

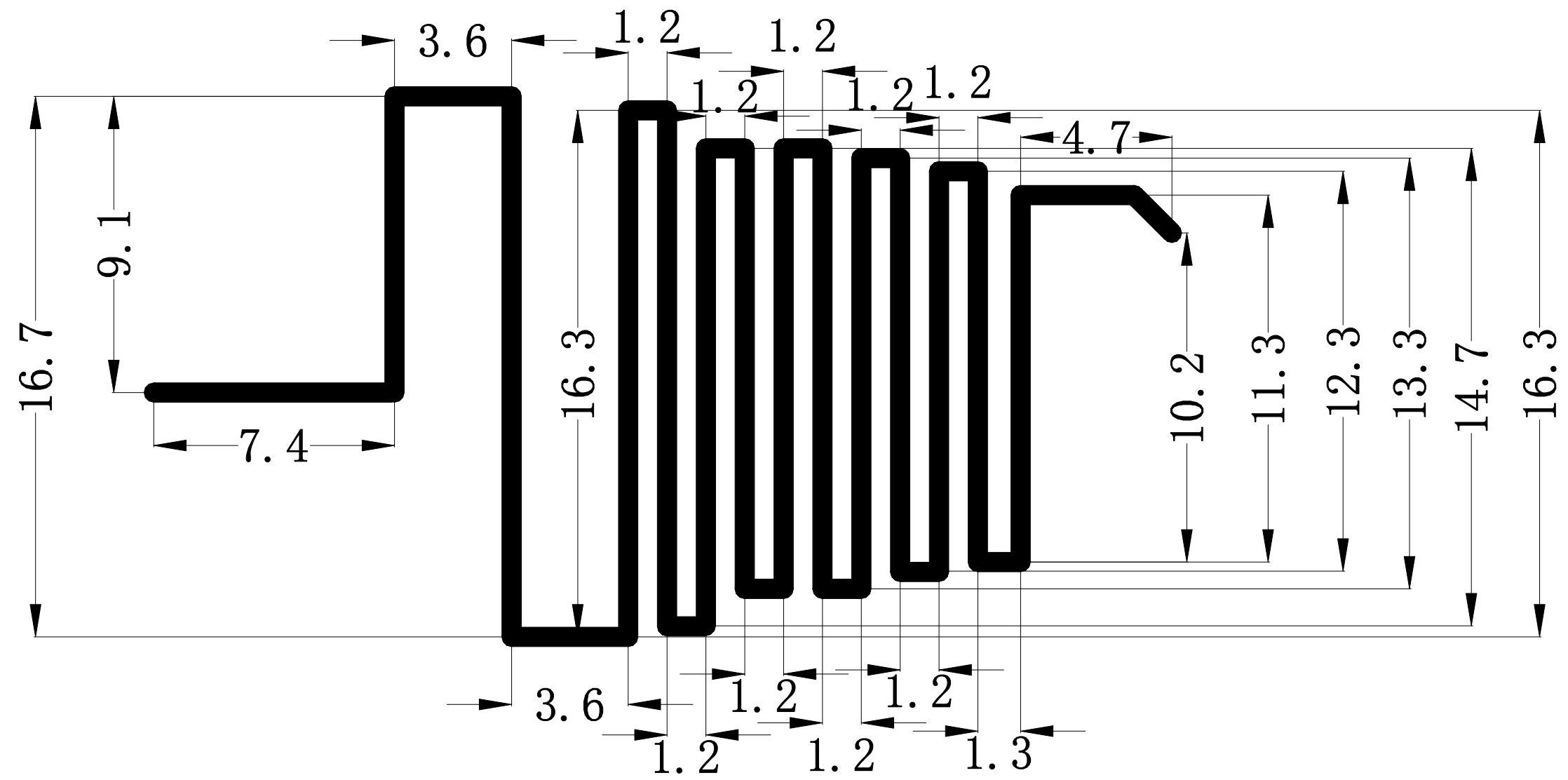


## PCB Antenna Test Report

(Q1 Ant)

