DATE: 17 March 2010

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

FCC Radio Test Report

for

Haldor Advanced Technologies Ltd.

Equipment under test:

RFID Transponder Reader Module

OrLocate™

Written by: _____

D. Shidlowsky, Documentation

Approved by: _____

E. Ever, Test Engineer

Approved by: _____

I. Raz, EMC Laboratory Manager

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This report relates only to items tested.

Measurement/Technical Report for

Haldor Advanced Technologies Ltd.

RFID Transponder Reader Module

OrLocate™

FCC ID: X4V-ORLOCATE

This report concerns: Original Grant:
Class I change:
Class II change: X

Equipment type: Part 15 Low Power Communication Device Transmitter

47CFR15 Section 15.225

Measurement procedure used is ANSI C63.4-2003.

Application for Certification prepared by:

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Applicant for this device:
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1. General Information

1.1 Administrative Information

Manufacturer:	Haldor Advanced Technologies Ltd.
Manufacturer's Address:	2 Habanay St., Hod Hasharon, 45319 Israel Tel: +972-9-788-5867 Fax: +972-9-788-5861
Manufacturer's Representative:	Ofer Bogomoletz Morr Avissara
Equipment Under Test (E.U.T):	RFID Transponder Reader Module
Equipment Model No.:	OrLocate™
Equipment Serial No.:	Not Designated
Date of Receipt of E.U.T:	30.12.09
Start of Test:	30.12.09
End of Test:	31.12.09
Test Laboratory Location:	I.T.L (Product Testing) Ltd. Kfar Bin Nun, ISRAEL 99780
Test Specifications:	FCC Part 15 Sub-part C

1.2 List of Accreditations

The EMC laboratory of I.T.L. is accredited by the following bodies:

1. The American Association for Laboratory Accreditation (A2LA) (U.S.A.), Certificate No. 1152.01.
2. The Federal Communications Commission (FCC) (U.S.A.), Registration No. 90715.
3. The Israel Ministry of the Environment (Israel), Registration No. 1104/01.
4. The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) (Japan), Registration Numbers: C-1350, R-1285.
5. Industry Canada (Canada), File No. IC 4025.
6. TUV Product Services, England, ASLLAS No. 97201.
7. Nemko (Norway), Authorization No. ELA 207.

I.T.L. Product Testing Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this test report have been determined in accordance with I.T.L.'s terms of accreditation unless stated otherwise in the report.

1.3 Product Description

OrLocate™ RF system modules provide the functionality to detect RFID tagged items placed on the antenna modules or are in detection area of the antenna modules.

The system operates under the ISO 15693 standard (working frequency 13.56MHz).

The system comprise of:

1. System Cart – include the RFID reader and MUX modules as well as the other peripherals to collect and display the data and an additional Cart Antenna under the top plastic cover
2. Antenna modules - There are several antenna types that were designed to provide the required functionality
3. Tagged items – RFID tagged surgical instruments and sponges

RF MODULES

There are several modules in the system that are used to control RF transmission.

The main module is the HF (13.56MHz) ISO 15693 RF reader (FEIG - ID ISC.LRM2000) which transmits the power required for the RFID passive transponder to “wake up” and respond and also receives the transponder feedback and process it as defined in the ISO 15693 protocol.

The second module is the RF Multiplexer (FEIG - ID ISC.ANT.MUX) which switches the transmitted power each time to a specific antenna module.

The third module, which is not located inside the system cart but does included in the mobile antenna and mount antennas, is the Dynamic tuning module (FEIG - ID ISC.DAT).

The reader module is a FEIG Electronic product which is FCC compliant.

1.4 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4: 2003. Radiated testing was performed at an antenna to EUT distance of 3 meters.

1.5 Test Facility

The radiated emissions tests were performed at I.T.L.'s testing facility at 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 ±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

The E.U.T. is a radio device with limited modular approval from the original manufacturer. Haldor Advanced Technologies has applied for an FCC ID change in order to submit a C2PC.

In order to use this device with Haldor Advanced Technologies' antennas, a C2PC is being submitted.

Exploratory radiated emission screening tests were performed using all seven of Haldor Advanced Technologies antennas in order to determine the "worst case" antenna.

