

**DATE: 01 February 2011**

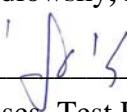
**I.T.L. (PRODUCT TESTING) LTD.**  
**FCC Radio Test Report**  
for  
**Visonic Ltd.**

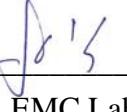
**Equipment under test:**

**Handheld Transmitter for AMBER  
GS (315)**

**MCT-212 GS LA**

Written by:   
D. Shidowsky, Documentation

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

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This report relates only to items tested.

## Measurement/Technical Report for Visonic Ltd.

### Handheld Transmitter for AMBER GS (315)

**MCT-212 GS LA**

**FCC ID: WP3MCT212GSLA**

**IC No: 1467C-MCT212GSLA**

This report concerns:                      Original Grant:

Class I change:

Class II change:

Equipment type:                      Part 15 Security/Remote Control Transceiver

47CFR15 Section 15231 (a-d)

Measurement procedure used is ANSI C63.4-2003.

Application for Certification  
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## 1. General Information

### 1.1 Administrative Information

Manufacturer: Visonic Ltd.

Manufacturer's Address: 24 Habarzel ST.  
Tel Aviv 69710  
Israel  
Tel: +936-03-645-6789  
Fax: +936-03-645-6788

Manufacturer's Representative: Arik Elshtain

Equipment Under Test (E.U.T): Handheld Transmitter for AMBER GS (315)

Equipment Model No.: MCT-212 GS LA

Equipment Serial No.: Not designated

Date of Receipt of E.U.T: 08/12/10

Start of Test: 27/12/10

End of Test: 27/12/10

Test Laboratory Location: I.T.L (Product Testing) Ltd.  
Kfar Bin Nun,  
ISRAEL 99780

Test Specifications: FCC Part 15 Subpart 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.

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 MCT-212 GS , (part of Amber GS LA system) is a miniature waterproof transmitter, designed for home health care signaling. In the event of an emergency, help can be summoned at the press of the transmitter button.

All MCT-212 GS units are supplied with a wrist band and neck strap.

They can be worn on the wrist or around the neck.

The LED lights during a transmission to indicate a good battery. If the LED flashes during a transmission, this means that the battery is low and must be replaced immediately.

### **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 September 3 2009).

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  $\pm 4$  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 *Special Accessories*

No special accessories were needed.

### 2.3 *Equipment Modifications*

No modifications were needed in order to achieve compliance

### 2.4 *Configuration of Tested System*



**Figure 1 Configuration of Tested System**

### 3. Radiated Measurement Test Set-up Photo



**Figure 2 Radiated Emission Test Setup**

## 4. Average Factor Calculation

1. Burst duration =  $2 \times 45\text{ msec}$
2. Time between bursts =  $2 \times 4.5\text{ msec}$
3. Average Factor =  $20 \log \left[ \frac{\text{Pulse duration}}{\text{Pulse period}} \times \frac{\text{burst duration}}{100\text{msec}} \times \text{Num of burst within 100msec} \right]$

NOTE – [Pulse duration /Pulse period] considered ½ as worst case since unit operates with random ON/OFF keying modulation

$$\text{Average Factor} = 20 \log \left[ \frac{1}{2} \times \frac{91}{100} \right] = -6.83\text{dB}$$

