Prüfbericht-Nr.: *Test Report No.:*	**17044439 001**	**Auftrags-Nr.:** *Order No.:*	164018738	Seite 1 von 20 *Page 1 of 20*
Kunden-Referenz-Nr.: *Client Reference No.:*	N/A	**Auftragsdatum:** *Order date:*	04.08.2014	
Auftraggeber: *Client:*	Widex A/S Nymoellevej 6, 3540 Lynge, Denmark			
Prüfgegenstand: *Test item:*	RC-DEX REMOTE CONTROL			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	RC-DEX (WIDEX)	RC (Coselgi)		
Auftrags-Inhalt: *Order content:*	FCC/IC Certification			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part 15: Subpart C Section 15.215 FCC KDB Publication 447498 v05r02 RSS-Gen Issue 4 November 2014 RSS-102 Issue 4 March 2010			
Wareneingangsdatum: *Date of receipt:*	20.08.2014			
Prüfmuster-Nr.: *Test sample No.:*	A000091098-010			
Prüfzeitraum: *Testing period:*	28.08.2014			
Ort der Prüfung: *Place of testing:*	Accurate Technology Co., Ltd.			
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: *Test result*:*	Pass			

geprüft von / *tested by:*			**kontrolliert von** / *reviewed by:*		
22.01.2015	Owen Tian/Senior Project Manager		22.01.2015	Winnie Houn/Technical Certifier	
Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*	**Datum** *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*

Sonstiges / *Other:* FCC ID: TTY-RCD
IC: 5676B-RCD

Zustand des Prüfgegenstandes bei Anlieferung: Prüfmuster vollständig und unbeschädigt
Condition of the test item at delivery: *Test item complete and undamaged*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
Legend:	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

TEST SUMMARY

5.1.1 SPURIOUS EMISSION OUTSIDE BAND
RESULT: Pass

5.1.2 99% BANDWIDTH & FIELDSTRENGTH OF FUNDAMENTAL
RESULT: Pass

6.1.1 ELECTROMAGNETIC FIELDS
RESULT: Pass

Contents

1. General Remarks

1.1 Complementary Materials

None.

2. Test Sites

2.1 Test Facilities

Accurate Technology Co., Ltd.

(FCC Registration No.: 752051)
(Test site Industry Canada No.: 5077A-2)

F1, Bldg. A, Changyuan New Material Port
Keyuan Rd., Science & Industry Park, Nanshan
Shenzhen, P.R. China

The tests at the test site have been conducted under the supervision of a TÜV engineer.

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
Transmitter spurious emissions & Receiver spurious emissions				
Spectrum Analyzer	Agilent	E7405A	MY45115511	2015-01-11
Test Receiver	Rohde & Schwarz	ESCS30	100307	2015-01-11
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	2015-01-11
Loop Antenna	Schwarzbeck	FMZB1516	1516131	2015-01-11
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	2015-01-11
50 Coaxial Switch	Anritsu Corp	MP59B	6200506474	2015-01-11
Pre-Amplifier	Rohde & Schwarz	CBLU1183540-01	3791	2015-01-11
Temp. & Humid. Chamber	Gongwen	HSD-500	0109	2015-01-11
Radio Spectrum Test				
EMI Test Receiver	Rohde & Schwarz	ESPI-3	100396/003	2015-01-11
Spectrum Analyzer	Agilent	E7405A	MY45115511	2015-01-11
Temp. & Humid. Chamber	Gongwen	HSD-500	0109	2015-01-11

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 basics using in house standards or comparisons.

