

# ***PROFESSOR TECHNOLOGY CO.,LTD..***

---

## **INTRODUCTION**

**MIMO Antenna CP14-LTE-2M**

**Permanent Screws Mount (M12x1.0P)**

**Cables : LTE/4G/3G/GS**

**LTE/4G/3G/GSM CFD195 Low loss 2M SMA/M**

**690-960/1710-2170/2500-2700MHz 2-5dBi**

### **1. GENERAL DESCRIPTION**

<b>Model No</b>	<b>Products P/N</b>
CP14-LTE-CFD-2M-SMA/M	CP14-LTE-2M

**Below is a table summarizing the LTE/4G/3G/GSM antenna design specification**



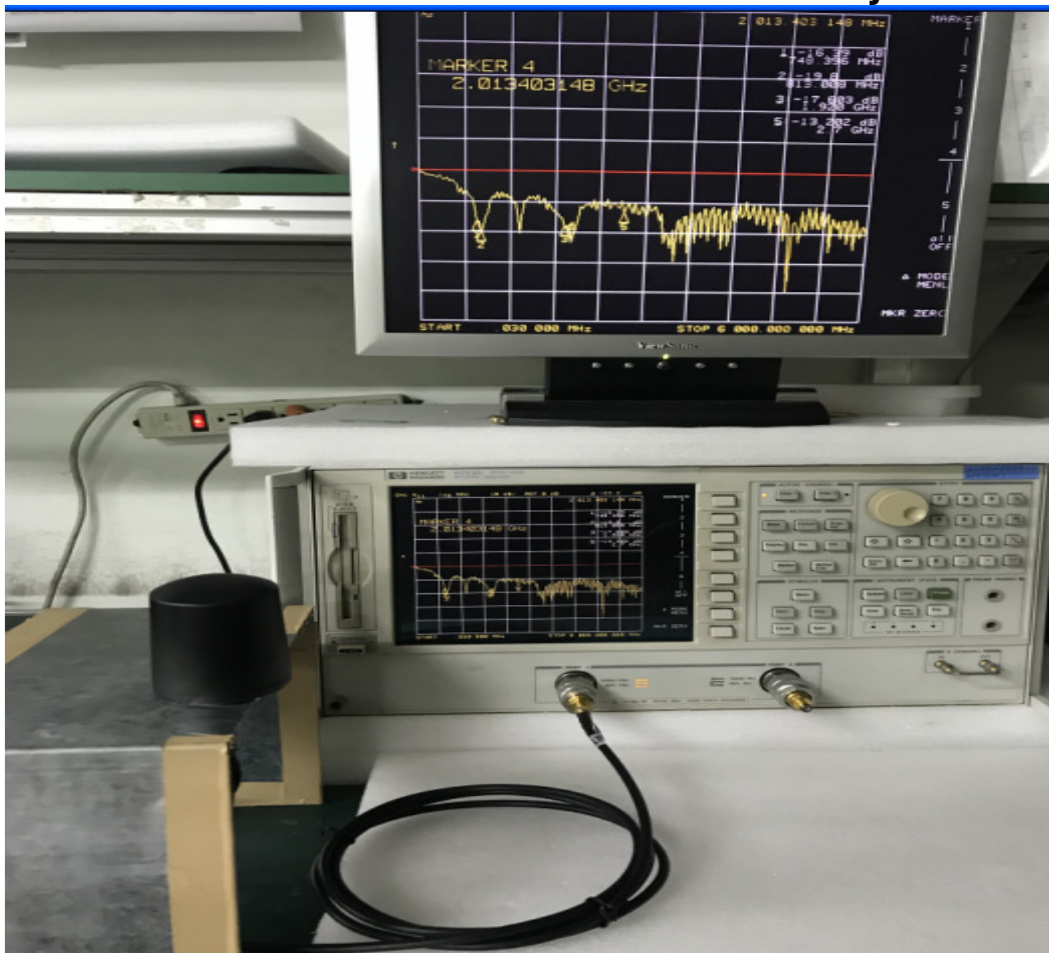
# ***PROFESSOR TECHNOLOGY CO.,LTD..***

## **Cable :**

### **2.1 LTE/4G/3G/GSM Multi-band Antenna Electrical Properties**

Parameter	Description
Communication System	LTE/4G/3G/AMPS/GSM/DCS/UMTS
Frequency Band (MHz)	690~960/1710~2170/2500~2700MHz
Average Efficiency	58%/67%/59%
Average Gain	2.0~5.0dBi
Nominal Impedance	50 ohm
Polarization	Vertical
Return Loss (Check test Data)	800MHz(-25.65dB),2094MHz(-32.04dB)2650MHz(-13.22dB)
V.S.W.R <1.5:1	800MHz(1.110:1),2094MHz(1.051:1),2650MHz(1.558:1)
Reflection coefficient	800MHz(0.052),2094MHz(0.025),2650MHz(0.218)

