

DATE: 09 September 2008

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

FCC Radio Test Report

for


Visonic Technologies (1993) Ltd.


Equipment under test:

Infant Protection Bracelet

BTC

Written by: 
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Approved by: 
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Approved by: For/ 
I. Raz, EMC Laboratory Manager

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This report relates only to items tested.

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1. General Information

1.1 Administrative Information

Manufacturer: Visonic Technologies (1993) Ltd.

Manufacturer's Address: 30 Habarzel St.
Tel-aviv, 69710
Israel
Tel: +972-3—768-1400
Fax: +972-3-768-1415

Manufacturer's Representative: Gaby Shugol

Equipment Under Test (E.U.T): Infant Protection Bracelet

Equipment Model No.: BTC

Equipment Serial No.: Not Designated

Date of Receipt of E.U.T: 02.03.08

Start of Test: 02.03.08

End of Test: 05.06.08

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), File No. IC 4025.
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 Elpas Infant Protection Bracelet from Visonic Technologies (VT) is a rechargeable miniature, Radio Frequency and Infrared device. The bracelet provides 24/7 infant protection by detecting abduction attempts of newborns in maternity wards and by generating mother-baby mismatch alarms.

The Infant Protection Bracelet is comprised of a rechargeable tag and a disposable, anti-tamper, adjustable band made of skin-safe non-latex materials that can be retightened should the baby loose weight. When worn by the newborn, the bracelet automatically transmits removal alert notifications for keeping facility personnel informed of deliberate or accidental tampering and/or removal of the baby from the protected area.

The bracelet's all-in-one, dual technology transmitter continuously emits low power, supervision radio frequency (RF) messages as well as safe, supplemental infra-red (IR) messages that identifies the exact real-time location of the new born infant This same RF/IR technologies also continuously broadcasts the operational status of the tag (such as whether the tag is moving or at rest, it's battery state and the condition of its tamper wire). The bracelet's onboard magnetic low frequency (LF) receiver adds chokepoint area detection so whenever the new born infant nears a prohibited exit/entrance covered by an Elpas LF Exciter a security intervention alarm is raised.

Made of tough ABS thermoplastic, the Elpas Infant Protection Bracelet is shower and bath proof as well as temperature stable. Small in size and weight (39.4mm long, 31.5mm wide and 14.8mm thick) is rechargeable and includes LED visual indicators that illuminate whenever the bracelet transmits and/or when a low battery condition exists.

1.4 Test Methodology

Radiated testing was performed according to the procedures in ANSI C63.4: 2003. 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. Product Labeling

