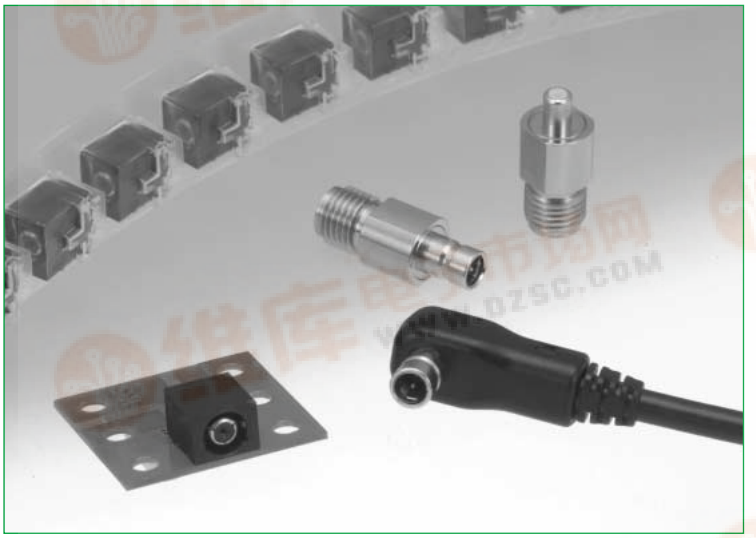
Interface RF Connector with Switch

MS-151 Series



Overview

Designed for end user applications requiring re-direction of transmission from internal built-in antenna to the external antenna. Small size, lightweight and high reliability makes it ideal for use in 2.4 GHz band wireless LAN applications.

Features

1. Confirmation of complete connection

Built-in interlock feature confirms fully mated condition with a "click" sensation.

2. Non-directional connection

The connector can be mated in any position on a 360° axis and can rotate within the same when in use, allowing routing of the connected cable in any direction.

3. High durability

Guaranteed 5000 insertion/removal cycles.

4. Space-saving

The external dimensions of the board-mounted receptacle (5.0 mm high, 6.5 mm wide, 7.0 mm deep) makes it ideal for use in small devices.

5. Ease of connection and handling

Over-molded plug, with convenient grip and built-in cable strain relief assures reliable mating/un-mating by end user.

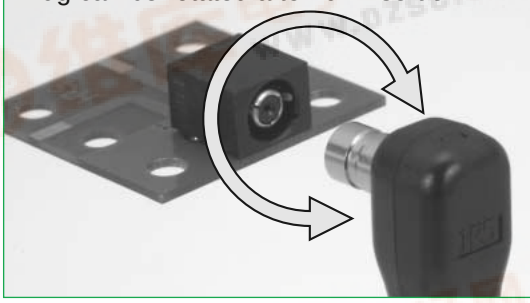
6. Designed for board placement with automatic equipment

Top surface of receptacle assembly is flat, allowing reliable hold for vacuum nozzles of automatic placement equipment.

Applications

GPS terminals, wireless LAN modules, notebook computers, PDA, and other high frequency equipment.
(Page 7 lists applications and antenna circuit switching examples.)

Plug can be rotated after full insertion.



●Receptacle

MS-151

●Plug

MS-151-C(LP)

●SMA Conversion Adapter
For Receptacle: MS-151

MS151P-HRMJ

●SMA Conversion Adapter
For Plug: MS-151-C(LP)

MS151J-HRMJ

■Product Specifications

Frequency range	DC to 3GHz		
Operating temperature range	-40℃ to +85℃		
Power rating	4W		
		Not mated with the plug	Mated(MS-151-C-(LP))
V.S.W.R.	DC to 1 GHz	1.2 max.	
	1 GHz to 2 GHz	1.4 max.	
	2 GHz to 3 GHz	1.7 max.	
Insertion loss	DC to 1 GHz	0.2dB max.	0.3dB max.
	1 GHz to 2 GHz	0.4dB max.	0.5dB max.
	2 GHz to 3 GHz	0.6dB max.	1.0dB max.
Isolation loss	DC to 1 GHz	———	20dB min.
	1 GHz to 2 GHz	———	18dB min.
	2 GHz to 3 GHz	———	12dB min.

