Electromagnetic Compatibility Test Report

Tests Performed on a Tracking Innovations, Inc.

Real Time Tracking System, Model 1840-01-0000

Radiometrics Document RP-6636A

ACCREDITED
TESTING CERT #1495.01

Product Detail: FCC ID: XZS-TII-1840-0100 IC: 8762A-TII18400 Equipment type: 2.4 GHz Transmitter	
Test Standards: US CFR Title 47, Chapter I, FCC Part 15 Subpart C FCC Part 15 CFR Title 47: 2008 Industry Canada RSS-210, Issue 7: 2007 as required for Category I Equipment This report concerns: Original Grant for Certification FCC Part 15.249	
Tests Performed For: Tracking Innovations, Inc., LLC. Key Center at Fountain Plaza 50 Fountain Plaza, Ste. 620 Buffalo, NY 14202	*Test Facility:* **Radiometrics Midwest Corporation** 12 East Devonwood Romeoville, IL 60446
Test Date(s): (Month-Day-Year) August 27 thru October 19, 2009	

Document RP-6636A Revisions:

Rev.	Issue Date	Affected Pages	Revised By
0	February 10, 2010		
1	February 15, 2010	9 to end	Joseph Strzelecki
2	February 18, 2010	14 to 18	Joseph Strzelecki

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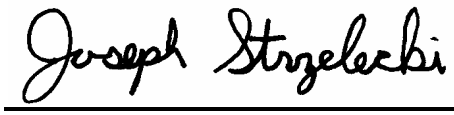
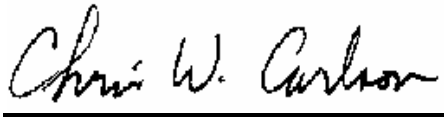
1 ADMINISTRATIVE DATA

Equipment Under Test: A Tracking Innovations, Inc., Real Time Tracking System Model: 1840-01-0000 Serial Number: none This will be referred to as the EUT in this Report	
Date EUT Received at Radiometrics: (Month-Day-Year) August 24, 2009	*Test Date(s): (Month-Day-Year)* August 27 thru October 19, 2009
Test Report Written By: Joseph Strzelecki Senior EMC Engineer	*The Test was not Witnessed by Personnel from:* Tracking Innovations, Inc.
Radiometrics' Personnel Responsible for Test:  Joseph Strzelecki Senior EMC Engineer NARTE EMC-000877-NE	*Test Report Approved By*  Chris W. Carlson Director of Engineering NARTE EMC-000921-NE

2 TEST SUMMARY AND RESULTS

The EUT (Equipment Under Test) is a Real Time Tracking System, Model 1840-01-0000, manufactured by Tracking Innovations, Inc. The EUT consists of a Base and Tags. The detailed test results are presented in a separate section. The following is a summary of the test results.

Emissions Tests Results

Environmental Phenomena	Frequency Range	FCC Section	RSS-210 Section	Test Result
20 dB Bandwidth Test	2400 to 2483 MHz	15.249	A2.9	Pass
Radiated Emissions	30 MHz to 25 GHz	15.249	A2.9	Pass
AC Conducted Emissions Test	0.15-30 MHz	15.207	RSS-Gen-e 7.2.2	Pass

2.1 RF Exposure Compliance Requirements

Because the power output is Less than 1 mW, The EUT meets 15.203 of the FCC requirement for RF exposure and it is exempt from RSS-102. There are no power level adjustments and the antenna is permanently attached.

3 EQUIPMENT UNDER TEST (EUT) DETAILS

3.1 EUT Description

The EUT is a Real Time Tracking System, Model 1840-01-000, manufactured by Tracking Innovations, Inc. The EUT was in good working condition during the tests, with no known defects.

3.1.1 FCC Section 15.203 & RSS-GEN Antenna Requirements

The Base Unit antenna uses a reverse polarity SMA Connector. The connector is not readily available to public. Therefore, it meets the 15.203 Requirement.

4 TESTED SYSTEM DETAILS

4.1 Tested System Configuration

The system was configured for testing in a typical fashion. The EUT was placed on an 80-cm high, nonconductive test stand. The testing was performed in conditions as close as possible to installed conditions. Wiring was consistent with manufacturer's recommendations. The identification for all equipment, plus descriptions of all cables used in the tested system, are:

Tested System Configuration List

Item	Description	Type*	Manufacturer	Model Number	Serial Number
1	Real Time Tracking System	E	Tracking Innovations, Inc.	1840-01-000	None
2	AC-DC Power Supply	E	Tracking Innovations, Inc.	3A-401DN15	None
3	Dell Desktop	P	Dell	Dimension 2400	CN-OTS5438-70821-54N-3AHA
4	17 inch LCD Monitor	P	Hyundai	L72S	L72SSBS358K-02086
5	Mouse	P	Dell	M071KC	514086791
6	Keyboard	P	Dell	RT7D20	CN-4N454-37172-547-0145

* Type: E = EUT, P = Peripheral,

List of System Cables

QTY	Length (m)	Cable Description	Shielded?
1	1.8	DC cable from Master System to Power Supply adaptor	No
2	1.8	Unterminated I/O Cable connected to Master system	Yes
1	0.9	I/O Cable from trigger module to Master	No
1	1.95	USB Cable	Yes

4.2 Special Accessories

No special accessories were used during the tests in order to achieve compliance.

4.3 Equipment Modifications

No modifications were made to the EUT at Radiometrics' test facility in order to comply with the standards listed in this report.