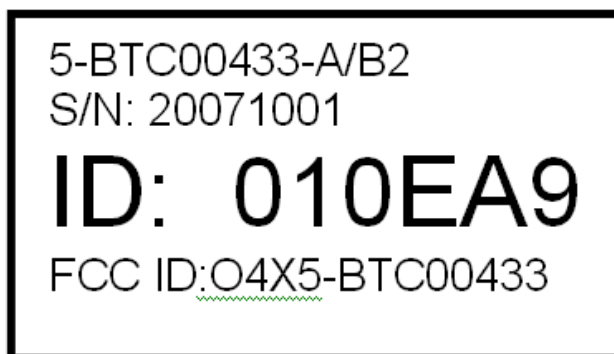


Figure 1. FCC Label

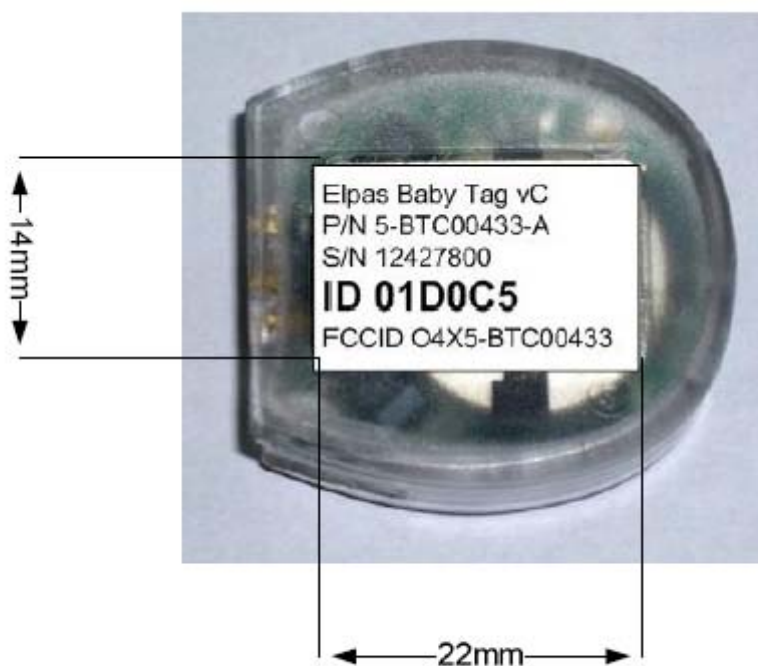


Figure 2. Location of Label on EUT

3. System Test Configuration

3.1 *Justification*

To determine the E.U.T. antenna orientation for the spurious radiated emissions tests, the product carrier field level was measured with the E.U.T. in 3 orthogonal positions. The E.U.T. was tested in 3 orthogonal positions. The vertical position of the E.U.T. was selected as the worst case final orientation position.

3.2 *EUT Exercise Software*

In normal operation mode the BTC transmits a single 2 msec transmission every 10 seconds when the badge is in motion.

In order to perform the test the firmware was modified so that the BTC transmits a message 20 times per second.

3.3 *Special Accessories*

No special accessories were required.

3.4 *Equipment Modifications*

No modifications were needed in order to achieve compliance

3.5 *Configuration of Tested System*



Figure 3. Configuration of Tested System

4. Periodic Operation

4.1 Specification

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

4.2 Requirements


Requirement	Rationale	Verdict
Continuous transmissions are not permitted.	See information in User Manual	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 plot in Figure 4 to Figure 7.	Complies
Periodic transmissions at regular predetermined intervals are not permitted.	See information in User Manual	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 8 to Figure 9.	Complies

4.3 Results

JUDGEMENT: Passed

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

TEST PERSONNEL:

Tester Signature:  Date: 10.09.08

Typed/Printed Name: A. Sharabi

Periodic Operation

E.U.T Description Infant Protection Bracelet
 Type BTC
 Serial Number: Not Designated

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

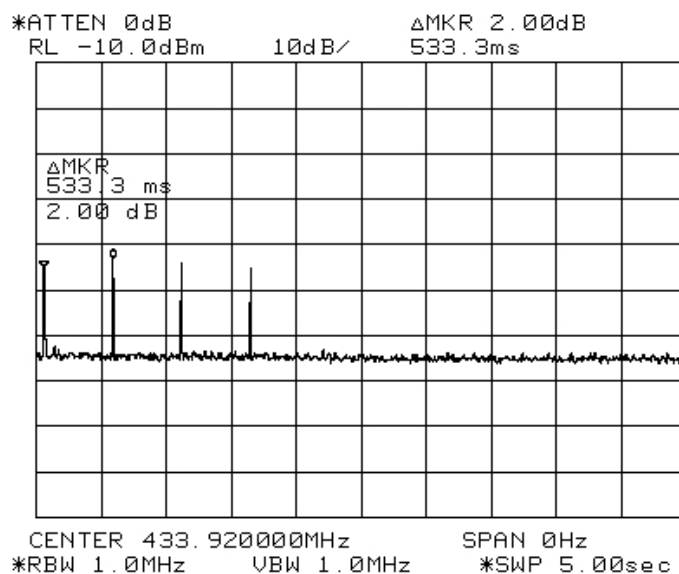


Figure 5. Automatic Transmission Temper Release in 5 Seconds

Periodic Operation

E.U.T Description Infant Protection Bracelet
 Type BTC
 Serial Number: Not Designated

