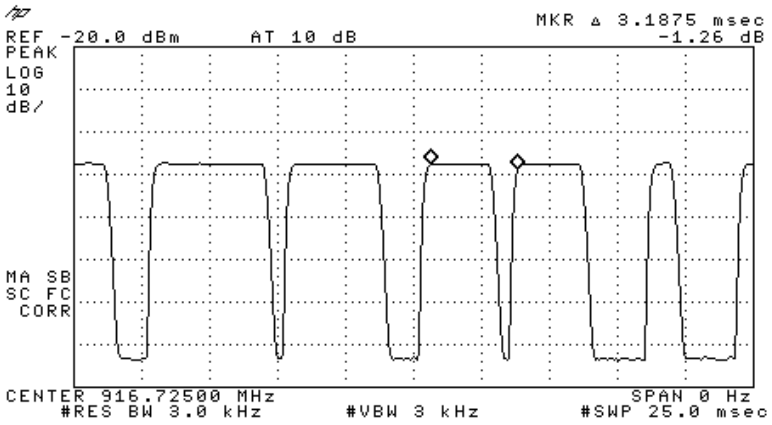

Figure 6. Transmission Pulse Period = 3.1875 msec

4.1 Test Instrumentation Used

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
Spectrum Analyzer	HP	8592L	3826A01204	March 5, 2008	1 Year
Antenna Bioconical	ARA	BCD 235/B	1041	March 23, 2008	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	November 06, 2008	1 year
Antenna-Log Periodic	A.H.System	SAS-200/511	253	February 4, 2007	2 year
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A

5. Periodic Operation

5.1 Specification

F.C.C., Part 15, Subpart C, Section 15.231(a)

5.2 Requirements

Requirement	Rationale	Verdict
Continuous transmissions are not permitted.	N/A	Complies
A manually operated transmitter shall be deactivated within not more than 5 seconds after releasing the switch.	N/A	Complies
An automatically operated transmitter shall cease operation within 5 seconds after activation.	See plots in Figure 7 to Figure 8	Complies
Periodic transmissions at regular predetermined intervals are not permitted.	N/A	Complies
Polling or supervised transmissions to determine system integrity of transmitter used in security or safety applications shall not exceed more than 2 seconds per hour.	See plots in Figure 7 to Figure 8	Complies

5.3 Results

JUDGEMENT: Passed

The EUT met the FCC Part 15, Subpart C, Section 15.231(a) specification requirements.

TEST PERSONNEL:

Tester Signature: _____ Date: 28/02/2010

Typed/Printed Name: E. Ever

Periodic Operation

E.U.T Description	ERS Pendant
Type	ES-600-WP
Serial Number:	Not Designated

Specification: F.C.C., Part 15, Subpart C, 15.231(a)

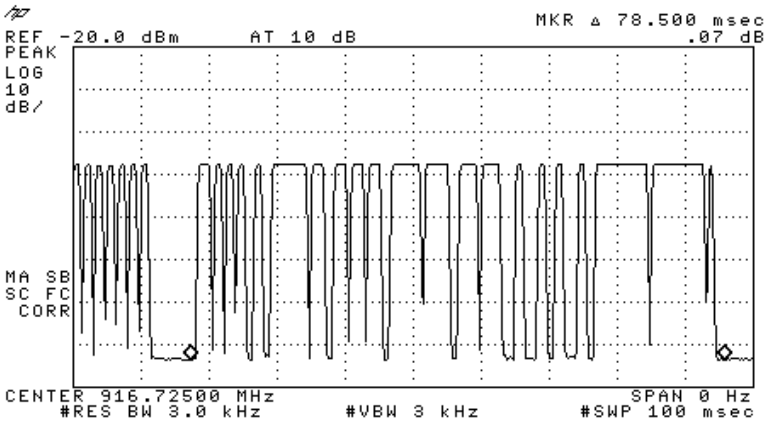

Figure 7. System Integrity Pulse Width

Periodic Operation

E.U.T Description	ERS Pendant
Type	ES-600-WP
Serial Number:	Not Designated

Specification: F.C.C., Part 15, Subpart C, 15.231(a)