The results of the exploratory are as follows:

Antenna	**Reading (dBµV/m)**
Sponge Bucket – 4W	60.82
Cart – 2W	42.39
MAYO – 2W	55.80
Trolley – 2W	62.93
Sponge Container – 2W	64.10
Mount – 2W	66.17
Mobile Loop	63.27

Based on the above exploratory tests, the Mount antenna was selected as the "worst" case antenna and spurious radiated emission test were performed using this antenna. AC power lines conducted emission testing was also performed.

2.2 EUT Exercise Software

OrLocate application software was used. **T**he ORLocate Application, as part of the ORLocate System, is intended for recording and counting of RFID tagged surgical items and for detecting retained surgical RFID tagged items.

2.3 Special Accessories

No special accessories were needed in order to achieve compliance.

2.4 Equipment Modifications

No modifications were needed in order to achieve compliance

2.5 Configuration of Tested System

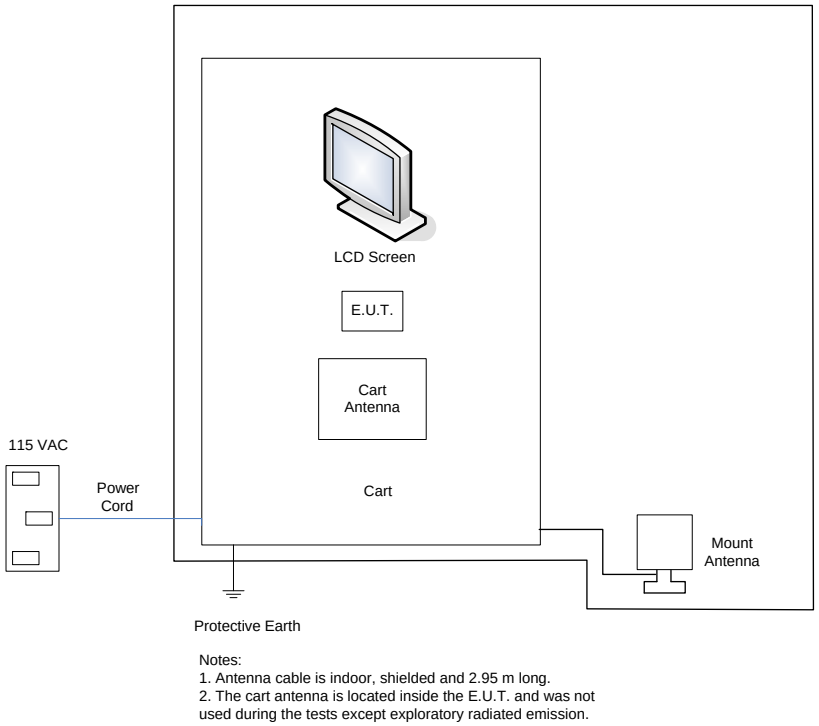


Figure 1. Configuration of Tested System

3. Test Set-up Photos

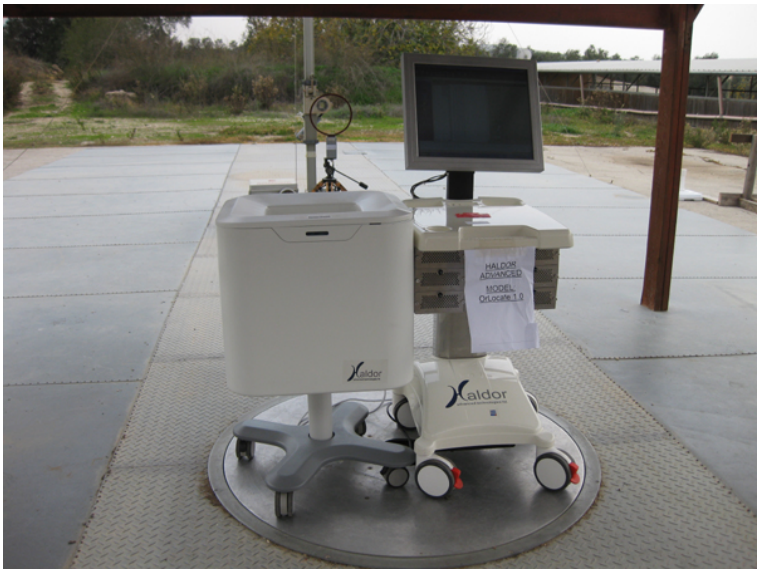


Figure 2. Exploratory Radiated Emission Test Sponge Bucket Antenna

Figure 3. Exploratory Radiated Emission Test Cart Antenna

Figure 4. Exploratory Radiated Emission Test MAYO Antenna

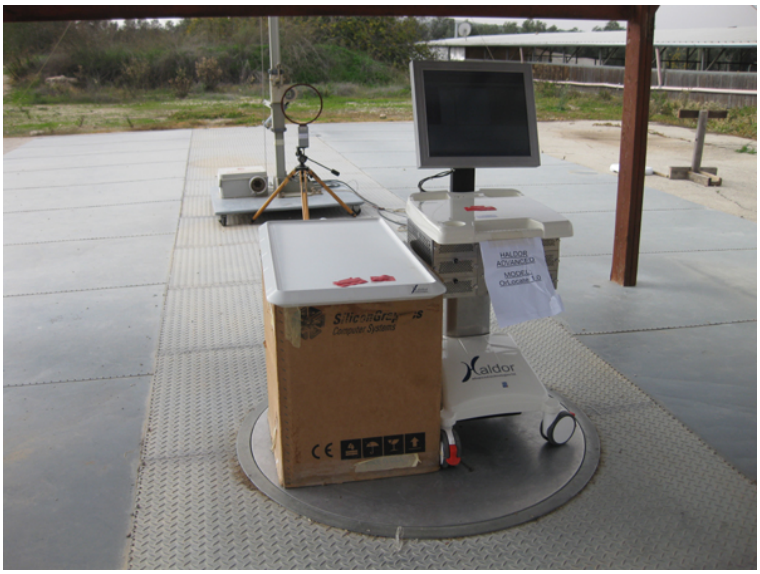


Figure 5. Exploratory Radiated Emission Test Trolley Antenna

Figure 6. Exploratory Radiated Emission Test Sponge Container Antenna

Figure 7. Exploratory Radiated Emission Test Mount Antenna

Figure 8. Conducted Emission Test

Figure 9. Radiated Emission Test

4. Conducted Emission Data

4.1 Test Specification

F.C.C., Part 15, Subpart C