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

10:02:48 APR 07, 2008

ACTV DET: PEAK
 MEAS DET: PEAK QP AVG
 MKRΔ 2.0000 msec
 .22 dB

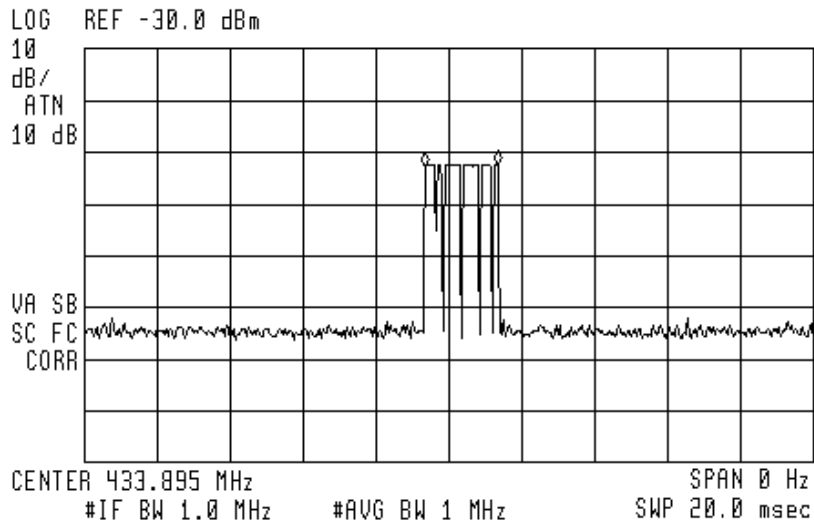


Figure 6. Automatic Transmission When BTC is Near RLE Pulse Width

Periodic Operation

E.U.T Description Infant Protection Bracelet
 Type BTC
 Serial Number: Not Designated

