



<b>Prüfbericht - Nr.:</b> 17017067 001		<b>Seite 1 von 38</b> <i>Page 1 of 38</i>	
<i>Test Report No.:</i>			
<b>Auftraggeber:</b> <i>Client:</i>	Beautiful Enterprise Co., Ltd 26th Floor, Beautiful Group Tower, 77 Connaught Road Central, Hong Kong		
<b>Gegenstand der Prüfung:</b> <i>Test item:</i>	Rocketboost Wireless Stereo Headphones		
<b>Bezeichnung:</b> <i>Identification:</i>	RF-RBWHP01	<b>Serien-Nr.:</b> <i>Serial No.:</i>	n.a.
<b>Wareneingangs-Nr.:</b> <i>Receipt No.:</i>	163065935	<b>Eingangsdatum:</b> <i>Date of receipt:</i>	2010-07-15
<b>Prüfört:</b> <i>Testing location:</i>	TÜV Rheinland (Guangdong) Ltd. EMC Laboratory  Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou, P.R. China  FCC Registration No.:833845 Test site Industry Canada No.: 2932C-1		
<b>Prüfgrundlage:</b> <i>Test specification:</i>	FCC CFR47 Part 15: Subpart C Section 15.247 FCC CFR47 Part 15: Subpart C Section 15.209 FCC CFR47 Part 15: Subpart C Section 15.207 RSS-210 Issue 7 June 2007 RSS-Gen Issue 2 June 2007 RSS-102 Issue 4 March 2010		
<b>Prüfergebnis:</b> <i>Test Result:</i>	<b>Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n).</b> <i>The test item passed the test specification(s).</i>		
<b>Prüflaboratorium:</b> <i>Testing Laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.		
<b>geprüft/ tested by:</b>	<b>kontrolliert/ reviewed by:</b>		
			
2010-08-12	Sam Lin/ Project Manager	2010-08-12	Shawn Peng/ Technical Certifier
<b>Datum</b> <i>Date</i>	<b>Name/Stellung</b> <i>Name/Position</i>	<b>Unterschrift</b> <i>Signature</i>	<b>Datum</b> <i>Date</i>
	<b>Name/Stellung</b> <i>Name/Position</i>	<b>Unterschrift</b> <i>Signature</i>	
<b>Sonstiges/ Other Aspects:</b>			
The EUT is wireless audio system which contains Docking station and Headphones. This report is approval for Docking station.			
<b>Abkürzungen:</b>	<i>P(ass) = entspricht Prüfgrundlage</i>	<b>Abbreviations:</b>	<i>P(ass) = passed</i>
	<i>F(ail) = entspricht nicht Prüfgrundlage</i>		<i>F(ail) = failed</i>
	<i>N/A = nicht anwendbar</i>		<i>N/A = not applicable</i>
	<i>N/T = nicht getestet</i>		<i>N/T = not tested</i>
<b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>			

## TEST SUMMARY

**5.1.1 ANTENNA REQUIREMENT***RESULT: Passed***5.1.2 PEAK OUTPUT POWER***RESULT: Passed***5.1.3 6dB BANDWIDTH AND 99% BANDWIDTH***RESULT: Passed***5.1.4 CONDUCTED SPURIOUS EMISSIONS IN 100KHZ BANDWIDTH***RESULT: Passed***5.1.5 POWER SPECTRAL DENSITY***RESULT: Passed***5.1.6 SPURIOUS EMISSION***RESULT: Passed***5.1.7 RADIATED EMISSIONS***RESULT: Passed***5.1.8 CONDUCTED EMISSIONS***RESULT: Passed***6.1.1 RF EXPOSURE EVALUATION***RESULT: Not applicable*

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## 1. General Remarks

### 1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix 1: Test result

## 2. Test Sites

### 2.1 Test Facilities

TÜV Rheinland (Guangdong) Ltd.  
EMC Laboratory

(FCC Registration No.: 833845 & Test Site Industry Canada No.: 2932C-1)

Guangzhou Auto Market,  
Yuan Gang Section of Guangshan Road,  
Guangzhou, P.R. China

## 2.2 List of Test and Measurement Instruments

**Table 1: List of Test and Measurement Equipment**

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
<b>Spurious Radiated Emissions</b>				
EMI Test Receiver	Rohde & Schwarz	ESCI3	100216	2011-01-17
Spectrum Analyzer	Rohde & Schwarz	FSP30	100286	2011-01-17
Trilog-Broadband Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	209	2011-08-21
Double-Ridged Waveguide Horn Antenna	Rohde & Schwarz	HF906	100385	2011-08-24
Pre-amplifier	MITEQ	AFS42- 00101800-25- S-42	1101599	2011-07-31
Horn Antenna	EMCO	3160-09	21642	2011-06-26
Pre-amplifier	MITEQ	AFS33- 18002650-30- 8P-44	1108282	2011-01-17
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100111	2010-11-26
3m Anechoic Chamber	Albatross Project GmbH	N/A	N/A	2011-02-10
<b>Radio Frequency Test Suite</b>				
EMI Test Receiver	Rohde & Schwarz	ESCI	100178	2011-01-17
<b>Conducted Emissions</b>				
Receiver	Rohde & Schwarz	ESCS30	100316	2011-01-27
LISN	Rohde & Schwarz	ESH3-Z5	100114	2011-07-06
<b>Radiated Emissions</b>				
EMI Test Receiver	Rohde & Schwarz	ESCI3	100216	2011-01-17
Trilog-Broadband Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	209	2011-08-21
Pre-amplifier	MITEQ	AFS42- 00101800-25- S-42	1101599	2011-07-31
3m Anechoic Chamber	Albatross Project GmbH	N/A	N/A	2011-02-10

## 2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

## 2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

## 2.5 Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO/IEC 17025 are:

**Table 2: Measurement Uncertainty**

	Items	Extended Uncertainty
CE	Disturbance Voltage (dBuV)	$U=\pm 2.56\text{dB}$ , $k=2$ , $\sigma=95\%$
RE (9kHz – 30MHz)	Field Strength (dBuV/m)	$U=\pm 4.46\text{dB}$ , $k=2$ , $\sigma=95\%$
RE (30-1000MHz)	Field strength (dBuV/m)	$U=\pm 4.94\text{dB}$ , $k=2$ , $\sigma=95\%$
RE (1-26GHz)	Field strength (dBuV/m)	$U=\pm 4.34\text{dB}$ , $k=2$ , $\sigma=95\%$

## 2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix 1 of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

## 2.7 Status of Facility Used for Testing

The TÜV Rheinland (Guangdong) Ltd. test facility located at Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

### 3. General Product Information

#### 3.1 Product Function and Intended Use

The EUT is Wireless Stereo Headphones with 2.4G wireless technology. It is charging cradle base station, the EUT contains two antennas, but only one antenna is used for transmitting at one time. The EUT provides the wireless audio source capability for connecting to the headphones.

For details refer to the User Manual and Circuit Diagram.

#### 3.2 Ratings and System Details

**Table 3: Rating of EUT**

Kind of Equipment:	Rocketboost Wireless Stereo Headphones
Type Designation:	RF-RBWHP01
FCC ID	UZZRBWHP01TX
IC ID	7633A-RBWHP01TX
Rated Input Power	DC 5V (via AC/DC adapter)
Rated input Current	1A

**Table 4: Technical Specification**

Item	Description
Operating Frequency band	2412 – 2462 MHz
Channel Number	3
Channel Center Frequency	2412MHz, 2438MHz, 2462MHz
Modulation	OFDM, $\pi/4$ DQPSK
Data Rate (Mbps)	20.7Mbps
Antenna	Integrated Antenna
Antenna Gain (dBi)	2.15

**Table 5: Carrier Frequency**

Frequency Band	Channel No.	Frequency
2412 – 2462 MHz	1	2412 MHz
	2	2438 MHz
	3	2462 MHz

### 3.3 Independent Operation Modes

The basic operation modes are:

- A. On, transmitting
  - 1. Low channel
  - 2. Middle channel
  - 3. High channel
- B. Standby
- C. Charging
- D. Off