### **2-2 :LTE/4G/3G/2G Multi-Band Network analyzer test HP8753E**



# ***PROFESSOR TECHNOLOGY CO.,LTD..***

---

## **2-3 LTE/5G/4G/3G/2G Multi-band Antenna Mechanical Properties**

<b>Parameter</b>	<b>Description</b>
Antenna Type	External Antenna
Touch Type	Screw Type (M16x1.5P)
Antenna size	D:54.7mm x H:60.0mm
Antenna Material	PC & ABS
Antenna cable	CFD195 Low loss
Connector Type	SMA 180°(Male)
Antenna Cable Total Length	2000mm
Antenna Color	Black
Waterproof	100% waterproof.(IP66~IP67)
Operating Temperature Range	-30°C~+70°C
Storage Temperature Range	-40°C~+80°C
Shock (Drop Test)	100cm drop on concrete

### **3.Antenna Appearance Size: M12x1.0P**

**Diameter :54.7mm (2.15")**

**Height : 60.0mm (2.36")**



# PROFESSOR TECHNOLOGY CO.,LTD..

## 4.Appearance

01	Top Plastic Shell	PC	Black	1
02	Base Housing	PC	Black	1
03	Rubber Adhesive	Rubber	Gray	1
04	Spring washer	Stain less steel		1
05	NUT M12x1P	Stain less steel		1
06	CFD195 Low Loss Cable	PVC	Black	1
07	SMA(M) ST CFD195	Brass	AuPlated	1
08	Label LTE	PET	Silver	1

**LTE Antenna**  
CP14-LTE-CFD195-2M-SMA/M S/T

**ROHS**  
IP67 Waterproof

 Third angle projection <b>PROFESSOR</b> 普傑國際股份有限公司	CUSTOMER'S	MODEL	PARTS NUMBER	FREQUENCY	UNIT	SCALE	DATE	VERSION
	<b>REI</b>	CP14	CP14-V1	LTE	M/M		07-Jul-20	1
	TOLERANCE	X, XX+0, 15	NAME	PARTS NUMBER	APPROVED	CHECKED	DRAWING	DESIGNED
	SURFACE ROUGHNESS	$\frac{S}{\sqrt{V}}$	APPEARANCE		Jack		Jimmy	Jimmy



