849 NW State Road 45
PO Box 370
Newberry, FL 32669

TEST REPORT

STANDARD (s):

FCC Part 15, Subparts B, C, and D
IC RSS-213 & ICES-003
UPCS / LE-PCS Isochronous Device
Base & Handset: 1921.536 – 1928.448 MHz
ANSI C63.17 - 1998 (or 2005 Draft where applicable)
ANSI C63.4 – 2003

APPLICANT:	ASCALADE TECHNOLOGIES INC. 12051 RIVERSIDE WAY RICHMOND, BC V6W 1K7 V6W 1K7 Tel.: 1-604-241-7991 MR. KEVIN YAU, QUALITY MANAGER
BASE MODEL NUMBERS:	SCD589, SCD588, SCD587, SCD386, SCD384
HANDSET MODEL NUMBERS:	SCD589-R, SCD588-R, SCD587-R, SCD386-R, SCD384-R
DESCRIPTION OF PRODUCT:	1.9 GHz DECT Baby Monitor
FCC IDs:	PBWB200R36 (BASE) PBWB200R36H (HANDSET)
IC:	3842A-B200R36
TEST RESULTS:	☒ PASS ☐ FAIL

PLEASE NOTE: THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.

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1 GENERAL INFORMATION

The test results relate only to the items tested.

1.1 COMPLIANCE STATEMENT:

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report and demonstrate that the equipment complies with the appropriate standards. No modifications were made to the equipment during testing in order to demonstrate compliance with these standards.

I attest that the necessary measurements were made, under my supervision, at TIMCO ENGINEERING, INC. located at 849 N.W. State Road 45, Newberry, Florida 32669.

Authorized Signatory Name: BRUNO CLAVIER

Signature: <ON FILE>

Function: CHIEF ENGINEER

Date: 2/28/2006

Test engineer name: NAM NGUYEN

Signature: <ON FILE>

Date: 2/28/2006

1.2 EQUIPMENT UNDER TEST SPECIFICATION

Characterization of test item:

Prototype ☒
Pre-production ☐
Production ☐

Construction of equipment:

☒ Single unit
☐ Multiple units (If multiple units describe each one clearly)

TYPE OF EQUIPMENT:

Fixed ☐
Mobile ☐
Portable Station ☐

X	Transmitter		Simplex	X	Integral antenna (Handset and Base)
	Receiver	X	Duplex		Single antenna connector
	Transceiver				Two antenna connector
X	Battery charger				Vehicle battery adaptor
	Remote Control Head				

1.2.1 TRANSMITTER TECHNICAL CHARACTERISTICS

FREQUENCY CHARACTERISTICS (Method of frequency generation):

CRYSTAL ☐ SYNTHESIZER ☒ OTHER ☐

State the maximum number of channels over which the equipment can operate:_____

MAXIMUM RATED TRANSMITTER OUTPUT POWER: _85mW for the Base and 80mW for the Handset.

1.2.2 POWER SOURCE (S)

AC SUPPLY: State voltage: 120 Single phase: _X___ Three phase: ____
AC SUPPLY FREQUENCY (Hz) _60_____

EXTERNAL DC SUPPLY: Nominal voltage __2.4VDC NiMH rechargeable battery for Handset and 9VDC from power adapter.
BATTERY: Nickel metal hydride ☒ Lead acid ☐ Leclanche ☐ Lithium ☐☐

1.3 RATIONAL FOR SELECTING TEST CONFIGURATION(S):

No deviation from technical specifications

1.4 DESCRIPTION ON HOW THE EUT WAS EXERCISED DURING TESTING:

(e.g software description, test signal, etc.)

The EUT was set in continuous transmit mode of operation.

1.5 TEST STANDARDS

FCC Part 15, Subparts B, C, and D
IC RSS-213 & ICES-003
UPCS / LE-PCS Isochronous Device
Base & Handset: 1921.536 – 1928.448 MHz
ANSI C63.17 - 1998 (or 2005 Draft where applicable)
ANSI C63.4 - 2003

2 TEST ENVIRONEMENT

Temperature

Normal test temperature (Tnom): 22 °C
Extreme test temperatures (Tmax): n/a °C
(Tmin): n/a °C

Relative Humidity 50 %

Details of power supply

Normal test voltage Handset (Vnom): 2.4 VDC
Base (Vnom): 9.0 VDC

Extreme test voltage (Vmax):_____VDC
(Vmin): ____VDC

3 TEST RESULTS

3.1 RADIATED PEAK TRANSMIT POWER

Clause: 15.319 (c)

Test procedure: ANSI C63.17 section 6.1.2

Technical requirements/Limits:

The peak transmit power shall not exceed 100 µW multiplied by the square root of the emission bandwidth in hertz measured at 26dBc.
The measured emissions bandwidth is 1.5 MHz max

Limit = 100µW * √(BW in Hz)= 0.122W = 20.8 dBm

and Radiated limit ≤ 118 dBµV/m at 3m by radiated measurement derived from Friis formula as follows $P = (E*d)^2/30G$, where P = 0.122 W = 20.8 dBm

This assumes a G = Numeric gain of TX antenna = 1.585 (2.0 dBi) worst-case across band
d = 3 m

Notes: The calculated limit of 118 dBµV/m assumes free space conditions. This device was measured on a typical test site (OATS) with a reference ground plane as described in ANSI C63.4. This maximum value was obtained with the EUT set up at a height of 80cm. Placing the EUT at a height of 100cm reduces the maximum amplitude measured by about 3-4dB.

Test Conditions:

Power output measurements were performed on an Open Area Test Site at a distance of 3meter.
The antenna for this device is integral.
SA Settings:
RBW ≥ Emission BW (or increased until no more than 0.5 dB change in power), VBW ≥ 3 x RBW
Span = zero, centered on channel center, Sweep: fast enough to resolve transmit pulse
Detection: Peak

Results:

3.1.1 BASE (MODEL SCD386):

BASE	Ascalade Technologies Inc.					
255GUT6	3/3/2006					
Tuned Frequency MHz	**Emission Frequency MHz**	**Meter Reading dBuV**	**Ant. Polarity**	**Coax Loss dB**	**Correction Factor dB**	**Field Strength dBuV/m**
1,921.54	1,921.54	82.4	V	2.84	31.04	116.28
1,924.99	1,924.99	82.6	V	2.84	31.06	116.50
1,928.45	1,928.45	82.9	V	2.84	31.08	116.82

3.1.2 HANDSET (MODEL SCD386R):

HANDSET	Ascalade Technologies Inc.					
255GUT6	3/3/2006					
Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m
1,921.54	1,921.54	75.5	V	2.84	31.04	109.38
1,924.99	1,924.99	75.3	V	2.84	31.06	109.20
1,928.45	1,928.45	82.0	V	2.84	31.08	110.22

3.2 TRANSMITTER SPURIOUS EMISSIONS

Clause: 15.319 (g) and 15.323(d)

Test procedure: ANSI C63.17 section 6.1.1

Technical requirements/Limits:
15.319(g) Notwithstanding other technical requirements specified in this subpart, attenuation of emissions below the general emission limits in Section 15.209 is not required.
15.323(d) Emissions outside the sub-band shall be attenuated below a reference power of 112 milliwatts as follows: 30 dB between the sub-band and 1.25 MHz above or below the sub-band; 50 dB between 1.25 and 2.5 MHz above or below the sub-band; and 60 dB at 2.5 MHz or greater above or below the subband. Compliance with the emission limits is based on the use of measurement instrumentation employing peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

Test Conditions:
Lowest and Highest channel only. Radiated on an Open Area Test Site at a distance of 3meter.