Item	Specification	Conditions
1. Contact resistance	50 m ohms max.	100 mA
2. Insulation resistance	1000 M ohms min.	100 V DC
3. Withstanding voltage	No flashover or insulation breakdown	100 V AC / 1 minute
4. Vibration	No electrical discontinuity of 10 μ s or more	Frequency: 10 to 500 Hz, single amplitude of 0.75 mm, acceleration of 98 m/s2 for 2 hours in each of the 3 directions
5. Shock		Acceleration of 490 m/s², 11 ms duration, sine half-wave waveform, 3 cycles in each of the 3 axis
6. Temperature cycle	Contact resistance: 100 m ohms max. Insulation resistance: 10 M ohms min.	Temperature: -55℃ → +5℃ to +35℃ → +85℃ → +5℃ to +35℃ Time: 30 → 5 max. → 30 → 5 max.(Minutes) 100 cycles
7. Humidity (Steady state)		96 hours at temperature of 40℃ and humidity of 90%
8. Salt spray	Contact resistance: 100 m ohms max. No corrosions	5% salt water solution, 48 hours (at 35℃)
9. Insertion/Withdrawal forces	Insertion force: 1～10N Withdrawal force: 3～15N	With corresponding connector
10. Durability (insertion/ withdrawal)	Contact resistance: 100 m ohms max.	5000 cycles

■Materials

Receptacle MS-151

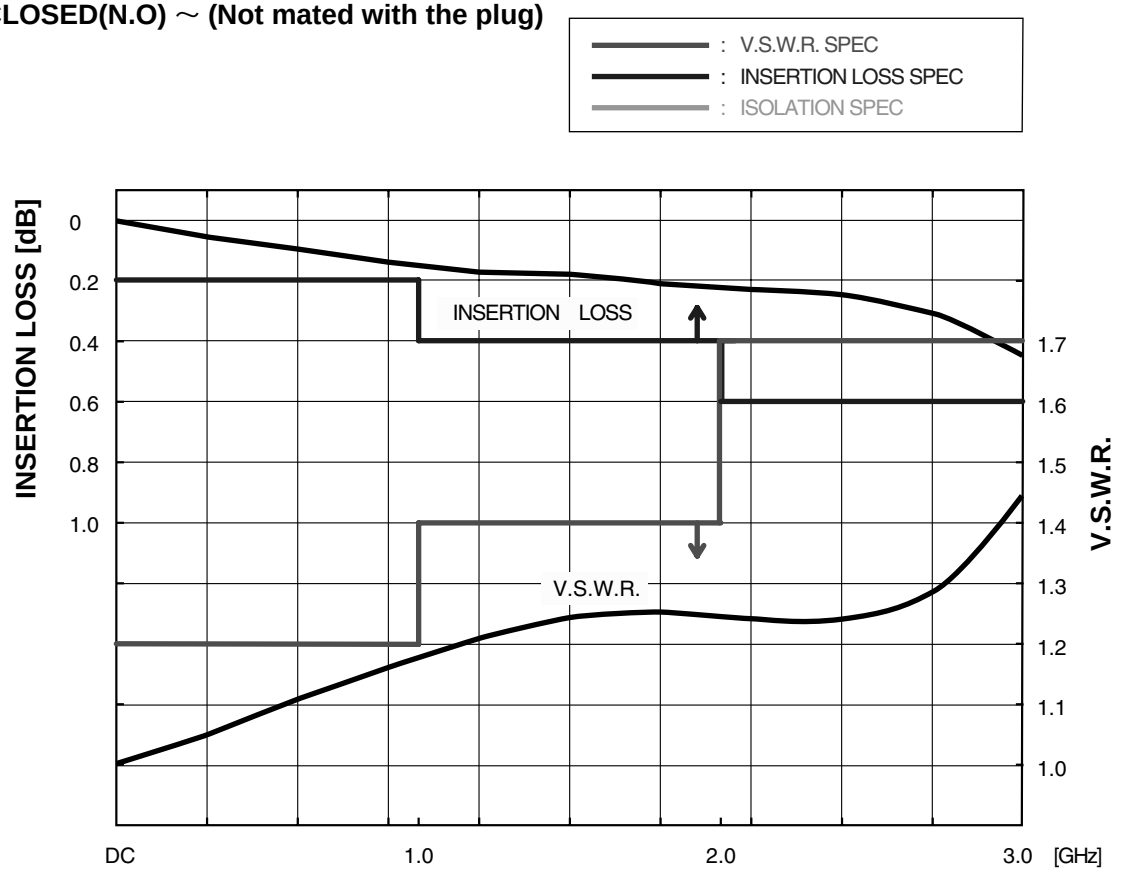
Part	Material	Finish
Insulator	Polyamide (UL 94V-0)	———
Lock mating section	Stainless steel	Nickel plating (Termination area: tin-lead plated)
Outer conductor shell	Phosphor bronze	Nickel plating (Termination area: tin-lead plated)
Contact A	Phosphor bronze	Gold plating
Contact C	Beryllium copper	Gold plating