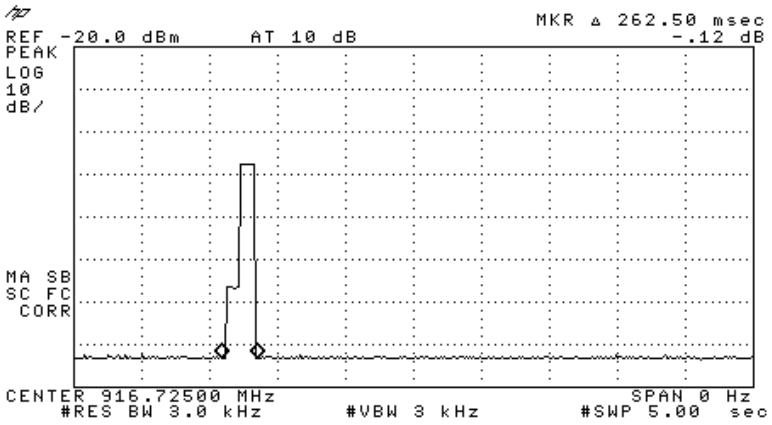

Figure 8. Unit transmission within 5 seconds

6. Field Strength of Fundamental

6.1 Test Specification

F.C.C., Part 15, Subpart C, Section 15.231(b)

6.2 Test Procedure

The E.U.T. operation mode and test set-up are as described in Section 3.

The E.U.T. was placed on a non-conductive table, 0.8 meters above the O.A.T.S. ground plane.
The EMI receiver was set to the E.U.T. Fundamental Frequency (916.53 MHz) and Peak Detection.
The turntable and antenna mast were adjusted for maximum level reading on the EMI receiver.
The measurement was performed for vertical and horizontal polarizations of the test antenna.

The average result is:

Peak Level(dBµV/m) + E.U.T. Duty Cycle Factor, in 100msec time window (dB)

6.3 Measured Data

JUDGEMENT: Passed by 5.2 dB

The EUT met the FCC Part 15, Subpart C, Section 15.231(b) specification requirements.

The details of the highest emissions are given in Figure 9 to Figure 11.

TEST PERSONNEL:

Tester Signature: _____ Date: 28/02/2010

Typed/Printed Name: E. Ever

Field Strength of Fundamental

E.U.T Description	ERS Pendant
Type	ES-600-WP
Serial Number:	Not Designated

Specification: F.C.C., Part 15, Subpart C, 15.231(b)

Antenna Polarization: Horizontal/Vertical

Test Distance: 3 meters Detector: Peak

Freq.	Pol.	Peak Amp	Average Factor	AVG Result	AVG Specification	Margin
(MHz)	V/H	(dBµV/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
916.53	H	73.7	-0.85	72.9	81.9	-9.0
916.53	V	77.5	-0.85	76.7	81.9	-5.2

Figure 9. Field Strength of Fundamental. Antenna Polarization: HORIZONTAL/VERTICAL. Detector: Peak

Notes:

1. Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.
2. "Peak Amp." (dBµV/m) included the "Correction Factors".
3. "Correction Factors" (dB) = Test Antenna Correction Factor(dB) + Cable Loss.
4. "Average Factor = 20 log [(burst duration/100msec)*Num of burst within 100msec)]= 20 log [(2.3125/1.65)*(78.5/100)*1)]= -0.85 dB
5. "Average Result" (dBµV/m)=Peak Amp. (dBµV/m)+D.C.F. (dB)

Field Strength of Fundamental

E.U.T Description	ERS Pendant
Type	ES-600-WP
Serial Number:	Not Designated

Specification: F.C.C., Part 15, Subpart C, 15.231(b)

