

PROFESSOR TECHNOLOGY CO.,LTD..

INTRODUCTION

**MIMO Antenna CP14D(2in1)-5G/LTE
Permanent Screws Mount (M16x1.5P)**

2-Cables : 2 x 5G/LTE

Cable1~2 5G/LTE/4G/3G/2G CFD195 Low loss 2.5M SMA/M

600-960/1710-2170/2400-2700/3200~3800MHz 2-5dBi

1.GENERAL DESCRIPTION:

Model No	Products P/N
CP14D(2in1)-5G/LTE-2.5M-SMA/M x2	CP14D-5G/LTE-2.5M

Below is a table summarizing the 5G/LTE/4G/3G/2G MIMO2in1 antenna design specification



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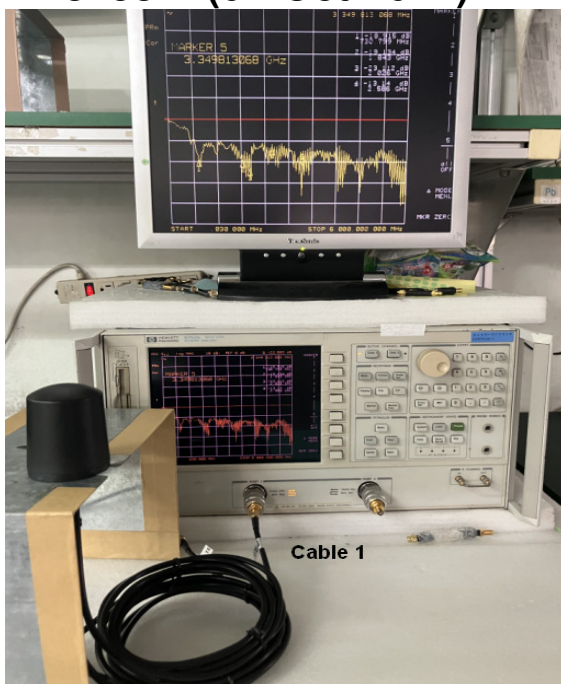
Cable 1~2 :

2.1 5G/LTE/4G/3G/GSM Multi-band Antenna Electrical Properties

Parameter	Description
Communication System	5G/LTE/4G/3G/AMPS/GSM/DCS/UMTS
Frequency Band (MHz)	600~960/1710~2170/2400~2700/3200~3800MHz
Average Efficiency	77%/80%/59%82%
Antenna Average Gail	2.0~4.0dBi
Nominal Impedance	50 ohm
Polarization	Vertical
Return Loss (Check test Data)	712.845MHz(-25.243dB),1938.00MHz(-25.181dB), 2650.00MHz(-14.704dB),3647.45MHz(-37.200dB)
V.S.W.R <1.5:1	712.845MHz(1.117:1),1938.00MHz(1.117:1), 2650.00MHz(1.451:1),3647.45MHz(1.028:1)
Reflection coefficient	712.845MHz(0.055),1938.00MHz(0.055), 2650.00MHz(0.184),3647.45MHz(0.014)
Power	Max 10W

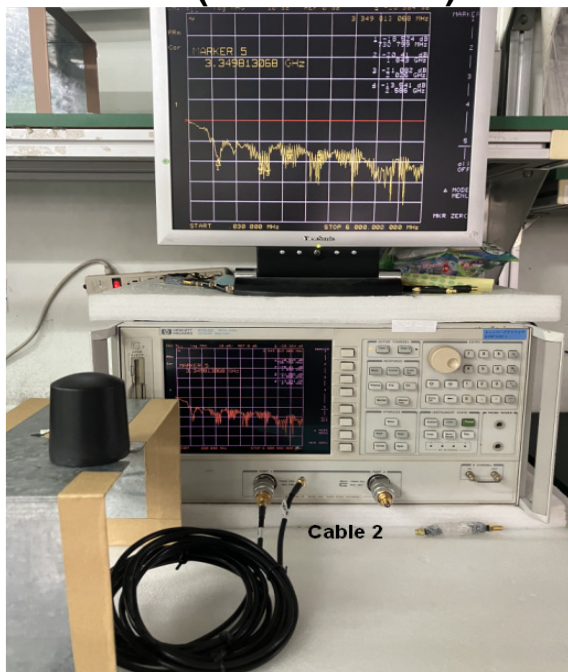
Note : Gain includes the cable loss

**Cable 1:5G/LTE/4G/3G/2G Multi-Band Network analyzer test
HP8753E (07-Oct-2022)**



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Cable 2:5G/LTE/4G/3G/2G Multi-Band Network analyzer test HP8753E (07-Oct-2022)