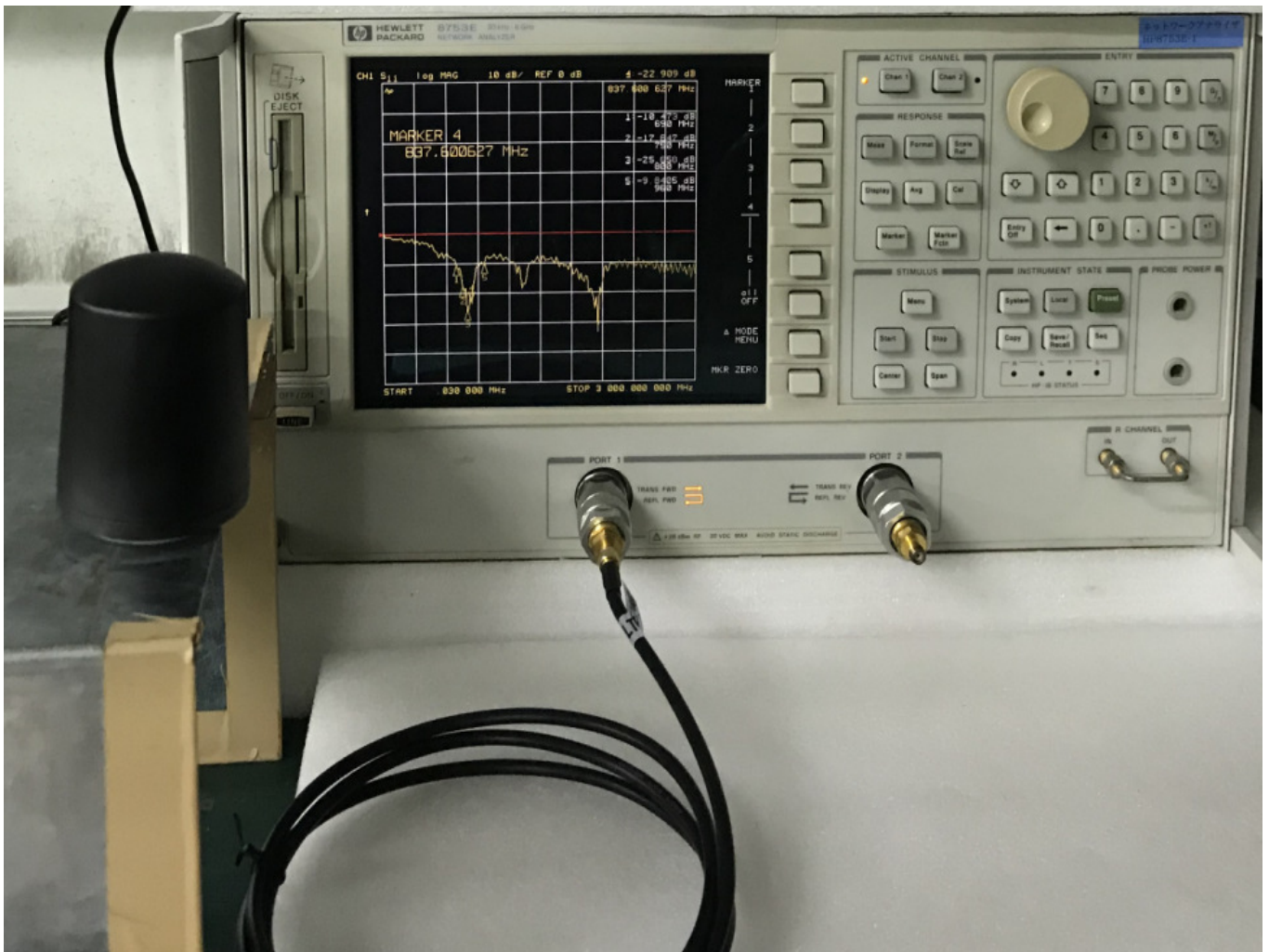


# ***PROFESSOR TECHNOLOGY CO.,LTD..***

**5.LTE/4G/3G Multi-band Network analyzer test HP8753E**  
**Frequency :690~960/1710~2170/2500~2700MHz**

**5-1 Detail band test - frequency : 690~960MHz**

Frequency	Return loss	V.S.W.R	Reflection coefficient
690.000MHz	-10.473dB	1.855:1	0.299
750.000MHz	-17.847dB	1.294:1	0.128
800.000MHz	-25.658dB	1.110:1	0.052
837.600MHz	-22.909dB	1.154:1	0.072
960.000MHz	-9.8405dB	1.950:1	0.322

