

Manhole Lid Antenna

**5G NR/LTE/4G Full Frequency Bands
600~960/1710~2170/2400~2700/3200~3800MHz**

Certification compliant: IP68, IK10 and UV ISO 4892

Model No
ADA-CP722-5G/LTE-CFD195-2M-SMA/M

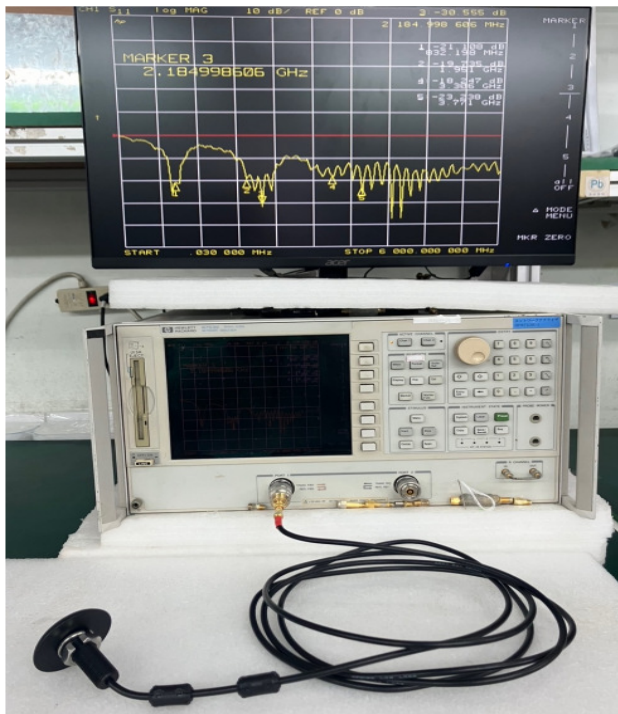


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2.1 600~3800MHz Low Profile Antenna Electrical Properties

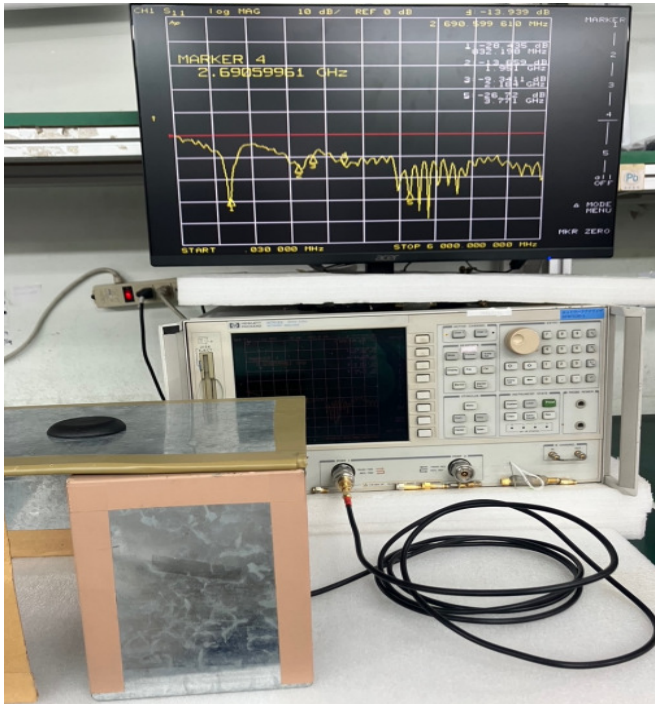
Parameter	Description
Communication System	5G/4G/LTE band
LIPD Band Frequency :	600~3800 MHz
Antenna Average Gail	2.0~3.5dBi
Nominal Impedance	50 ohm
Polarization	Vertical
Return Loss (Check test Data) Center Frequency 921MHz	(5-1)862.217MHz(-27.284dB) (5-2)1993.00MHz(-23.917dB) (5-3)2650.00MHz(-10.226dB) (5-4)3300.00MHz(-24.039dB)
V.S.W.R <1.5:1 Center Frequency 921MHz	(5-1)862.217MHz(1.090:1) (5-2)1993.00MHz(1.136:1) (5-3)2650.00MHz(1.885:1) (5-4)3300.00MHz(1.134:1)
Reflection coefficient Center Frequency 921MHz	(5-1)862.217MHz(0.034) (5-2)1993.00MHz(0.064) (5-3)2650.00MHz(0.307) (5-4)3300.00MHz(0.063)
Network analyzer test range	600MHz~3800MHz
Test Variois scenarios	PCB design/finished product/iron plate installation testing

