

**ShenZhen QiXinTongDa Technology Co.,Ltd.**

# **Antenna Test Report**

**Project Name:** TE320

**Frequency Band:**

G2/5+W2/4/5

FDD2/4/5/7/12/13/17/26/66+TDD41

**DATE:** 2023-02-13

# 1. Test Project

	Test Project	Equipment
1. S Parameter	<ol style="list-style-type: none"><li>1. Return Loss(RL)</li><li>2. VSWR</li></ol>	Network Analyzer :  Agilent 5071B
2. RF Test (2G+3G+4G)	<ol style="list-style-type: none"><li>1. power</li><li>2. level</li><li>3. TRP/TIS</li></ol>	Comprehensive Test :  CMW500/8960  Test Environment :  Anechoic Chamber

## 2. Test Equipment



**Agilent 5071B** ( S Parameter ( RL/VSWR ) Test Equipment )

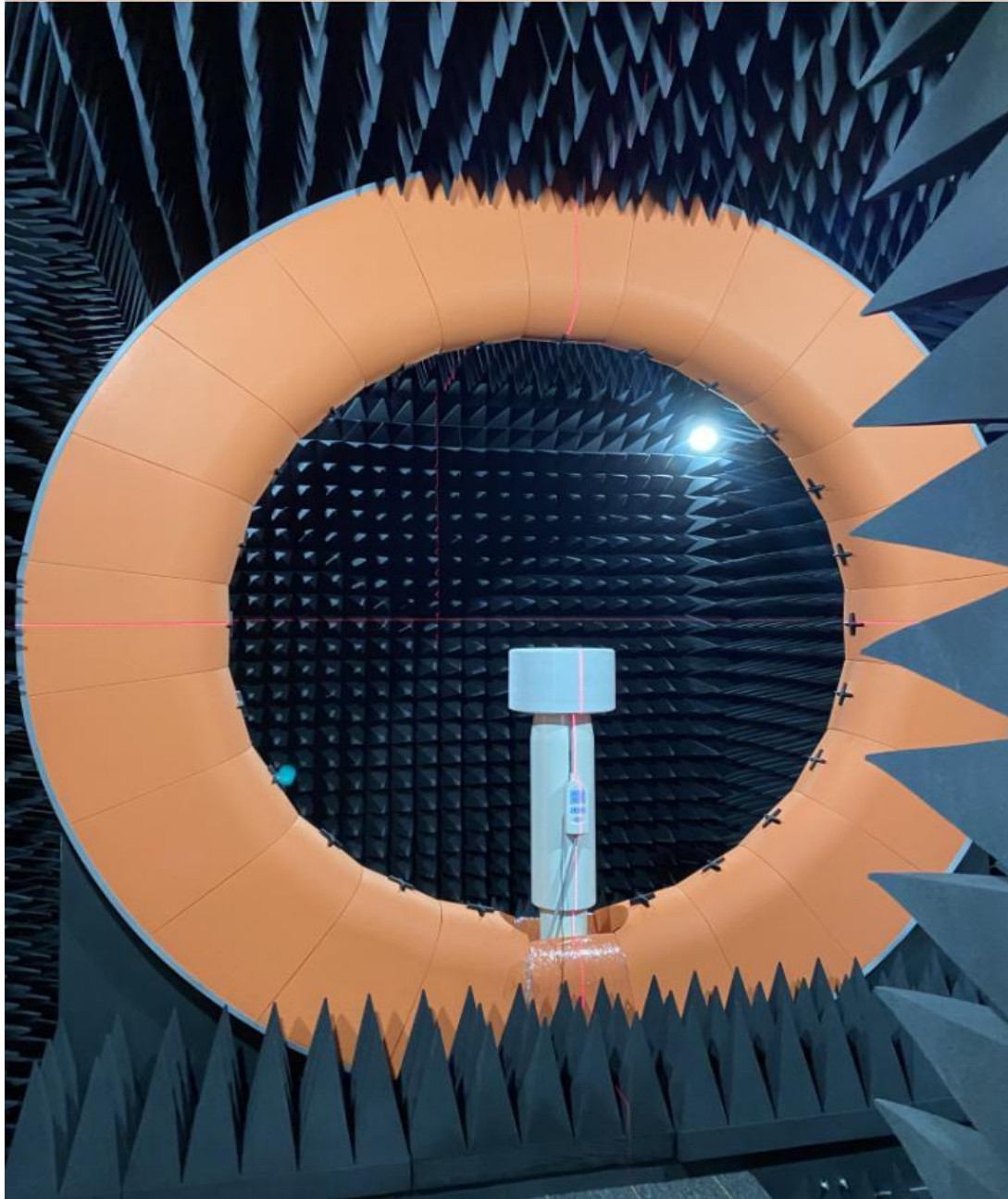


**Agilent 8960** (2G/3G Test Equipment)



**CMW 500** (2G/3G/4G Test Equipment)

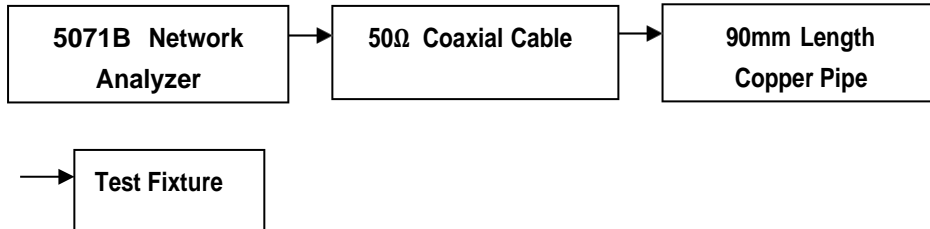
### 3. Test Environment



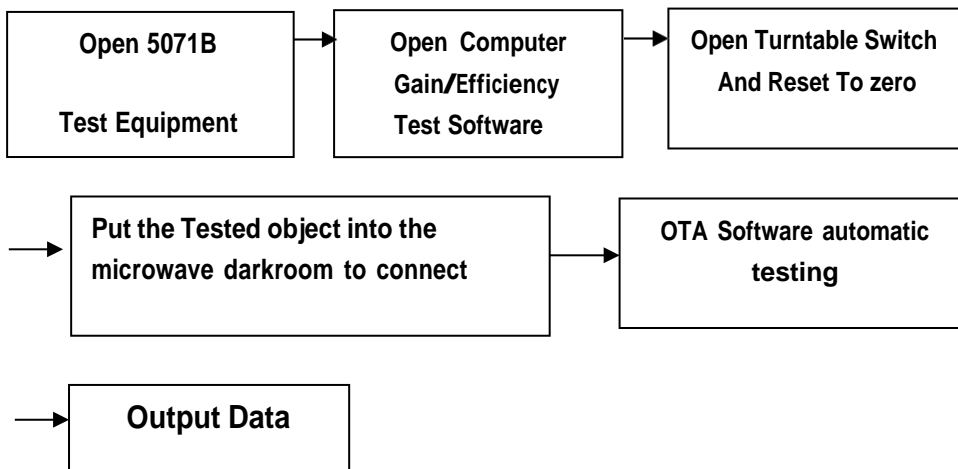
**Microwave    Anechoic    Chamber**

# 4. Test Steps

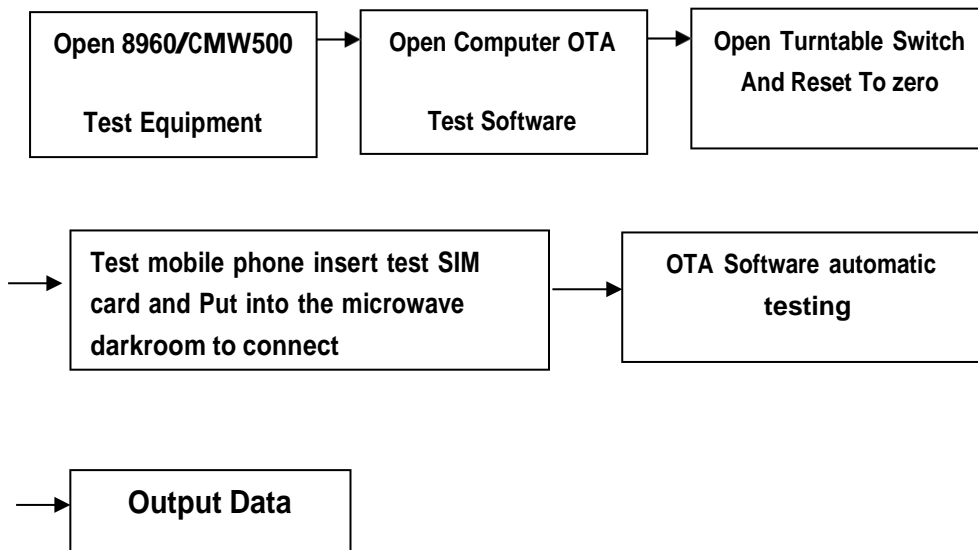
## Passive VSWR/RL Test Steps:



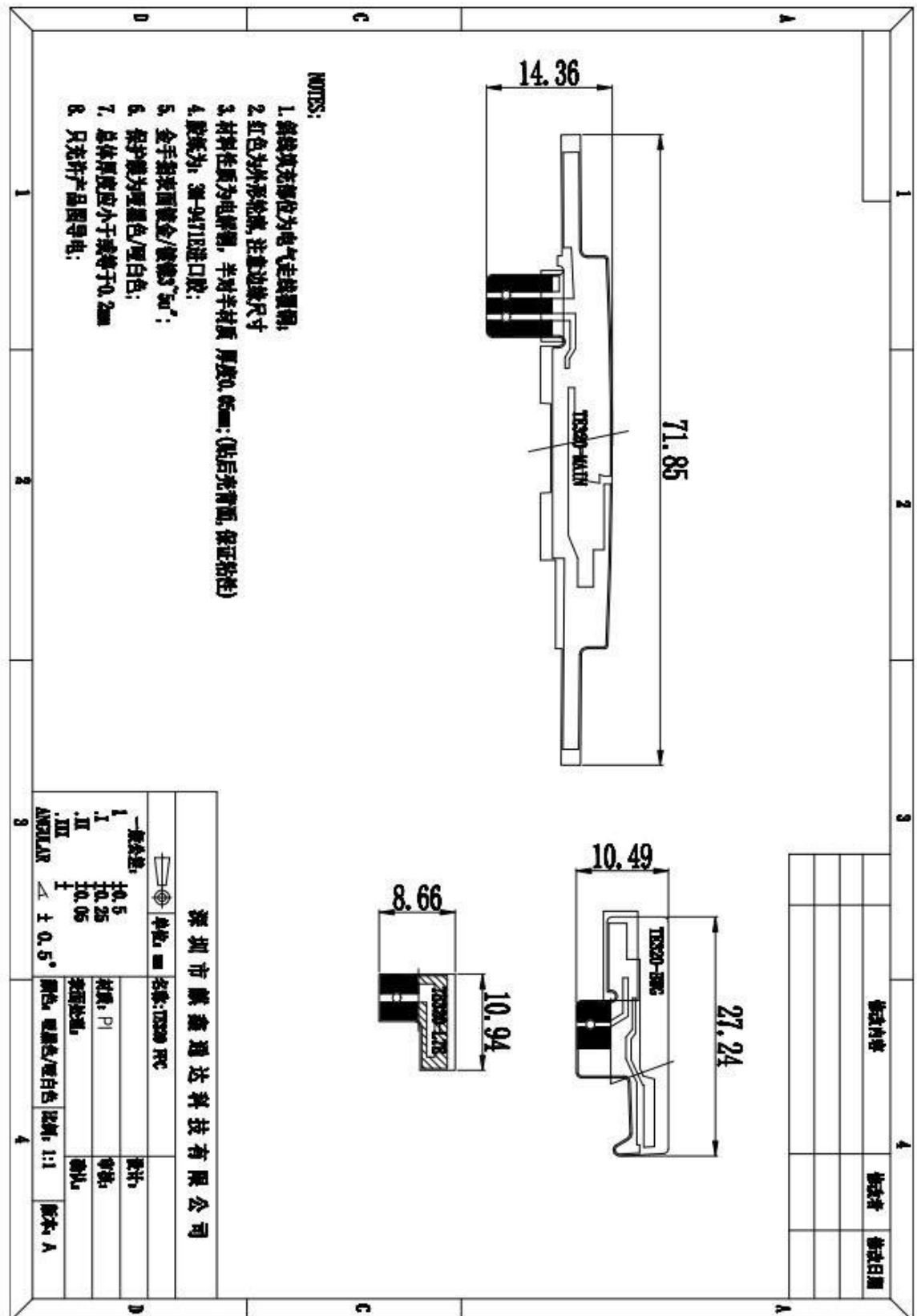
## Gain/Efficiency Test Steps:



## Active TRP/TIS Test Steps:



# 5. Antenna Dimensions



## 6. Antenna Gain

Band	Max Gain	Efficiency
GSM850	0.15	32%
PCS1900	0.23	36%
WCDMA1900	0.18	36%
WCDMA1700	0.31	35%
WCDMA850	0.15	32%
BAND 2	0.26	36%
BAND 4	0.23	35%
BAND 5	0.15	33%
BAND 7	0.27	38%
BAND 12	0.05	21%
BAND 13	0.12	23%
BAND 26	0.05	21%
BAND 66	0.26	35%
BAND 41	0.23	38%

WIFI2.4G/BT												
2400-2500MHZ	Frequency ID	1	2	3	4	5	6	7	8	9	10	11
	Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
	Efficiency (%)	31.00	33.20	35.60	35.80	36.60	37.10	35.60	35.20	35.10	35.00	34.20
	Gain (dBi)	-0.40	-0.38	-0.19	-0.15	0.15	0.60	-0.16	-0.23	-0.25	-0.30	-0.35
WiFi 5G												
5100-5900MHZ	Frequency ID	1	2	3	4	5	6	7	8	9		
	Frequency (MHz)	5100	5150	5210	5270	5670	5725	5785	5840	5900		
	Efficiency (%)	34.20	36.60	35.80	36.30	36.20	35.4	37.5	35.6	32.1		
	Gain (dBi)	-0.35	0.22	-0.16	0.13	0.06	-0.1	0.22	-0.5	-3.7		



# 7.3D Lobe Diagram

2.4G-WIFI



BT



5G WiFi



# 8. Antenna model and type

Band	Model	Type
BT	TE320-BWG	PIFA
2.4G WIFI	TE320-BWG	PIFA
GPS	TE320-BWG	PIFA



# 9. Antenna OTA

FS-OTA									
BAND	GSM850			PCS1900					
CHANNEL	L	M	H	L	M	H			
TRP(dBm)	29.2	29.3	29.5	26.3	26.2	25.6			
TIS(dBm)			-104.6			-102.6			
BAND	WCDMA850			WCDMA1700					
CHANNEL	L	M	H	L	M	H			
TRP(dBm)	20.8	21.1	21.1	17.6	17.6	17.7			
TIS(dBm)			-105.3			-105.1			
BAND							WCDMA1900		
CHANNEL							L	M	H
TRP(dBm)							18.8	19.1	19.3
TIS(dBm)									-104.9
BAND							TDD-B41		
CHANNEL							L	M	H
TRP(dBm)							19.1	18.8	18.5
TIS(dBm)									-88.6
BAND				FDD-B2					
CHANNEL				L	M	H			
TRP(dBm)				19.1	19.2	19.6			
TIS(dBm)						-90.8			

FS-OTA									
BAND	FDD-B4			FDD-B5			FDD-B7		
CHANNEL	L	M	H	L	M	H	L	M	H
TRP(dBm)	18.1	18.3	18.6	19.8	20.2	20.3	17.5	17.6	18.2
TIS(dBm)			-94.1			-94.8			-92.3
BAND				FDD-B12			FDD-B13		
CHANNEL				L	M	H	L	M	H
TRP(dBm)				17.6	17.8	18.0	19.6	19.6	19.8
TIS(dBm)						-92.1			-92.5
BAND	FDD-B17								
CHANNEL	L	M	H						
TRP(dBm)	17.5	17.8	18.2						
TIS(dBm)			-92.3						
BAND							FDD-B26		
CHANNEL							L	M	H
TRP(dBm)							19.8	19.9	20.2
TIS(dBm)									-92.7
BAND				FDD-B66					
CHANNEL				L	M	H			
TRP(dBm)				18.1	18.3	18.3			
TIS(dBm)						-91.8			

# 10.WIFI/BT Actual scene test

