



DATE: 21 July 2013

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

FCC Radio Test Report

for

AeroScout Ltd.

Equipment under test:

Multi Sensor Tag

TAG-5400

Written by:

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Approved by:

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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 **AeroScout Ltd.**

Multi Sensor Tag

TAG-5400

FCC ID: Q3HTAG2000

IC No.: 5115A-TAG2000

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 and ANSI C63.4-2003.

Application for Certification

prepared by:

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(different from "prepared by")

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1. General Information

1.1 Administrative Information

Manufacturer:	AeroScout Ltd.
Manufacturer's Address:	3 Pekeris St. Einstein Entrance 4th Floor Rechovot 76702 Israel Tel: +972-8-9369393 Fax: +972-8-9365977
Manufacturer's Representative:	Dadi Matza Doron Lilo
Equipment Under Test (E.U.T):	Multi Sensor Tag
Equipment Model No.:	TAG-5400
Equipment Serial No.:	Not Designated
Date of Receipt of E.U.T:	23.06.13
Start of Test:	24.06.13
End of Test:	24.06.13
Test Laboratory Location:	I.T.L (Product Testing) Ltd. Kfar Bin Nun, ISRAEL 9978000
Test Specifications:	See Section 2



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 T5m-v Multi-Sensor Tag is a key component of the AeroScout Condition Monitoring Solution. The T5m-v Tag is a Wi-Fi and active RFID device that leverages the wireless network infrastructure to report changes in temperature, humidity, and voltage using internal sensors. The tag can be attached to stationary or mobile equipment that require continuous humidity, temperature and/or voltage monitoring.

The tag addresses the needs of long-term storage of emergency vehicles in variety of industries such as defense and public safety. The tag will help to ensure the vehicles are stored in optimal conditions and are always in full readiness. The tag monitors the ambient temperature and humidity of the area where the vehicle is stored and the vehicle's battery power level.

1.4 Test Methodology

Radiated testing was performed according to the procedures in KDB 558074 D01 18 January 2012 and 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 November 21, 2012). I.T.L.'s EMC Laboratory is also accredited by A2LA, certificate No. 1152.01.

1.6 Measurement Uncertainty

Radiated Emission

The Open Site complies with the ± 4.98 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

The product was originally authorized for both FCC and IC certification under FCC ID: Q3HTAG2000 and IC: 5115A-TAG2000.

The following changes were made to the product:

1. A new balcony was added which supports
 - 1.1. External voltage measurement capability
 - 1.2. External humidity and temperature measurements
2. Hole in front cover to let the tag to measure the environment temperature and humidity

Due to the above changes an application for a C2PC for both FCC and Industry Canada is being submitted.

The following tests were performed, maximum transmitted peak power output, band edge, spurious radiated emission.

2.2 Special Accessories

No special accessories were needed to achieve compliance.

2.3 Equipment Modifications

No modifications were needed to achieve compliance.

2.4 Configuration of Tested System

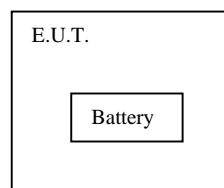


Figure 1. Configuration of Tested System

3. Test Setup Photos



Figure 2 Radiated Emission 9kHz -30 MHz



Figure 3 Radiated Emission 30 -1000 MHz



Figure 4 Radiated Emission Above 1- GHz MHz

4. Maximum Transmitted Peak Power Output

4.1 Test Specification

FCC Part 15 Section 15.247(b)

4.2 Test procedure

The E.U.T. antenna terminal was connected to the Spectrum Analyzer through an external attenuator (2 x 8 dB) and an appropriate coaxial cable (cable loss = 1 dB). The Spectrum Analyzer was set to 3.0 MHz resolution BW. Peak power level was measured at selected operation frequencies.

The E.U.T. was tested at 2412, 2437, and 2462 MHz.

4.3 Test Results


Operation Frequency (MHz)	Power (dBm)	Specification (dBm)	Margin (dB)
2412	16.63	30.0	-13.37
2437	17.99	30.0	-12.01
2462	17.48	30.0	-12.52

Figure 5 Maximum Peak Power Output

See additional details in *Figure 6* to *Figure 8*.