5 TEST SPECIFICATIONS AND RELATED DOCUMENTS

Document	Date	Title
FCC CFR Title 47	2008	Code of Federal Regulations Title 47, Chapter 1, Federal Communications Commission, Part 15 - Radio Frequency Devices
ANSI C63.4-2003	2003	Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
IC RSS-210 Issue 7	2007	Low Power Licence-Exempt Radiocommunication Devices (All Frequency Bands) Category I Equipment
IC RSS-Gen Issue 2	2007	General Requirements and Information for the Certification of Radiocommunication Equipment (RSS-Gen)
FCC DA 00-705	2000	Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems
FCC 558074	2005	Measurement of Digital Transmission Systems Operating under Section 15.247

The test procedures used are in accordance with the FCC DA 00-705, or FCC 558074, Industry Canada RSS-212 and ANSI document C63.4-2003, "Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz". The specific procedures are described herein. Radiated testing was performed at an antenna to EUT distance of 3 meters. The antenna was raised and lowered from 1 to 4 meters.

6 RADIOMETRICS' TEST FACILITIES

The results of these tests were obtained at Radiometrics Midwest Corp. in Romeoville, Illinois, USA. Radiometrics is accredited by A2LA (American Association for Laboratory Accreditation) to conform to ISO/IEC 17025: 2005 "General Requirements for the Competence of Calibration and Testing Laboratories". Radiometrics' Lab Code is 121191 and Certification Number is 1495.01. Radiometrics' scope of accreditation includes all of the test methods listed herein. A copy of the accreditation can be accessed on our web site (www.radiomet.com). Radiometrics accreditation status can be verified at A2LA's web site (www.a2la2.org).

The following is a list of shielded enclosures located in Romeoville, Illinois used during the tests:

Chamber E: Is a custom made anechoic chamber that measures 52' L X 30' W X 18' H. The walls and ceiling are fully lined with RF absorber. Pro-shield of Collinsville, Oklahoma manufactured the chamber.

Test Station F: Is an area that measures 10' D X 12' W X 10' H. The floor and back wall are metal shielded. This area is used for conducted emissions measurements.

A separate ten-foot long, brass plated, steel ground rod attached via a 6 inch copper braid grounds each of the above chambers. Each enclosure is also equipped with low-pass power line filters.

The FCC has accepted these sites as test site number US1065. The FCC test site Registration Number is 732175. Details of the site characteristics are on file with the Industry Canada as file number IC3124A-1.

A complete list of the test equipment is provided herein. The calibration due dates are indicated on the equipment list. The equipment is calibrated in accordance to ANSI/NCSL Z540-1 with traceability to the National Institute of Standards and Technology (NIST).

7 DEVIATIONS AND EXCLUSIONS FROM THE TEST SPECIFICATIONS

There were no deviations or exclusions from the test specifications.

8 CERTIFICATION

Radiometrics Midwest Corporation certifies that the data contained herein was taken under conditions that meet or exceed the requirements of the test specification. The results relate only to the EUT listed herein. Any modifications made to the EUT subsequent to the indicated test date will invalidate the data and void this certification.

9 TEST EQUIPMENT TABLE

RMC ID	Manufacturer	Description	Model No.	Serial No.	Frequency Range	Cal Period	Cal Date
AMP-05	RMC/Celeritek	Pre-amplifier	MW110G	1001	1.0-12GHz	12 Mo.	02/01/09
AMP-20	Avantek	Pre-amplifier	SF8-0652	15221	8-18GHz	12 Mo	02/01/09
AMP-22	Anritsu	Pre-amplifier	MH648A	M23969	0.1-1200MHz	12 Mo.	02/03/09
ANT-13	EMCO	Horn Antenna	3115	2502	1.0-18GHz	24 Mo.	10/22/08
ANT-44	Impossible Machine	Super Log Antenna	SL-20M2G	1002	20-2000MHz	24 Mo.	11/25/09
LSN-01	Electrometrics	50 uH LISN	FCC/VDE 50/2	1001	0.01-30MHz	24 Mo.	05/01/09
REC-01	Hewlett Packard	Spectrum Analyzer	8566A	2106A02115, 2209A01349	30Hz-22GHz	24 Mo.	10/23/08
REC-03	Anritsu	Spectrum Analyzer	MS2601B	MT94589	0.01-2200MHz	12 Mo.	03/09/09
REC-07	Anritsu	Spectrum Analyzer	MS2601A	MT53067	0.01-2200MHz	12 Mo.	03/09/09
THM-01	Extech Inst.	Temp/Humid Meter	4465CF	001106557	N/A	24 Mo.	01/18/08

Note: All calibrated equipment is subject to periodic checks.

10 TEST SECTIONS

10.1 AC Conducted Emissions

The tests and limits are in accordance with FCC section 15.207 and RSS Gen section 7.2.2.

A computer-controlled analyzer was used to perform the conducted emissions measurements. The frequency range was divided into 500 subranges equally spaced on a logarithmic scale. The computer recorded the peak of each subrange. This data was then plotted on semi-log graph paper generated by the computer and plotter. Adjusting the positions of the cables and orientation of the test system then maximizes the highest emissions.

Mains Conducted emission measurements were performed using a 50 Ohm/50 uH Line Impedance Stabilization Network (LISN) as the pick-up device. Measurements were repeated on both leads within the power cord. If the EUT power cord exceeded 80 cm in length, the excess length of the power cord was made into a 30 to 40 cm bundle near the center of the cord. The LISN was placed on the floor at the base of the test platform and electrically bonded to the ground plane.

