

PROFESSOR TECHNOLOGY CO.,LTD.

**INTRODUCTION**  
**5G/LTE/4G Omni Antenna**  
**CPD477B-5G/LTE/4G-N/F**  
**+CFD195-10M-SMA/M**

(600~960/1710~2170/2400~2700/3200~3800MHz)



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**This document provides a Omni/Dipole 5G/LTE/4G/3G Antenna design with CFD195 10M cable .**

## **1.. GENERAL DESCRIPTION**

<b>Model No</b>
<b>CPD477-5GLTE/4G/3G-N/F+ CFD195-10M-SMA/M</b>

**Below is a table summarizing the antenna design specification.**

### **1.1 Electrica Properties**

<b>Parameter</b>	<b>Description</b>
<b>Communication System</b>	<b>5G/LTE/4G/3G/AMPS/GSM/DCS/UMTS</b>
<b>Frequency Band</b>	<b>600~960/1710~2170/2400~2700/3200~3800MHz</b>
<b>Nominal Impedance</b>	<b>50 ohm</b>
<b>Polarization</b>	<b>Vertical</b>
<b>Antenna Gain</b>	<b>3.5~9.0dBi</b>
<b>Return Loss (Check test Date)</b>	<b>860.59MHz(-32.359dB),1900.0MHz(-36.850dB) 2650.0MHz(-30.399dB),3450.0MHz(-30.691dB)</b>
<b>V.S.W.R &lt;1.5:1</b>	<b>860.59MHz(1.049:1),1900.0MHz(1.029:1) 2650.0MHz(1.062:1),3450.0MHz(1.060:1)</b>
<b>Reflection coefficient</b>	<b>860.59MHz(0.024),1900.0MHz(0.014) 2650.0MHz(0.030),3450.0MHz(0.029)</b>
<b>Ground Plane Independent</b>	<b>No</b>

**Note: Gain includes the CFD195 10M Low loss cable**

### **1.2 Mechanical Properties**

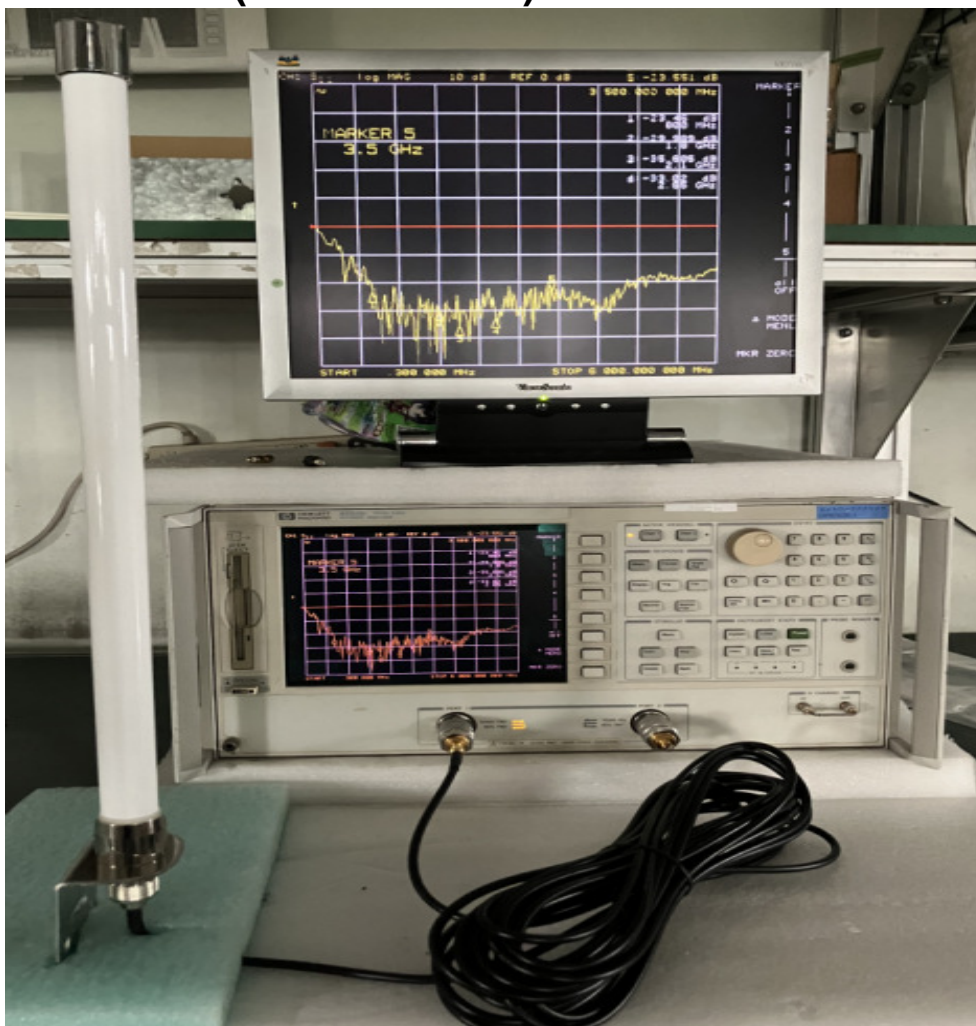
<b>Parameter</b>	<b>Description</b>
<b>Antenna Type</b>	<b>Omni /Dipole External Antenna</b>
<b>Material</b>	<b>Fiberglass</b>
<b>Touch Type</b>	<b>Screw Type</b>
<b>Antenna mounting</b>	<b>Pole,Wall</b>
<b>Connector Type</b>	<b>N connector (Female)</b>

