TEST REPORT

Report Number: 3124031ATL-001

May 17, 2007

Product Designation: Next Tag

Standard: FCC Part 15.250 - Operation of wideband systems within the band 5925 to 7250 MHz
Class II Permissive Change

Tested by:
Intertek Testing Services NA Inc.
1950 Evergreen Blvd., Suite 100
Duluth, GA 30096

Client:
Time Domain
6700 Odessey Drive, Suite 100
Huntsville, AL 35806
Contact: Keven Trach
Phone: 256.428.6317
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Tests performed by:

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Report reviewed by:

David J. Schramm
EMC Department Manager

1.0 Introduction and Conclusion

The tests indicated in section 2.0 were performed on the product constructed as described in section 3.0. The remaining test sections are the verbatum text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested complies with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested.

2.0 Test Summary

Section	Test Full Name	Test Date	Result
4.0	System setup including cable interconnection details, support equipment and simplified block diagram. (System Setup)		
5.0	15.250(a) and 15.250(b): -10 dB Bandwidth requireqments (Bandwidth)	05/17/2007	PASS
6.0	15.250(d)(1) Radiated power (EIRP) density (EIRP power density)	05/17/2007	PASS
7.0	15.250(d)(3) Peak Power in a 50 MHz bandwidth (Peak Power per 50 MHz)	05/17/2007	PASS

3.0 Description of Equipment Under Test

Equipment Under Test			
Description	Manufacturer	Model Number	Serial Number
UWB Transmitter	Time Domain	Next Tag	Sample 1

EUT receive date:	May 17, 2007
EUT receive condition:	Good

Description of EUT provided by Client:
The Tag is a simple UWB transmit-only device for a RFID (Radio Frequency Identification) Tracking System, which sends out very short packets at predetermined transmission rates. These very short packets (less than 100 microseconds) allows for several thousand tags to be tracked in the same area. The data in the tag packet includes the tags ID, a packet number, battery status, and a received signal strength indicator.

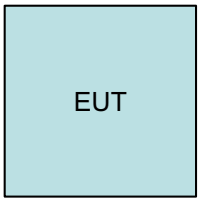
Description of EUT exercising:
The Tag transmits its normal signal at all times. There is no user control to change its power level or mode of operation.

4.0 System setup including cable interconnection details, support equipment and simplified block diagram. (System Setup)

Method:

Record the details of EUTcabling, document the support equipment, and show the interconnections in a block diagram.

Photo:



EUT is battery powered and has
no interconnecting cables

Block diagram of EUT

4.0 System setup including cable interconnection details, support equipment and simplified block diagram. (System Setup)

Data:

EUT Cabling						
					Connection	
ID	Description	Length	Shielding	Ferrites	From	To
None						

Support Equipment			
Description	Manufacturer	Model Number	Serial Number
None			

5.0 15.250(a) and 15.250(b): -10 dB Bandwidth requireqments (Bandwidth)

Method:

The -10 dB bandwidth of a device operating under the provisions of this section must be contained within the 5925–7250 MHz band under all conditions of operation including the effects from stepped frequency, frequency hopping or other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage.

The -10 dB bandwidth of the fundamental emission shall be at least 50 MHz. For transmitters that employ frequency hopping, stepped frequency or similar modulation types, measurement of the -10 dB minimum bandwidth specified in this paragraph shall be made with the frequency hop or step function disabled and with the transmitter operating continuously at a fundamental frequency following the provisions of §15.31(m).

The -10 dB bandwidth is based on measurement using a peak detector, a 1 MHz resolution bandwidth, and a video bandwidth greater than or equal to the resolution bandwidth.