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

Parameter	Description
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	2500mm
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

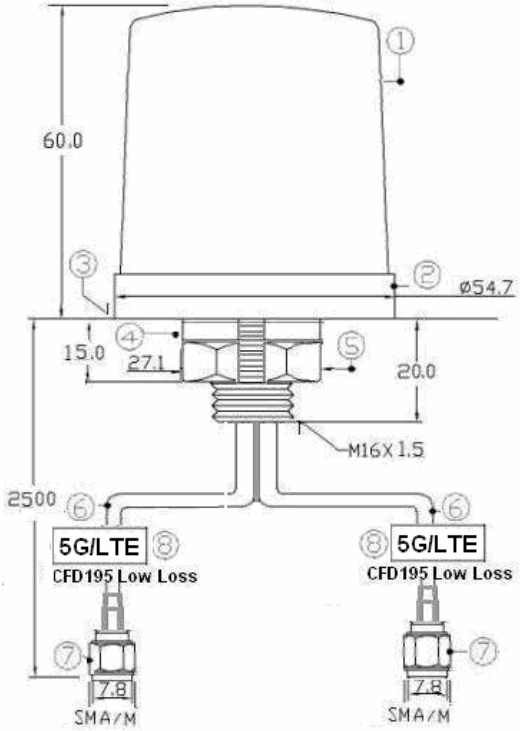
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**4. Antenna Appearance Size: M16 x1.5P
Diameter :54.7mm (2.15")
Height : 60.0mm (2.36")**



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5.Appearance



Technical drawing showing dimensions and part callouts for the CP14D antenna assembly. Dimensions include a total height of 60.0, a base diameter of $\phi 54.7$, and various internal clearances and lengths such as 15.0, 27.1, 20.0, 2500, and 7.8. Callouts 1 through 8 identify specific components.

No	NAME	MATERIAL	FINISH	Q'TY
01	Top Plastic Shell	PC	Black	1
02	Base Housing	PC	Black	1
03	Rubber Adhesive	Rubber	Gray	1
04	Spring Washer (Groove)	Stainless steel		1
05	NUT M16x1.5P (Groove)	Stainless steel		1
06	CFD195 Low Loss Cable 2.5M	PVC	Black	2
07	SMA Male S/T (CFD195)	Brass	Au Plated	2
08	Lable LTE	PET	Silver	2

CP14D(2in1)-5G/LTE-2.5M-SMA/Mx2
Cable 1~2:5G/LTE-CFD195-2.5M-SMA/M
600~3800MHz 2~4dBi

ROHS
IP67 Waterproof

CUSTOMER'S	MODEL	PARTS NUMBER	FREQUENCY	UNIT	SCALE	DATE	VERSION
	CP14D		5G/LTE	M/M			1
TOLERANCE	X, XX±0.15	NAME	PARTS NUMBER	APPROVED	CHECKED	DRAWING	DESIGNED
SURFACE ROUGHNESS	$\frac{S}{\sqrt{V}}$	APPEARANCE		Jack		Jimmy	Jimmy