Antenna Polarization: Horizontal

Test Distance: 3 meters Detectors: Peak, Quasi-peak, Average

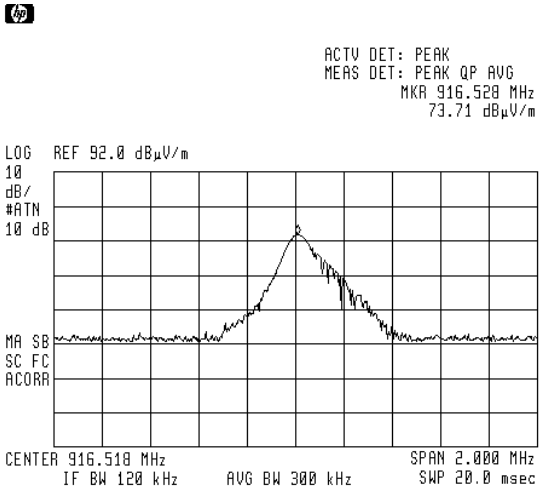

Figure 10. Field Strength of Fundamental. Antenna Polarization: HORIZONTAL. Detectors: Peak, Quasi-peak, Average

Field Strength of Fundamental

E.U.T Description	ERS Pendant
Type	ES-600-WP
Serial Number:	Not Designated

Specification: F.C.C., Part 15, Subpart C, 15.231(b)

Antenna Polarization: Vertical

Test Distance: 3 meters Detectors: Peak, Quasi-peak, Average

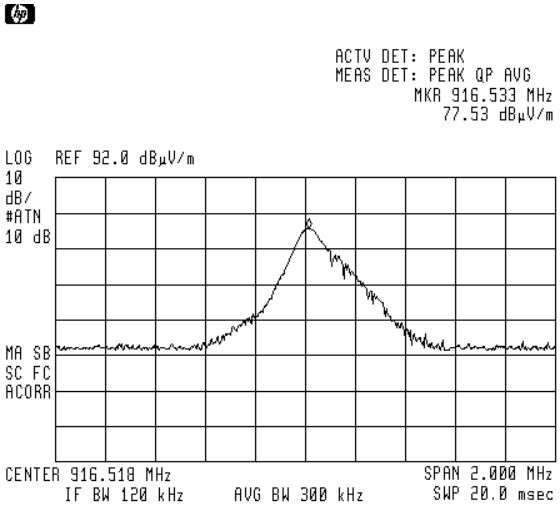

Figure 11. Field Strength of Fundamental. Antenna Polarization: VERTICAL. Detectors: Peak, Quasi-peak, Average

6.4 Test Instrumentation Used, Field Strength of Fundamental

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 17, 2008	1 year
RF Section	HP	85420E	3705A00248	November 16, 2008	1 year
Low Noise Amplifier	DBS MICROWAVE	LNA-DBS-0411N313	013	November 3, 2008	1 Year
Spectrum Analyzer	HP	8592L	3826A01204	March 17, 2009	1 Year
Antenna Bioconical	ARA	BCD 235/B	1041	March 25, 2009	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	November 06, 2008	1 year
Antenna-Log Periodic	A.H.System	SAS-200/511	253	January 29, 2009	2 years
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A
Printer	HP	LaserJet 2200	JPKGC19982	N/A	N/A

7. Radiated Emission, 9 kHz – 30 MHz

7.1 Test Specification

9 kHz-30 MHz, FCC, Part 15, Subpart C, Section 209

7.2 Test Procedure

The E.U.T. operation mode and test set-up are as described in Section 3.

A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, and placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The configuration tested is shown in Figure 3.1.

The frequency range 9 kHz-30 MHz was scanned.

The emissions were measured using a computerized EMI receiver complying to CISPR 16 requirements. The specification limits and applicable correction factors are loaded to the receiver via a 3.5" floppy disk.