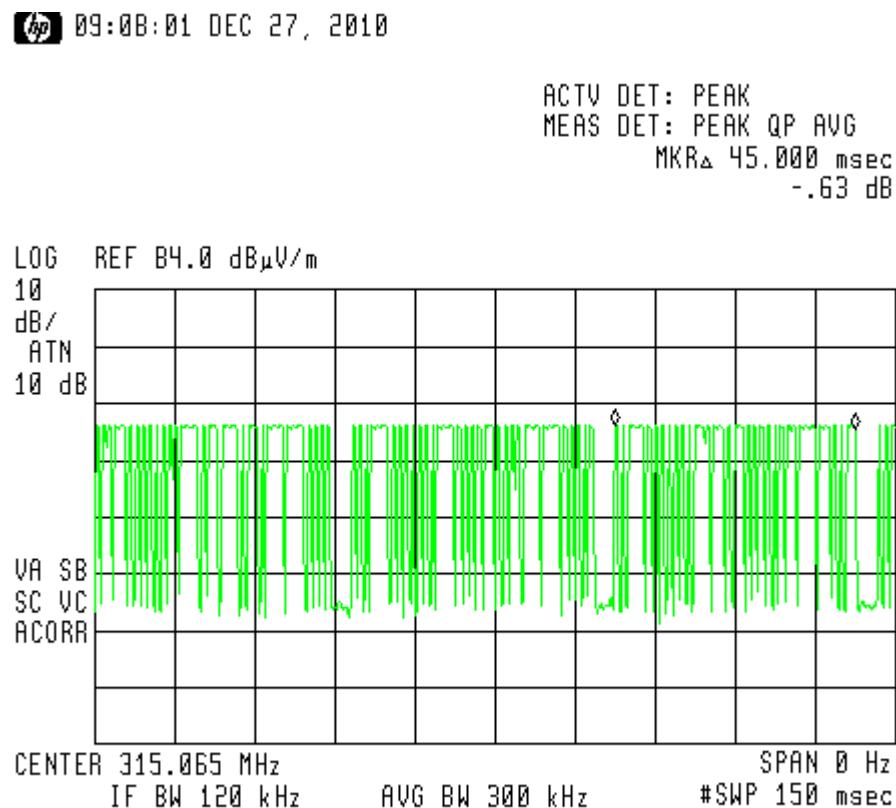


Figure 3. Burst duration #1= 45msec

09:08:48 DEC 27, 2010

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR<sub>A</sub> -45.000 msec  
.66 dB

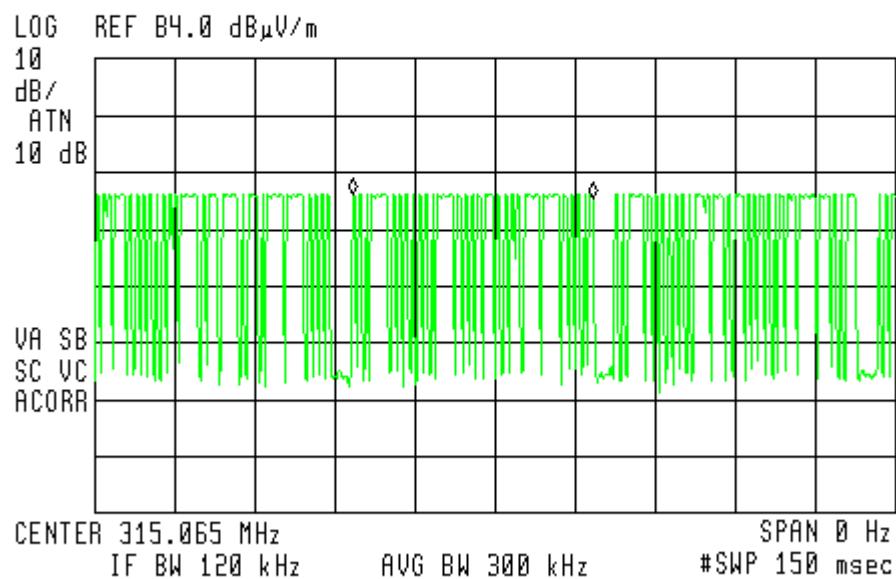
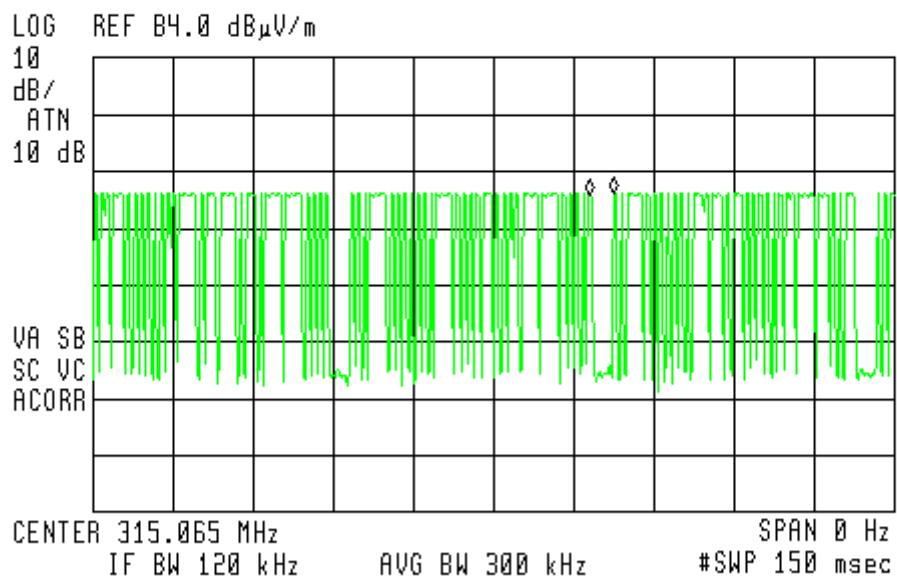