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

Parameter	Uncertainty
Radio Spectrum	< ± 0.60 dB
Radiated emission of transmitter, valid up to 12.75 GHz	< ± 4.42 dB
Radiated emission of receiver, valid up to 12.75 GHz	< ± 4.42 dB
Conducted Emission	< ± 2.23 dB
Radiated Emission	< ± 4.42 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

Accurate Technology Co., Ltd. test facility located at F1, Bldg. A, Changyuan New Material Port Keyuan Rd., Science & Industry Park, Nanshan, Shenzhen, 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 EUTs are remote controller used for hearing aid.
These models are identical except the model name and color.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

Parameters	Specifications
Modulation	PSK
Frequency	10.6MHz
Channel Bandwidth	400kHz
Extreme Temperature Range	-20 - 60ºC
Operation Voltage	DC 3V (via 2 x 'AAA' size battery)
Channel number	1
Antenna gain	2dBi

3.3 Independent Operation Modes

The basic operation modes are:

A. On, transmitting
B. 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: 2009.
According to clause 3.1, all tests were applied on model RC-DEX only.

4.3 Special Accessories and Auxiliary Equipment

None.

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

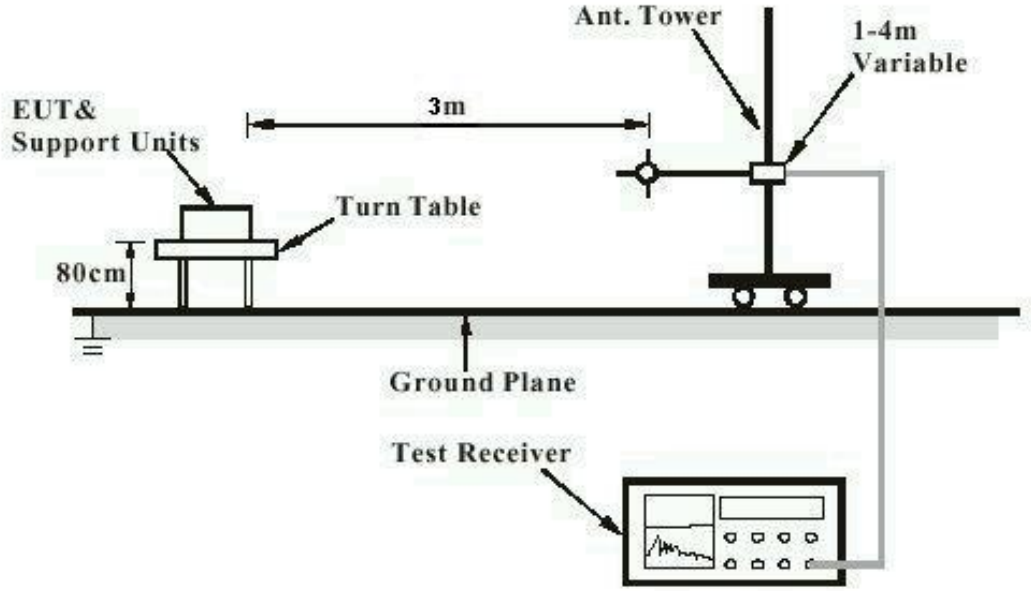
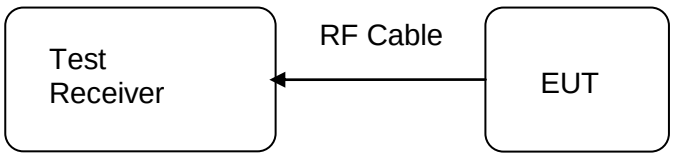


Diagram of Measurement Equipment Configuration for Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Spurious Emission outside band

