



DATE: 26 November 2008

I.T.L. (PRODUCT TESTING) LTD. **FCC Radio Test Report** for Visonic Ltd.

Equipment under test:

Wireless PowerCode Digital Mirror **PIR Detector**

Tower 40

Written by: Than Ever

Approved by:

E. Ever, Test Engineer

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This report relates only to items tested.





Measurement/Technical Report for Visonic Ltd.

Wireless PowerCode Digital Mirror PIR Detector

Tower 40

FCC ID: WP3TOWER40

IC ID: 1467C-TOWER40

26 November 2008

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 Applicant for this device:

prepared by: (different from "prepared by")

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1. General Information

1.1 Administrative Information

Manufacturer: Visonic Ltd.

Manufacturer's Address: Habarzel 24

Tel Aviv

Israel 69710

Tel: +936-03-6456789 Fax: +936-03-6456788

Manufacturer's Representative: Arik Elshtein

Equipment Under Test (E.U.T): Wireless PowerCode Digital Mirror

PIR Detector

Equipment Model No.: Tower 40

Equipment Serial No.: Not Designated

Date of Receipt of E.U.T: 19/10/2008

Start of Test: 10/11/2008

End of Test: 13/11/2008

Test Laboratory Location: I.T.L (Product Testing) Ltd.

Kfar Bin Nun, ISRAEL 99780

Lod,

ISRAEL 71100

Test Specifications: FCC Part 15 Sub-part B, 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 TOWER 40 is a microprocessor-controlled wireless digital PIR detector, designed for easy installation, free of vertical adjustment. It features parabolic and cylindrical mirrors with uniform detection sensitivity throughout its operating range, up to 18 meters (59 ft), with creep zone protection.

1.4 Test Methodology

Both conducted and radiated testing were 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 Lod, Israel. This site is a FCC listed test laboratory (FCC Registration No. 861911, 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

Conducted Emission

The uncertainty for this test is ± 2 dB.

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





This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:(1) this device may not cause harmful interference, and (2)this device must accept any interference received, including interference that

may cause undesired operation.



Figure 1. FCC Label

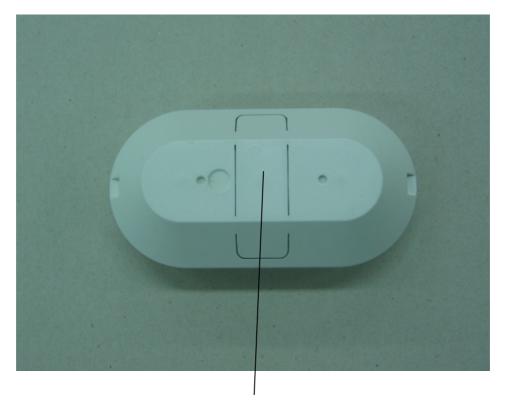


Figure 2. Location of Label on EUT



3. System Test Configuration

3.1 Justification

The TOWER 40 is a microprocessor-controlled wireless digital PIR detector, designed for easy installation, free of vertical adjustment. The product carrier field level was measured with the E.U.T. in the wall mounted, per the customer installation instructions in the user manual.

3.2 EUT Exercise Software

Manufacturing software was used for the tests.

3.3 Special Accessories

No special accessories were needed.

3.4 Equipment Modifications

3.5 Configuration of Tested System

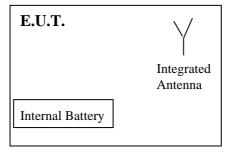


Figure 3. Configuration of Tested System



4. Test Set-up Photos

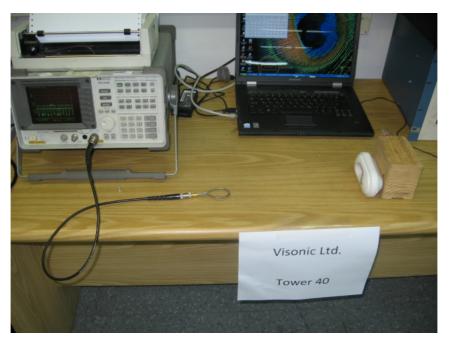


Figure 4. Periodic Emissions and Bandwidth Tests



Figure 5. Field Strength and Spurious Radiated Emission Setup



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.	See plot in Figure 6	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.	N/A	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 plot in Figure 6	Complies

5.3	Test Result	4_
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JUDGEMENT: Passed

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

TEST PERSONNEL:

Tester Signature: Www Eve Date: 26/11/2008

Typed/Printed Name: E. Ever



Periodic Operation

E.U.T Description Wireless PowerCode Digital Mirror

PIR Detector

Type Tower 40

Serial Number: Not Designated

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

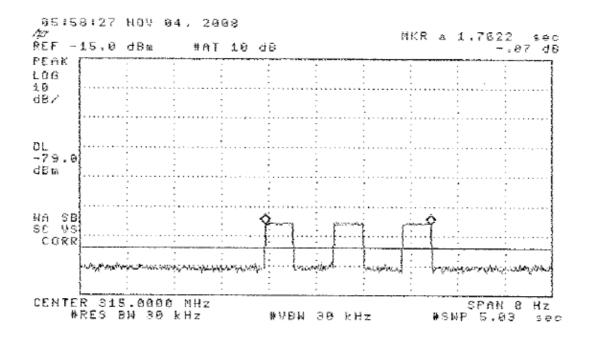


Figure 6. Self Test Switch Pulse Width



5.1 Test Instrumentation Used

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
Spectrum Analyzer	НР	8594E	3809U03785	November 30, 2006	2 year
Printer	НР	LaserJet 2200	JPKGC19982	N/A	N/A



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 (315 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($dB\mu V/m$) + E.U.T. Duty Cycle Factor, in 100msec time window (dB)

6.3 Test Results

JUDGEMENT: Passed by 20.7 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 7* to *Figure 9*.

TEST PERSONNEL:

Tester Signature: _____ Date: 26/11/2008

Typed/Printed Name: E. Ever



Field Strength of Fundamental

E.U.T Description Wireless PowerCode Digital Mirror

PIR Detector

Type Tower 40

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	$(dB\mu V/m)$	(dB)	$(dB\mu V/m)$	$\left(dB\mu V/m\right)$	(dB)
315.00	Н	53.1	-4.5	48.6	75.6	-27.0
315.00	V	59.4	-4.5	54.9	75.6	-20.7

Figure 7. Field Strength of Fundamental. Antenna Polarization: HORIZONTAL/VERTICAL.

Detector: Peak

Notes:

- **Detector used:** Peak
- **Average Factor Formula:** 20log (time on/time total), changing Peak to Average measurements in periodic signals.
- **Average Factor:** 20log [(0.790/1.32)] = 4.5dB (See *APPENDIX A Average Factor Calculation*)
- Carrier Average Specification: $[(41.67*315.00 \text{ MHz})] 7083 = 6043 \,\mu\text{V/m}$
- **Limit of Carrier** = $20\log(6043) = 75.6 \text{ dB}\mu\text{V}$



Field Strength of Fundamental

E.U.T Description Wireless PowerCode Digital Mirror

PIR Detector

Type Tower 40

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



FREQ 315.0 MHz PEAK 53.1 dBµV/m QP 51.1 dBµV/m AVG 46.2 dBµV/m

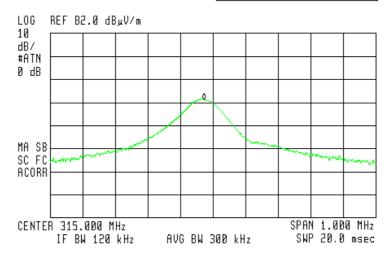


Figure 8. Field Strength of Fundamental.

Antenna Polarization: HORIZONTAL. Detectors: Peak, Quasi-peak, Average



Field Strength of Fundamental

E.U.T Description Wireless PowerCode Digital Mirror

PIR Detector

Type Tower 40
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

(88)



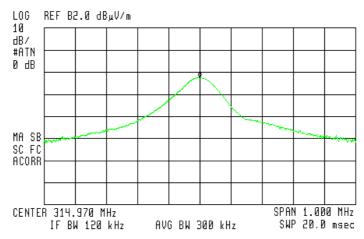


Figure 9. Field Strength of Fundamental.

Antenna Polarization: VERTICAL. Detectors: Peak, Quasi-peak, Average



6.4 Test Instrumentation Used

Instrument	Manufacturer	Model	Serial Number	Last Calibration	Period
EMI Receiver	НР	85422E	3906A00276	November 12, 2007	1 year
RF Section	НР	85420E	3705A00248	November 12, 2007	1 year
Antenna-Log Periodic	A.H.System	SAS- 200/511	253	February 26, 2008	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



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.

The E.U.T. was operated at the frequency of 315.00 MHz. This frequency was measured using a peak detector.

7.3 Test Results

JUDGEMENT: Passed

The signals in the band 9 kHz - 30 MHz were below the spectrum analyzer noise level.

TEST PERSONNEL:

Tester Signature: Um Eve Date: 26/11/2008

Typed/Printed Name: E. Ever



7.4 Test Instrumentation Used

Instrument	Manufacturer	Model	Serial Number	Last Calibration	Period
EMI Receiver	НР	85422E	3906A00276	November 12, 2007	1 year
RF Section	НР	85420E	3705A00248	November 12, 2007	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]

No external pre-amplifiers are used.