## Revision History

Revision	Note	Date
V1	New Issue	2022.09.16



# Data Preview

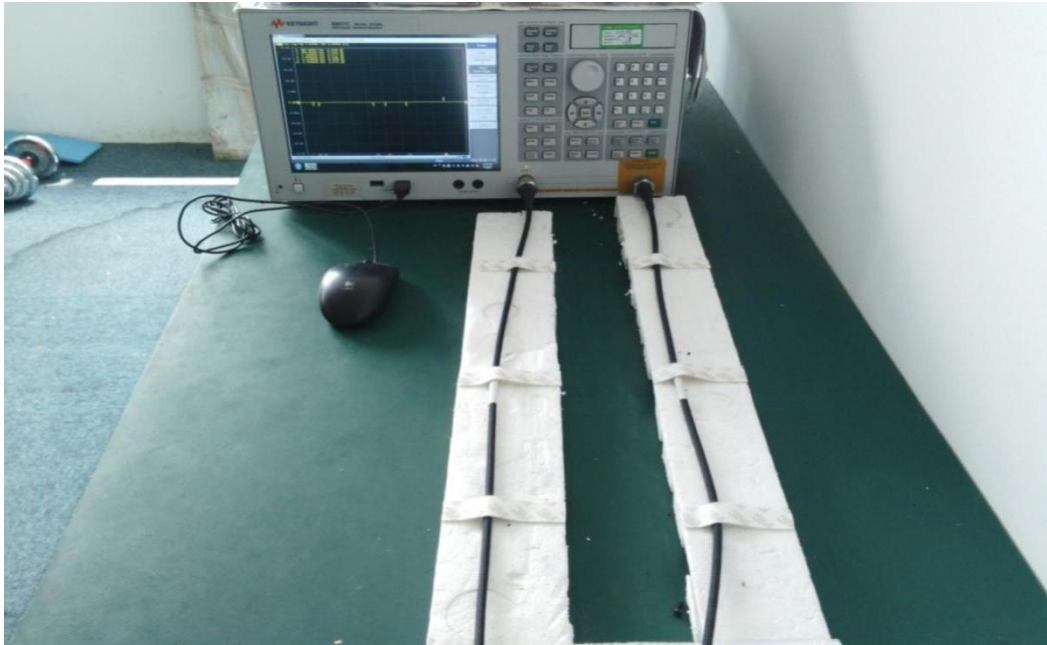
Freq (MHz)	Gain (dBi)	Effi (%)	Effi (dB)
650	2.11	25.4%	-5.94
660	2.87	25.2%	-5.99
670	1.8	21.10%	-6.76
680	0.16	16.3%	-7.88

## 1. RF Fixture Experiment

### 1.1 Test Setup

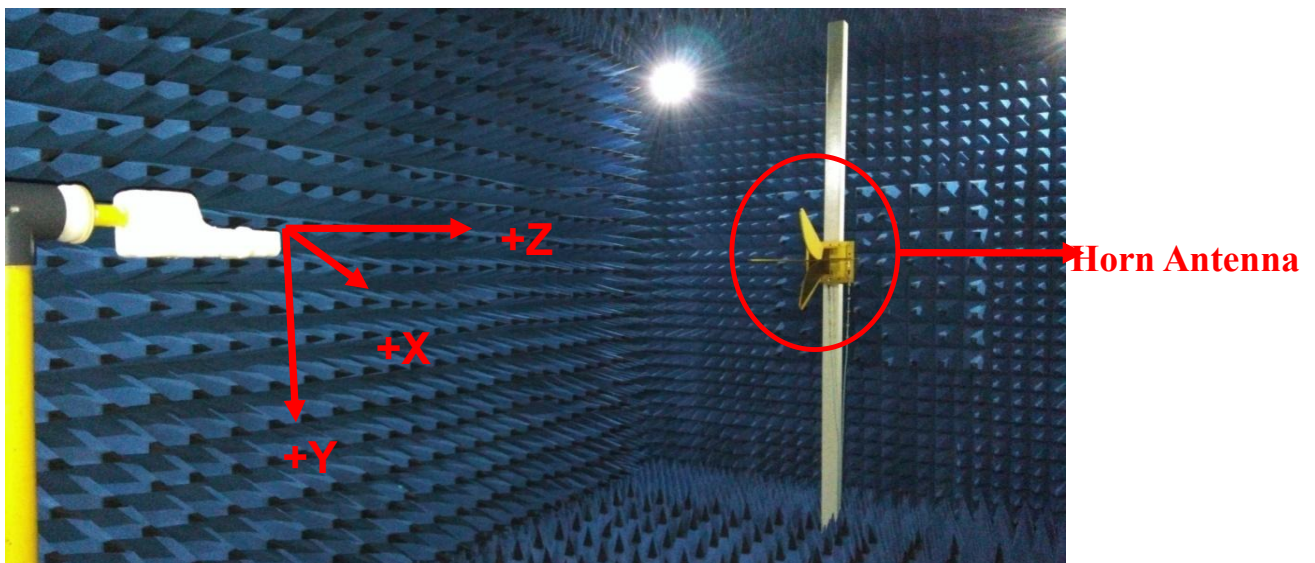
#### 1.1.1 VNA Test Setup

VSWR and Return Loss measurements ( $S_{11}$ ) were performed using an Keysight E5071C Network Analyzer. The isolation between antennas is also tested. The testing was performed with apparatus in free space.