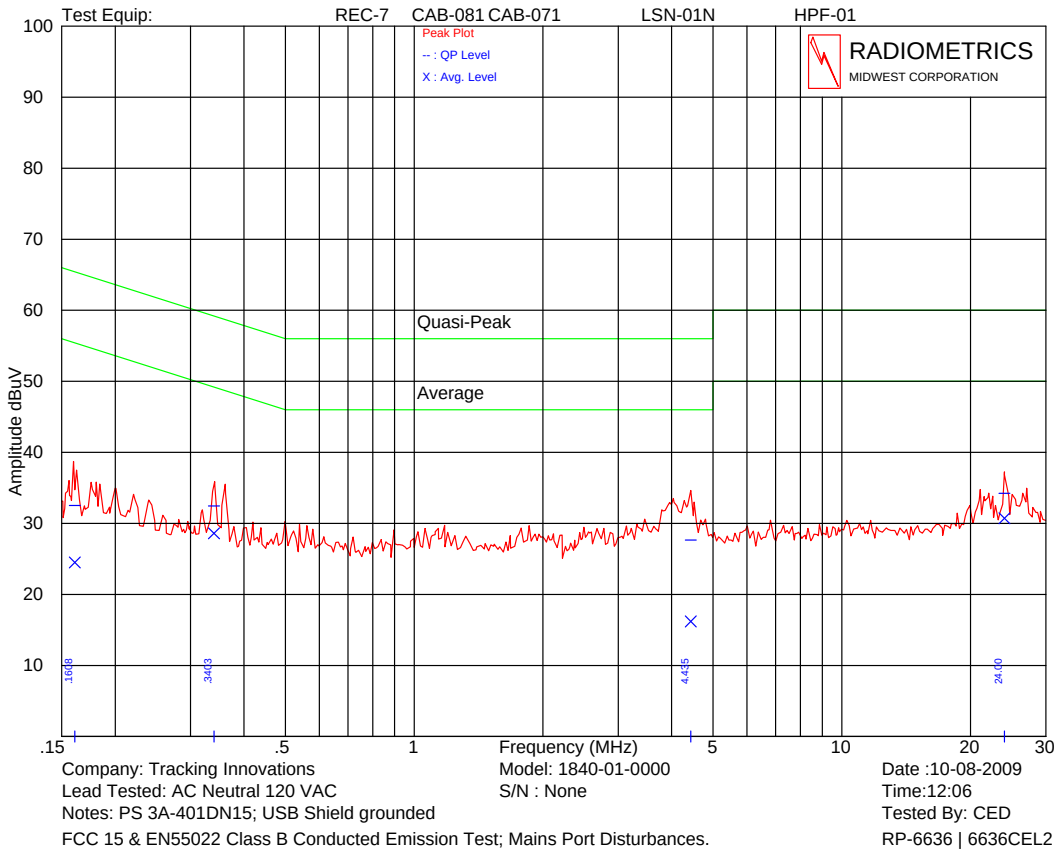
Broadband conducted emissions may exceed the following limits by no more than 13 dB. An emission is defined as broadband if the average detector amplitude is 6 dB or more under the quasi-peak detector amplitude.

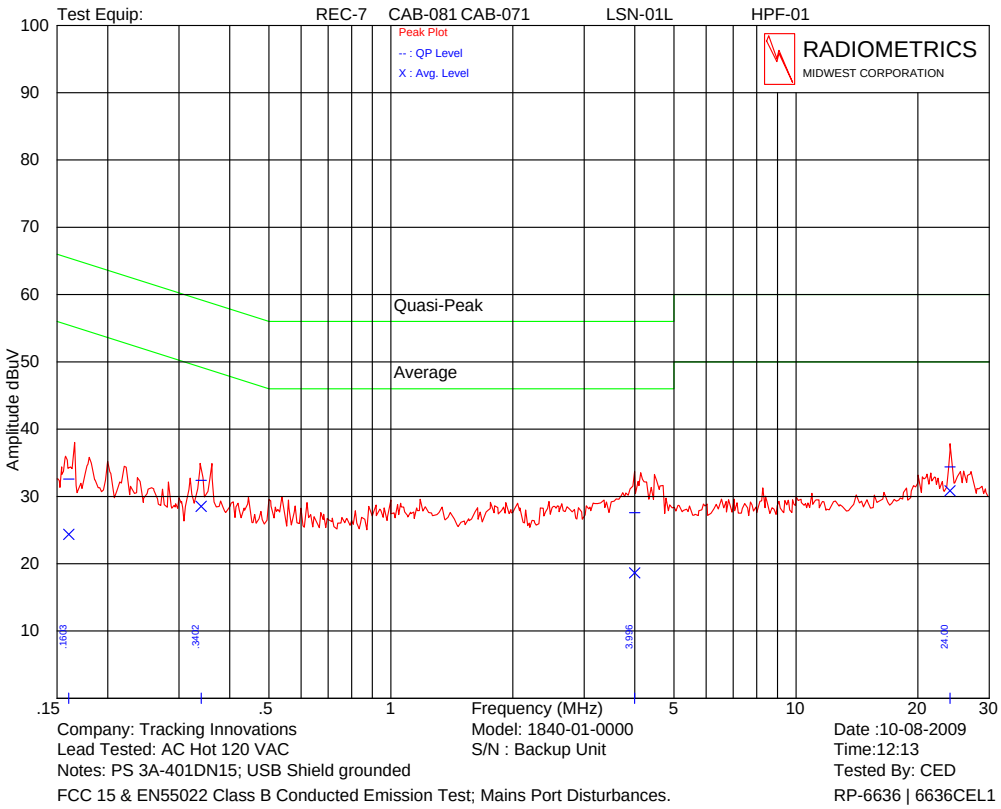
FCC Limits of Conducted Emissions at the AC Mains Ports

Frequency Range (MHz)	Class B Limits (dBuV)	
	Quasi-Peak	Average
0.150 - 0.50*	66 - 56	56 - 46
0.5 – 5.0	56	46
5.0 - 30	60	50
* The limit decreases linearly with the logarithm of the frequency in this range.		

The initial step in collecting conducted data is a peak detector scan and the plotting of the measurement range. Significant peaks are then marked as shown on the following table, and these signals are then measured with the quasi-peak detector. The following represents the worst case emissions from the host computer (with the EUT connected) power cord, after testing all modes of operation.

