

Pulse 3216 2.4GHz Chip Antenna Replacement For BizLink Quartet 2.0 Project

Wireless Components
LTCC R&D



- **Customer : BizLink**
- **Project Name : Quartet2.0**
- **Product Application : Audio Dock**
- **Antenna size :**
3.2 x 1.6 x 1.2 (mm) 2.4GHz chip antenna([ANT3216LL11R2400A](#))
- **Report date : 2022/08/19**
- **Version : 2 (Chip antenna replacement)**

- Testers : Samson Hsu.
- Test Date : 2022/8/18
- Test Equipment & Calibration Instruments :

Test Equipment	Calibration Instruments
Agilent Network Analyzer (E5071C)	Agilent N4431A
ETS AMS8500 OTA Chamber	

- Test software : EMQuest™ (EMQ-100)

Detail of antenna specifications & gain description

Antenna electrical specifications

Working Frequency

2.45 GHz

Bandwidth

230 MHz(Typ.)

Return Loss

6.5 dB(Min.)

Polarization

Linear

Azimuth Beamwidth

Omni-directional

Peak Gain

3.68 dBi(Typ.)

Impedance

50 Ω

Operating Temperature

- 40~105 $^{\circ}\text{C}$

Maximum Power

1 W

Termination

Ag (Environmentally-Friendly Leadless)

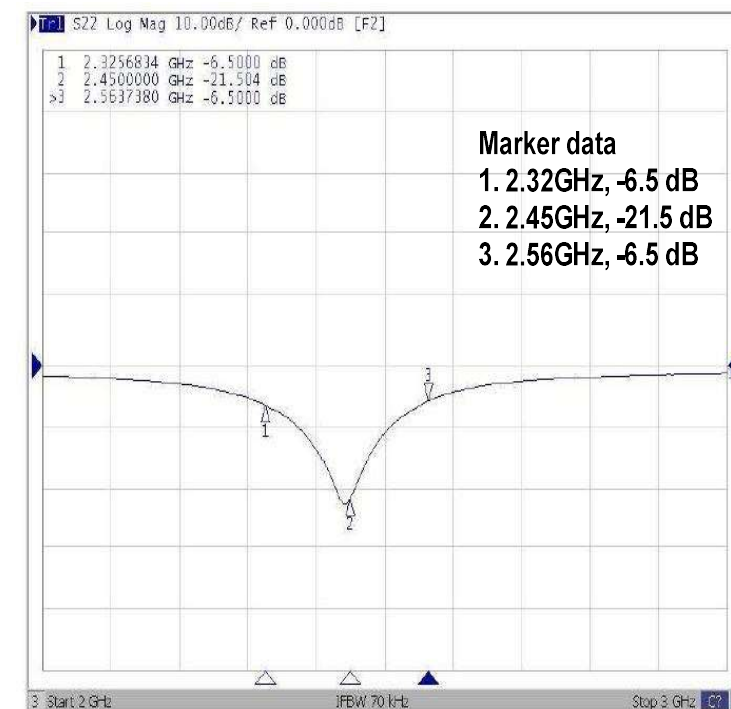
Resistance to Soldering Heats

260 $^{\circ}\text{C}$, 10sec.