Figure 4. Burst duration #2 = 45msec

09:11:15 DEC 27, 2010

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR<sub>A</sub> -4.5000 msec  
-40 dB



**Figure 5. Time between bursts #1 = 4.5msec**

09:10:27 DEC 27, 2010

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR<sub>Δ</sub> -4.5000 msec  
-.54 dB

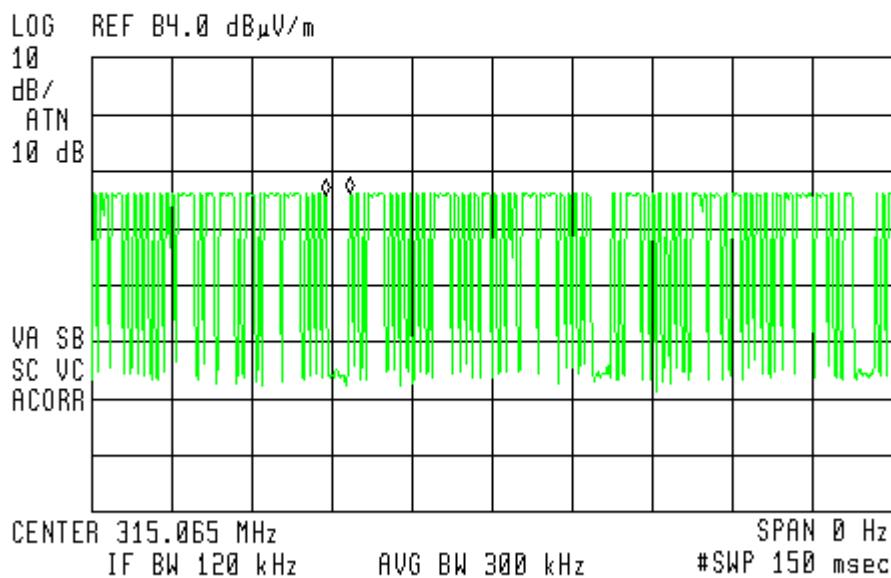


Figure 6. Time between bursts #2 = 4.5msec

#### 4.1 **Test Instrumentation Used**

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
Spectrum Analyzer	HP	8592L	3826A01204	March 14, 2010	1 Year
Antenna Bioconical	ARA	BCD 235/B	1041	August 1, 2010	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	March 24, 2010	1 year
Antenna-Log Periodic	A.H.System	SAS-200/511	253	January 29, 2009	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

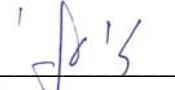
Requirement	Rationale	Verdict
Continuous transmissions are not permitted.	N/A	Complies
A manually operated transmitter shall be deactivated within not more than 5 seconds after releasing the switch.	See Figure 7.	Complies
An automatically operated transmitter shall cease operation within 5 seconds after 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.	N/A	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: For/ 

Date: 01.02.11

Typed/Printed Name: A. Sharabi

## Periodic Operation

E.U.T Description      Handheld Transmitter for AMBER  
 GS (315)  
 Type                      MCT-212 **GS LA**  
 Serial Number:           Not designated