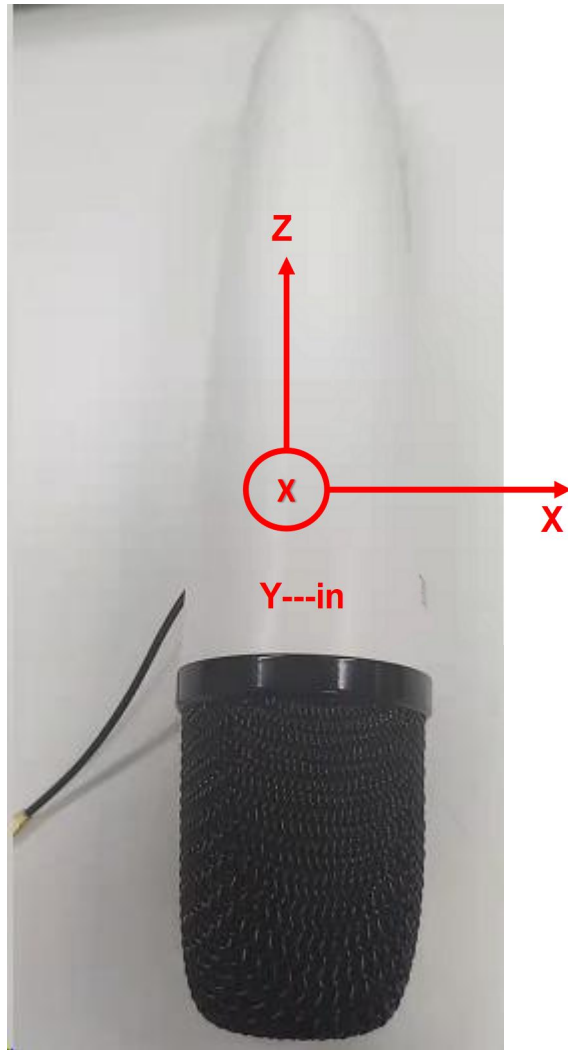


#### 1.1.2 Anechoic Chamber Test Setup

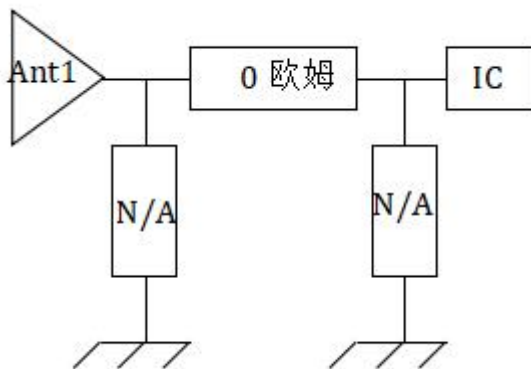
The gain of the antenna was measured in the anechoic chamber. The chamber provides less than  $-30$  dB reflectivity from 400 MHz through 6 GHz. The chamber size is: 7m\*4m\*3m. The measurement results are calibrated using a leaky wave horn standard. We can measure the antenna gain and efficiency accurately.



## 2. Antenna Solution



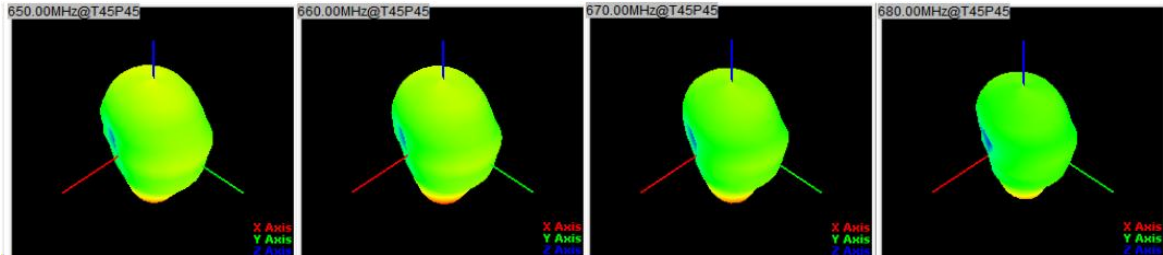
## 3. RF matching circuit for different antennas



S11(LTE-Ant1)