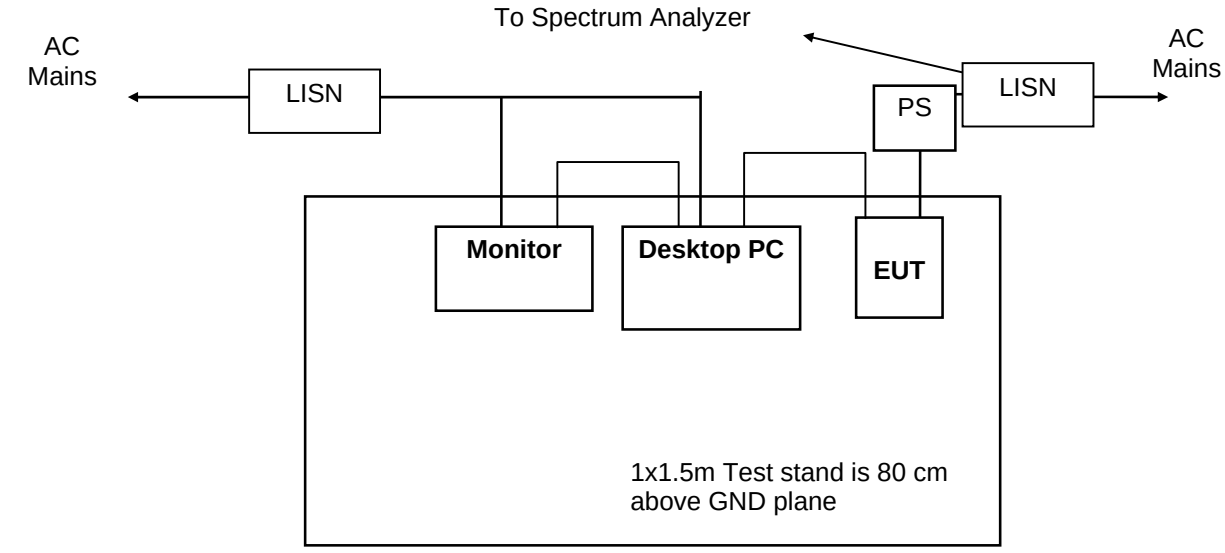
10.1.1 AC Conducted Emissions Test Results





Judgment: Passed by at least 10 dB

Figure 1. Conducted Emissions Test Setup



Notes:
- LISN's at least 80 cm from EUT chassis
- Vertical conductive plane 40 cm from rear of table top
- EUT power cord bundled

10.2 Time of Occupancy (Dwell Time)

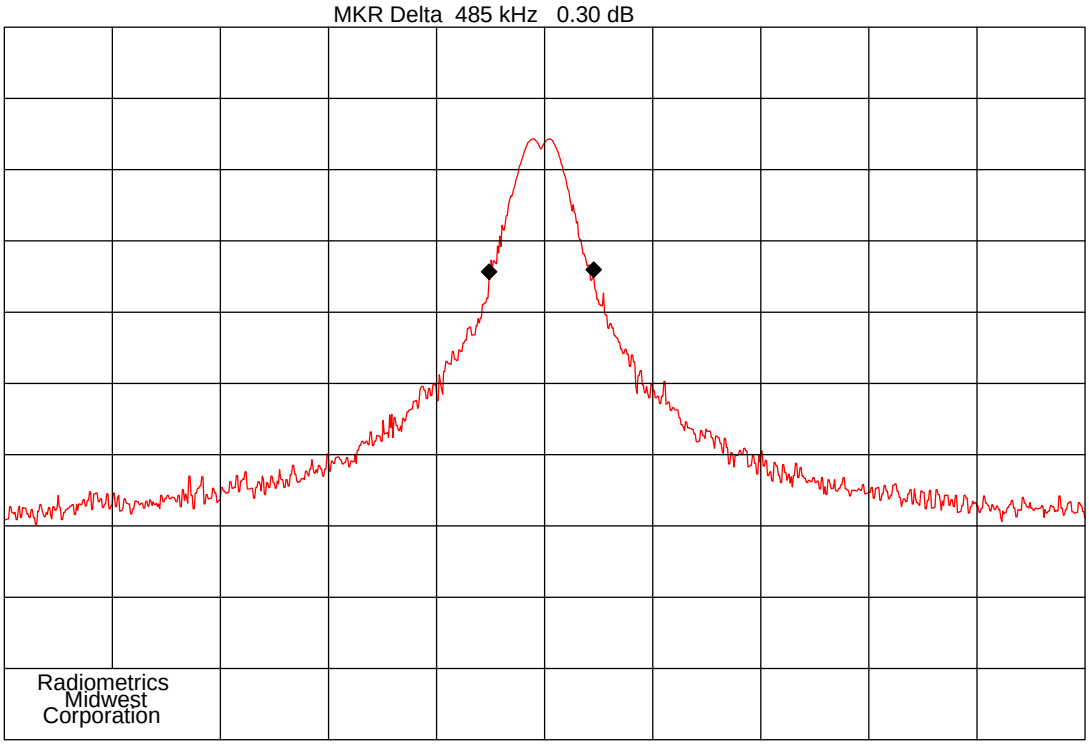
In any 100 ms interval, the worst case transmitter duty cycle is 100%. There fore there is no reduction for the time of occupancy.

10.3 Occupied Bandwidth (20 dB)

The spectrum analyzer was set to the MAX HOLD mode to record the worst case of the modulation. The EUT was transmitting at its maximum data rate. The trace was allowed to stabilize.

The marker-to-peak function was set to the peak of the emission. Then the marker-delta function was used to measure 20 dB down one side of the emission. The marker-delta function was reset and then moved to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission.