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

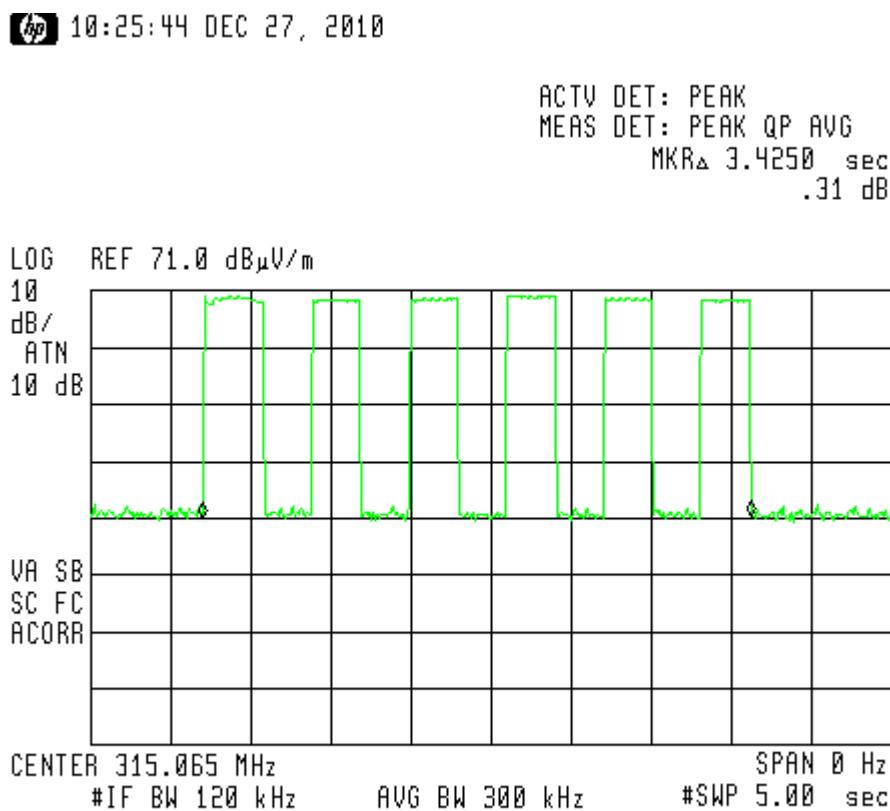


Figure 7. Manually operated transmitter Alarm

## 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 (315.0 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)

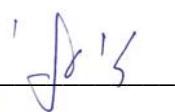
### 6.3 ***Measured Data***

JUDGEMENT: Passed by 9.5dB

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 8 to Figure 10.

TEST PERSONNEL:

Tester Signature: For/ 

Date: 01.02.11

Typed/Printed Name: A. Sharabi

## Field Strength of Fundamental

E.U.T Description      Handheld Transmitter for AMBER GS (315)  
 Type                      MCT-212 GS LA  
 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

<b>Freq. (MHz)</b>	<b>Pol. V/H</b>	<b>Peak Reading (dB<math>\mu</math>V/m)</b>	<b>Average Factor (dB)</b>	<b>AVG Result (dB<math>\mu</math>V/m)</b>	<b>AVG Specification (dB<math>\mu</math>V/m)</b>	<b>Margin (dB)</b>
315.0	H	60.57	-6.83	53.74	75.62	-21.88
315.0	V	72.95	-6.83	66.12	75.62	-9.5

**Figure 8. 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 Reading.” (dB $\mu$ V/m) included the “Correction Factors”.
3. “Correction Factors” (dB) = Test Antenna Correction Factor(dB) + Cable Loss.
4. “Average Result” (dB $\mu$ V/m)=Peak Reading (dB $\mu$ V/m)+ Average Factor (dB)

## Field Strength of Fundamental

E.U.T Description      Handheld Transmitter for AMBER  
GS (315)  
Type                      MCT-212 GS LA  
Serial Number:           Not designated