RESULT: **Pass**

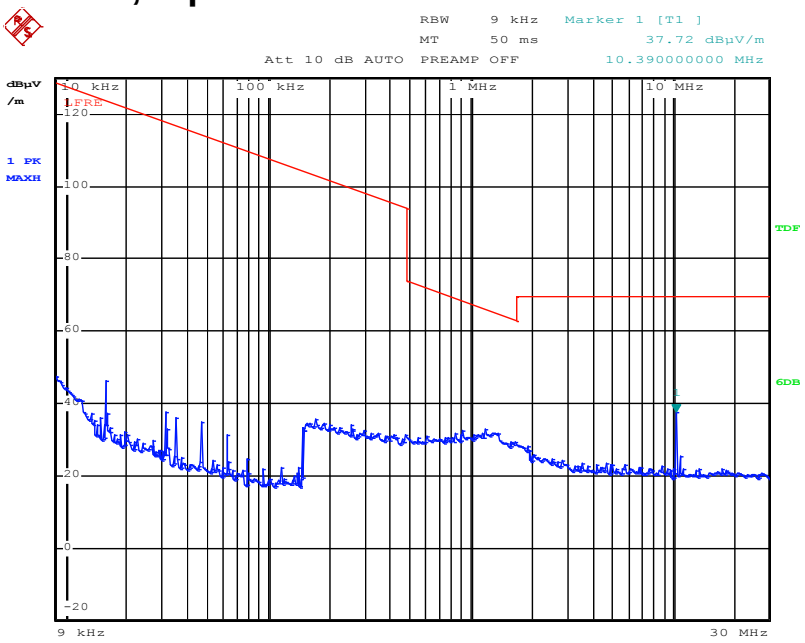
Test standard	:	FCC part 15.215 (b) RSS-Gen Issue 4 November 2014
Basic standard	:	ANSI C63.4: 2009
Limits	:	FCC part 15.209 (a)
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Date of testing	:	2014-08-28
Operation mode	:	A
Ambient temperature	:	23℃
Relative humidity	:	48%
Atmospheric pressure	:	101kPa

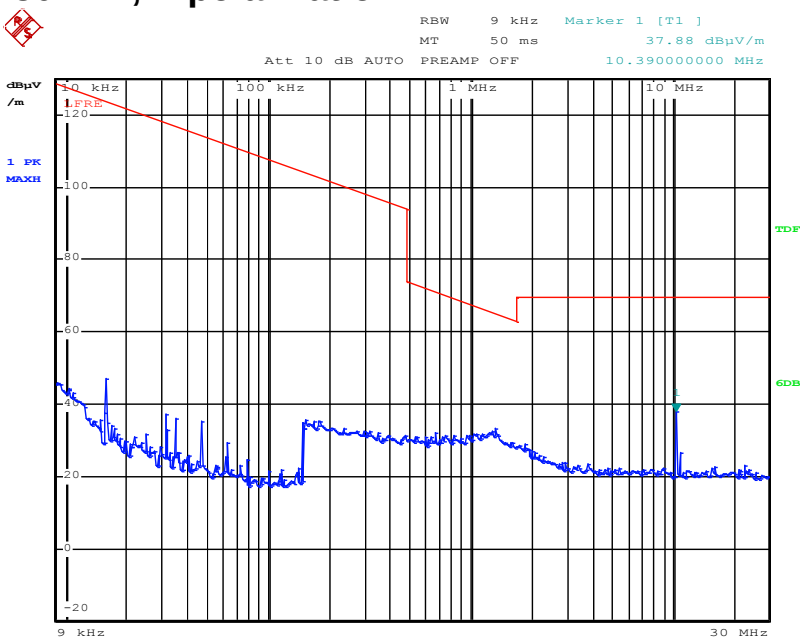
For details refer to following test plot.

Test Plot of Spurious Emission of transmitter Below 30MHz, X polarization:



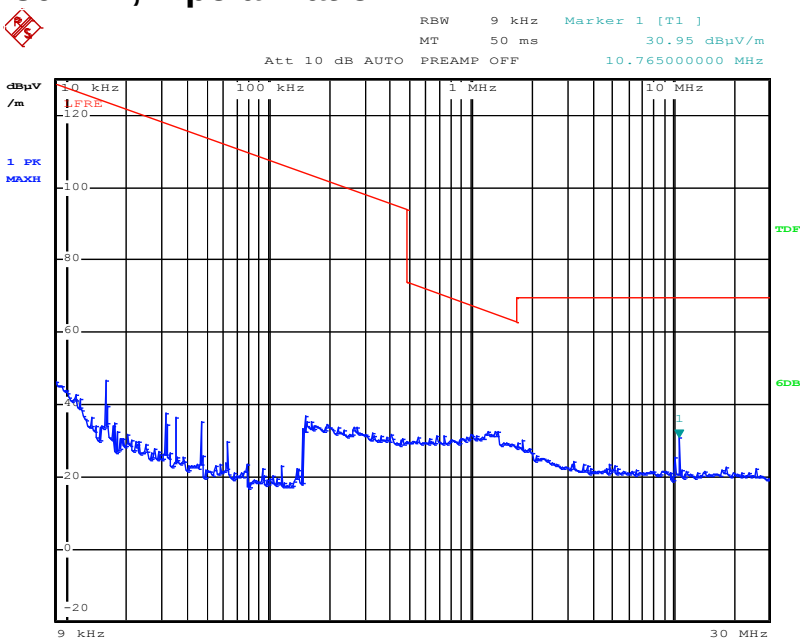
Date: 28.AUG.2014 09:02:05

Below 30MHz, Y polarization:



Date: 28.AUG.2014 09:04:19

Below 30MHz, Z polarization:



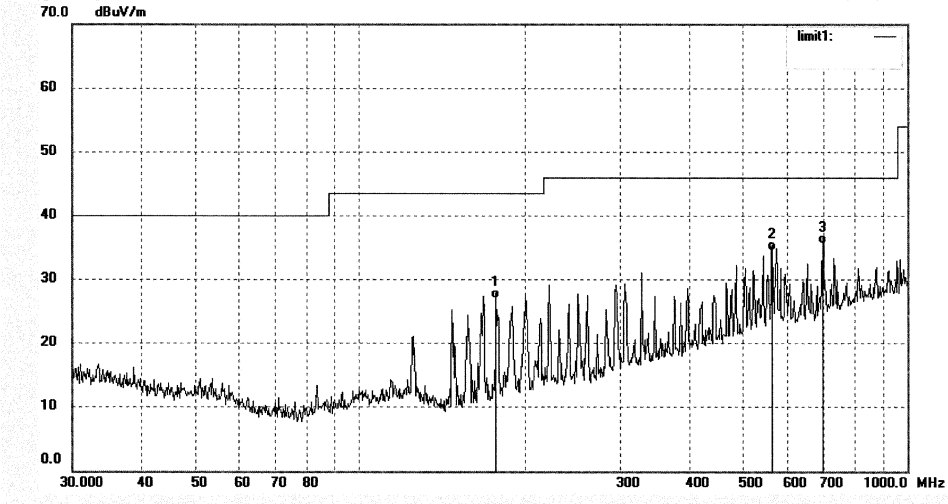
Date: 28.AUG.2014 09:06:20

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: YHP #144	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 14/08/28/
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 8/39/32
EUT: Remote Control for Hearing aid	Engineer Signature:
Mode: TX	Distance: 3m
Model: RC-DEX	
Manufacturer:	

Note:



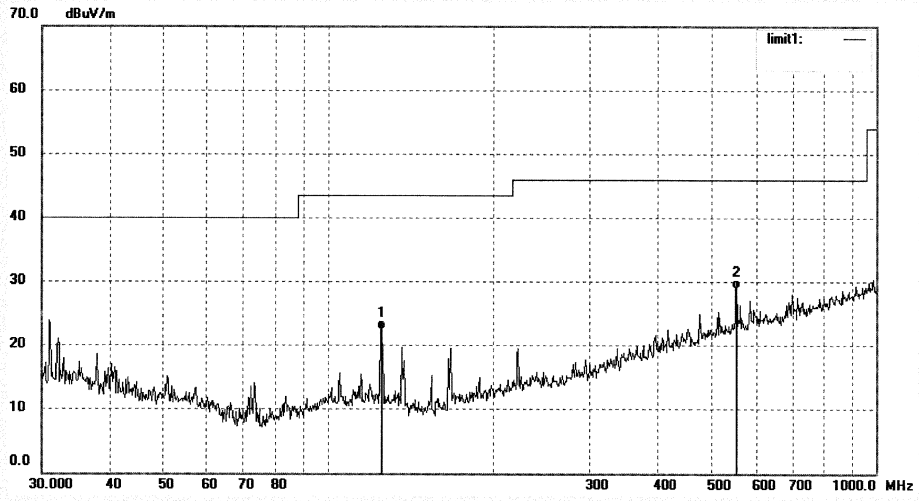
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	176.2748	40.57	-13.59	26.98	43.50	-16.52	QP			
2	563.9925	37.88	-3.40	34.48	46.00	-11.52	QP			
3	698.8035	37.41	-1.79	35.62	46.00	-10.38	QP			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: YHP #145	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 14/08/28/
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 8/48/26
EUT: Remote Control for Hearing aid	Engineer Signature:
Mode: TX	Distance: 3m
Model: RC-DEX	
Manufacturer:	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	124.9249	36.26	-13.72	22.54	43.50	-20.96	QP			
2	554.1708	32.51	-3.53	28.98	46.00	-17.02	QP			