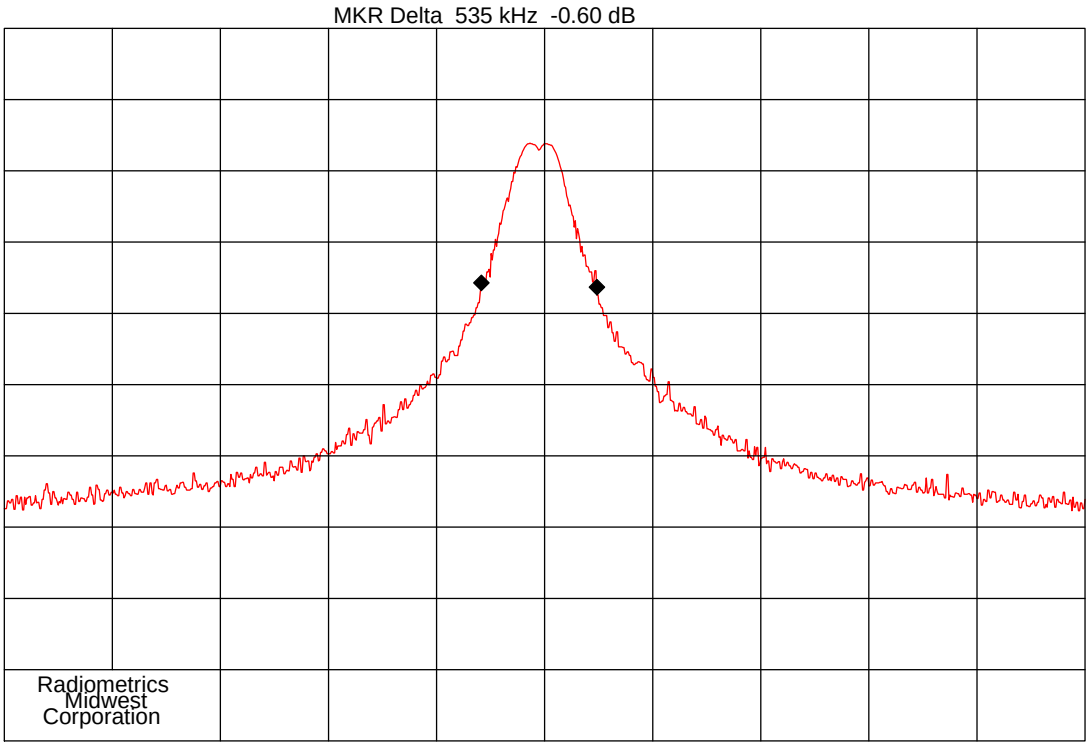
	Master
Channel	20 dB EBW MHz
2401.75	0.485
2441	0.535
2481	0.530



Company: Indesign
CENTER 2.401 80 GHz
RES BW 100 kHz
10 dB/
Notes: 20 dB Bandwidth, Low Ch.

ITEM : Master
REF 97.0 dBuV
VBW 300 kHz
Time: 15:19

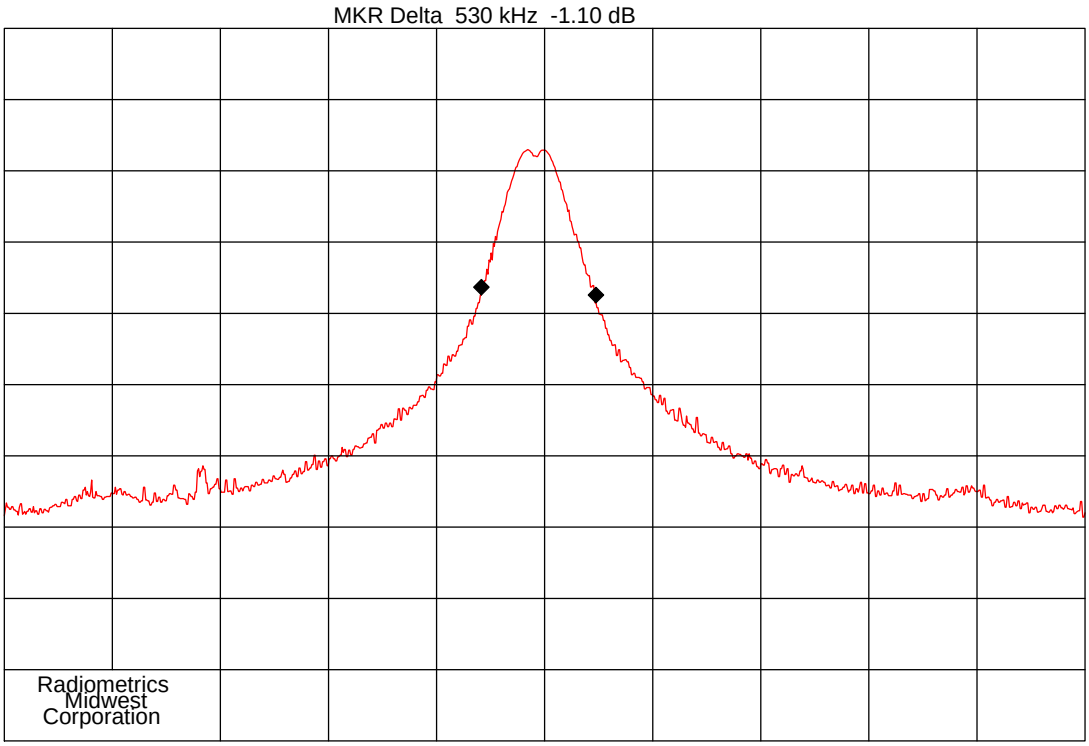
Date : 10-07-2009
SPAN 5.00 MHz
ATTEN 0 dB
SWP 20.0 msec



Company: Indesign
CENTER 2.441 00 GHz
RES BW 100 kHz
10 dB/
Notes: 20 dB Bandwidth, Middle Channel

ITEM : Master
REF 97.0 dBuV
VBW 300 kHz
Time: 15:22

Date : 10-07-2009
SPAN 5.00 MHz
ATTEN 0 dB
SWP 20.0 msec



Company: Indesign
CENTER 2.481 00 GHz
RES BW 100 kHz
10 dB/
Notes: 20 dB Bandwidth, High Channel

ITEM : Master
REF 97.0 dBuV
VBW 300 kHz
Time: 15:28

Date : 10-07-2009
SPAN 5.00 MHz
ATTEN 0 dB
SWP 20.0 msec

10.4 RF Radiated Emissions

Radiated emission measurements were performed with linearly polarized broadband antennas. The results obtained with these antennas can be correlated with results obtained with a tuned dipole antenna. The radiated emission measurements were performed with a spectrum analyzer. The bandwidth used from 150 kHz to 30 MHz is 9 or 10 kHz and the bandwidth from 30 MHz to 1000 MHz is 100 or 120 kHz. Above 1 GHz, a 1 MHz bandwidth is used. A 10 dB linearity check is performed prior to start of testing in order to determine if an overload condition exists.