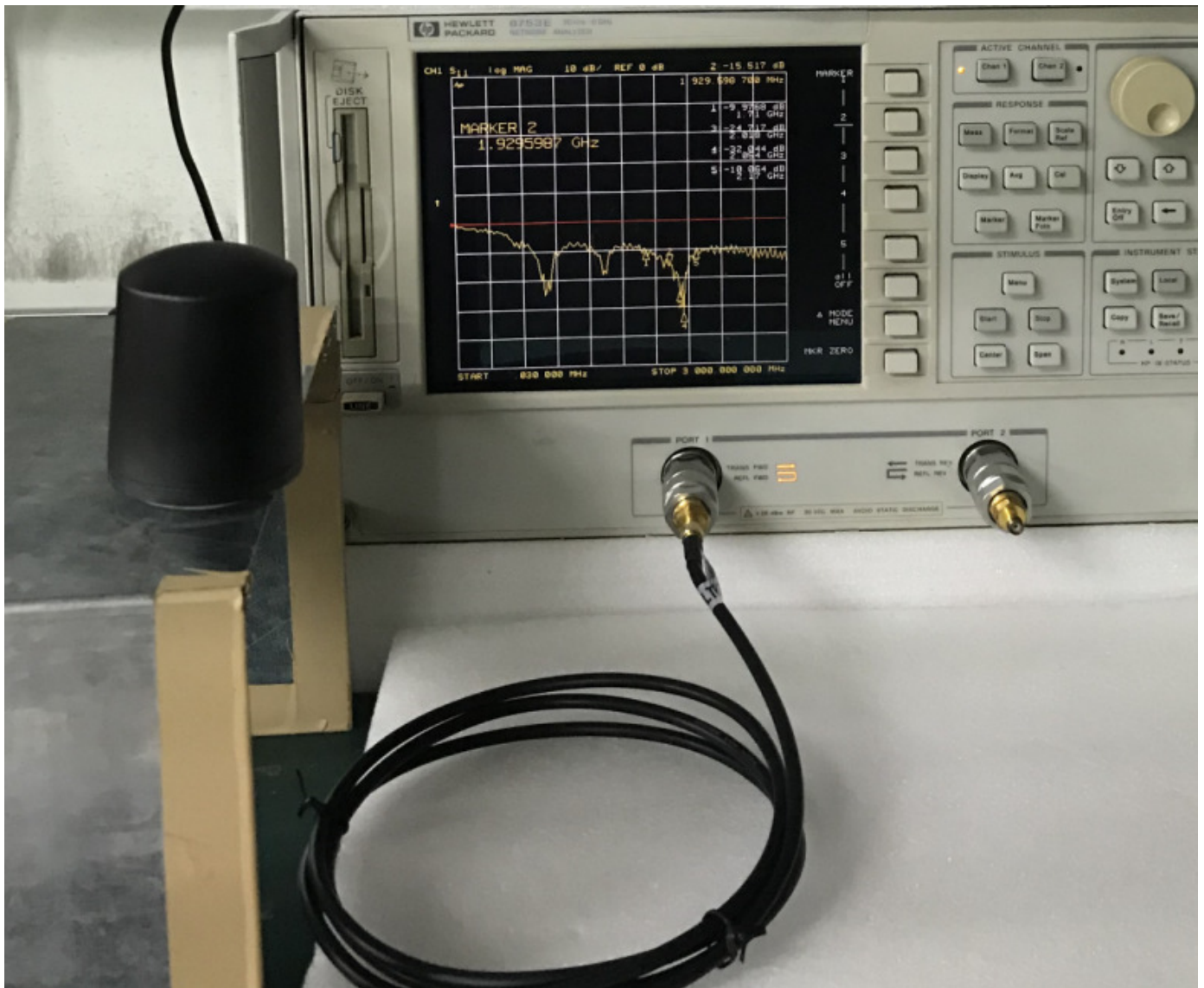


# ***PROFESSOR TECHNOLOGY CO.,LTD..***

---

## **5-2 Detail band test - frequency : 1710~2170MHz**

<b>Frequency</b>	<b>Return loss</b>	<b>V.S.W.R</b>	<b>Reflection coefficient</b>
1710.00MHz	-9.9768dB	1.929:1	0.317
1929.59MHz	-15.517dB	1.403:1	0.168
2018.00MHz	-24.717dB	1.123:1	0.058
2054.00MHz	-32.044dB	1.051:1	0.025
2170.00MHz	-10.064dB	1.915:1	0.314



# ***PROFESSOR TECHNOLOGY CO.,LTD..***

---

## **5-3 Detail band test - frequency : 2500-2700Mhz**

<b>Frequency</b>	<b>Return loss</b>	<b>V.S.W.R</b>	<b>Reflection coefficient</b>
<b>2500.00MHz</b>	<b>-10.232dB</b>	<b>1.890:1</b>	<b>0.308</b>
<b>2550.00MHz</b>	<b>-11.511dB</b>	<b>1.724:1</b>	<b>0.266</b>
<b>2600.00MHz</b>	<b>-12.310dB</b>	<b>1.640:1</b>	<b>0.242</b>
<b>2650.00MHz</b>	<b>-13.220dB</b>	<b>1.558:1</b>	<b>0.218</b>
<b>2700.00MHz</b>	<b>-13.525dB</b>	<b>1.534:1</b>	<b>0.211</b>

