

PROFESSOR TECHNOLOGY CO.,LTD..

INTRODUCTION

**MIMO2x2 Mobile Hotspot External Antenna
MHEA-72W-5G/LTE-RG174-2M-2xTS-9**

**2x2 MIMO Antenna Kit for 4G LTE/5G
Hotspots & Routers with 2xTS-9 Connector
(Includes clips & suction cups)**

2-Cables : 2x 5G/LTE 4G (2x2)

**Cable1~2 5G/LTE/4G/3G RG174A/U Low loss 2M SMA/M to TS-9
600-960/1710-2170/2400-2700/3200~3800MHz 3-5.0dBi**

1. INERAL DESCRIPTION

Model No	Products P/N
MHEA-72W-5G/LTE-RG174-2M-2xTS-9	MHEA-72W-V1

**Below is a table summarizing the 5G/LTE/4G/3G/GSM (2in1)
antenna design specification.**



PROFESSOR TECHNOLOGY CO.,LTD..

2.Cable 1-2: (2x2) 5G LTE 4G

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

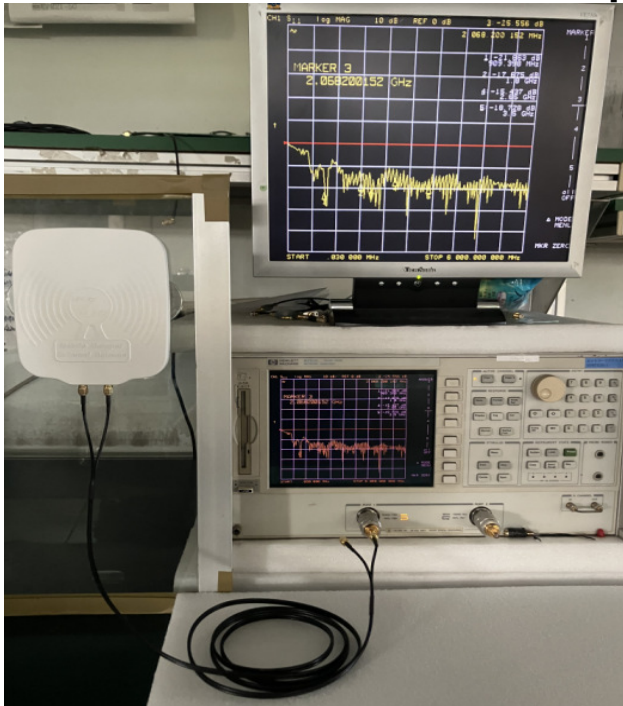
Parameter	Description
Communication System	5G/LTE/4G/3G/AMPS/GSM/DCS/UMTS
Frequency Band (MHz)	600~960/1710~2170/2400~2700/3200~3800MHz
Average Efficiency	75%/85%/80%80%
Average Gain	3.0~5.0dBi
Nominal Impedance	50 ohm
Polarization	Vertical
Return Loss (Check test Data)	689.20MHz(-34.266dB),2022.00MHz(-28.365dB) 2600.00MHz(-25.089dB),3400.00MHz(-26.290dB)
V.S.W.R <1.5:1	689.20MHz(1.040:1),2022.00MHz(1.079:1) 2600.00MHz(1.118:1),3400.00MHz(1.102:1)
Reflection coefficient	689.20MHz(0.019),2022.00MHz(0.038) 2600.00MHz(0.056),3400.00MHz(0.048)