JUDGEMENT: Passed by 13.4 dB

TEST PERSONNEL:

Tester Signature: 

Date: 21.07.13

Typed/Printed Name: A. Sharabi

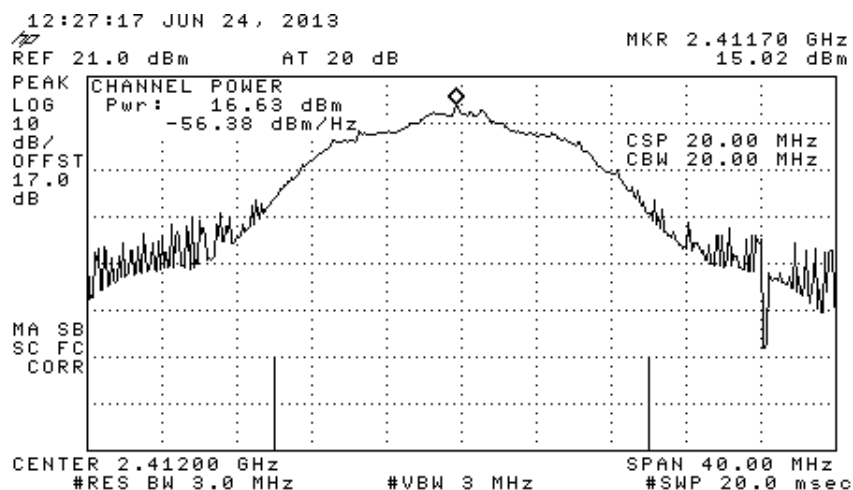


Figure 6 2412 MHz

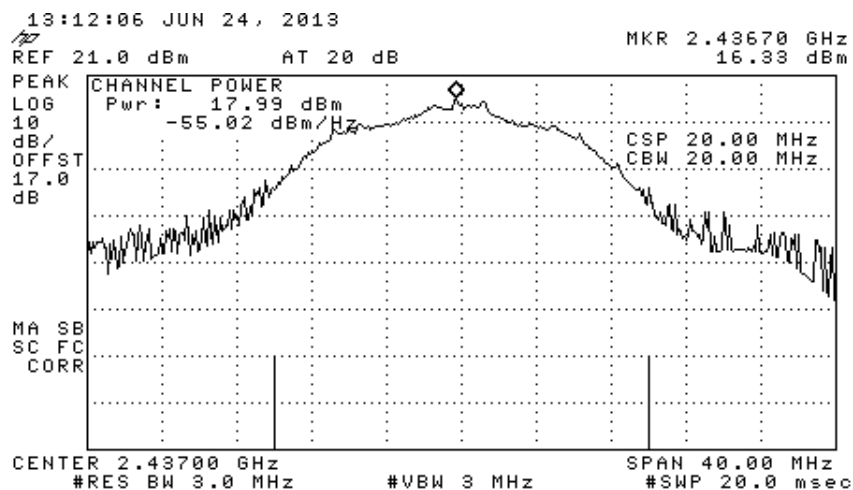


Figure 7 2437 MHz

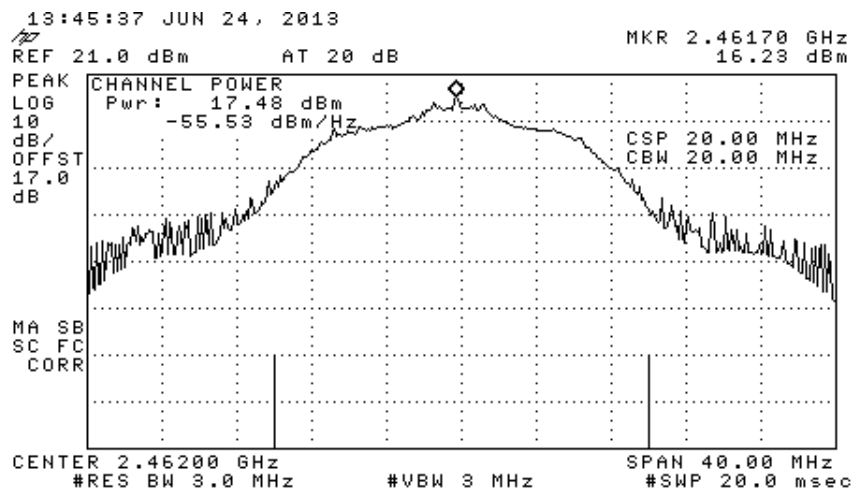


Figure 8 2462 MHz

4.4 Maximum Transmitted Peak Power Output Test Equipment Used.

Instrument	Manufacturer	Model	Serial/Part Number	Calibration	
				Last Calibration Date	Period
Spectrum Analyzer	HP	8592L	3826A01204	February 28, 2013	1 year
Attenuator	Macom	M3933/25-74N	4106-0050	August 8, 2012	2 years
Attenuator	Macom	M3933/25-74N	4106-0211	August 8, 2012	2 years
Cable	Mini-circuit	DCB	N/A	April 3, 2013	1 year

Figure 9 Maximum Transmitted Peak Power Output Test Equipment Used

5. Band Edge Spectrum

5.1 Test Specification

FCC Part 15 Subpart C Section 15.247(c)

5.2 Test procedure

The E.U.T. antenna terminal was connected to the spectrum analyzer through an external attenuator (10 dB) and an appropriate coaxial cable (cable loss = 1.2 dB). The spectrum analyzer was set to 100 kHz resolution BW. Maximum power level below 2400 MHz and above 2483.5 MHz was measured relative to power level at 2412 MHz, and 2462 MHz correspondingly.