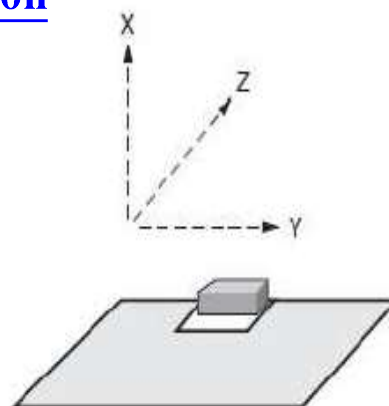
NOTE

1. The specification is defined on Pulse evaluation board

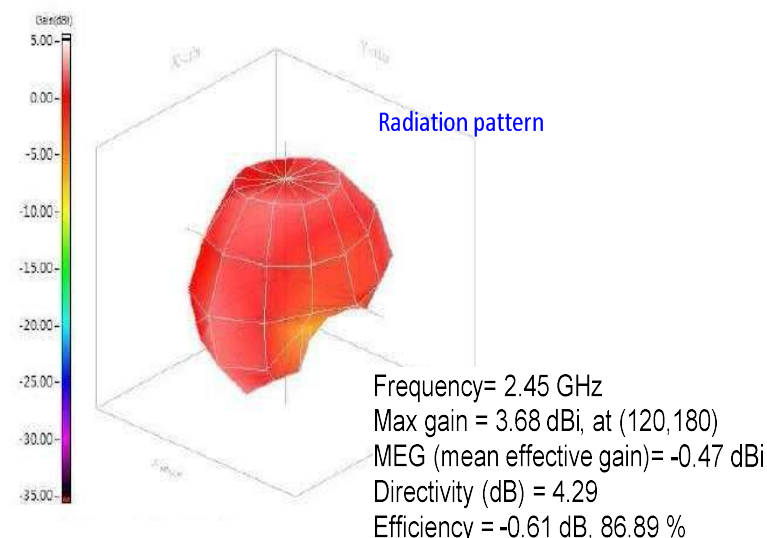
Return loss



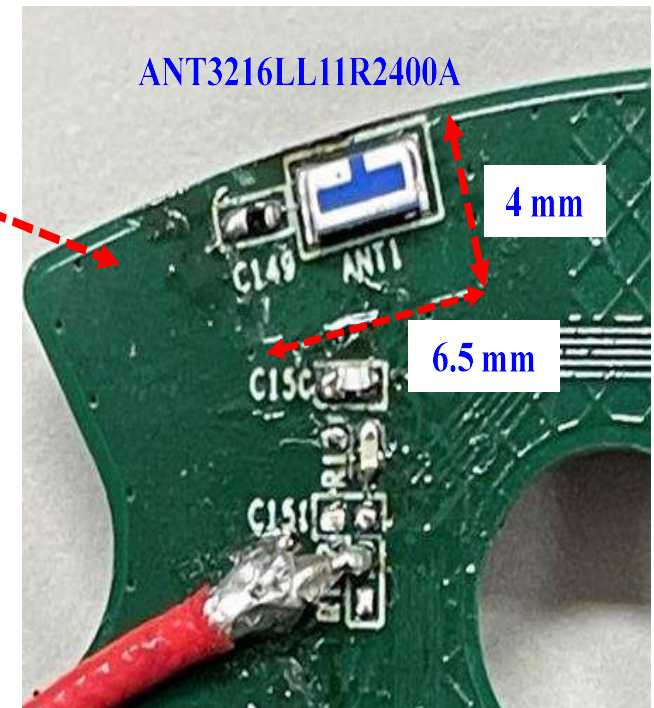
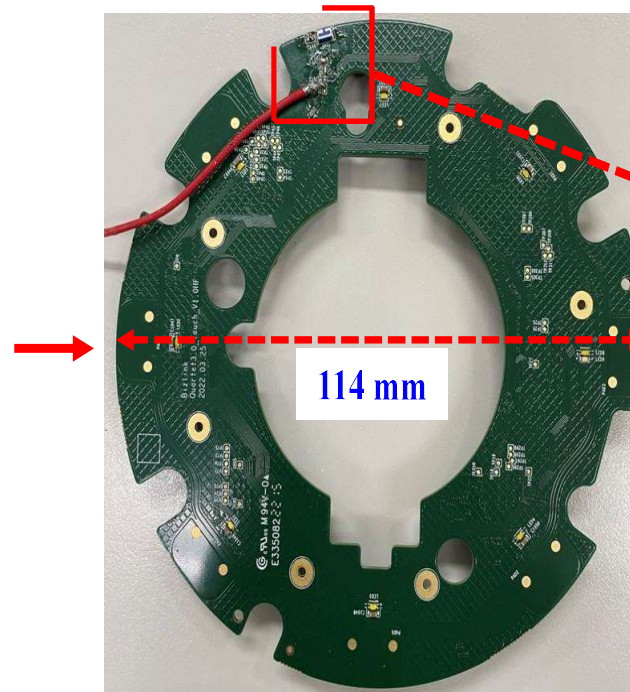
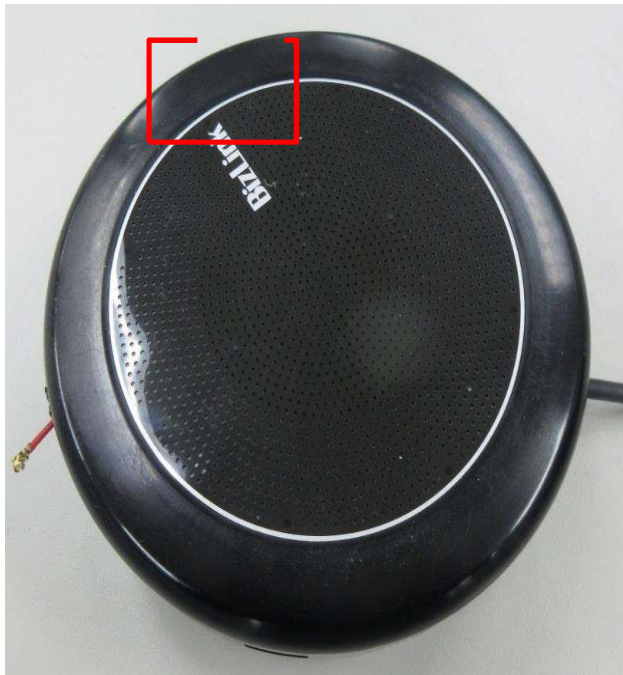
Gain description