4.2 Test Procedure

The E.U.T operation mode and test set-up are as described in Section 3.1. In order to minimize background noise interference, the conducted emission testing was performed inside a shielded room, with the E.U.T placed on an 0.8 meter high wooden table, 0.4 meter from the room's vertical wall.

The E.U.T was powered from 115 V AC / 60 Hz via a 50 Ohm / 50 µHn Line Impedance Stabilization Network (LISN) on the phase and neutral lines. The LISN's were grounded to the shielded room ground plane (floor), and were kept at least 0.8 meters from the nearest boundary of the E.U.T

The center of the E.U.T AC cable was folded back and forth, in order to form a bundle less than 0.40 meters and a total cable length of 1 meter.

The emission voltages at the LISN's outputs were measured using a computerized receiver, complying with CISPR 16 requirements. The specification limits are loaded to the receiver via a 3.5" floppy disk and are displayed on the receiver's spectrum display.

A frequency scan between 0.15 and 30 MHz was performed at 9 kHz I.F. band width, and using peak detection.

The spectral components having the highest level on each line were measured using a quasi-peak and average detector.

4.3 Measured Data

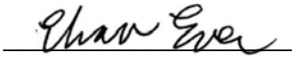
JUDGEMENT: Passed by 11.6 dB

The margin between the emission levels and the specification limit is, in the worst case, 11.6 dB for the phase line at 0.67 MHz and 15.5 dB at 0.34 MHz for the neutral line.

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

The details of the highest emissions are given in *Figure 10* to *Figure 13*.