From 30 to 1000 MHz, an Anritsu spectrum analyzer was used. For tests from 1 to 25 GHz, an HP 8566 spectrum analyzer was used. For tests from 1 to 10 GHz, a high pass filter was used to reduce the fundamental emission. A harmonic mixer was used from 18 to 25 GHz. Figure 4 herein lists the details of the test equipment used during radiated emissions tests.

The EUT was rotated through two orthogonal axis during the prescans and during final radiated tests, since it can be wall mounted or table top.

Final radiated emissions measurements were performed inside of an anechoic chamber at a test distance of 3 meters. The anechoic chamber is designated as Chamber E. This Chamber meets the Site Attenuation requirements of ANSI C63.4 and CISPR 16-1. Chamber E is located at 12 East Devonwood Ave. Romeoville, Illinois EMI test lab.

The entire frequency range from 30 MHz to 25 GHz was slowly scanned with particular attention paid to those frequency ranges which appeared high. Measurements were performed using two antenna polarizations, (vertical and horizontal). The worst case emissions were recorded. All measurements may be performed using either the peak, average or quasi-peak detector functions. If the peak detector data exceeds or is marginally close to the limits, the measurements are repeated using a quasi-peak detector or average function as required by the specification for final determination of compliance.

The detected emission levels were maximized by rotating the EUT, adjusting the positions of all cables, and by scanning the measurement antenna from 1 to 4 meters above the ground.

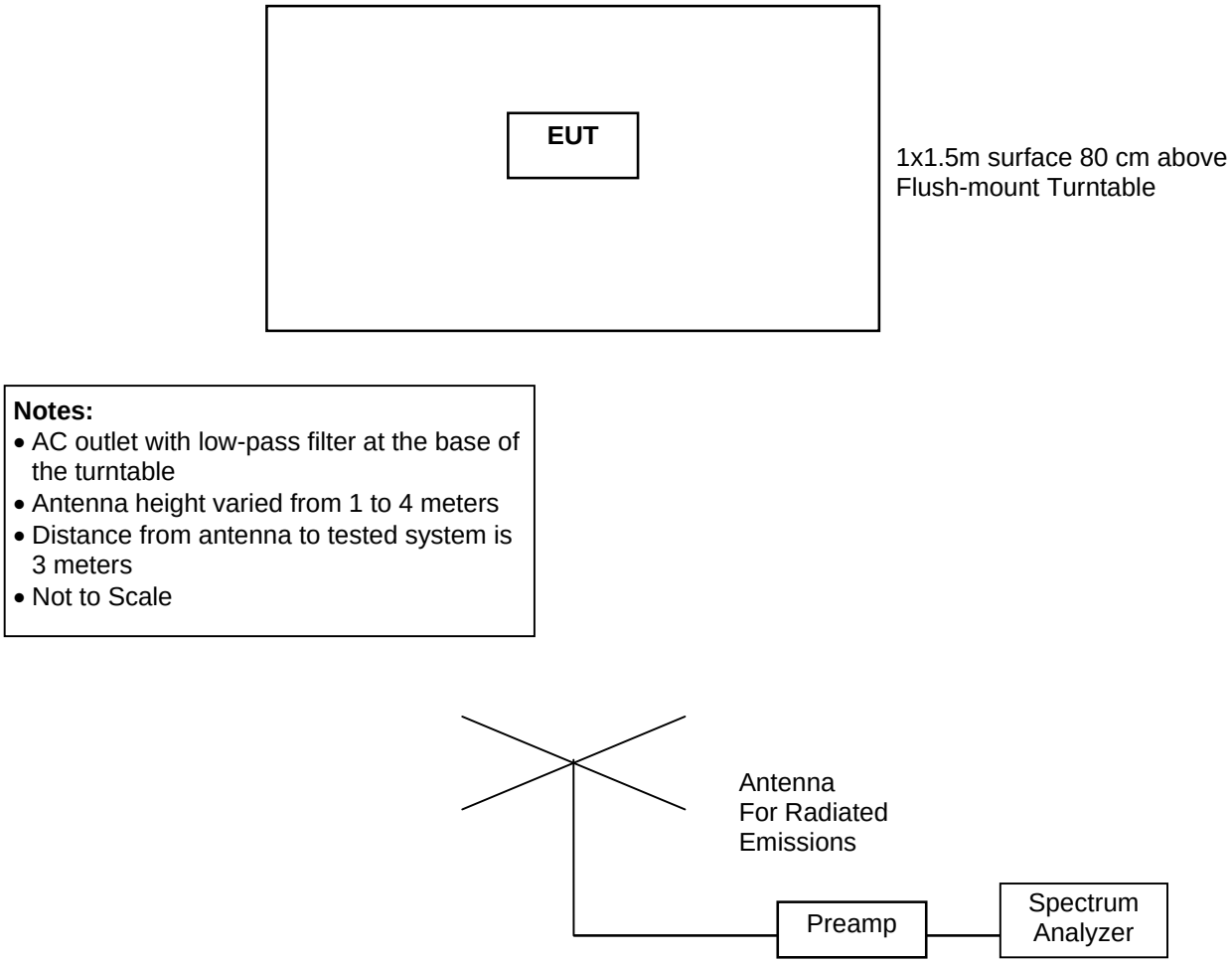
10.4.1 Radiated Emissions Field Strength Sample Calculation

The field strength is calculated by adding the Antenna Factor and Cable Loss, and by subtracting the Amplifier Gain from the measured reading. The basic equation is as follows:

FS = RA + AF + CF - AG

Where: FS = Field Strength
RA = Receiver Amplitude
AF = Antenna Factor
CF = Cable Attenuation Factor
AG = Amplifier Gain

Figure 2. Drawing of Radiated Emissions Setup



10.4.2 Radiated Emissions Test Results

The following spectrum analyzer settings were used.

Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
A Video Bandwidth of 10 Hz was used for Average measurements above 1 GHz.

10.4.2.1 Emissions Results 30 MHz to 2 GHz

Manufacturer	Tracking Innovations, Inc.	Specification	FCC Part 15 Subpart C & RSS-210
Model	1840-01-0000	Test Date	10-06-2009
Serial Number	none	Test Distance	3 meters
Abbreviations	Pol = Antenna Polarization; V = Vertical; H = Horizontal; P = peak; Q = QP		
Notes	Corr. Factors = Cable Loss – Preamp Gain		

10.4.2.1.1 Recieve Mode

Freq. MHz	Peak Meter Reading dBuV	Antenna Factor dB	Antenna Pol/ ID#	Corr. Factors dB	Field Strength dBuV/m EUT	Field Strength dBuV/m Limit	Margin Under Limit dB
33.6	38.0 P	17.6	H/44	-28.6	27.0	40.0	13.0
99.6	45.1 P	9.8	H/44	-28.1	26.8	43.5	16.7
165.2	47.1 P	10.4	H/44	-27.9	29.6	43.5	13.9
199.2	44.6 P	10.3	H/44	-27.8	27.1	43.5	16.4
233.4	52.0 P	12.0	H/44	-27.7	36.3	46.0	9.7
250.2	44.2 P	12.5	H/44	-27.6	29.1	46.0	16.9
383.0	43.6 P	16.0	H/44	-27.6	32.0	46.0	14.0
399.8	41.1 P	15.8	H/44	-27.3	29.6	46.0	16.4
449.6	39.3 P	16.7	H/44	-27.4	28.6	46.0	17.4
479.3	41.3 P	17.7	H/44	-27.1	31.9	46.0	14.1
551.0	42.5 P	18.4	H/44	-27.1	33.8	46.0	12.2
601.0	39.5 P	18.9	H/44	-26.7	31.7	46.0	14.3
650.0	41.8 P	19.8	H/44	-26.7	34.8	46.0	11.2
701.0	39.2 P	20.4	H/44	-26.5	33.0	46.0	13.0
750.0	40.3 P	20.8	H/44	-26.1	34.9	46.0	11.1
902.0	33.0 P	22.6	H/44	-25.3	30.3	46.0	15.7
90.8	52.1 P	9.6	V/44	-28.1	33.6	43.5	9.9
100.0	52.1 P	10.4	V/44	-28.1	34.4	43.5	9.1
114.4	42.8 P	14.3	V/44	-28.1	29.1	43.5	14.4
140.4	43.7 P	11.5	V/44	-28.0	27.2	43.5	16.3
165.6	44.7 P	10.8	V/44	-27.9	27.6	43.5	15.9
198.8	47.4 P	10.1	V/44	-27.8	29.8	43.5	13.7
207.2	41.7 P	10.6	V/44	-27.8	24.5	43.5	19.0
233.4	47.7 P	11.9	V/44	-27.7	31.9	46.0	14.1
377.9	38.5 P	15.8	V/44	-27.6	26.6	46.0	19.4
449.6	39.7 P	16.4	V/44	-27.4	28.7	46.0	17.3
496.6	38.0 P	16.8	V/44	-26.9	27.9	46.0	18.1
551.0	43.2 P	17.6	V/44	-27.1	33.7	46.0	12.3
650.0	41.9 P	19.3	V/44	-26.7	34.5	46.0	11.5
750.0	40.8 P	20.1	V/44	-26.1	34.7	46.0	11.3
834.0	34.5 P	21.1	V/44	-25.7	29.9	46.0	16.1
902.0	33.5 P	21.6	V/44	-25.3	29.8	46.0	16.2
950.0	33.9 P	21.6	V/44	-25.0	30.4	46.0	15.6
1196.0	34.1 P	23.4	V/44	-24.6	32.8	54.0	21.2
1401.0	36.6 P	24.5	V/44	-24.2	36.9	54.0	17.1

Judgment: Passed by 9.1 dB

10.4.2.1.2 Transmit Mode

Freq. MHz	Peak Meter Reading dBuV	Antenna		Corr. Factors dB	Field Strength dBuV/m		Margin Under Limit dB
		Factor dB	Pol/ ID#		EUT	Limit	
98.4	35.8 P	9.5	H/44	-28.1	17.2	43.5	26.3
151.2	38.6 P	10.2	H/44	-27.9	20.8	43.5	22.7
180.0	38.0 P	9.3	H/44	-27.8	19.5	43.5	24.0
229.2	35.6 P	11.7	H/44	-27.7	19.5	46.0	26.5
250.2	40.9 P	12.5	H/44	-27.6	25.8	46.0	20.2
349.9	39.3 P	14.9	H/44	-27.4	26.8	46.0	19.2
449.6	33.9 P	16.7	H/44	-27.4	23.1	46.0	22.9
551.0	39.3 P	18.4	H/44	-27.1	30.6	46.0	15.4
650.0	44.8 P	19.8	H/44	-26.7	37.9	46.0	8.1
650.1	40.8 P	19.8	H/44	-26.7	33.9	46.0	12.1
750.0	39.8 P	20.8	H/44	-26.1	34.4	46.0	11.6
56.0	40.0 P	12.2	V/44	-28.4	23.8	40.0	16.2
100.0	42.3 P	10.4	V/44	-28.1	24.6	43.5	18.9
143.6	43.2 P	11.0	V/44	-28.0	26.2	43.5	17.3
220.8	35.0 P	11.6	V/44	-27.8	18.8	46.0	27.2
250.2	37.5 P	12.5	V/44	-27.6	22.4	46.0	23.6
300.6	34.1 P	13.4	V/44	-27.6	19.9	46.0	26.1
349.9	39.9 P	14.8	V/44	-27.4	27.3	46.0	18.7
379.6	42.3 P	15.8	V/44	-27.6	30.5	46.0	15.5
399.8	41.6 P	15.5	V/44	-27.3	29.8	46.0	16.2
449.6	38.7 P	16.4	V/44	-27.4	27.7	46.0	18.3
551.0	42.4 P	17.6	V/44	-27.1	32.9	46.0	13.1
601.0	38.6 P	18.3	V/44	-26.7	30.2	46.0	15.8
650.0	41.2 P	19.3	V/44	-26.7	33.7	46.0	12.3
700.0	34.5 P	19.6	V/44	-26.5	27.6	46.0	18.4
750.0	38.6 P	20.1	V/44	-26.1	32.5	46.0	13.5
1064.0	28.0 P	22.4	V/44	-26.2	24.2	54.0	29.8