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

11:46:20 MAR 20, 2008

ACTV DET: PEAK
 MEAS DET: PEAK QP AVG
 MKR Δ 487.50 msec
 .71 dB

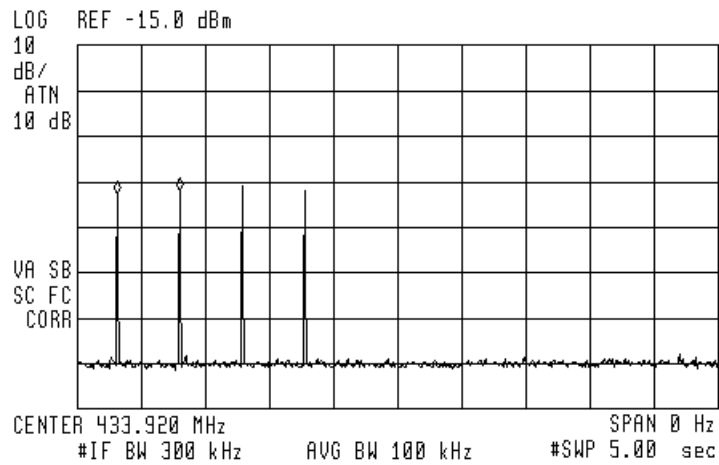


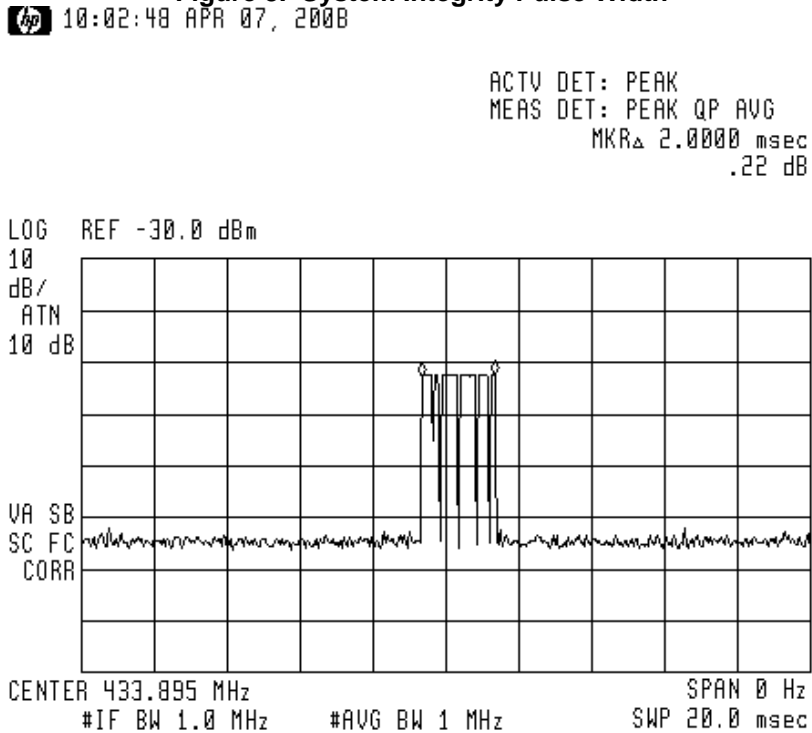
Figure 7. Automatic Transmission When BTC is Near RLE in 5 Seconds

Periodic Operation

E.U.T Description Infant Protection Bracelet
 Type BTC
 Serial Number: Not Designated

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

Figure 8. System Integrity Pulse Width



5. Field Strength of Fundamental

5.1 Test Specification

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

5.2 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 (433.915MHz) 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.

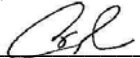
5.3 Measured Data

JUDGEMENT: Passed by 22.04 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 10 to Figure 14.

TEST PERSONNEL:

Tester Signature:  Date: 10.09.08

Typed/Printed Name: A. Sharabi

Field Strength of Fundamental

E.U.T Description Infant Protection Bracelet
 Type BTC
 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. (MHz)	Pol. V/H	Peak Reading (dBμV/m)	Average Factor (dB)	Average Result (dBμV/m)	Average Specification (dBμV/m)	Margin (dB)
433.915	H	72.90	-30.45	42.45	80.0	-37.55
433.915	V	77.96	-30.45	47.51	80.0	-32.49

Figure 10. 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 = $20 \log [(burst\ duration/100msec)*Num\ of\ burst\ within\ 100msec]$ = $20 \log [(3/100)*1]$ = -30.45
5. "Average Result" (dBμV/m) = Peak Amp. (dBμV/m) + D.C.F. (dB)

Field Strength of Fundamental


E.U.T Description Infant Protection Bracelet
 Type BTC
 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

 11:46:20 MAR 20, 2008

ACTV DET: PEAK
 MEAS DET: PEAK QP AVG
 MKR Δ 407.50 msec
 .71 dB

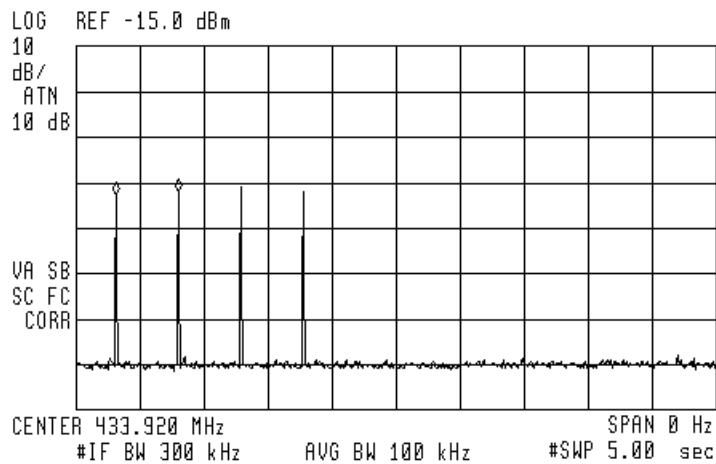


Figure 12. Average Factor Calculation

Note: The above plot represents the worst case transmission period within 100 milliseconds.