Plug MS-151-C(LP)

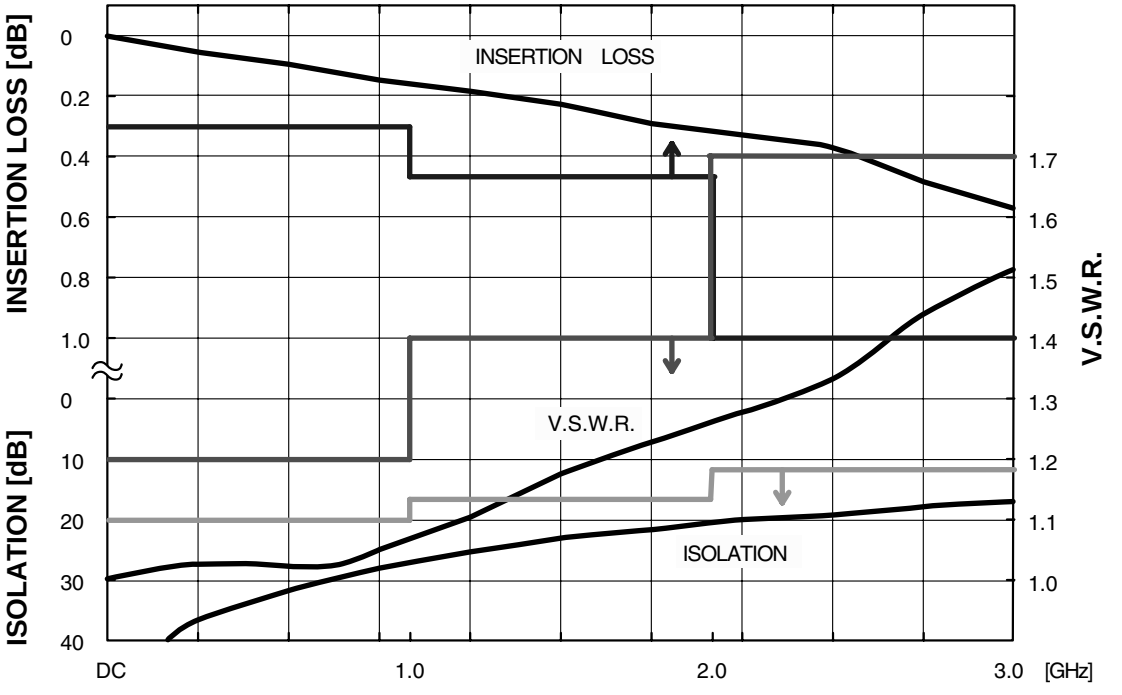
Part	Material	Finish
Cover A	PC	———
Cover B	PC	———
Ring	Stainless steel	Nickel plating
Outer conductor shell	Phosphor bronze	Nickel plating
Inner contact	Phosphor bronze	Gold plating
Insulator	Polyamide (UL 94-HB)	———
Ferrule	Stainless steel	———
Crimp metal fitting	Brass	Nickel plating
Bushing	Polyester	———

