

Antenna Test Report

Report No.: EO/2014/20023

Test Plan: Non-compliance with ISO17025

Applicant Name: ORtek Technology Inc.

**Manufacturer Name: XIAMEN ONLEADER TECHNOLOGY
CO., LTD.**

Product Name: Bluetooth antenna

Model Number: YFBT07

Measurements performed at

SGS Taiwan Ltd.

Taipei, Taiwan

Issued Date: March 18, 2014

	Name	Date & Signature
Prepared by:	Jose Ho Sr. Engineer	<i>Jose Ho</i> March 18, 2014
Approved by:	Nick Hsu Asst. Manager	<i>Nick Hsu</i> March 18, 2014

Distribution

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Measurement System Information

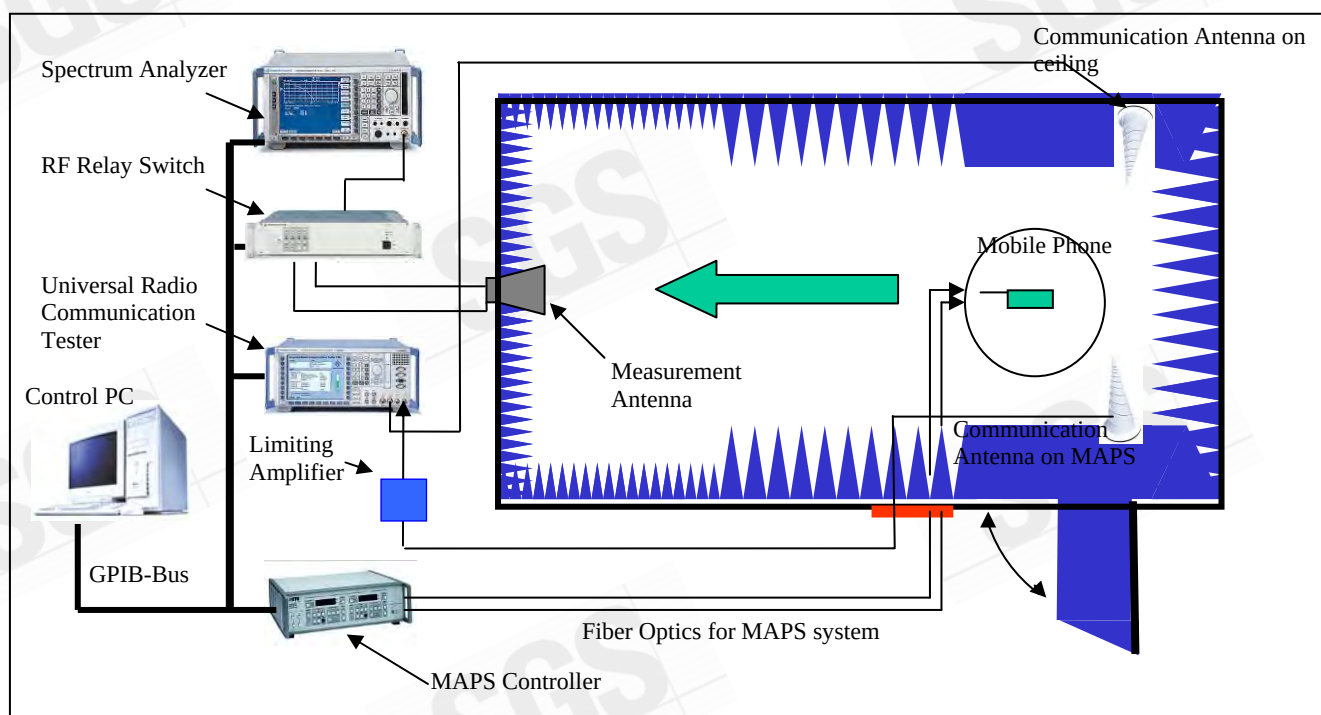
General Information

Testing Condition:

- Temperature: $25 \pm 3^{\circ}\text{C}$
- Humidity: $< 80\%$

Measurement Facility:

- Measurement Chamber: ETS-Lindgren 3D fully anechoic chamber and its measuring system (AMS-8500)
- Base Station Simulator: Agilent E5515C (or R&S CMU200)
- ETS-Lindgren EMCO-2090 Auxiliary Ports RF Relay Switches
- Spectrum Analyzer: Agilent E4405B
- Network Analyzer: Agilent E5071C



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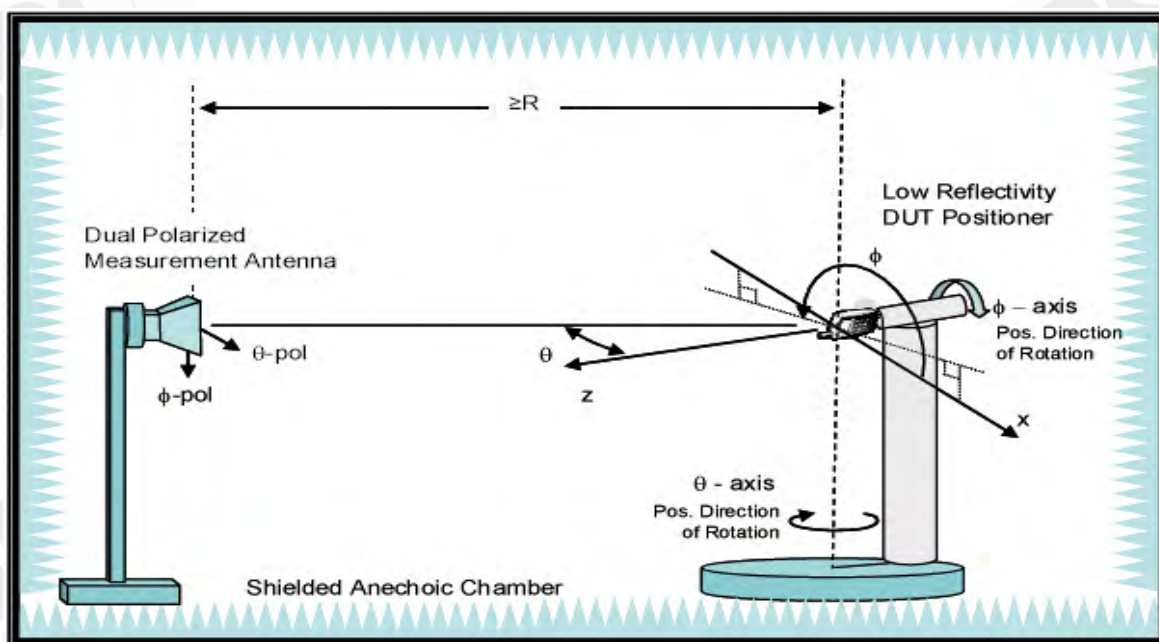
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Measurements are performed in a ETS-Lindgren **AMS-8500** 3D fully anechoic test system. The test system includes a high-performance RF-shielded, rectangular anechoic chamber, a Multi-Axis Positioning System (MAPS), and *EMQuestTM* *EMQ-100* data acquisition and analysis software. The geometry of the setup is specified below for reference.

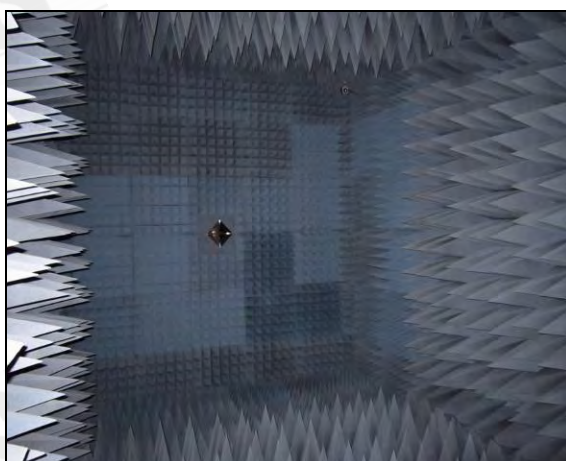
Typical Setup for ETS-Lindgren AMS-8500:



Instruments View



Inside View



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Testing Laboratory: Identification of the Responsible Test Laboratory.● **OTA Laboratory:****SGS Taiwan Ltd. Electronics & Communication Laboratory**

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Telephone: +886 2 2299 3279

Fax: +886 2 2298 0488

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● **Testing Location:**

No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803.

