



**DATE: 04 September 2012**

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

# **FCC Radio Test Report**

**for**

**AeroScout Ltd.**

**Equipment under test:**

**T7 TAG**

**TAG-7000**

Written by:

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Approved by:

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This report relates only to items tested.



## Measurement/Technical Report for AeroScout Ltd.

T7 TAG

TAG-7000

**FCC ID: Q3HTAG7000**

**IC: 5115A-TAG7000**

This report concerns:

Original Grant:

Class I Change:

Class II Change: X

Equipment type:

Digital Transmission System

Limits used:

47CFR15 Section 15.247

Measurement procedure used is KDB 558074 D01 18 January 2012.

Application for Certification  
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## 1. General Information

### 1.1 Administrative Information

|                                |                                                                                                                          |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Manufacturer:                  | AeroScout Ltd.                                                                                                           |
| Manufacturer's Address:        | 3 Pekeris St.<br>Einstein Entrance<br>4th Floor<br>Rehovot 76702<br>Israel<br>Tel: +972-8-9369393<br>Fax: +972-8-9365977 |
| Manufacturer's Representative: | Dadi Matza                                                                                                               |
| Equipment Under Test (E.U.T):  | T7 TAG                                                                                                                   |
| Equipment Model No.:           | TAG-7000                                                                                                                 |
| Equipment Serial No.:          | Not designated                                                                                                           |
| Date of Receipt of E.U.T:      | 31.07.12                                                                                                                 |
| Start of Test:                 | 31.07.12                                                                                                                 |
| End of Test:                   | 02.08.12                                                                                                                 |
| Test Laboratory Location:      | I.T.L (Product Testing) Ltd.<br>Kfar Bin Nun,<br>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 AeroScout T7 Tags are a key component of the AeroScout Visibility System. The T7 Tag is a small Wi-Fi and active RFID device that enables the wireless network infrastructure to locate assets not connected to a wireless network. Tagged items are accurately located in real-time and in any environment – from tight indoor locations such as hospital floors to open outdoor spaces such as parking lots.

The T7 Tag is designed to attach to infant's umbilical stub and as a part of the AeroScout Infant Tracking Solution, help prevent infant abductions by alerting when the infant is carried close to an exit door.

### **1.4 Test Methodology**

Radiated testing was performed according to the procedures in KDB 558074 D01 18 January 2012. 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

Radiated Emission (CISPR 11, EN 55011, CISPR 22, EN 55022, ANSI C63.4) for open site 30-1000MHz:

Expanded Uncertainty (95% Confidence, K=2):

± 4.96 dB

## 2. System Test Configuration

### 2.1 *Justification*

The following changes were made to the original unit:

- a. Change in battery type.
- b. Change in battery adapter, adding battery adapter with thermostat.
- c. Change in enclosure to a high temperature resistance enclosure.

Due to the above changes, an application for a C2PC is being submitted.

Spurious radiated emission tests were performed.

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

### 2.2 *EUT Exercise Software*

See original application..

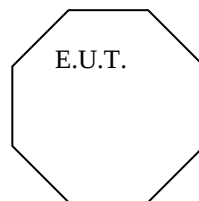
### 2.3 *Special Accessories*

No special accessories were needed to achieve compliance.

### 2.4 *Equipment Modifications*

No modifications were needed to achieve compliance.

### 2.5 *Configuration of Tested System*



**Figure 1. Configuration of Tested System**

### 3. Radiated Emission Tests Set-up Photo

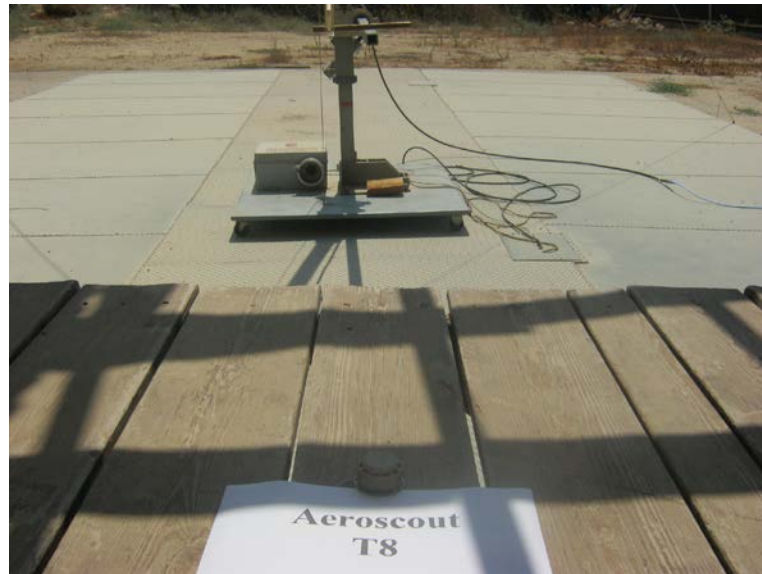


Figure 2. Radiated Emission Test



## 4. Spurious Radiated Emission, 9 kHz – 30 MHz

### 4.1 Test Specification

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

### 4.2 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 3 meters.

### 4.3 Test Results

The EUT met the requirements of the F.C.C. Part 15, Subpart C, Section 209 specification.