TEST PERSONNEL:

Tester Signature:  Date: 17.03.10

Typed/Printed Name: E. Ever

Conducted Emission

E.U.T Description	RFID Transponder Reader Module
Type	OrLocate™
Serial Number:	Not Designated

Specification:	F.C.C., Part 15, Subpart C
Lead:	Phase
Detectors:	Peak, Quasi-peak, Average

Signal Number	Frequency (MHz)	Peak (dBuV)	QP (dBuV)	QP Delta L 1 (dB)	Avg (dBuV)	Av Delta L 2 (dB)	Corr (dB)
1	0.169677	58.0	54.7	-24.3	51.2	-14.8	0.4
2	0.274801	48.2	45.9	-33.1	41.2	-24.8	0.4
3	0.332278	48.2	45.3	-33.7	42.9	-23.1	0.4
4	0.671031	50.2	49.0	-24.0	48.4	-11.6	0.4
5	1.169653	48.8	47.3	-25.7	45.9	-14.1	0.4
6	7.585412	42.4	41.1	-31.9	36.9	-23.1	0.4

Figure 10. Detectors: Peak, Quasi-peak, AVERAGE .

Note: QP Delta/Av Delta refer 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.

Conducted Emission

E.U.T Description	RFID Transponder Reader Module
Type	OrLocate™
Serial Number:	Not Designated

Specification:	F.C.C., Part 15, Subpart C
Lead:	Phase
Detectors:	Peak, Quasi-peak, Average

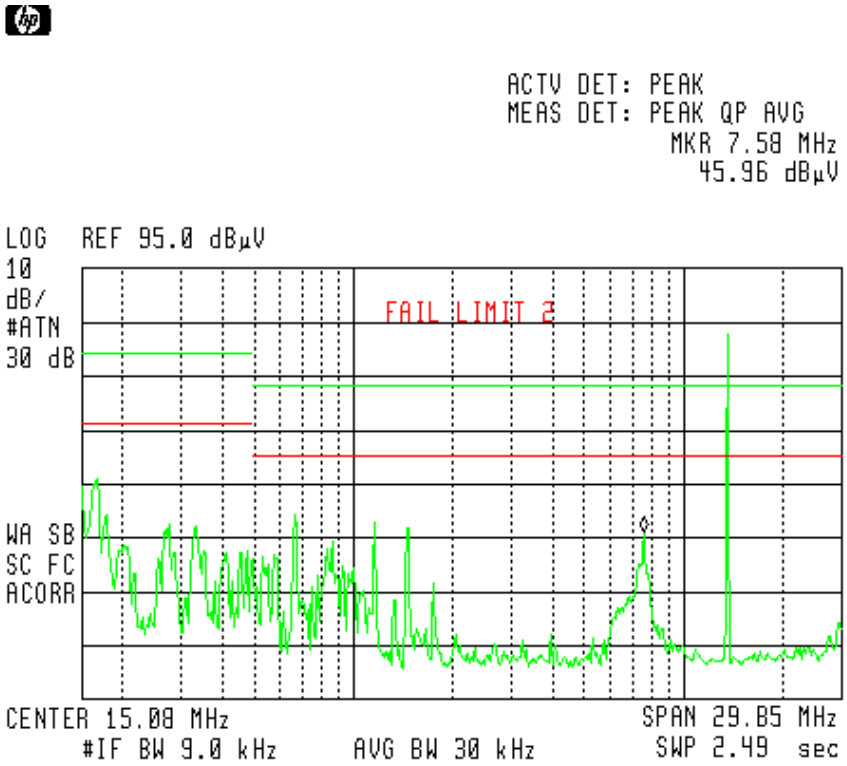


Figure 11. Detectors: Peak, Quasi-peak, Average

Note: Fail indication on the spectral plot results from peak detector level reading above the limit. This indication is for information only and it should not be interpreted as a test failure.

Conducted Emission

E.U.T Description	RFID Transponder Reader Module
Type	OrLocate™
Serial Number:	Not Designated

Specification:	F.C.C., Part 15, Subpart C
Lead:	Neutral
Detectors:	Peak, Quasi-peak, Average

Signal Number	Frequency (MHz)	Peak (dBuV)	QP (dBuV)	QP Delta L 1 (dB)	Avg (dBuV)	Av Delta L 2 (dB)	Corr (dB)
1	0.171499	55.0	51.4	-27.6	42.0	-24.0	0.4
2	0.339974	69.9	63.5	-15.5	29.3	-36.7	0.4
3	0.398985	49.1	34.4	-44.6	24.9	-41.1	0.4
4	1.174159	48.6	44.8	-28.2	42.2	-17.8	0.4
5	1.468075	47.2	43.5	-29.5	36.3	-23.7	0.4
6	7.603079	46.2	42.3	-30.6	31.7	-28.3	0.4

Figure 12. Detectors: Peak, Quasi-peak, AVERAGE

Note: QP Delta/Av Delta refer 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.