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Antenna Dimensions	477 mm ±10
Antenna Color	White
Antenna Cable	CFD195 Low loss
Antenna cable total length	10M
Cable connector	N male to SMA Male
Water proof	100% waterproof (IP66~IP67)
Operating Temperature Range	-30 °C~+70 °C
Storage Temperature Range	-40 °C~+80 °C

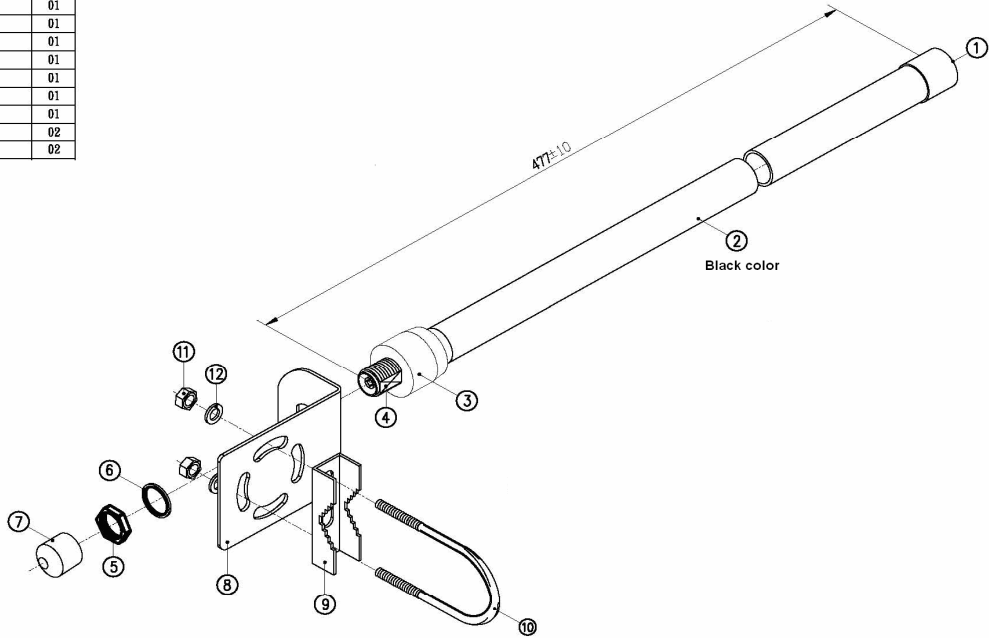
## 1.3 5G/LTE/4G/3G/GSM Multi-Band Network analyzer test HP8753E (22-Nov-2022)

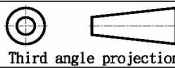


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## 2.Appearance

No.	圖名	Qty
01	Top cap	01
02	Tubing plastic Black	01
03	Connecting vopper pipe	01
04	N(Female)	01
05	Hexagonal nut	01
06	Washer	01
07	Plug cap	01
08	Fixed set	01
09	Clip retaining	01
10	U-Circlip	01
11	Hexagonal nut	02
12	Washer	02



 Third angle projection PROFESSOR 普傑國際股份有限公司	CUSTOMER'S	MODEL	PARTS NUMBER	FREQUENCY	UNIT	SCALE	DATE	VERSION
	TOLERANCE	X. XX±0.15	NAME	CPD477B-N/F	452-486/690-960/1710-2170 /2500-2700MHz	M/M		
SURFACE ROUGHNESS	$\sqrt{S}$	APPEARANCE	CPD477B-N/F		APPROVED	CHECKED	DRAWING	DESIGNED