Judgment: Passed by 8.1 dB

10.4.2.2 Emissions Results 2 to 25 GHz

Manufacturer	Tracking Innovations, Inc.	Specification	FCC Part 15 Subpart C & RSS-210
Model	1840-01-300	Test Date	10-12-2009
Serial Number	none	Test Distance	3 Meters
Abbreviations	Pol = Antenna Polarization; V = Vertical; H = Horizontal; P = peak; Q = QP		
Notes	Corr. Factors = Cable Loss – Preamp Gain		

10.4.2.2.1 Recieve Mode

The receive mode was tested up to 12.5 GHz. No emissions were detected in the receive mode from 2 to 12.5 GHz within 10 dB of the limits.

10.4.2.2.2 Transmit Mode

The transmit mode was tested up to 25 GHz. No emissions in were detected from 8 to 25 GHz within 10 dB of the limits.

		Spectrum Analyzer Readings									EUT	Peak	Ave	Peak	Ave	Margin
hrm	Tx	Peak			Ave	Peak			Ave	Corr.	Emission	Tot. FS		Limit		Under
		Vertical Polarization				Horizontal Polarization					Freq					
#	Freq	X	Y	Z	Max	X	Y	Z	Max	Fact.	MHz	dBuV/m		dBuV/m		Limit
1	2401.8	84.7	82.1	N/A	84.7	81.2	87.2	N/A	87.2	3.8	2401.8	91.0	91.0	114	94	3.0
BE	2401.8	36.9	34.3	N/A	36.9	33.4	39.4	N/A	39.4	3.8	2400	43.2	43.2	74	54	10.8
2	2401.8	40.3	38.8	N/A	40.3	36.6	37.1	N/A	37.1	11.8	4803.6	52.1	52.1	74	54	1.9
3	2401.8	36.0	35.1	N/A	36.0	36.2	35.6	N/A	36.2	15.9	7205.4	52.1	52.1	74	54	1.9
4	2401.8	37.4	37.7	N/A	37.7	38.1	37.5	N/A	38.1	10.1	9607.2	48.2	48.2	74	54	5.8
5	2401.8	37.3	37.6	N/A	37.6	36.9	34.5	N/A	36.9	11.5	12009	49.1	49.1	74	54	4.9
1	2441.0	83.6	82.4	N/A	83.6	82.4	86.2	N/A	86.2	4.0	2441	90.2	90.2	114	94	3.8
2	2441.0	38.9	35.9	N/A	38.9	35.2	36.7	N/A	36.7	11.8	4882	50.7	50.7	74	54	3.3
3	2441.0	35.8	36.0	N/A	36.0	36.0	35.7	N/A	36.0	16.3	7323	52.3	52.3	74	54	1.7
4	2441.0	36.0	35.7	N/A	36.0	37.2	36.2	N/A	37.2	9.9	9764	47.1	47.1	74	54	6.9
5	2441.0	37.4	37.2	N/A	37.4	36.4	36.7	N/A	36.7	10.8	12205	48.2	48.2	74	54	5.8
1	2481.0	83.0	82.1	N/A	83.0	82.3	85.3	N/A	85.3	4.3	2481	89.6	89.6	114	94	4.4
BE	2481.0	33.9	33.0	N/A	33.9	33.2	36.2	N/A	36.2	4.3	2483.5	40.5	40.5	74	54	13.5
2	2481.0	35.8	35.8	N/A	35.8	34.5	34.8	N/A	34.8	11.9	4962	47.7	47.7	74	54	6.3
3	2481.0	35.4	35.4	N/A	35.4	35.4	35.7	N/A	35.7	17.0	7443	52.7	52.7	74	54	1.3
4	2481.0	37.5	36.5	N/A	37.5	38.1	37.8	N/A	38.1	10	9924	48.1	48.1	74	54	5.9
5	2481.0	37.5	36.8	N/A	37.5	37.3	36.8	N/A	37.3	9.7	12405	47.2	47.2	74	54	6.8
Column numbers (see below for explanations)																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Judgment: Passed by 1.3 dB

The Master was rotated through two orthogonal axis (Table top and Wall Mount)

Column #1. hrm = Harmonic; BE = Band Edge emissions
Column #2. Frequency of Transmitter.
Column #3. Uncorrected readings from the spectrum analyzer with First Axis Rotation.
Column #4. Uncorrected readings from the spectrum analyzer with Second Axis Rotation.
Column #5. Third Axis Rotation not performed, since EUT has only two mounting positions.
Column #6. Average Reading based on peak reading reduced by the Duty cylce correction
Column #7. Uncorrected readings from the spectrum analyzer with First Axis Rotation.
Column #8. Uncorrected readings from the spectrum analyzer with Second Axis Rotation.
Column #9. Third Axis Rotation not performed, since EUT has only two mounting positions.
Column #10. Average Reading based on peak reading reduced by the Duty cylce correction
Column #11. Corr. Factors = Cable Loss – Preamp Gain + Antenna Factor
Column #12. Frequency of Tested Emission
Column #13. Highest peak field strength at listed frequency.
Column #14. Highest Average field strength at listed frequency.
Column #15. Peak Limit.
Column #16. Average Limit.
Column #17. The margin (last column) is the worst case margin under the peak or average limits for that row.