5.1.2 99% Bandwidth & Fieldstrength of Fundamental

RESULT: **Pass**

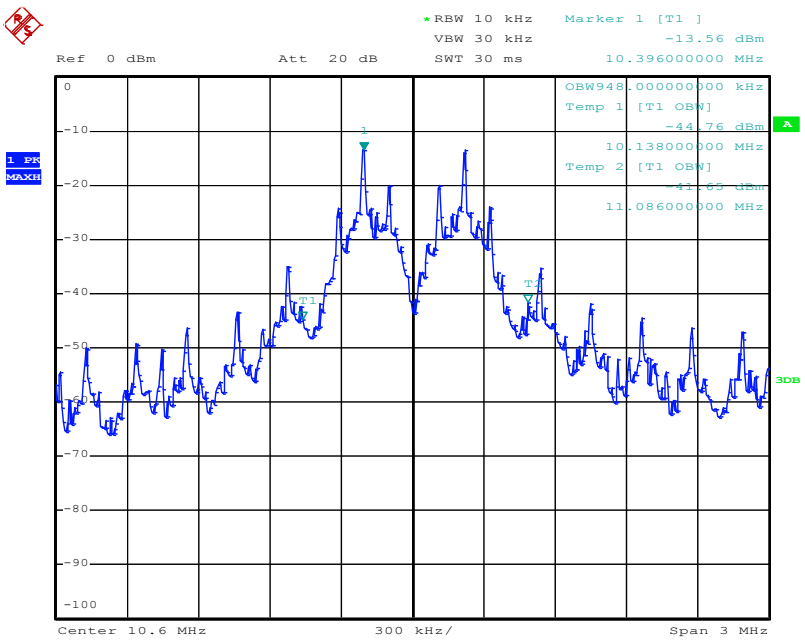
Test standard	:	FCC part 15.215
	:	RSS-Gen Issue 4 November 2014
Basic standard	:	ANSI C63.4: 2009
Kind of test site	:	Shielded room

Test setup

Date of testing	:	2014-08-28
Operation Mode	:	A
Ambient temperature	:	24℃
Relative humidity	:	48%
Atmospheric pressure	:	101kPa

Table 4: Test result of 99% Bandwidth

Channel Frequency (MHz)	99% Bandwidth (kHz)	Fieldstrength of Fundamental (dBm)
10.6MHz	948	-13.56