Results:
3.2.1 BASE (MODEL SCD386):

BASE	Ascalade Technologies Inc.						
255GUT6	3/3/2006						
Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax & Filter Loss dB	Correction Factor dB/m	Field Strength dBuV/m	dBc
1,921.54	3843.07	10.5	V	4.36	33.71	48.57	
1,921.54	5764.71	7.0	V	5.23	35.33	47.56	
1,924.99	3849.98	9.9	V	4.36	33.72	47.98	
1,924.99	5774.98	4.7	H	5.23	35.35	45.28	
1,928.45	3856.89	8.5	V	4.37	33.73	46.60	
1,928.45	5785.34	3.3	H	5.24	35.37	43.91	

* Noise floor. All harmonic emissions are >60dBc.

3.2.2 HANDSET (MODEL SCD386R):

HANDSET	Ascalade Technologies Inc.						
255GUT6	3/3/2006						
Tuned Frequency MHz	Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax & Filter Loss dB	Correction Factor dB/m	Field Strength dBuV/m	dBc
1,921.54	5764.61	3.3	H	5.24	35.37	43.91	
1,924.99	5774.98	2.1	V	5.23	35.35	42.68	
1,928.45	5785.34	1.2	V	5.24	35.37	41.81	
1928.45	5785.34	2.0	H	5.24	35.37	42.61	

* Noise floor. All harmonic emissions are >60dBc.

3.3 GENERAL RADIATED SPURIOUS EMISSIONS

3.3.1 RADIATED SPURIOUS EMISSIONS

Clause: 15.109, 15.33, and 15.31

Test procedure: ANSI C63.4 - 2003

Technical requirements/Limits:

Emission Frequency (MHz)	Field Strength		At Distance (m)	Detector Type
	(µV/m)	(dBµV/m)		
0.009 – 0.490	2400/f (kHz)	67.6 / kHz	300	AV (9-90 kHz, 110-490 kHz) QP (others)
0.490 – 1.705	24000/f (kHz)	87.6 / kHz	30	QP
1.705 – 30.0	30	29.5	30	QP
30 – 88	100	40	3	QP
88 – 216	150	43.5	3	QP
216 – 960	200	46	3	QP
> 960	500	54	3	AV (> 1GHz)

Test Conditions:
Lowest and Highest channel only. Radiated on an Open Area Test Site at a distance of 3meter.
PK: RBW ≥ 100 kHz for f < 1 GHz, 1 MHz for f ≥ 1 GHz, VBW ≥ RBW
Avg: RBW = 1 MHz for f ≥ 1 GHz, VBW = 10Hz, Linear average. If the emission is pulsed, the device was modified for continuous operations, and the average level was calculated according to part 15.35(c)

Results:

3.3.2 BASE IN STAND-BY MODE:

MODEL SCD386

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m	Margin dB
31.20	16.8	V	0.41	11.94	29.15	10.85
69.10	9.2	V	0.56	7.84	17.60	22.40
85.79	11.1	V	0.61	8.07	19.78	20.22
96.76	8.2	V	0.64	11.02	19.86	23.64
124.43	7.3	V	0.67	13.65	21.62	21.88
152.05	12.2	V	0.71	14.32	27.23	16.27
179.67	8.8	V	0.82	17.29	26.91	16.59
179.69	9.3	H	0.82	16.55	26.67	16.83
193.51	11.7	H	0.87	17.47	30.04	13.46
207.33	10.8	H	0.91	11.95	23.66	19.84
235.00	8.4	V	0.97	11.55	20.92	25.08
235.00	10.1	H	0.97	11.75	22.82	23.18
262.62	10.0	V	1.03	13.00	24.03	21.97
276.45	12.1	V	1.05	13.49	26.64	19.36
276.47	15.3	H	1.05	13.69	30.04	15.96
290.27	10.4	V	1.08	13.91	25.39	20.61
317.93	16.6	V	1.12	14.78	32.50	13.50
317.94	18.8	H	1.12	15.04	34.96	11.04
331.74	10.8	V	1.13	14.52	26.45	19.55
331.77	17.3	H	1.13	14.88	33.31	12.69
345.07	18.0	V	1.15	14.60	33.75	12.25
345.58	26.7	H	1.15	14.91	42.76	3.24
359.42	11.2	V	1.16	14.79	27.15	18.85
359.43	13.5	H	1.16	15.00	29.66	16.34
373.22	13.7	V	1.17	15.16	30.03	15.97
373.23	13.6	H	1.17	15.26	30.03	15.97
387.05	12.6	V	1.19	15.51	29.30	16.70
400.88	16.9	H	1.20	16.11	34.21	11.79
414.70	12.0	H	1.21	16.20	29.41	16.59
428.52	14.8	H	1.23	16.46	32.49	13.51
428.54	16.3	V	1.23	16.09	33.62	12.38
442.34	14.8	H	1.24	16.82	32.86	13.14
442.36	13.5	V	1.24	16.37	31.11	14.89
456.17	17.8	H	1.26	16.84	35.90	10.10
456.18	14.4	V	1.26	16.79	32.45	13.55
483.80	15.1	V	1.28	17.45	33.83	12.17
483.80	16.3	H	1.28	17.62	35.20	10.80
497.64	15.2	V	1.30	17.85	34.35	11.65
497.65	14.5	H	1.30	17.81	33.61	12.39
511.46	15.6	H	1.33	18.81	35.74	10.26
511.47	14.3	V	1.33	18.47	34.10	11.90
525.28	11.6	V	1.38	17.98	30.96	15.04
525.30	12.3	H	1.38	18.69	32.37	13.63
539.11	14.7	H	1.42	18.32	34.44	11.56
539.11	15.5	V	1.42	18.06	34.98	11.02