5.3 Test Results

Operation Frequency (MHz)	Band Edge Frequency (MHz)	Spectrum Level (dBc)	Specification (dBc)	Margin (dB)
2412	2400	-23.84	16.5	-7.34
2462	2483.5	-24.69	16.0	-8.69

Figure 10 Band Edge Spectrum

See additional details in Figure 11 to Figure 12.

JUDGEMENT: Passed by 7.3 dB

TEST PERSONNEL:

Tester Signature: 

Date: 21.07.13

Typed/Printed Name: A. Sharabi

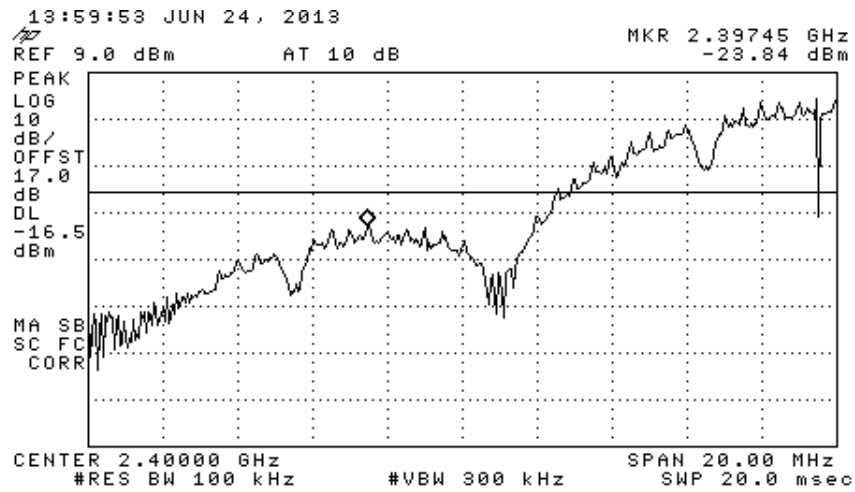


Figure 11 — 2412 MHz

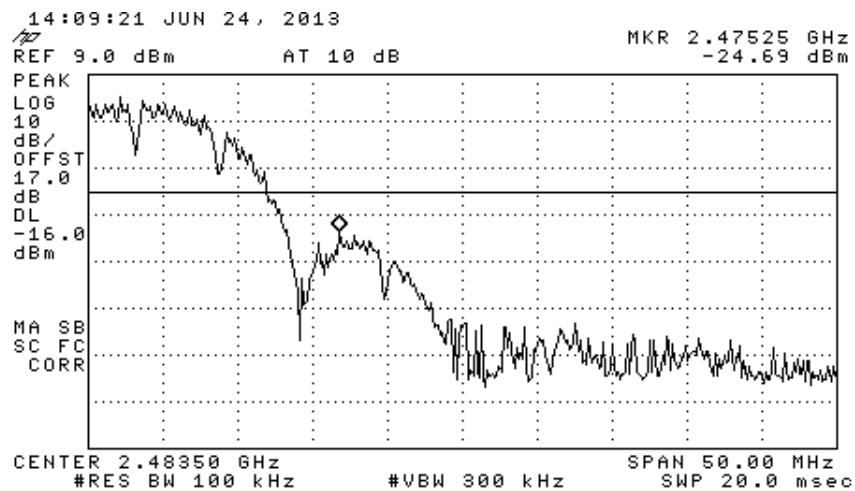


Figure 12 — 2462 MHz



5.4 Band Edge Spectrum Test Equipment Used.

Instrument	Manufacturer	Model	Serial/Part Number	Calibration	
				Last Calibration Date	Period
Spectrum Analyzer	HP	8592L	3826A01204	February 28, 2013	1 year
Attenuator	Macom	M3933/25-74N	4106-0050	August 8, 2012	2 years
Attenuator	Macom	M3933/25-74N	4106-0211	August 8, 2012	2 years
Cable	Mini-circuit	DCB	N/A	April 3, 2013	1 year

Figure 13 Band Edge Spectrum Test Equipment Used

6. Radiated Emission, 9 kHz – 30 MHz

6.1 Test Specification

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

6.2 Test Procedure

The E.U.T. operation mode and test set-up are as described in Section 2.