Conducted Emission

E.U.T Description	RFID Transponder Reader Module
Type	OrLocate™
Serial Number:	Not Designated

Specification:	F.C.C., Part 15, Subpart C
Lead:	Neutral
Detectors:	Peak, Quasi-peak, Average

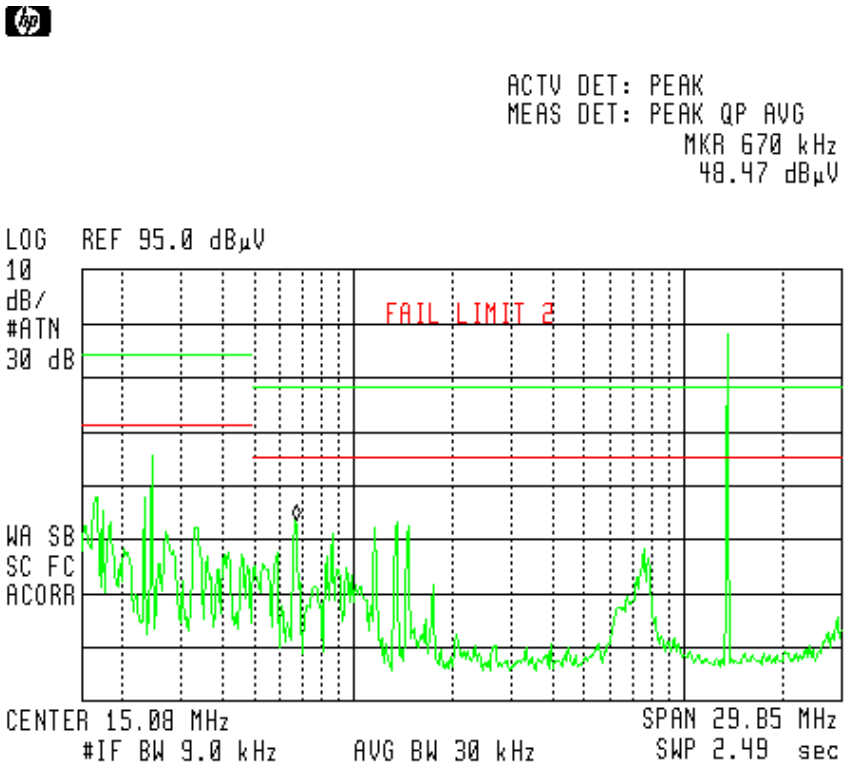


Figure 13 Conducted Emission: NEUTRAL
Detectors: Peak, Quasi-peak, Average

Note: Fail indication on the spectral plot results from peak detector level reading above the limit. This indication is for information only and it should not be interpreted as a test failure.

4.4 Test Instrumentation Used, Conducted Measurement

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Period
LISN	Fischer	FCC-LISN-2A	127	March 3, 2009	1 Year
LISN	Fischer	FCC-LISN-2A	128	March 3, 2009	1 Year
EMI Receiver	HP	85422E	3906A00276	November 10, 2009	1Year
RF Filter Section	HP	85420E	3705A00248	November 10, 2009	1Year
Printer	HP	LaserJet 2200	JPKGC19982	N/A	N/A

5. Field Strength of Fundamental

5.1 Test Specification

F.C.C., Part 15, Subpart C, Section 15.225(a)

5.2 Test Procedure

The E.U.T. operation mode and test set-up are as described in Section 3.

The E.U.T. was placed on a non-conductive table, 0.8 meters above the O.A.T.S. ground plane.
The EMI receiver was set to the E.U.T. Fundamental Frequency (13.56 MHz) and Peak Detection.
The distance between the E.U.T. and test antenna was 3 meters.

The turntable and antenna were adjusted for maximum level reading on the EMI receiver. The loop antenna was rotated on its vertical axis. The antenna height (center of loop) was 1 meter.