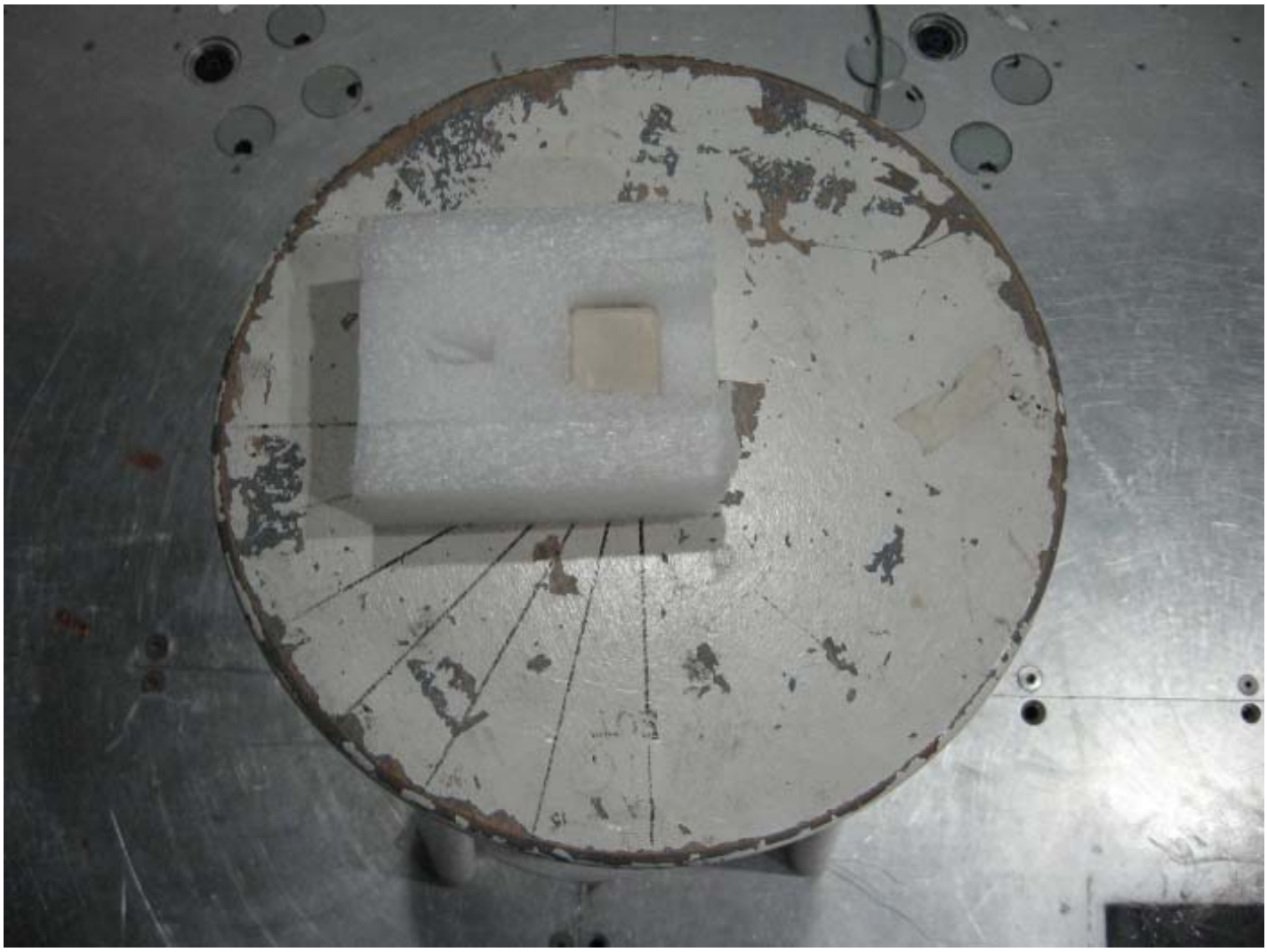
Test Equipment Used:

Description:	Manufacturer:	Model:	Asset Number:	Cal Date:	Cal Due:
20MHz - 18GHz Preamp	A. H. systems	PAM-0118	199	03/21/07	03/21/08
Antenna, Horn, 1-18 GHz	EMCO	3115	213061	04/02/2007	04/02/2008
Coaxial Cable, 7m, N-N, 18 GHz	Storm Products Co.	PR90-206-7MTR	ST1	01/11/2007	01/11/2008
Spectrum Analyzer, 20 Hz to 40 GHz	Rohde & Schwarz	FSEK30	200062	03/12/2007	03/12/2008

Results: The sample tested was found to Comply.