8. Spurious Radiated Emission

8.1 Test Specification

30 – 3,150 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 5*. *Field Strength and Spurious Radiated Emission*.

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 - 3.2 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 Results

JUDGEMENT: Passed by 4.0 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 was 4.0 dB in the worst case at the frequency of 944.91 MHz, vertical polarization.

TEST PERSONNEL:

Tester Signature: Www Eve Date: 26/11/2008

Typed/Printed Name: E. Ever



Radiated Emission

E.U.T Description Wireless PowerCode Digital

Mirror PIR Detector

Type Tower 40
Serial Number: Not Designated

Specification: FCC Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical Frequency range: 30 MHz to 3,150

MHz

Antenna: 3 meters distance Detectors: Peak, Quasi-peak

Frequency	POL	Peak	Average	Average Amp	Average	Margin	Pass/
(MHz)	(V/H)	Amp (dBμV/m)	Factor (dB)	$(dB\mu V/m)$	Specification (dBµV/m)	(dB)	Fail
629.95	Н	31.7	-4.5	27.2	55.6	-28.4	PASS
944.91	Н	45.9	-4.5	41.4	55.6	-14.2	PASS
1260.00	Н	38.4	-4.5	33.9	55.6	-21.7	PASS
629.94	V	40.3	-4.5	35.8	55.6	-19.8	PASS
944.91	V	56.1	-4.5	51.6	55.6	-4.0	PASS
1260.00	V	45.6	-4.5	41.1	55.6	-14.5	PASS

Figure 10. Radiated Emission. Antenna Polarization: VERTICAL.

Detectors: Peak, Quasi-peak

Note: 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.

- **Detector used:** Peak
- Average Factor Formula: 20log (time on/time total), changing Peak to Average measurements in periodic signals.
- **Average Factor:** 20log [(0.790/1.32)] = 4.5dB (See *APPENDIX A Average Factor Calculation*)
- Carrier Average Specification: $[(41.67*315.00 \ MHz)] 7083 = 6043 \ \mu V/m$
- **Limit of Carrier** = $20\log(6043) = 75.6 \text{ dB}\mu\text{V}$
- **Spurious Average Specification:** Limit of Carrier 20dB

Note: Testing was performed to the 10th harmonic.



8.4 Test Instrumentation Used

Instrument	Manufacturer	Model	Serial Number	Last Calibration	Period
EMI Receiver	НР	85422E	3906A00276	November 12, 2007	1 year
RF Section	НР	85420E	3705A00248	November 12, 2007	1 year
Antenna-Log Periodic	A.H.System	SAS- 200/511	253	February 26, 2008	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



9. Bandwidth

9.1 Test Specification

F.C.C. Part 15, Subpart C: 15.231(c)

9.2 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 EUT was set up as shown in *Figure 11* and *Figure 13*, 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.

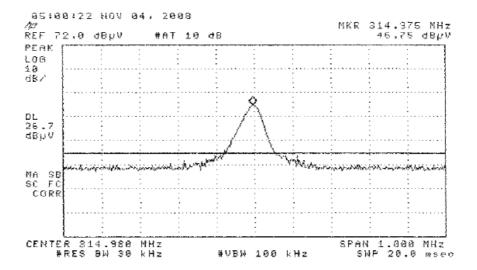


Figure 11 F_{Peak}



Bandwidth

E.U.T Description Wireless PowerCode Digital

Mirror PIR Detector

Type Tower 40
Serial Number: Not Designated

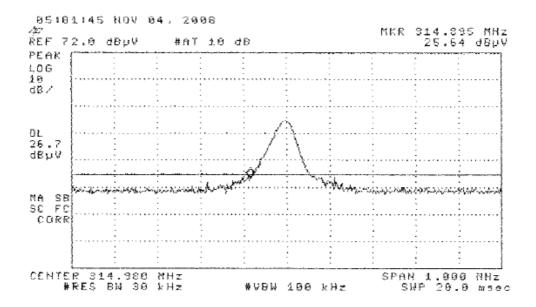


Figure 12 F_{Low}

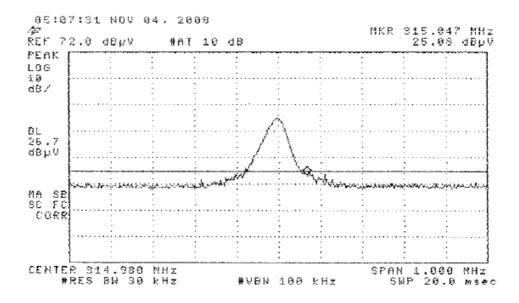


Figure 13 F_{High}



9.3 Test Results

E.U.T Description: Wireless PowerCode Digital Mirror PIR Detector

Model: Tower 40

Serial Number: Not Designated

Specification: F.C.C. Part 15, Subpart C: Section15.231(c)