2.2 5G/LTE/4G/3G/2G Multi-band Antenna Mechanical Properties

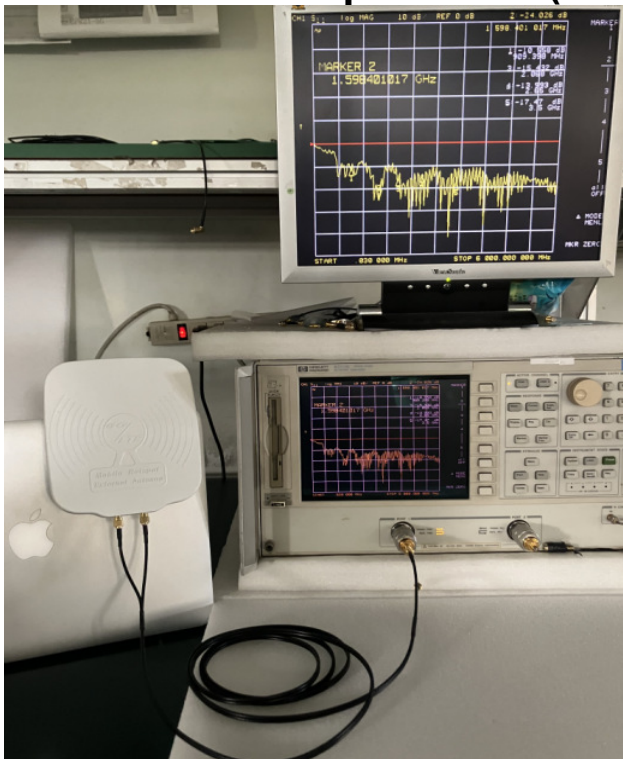
Parameter	Description
Antenna Type	Panel External Antenna
Compatible with	Modems,Routers and Mobile Hotspots
Mounting	Clips mount & Window Mount
Antenna size	L:156.0mm x W:136.0mm x H:12.2mm
Antenna Material	PC & ABS
Antenna cable	RG174 Low loss
Connector Type	2x TS-9 (SMA male to TS-9 male)
Antenna cable total length	2000mm (6.56ft)
Antenna Color	White
Waterproof	100% water proof.(IP66~P67)
Operating Temperature Range	-30 °C~+70 °C
Storage Temperature Range	-40 °C~+80 °C
Shock (Drop Test)	100cm drop on concret

PROFESSOR TECHNOLOGY CO.,LTD..

Cable 1 & 2: 5G/LTE/4G/3G/GSM Multi-Band Network analyzer test HP8753E with suction cups Window mount(17-Apr-23)



Cable 2: 5G/LTE/4 G/3G/GSM Multi-Band Network analyze test HP8753E with clips mount (17-Apr-2023)