3.3.3 BASE IN STAND-BY MODE:
MODEL SCD384

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m	Margin dB
30.84	7.7	V	0.40	12.08	20.18	19.82
65.56	12.7	H	0.55	10.01	23.26	16.74
85.83	11.1	V	0.61	8.08	19.79	20.21
95.32	9.0	V	0.64	10.76	20.40	23.10
138.22	5.7	V	0.69	12.87	19.26	24.24
152.02	6.0	H	0.71	14.20	20.91	22.59
152.05	7.2	V	0.71	14.32	22.23	21.27
179.70	6.9	H	0.82	16.55	24.27	19.23
235.00	13.9	H	0.97	11.75	26.62	19.38
235.01	15.6	V	0.97	11.55	28.12	17.88
262.63	24.2	H	1.03	13.06	38.29	7.71
262.65	23.4	V	1.03	13.01	37.44	8.56
276.46	15.3	H	1.05	13.69	30.04	15.96
317.93	17.2	H	1.12	15.04	33.36	12.64
317.94	16.8	V	1.12	14.78	32.70	13.30
331.74	21.3	H	1.13	14.88	37.31	8.69
331.77	17.5	V	1.13	14.52	33.15	12.85
345.56	15.0	H	1.15	14.91	31.06	14.94
345.60	17.9	V	1.15	14.60	33.65	12.35
359.42	12.0	V	1.16	14.79	27.95	18.05
373.21	16.9	H	1.17	15.26	33.33	12.67
373.24	14.9	V	1.17	15.16	31.23	14.77
387.07	11.1	V	1.19	15.51	27.80	18.20
400.89	16.5	V	1.20	15.72	33.42	12.58
400.89	17.3	H	1.20	16.11	34.61	11.39
414.72	12.3	V	1.21	15.95	29.46	16.54
428.53	12.2	H	1.23	16.46	29.89	16.11
428.56	13.7	V	1.23	16.09	31.02	14.98
470.03	9.9	V	1.27	17.10	28.27	17.73
483.85	13.6	V	1.28	17.45	32.33	13.67
497.68	11.7	V	1.30	17.85	30.85	15.15
511.40	12.4	V	1.33	18.47	32.20	13.80

3.3.4 HANDSET IN STAND-BY MODE:
MODEL SCD386R

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m	Margin dB
80.58	7.0	V	0.60	6.83	14.43	25.57
85.79	10.6	V	0.61	8.07	19.28	20.72
95.34	6.9	V	0.64	10.76	18.30	25.20
103.67	6.7	V	0.65	11.75	19.10	24.40
317.91	7.6	V	1.12	14.78	23.50	22.50
400.91	12.2	V	1.20	15.72	29.12	16.88
401.20	7.2	H	1.20	16.11	24.51	21.49
419.52	8.8	V	1.22	16.00	26.02	19.98
507.22	6.9	H	1.32	18.55	26.77	19.23
507.26	8.2	V	1.32	18.34	27.86	18.14

3.3.5 HANDSET IN STAND-BY MODE: MODEL 08053R

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m	Margin dB
66.22	11.3	H	0.55	9.79	21.64	18.36
80.66	10.6	V	0.60	6.85	18.05	21.95
85.80	5.1	H	0.61	7.36	13.07	26.93
85.82	12.0	V	0.61	8.08	20.69	19.31
95.32	5.4	H	0.64	9.53	15.57	27.93
95.35	9.1	V	0.64	10.76	20.50	23.00
373.23	8.6	V	1.17	15.16	24.93	21.07
381.32	8.3	V	1.18	15.34	24.82	21.18
381.36	5.7	H	1.18	15.45	22.33	23.67
400.85	11.7	V	1.20	15.72	28.62	17.38
419.52	9.4	V	1.22	16.00	26.62	19.38

3.3.6 AC POWER LINES CONDUCTED SPURIOUS EMISSIONS:

Clause: 15.315, 15.207, 15.107, 15.31

Test procedure: ANSI C63.4 - 2003

Technical requirements/Limits:

FCC:

Emission Frequency (MHz)	FCC Conducted Limit (dBµV)	
	Quasi-peak (QP)	Average (AV)
0.15 - 0.5	66 to 56 *	56 to 46 *
0.5 - 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency.

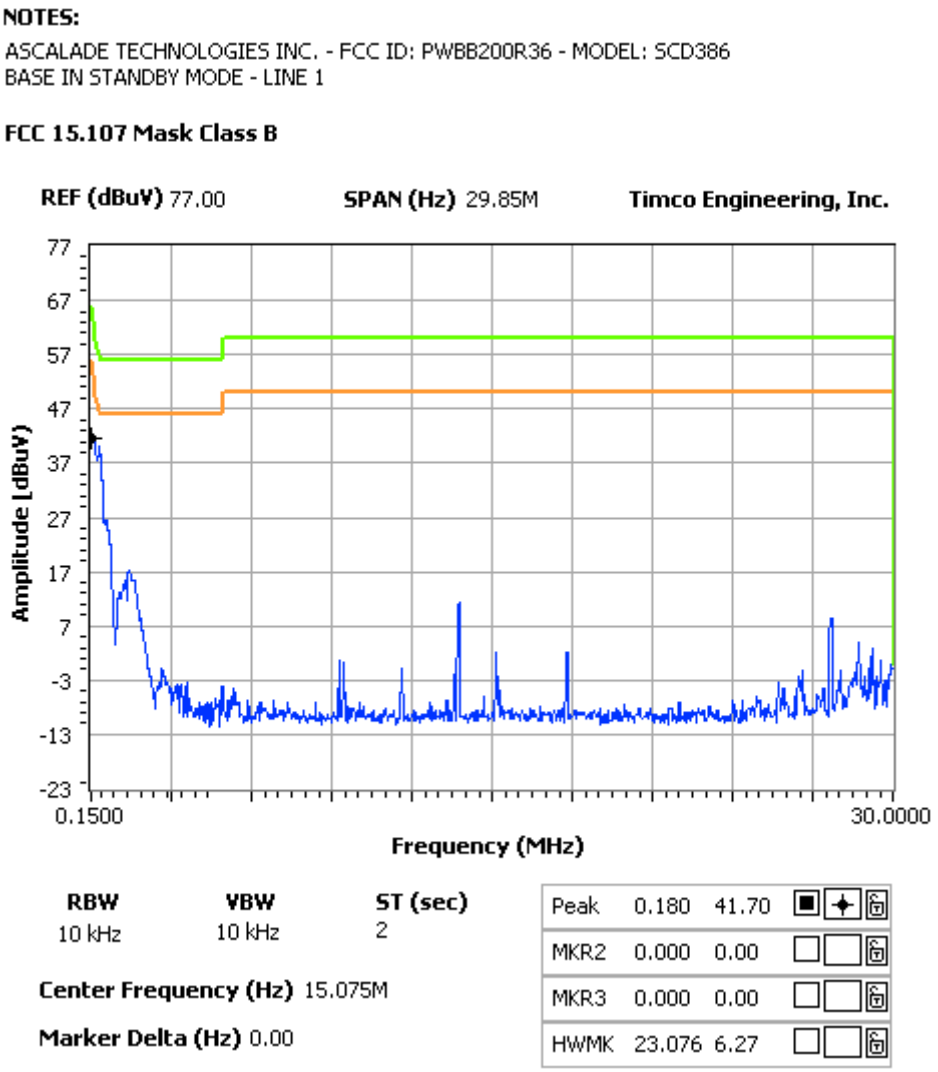
IC: 250 µV (48 dBµV) within 0.45-30 MHz using CISPR method of measurement

Test Conditions:
PK and QP(detector): RBW = 10kHz VBW>RBW
Avg: RBW = 10kHz VBW = 10Hz

Results:

Base is in standby mode.