Evaluation board and XYZ direction

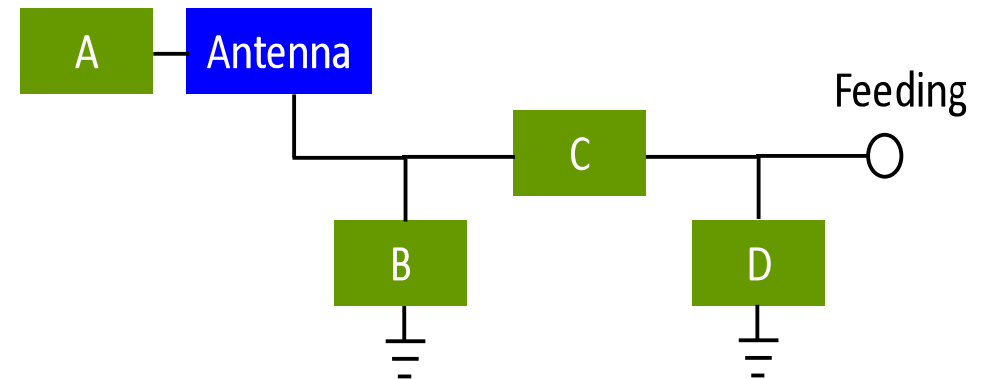
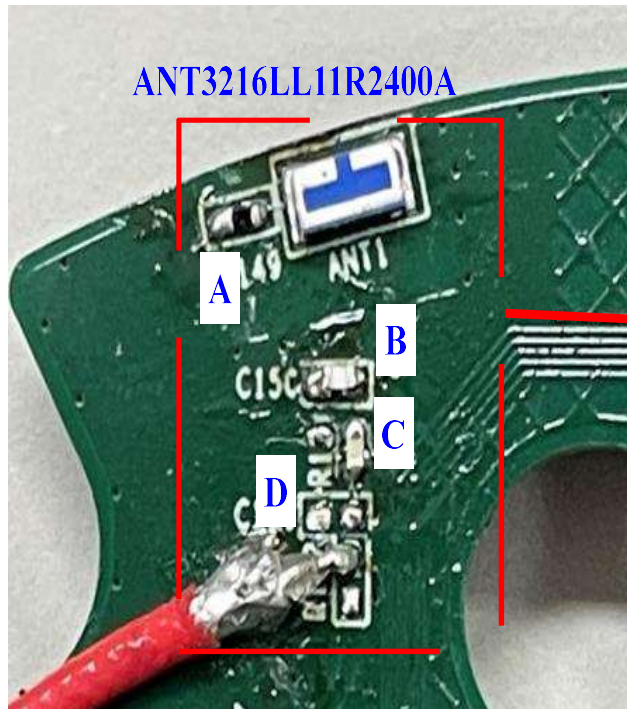


