ANT Test Report

Antenna Type: PCB **Antenna**

EUT Photo

Project No.	:	2208G039
Product Type	:	**PCB Antenna**
Brand Name	:	shanggui
Test Model	:	BT3GMD_B26P
Date of Receipt	:	2022-8-24
Date of Test	:	2022-8-24
Issued Date	:	2022-8-24
Report Version	:	mainboard V0.2
Test Sample	:	mouse
Standard(s)	:	Test Plan for Wireless Device Over-the-Air Performance v3.8.2
Applicant	:	shanggui
Address	:	A1302, Building 4, Tianan Digital City, Huangge North Road, Longcheng Street, Longgang District, Shenzhen, Guangdong, China
Manufacturer	:	
Address	:	A1302, Building 4, Tianan Digital City, Huangge North Road, Longcheng Street, Longgang District, Shenzhen, Guangdong, China

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

The report must not be used by the client to claim product certification, approval, or endorsement by NIST, A2LA, or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-ANT-2208G039	R00	Original Report.	2022-08-24	-

. PHYSICAL LAYOUT AND SITE DESCRIPTION

WIRELESS MOBILE DEVICE TEST LABORATORY

All tests were performed in BTL Inc. state-of-the-art Wireless Mobile Device Test Laboratory consisting of a rectangular anechoic chamber equipped with a multi-axis positioning system (MAPS), a dual polarized quad-ridge waveguide horn, and two EMCO-3102 circularly polarized communication antennas. A base station simulator is used to establish communication with the EUT and place it in the proper mode, and a spectrum analyzer and RF switch combination is used for measuring the signal from the EUT at each position and polarization. BTL Inc.'s EMQuest EMQ-100 Pattern Measurement Software is used for data acquisition, post-processing, and generation of the required output

ANECHOIC CHAMBER

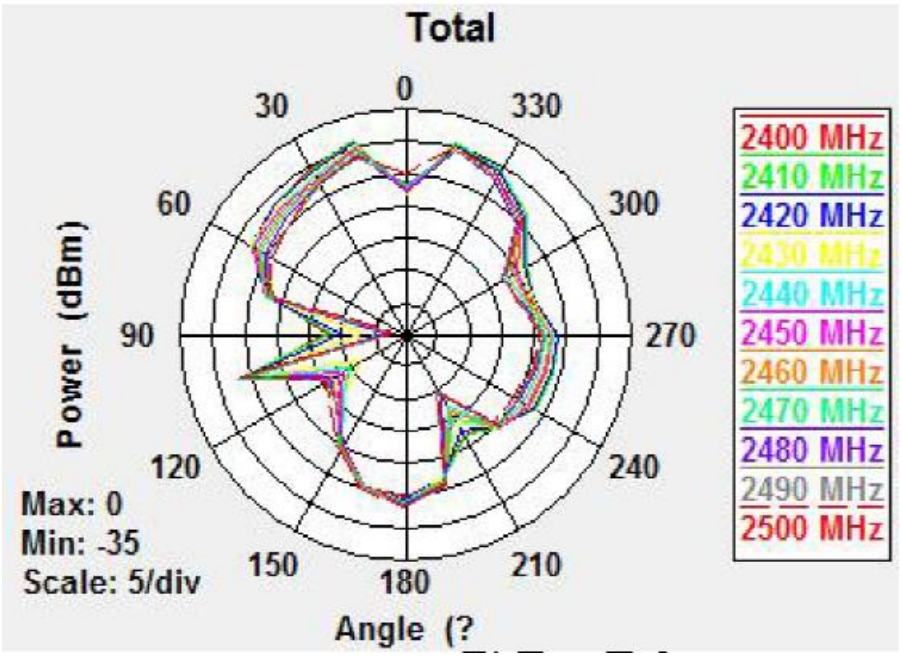
The anechoic chamber is a rectangular anechoic chamber designed and built by ETS-Lindgren with the following nominal dimensions

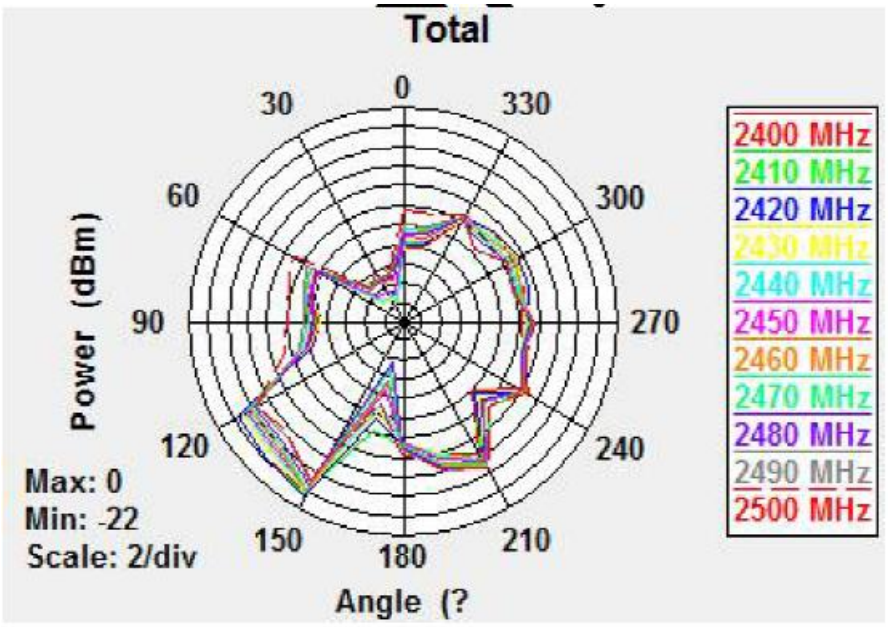
Length:	5.1 m (200 in)
Width:	5.1 m (200 in)
Height:	5.1 m (200 in)