2-2 :600~3800 MHz Network analyzer test HP8753E Antenna tested on a flat surface

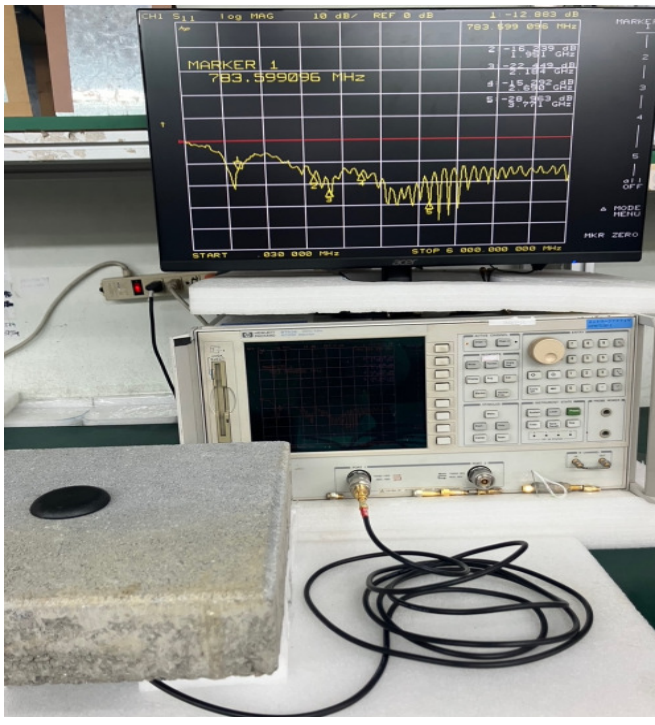


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**2-3 :600~3800 MHz Network analyzer test HP8753E
Antenna mounted on a flat iron plate for testing**



**2-4 :600~3800 MHz Network analyzer test HP8753E
Antenna mounted on a flat cement brick for testing**



2-3 600~3800 MHz Low Profile Antenna Mechanical Properties

Parameter	Description
Antenna Type	External Antenna
Touch Type	Screw Type (M16x1.5P) Slotted
Antenna size	D:56mm x H:8.6mm
Antenna covered with injection plastic material	Nylon 6 Glass/Mineral Fiber Reinforced
Antenna Material	Nylon plastic /PCB/ABS plastic/Stainless
Antenna screw column material	ABS plastic
Antenna Nut & washer material	Stainless steel
Antenna cable	CFD195 Low loss
Connector Type	SMA 180°(Male)
Antenna Cable Total Length	3000 mm /
Antenna Color	Black
Waterproof (The antenna adopts plastic-coated design)	100% waterproof IP67 and IP68 (The antenna is waterproof up to IP68)
Antenna impact resistance	IK10 (The antenna is impact resistance up to IK10)
Antenna UV resistance compliant	ISO 4892 standards
Operating Temperature Range	-35 °C ~ +70 °C
Storage Temperature Range	-45 °C ~ +80 °C
Shock (Drop Test)	100cm drop on concrete
Anti-electromagnetic waves	Two magnetic buckles on the cable

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**3. Antenna Appearance Material and Size: Material: Nylon 6 Glass/Mineral Fiber Reinforced
Certification compliant: IP68, IK10 and UV ISO 4892**