Antenna position



Clearance dimension

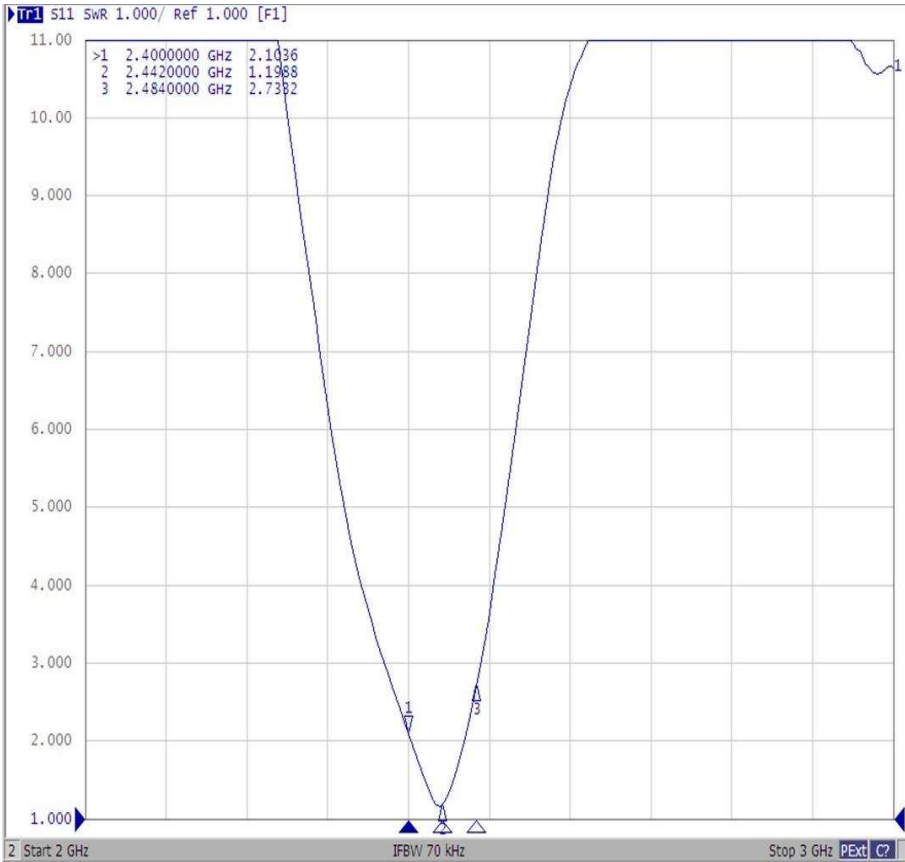
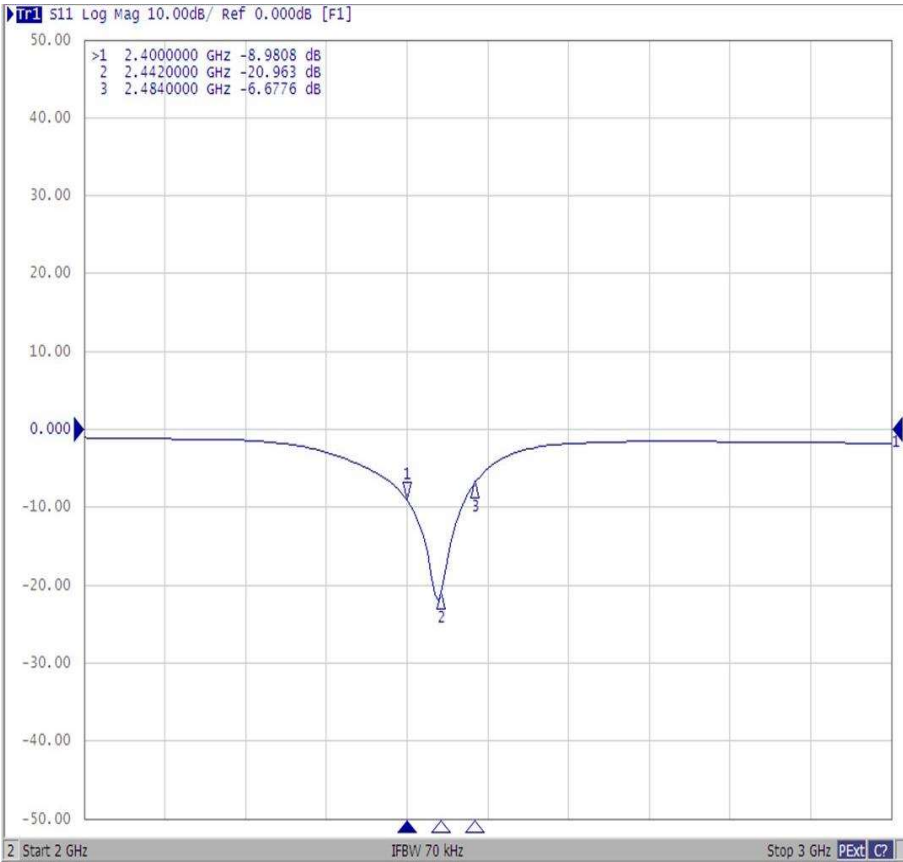
Project Matching Circuit