In the frequency range 9 kHz-30MHz, the loop antenna was rotated on its vertical axis. The antenna height (center of loop) was 1 meter at a distance of 10 meters.

7.3 Measured Data

JUDGEMENT: Passed

The EUT was tested and it met the requirements of the FCC Part 15, Subpart C, specification.

No emissions from the EUT were found in this frequency range.

TEST PERSONNEL:

Tester Signature: E. Ever Date: 28/02/2010

Typed/Printed Name: E. Ever

7.4 Test Instrumentation Used, Radiated Measurements

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 17, 2008	1 year
RF Section	HP	85420E	3705A00248	November 16, 2008	1 year
Active Loop Antenna	EMCO	6502	9506-2950	October 15, 2008	1 year
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A

7.5 Field Strength Calculation

The field strength is calculated directly by the EMI Receiver software, and a "Correction Factors" data disk, using the following equation:

$$FS = RA + AF + CF$$

FS:	Field Strength [dBµv/m]
RA:	Receiver Amplitude [dBµv]
AF:	Receiving Antenna Correction Factor [dB/m]
CF:	Cable Attenuation Factor [dB]

Example: FS = 30.7 dBµV (RA) + 14.0 dB (AF) + 0.9 dB (CF) = 45.6 dBµV

No external pre-amplifiers are used.

8. Spurious Radiated Emission

8.1 Test Specification

30 - 9200 MHz, F.C.C., Part 15, Subpart C

8.2 Test Procedure

The E.U.T. operation mode and test set-up are as described in Section 3. See Section 3.1 Justification of the System Test Configuration concerning the E.U.T. orientation for this test. A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, and placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The configuration tested is shown in *Figure 2*.

The signals from the list of the highest emissions were verified and the list was updated accordingly. The levels of the emissions within the frequency ranges of the restricted bands (Section 15.205 of FCC Part 15) were compared to the limits of the table in Section 15.209 (a), General Requirements.

The emissions were measured using a computerized EMI receiver complying to CISPR 16 requirements. The specification limits and applicable correction factors are loaded to the receiver via a 3.5" floppy disk.

In the frequency range 2.9 – 9.2 GHz, a spectrum analyzer including a low noise amplifier was used. The test distance was 3 meters. During peak measurements, the I.F. bandwidth was 1 MHz, and video bandwidth 3 MHz. During average measurements, the I.F. bandwidth was 1 MHz and video bandwidth was 100 Hz.

The readings were maximized by adjusting the antenna height between 1-4 meters, the turntable azimuth between 0-360°, and the antenna polarization. Verification of the E.U.T emissions was based on the following methods: turning the E.U.T on and off; using a frequency span less than 10 MHz; observation of the signal level during turntable rotation. (Background noise is not affected by the rotation of the E.U.T.)

The emissions were measured at a distance of 3 meters.

8.3 Test Data

JUDGEMENT: Passed

The EUT met the requirements of the F.C.C. Part 15, Subpart C, specification.

All spurious emissions were below the noise floor.

TEST PERSONNEL:

Tester Signature: E. Ever Date: 28/02/2010

Typed/Printed Name: E. Ever

8.4 Test Instrumentation Used

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 17, 2008	1 year
RF Section	HP	85420E	3705A00248	November 16, 2008	1 year
Low Noise Amplifier	DBS MICROWAVE	LNA-DBS-0411N313	013	November 3, 2008	1 Year
Spectrum Analyzer	HP	8592L	3826A01204	March 17, 2009	1 Year
Antenna Bioconical	ARA	BCD 235/B	1041	March 25, 2009	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	November 06, 2008	1 year
Antenna-Log Periodic	A.H.System	SAS-200/511	253	January 29, 2009	2 years
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A
Printer	HP	LaserJet 2200	JPKGC19982	N/A	N/A

9. Bandwidth

9.1 Test procedure

The transmitter unit operated with normal modulation. The spectrum analyzer was set to 30 kHz resolution BW and center frequency of the transmitter fundamental. The spectrum bandwidth of the transmitter unit was measured and recorded. The BW was measured at 20 dBc points. The EUT was setup as shown in *Figure 2. Open Site Radiated Emission Test*, and its proper operation was checked. The transmitter occupied bandwidth was measured with the EMI receiver as frequency delta between reference points on the modulation envelope.