**4 Antenna Size: M16x1.5P (Thread length :43MM) Slotted
Nut & Washer Diameter :56 mm Height : 8.6mm**



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4-1.Appearance



SMA Male connector



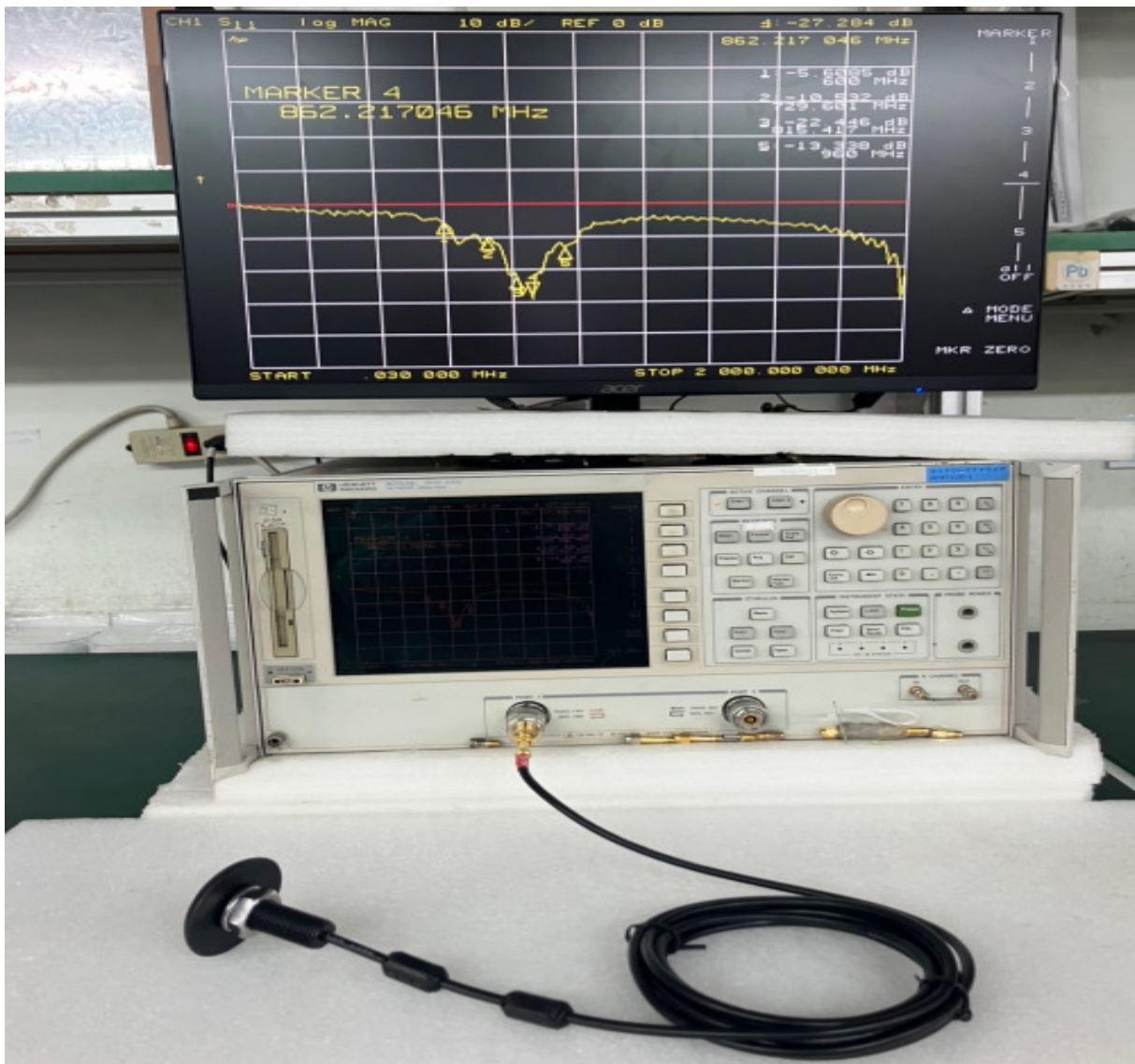
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5. 600~960MHz Network analyzer test HP8753E