### 3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

### 3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label



## 4. Test Set-up and Operation Modes

### 4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

### 4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2003.

### 4.3 Special Accessories and Auxiliary Equipment

Table 6: Test Auxiliary Equipments

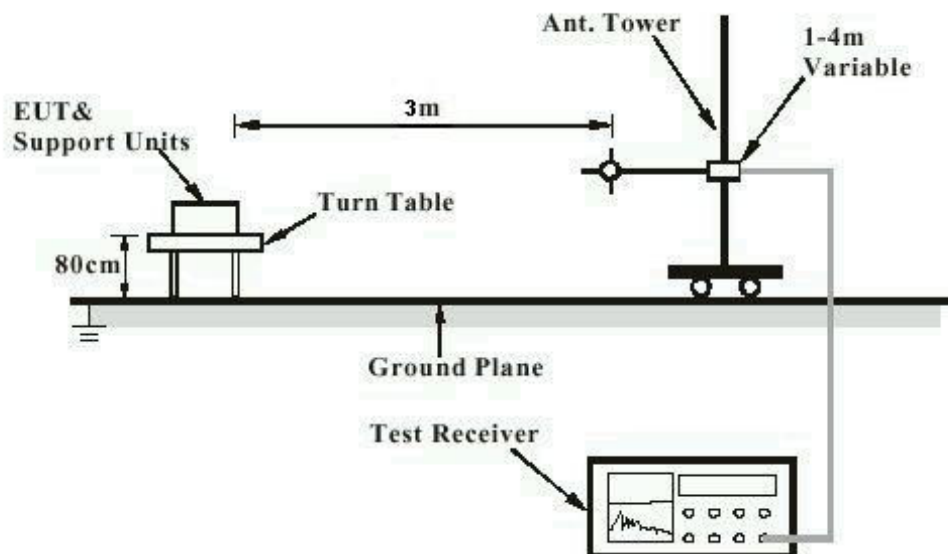
Description	Manufacturer	Model	Specification
AC/DC Adaptor	Shenzhen Jingquanhua Electronics Co., Ltd.	NSA6EU-050100	Input voltage: AC 100- 240V 50/60Hz, 0.5A Output voltage: DC 5V, 1A

## 4.4 Countermeasures to achieve EMC Compliance

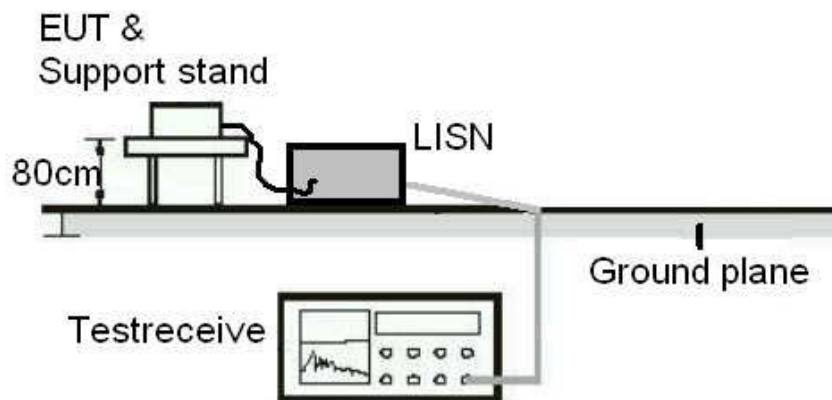
The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

## 4.5 Test Setup Diagram

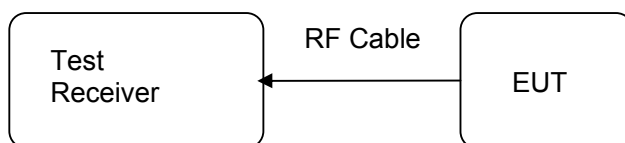
Diagram of Measurement Configuration for Radiation Test



**Diagram of Measurement Equipment Configuration for Conduction Measurement**



**Diagram of Measurement Equipment Configuration for Transmitter Measurement**



## 5. Test Results

### 5.1 Transmitter Requirement & Test Suites

#### 5.1.1 Antenna Requirement

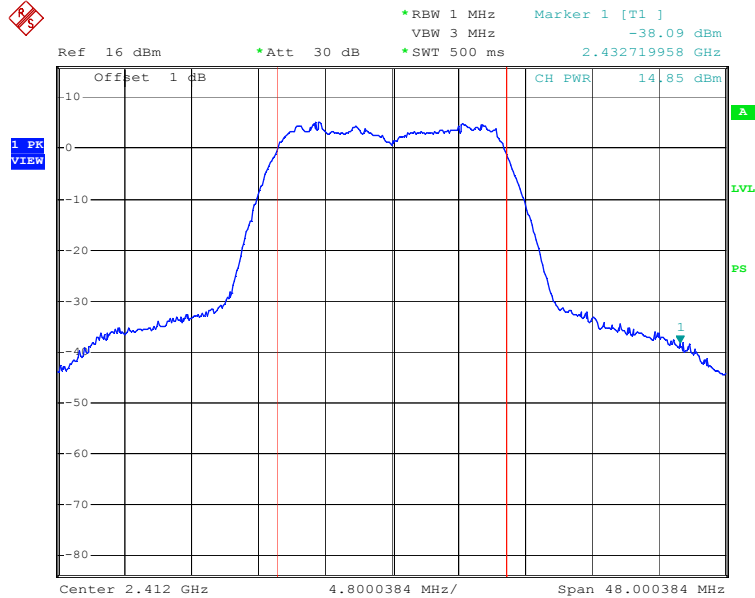
**RESULT:****Passed**

Test date	:	2010-07-21
Test standard	:	FCC Part 15.247(b)(4) and Part 15.203 RSS Gen 7.1.4
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 2.15dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

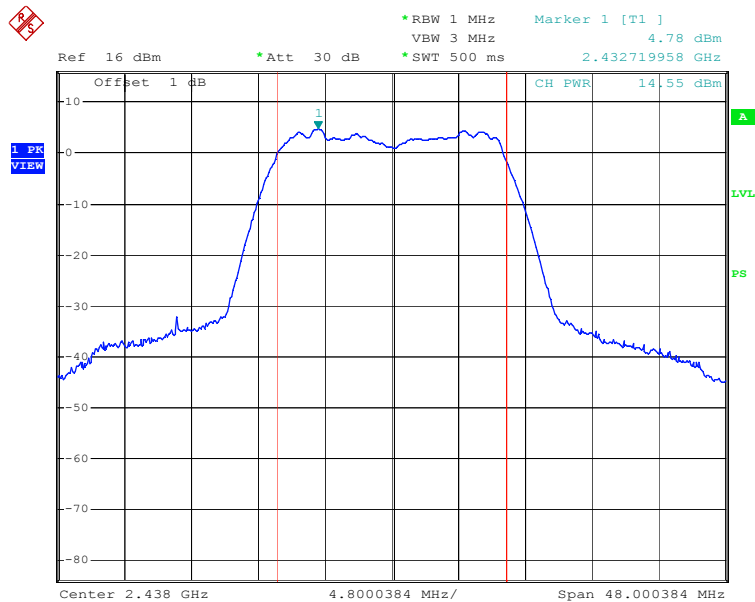


### Test Graph of Peak Output Power Antenna 0, Low Channel



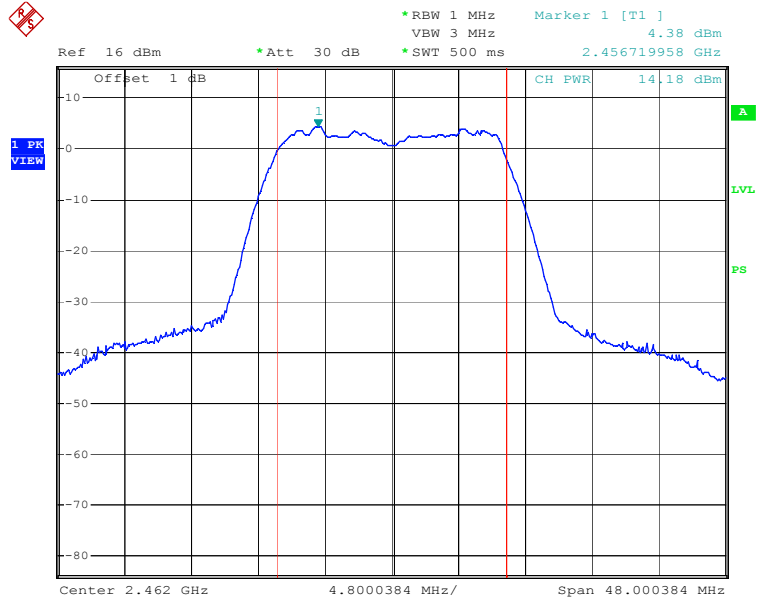
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### Antenna 0, Middle Channel



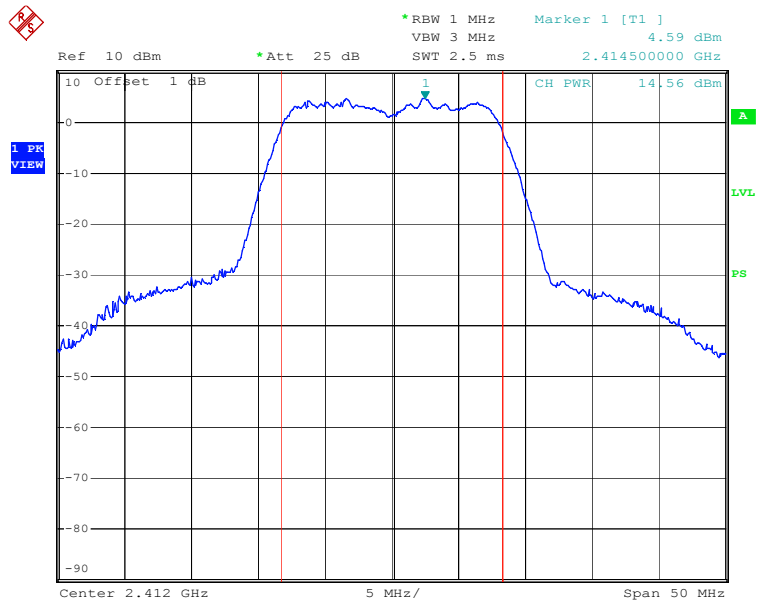
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Antenna 0, High Channel