The signals in the band 9 KHz – 30 MHz were below the spectrum analyzer noise level, at least 20 dB below the specification limit.

TEST PERSONNEL:

Tester Signature: \_\_\_\_\_

Date: 05.09.12

Typed/Printed Name: A. Sharabi



#### 4.4 Radiated Emission Test Instrumentation Used

| Instrument              | Manufacturer | Model         | Serial Number | Calibration       | Period |
|-------------------------|--------------|---------------|---------------|-------------------|--------|
| EMI Receiver            | HP           | 8542E         | 3906A00276    | December 12, 2011 | 1 year |
| RF Section              | HP           | 85420E        | 3705A00248    | December 12, 2011 | 1 year |
| Active Loop Antenna     | EMCO         | 6502          | 9506-2950     | October 19, 2011  | 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 3 Test Equipment Used

#### 4.5 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]

Example: FS = 30.7 dB $\mu$ V (RA) + 14.0 dB (AF) + 0.9 dB (CF) = 45.6 dB $\mu$ V

No external pre-amplifiers are used.



## **5. Spurious Radiated Emission, 30 MHz - 25 GHz**

### **5.1 Test Specification**

30 MHz-25000 MHz, F.C.C., Part 15, Subpart C

### **5.2 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 frequency range 30 MHz-1000 MHz was scanned, and the list of the highest emissions was verified and 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.

In the frequency range 30 MHz -2.9 GHz 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. The E.U.T operation mode and test set-up are as described in Section 3.

In the frequency range 2.9-25.0 GHz, a spectrum analyzer including a low noise amplifier was used. During average measurements, the IF bandwidth was 1 MHz and the video bandwidth was 100Hz. During peak measurements, the IF bandwidth was 1 MHz and the video bandwidth was 3 MHz.

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 E.U.T. was tested at 2412MHz, 2438MHz and 2462MHz.

The test distance was 3 meters.



### 5.3 Test Results

JUDGEMENT: Passed by 3.2 dB

For the operation frequency of 2412 MHz, the margin between the emission level and the specification limit is 3.2 in the worst case at the frequency of 4824.00 MHz, horizontal polarization.

For the operation frequency of 2438 MHz, the margin between the emission level and the specification limit is 5.7 in the worst case at the frequency of 4872 MHz, vertical polarization.

For the operation frequency of 2462 MHz, the margin between the emission level and the specification limit is 13.2 in the worst case at the frequency of 2483.50 MHz, vertical polarization.

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

The details of the highest emissions are given in *Figure 5* to *Figure 10*.

TEST PERSONNEL:

Tester Signature: \_\_\_\_\_

Date: 05.09.12

Typed/Printed Name: A. Sharabi



## Spurious Radiated Emission

E.U.T Description    T7 TAG  
Type                    TAG-7000  
Serial Number:        Not designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical    Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters                            Detector: Peak  
Operation Frequency: 2412 MHz

| Frequency<br>(MHz) | Polarity<br>(H/V) | Peak<br>Reading<br>(dB $\mu$ V/m) | Peak<br>Specification<br>(dB $\mu$ V/m) | Peak<br>Margin<br>(dB) |
|--------------------|-------------------|-----------------------------------|-----------------------------------------|------------------------|
| 4824.00            | H                 | 60.5                              | 74.0                                    | -13.5                  |
| 4824.00            | V                 | 60.1                              | 74.0                                    | -13.9                  |
| 2390.00            | H                 | 56.3                              | 74.0                                    | -17.7                  |
| 2390.00            | V                 | 57.0                              | 74.0                                    | -17.0                  |

**Figure 4. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL.  
Detector: Peak**

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.