Third angle projection
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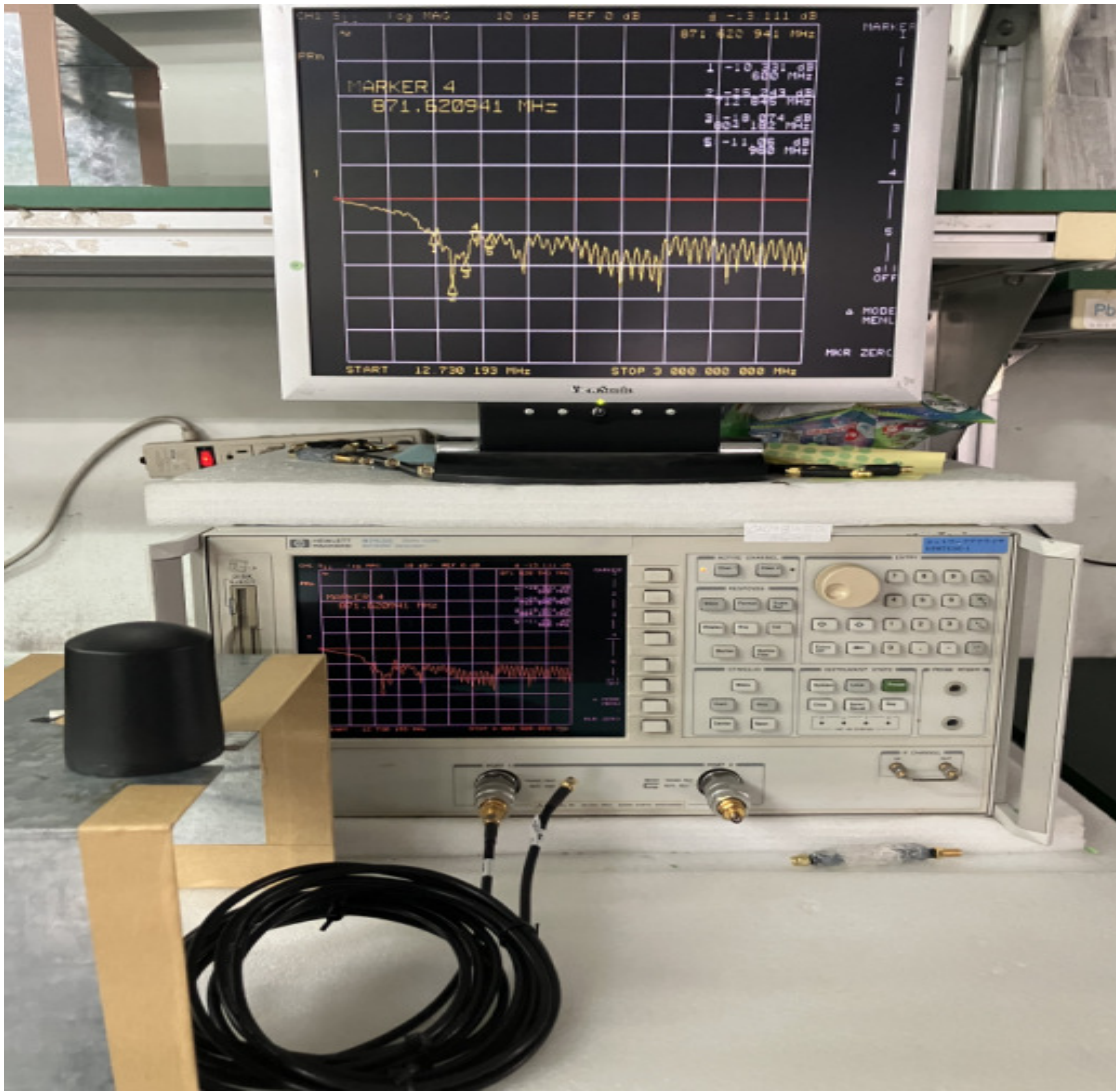


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6.5G/LTE/4G/3G Multi-band Network analyzer test HP8753E
Frequency :600~960/1710~2170/2400~2700/3200~3800MHz
Cable:1~2