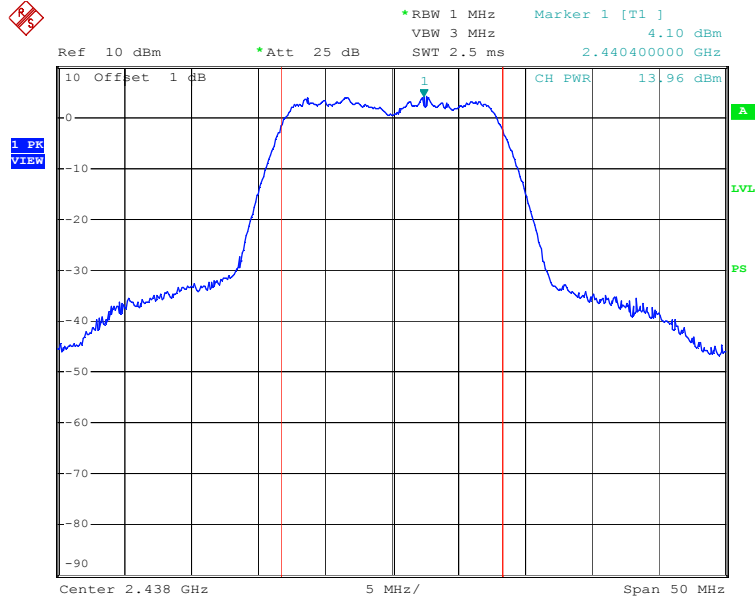
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Antenna 1, Low Channel



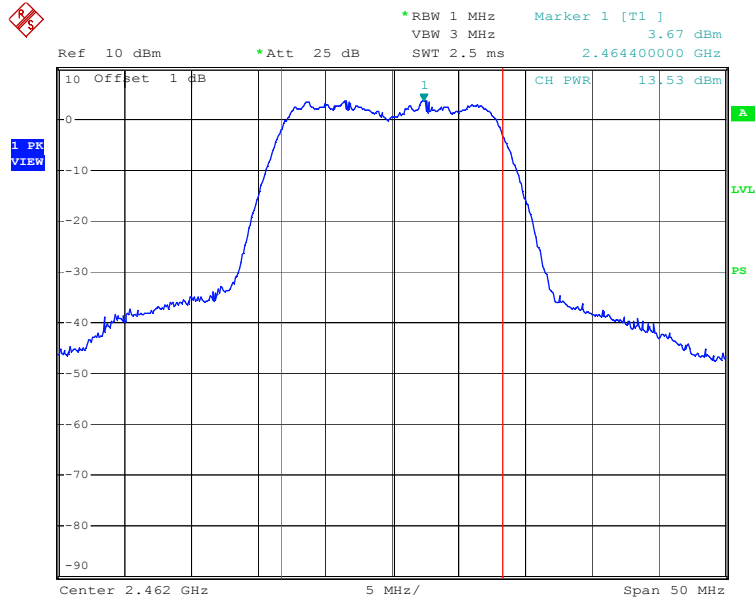
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Antenna 1, Middle Channel



Date: 21.JUL.2010 16:22:19

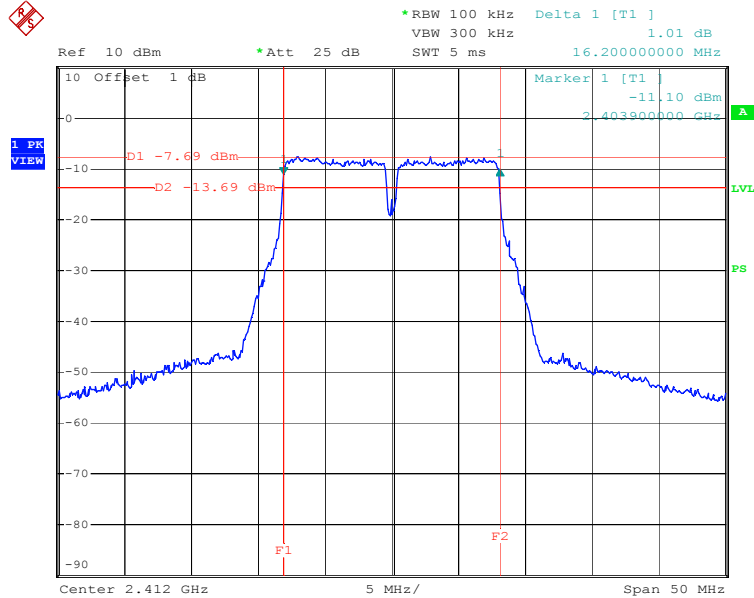
Antenna 1, High Channel



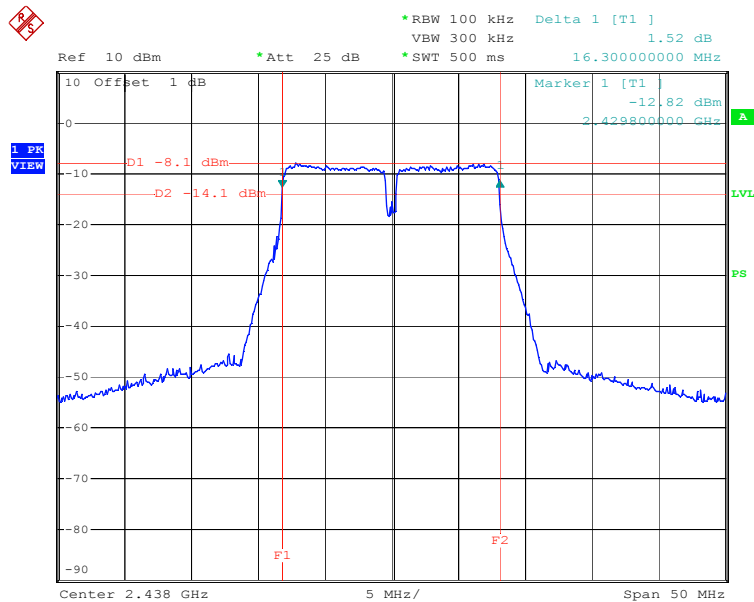
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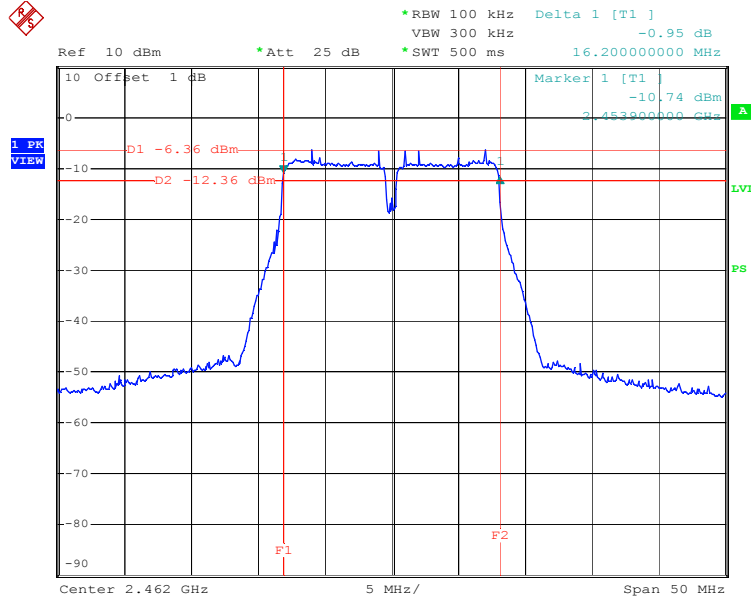
**Test Graph of 6dB Bandwidth**  
**Antenna 0, Low Channel**