“Peak Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



## Spurious Radiated Emission

E.U.T Description T7 TAG  
Type TAG-7000  
Serial Number: Not designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters Detector: Average  
Operation Frequency: 2412 MHz

| Frequency<br>(MHz) | Polarity<br>(H/V) | Average<br>Reading<br>(dB $\mu$ V/m) | Average<br>Specification<br>(dB $\mu$ V/m) | Average<br>Margin<br>(dB) |
|--------------------|-------------------|--------------------------------------|--------------------------------------------|---------------------------|
| 4824.00            | H                 | 50.8                                 | 54.0                                       | -3.2                      |
| 4824.00            | V                 | 49.2                                 | 54.0                                       | -4.8                      |
| 2390.00            | H                 | 45.0                                 | 54.0                                       | -9.0                      |
| 2390.00            | V                 | 44.9                                 | 54.0                                       | -9.1                      |

**Figure 5. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL.  
Detector: Average**

### Notes:

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.

“Average Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



## Spurious Radiated Emission

E.U.T Description    T7 TAG  
Type                    TAG-7000  
Serial Number:       Not designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical    Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters                            Detector: Peak  
Operation Frequency: 2437 MHz

| Frequency<br>(MHz) | Polarity<br>(H/V) | Peak<br>Reading<br>(dB $\mu$ V/m) | Peak<br>Specification<br>(dB $\mu$ V/m) | Peak<br>Margin<br>(dB) |
|--------------------|-------------------|-----------------------------------|-----------------------------------------|------------------------|
| 4872.00            | H                 | 59.8                              | 74.0                                    | -14.2                  |
| 4872.00            | V                 | 58.7                              | 74.0                                    | -15.3                  |

**Figure 6. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL.  
Detector: Peak**

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.

“Peak Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



## Spurious Radiated Emission

E.U.T Description T7 TAG  
Type TAG-7000  
Serial Number: Not designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters Detector: Average  
Operation Frequency: 2437 MHz

| Frequency<br>(MHz) | Polarity<br>(H/V) | Average<br>Reading<br>(dB $\mu$ V/m) | Average<br>Specification<br>(dB $\mu$ V/m) | Average<br>Margin<br>(dB) |
|--------------------|-------------------|--------------------------------------|--------------------------------------------|---------------------------|
| 4872.00            | H                 | 47.5                                 | 54.0                                       | -6.5                      |
| 4872.00            | V                 | 48.3                                 | 54.0                                       | -5.7                      |

**Figure 7. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL.  
Detector: Average**

### Notes:

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.

“Average Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



## Spurious Radiated Emission

E.U.T Description    T7 TAG  
Type                    TAG-7000  
Serial Number:        Not designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical    Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters                            Detector: Peak  
Operation Frequency: 2462 MHz

| Frequency<br>(MHz) | Polarity<br>(H/V) | Peak<br>Reading<br>(dB $\mu$ V/m) | Peak<br>Specification<br>(dB $\mu$ V/m) | Peak<br>Margin<br>(dB) |
|--------------------|-------------------|-----------------------------------|-----------------------------------------|------------------------|
| 2483.50            | H                 | 53.8                              | 74.0                                    | -20.2                  |
| 2483.50            | V                 | 54.1                              | 74.0                                    | -19.9                  |
| 4924.00            | H                 | 58.4                              | 74.0                                    | -15.6                  |
| 4924.00            | V                 | 55.5                              | 74.0                                    | -18.5                  |

**Figure 8. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL.  
Detector: Peak**

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.

“Peak Reading” includes correction factor.

“Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



## Spurious Radiated Emission

E.U.T Description T7 TAG  
Type TAG-7000  
Serial Number: Not designated

Specification: FCC, Part 15, Subpart C

Antenna Polarization: Horizontal/Vertical Frequency range: 1.0 GHz to 25.0 GHz  
Test Distance: 3 meters Detector: Average  
Operation Frequency: 2462 MHz

| Frequency<br>(MHz) | Polarity<br>(H/V) | Average<br>Reading<br>(dB $\mu$ V/m) | Average<br>Specification<br>(dB $\mu$ V/m) | Average.<br>Margin<br>(dB) |
|--------------------|-------------------|--------------------------------------|--------------------------------------------|----------------------------|
| 2483.50            | H                 | 40.5                                 | 54.0                                       | -13.5                      |
| 2483.50            | V                 | 40.8                                 | 54.0                                       | -13.2                      |
| 4924.00            | H                 | 39.6                                 | 54.0                                       | -14.4                      |
| 4924.00            | V                 | 39.0                                 | 54.0                                       | -15.0                      |

**Figure 9. Radiated Emission. Antenna Polarization: HORIZONTAL / VERTICAL.  
Detector: Average**

### Notes:

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.

“Average Reading” includes correction factor.