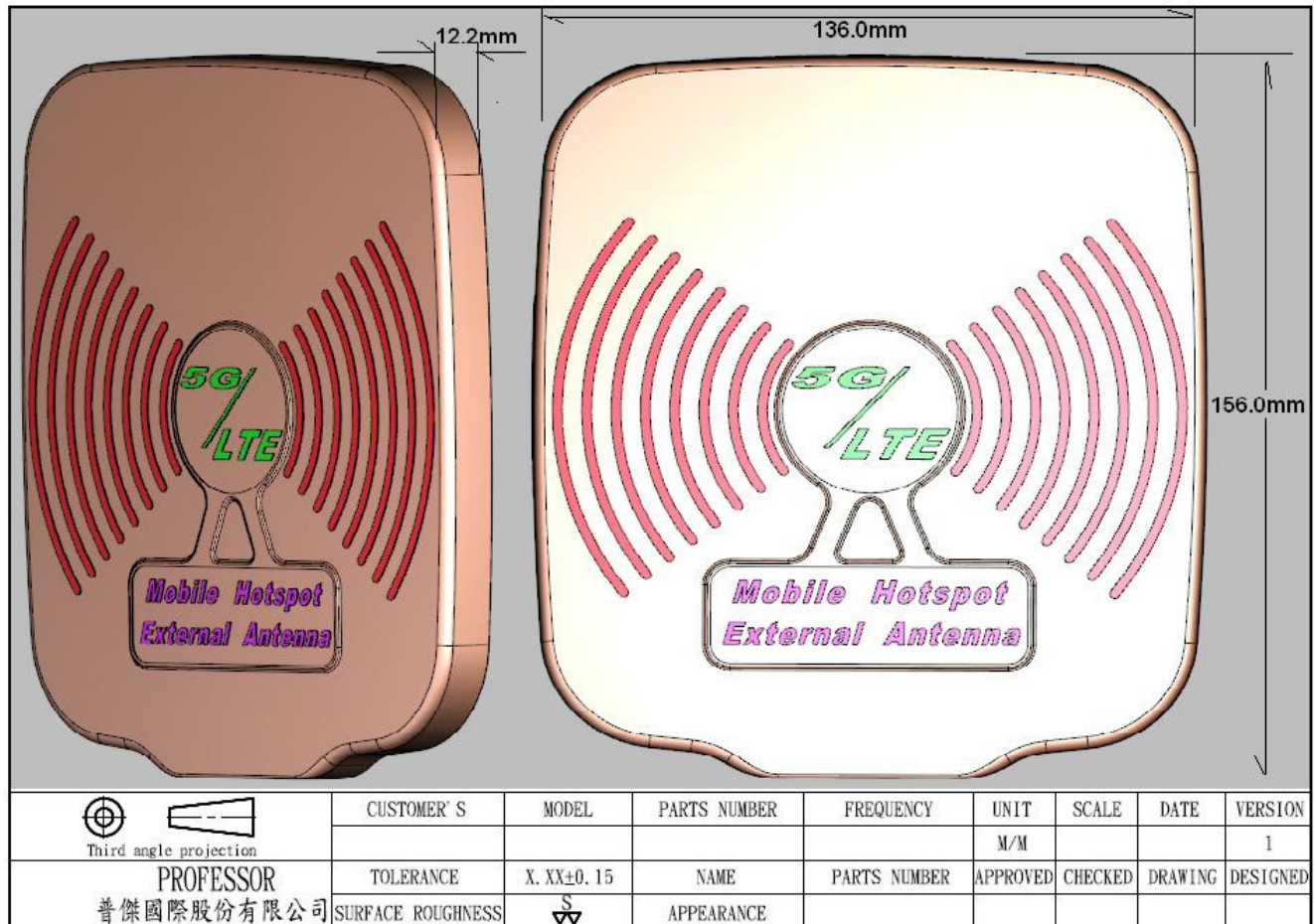
PROFESSOR TECHNOLOGY CO.,LTD..

3. Antenna Appearance Size:

Length:156mm(6.14") Width:136mm (5.35")Height :12.2mm (0.48")