Date: 21.JUL.2010 15:41:29

**Antenna 0, Middle Channel**


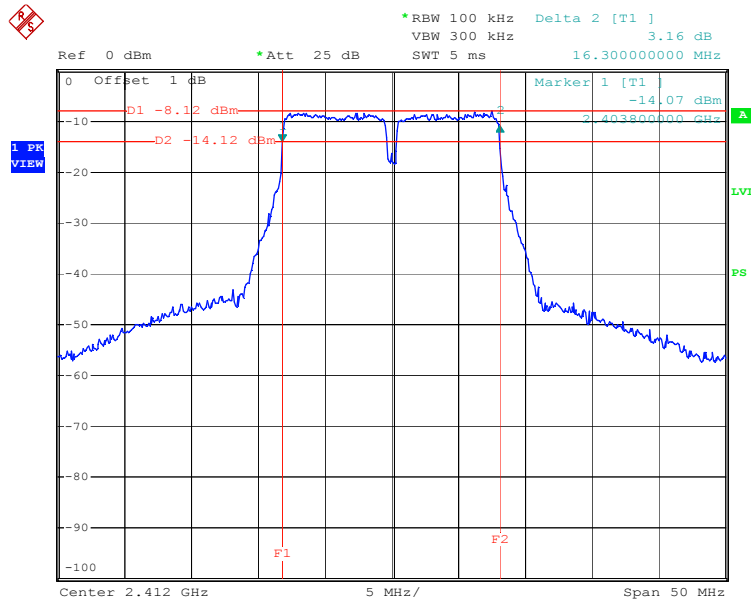
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Antenna 0, High Channel



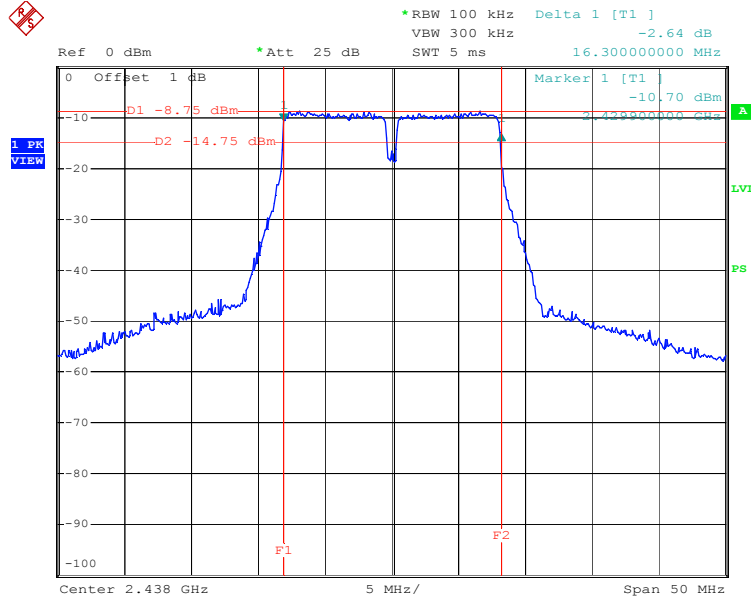
Date: 21.JUL.2010 15:35:42

Antenna 1, Low Channel



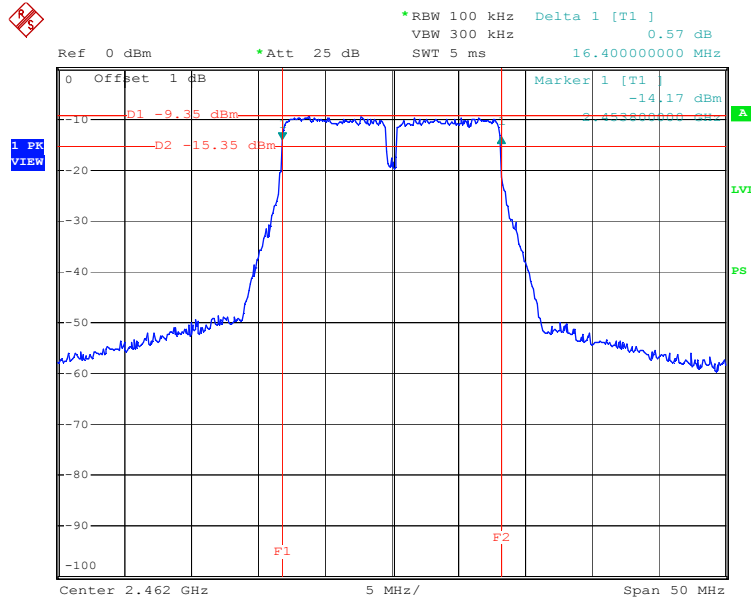
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Antenna 1, Middle Channel

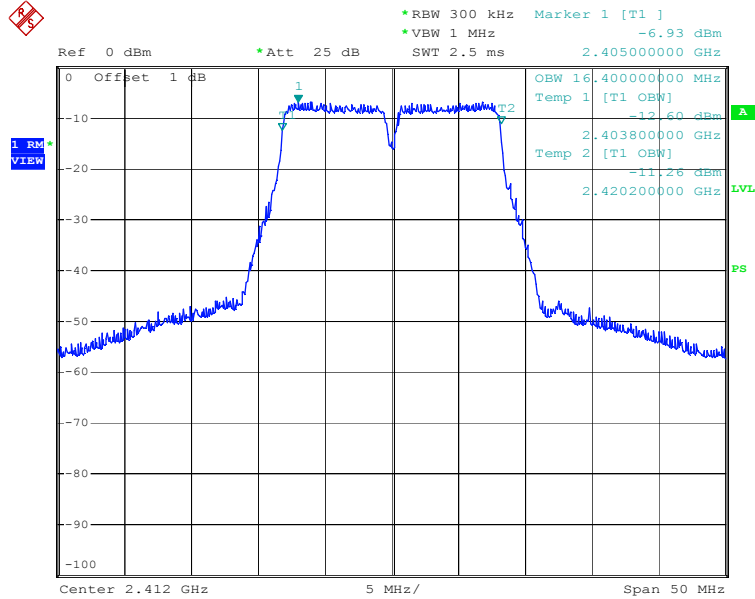


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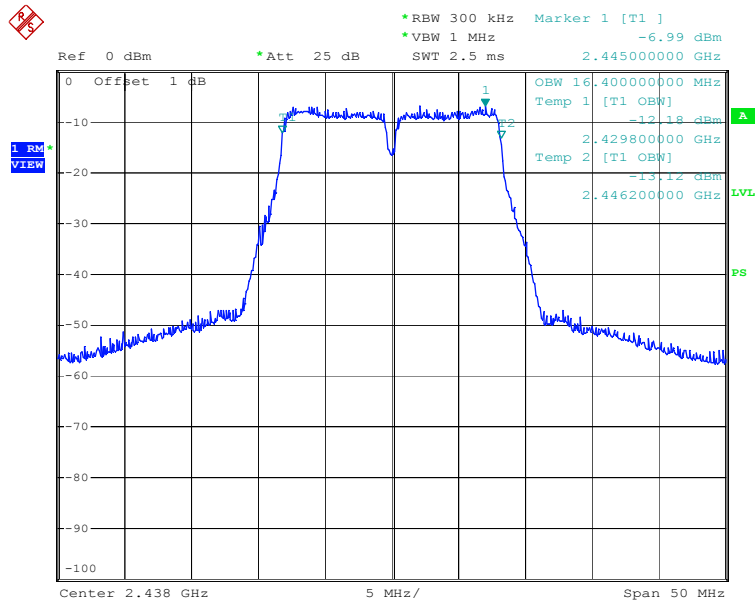
Antenna 1, High Channel



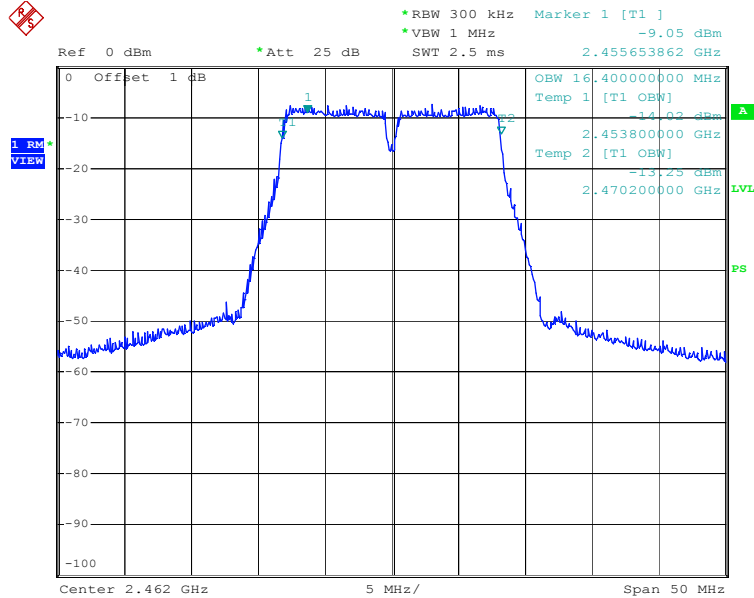
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**Test Graph of 99% Bandwidth**  
**Antenna 0, Low Channel**