Correction Factor = Antenna Factor + Cable Loss- Low Noise Amplifier Gain



#### 5.4 **Field Strength Calculation Below 1 GHz**

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

$$[\text{dB}\mu\text{V/m}] \text{ FS} = \text{RA} + \text{AF} + \text{CF}$$

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]

Example: FS = 30.7 dB $\mu$ V (RA) + 14.0 dB (AF) + 0.9 dB (CF) = 45.6 dB $\mu$ V

No external pre-amplifiers are used.



**5.5 Spurious Radiated Emission 30 MHz – 25 GHz Test  
Equipment Used**

| <b>Instrument</b>                    | <b>Manufacturer</b> | <b>Model</b>     | <b>Serial No.</b> | <b>Last Calibration Date</b> | <b>Period</b> |
|--------------------------------------|---------------------|------------------|-------------------|------------------------------|---------------|
| EMI Receiver                         | HP                  | 8542E            | 3906A00276        | December 12, 2011            | 1 Year        |
| RF Filter Section                    | HP                  | 85420E           | 3705A00248        | December 12, 2011            | 1 Year        |
| Antenna Biconical                    | ARA                 | BCD 235/B        | 1041              | November 12, 2011            | 1 Year        |
| Antenna Log Periodic                 | ARA                 | LPD-2010/A       | 1038              | March 29, 2012               | 1 Year        |
| Antenna Log Periodic                 | A.H. Systems        | SAS-200/511      | 253               | January 27, 2011             | 2 Years       |
| Double Ridged Waveguide Horn Antenna | EMCO                | 3115             | 29845             | March 14, 2012               | 2 Years       |
| Horn Antenna                         | ARA                 | SWH-28           | 1008              | January 26, 2011             | 2 Years       |
| Low Noise Amplifier                  | Narda               | LNA-DBS-0411N313 | 013               | November 5, 2011             | 1 Year        |
| Low Noise Amplifier                  | Sophia Wireless     | LNA 28-B         | 232               | January 4, 2012              | 1 Year        |
| Spectrum Analyzer                    | HP                  | 8592L            | 3826A01204        | March 5, 2012                | 1 Year        |
| Spectrum Analyzer                    | HP                  | 8564E            | 3442A00275        | January 19, 2012             | 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. APPENDIX A - CORRECTION FACTORS

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

| FREQUENCY | CORRECTION | FREQUENCY | CORRECTION |
|-----------|------------|-----------|------------|
| (MHz)     | FACTOR     | (MHz)     | FACTOR     |
| 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".



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

| FREQUENCY | CORRECTION |
|-----------|------------|
| (GHz)     | FACTOR     |
| 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.*



**6.3      Correction factors for      CABLE**  
**from spectrum analyzer**  
**to test antenna above 2.9 GHz**

| FREQUENCY | CORRECTION | FREQUENCY | CORRECTION |
|-----------|------------|-----------|------------|
| (GHz)     | FACTOR     | (GHz)     | FACTOR     |
| 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.*



#### 6.4 Correction factors for LOG PERIODIC ANTENNA

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

##### **Distance of 3 meters**

| <b>FREQUENCY</b><br>(MHz) | <b>AFE</b><br>(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**

| <b>FREQUENCY</b><br>(MHz) | <b>AFE</b><br>(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".



**6.5 Correction factors for**

**LOG PERIODIC ANTENNA**

**Type SAS-200/511  
at 3 meter range.**

| FREQUENCY<br>(GHz) | ANTENNA<br>FACTOR<br>(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<br>(GHz) | ANTENNA<br>FACTOR<br>(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".



**6.6 Correction factors for BICONICAL ANTENNA**  
**Type BCD-235/B,**  
**at 3 meter range**

| <b>FREQUENCY</b><br><b>(MHz)</b> | <b>AFE</b><br><b>(dB/m)</b> |
|----------------------------------|-----------------------------|
| 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".



**6.7 Correction factors for Double-Ridged Waveguide Horn**

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

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



**6.8 Correction factors for**

**Horn Antenna**

**Model: SWH-28  
at 1 meter range.**

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



**6.9 Correction factors for ACTIVE LOOP ANTENNA**

**Model 6502**

**S/N 9506-2950**

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



## 7. Comparison Industry Canada Requirements With FCC

**AeroScout T7 Tag**

**M/N: TAG-7000**

**IC: 5115A-TAG2300    FCC ID: Q3HTAG2300**

| Test                                                                       | FCC       | IC                                                |
|----------------------------------------------------------------------------|-----------|---------------------------------------------------|
| <input type="checkbox"/> Spurious radiated emission in the restricted band | 15.205(c) | RSS 210 Issue 8 2.5<br>RSS Gen 7.2.2<br>(Table 1) |