Bandwidth	Specification	Margin
Reading	(1)	
(kHz)	(kHz)	(kHz)
0.152	< 0.787 MHz	0.635

Figure 14 Bandwidth

JUDGEMENT: Passed by 635.00 kHz

TEST PERSONNEL:

Tester Signature: March Date: 26/11/2008

Typed/Printed Name: E. Ever

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



9.4 Test Equipment Used.

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
Spectrum Analyzer	НР	8594E	3809U03785	November 30, 2006	2 year
Printer	HP	LaserJet 2200	JPKGC19982	N/A	N/A



10. APPENDIX A - Average Factor Calculation

Pulse Duration = $790 \mu s$ (See *Figure 15*)

Pulse Period: (1 plot) = 1.32 ms (See *Figure 16*) **Average factor:** $20\log(0.790/1.32) = -4.5$ dB

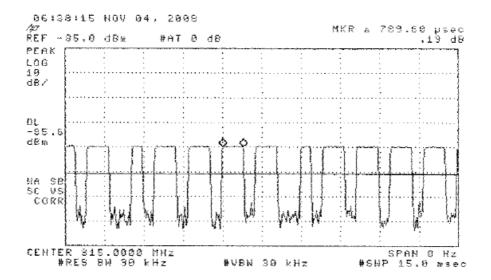


Figure 15 Pulse duration: = 790 µsec

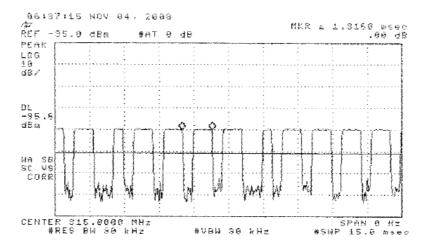


Figure 16 Pulse period: (1 plot) = 1.32 msec



11. APPENDIX B - CORRECTION FACTORS

11.1 Correction factors for

CABLE

from EMI receiver to test antenna at 3 meter range.

FREQUENCY	CORRECTION FACTOR
(MHz)	(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	CORRECTION FACTOR
(MHz)	(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

- 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	CORRECTION FACTOR
(CIIa)	
(GHz)	(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

- 1. The cable type is RG-8.
- 2. The overall length of the cable is 10 meters.



11.3 Correction factors for

from spectrum analyzer to test antenna above 2.9 GHz

FREQUENCY	CORRECTION FACTOR	FREQUENCY	CORRECTION FACTOR
(GHz)	(dB)	(GHz)	(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

- 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.



12.6 Correction factors for LOG PERIODIC ANTENNA Type LPD 2010/A at 3 and 10 meter ranges.

Distance of 3 meters

Distance of 3 meters	
FREQUENCY	AFE
(MHz)	(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	AFE
(MHz)	(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

- 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".



11.4 Correction factors for

LOG PERIODIC ANTENNA Type SAS-200/511 at 3 meter range.

FREQUENCY	ANTENNA
	FACTOR
(GHz)	(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	ANTENNA
	FACTOR
(GHz)	(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

- 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".



11.5 Correction factors for

BICONICAL ANTENNA Type BCD-235/B, at 3 meter range

FREQUENCY AFE (MHz) (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 19.9 310 20.7 320 21.9 330 23.4		
(MHz) (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 19.2 300.0 19.9 310 20.7 320 21.9 330 23.4 340 25.1		
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		
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	, ,	` ′
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		
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		
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	40.0	
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		
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		
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		8.5
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	80.0	
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	90.0	9.6
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	100.0	10.3
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	110.0	11.0
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	120.0	11.5
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	130.0	11.7
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	140.0	12.1
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	150.0	12.6
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	160.0	12.8
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	170.0	13.0
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	180.0	13.5
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	190.0	14.0
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	200.0	14.8
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	210.0	15.3
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	220.0	15.8
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	230.0	16.2
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	240.0	16.6
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	250.0	17.6
280.0 18.7 290.0 19.2 300.0 19.9 310 20.7 320 21.9 330 23.4 340 25.1	260.0	18.2
290.0 19.2 300.0 19.9 310 20.7 320 21.9 330 23.4 340 25.1	270.0	18.4
300.0 19.9 310 20.7 320 21.9 330 23.4 340 25.1	280.0	18.7
310 20.7 320 21.9 330 23.4 340 25.1	290.0	19.2
320 21.9 330 23.4 340 25.1	300.0	19.9
330 23.4 340 25.1	310	20.7
340 25.1	320	21.9
	330	23.4
350 27.0	340	25.1
	350	27.0

- 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".