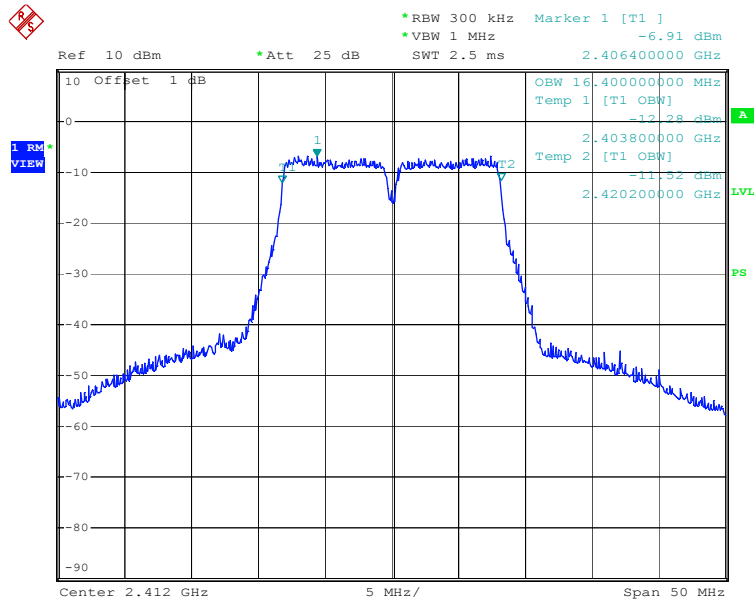
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**Antenna 0, Middle Channel**


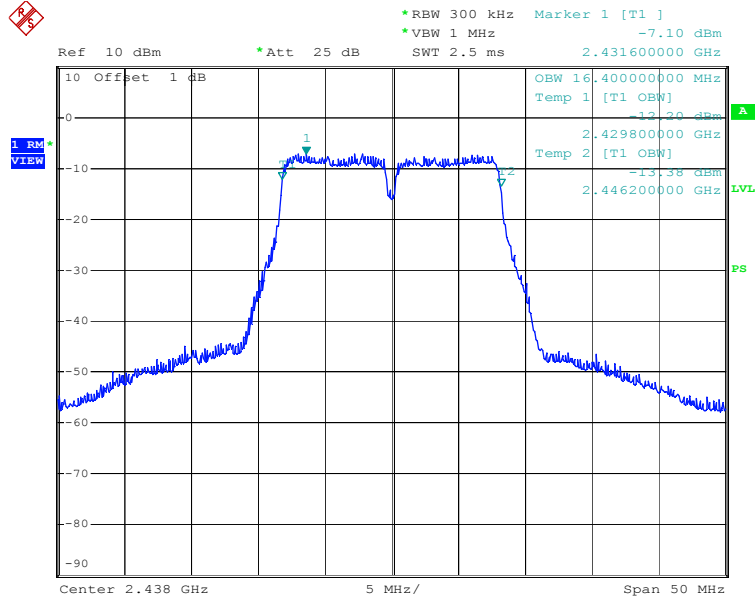
Date: 21.JUL.2010 16:06:24

**Antenna 0, High Channel**


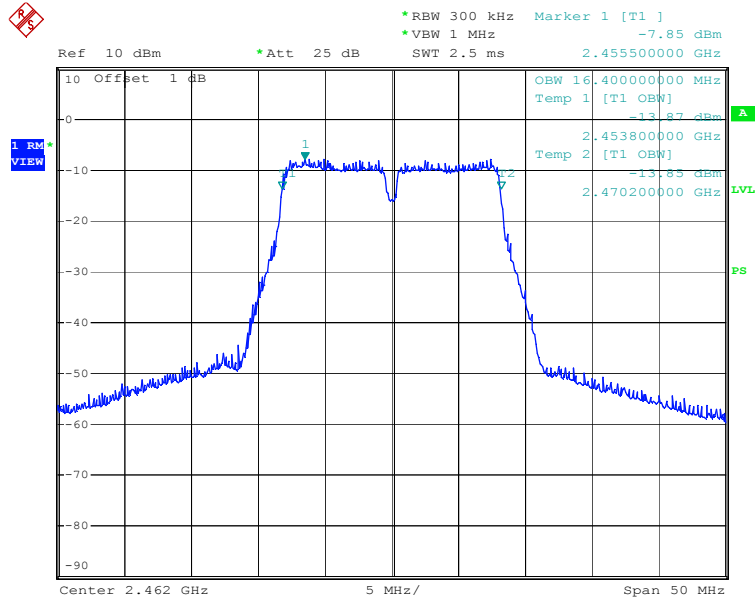
Date: 21.JUL.2010 16:04:49

**Antenna 1, Low Channel**


Date: 21.JUL.2010 16:14:49

**Antenna 1, Middle Channel**


Date: 21.JUL.2010 16:15:50

**Antenna 1, High Channel**


Date: 21.JUL.2010 16:17:12

### 5.1.4 Conducted Spurious Emissions in 100kHz Bandwidth

**RESULT:****Passed**

Date of testing	:	2010-07-21 to 2010-08-12
Test standard	:	FCC part 15.247(d) RSS-210 A8.5
Basic standard	:	ANSI C63.4: 2003
Limit	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	:	Shield room

**Test setup**

Test Channel	:	Low/ High
Operation mode	:	A
Ambient temperature	:	24°C
Relative humidity	:	53%
Atmospheric pressure	:	101 kPa

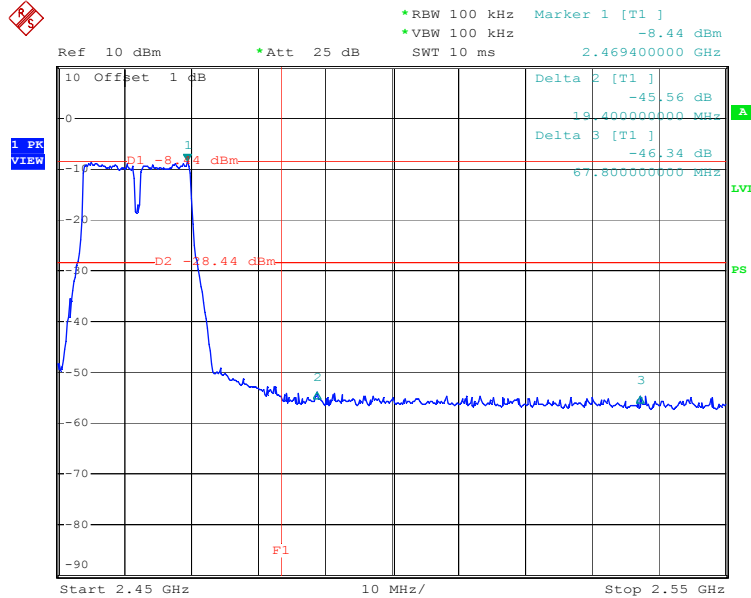
All emissions are more than 20dB below fundamental, details refer to following test Graph,  
and compliance is achieved as well.

Refer to appendix 1 for details.



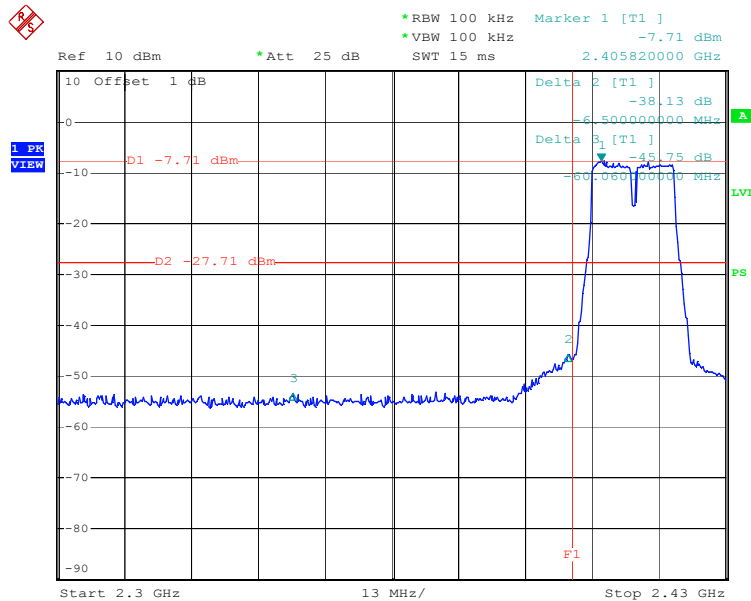
### Test Graph of Band Edge measured in 100kHz Bandwidth