LINE 1:



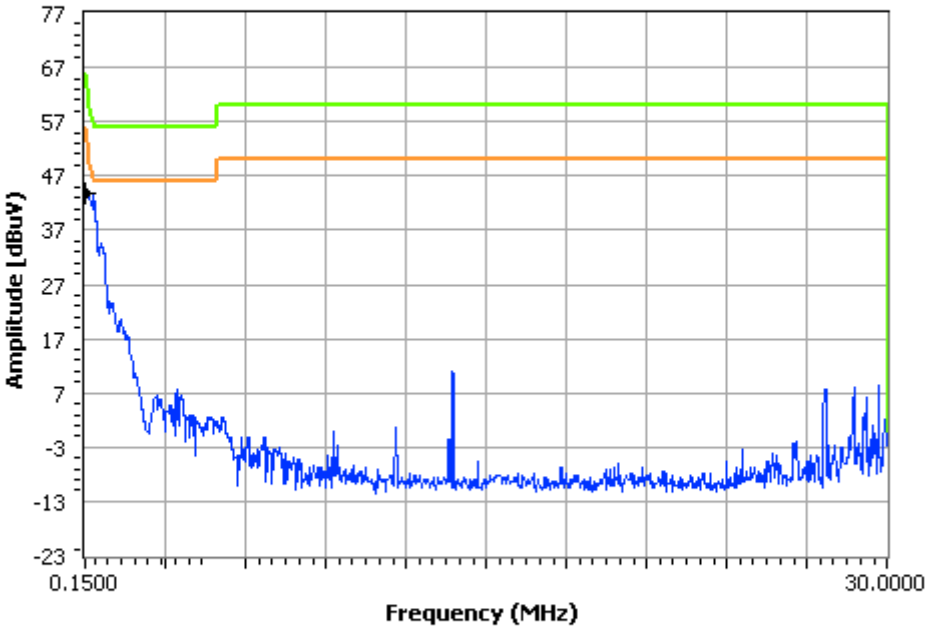
LINE 2:

NOTES:

ASCALADE TECHNOLOGIES INC. - FCC ID: PWBB200R36 - MODEL: SCD386
BASE IN STANDBY MODE - LINE 2

FCC 15.107 Mask Class B

REF (dBuV) 77.00 **SPAN (Hz)** 29.85M **Timco Engineering, Inc.**



RBW	VBW	ST (sec)
10 kHz	10 kHz	2

Center Frequency (Hz) 15.075M

Marker Delta (Hz) 0.00

Peak	0.150	43.90
MKR2	0.000	0.00
MKR3	0.000	0.00
HWMK	23.076	6.27

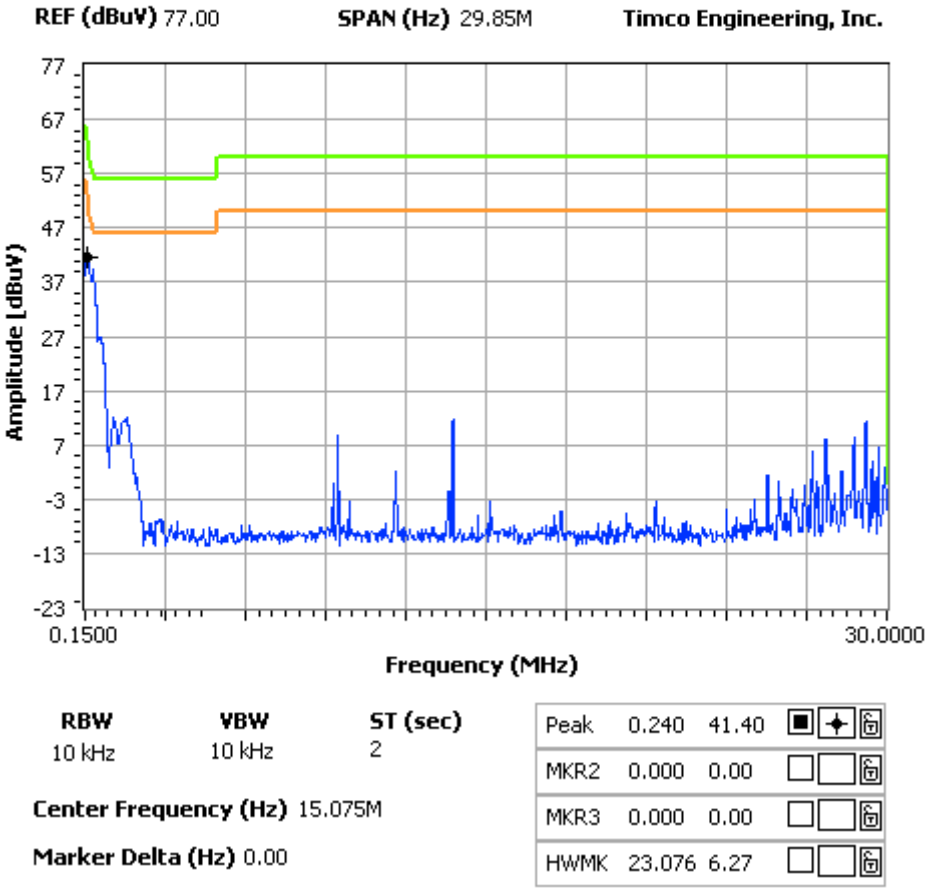
Base is in test mode.