6-1 Detail band test - frequency : 690~960MHz

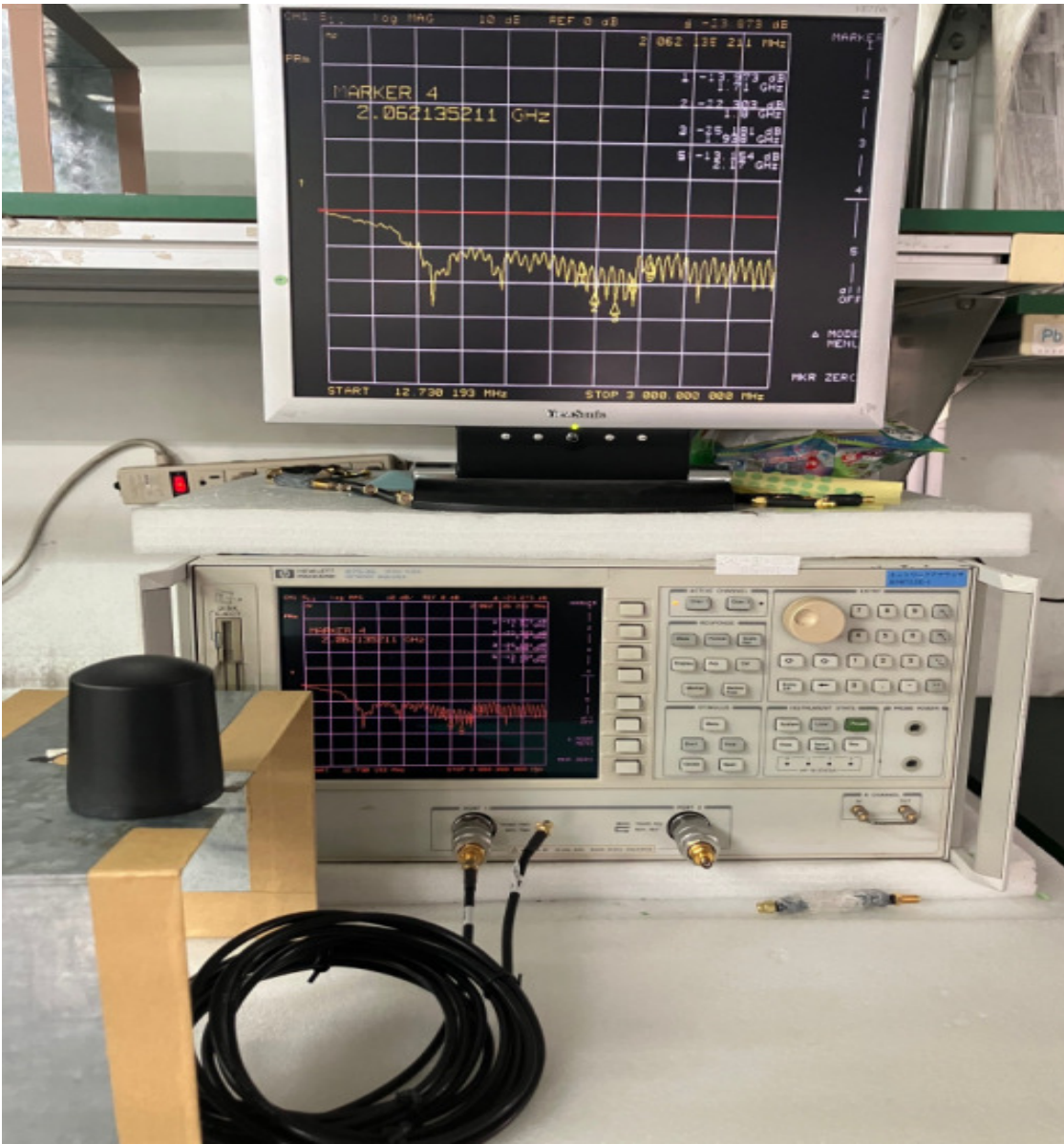
Frequency	Return loss	V.S.W.R	Reflection coefficient
600.000MHz	-10.331dB	1.875:1	0.304
712.845MHz	-25.243dB	1.116:1	0.055
804.182MHz	-18.074dB	1.285:1	0.125
871.620MHz	-13.111dB	1.567:1	0.221
960.000MHz	-11.060dB	1.777:1	0.280



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6-2 Detail band test - frequency : 1710~2170MHz