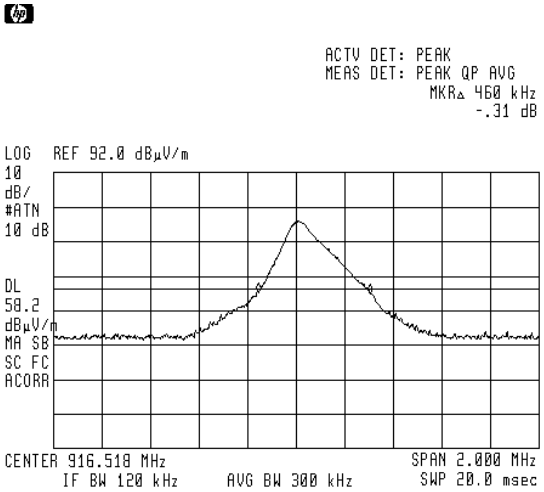

Figure 12: Bandwidth Result

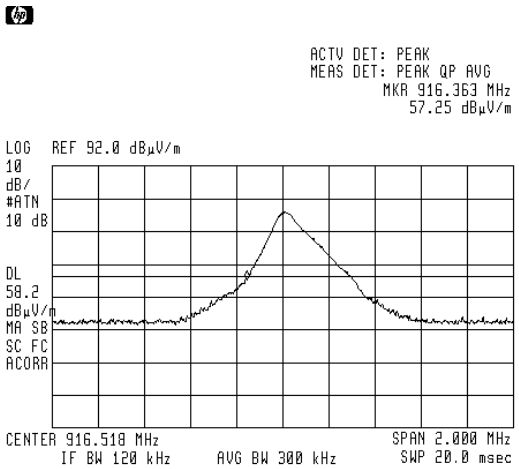

Figure 13 F_{Low}

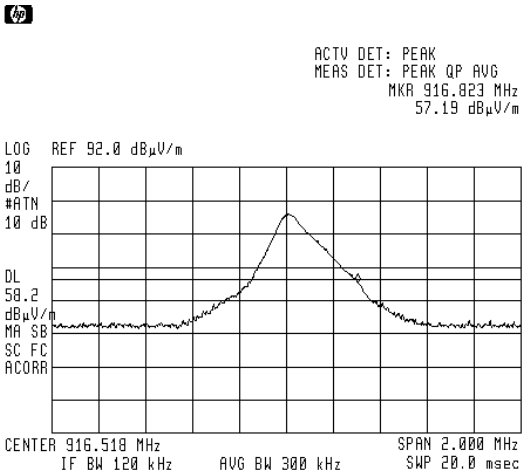

Figure 14 F_{High}

9.2 Results table

E.U.T Description: ERS Pendant
Model: ES-600-WP
Serial Number: Not Designated
Specification: F.C.C. Part 15, Subpart C: (15.231(c))

Bandwidth Reading (kHz)	Specification (1) (kHz)	Margin (kHz)
460	2290	1830

Figure 15 Bandwidth

JUDGEMENT: Passed by 1830 kHz

TEST PERSONNEL:
Tester Signature: _____ Date: 28/02/2010
Typed/Printed Name: E. Ever

(1) 0.25% of the E.U.T. fundamental frequency, Section 15.231(c).