LINE 1:

NOTES:

ASCALADE TECHNOLOGIES INC. - FCC ID: PWBB200R36 - MODEL: SCD386
BASE IN TEST MODE - LINE 1

FCC 15.107 Mask Class B



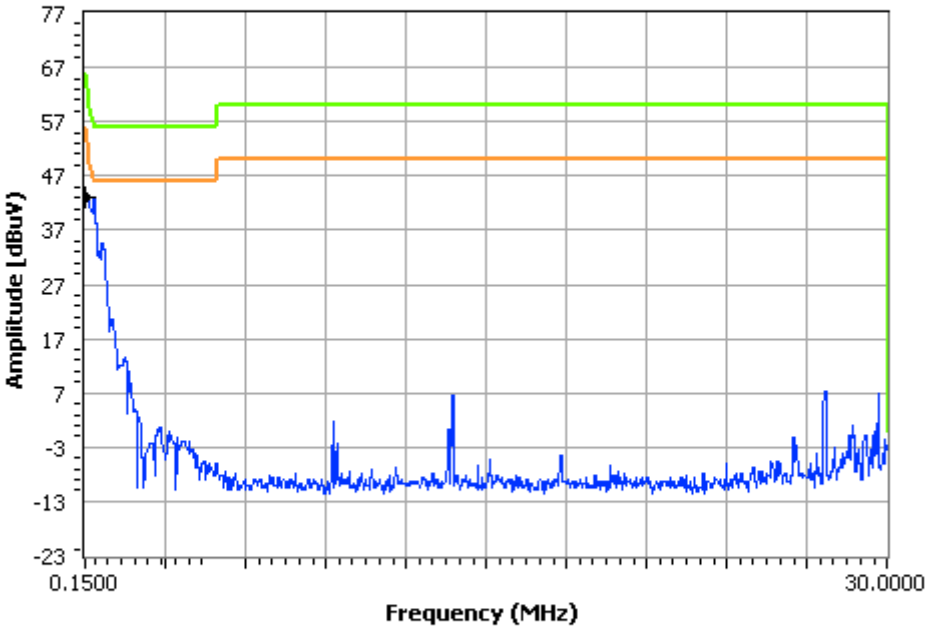
LINE 2:

NOTES:

ASCALADE TECHNOLOGIES INC. - FCC ID: PWBB200R36 - MODEL: SCD386
BASE IN TEST MODE - LINE 2

FCC 15.107 Mask Class B

REF (dBuV) 77.00 **SPAN (Hz)** 29.85M **Timco Engineering, Inc.**



RBW	VBW	ST (sec)
10 kHz	10 kHz	2

Center Frequency (Hz) 15.075M

Marker Delta (Hz) 0.00

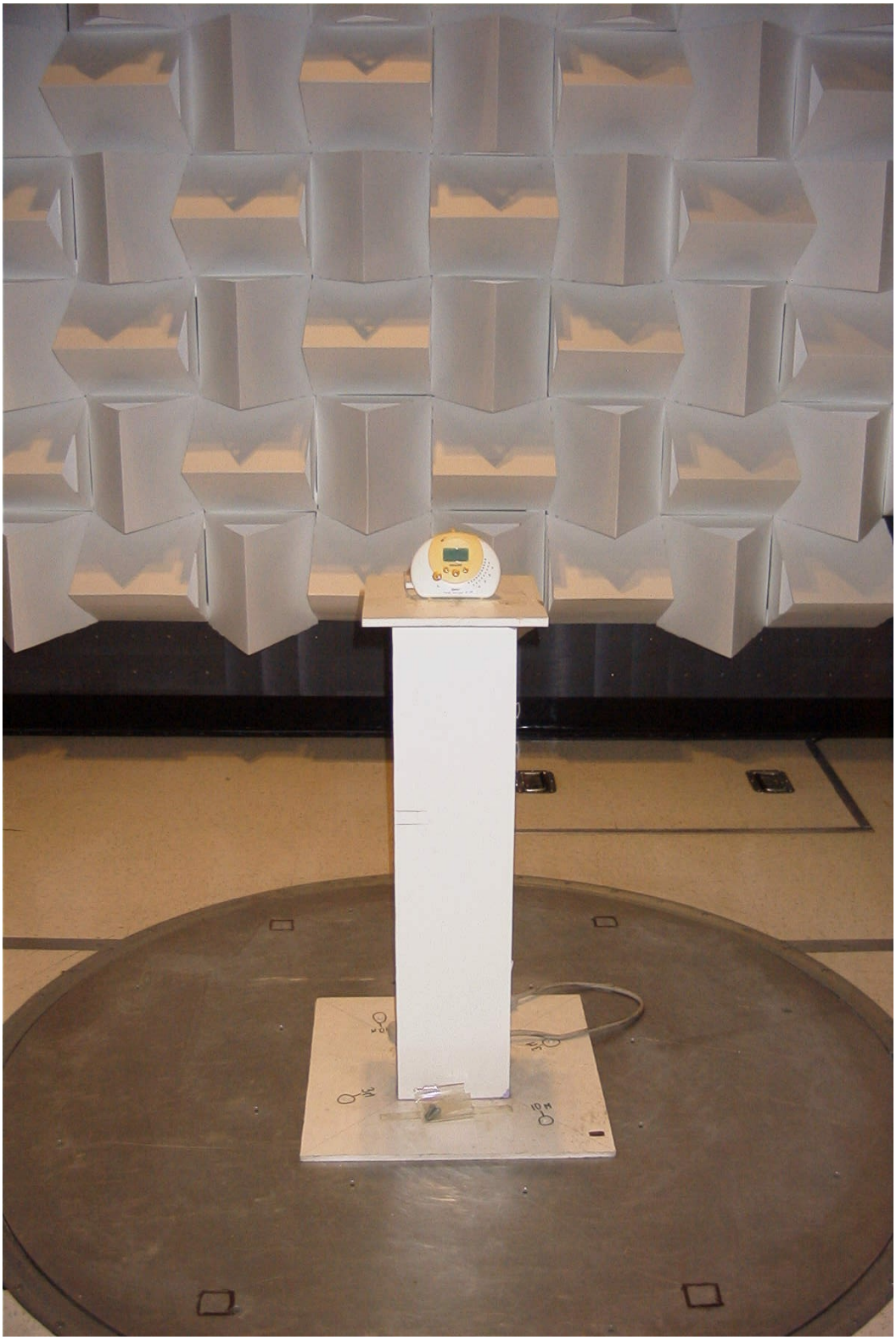
Peak	0.150	43.00
MKR2	0.000	0.00
MKR3	0.000	0.00
HWMK	23.076	6.27