Antenna test

5-1 Detail band test - frequency : 600~960 MHz

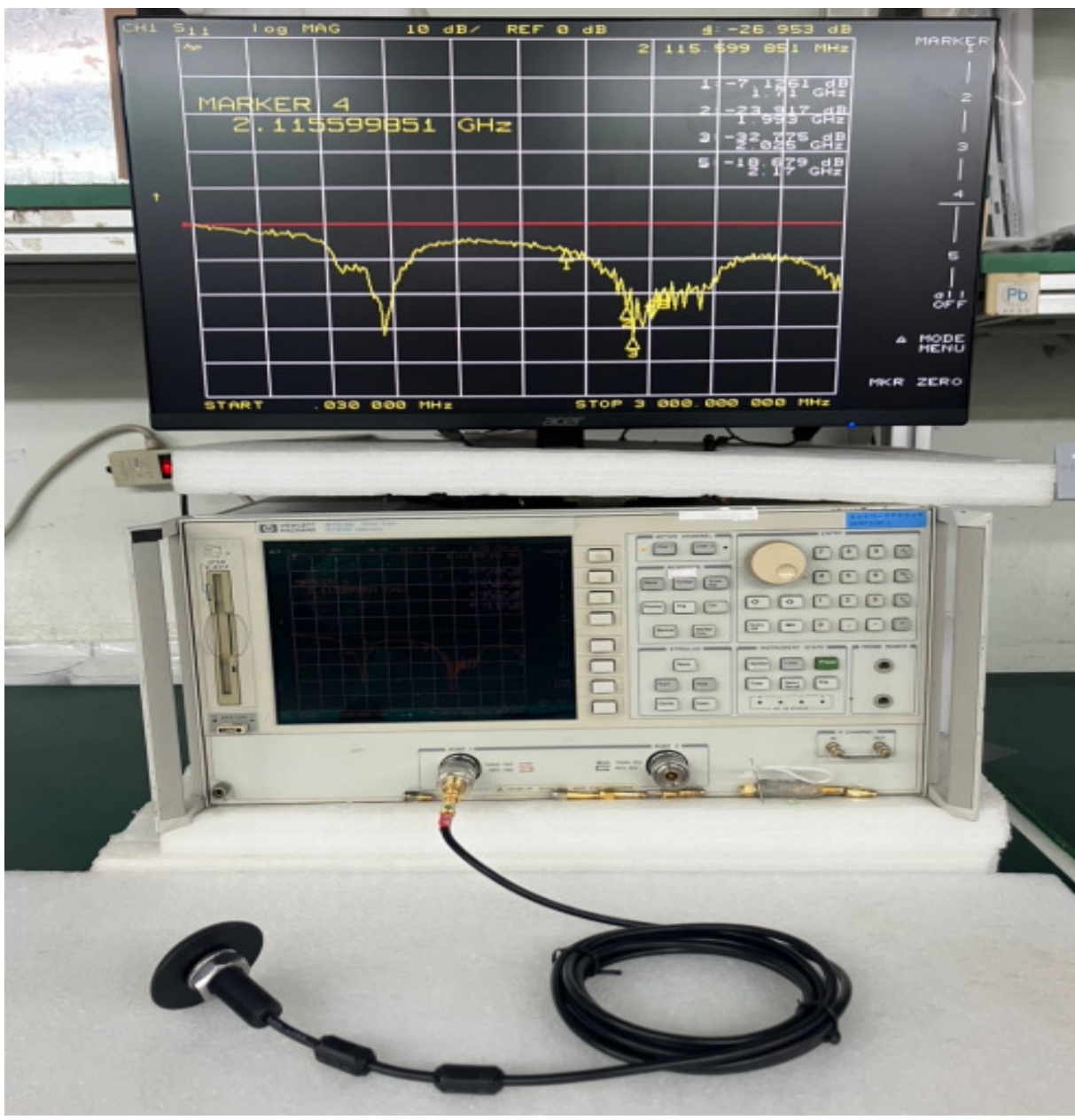
Frequency	Return loss	V.S.W.R	Reflection coefficient
600.000MHz	-5.6085dB	3.204:1	0.524
729.601MHz	-10.532dB	1.847:1	0.297
815.417MHz	-22.446dB	1.163:1	0.075
862.217MHz	-27.284dB	1.090:1	0.043
960.000MHz	-13.338dB	1.549:1	0.215



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

Frequency	Return loss	V.S.W.R	Reflection coefficient
1710.00MHz	-7.1261dB	2.573:1	0.440
1993.00MHz	-23.917dB	1.136:1	0.064
2025.00MHz	-32.775dB	1.047:1	0.023
2115.59MHz	-26.953dB	1.094:1	0.045
2170.00MHz	-18.679dB	1.264:1	0.116