Field Strength of Fundamental

E.U.T Description Infant Protection Bracelet
 Type BTC
 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

14:45:14 MAR 02, 2008

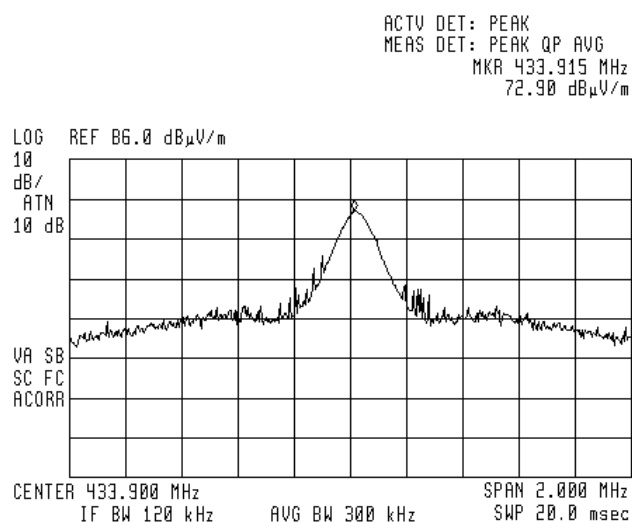


Figure 13. Field Strength of Fundamental. Antenna Polarization: HORIZONTAL. Detectors: Peak, Quasi-peak, Average

Field Strength of Fundamental

E.U.T Description Infant Protection Bracelet
 Type BTC
 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

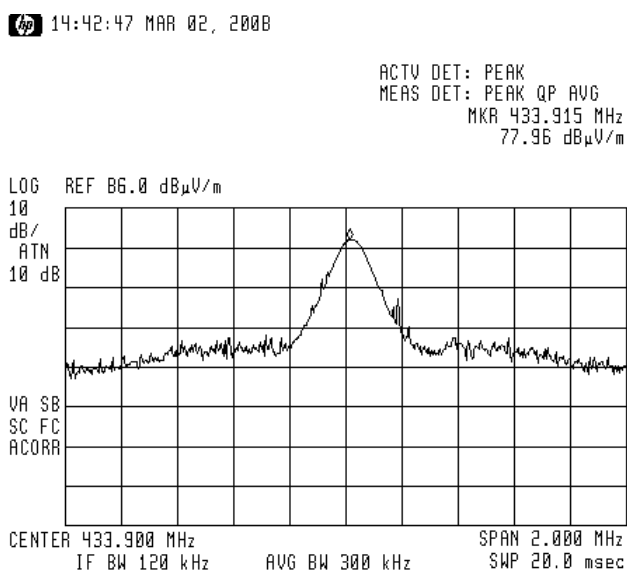


Figure 14. Field Strength of Fundamental. Antenna Polarization: VERTICAL. Detectors: Peak, Quasi-peak, Average

5.4 Test Instrumentation Used, Field Strength of Fundamental

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 12, 2007	1 year
RF Section	HP	85420E	3705A00248	November 12, 2007	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	November 22, 2007	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	JPKG19982	N/A	N/A

6. Radiated Measurement Test Set-up Photo



Figure 15. Radiated Emission Test

7. Spurious Radiated Emission

7.1 Test Specification

9 kHz - 4500 MHz, F.C.C., Part 15, Subpart C

7.2 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 3. 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 frequency range 9 kHz-4500 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 3 meters.

In the frequency range 2.9 – 4.5 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.

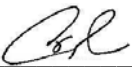
7.3 Test Data

JUDGEMENT: Passed by 4.5 dB

The EUT met the requirements of the F.C.C. Part 15, Subpart C, specification. The margin between the emission level and the specification limit is 4.5 dB in the worst case at the frequency of 867.86 MHz, horizontal polarization.