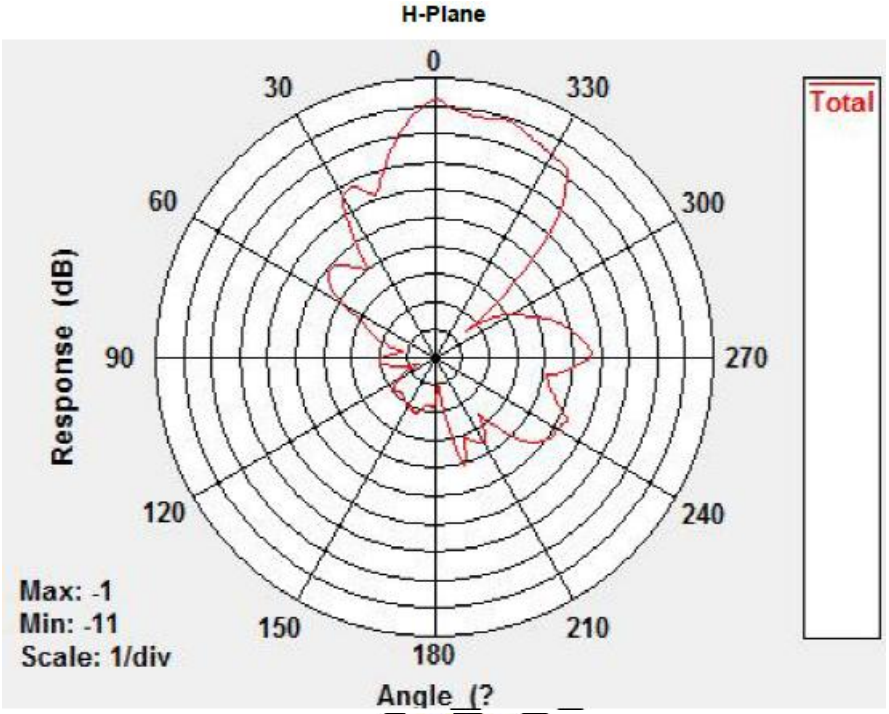
2.4G GAIN & PATTERN IRON

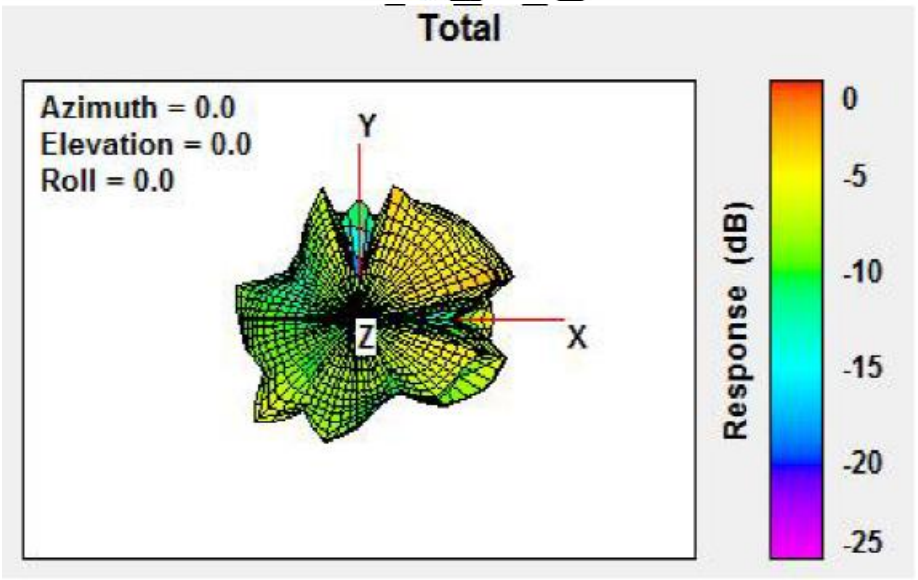
Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400	17.61	-1.81
2410	18.25	-1.60
2420	17.75	-1.65
2430	16.92	-1.96
2440	16.78	-1.70
2450	16.60	-1.75
2460	16.45	-0.92
2470	15.42	-0.74
2480	14.46	-1.57
2490	14.21	-1.36
2500	14.57	-1.35

Theta=90°


Total
0
30
330
60
300
90
270
120
240
150
180
210
Power (dBm)
Max: 0
Min: -35
Scale: 5/div
Angle (?
2400 MHz
2410 MHz
2420 MHz
2430 MHz
2440 MHz
2450 MHz
2460 MHz
2470 MHz
2480 MHz
2490 MHz
2500 MHz


Total
0
30
330
60
300
90
270
120
240
150
180
210
Power (dBm)
Max: 0
Min: -22
Scale: 2/div
Angle (?
2400 MHz
2410 MHz
2420 MHz
2430 MHz
2440 MHz
2450 MHz
2460 MHz
2470 MHz
2480 MHz
2490 MHz
2500 MHz


H-Plane
0
30
330
60
300
90
270
120
240
150
210
180
Response (dB)
Total
Max: -1
Min: -11
Scale: 1/div
Angle (?


Total
Azimuth = 0.0
Elevation = 0.0
Roll = 0.0
Y
Z
X
Response (dB)
0
-5
-10
-15
-20
-25

Measurement Uncertainty
The expanded measurement uncertainties (k = 2) for the results reported above have been determined to be as follows

Passive Measurenent (dB)		
Test Configuration	2400-2500MHZ	5000-6000MHZ
ee Space	1.17	1.04