4 TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

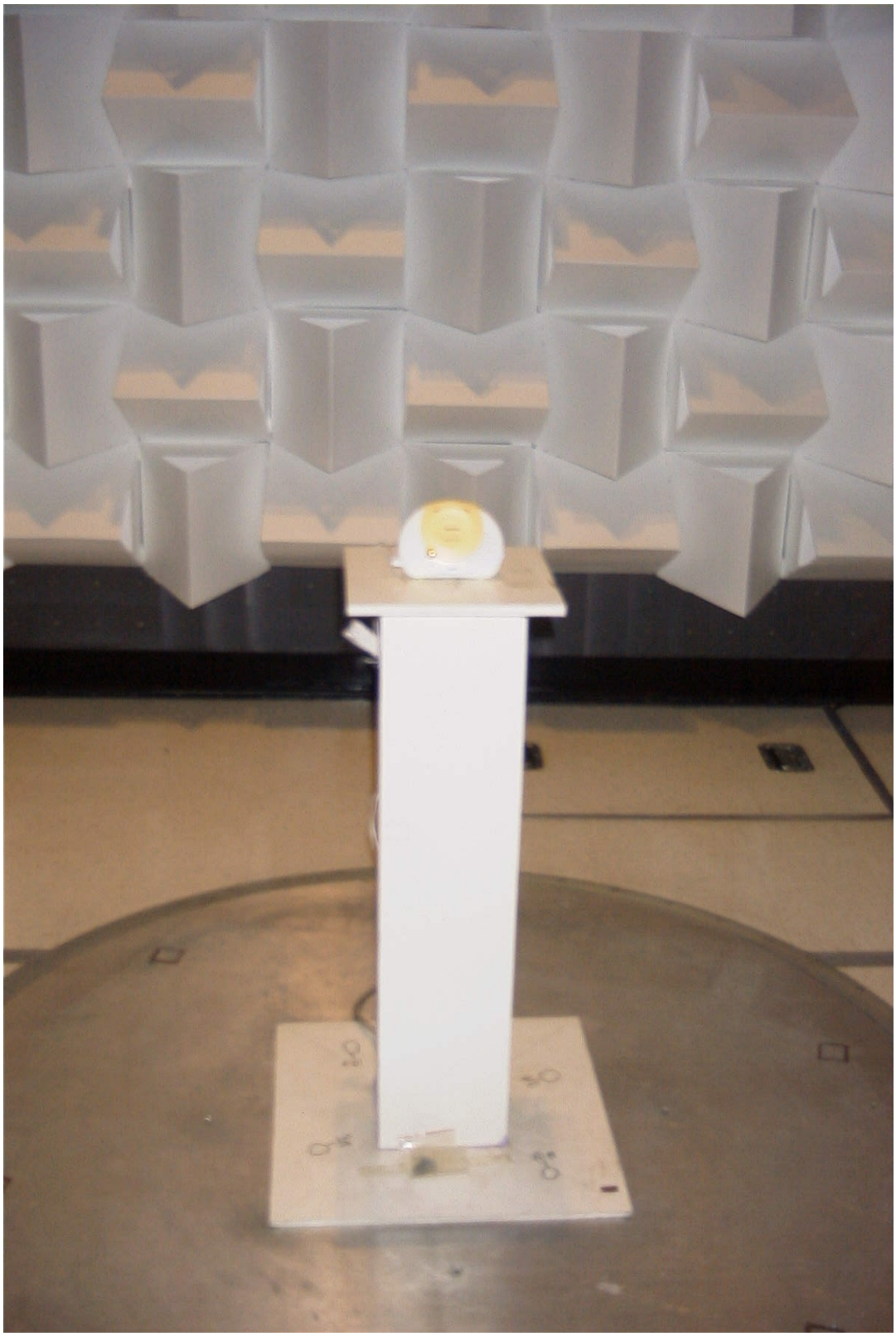
Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3/10-Meter OATS	TEI	N/A	N/A	Listed 3/27/04	3/26/07
3-Meter OATS	TEI	N/A	N/A	Listed 1/11/06	1/10/09
Biconnical Antenna	Eaton	94455-1	1057	CAL 12/12/05	12/12/07
Biconnical Antenna	Eaton	94455-1	1096	CAL 8/17/04	8/17/06
Biconnical Antenna	Electro-Metrics	BIA-25	1171	CAL 4/29/05	4/29/07
Blue Tower Quasi-Peak Adapter	HP	85650A	2811A01279	CAL 4/13/05	4/13/07
Blue Tower RF Preselector	HP	85685A	2926A00983	CAL 4/13/05	4/13/07
Blue Tower Spectrum Analyzer	HP	8568B	2928A04729 2848A18049	CAL 4/13/05	4/13/07
Double-Ridged Horn Antenna	Electro-Metrics	RGA-180	2319	CAL 12/29/04	12/29/06
LISN	Electro-Metrics	ANS-25/2	2604	CAL 8/27/04	8/27/06
LISN	Electro-Metrics	EM-7820	2682	CAL 4/28/05	4/28/07
Log-Periodic Antenna	Eaton	96005	1243	CAL 12/14/05	12/14/07

5 TEST SETUP PHOTOGRAPHS

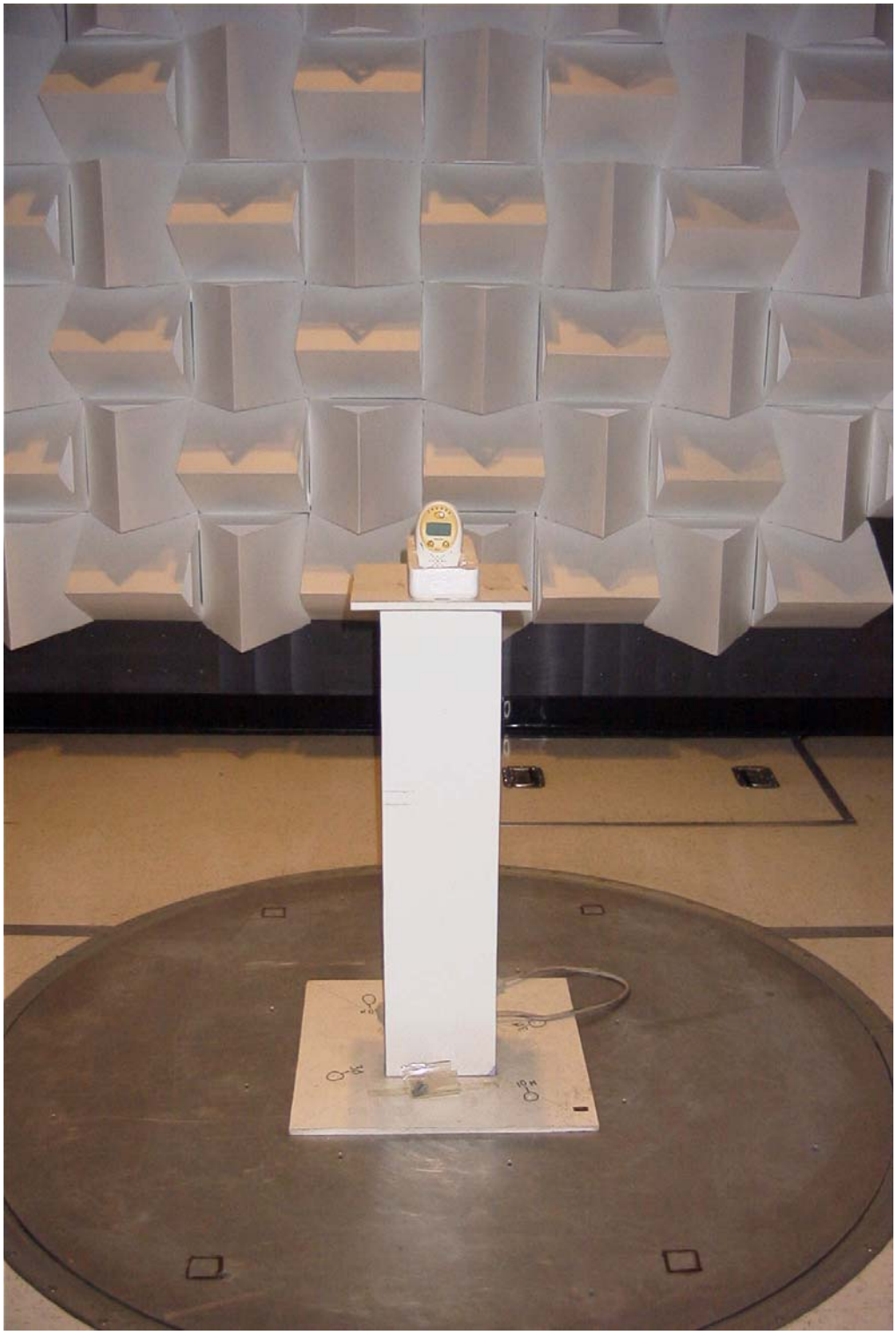
RADIATED TEST SET UP (BASE) MODEL SCD386:



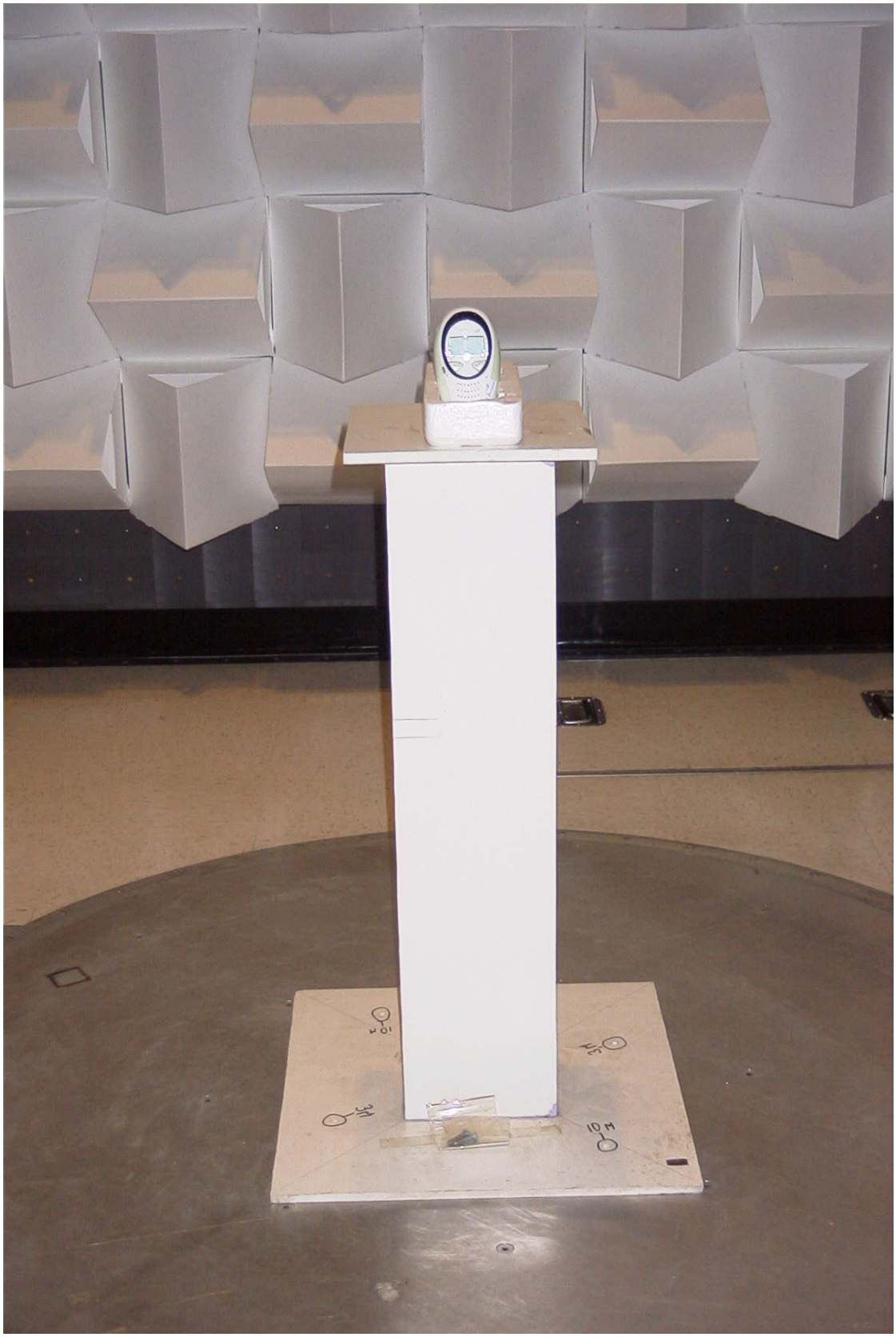
RADIATED TEST SET UP (BASE) MODEL SCD384:



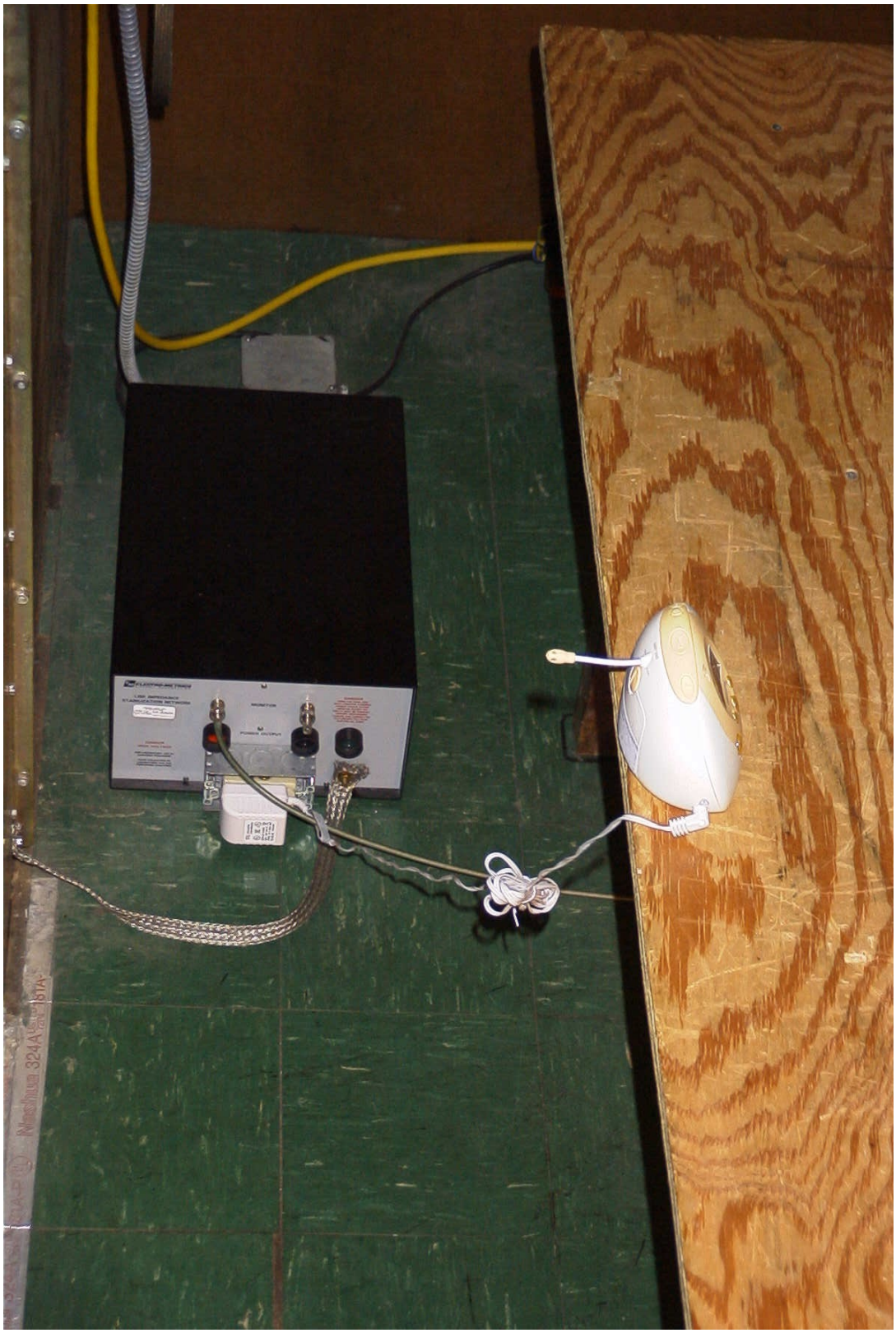
RADIATED TEST SET UP (HANDSET) – MODEL SCD386R:



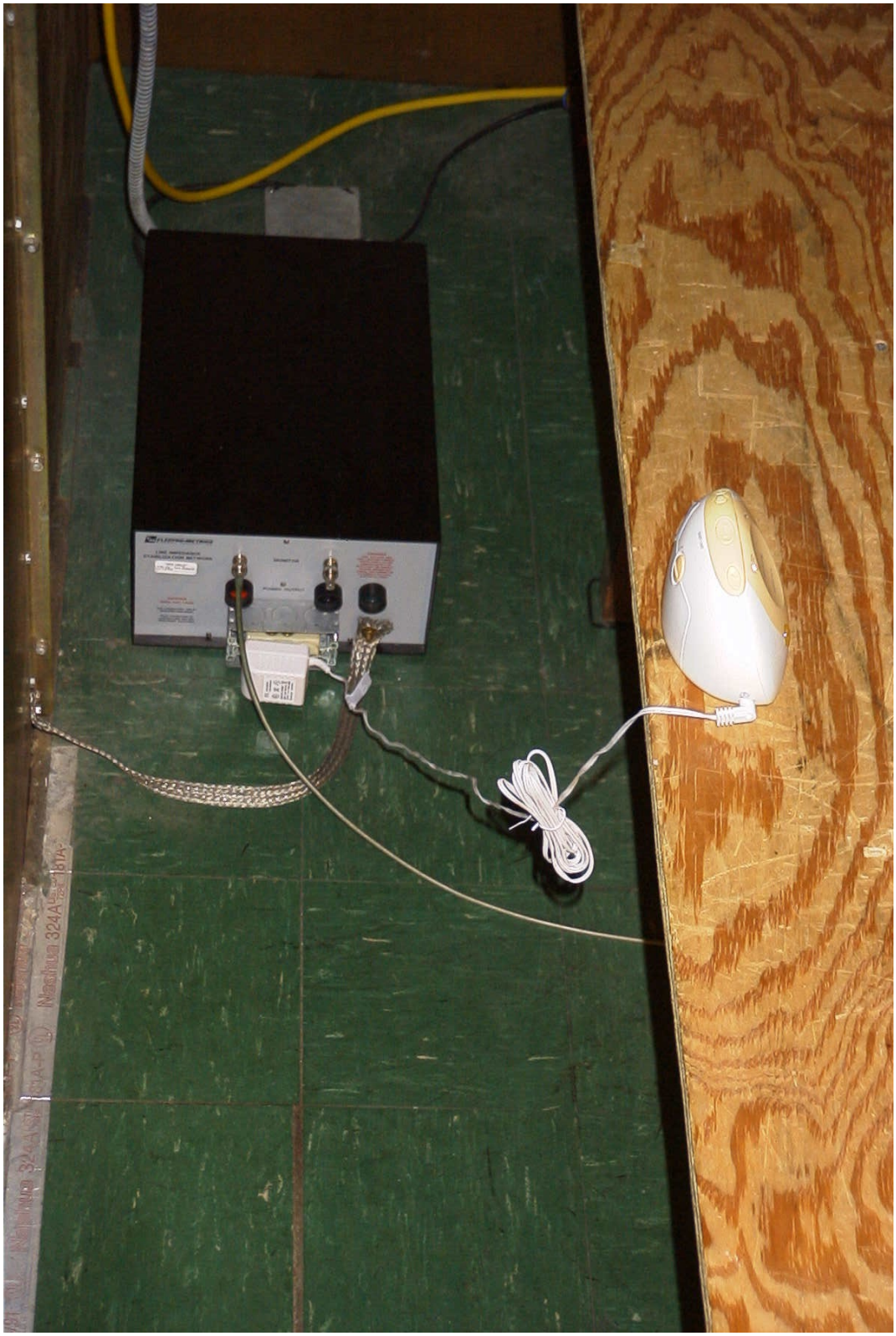
RADIATED EMISSIONS TEST SET UP (HANDSET):
MODEL 08053R



POWERLINE CONDUTED TEST SET (BASE)
MODEL SCD386:



POWERLINE CONDUTED TEST SET (BASE)
MODEL SCD384:



6 EUT EXTERNAL PHOTOGRAPHS

The photos are provided in a separate exhibit

7 EUT INTERNAL PHOTOGRAPHS

The photos are provided in a separate exhibit

8 LABEL PHOTOGRAPHS

The photos are provided in a separate exhibit