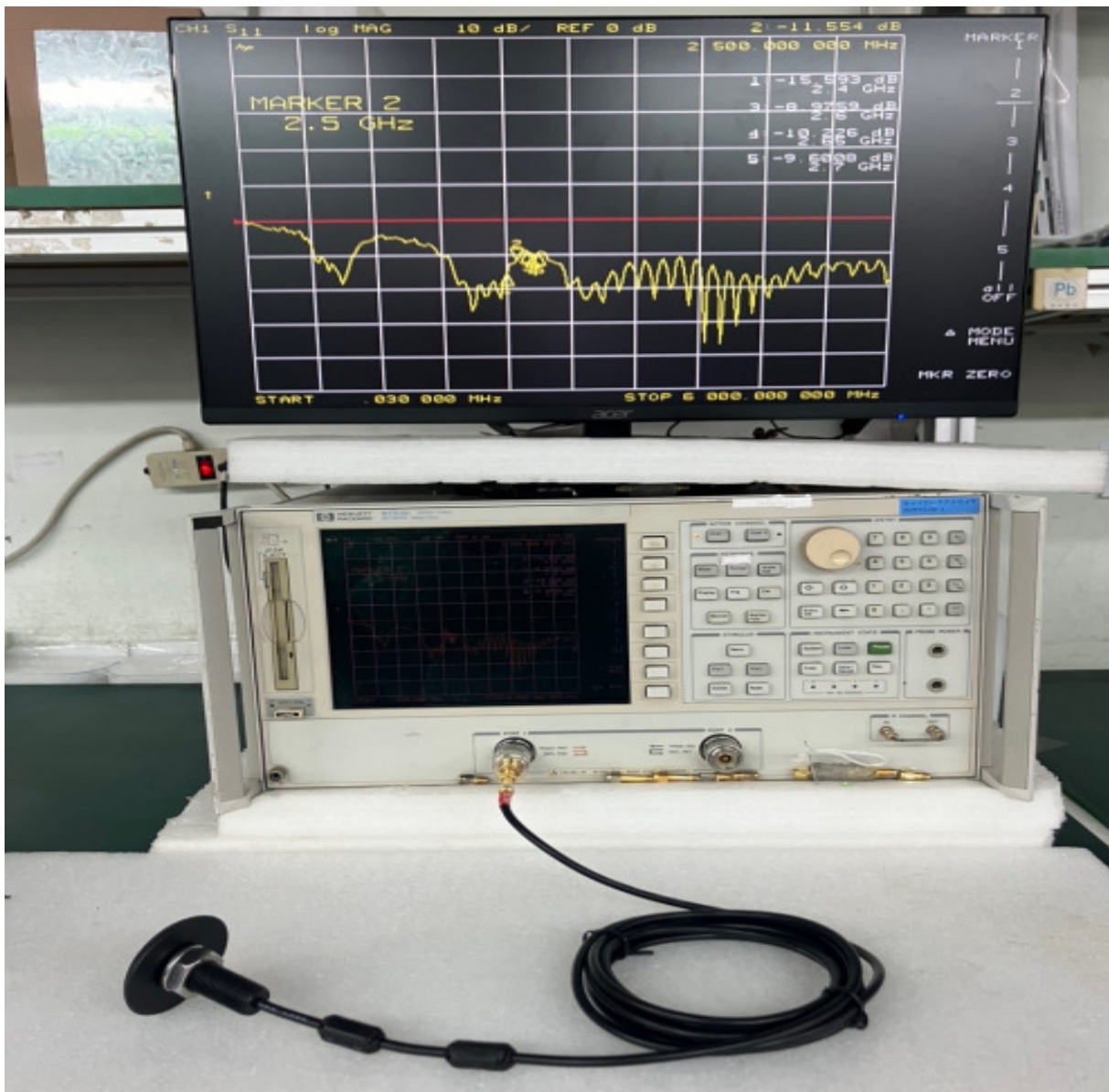


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Frequency 2400~2700MHz Network analyzer test HP8753E

5-3 Detail band test - frequency : 2400~2700 MHz

Frequency	Return loss	V.S.W.R	Reflection coefficient
2400.00MHz	-15.593dB	1.398:1	0.166
2500.00MHz	-11.554dB	1.719:1	0.264
2600.00MHz	-8.9759dB	2.105:1	0.356
2650.00MHz	-10.226dB	1.885:1	0.307
2700.00MHz	-9.6008dB	1.990:1	0.331



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5-4 Detail band test - frequency : 3200~3800 MHz

Frequency	Return loss	V.S.W.R	Reflection coefficient
3200.00MHz	-19.747dB	1.230:1	0.103
3300.00MHz	-24.039dB	1.134:1	0.063
3461.00MHz	-19.534dB	1.236:1	0.106
3631.19MHz	-19.234dB	1.245:1	0.109
3800.00MHz	-19.278dB	1.244:1	0.109