4. Appearance



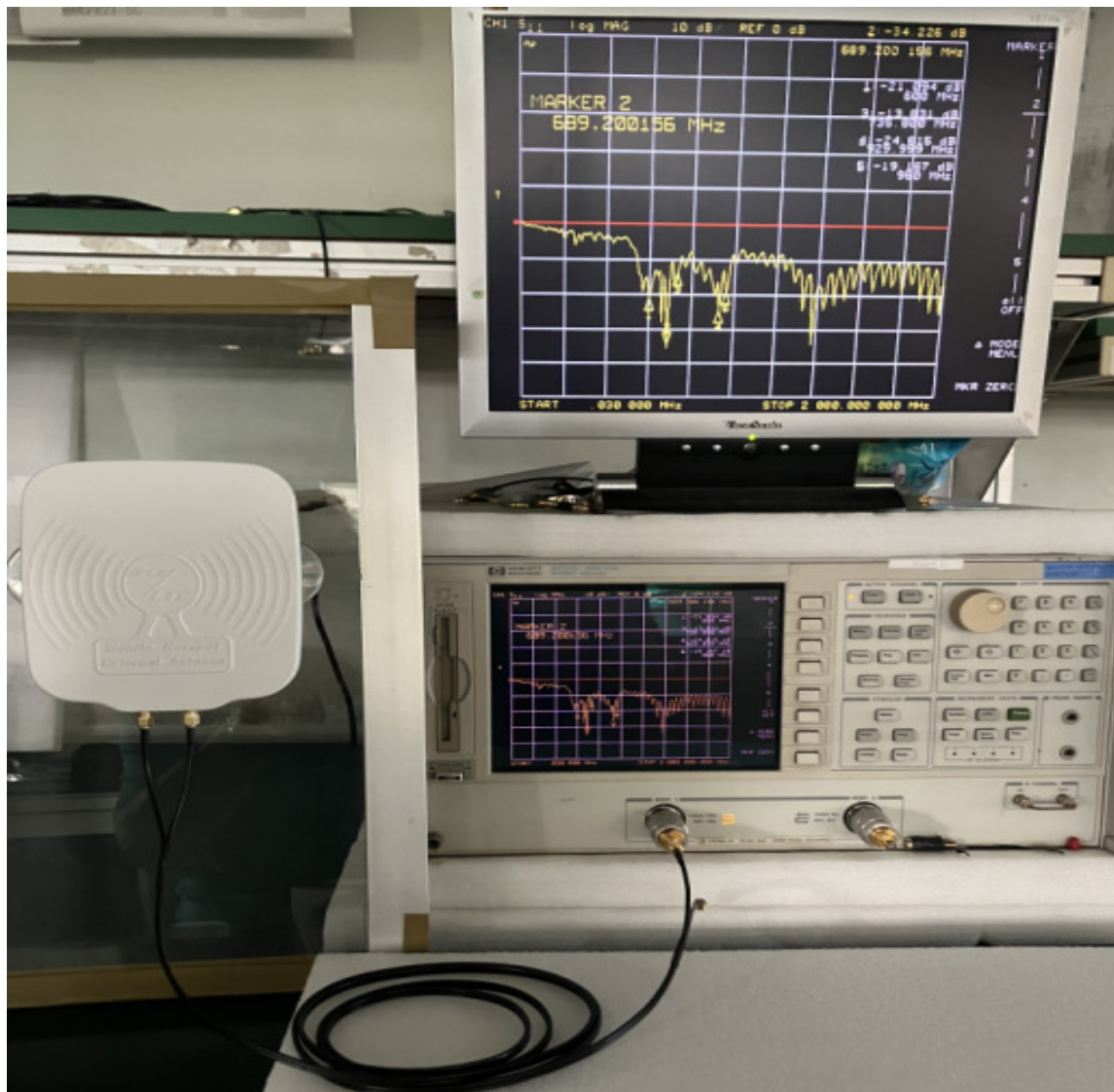
PROFESSOR TECHNOLOGY CO.,LTD..

5. 5G/LTE/4G/3G/GSM Multi-band Network analyzer test HP8753E (17-Apr-2023)