9.3 Test Equipment Used.

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 17, 2008	1 year
RF Section	HP	85420E	3705A00248	November 16, 2008	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	November 06, 2008	1 year
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A
Printer	HP	LaserJet 2200	JPKGC19982	N/A	N/A

Figure 16 Test Equipment Used

10. FCC/IC Cross Correlation Table

EUT	FCC Specification	According FCC Standard	IC Standard
ES-600-WP	**Periodic Operation**	**FCC Part 15.231 (a)(1-5)**	**RSS- 210 Section 2.6 Annex 1, A1.1.1**
	Field Strength at Fundamental	**FCC Part 15.231 (b)**	**RSS- 210 Annex 1 A1.1.2, Section 2.6**
	Spurious Emissions	**FCC Part 15.231 (b)**	**RSS- 210 Section 2.6 Annex 1 A1.1.2**
	Bandwidth	**FCC Part 15.231 (c)**	**RSS- 210 Section 2.6 Annex 1 A1.1.3**

11. APPENDIX A - CORRECTION FACTORS

11.1 Correction factors for CABLE

from EMI receiver to test antenna at 3 meter range.

FREQUENCY (MHz)	CORRECTION FACTOR (dB)
10.0	0.3
20.0	0.6
30.0	0.8
40.0	0.9
50.0	1.1
60.0	1.2
70.0	1.3
80.0	1.4
90.0	1.6
100.0	1.7
150.0	2.0
200.0	2.3
250.0	2.7
300.0	3.1
350.0	3.4
400.0	3.7
450.0	4.0
500.0	4.3
600.0	4.7
700.0	5.3
800.0	5.9
900.0	6.3
1000.0	6.7

FREQUENCY (MHz)	CORRECTION FACTOR (dB)
1200.0	7.3
1400.0	7.8
1600.0	8.4
1800.0	9.1
2000.0	9.9
2300.0	11.2
2600.0	12.2
2900.0	13.0

NOTES:

1. The cable type is RG-214.

2. The overall length of the cable is 27 meters.

3. The above data is located in file 27MO3MO.CBL on the disk marked "Radiated Emission Tests EMI Receiver".

11.2 Correction factors for CABLE

from EMI receiver to test antenna at 3 meter range.

FREQUENCY (GHz)	CORRECTION FACTOR (dB)
1.0	1.2
2.0	1.6
3.0	2.0
4.0	2.4
5.0	3.0
6.0	3.4
7.0	3.8
8.0	4.2
9.0	4.6
10.0	5.0
12.0	5.8

NOTES:

1. The cable type is RG-8.

2. The overall length of the cable is 10 meters.

11.3 Correction factors for CABLE

from spectrum analyzer to test antenna above 2.9 GHz

FREQUENCY (GHz)	CORRECTION FACTOR (dB)	FREQUENCY (GHz)	CORRECTION FACTOR (dB)
1.0	1.9	14.0	9.1
2.0	2.7	15.0	9.5
3.0	3.5	16.0	9.9
4.0	4.2	17.0	10.2
5.0	4.9	18.0	10.4
6.0	5.5	19.0	10.7
7.0	6.0	20.0	10.9
8.0	6.5	21.0	11.2
9.0	7.0	22.0	11.6
10.0	7.5	23.0	11.9
11.0	7.9	24.0	12.3
12.0	8.3	25.0	12.6
13.0	8.7	26.0	13.0

NOTES:

1. The cable type is SUCOFLEX 104 E manufactured by SUHNER.

2. The cable is used for measurements above 2.9 GHz.

3. The overall length of the cable is 10 meters.

11.4 Correction factors for CABLE

from EMI receiver to test antenna at 10 meter range.