Details of Applicant:

Applicant's name:	ORtek Technology Inc.
Applicant's address:	13F, Number 150, Jian-Yi Rd., Zhonghe Dist., New Taipei City, Taiwan, R.O.C.
Contact person:	Andy Chow / Engineer
Telephone:	82265123 ext 119
Fax:	8226-5125
E-mail:	rd8_ortek@ortek.com.tw

Details of Manufacturer:

Manufacturer's name:	XIAMEN ONLEADER TECHNOLOGY CO., LTD.
Manufacturer's address:	Factory Number 6, Hsin-His-Chiao Da Dong. Dong An Dist, Xiamen. P.R.C.
Contact person:	Andy Chow / Engineer
Telephone:	82265123 ext 119
Fax:	8226-5125
E-mail:	rd8_ortek@ortek.com.tw

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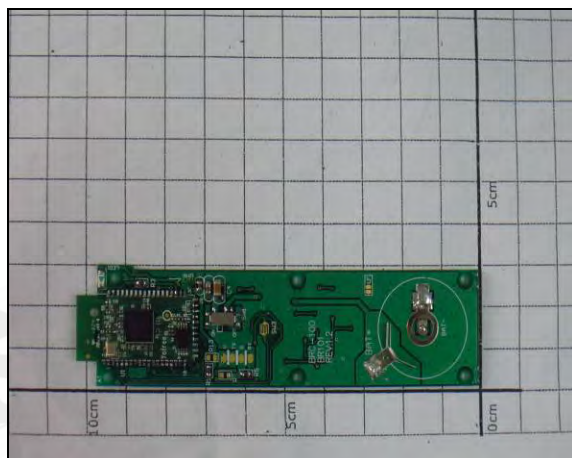
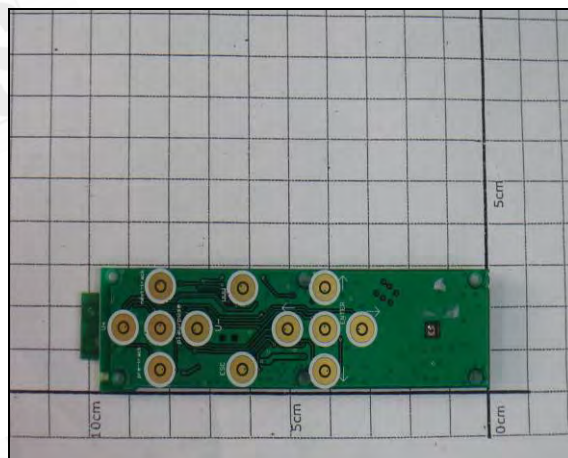
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Details of EUT:

Device Description:	Bluetooth antenna
Device Manufacturer:	ORtek Technology Inc.
Device Model:	YFBT07
Hardware Version:	1.2
Software Version:	1.0
IMEI:	N/A
FCC ID:	GM8BRC100
Frequency Range:	2400MHz ~ 2500MHz Step size: 10MHz
Antenna Type:	Internal antenna

Duration of Tests:

Sample Receive Date:	2014-02-20
Test Starting Date:	2014-03-13
Test Ending Date:	2014-03-13
Report Issued Date:	2014-03-18