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

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

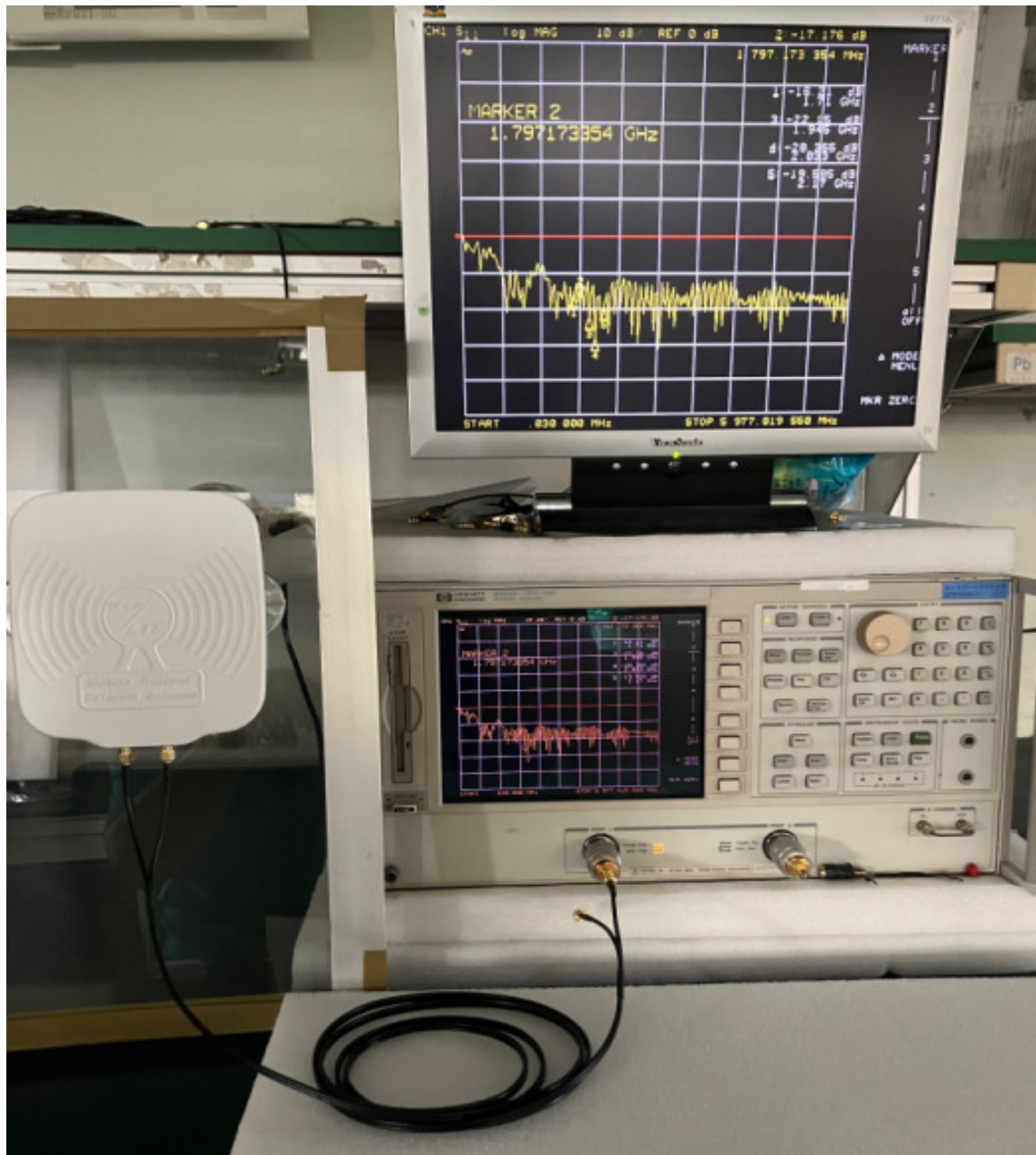
Frequency	Return loss	V.S.W.R	Reflection coefficient
600.000MHz	-21.094dB	1.193:1	0.088
689.200MHz	-34.266dB	1.040:1	0.019
735.800MHz	-13.831dB	1.511:1	0.203
929.999MHz	-24.815dB	1.122:1	0.057
960.000MHz	-19.167dB	1.247:1	0.110



PROFESSOR TECHNOLOGY CO.,LTD..