FREQUENCY (MHz)	CORRECTION FACTOR (dB)
10.0	0.3
20.0	0.8
30.0	0.9
40.0	1.2
50.0	1.4
60.0	1.6
70.0	1.8
80.0	1.9
90.0	2.0
100.0	2.1
150.0	2.6
200.0	3.2
250.0	3.8
300.0	4.2
350.0	4.6
400.0	5.1
450.0	5.3
500.0	5.6
600.0	6.3
700.0	7.0
800.0	7.6
900.0	8.0
1000.0	8.7

FREQUENCY (MHz)	CORRECTION FACTOR (dB)
1200.0	9.8
1400.0	10.0
1600.0	11.3
1800.0	12.2
2000.0	13.1
2300.0	14.5
2600.0	15.9
2900.0	16.4

NOTES:

1. The cable type is RG-214.

2. The overall length of the cable is 34 meters.

3. The above data is located in file 34M10MO.CBL on the disk marked "Radiated Emissions Tests EMI Receiver".

12.6 Correction factors for LOG PERIODIC ANTENNA

Type LPD 2010/A
at 3 and 10 meter ranges.

Distance of 3 meters

FREQUENCY (MHz)	AFE (dB/m)
200.0	9.1
250.0	10.2
300.0	12.5
400.0	15.4
500.0	16.1
600.0	19.2
700.0	19.4
800.0	19.9
900.0	21.2
1000.0	23.5

Distance of 10 meters

FREQUENCY (MHz)	AFE (dB/m)
200.0	9.0
250.0	10.1
300.0	11.8
400.0	15.3
500.0	15.6
600.0	18.7
700.0	19.1
800.0	20.2
900.0	21.1
1000.0	23.2

NOTES:

1. *Antenna serial number is 1038.*
2. *The above lists are located in file number 38M3O.ANT for a 3 meter range, and file number 38M100.ANT for a 10 meter range.*
3. *The files mentioned above are located on the disk marked "Radiated Emission Test EMI Receiver".*

11.5 Correction factors for LOG PERIODIC ANTENNA

Type SAS-200/511
at 3 meter range.

FREQUENCY (GHz)	ANTENNA FACTOR (dB)
1.0	24.9
1.5	27.8
2.0	29.9
2.5	31.2
3.0	32.8
3.5	33.6
4.0	34.3
4.5	35.2
5.0	36.2
5.5	36.7
6.0	37.2
6.5	38.1

FREQUENCY (GHz)	ANTENNA FACTOR (dB)
7.0	38.6
7.5	39.2
8.0	39.9
8.5	40.4
9.0	40.8
9.5	41.1
10.0	41.7
10.5	42.4
11.0	42.5
11.5	43.1
12.0	43.4
12.5	44.4
13.0	44.6

NOTES:

1. *Antenna serial number is 253.*
2. *The above lists are located in file number SAS3M0.ANT for a 3 meter range.*
3. *The files mentioned above are located on the disk marked "Antenna Factors".*

11.6 Correction factors for BICONICAL ANTENNA

Type BCD-235/B, at 3 meter range

FREQUENCY (MHz)	AFE (dB/m)
20.0	19.4
30.0	14.8
40.0	11.9
50.0	10.2
60.0	9.1
70.0	8.5
80.0	8.9
90.0	9.6
100.0	10.3
110.0	11.0
120.0	11.5
130.0	11.7
140.0	12.1
150.0	12.6
160.0	12.8
170.0	13.0
180.0	13.5
190.0	14.0
200.0	14.8
210.0	15.3
220.0	15.8
230.0	16.2
240.0	16.6
250.0	17.6
260.0	18.2
270.0	18.4
280.0	18.7
290.0	19.2
300.0	19.9
310	20.7
320	21.9
330	23.4
340	25.1
350	27.0

NOTES:

1. Antenna serial number is 1041.

2. The above list is located in file 19BC10M1.ANT on the disk marked "Radiated Emissions Tests EMI Receiver".

11.7 Correction factors for BICONICAL ANTENNA

Type BCD-235/B, 10 meter range

FREQUENCY (MHz)	AFE (dB/m)
30.0	12.1
40.0	10.6
50.0	10.6
60.0	8.9
70.0	8.5
80.0	9.6
90.0	9.4
100.0	9.6
110.0	10.3
120.0	10.7
130.0	12.6
140.0	12.7
150.0	12.7
160.0	13.8
170.0	13.7
180.0	14.9
190.0	13.4
200.0	13.1
210.0	14.0
220.0	14.5
230.0	15.8
240.0	16.0
250.0	16.6
260.0	16.7
270.0	18.3
280.0	18.5
290.0	19.3
300.0	20.9