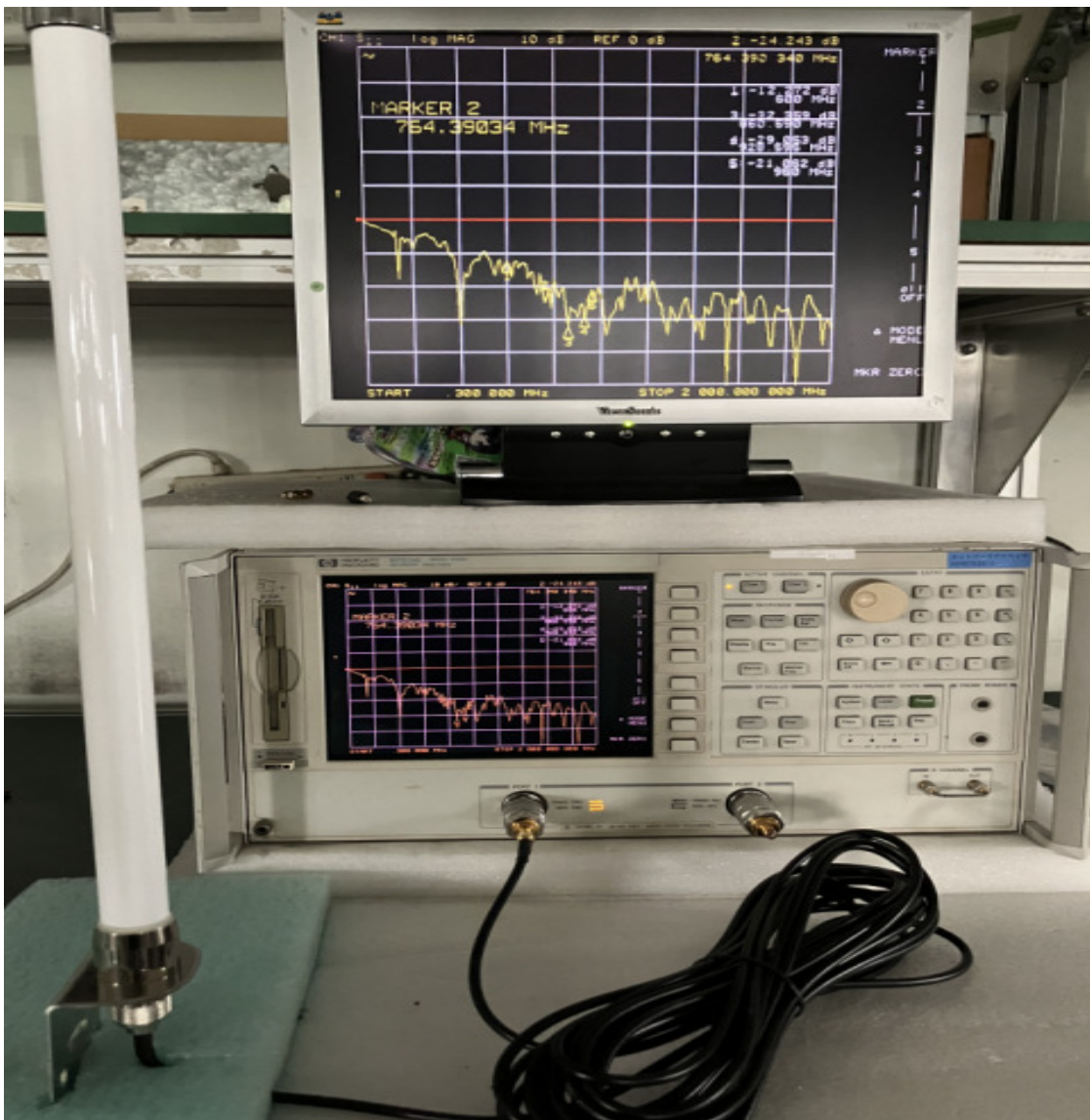
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## 3. 5G/LTE/4G/3G/GSM Multi-band Network analyzer test HP8753E (22-Nov-2022)