5.0 15.250(a) and 15.250(b): -10 dB Bandwidth requireqments (Bandwidth)

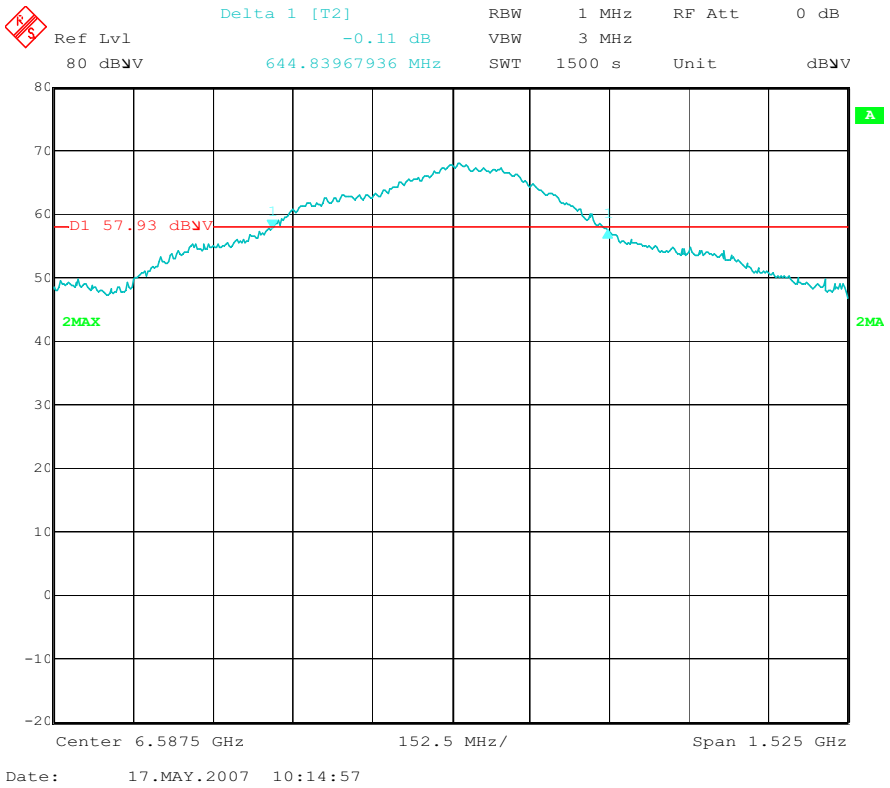
Photo:



Test Setup

5.0 15.250(a) and 15.250(b): -10 dB Bandwidth requireqments (Bandwidth)

Plot:



Bandwidth Plot

5.0 15.250(a) and 15.250(b): -10 dB Bandwidth requireqments (Bandwidth)

Data:

Bandwidth: 15.250(a) and (b)

	Frequency MHz	Requirement	Compliant?	RBW	VBW	ST
-10dB Level below center:	6243.6	> 5925 MHz	yes	1 MHz	3 MHz	1500 sec
-10dB Level above center:	6888.5	< 7250 MHz	yes	1 MHz	3 MHz	1500 sec
Bandwidth:	644.9	> 50 MHz	yes	1 MHz	3 MHz	1500 sec

6.0 15.250(d)(1) Radiated power (EIRP) density (EIRP power density)

Method:

(d) Emissions from a transmitter operating under this section shall not exceed the equivalent isotropically radiated power (EIRP) density levels:

(1) The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the RMS average limits based on measurements using a 1 MHz resolution bandwidth.

Emissions from digital circuitry used to enable the operation of the transmitter may comply with the limits in §15.209 provided it can be clearly demonstrated that those emissions are due solely to emissions from digital circuitry contained within the transmitter and the emissions are not intended to be radiated from the transmitter's antenna. Emissions from associated digital devices, as defined in §15.3(k), e.g., emissions from digital circuitry used to control additional functions or capabilities other than the operation of the transmitter, are subject to the limits contained in subpart B of this part. Emissisons from these digital circuits shall not be employed in determining the -10 dB bandwidth of the fundamental emission or the frequency at which the highest emission level occurs.