The average result is:

Peak Level(dBμV/m) + E.U.T. Duty Cycle Factor, in 100msec time window (dB)

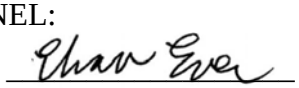
5.3 Measured Data

JUDGEMENT: Passed by 21.7 dB

The EUT met the FCC Part 15, Subpart C, Section 15.225(a) specification requirements.

The details of the highest emissions are given in Figure 14.

TEST PERSONNEL:

Tester Signature:  Date: 17.03.10

Typed/Printed Name: E. Ever

Field Strength of Fundamental

E.U.T Description	RFID Transponder Reader Module
Model Number	OrLocate™
Serial Number:	Not Designated

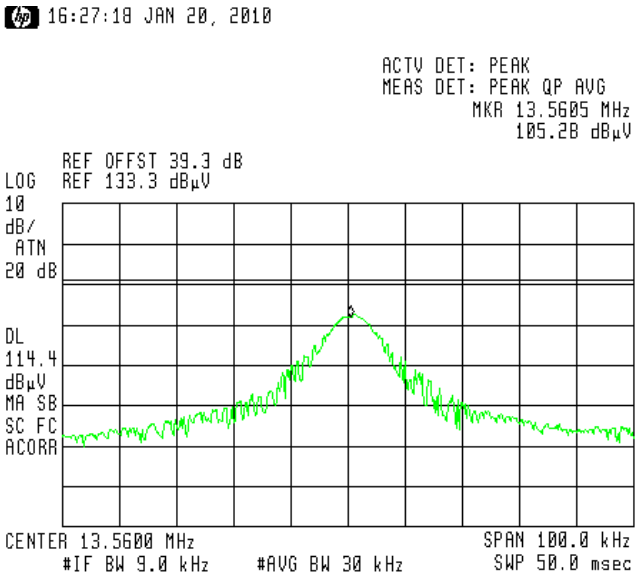


Figure 14. Field Strength of Fundamental
Detector: Peak

$$L_{im30m} = 15848.00\ \mu V/m$$

$$L_{im3m} = 40\ dB\mu V/m + 84.0\ dB\mu V/m = 124.0 dB\mu V/m$$

5.4 Test Instrumentation Used, Field Strength of Fundamental

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3411A00102	November 10, 2009	1 year
EMI Receiver Filter Section	HP	85420E	3427A00103	November 10, 2009	1 year
Active Loop Antenna	EMCO	6502	9506-2950	October 19, 2009	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

6. Spurious 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 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.

The E.U.T. was operated at the frequency of 13.56 MHz. This frequency was measured using a peak detector.

6.3 Measured Data

JUDGEMENT: Passed by 54.1 dB

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

The margin between the emission level and the specification limit is 54.1 dB in the worst case at the frequency of 27.16 MHz.

See details in *Figure 15*.

TEST PERSONNEL:

Tester Signature: Eliav Ever Date: 17.03.10

Typed/Printed Name: E. Ever

Radiated Emission, 9 kHz-30 MHz

E.U.T Description	RFID Transponder Reader Module
Type	OrLocate™
Serial Number:	Not Designated

Specification: FCC Part 15, Subpart C, Section 209

Frequency range: 9 kHz to 30 MHz

Antenna: 3 meters distance

Detectors: Peak, Average

Frequency (MHz)	Peak Amp (dBµV/m)	Peak Specification (dBµV/m)	Margin (dB)
27.16	15.4	69.5	-54.1
27.13	10.3	69.5	-59.2

Figure 15. Radiated Emission. Detectors: Peak, Quasi-peak

Note: Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

L_{im30m} = 30 µV/m

L_{im3m} = 40 dBµV/m + 29.5 dBµV/m = 69.5 dBµV/m

6.4 Test Instrumentation Used, Radiated Measurements

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 10, 2009	1 year
RF Section	HP	85420E	3705A00248	November 10, 2009	1 year
Active Loop Antenna	EMCO	6502	9506-2950	October 19, 2009	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

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 [dBµv/m]
RA:	Receiver Amplitude [dBµv]
AF:	Receiving Antenna Correction Factor [dB/m]
CF:	Cable Attenuation Factor [dB]

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

No external pre-amplifiers are used.