NOTES:

1. *Antenna serial number is 1041.*
2. *The above list is located in file 41BC10M1.ANT on the disk marked "Radiated Emissions Tests EMI Receiver".*

11.8 Correction factors for Double-Ridged Waveguide Horn

Model: 3115, S/N 29845
at 3 meter range.

FREQUENCY (GHz)	ANTENNA FACTOR (dB 1/m)	ANTENNA Gain (dBi)	FREQUENCY (GHz)	ANTENNA FACTOR (dB 1/m)	ANTENNA Gain (dBi)
1.0	24.8	5.4	10.0	38.8	11.4
1.5	26.1	7.6	10.5	38.9	11.8
2.0	28.6	7.7	11.0	39.0	12.1
2.5	29.8	8.4	11.5	39.6	11.8
3.0	31.4	8.4	12.0	39.8	12.0
3.5	32.4	8.7	12.5	39.6	12.5
4.0	33.7	8.6	13.0	40.0	12.5
4.5	33.4	9.9	13.5	39.8	13.0
5.0	34.5	9.7	14.0	40.2	13.0
5.5	35.1	9.9	14.5	40.6	12.9
6.0	35.4	10.4	15.0	41.3	12.4
6.5	35.6	10.8	15.5	39.5	14.6
7.0	36.2	10.9	16.0	38.8	15.5
7.5	37.3	10.4	16.5	40.0	14.6
8.0	37.7	10.6	17.0	41.4	13.4
8.5	38.3	10.5	17.5	44.8	10.3
9.0	38.5	10.8	18.0	47.2	8.1
9.5	38.7	11.1			

11.9 Correction factors for Horn Antenna

Model: SWH-28
at 1 meter range.

FREQUENCY (GHz)	AFE (dB /m)	Gain (dB1)
18.0	40.3	16.1
19.0	40.3	16.3
20.0	40.3	16.1
21.0	40.3	16.3
22.0	40.4	16.8
23.0	40.5	16.4
24.0	40.5	16.6
25.0	40.5	16.7
26.0	40.6	16.4

11.10 Correction factors for Horn Antenna

Model: V637

FREQUENCY (GHz)	AFE (dB /m)	Gain (dB1)
26.0	43.6	14.9
27.0	43.7	15.1
28.0	43.8	15.3
29.0	43.9	15.5
30.0	43.9	15.8
31.0	44.0	16.0
32.0	44.1	16.2
33.0	44.1	16.4
34.0	44.1	16.7
35.0	44.2	16.9
36.0	44.2	17.1
37.0	44.2	17.4
38.0	44.2	17.6
39.0	44.2	17.8
40.0	44.2	18.0

11.11 Correction factors for ACTIVE LOOP ANTENNA

Model 6502
S/N 9506-2950

FREQUENCY	Magnetic Antenna Factor	Electric Antenna Factor
(MHz)	(dB)	(dB)
.009	-35.1	16.4
.010	-35.7	15.8
.020	-38.5	13.0
.050	-39.6	11.9
.075	-39.8	11.8
.100	-40.0	11.6
.150	-40.0	11.5
.250	-40.0	11.6
.500	-40.0	11.5
.750	-40.1	11.5
1.000	-39.9	11.7
2.000	-39.5	12.0
3.000	-39.4	12.1
4.000	-39.7	11.9
5.000	-39.7	11.8
10.000	40.2	11.3
15.000	-40.7	10.8
20.000	-40.5	11.0
25.000	-41.3	10.2
30.000	42.3	9.2