No signals were found in the frequency range of 1.0 – 4.5 GHz.

TEST PERSONNEL:

Tester Signature:  Date: 10.09.08

Typed/Printed Name: A. Sharabi

Radiated Emission

E.U.T Description Infant Protection Bracelet
 Type BTC
 Serial Number: Not Designated

Specification: FCC Part 15, Subpart C

Antenna Polarization: Horizontal Frequency range: 30 MHz to 1000 MHz
 Antenna: 3 meters distance Detectors: Peak, Quasi-peak

Signal Number	Frequency (MHz)	Peak dBuV/m	QP dBuV/m	QP Delta L 1 (dB)	Avg dBuV/m	Av Delta L 2 (dB)	Corr (dB)
1	37.562400	28.1	23.1	-16.9			13.9
2	49.298100	27.4	21.0	-19.0			11.7
3	867.856050	46.9	41.5	-4.5			27.4

**Figure 16. Radiated Emission. Antenna Polarization: HORIZONTAL.
 Detectors: Peak, Quasi-peak**

Note: QP Delta 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.

Radiated Emission

E.U.T Description Infant Protection Bracelet
 Type BTC
 Serial Number: Not Designated

Specification: FCC Part 15, Subpart C

Antenna Polarization: Vertical
 Antenna: 3 meters distance

Frequency range: 30 MHz to 1000 MHz
 Detectors: Peak, Quasi-peak

Signal Number	Frequency (MHz)	Peak dBuV/m	QP dBuV/m	QP Delta L 1 (dB)	Avg dBuV/m	Av Delta L 2 (dB)	Corr (dB)
1	40.668600	32.7	22.8	-17.2			13.2
2	50.611000	26.4	21.0	-19.0			11.5
3	868.000800	44.1	38.5	-7.5			27.4

**Figure 18. Radiated Emission. Antenna Polarization: VERTICAL.
 Detectors: Peak, Quasi-peak**

Note: QP Delta 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.

7.4 Test Instrumentation Used, Radiated Measurements

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 12, 2007	1 year
RF Section	HP	85420E	3705A00248	November 12, 2007	1 year
Low Noise Amplifier	DBS MICROWAVE	LNA-DBS- 0411N313	013	November 2, 2007	1 Year
Spectrum Analyzer	HP	8592L	3826A01204	March 5, 2008	1 Year
Antenna Bioconical	ARA	BCD 235/B	1041	March 23, 2008	1 year
Active Loop Antenna	EMCO	6502	9506-2950	October 15, 2007	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	November 22, 2007	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
Printer	HP	LaserJet 2200	JPKG19982	N/A	N/A

8. Bandwidth

8.1 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.