7. Spurious Radiated Emission 30 – 1000 MHz

7.1 Test Specification

30 MHz-1000 MHz, F.C.C., Part 15, Subpart C

7.2 Test Procedure

The E.U.T. operation mode and test set-up are as described in Section 3.

See Section 3.1 Justification of the System Test Configuration concerning the E.U.T. orientation for this test.

A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, and placed on a remote-controlled turntable. The configuration tested is shown in *Figure 9.*

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.

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 30-1000 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.

7.3 Test Data

JUDGEMENT: Passed by 3.4 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 3.4 dB in the worst case at the frequency of 67.80 MHz, vertical polarization.

The details of the highest emissions are given in *Figure 16*.

TEST PERSONNEL:

Tester Signature: _____ Date: 17.03.10

Typed/Printed Name: E. Ever

Radiated Emission - Spurious

E.U.T Description	RFID Transponder Reader Module
Type	OrLocate™
Serial Number:	Not Designated

Specification: FCC Part 15, Subpart C

Antenna Polarization: Horizontal
Antenna: 3 meters distance

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

Frequency (MHz)	Antenna (H/V)	Peak Amp (dBµV/m)	Peak Specification (dBµV/m)	Margin (dB)
40.98	H	15.4	40.0	-24.6
67.80	H	22.4	40.0	-17.6
122.05	H	26.3	43.5	-17.2
135.50	H	21.2	43.5	-22.3
148.98	H	22.8	43.5	-20.7
40.98	V	31.1	40.0	-8.9
67.80	V	36.6	40.0	-3.4
122.05	V	38.3	43.5	-5.2
135.50	V	29.2	43.5	-14.3
148.98	V	27.7	43.5	-15.8

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

7.4 Test Instrumentation Used, Radiated Measurements

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3906A00276	November 10, 2009	1 year
RF Section	HP	85420E	3705A00248	November 10, 2009	1 year
Antenna Bioconical	ARA	BCD 235/B	1041	March 25, 2009	1 year
Antenna Log Periodic	ARA	LPD-2010/A	1038	March 26, 2009	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

7.5 Field Strength Calculation

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

$$[dB\mu v/m]\ FS = RA + AF + CF$$

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

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

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)
10.0	0.3
20.0	0.6
30.0	0.8
40.0	0.9
50.0	1.1
60.0	1.2
70.0	1.3
80.0	1.4
90.0	1.6
100.0	1.7
150.0	2.0
200.0	2.3
250.0	2.7
300.0	3.1
350.0	3.4
400.0	3.7
450.0	4.0
500.0	4.3
600.0	4.7
700.0	5.3
800.0	5.9
900.0	6.3
1000.0	6.7

FREQUENCY (MHz)	CORRECTION FACTOR (dB)
1200.0	7.3
1400.0	7.8
1600.0	8.4
1800.0	9.1
2000.0	9.9
2300.0	11.2
2600.0	12.2
2900.0	13.0

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 38M3O.ANT for a 3 meter range, and file number 38M100.ANT for a 10 meter range.*
3. *The files mentioned above are located on the disk marked "Radiated Emission Test EMI Receiver".*

8.4 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".*

8.5 Correction factors for BICONICAL ANTENNA

Type BCD-235/B, at 3 meter range

FREQUENCY (MHz)	AFE (dB/m)
20.0	19.4
30.0	14.8
40.0	11.9
50.0	10.2
60.0	9.1
70.0	8.5
80.0	8.9
90.0	9.6
100.0	10.3
110.0	11.0
120.0	11.5
130.0	11.7
140.0	12.1
150.0	12.6
160.0	12.8
170.0	13.0
180.0	13.5
190.0	14.0
200.0	14.8
210.0	15.3
220.0	15.8
230.0	16.2
240.0	16.6
250.0	17.6
260.0	18.2
270.0	18.4
280.0	18.7
290.0	19.2
300.0	19.9
310	20.7
320	21.9
330	23.4
340	25.1
350	27.0

NOTES:

1. Antenna serial number is 1041.

2. The above list is located in file 19BC10M1.ANT on the disk marked "Radiated Emissions Tests EMI Receiver".

8.6 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