Frequency :600~960/1710~2170/2400~2700/3200~3800MHz

3-1 Detail band test - frequency : 600~960MHz

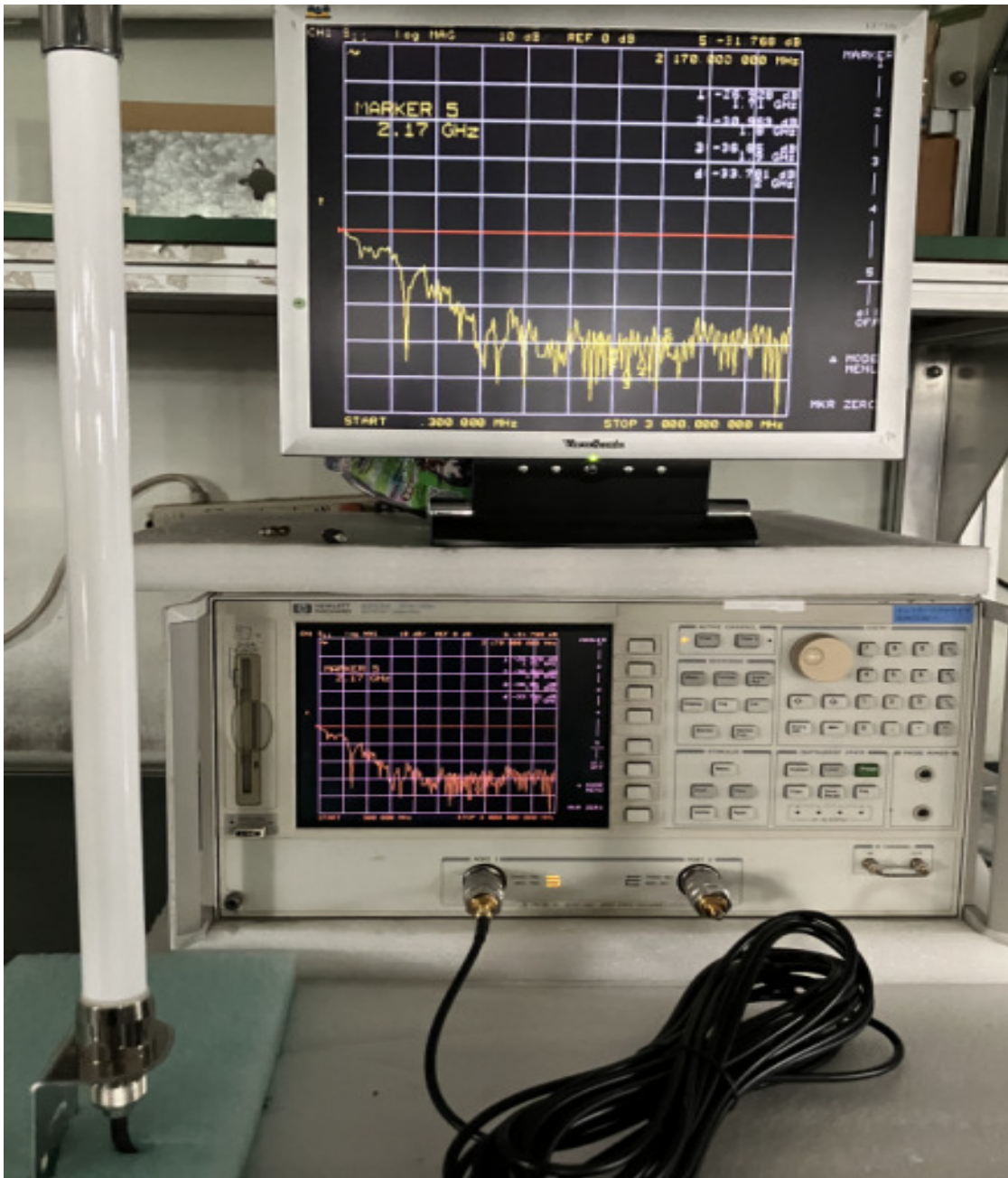
Frequency	Return loss	V.S.W.R	Reflection coefficient
600.000MHz	-12.272dB	1.644:1	0.243
764.390MHz	-24.243dB	1.131:1	0.061
860.590MHz	-32.359dB	1.049:1	0.024
928.595MHz	-29.053dB	1.073:1	0.035
960.000MHz	-21.062dB	1.194:1	0.088



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## 3-2 Detail band test - frequency : 1710~2170MHz