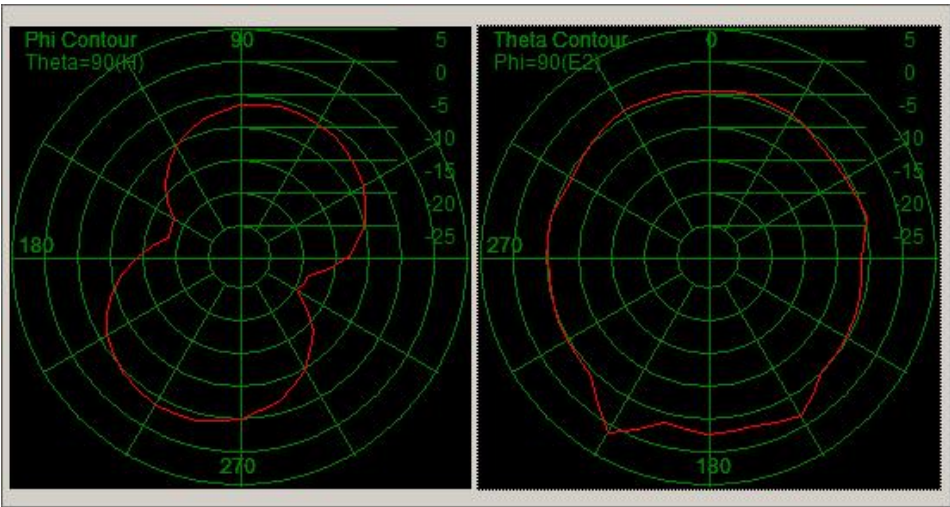


Radiation patterns:3D



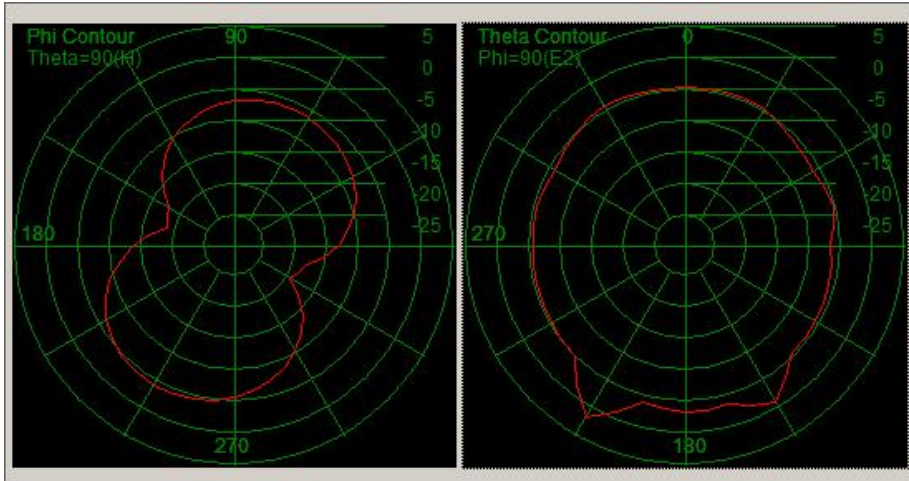
Radiation patterns:2D

650MHz

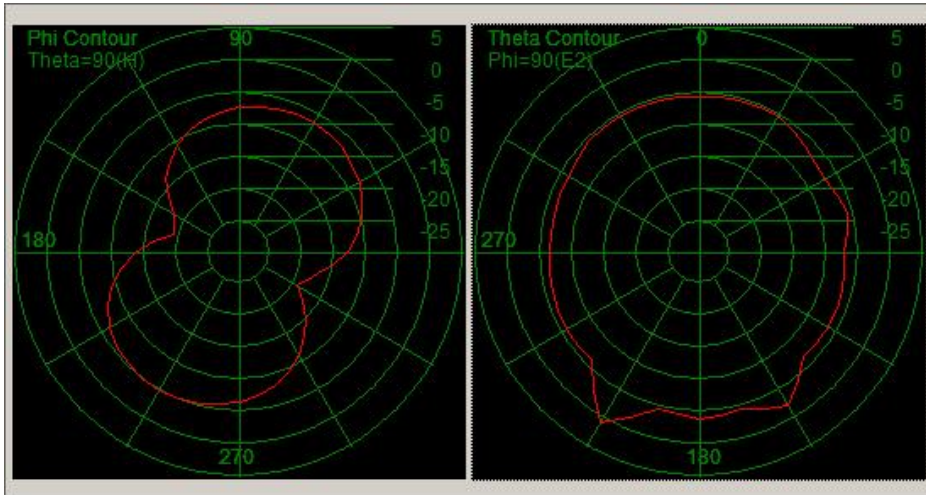




660MHz



670MHz



680MHz