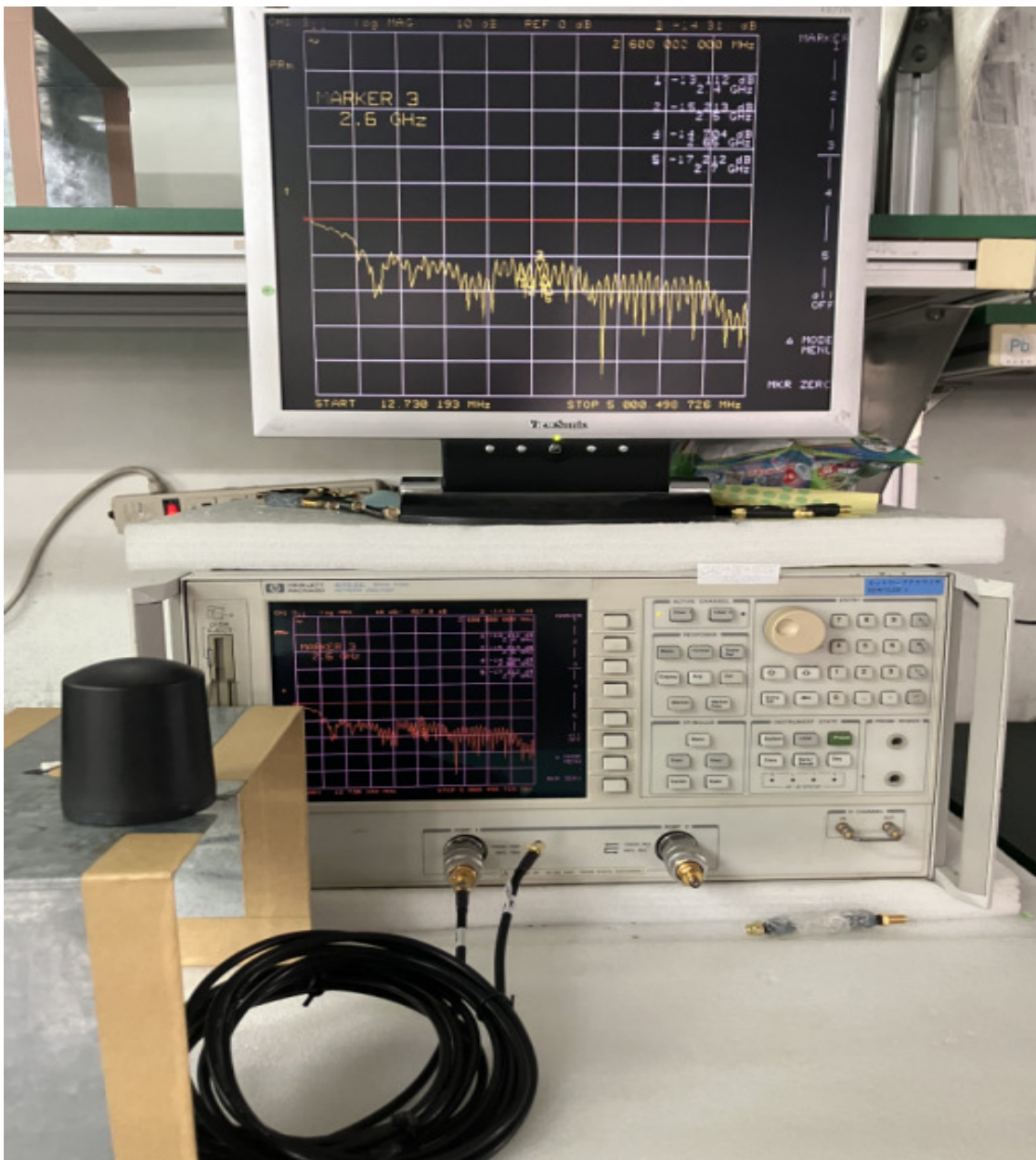
Frequency	Return loss	V.S.W.R	Reflection coefficient
1710.00MHz	-13.973dB	1.500:1	0.200
1800.00MHz	-22.303dB	1.166:1	0.077
1938.00MHz	-25.181dB	1.117:1	0.055
2062.13MHz	-23.873dB	1.137:1	0.064
2170.00MHz	-13.154dB	1.564:1	0.220



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6-3 Detail band test - frequency : 2500-2700Mhz

Frequency	Return loss	V.S.W.R	Reflection coefficient
2400.00MHz	-13.112dB	1.567:1	0.221
2500.00MHz	-15.213dB	1.420:1	0.174
2600.00MHz	-14.310dB	1.477:1	0.193
2650.00MHz	-14.704dB	1.451:1	0.184
2700.00MHz	-17.212dB	1.320:1	0.138



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6-4 Detail band test - frequency : 3200-3800Mhz

Frequency	Return loss	V.S.W.R	Reflection coefficient
3200.00MHz	-20.204dB	1.217:1	0.098
3400.00MHz	-16.646dB	1.345:1	0.147
3543.00MHz	-25.599dB	1.111:1	0.052
3647.85MHz	-37.200dB	1.028:1	0.014
3800.00MHz	-22.508dB	1.162:1	0.075