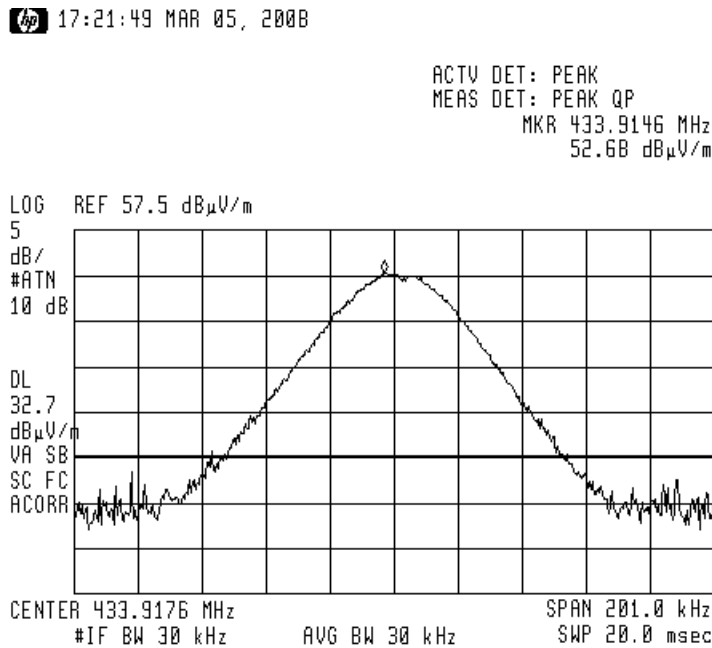


Figure 20

17:24:18 MAR 05, 2008

ACTV DET: PEAK
 MEAS DET: PEAK QP
 MKR 433.8643 MHz
 32.84 dB μ V/m

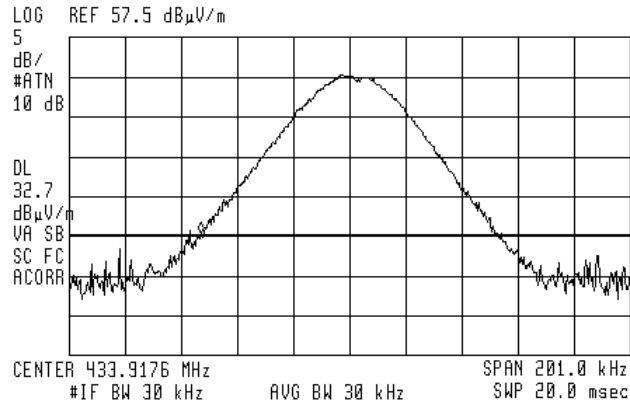


Figure 21 F_{Low}

17:25:42 MAR 05, 2008

ACTV DET: PEAK
 MEAS DET: PEAK QP
 MKR 433.9709 MHz
 32.65 dB μ V/m

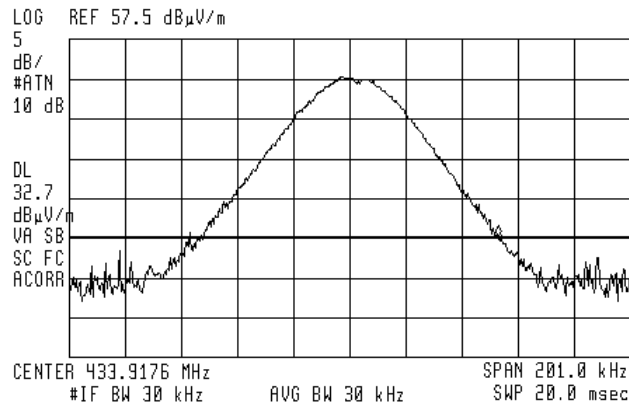


Figure 22 F_{High}

8.3 Test Equipment Used.

Bandwidth

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 12, 2007	1 year
RF Section	HP	85420E	3705A00248	November 12, 2007	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	November 22, 2007	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	JPKG19982	N/A	N/A

Figure 24 Test Equipment Used

9. APPENDIX A - CORRECTION FACTORS

9.1 Correction factors for CABLE from EMI receiver to test antenna at 3 meter range.

FREQUENCY (MHz)	CORRECTION FACTOR (dB)	FREQUENCY (MHz)	CORRECTION FACTOR (dB)
10.0	0.3	1200.0	7.3
20.0	0.6	1400.0	7.8
30.0	0.8	1600.0	8.4
40.0	0.9	1800.0	9.1
50.0	1.1	2000.0	9.9
60.0	1.2	2300.0	11.2
70.0	1.3	2600.0	12.2
80.0	1.4	2900.0	13.0
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		

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".

9.2 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.*

9.3 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.*

9.4

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

Distance of 3 meters

FREQUENCY (MHz)	APE (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)	APE (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 38M30.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".

**9.5 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".

**9.6 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".

9.7 Correction factors for ACTIVE LOOP ANTENNA
Model 6502
S/N 9506-2950

FREQUENCY (MHz)	Magnetic Antenna Factor (dB)	Electric Antenna Factor (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