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

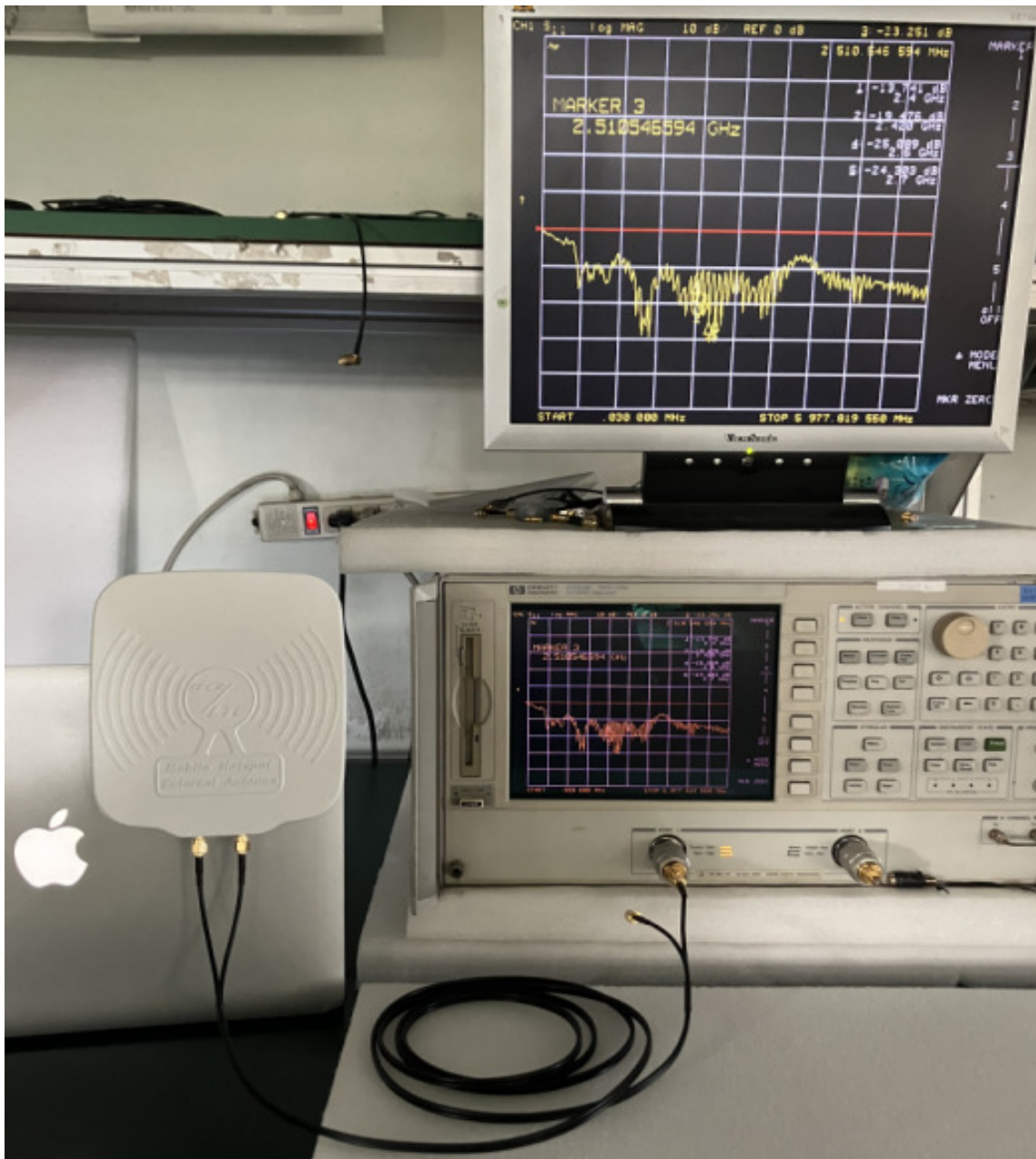
Frequency	Return loss	V.S.W.R	Reflection coefficient
1710.00MHz	-16.210dB	1.366:1	0.155
1797.17MHz	-17.176dB	1.321:1	0.138
1945.00MHz	-22.150dB	1.169:1	0.078
2033.00MHz	-28.365dB	1.079:1	0.038
2170.00MHz	-19.585dB	1.234:1	0.105



PROFESSOR TECHNOLOGY CO.,LTD..

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

Frequency	Return loss	V.S.W.R	Reflection coefficient
2400.00MHz	-13.741dB	1.518:1	0.206
2420.00MHz	-19.476dB	1.238:1	0.106
2510.54MHz	-23.251dB	1.148:1	0.069
2600.00MHz	-25.089dB	1.118:1	0.056
2700.00MHz	-24.303dB	1.130:1	0.061



PROFESSOR TECHNOLOGY CO.,LTD..

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

Frequency	Return loss	V.S.W.R	Reflection coefficient
3200.00MHz	-23.745dB	1.139:1	0.065
3406.00MHz	-26.290dB	1.102:1	0.048
3501.00MHz	-24.366dB	1.129:1	0.060
3674.80MHz	-20.785dB	1.201:1	0.091
3800.00MHz	-11.801dB	1.692:1	0.257