Measurement procedures:
All emissions at and below 960 MHz are based on measurements employing a CISPR quasi-peak detector. Unless otherwise specified, all RMS average emission levels specified in this section are to be measured utilizing a 1 MHz resolution bandwidth with a one millisecond dwell over each 1 MHz segment. The frequency span of the analyzer should equal the number of sampling bins times 1 MHz and the sweep rate of the analyzer should equal the number of sampling bins times one millisecond. The provision in §15.35(c) that allows emissions to be averaged over a 100 millisecond period does not apply to devices operating under this section. The video bandwidth of the measurement instrument shall not be less than the resolution bandwidth and trace averaging shall not be employed. The RMS average emission measurement is to be repeated over multiple sweeps with the analyzer set for maximum hold until the amplitude stabilizes.

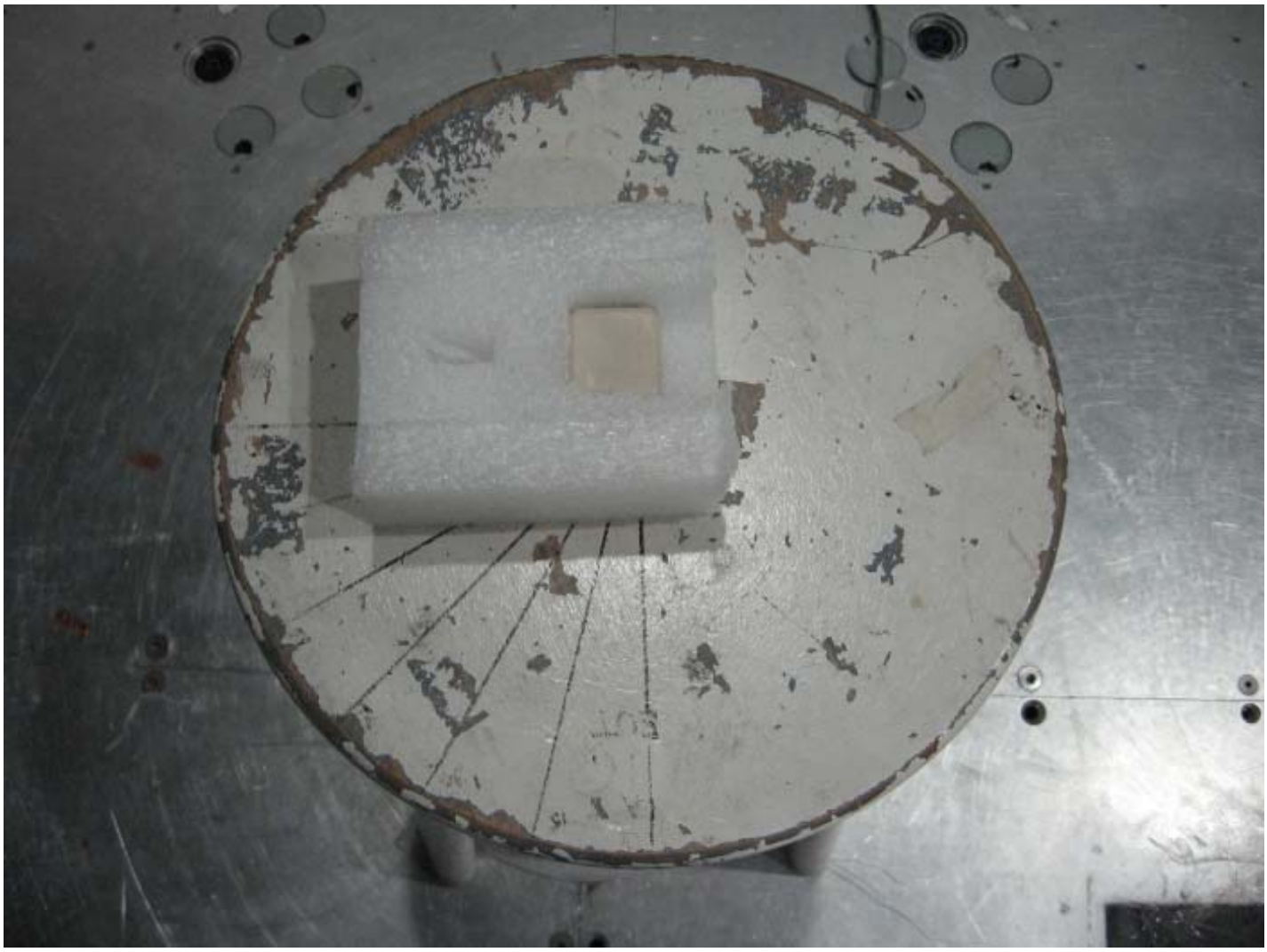
Test Equipment Used:

Description:	Manufacturer:	Model:	Asset Number:	Cal Date:	Cal Due:
20MHz to 18GHz Preamp	A.H. Systems	PAM-0118	199	03/21/07	03/21/08
Antenna, Horn, 1-18 GHz	EMCO	3115	213061	04/02/2007	04/02/2008
Coaxial Cable, 7m, N-N, 18 GHz	Storm Products Co.	PR90-206-7MTR	ST1	01/11/2007	01/11/2008
Spectrum Analyzer, 20 Hz to 40 GHz	Rohde & Schwarz	FSEK30	200062	03/12/2007	03/12/2008

Results: The sample tested was found to Comply.

6.0 15.250(d)(1) Radiated power (EIRP) density (EIRP power density)

Photo:



Test Setup

6.0 15.250(d)(1) Radiated power (EIRP) density (EIRP power density)

Data:

Frequency Range (MHz): 5825 to 7350 **Test Distance (m):** 1

Input power: battery **Limit:** FCC Part 15.250(d)(1) at 3m

Modifications for compliance (y/n): n

A	B	C	D	E	F		G1	G2	H	I	J
Ant. Pol. (V/H)	**Frequency MHz**	**Reading dB(uV)**	**Antenna Factor dB(1/m)**	**Cable Loss dB**	**Pre-amp Factor dB**	**1-3m CF dB**	**Net dB(uV/m)**	**Net dBm**	**3m Limit dBm**	**Margin dB**	**Detectors / Bandwidths Det/RBW/VBW**
v	6602.317	63.8	35.3	3.2	39.7	9.5	53.0	-42.2	-41.3	-0.9	RMS/1M/3M
Calculations		H=C+D+E-F-G		I=H-95.2		K=I-J					

7.0 15.250(d)(3) Peak Power in a 50 MHz bandwidth (Peak Power per 50 MHz)

Method:

(3) There is a limit on the peak level of the emissions contained within a 50 MHz bandwidth centered on the frequency at which the highest radiated emission occurs and this 50 MHz bandwidth must be contained within the 5925-7250 MHz band. The peak EIRP limit is 20 log (RBW/50) dBm where RBW is the resolution bandwidth in megahertz that is employed by the measurement instrument. RBW shall not be lower than 1 MHz or greater than 50 MHz. The video bandwidth of the measurement instrument shall not be less than RBW. If RBW is greater than 3 MHz, the application for certification filed with the Commission shall contain a detailed description of the test procedure, calibration of the test setup, and the instrumentation employed in the testing.

Test Equipment Used:

Description:	Manufacturer:	Model:	Asset Number:	Cal Date:	Cal Due:
20MHz to 18GHz Preamp	A.H. Systems	PAM-0118	199	03/21/07	03/21/08
Antenna, Horn, 1-18 GHz	EMCO	3115	213061	04/02/2007	04/02/2008
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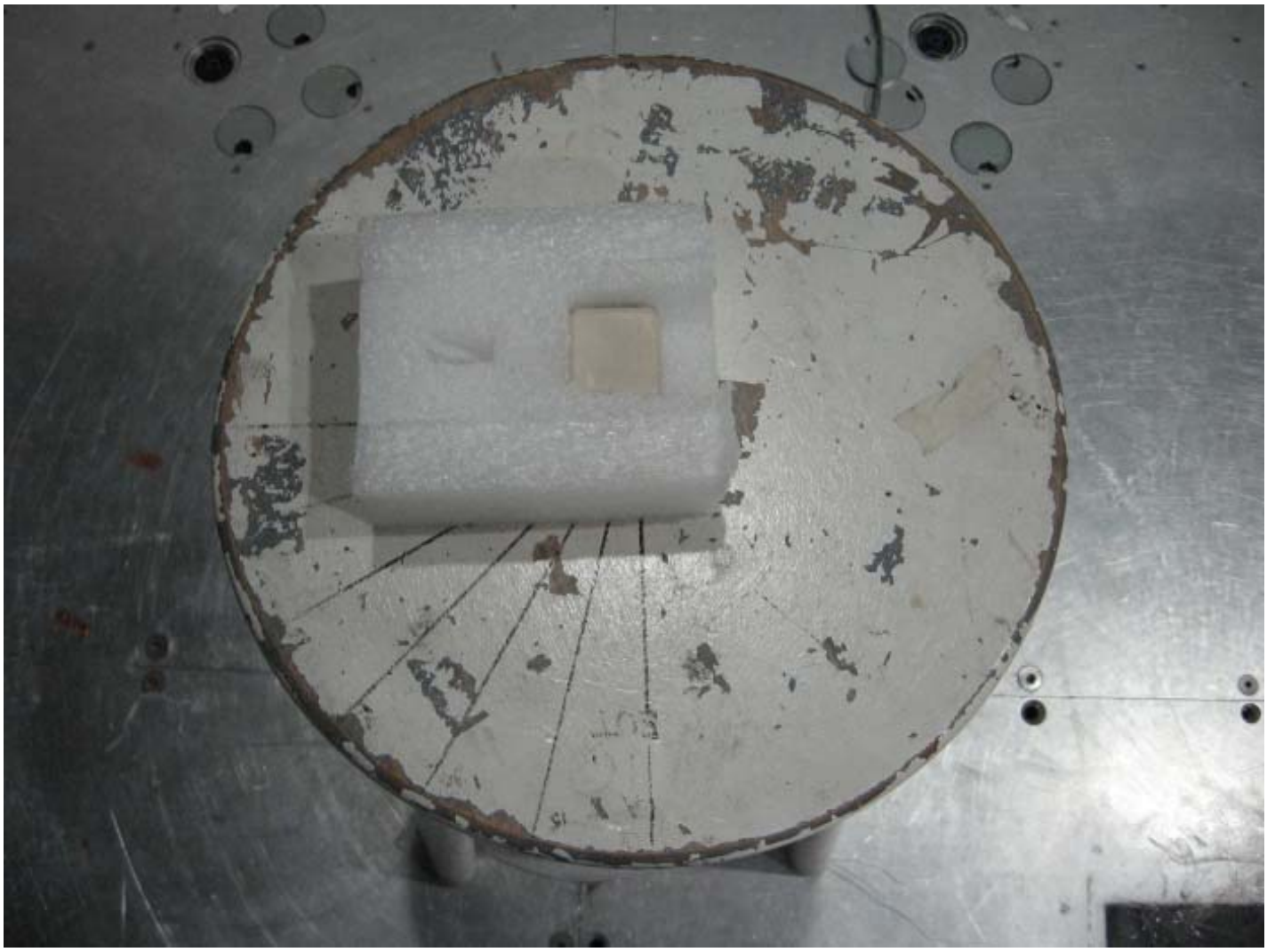
Spectrum Analyzer, 20 Hz to 40 GHz	Rohde & Schwarz	FSEK30	200062	03/12/2007	03/12/2008

Results: The sample tested was found to Comply.

7.0 15.250(d)(3) Peak Power in a 50 MHz bandwidth (Peak Power per 50 MHz)

Photo:



Test Setup

7.0 15.250(d)(3) Peak Power in a 50 MHz bandwidth (Peak Power per 50 MHz)

Data:

Frequency Range (MHz): 5825 to 7350 **Test Distance (m):** 1

Input power: battery **Limit:** FCC Part 15.250 (d)(3) at 3m

Modifications for compliance (y/n): n

A	B	C	D	E	F	G	H	I	J	K	L
Ant. Pol. (V/H)	**Frequency MHz**	**Reading dB(uV)**	**Antenna Factor dB(1/m)**	**Cable Loss dB**	**Pre-amp Factor dB**	**1-3m CF dB**	**Net dB(uV/m)**	**Net dBm**	**3m Limit dBm**	**Margin dB**	**Detectors / Bandwidths Det/RBW/VBW**
v	6602.317	67.9	35.3	3.2	39.7	9.5	57.1	-38.1	-34.0	-4.1	Peak/1M/3M
Calculations		H=C+D+E-F-G		I=H-95.2		K=I-J					