Date: 28.AUG.2014 09:45:29

6. Safety Human exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT: **Pass**

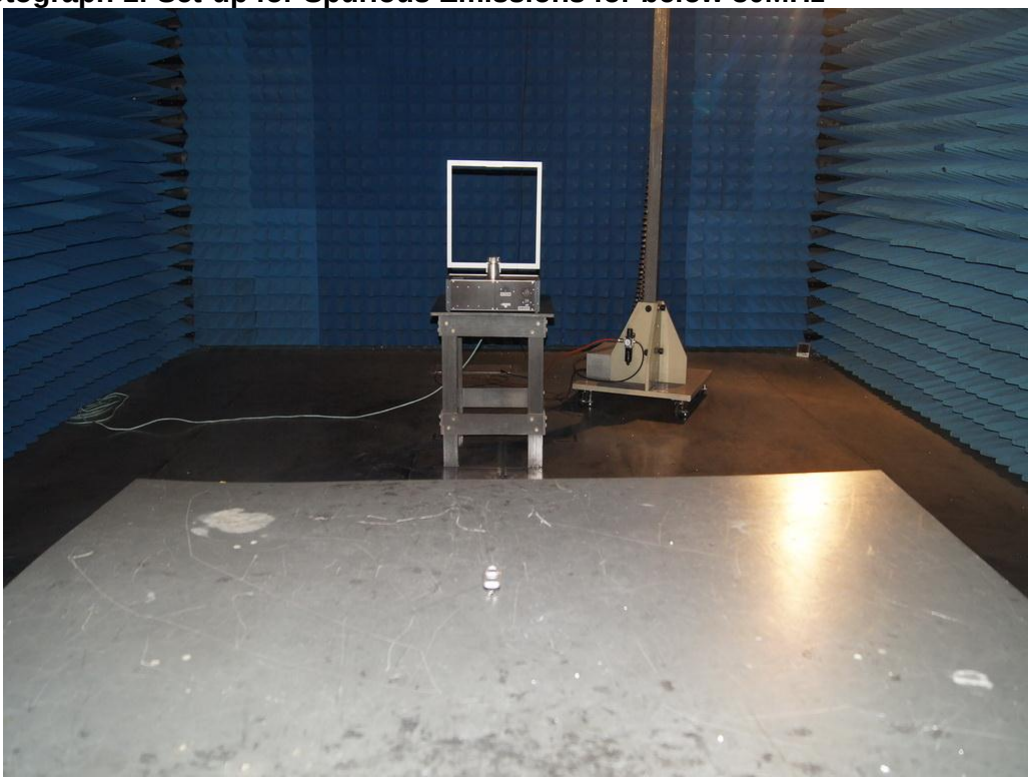
Test standard : RSS-102 Issue 4 March 2010
FCC KDB Publication 447498 D01 v05r02

The maximum peak output power of the transmitter is 0.044mW (-13.56dBm) only, which less than 20mW. Hence the EUT is exempted from routine evaluation limits (SAR Evaluation) according to clause 2.5.1 of RSS-102 Issue 4.

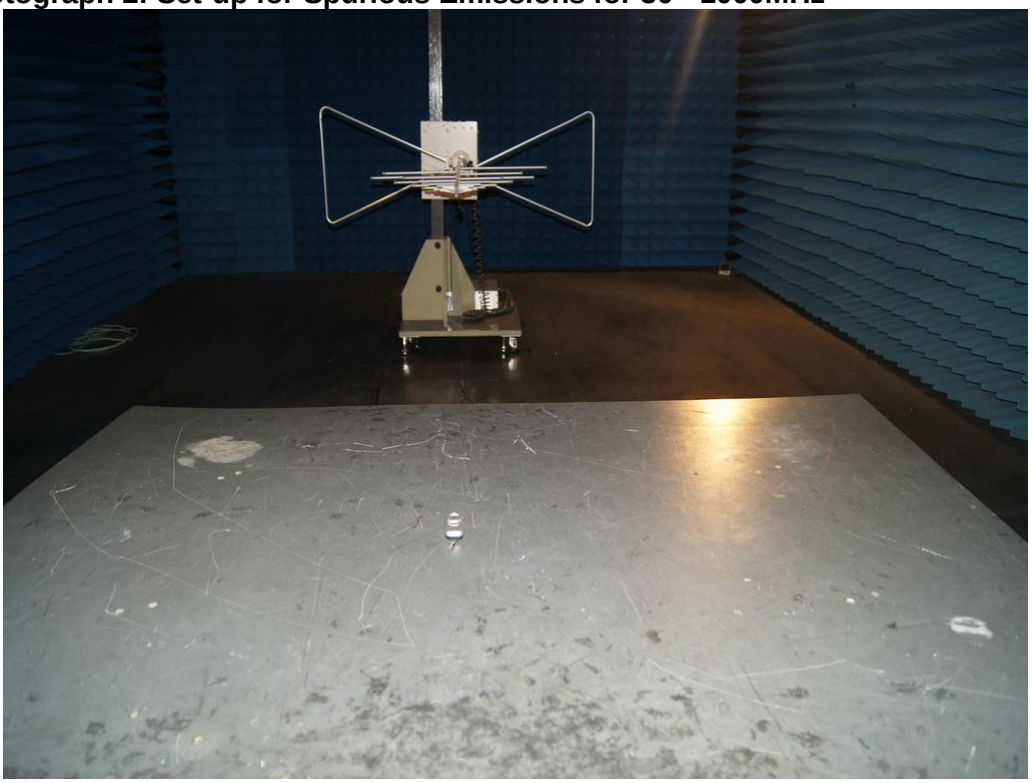
Since maximum peak output power of the transmitter is 0.044mW<96mW, and the distance from EUT to human is >50mm, hence the EUT is exclueded from SAR evaluation according to FCC KDB publication 447498 D01 General RF Exposure Guidance v05r02.