Photographs of EUT:**Front View****Back View**

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List of Equipment

Equipment Summary Sheet

Equipment Description	Manufacturer	Identification no.	Current calibration date	Next calibration date
Base station	Agilent	E5515C	2013/3/18	2015/3/18
Spectrum analyzer	Agilent	N9010A	2013/11/29	2015/11/29
Network analyzer	Agilent	E5071C	2013/10/28	2014/10/28
Measurement software	ETS-Lindgren	EMQuest 1.08	N/A	N/A
Multi axis positioning system(MAPSTM)	ETS-Lindgren	EMCO 2115	N/A	N/A
Multi axis positioning system(MAPSTM)	ETS-Lindgren	EMCO 2110	N/A	N/A
MAPSTM controller	ETS-Lindgren	EMCO 2090	N/A	N/A
Horn antenna	ETS-Lindgren	3164-04	N/A	N/A

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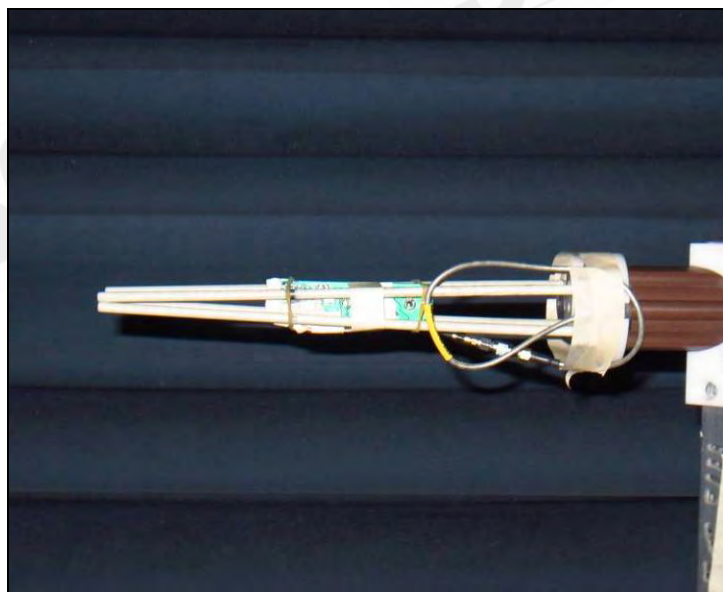
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Antenna Gain and Efficiency

Test Results											
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Point Values											
Ant. Port Input Pwr. (dBm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot. Rad. Pwr. (dBm)	-1.88	-1.78	-1.72	-1.88	-1.98	-2.04	-2.10	-2.12	-2.15	-2.22	-2.37
Peak EIRP (dBm)	4.16	4.28	4.35	4.25	4.23	4.25	4.31	4.38	4.49	4.55	4.48
Directivity (dBi)	6.03	6.06	6.07	6.13	6.21	6.29	6.41	6.51	6.63	6.78	6.85
Efficiency (dB)	-1.88	-1.78	-1.72	-1.88	-1.98	-2.04	-2.10	-2.12	-2.15	-2.22	-2.37
Efficiency (%)	64.91	66.41	67.27	64.80	63.43	62.48	61.70	61.32	61.02	59.94	57.97
Gain (dBi)	4.16	4.28	4.35	4.25	4.23	4.25	4.31	4.38	4.49	4.55	4.48
NHPRP $\pm\pi/4$ (dBm)	-3.50	-3.39	-3.31	-3.47	-3.56	-3.64	-3.71	-3.75	-3.80	-3.89	-4.06
NHPRP $\pm\pi/6$ (dBm)	-4.76	-4.62	-4.52	-4.65	-4.72	-4.78	-4.85	-4.89	-4.93	-5.02	-5.18
NHPRP $\pm\pi/8$ (dBm)	-5.86	-5.71	-5.60	-5.72	-5.78	-5.84	-5.89	-5.93	-5.97	-6.06	-6.21
Upper Hem. PRP (dBm)	-5.77	-5.70	-5.67	-5.85	-5.96	-6.04	-6.12	-6.17	-6.23	-6.35	-6.55
Lower Hem. PRP (dBm)	-4.15	-4.04	-3.96	-4.11	-4.19	-4.25	-4.29	-4.30	-4.30	-4.35	-4.46