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 tested at the operating frequencies of 2412, 2437, and 2462 MHz.

6.3 Measured Data

JUDGEMENT: Passed

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

The results for all three operating frequencies were the same.

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: 21.07.13

Typed/Printed Name: A. Sharabi

6.4 Radiated Emission, 9 kHz – 30 MHz Test Equipment Used

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85420E	3906A00276	February 26, 2013	1 year
RF Section	HP	85420E	3705A00248	February 26, 2013	1 year
Active Loop Antenna	EMCO	6502	9506-2950	October 21, 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

Figure 14 6. Radiated Emission, 9 kHz – 30 MHz Test Equipment Used

6.5 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 μ V/m]

RA: Receiver Amplitude [dB μ V]

AF: Receiving Antenna Correction Factor [dB/m]

CF: Cable Attenuation Factor [dB]

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

No external pre-amplifiers are used.

7. Spurious Radiated Emission 30 – 25000 MHz

7.1 Test Specification

30 MHz-2500 MHz, F.C.C., Part 15, Subpart C

7.2 Test Procedure

The E.U.T operation mode and test set-up are as described in Section 2.

A preliminary measurement to characterize the E.U.T was performed inside the shielded room, 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 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 1-2.9 GHz, a computerized EMI receiver complying with CISPR 16 requirements was used.

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 test distance was 3 meters.

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 the operating frequencies of 2412, 2437, and 2462 MHz.



7.3 Test Data

JUDGEMENT: Passed

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


The signals in the band 30 MHz – 1.0 GHz were below the spectrum analyzer noise level, at least 20 dB below the specification limit. The results for all three operating frequencies were the same.

For the operation frequency of 2412 MHz, the margin between the emission level and the specification limit is in the worst case 8.7 dB at the frequency of 2390.00 MHz, vertical polarization.

For the operation frequency of 2437 MHz, the margin between the emission level and the specification limit is in the worst case 14.2 dB at the frequency of 4875.00 MHz, horizontal polarization.

For the operation frequency of 2462 MHz, the margin between the emission level and the specification limit is 11.3 dB in the worst case at the frequency of 2483.50 MHz, vertical polarization.

TEST PERSONNEL:

Tester Signature: 

Date: 21.07.13

Typed/Printed Name: A. Sharabi

Radiated Emission Above 1 GHz

E.U.T Description Multi Sensor Tag
Type TAG-5400
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 (MHz)	Polarity (H/V)	Peak Amp (dB μ V/m)	Peak Specification (dB μ V/m)	Peak Margin (dB)
2390.00	H	52.6*	74.0	-21.4
2390.00	V	65.3*	74.0	-8.7
4822.00	H	58.0**	74.0	-16.0
4822.00	V	57.4**	74.0	-16.6

**Figure 15. 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 Amp” includes correction factor.

- * “Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain
- ** “Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain + Band Pass Filter

Radiated Emission Above 1 GHz

E.U.T Description Multi Sensor Tag
Type TAG-5400
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 (MHz)	Polarity (H/V)	Average Amp (dBμV/m)	Average Specification (dBμV/m)	Average Margin (dB)
2390.00	H	43.9*	54.0	-10.1
2390.00	V	41.8*	54.0	-12.2
4822.00	H	35.6**	54.0	-18.4
4822.00	V	37.8**	54.0	-16.2

**Figure 16. 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 Amp” includes correction factor.

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

** “Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain + Band Pass Filter

Radiated Emission Above 1 GHz

E.U.T Description Multi Sensor Tag
Type TAG-5400
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 (MHz)	Polarity (H/V)	Peak Amp (dBμV/m)	Peak Specification (dBμV/m)	Peak Margin (dB)
4875.00	H	59.8	74.0	-14.2
4875.00	V	57.9	74.0	-16.1

**Figure 17. 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 Amp” includes correction factor.

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

Radiated Emission Above 1 GHz

E.U.T Description Multi Sensor Tag
Type TAG-5400
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 (MHz)	Polarity (H/V)	Average Amp (dBμV/m)	Average Specification (dBμV/m)	Average Margin (dB)
4875.00	H	36.4	54.0	-17.6
4875.00	V	37.9	54.0	-16.1