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

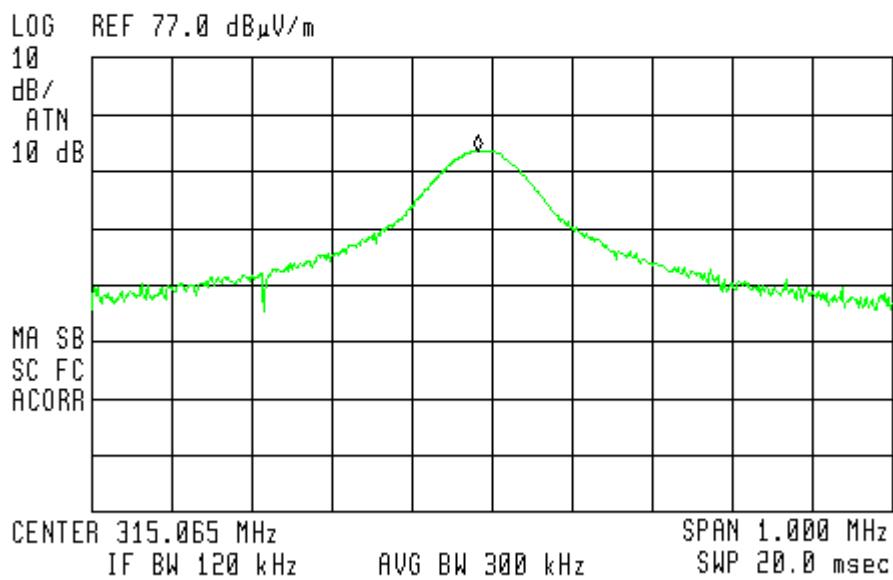
Antenna Polarization: Horizontal

Test Distance: 3 meters

Detector: Peak

08:55:20 DEC 27, 2010

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 315.048 MHz  
60.57 dB $\mu$ V/m



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

## Field Strength of Fundamental

E.U.T Description      Handheld Transmitter for AMBER  
GS (315)

Type                      MCT-212 GS LA

Serial Number:              Not designated

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

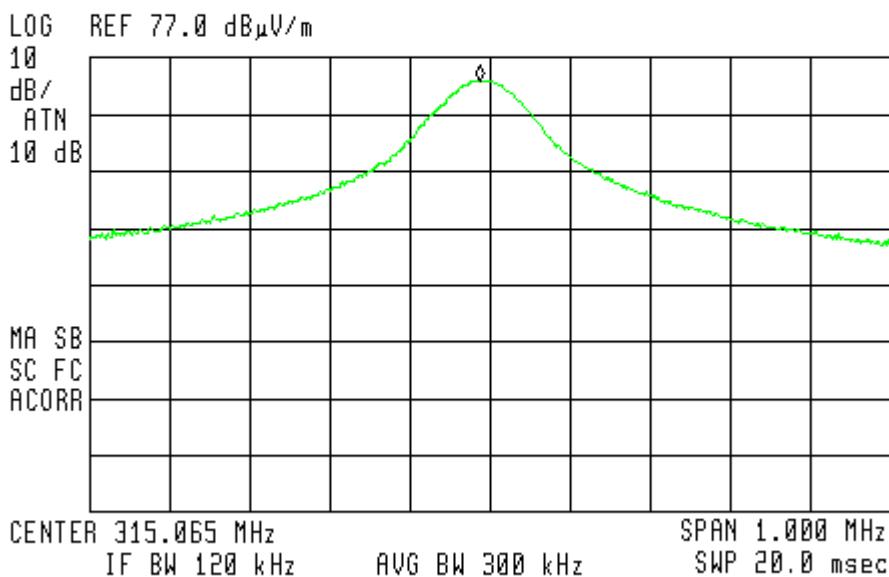
Antenna Polarization: Vertical

Test Distance: 3 meters

Detector: Peak

 08:44:48 DEC 27, 2010

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 315.053 MHz  
72.95 dB $\mu$ V/m



**Figure 10. Field Strength of Fundamental. Antenna Polarization: VERTICAL. Detector: Peak**

#### 6.4 ***Test Instrumentation Used, Field Strength of Fundamental***

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 25, 2010	1 year
RF Section	HP	85420E	3705A00248	November 25, 2010	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	March 24, 2010	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

## 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 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 3 meters.

The E.U.T. was operated at the frequency of 315 MHz. This frequency was measured using a peak detector.