#### Antenna 0, Low Channel



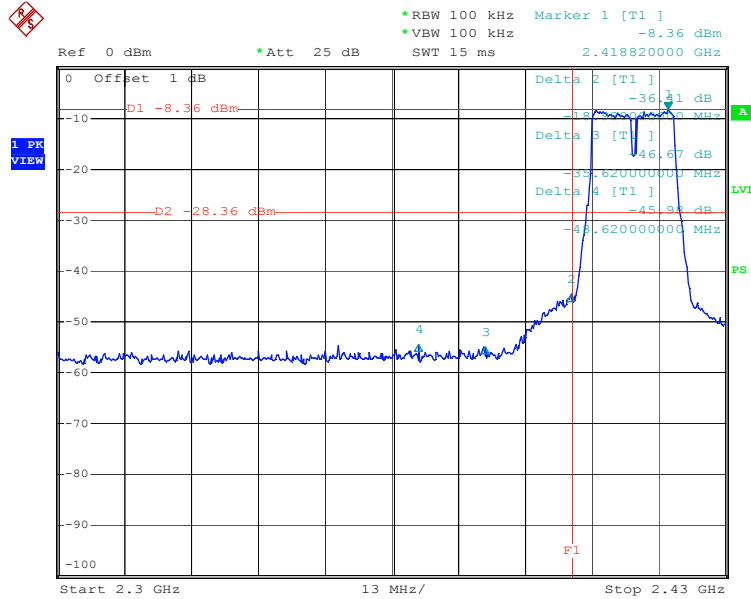
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#### Antenna 0, High Channel



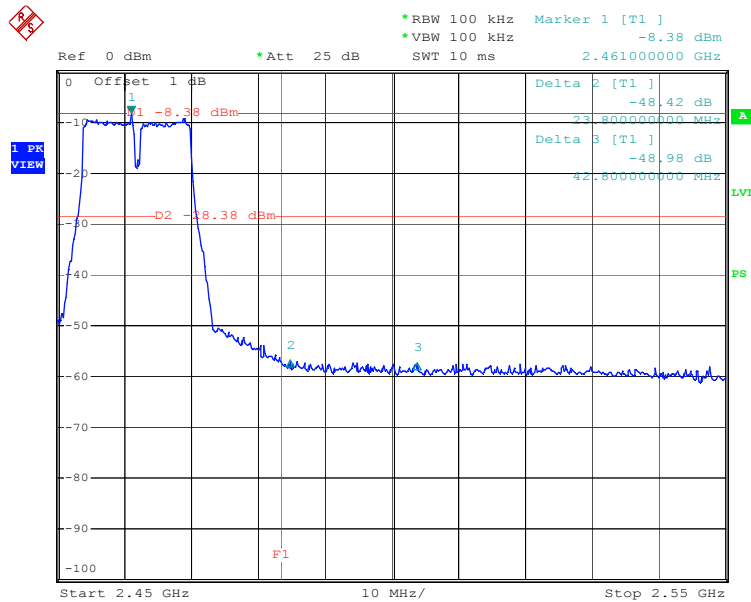
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Antenna 1, Low Channel



Date: 21.JUL.2010 16:45:52

Antenna 1, High Channel

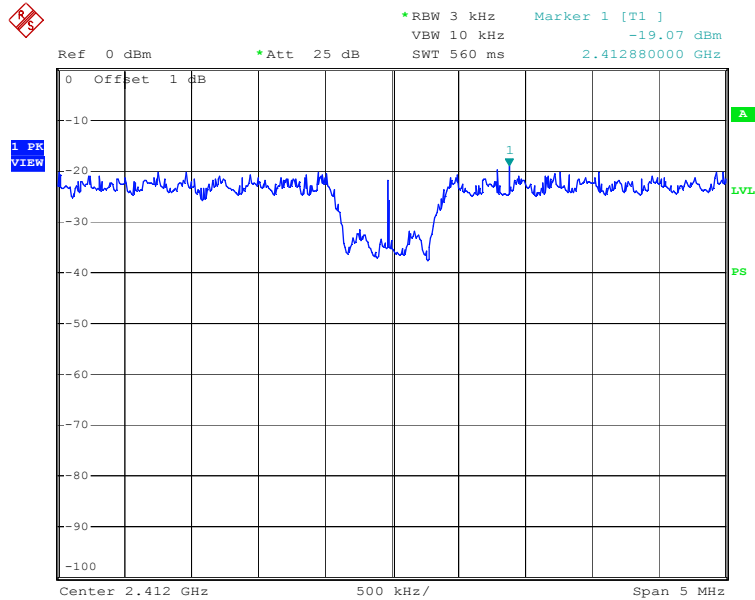


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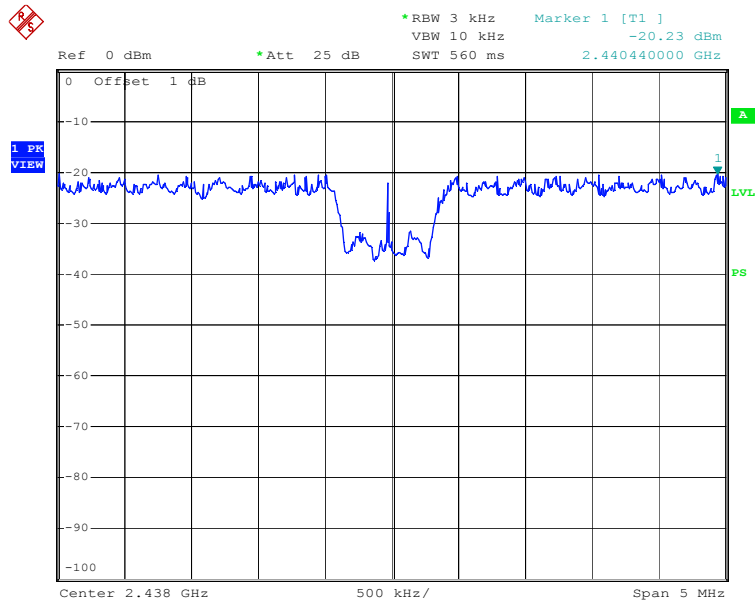
### Test Graph of Power Spectral Density

#### Antenna 0, Low Channel



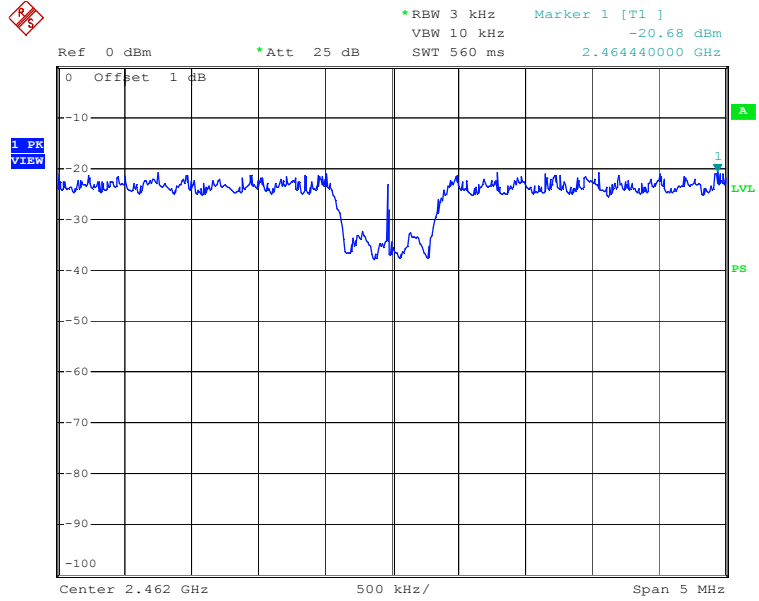
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#### Antenna 0, Middle Channel



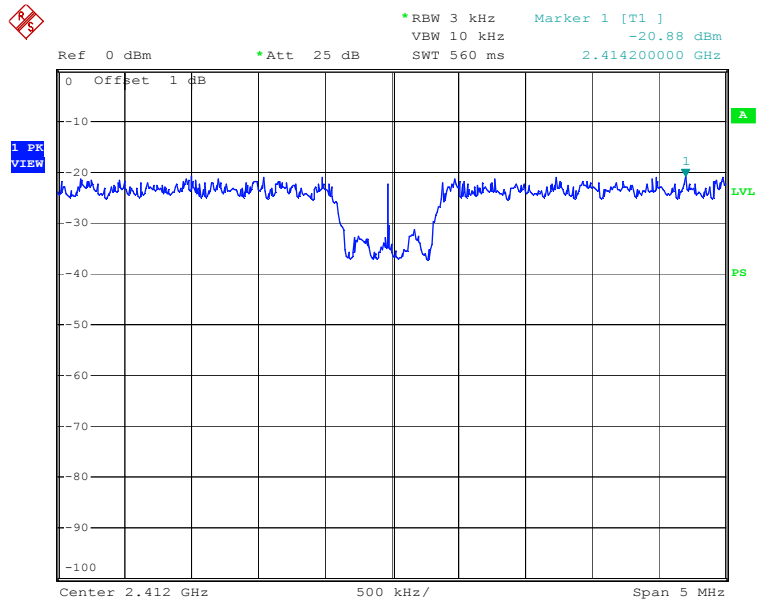
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Antenna 0, High Channel