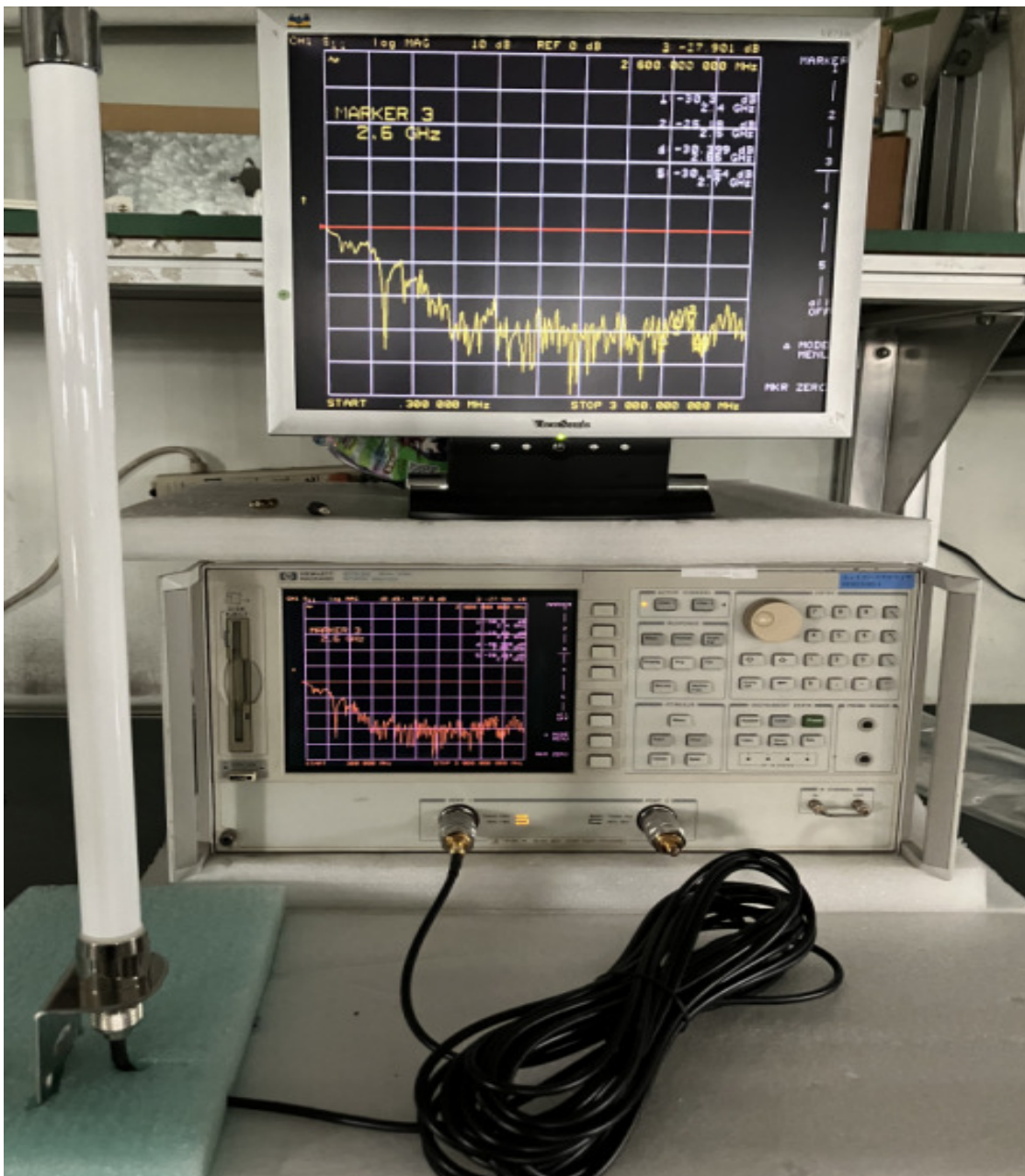
Frequency	Return loss	V.S.W.R	Reflection coefficient
1710.00MHz	-26.928dB	1.094:1	0.045
1800.00MHz	-30.963dB	1.058:1	0.028
1900.00MHz	-36.850dB	1.029:1	0.014
2000.00MHz	-33.781dB	1.042:1	0.020
2170.00MHz	-31.768dB	1.053:1	0.026



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## 3-3 Detail band test - frequency : 2400-2700MHz

Frequency	Return loss	V.S.W.R	Reflection coefficient
2400.00MHz	-30.300dB	1.063:1	0.031
2500.00MHz	-25.180dB	1.117:1	0.055
2600.00MHz	-27.901dB	1.084:1	0.040
2650.00MHz	-30.399dB	1.062:1	0.030
2700.00MHz	-30.154dB	1.064:1	0.031



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## 6-4 Detail band test - frequency : 3200-3800MHz

Frequency	Return loss	V.S.W.R	Reflection coefficient
3200.00MHz	-31.205dB	1.057:1	0.228
3300.00MHz	-29.160dB	1.072:1	0.035
3450.00MHz	-30.691dB	1.060:1	0.029
3600.00MHz	-25.975dB	1.106:1	0.050
3800.00MHz	-26.132dB	1.104:1	0.049