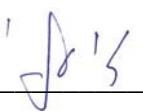
### 7.3 ***Measured Data***

JUDGEMENT: Passed

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

No signals were detected in frequency range 9 kHz-30 MHz.

TEST PERSONNEL:

Tester Signature: For/ 

Date: 01.02.11

Typed/Printed Name: A. Sharabi

#### 7.4 Test Instrumentation Used, Radiated Measurements

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 25, 2010	1 year
RF Section	HP	85420E	3705A00248	November 25, 2010	1 year
Active Loop Antenna	EMCO	6502	9506-2950	October 19, 2010	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 [dB $\mu$ v/m]  
 RA: Receiver Amplitude [dB $\mu$ v]  
 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 - 3500 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 1.

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 – 3.5 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.

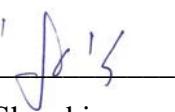
### 8.3 **Test Data**

JUDGEMENT: Passed by 14.53 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 14.53 dB in the worst case at the frequency of 954 MHz, Vertical polarization.

TEST PERSONNEL:

Tester Signature: For/  Date: 01.02.11

Typed/Printed Name: A. Sharabi

## Radiated Emission

E.U.T Description      Handheld Transmitter for AMBER GS (315)  
 Type                      MCT-212 GS LA  
 Serial Number:           Not designated

Specification: FCC Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical  
 Antenna: 3 meters distance

Frequency range: 30 MHz to 3500 MHz  
 Detector: Peak

Frequency (MHz)	Peak Reading (dB $\mu$ V/m)	Average Factor (dB $\mu$ V/m)	Average Result (dB $\mu$ V/m)	Antenna Polarity (H/V)	Average Specification (dB $\mu$ V/m)	Margin (dB)
636.0	39.43	-6.83	32.60	H	55.62	-23.02
636.0	41.15	-6.83	34.32	V	55.62	-21.30
954.0	45.67	-6.83	38.84	H	55.62	-16.78
954.0	47.92	-6.83	41.09	V	55.62	-14.53

**Figure 11. Radiated Emission. 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 Reading.” (dB $\mu$ V/m) included the “Correction Factors”.
3. “Correction Factors” (dB) = Test Antenna Correction Factor(dB) + Cable Loss.
4. “Average Result” (dB $\mu$ V/m)=Peak Reading (dB $\mu$ V/m)+ Average Factor (dB)

#### 8.4 **Test Instrumentation Used, Radiated Measurements**

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 25, 2010	1 year
RF Section	HP	85420E	3705A00248	November 25, 2010	1 year
Low Noise Amplifier	DBS MICROWAVE	LNA-DBS-0411N313	013	January 13, 2010	1 Year
Spectrum Analyzer	HP	8592L	3826A01204	March 14, 2010	1 Year
Antenna Bioconical	ARA	BCD 235/B	1041	August 1, 2010	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	March 24, 2010	1 year
Antenna-Log Periodic	A.H.System	SAS-200/511	253	January 29, 2009	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	JPKGC19982	N/A	N/A

## 9. Bandwidth

### 9.1 Test procedure

The transmitter unit operated with normal modulation. The spectrum analyzer was set to 120 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 20Bc points.

The EUT was set up as shown in Figure 1, 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.