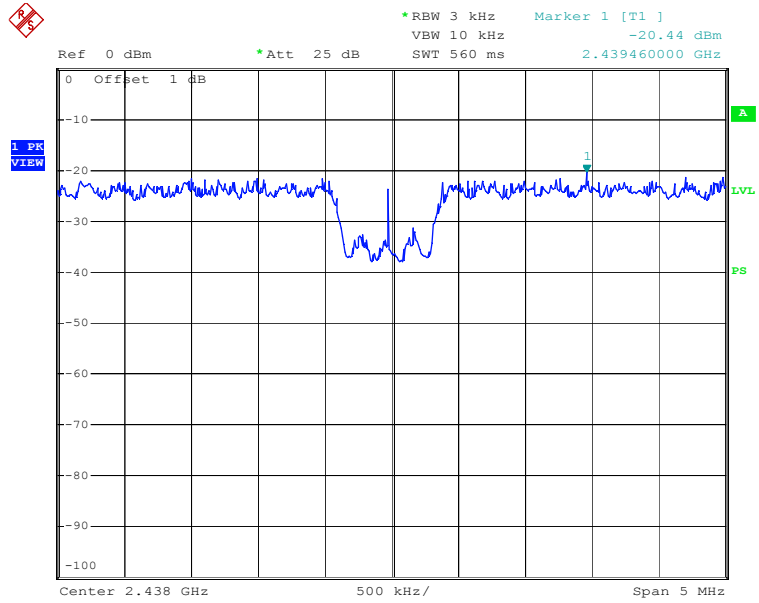
Date: 21.JUL.2010 16:02:17

Antenna 1, Low Channel



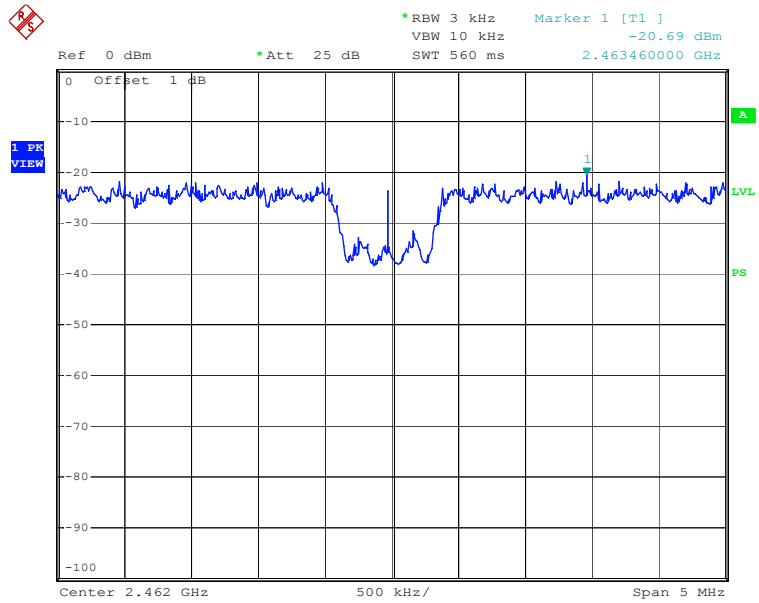
Date: 21.JUL.2010 16:30:28

Antenna 1, Middle Channel



Date: 21.JUL.2010 16:29:08

Antenna 1, High Channel



Date: 21.JUL.2010 16:27:43

## 5.1.6 Spurious Emission

**RESULT:****Passed**

Date of testing : 2010-07-29 to 2010-07-30  
Test standard : FCC part 15.247(d)  
RSS-210 Clause 2.2  
Basic standard : ANSI C63.4: 2003  
Limits : Refer to 15.209(a)  
Refer to RSS-210 Table 2 & 3  
Kind of test site : 3m Semi-Anechoic Chamber

**Test setup**

Test Channel : Low/ Middle/ High  
Operation mode : A  
Ambient temperature : 23°C  
Relative humidity : 51%  
Atmospheric pressure : 100 kPa

Refer to appendix 1 for details.

### 5.1.7 Radiated emissions

**RESULT:****Passed**

Date of testing : 2010-07-29 to 2010-07-30  
Test standard : FCC Part 15.209  
RSS-210 Clause 2.6  
Basic standard : ANSI C63.4: 2003  
Frequency range : 30 – 1000MHz  
Limits : FCC Part 15.209(a)  
RSS-210 Table 2  
Kind of test site : 3m Semi-Anechoic Chamber

**Test Setup**

Input Voltage : DC 5V (via AC/DC Adaptor)  
Operation Mode : C  
Earthing : Not Connected  
Ambient temperature : 23°C  
Relative humidity : 51%  
Atmospheric pressure : 100 kPa

Refer to appendix 1 for details.



### 5.1.8 Conducted emissions

**RESULT:****Passed**

Date of testing : 2010-07-29 to 2010-07-30  
Test standard : FCC Part 15.207(a)  
RSS-Gen Clause 7.2.2  
Basic standard : ANSI C63.4: 2003  
Frequency range : 0.15 – 30MHz  
Limits : FCC Part 15.207(a)  
Table 2 of RSS-Gen  
Kind of test site : Shield room

**Test setup**

Input Voltage : DC 5V (via AC/DC Adaptor)  
Operation Mode : A&C  
Earthing : Not Connected  
Ambient temperature : 23°C  
Relative humidity : 51%  
Atmospheric pressure : 100 kPa

Refer to appendix 1 for details.