7. Photographs of the Test Set-Up

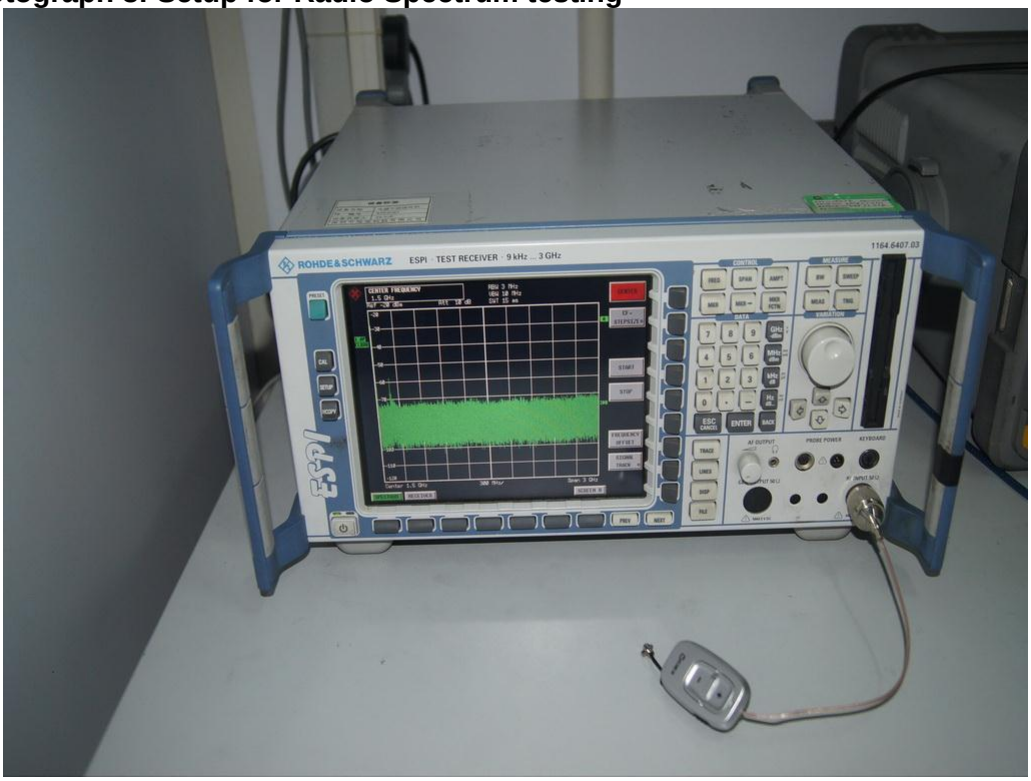
Photograph 1: Set-up for Spurious Emissions for below 30MHz



Photograph 2: Set-up for Spurious Emissions for 30 - 1000MHz



Photograph 3: Setup for Radio Spectrum testing



8. List of Tables

9. List of Photographs