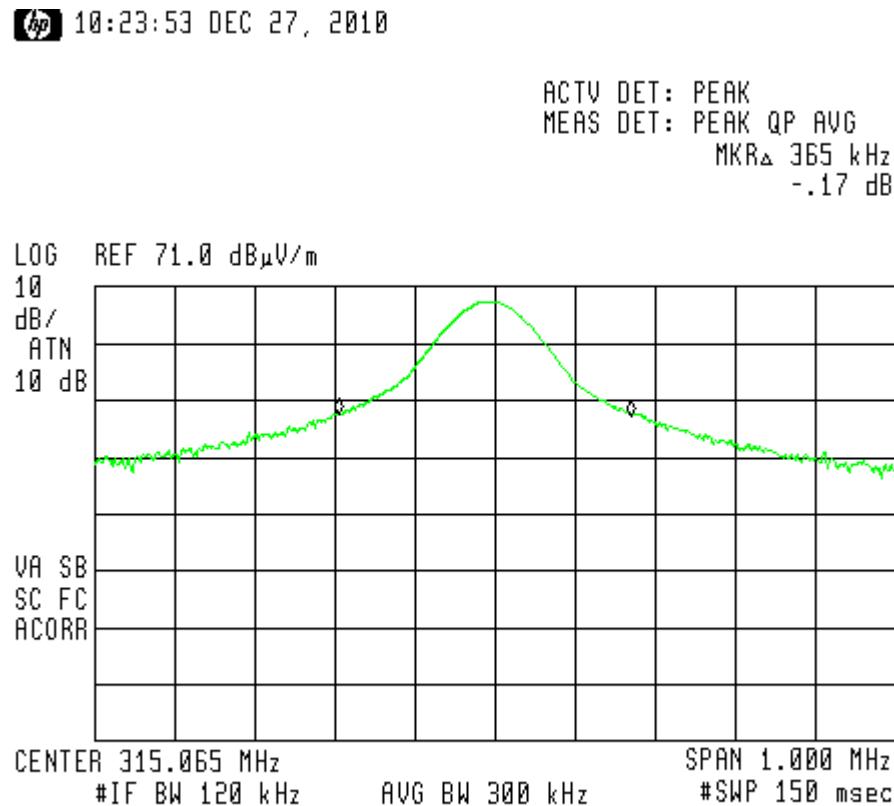


Figure 12 Bandwidth

## 9.2 Results table

E.U.T Description: Handheld Transmitter for AMBER GS (315)

Model: MCT-212 GS LA

Serial Number: Not designated

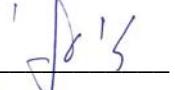
Specification: F.C.C. Part 15, Subpart C: (15.231(c))

Bandwidth Reading kHz	Specification (kHz)	Margin (kHz)
365	787.5	-422.5

**Figure 13 Bandwidth**

JUDGEMENT: Passed by 422.5 kHz

TEST PERSONNEL:

Tester Signature: For/  Date: 01.02.11

Typed/Printed Name: A. Sharabi

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

### 9.3 **Test Equipment Used.**

#### Bandwidth

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 25, 2010	1 year
RF Section	HP	85420E	3705A00248	November 25, 2010	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	March 24, 2010	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 14 Test Equipment Used**

## 10. 11. APPENDIX A - CORRECTION FACTORS

**10.1 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".

**10.2 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.

10.3 **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.

**10.4 Correction factors for**

**LOG PERIODIC ANTENNA  
Type LPD 2010/A  
at 3 range.**

**Distance of 3 meters**

<b>FREQUENCY</b> (MHz)	<b>AFE</b> (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

**NOTES:**

1. Antenna serial number is 1038.
2. The above lists are located in file number 38M30.ANT for a 3 meter range, .
3. The files mentioned above are located on the disk marked "Radiated Emission Test EMI Receiver".

## 10.5 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".

**10.6 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".

**10.7 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

## 11. Comparison requirements FCC with Industry Canada

FCC Specification	According FCC Standard	IC Standard
<b>Periodic Operation</b>	<b>FCC Part 15.231 (a)(1-5)</b>	<b>RSS- 210 Section 2.5 Annex 1, A1.1.1</b>
<b>Field Strength at Fundamental</b>	<b>FCC Part 15.231 (b)</b>	<b>RSS- 210 Annex 1 A1.1.2, Section 2.5</b>
<b>Spurious Emissions and Intermodulation</b>	<b>FCC Part 15.231 (b)</b>	<b>RSS- 210 Section 2.5 Annex 1 A1.1.2</b>
<b>Bandwidth</b>	<b>FCC Part 15.231 (c)</b>	<b>RSS- 210 Section 2.5 Annex 1 A1.1.3</b>