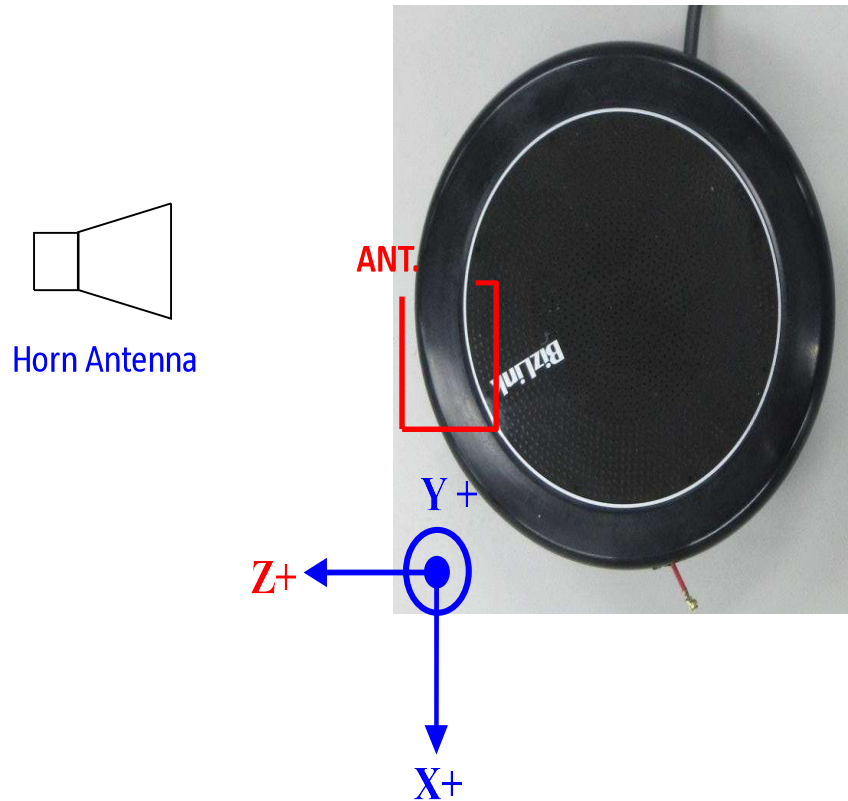
Component		Supplier	Value	PN
A	Res._0402		0 ohm	
Shunt B	Ind._0402	TDK	3.3 nH	MLK1005S3N3ST000
Series C	Cap._0402	YAGEO	0.8 pF	CQ0402BRNPO9BNR80
Shunt D	Open			

Network analyzer measurement data

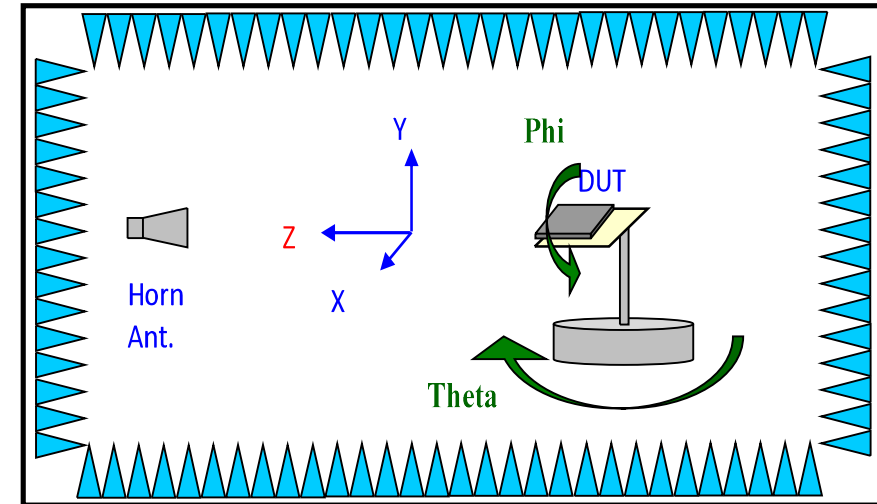
Antenna	PULSE 3216 2.4GHz Chip antenna (ANT3216LL11R2400A)		
Frequency (MHz)	2400	2442	2484
R.L. (dB)	-8.9	-20.9	-6.6
VSWR	2.10	1.19	2.73
Max. Gain (dBi)	1.39	2.54	1.66
Avg. Gain (dB)	-4.38	-3.62	-3.70
Efficiency (%)	36.39	43.43	35.76



[Direction Definition]



[Anechoic Chamber]



2400 MHz

2442 MHz

2484 MHz