Test Setup



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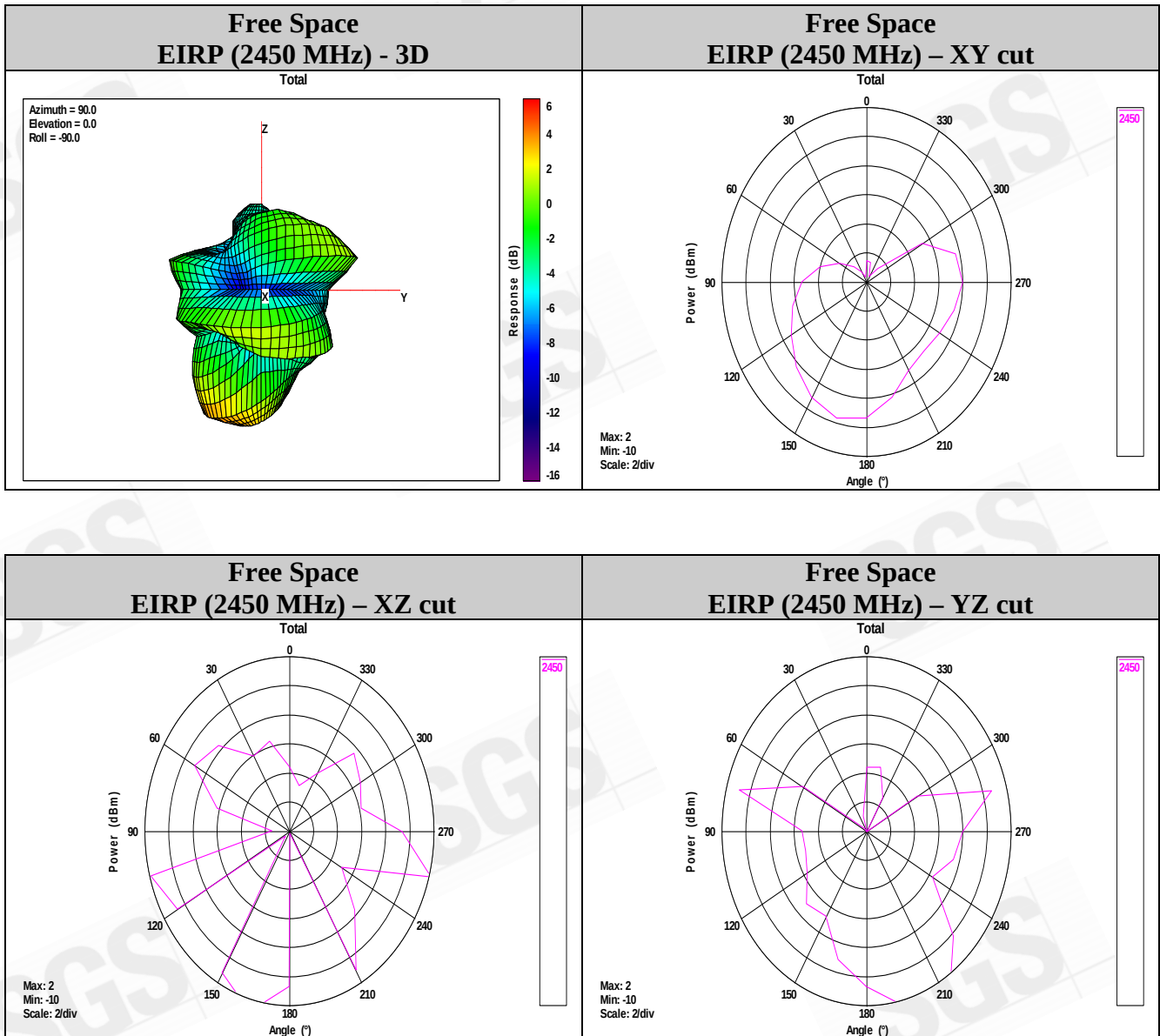
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Antenna 3D Plot Matrix

All plots in this section show the total EIRP ($EIRP_{\theta} + EIRP_{\phi}$) with the +x-axis pointing out of the page, +y-axis pointing right, and +z-axis pointing up.



End of Report

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