**Figure 18. 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 Amp” includes correction factor.

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

Radiated Emission Above 1 GHz

E.U.T Description Multi Sensor Tag
Type TAG-5400
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 (MHz)	Polarity (H/V)	Peak Amp (dB μ V/m)	Peak Specification (dB μ V/m)	Peak. Margin (dB)
2483.50	H	54.6*	74.0	-19.4
2483.50	V	62.7*	74.0	-11.3
4923.00	H	59.0**	74.0	-15.0
4923.00	V	58.9**	74.0	-15.1

**Figure 19. 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 Amp” includes correction factor.

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

** “Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain + Band Pass Filter

Radiated Emission Above 1 GHz

E.U.T Description Multi Sensor Tag
Type TAG-5400
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 (MHz)	Polarity (H/V)	Average Amp (dBμV/m)	Average Specification (dBμV/m)	Average Margin (dB)
2483.50	H	41.4*	54.0	-12.6
2483.50	V	39.6*	54.0	-14.4
4923.00	H	35.4**	54.0	-18.6
4923.00	V	33.7**	54.0	-20.3

**Figure 20. 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 Amp” includes correction factor.

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

** “Correction Factor” = Antenna Factor + Cable Loss- Low Noise Amplifier Gain + Band Pass Filter

7.4 Spurious Radiated Emission 30 – 25000 MHz Test Equipment Used

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Period
EMI Receiver	HP	85422E	3906A00276	February 26, 2013	1 Year
RF Filter Section	HP	85420E	3705A00248	February 26, 2013	1 Year
Antenna Biconical	EMCO	3104	2606	August 30, 2012	1 Year
Antenna Log Periodic	ARA	LPD-2010/A	1038	April 2, 2013	1 Year
Double Ridged Waveguide Horn Antenna	EMCO	3115	29845	March 14, 2012	2 Years
Horn Antenna	ARA	SWH-28	1008	January 26, 2011	3 Years
Low Noise Amplifier	DBS MICROWAVE	LNA-DBS-0411N313	013	August 21, 2012	1 Year
Low Noise Amplifier	Sophia Wireless	LNA 28-B	232	August 28, 2012	1 Year
Spectrum Analyzer	HP	8592L	3826A01204	February 28, 2013	1 Year
Spectrum Analyzer	HP	8546E	3442A00275	February 28, 2013	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

Figure 21 Spurious Radiated Emission 30 – 25000 MHz Test Equipment Used

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:

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

FS: Field Strength [dB μ V/m]
RA: Receiver Amplitude [dB μ V]
AF: Receiving Antenna Correction Factor [dB/m]
CF: Cable Attenuation Factor [dB]

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

No external pre-amplifiers are used.

8. APPENDIX A - CORRECTION FACTORS

8.1 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".

8.2 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.

8.3 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.

12.6 Correction factors for LOG PERIODIC ANTENNA

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

Distance of 3 meters

FREQUENCY (MHz)	AFE (dB/m)
200.0	9.1
250.0	10.2
300.0	12.5
400.0	15.4
500.0	16.1
600.0	19.2
700.0	19.4
800.0	19.9
900.0	21.2
1000.0	23.5

Distance of 10 meters

FREQUENCY (MHz)	AFE (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".

**8.4 Correction factors for Antenna Bio-conical
Type 3104
at 3 meter range.**

FREQUENCY (GHz)	ANTENNA FACTOR (dB)
30	14.8
40	13.4
50	11.8
60	11.0
70	9.1
80	8.1
90	12.4
100	13.9
120	13.7
140	12.5
160	15.1
180	16.5
200	16.4
250	18.6
300	20.6

NOTE:

Antenna serial number is 2606.



8.5

8.6 Correction factors for Double-Ridged Waveguide Horn

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

FREQUENCY (GHz)	ANTENNA FACTOR (dB 1/m)	ANTENNA Gain (dBi)	FREQUENCY (GHz)	ANTENNA FACTOR (dB 1/m)	ANTENNA Gain (dBi)
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			



8.7 Correction factors for

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

FREQUENCY (GHz)	APE (dB /m)	Gain (dB1)
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



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

FREQUENCY	Magnetic Antenna Factor	Electric Antenna 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

9. Comparison Industry Canada Requirements With FCC

AeroScout T2 Tag

M/N : TAG-2000

IC: 5115A-TAG2000 FCC ID: Q3HTAG2000

Test	FCC	IC
❑ Max power / Peak power	15.247(b)(3)	RSS 210 Issue 8, A8.4(4)
❑ Spurious radiated emission in the restricted band	15.205(c)	RSS 210 Issue 8, 2.5
❑ Band edge spectrum	15.247(d)	RSS 210 Issue 8, A8.5