## 6. Radio Frequency (RF) Exposure

### 6.1 RF Exposure Compliance

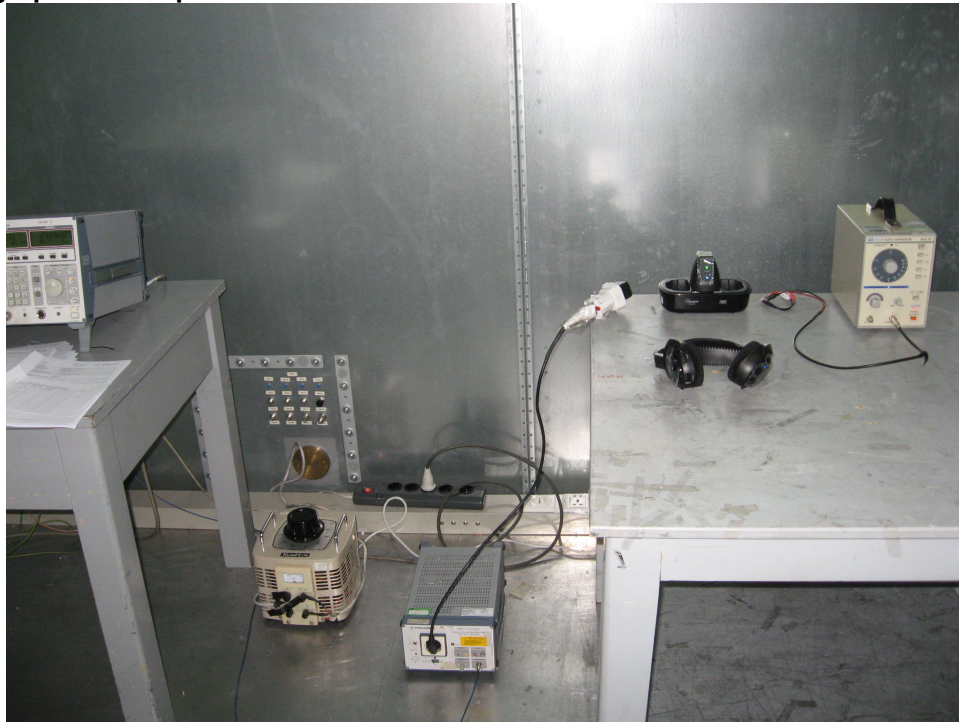
#### 6.1.1 RF Exposure Evaluation

**RESULT:****Not applicable**

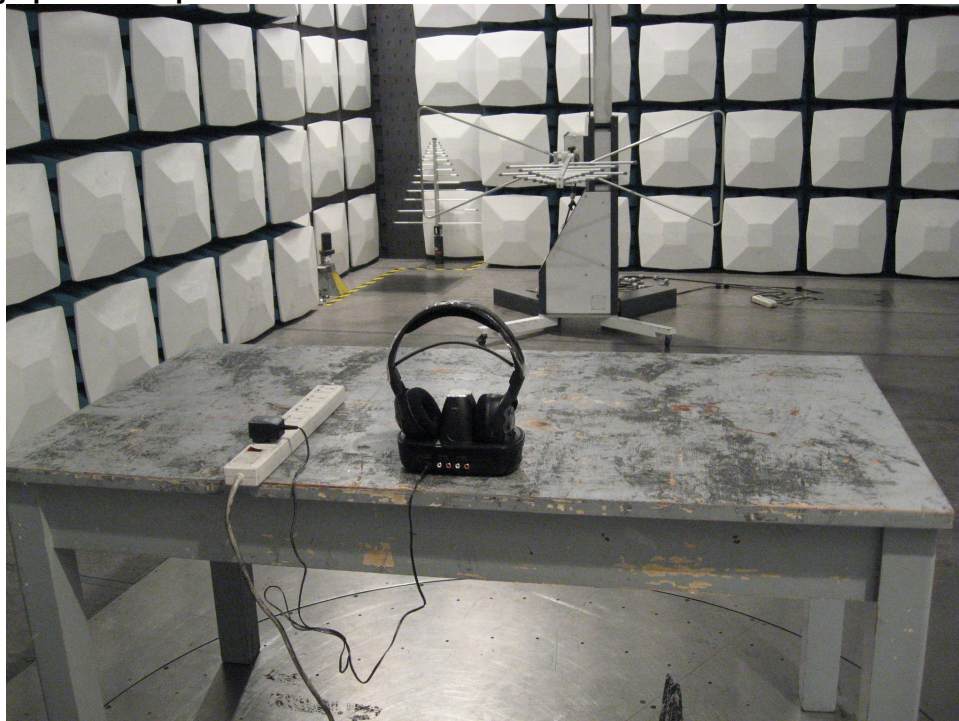
The measured peak power of the transmitter is only 30.55mW (14.85dBm). According to RSS-102 sections 2.5, all transmitters are exempt from routine SAR and RF exposure evaluations provided that output power complies with the power levels of RSS-102 sections 2.5.2, 'at or above 1.5GHz and the maximum e.i.r.p. of the device is equal to or less than 5W', therefore the apparatus is exempt from routine evaluation.

## 7. Photographs of the Test Set-Up

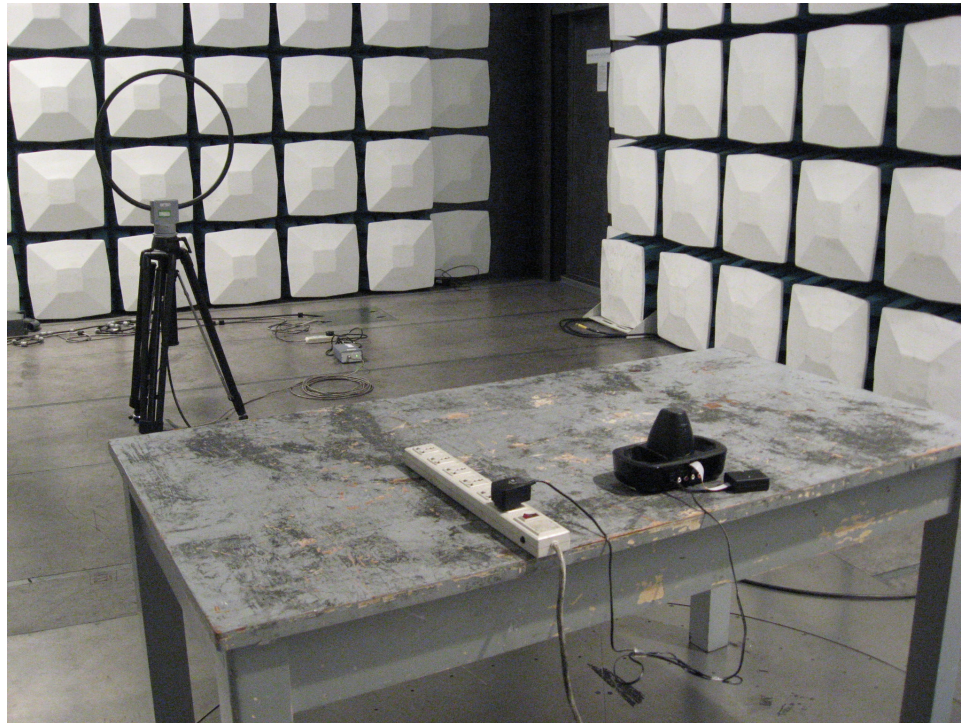
**Photograph 1: Set-up for Conducted Emissions**



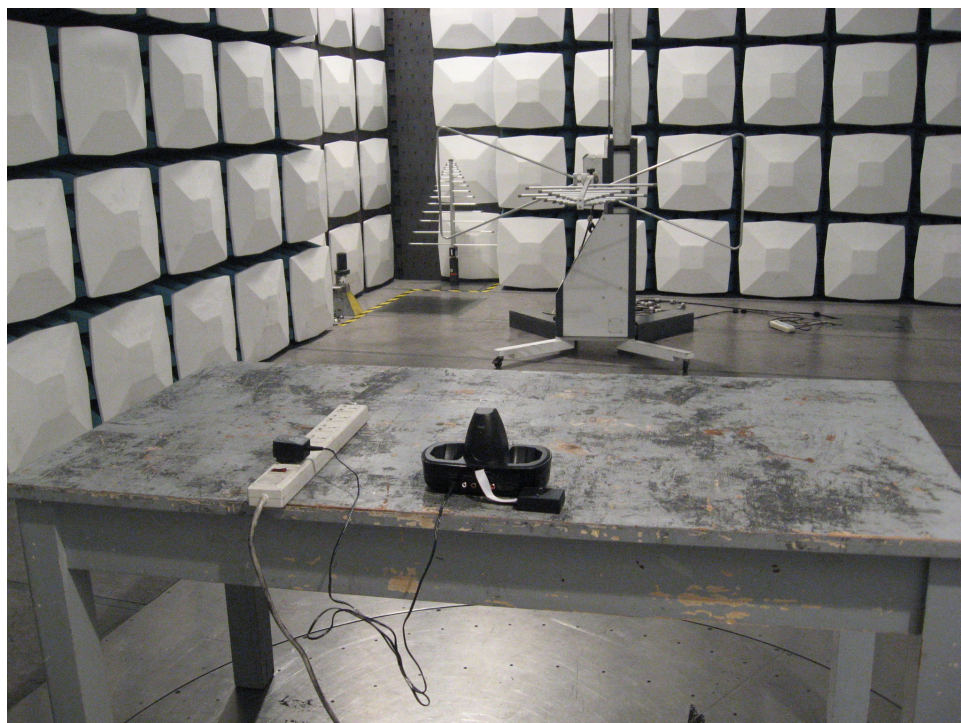
**Photograph 2: Set-up for Radiated Emissions**



**Photograph 3: Set-up for Spurious Emissions 9kHz – 30MHz**



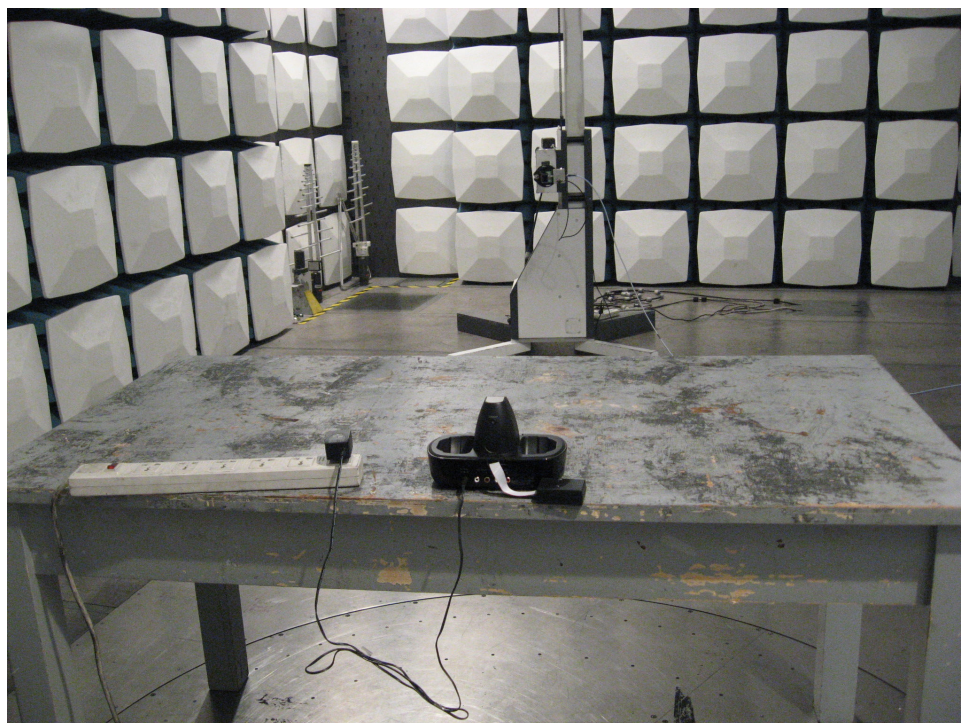
**Photograph 4: Set-up for Spurious Emissions 30MHz – 1GHz**



**Photograph 5: Set-up for Spurious Emissions 1GHz – 18GHz**



**Photograph 6: Set-up for Spurious Emissions 18GHz – 26.5GHz**



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