◆Typical data

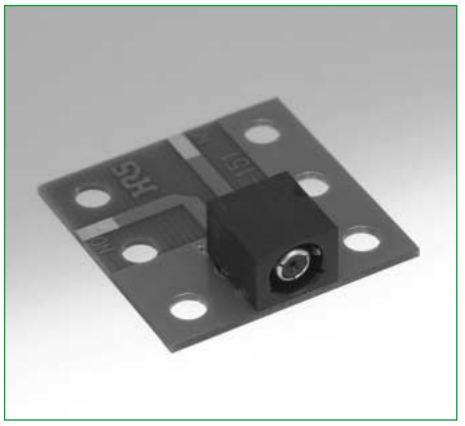
●NORMALLY CLOSED(N.O) ～ (Not mated with the plug)

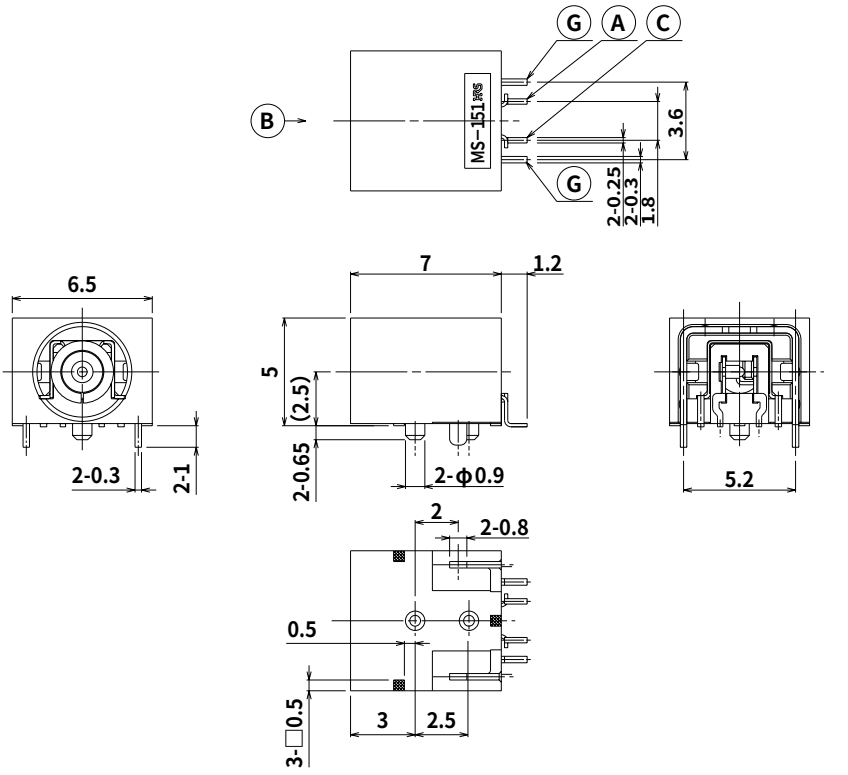


●OPEN(N.O) ～ (Mated with the plug)



■Receptacle

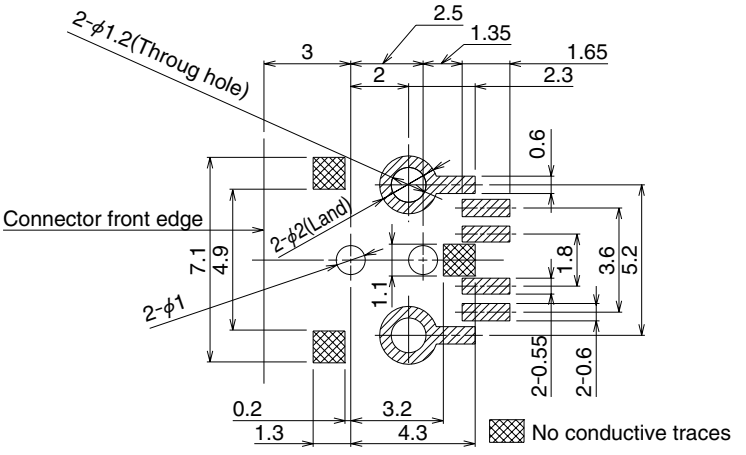




Part Number	CL No.	Packaging
MS-151	358-0158-7	1,000 pieces per reel
MS-151(01)	358-0158-7-01	100 pieces

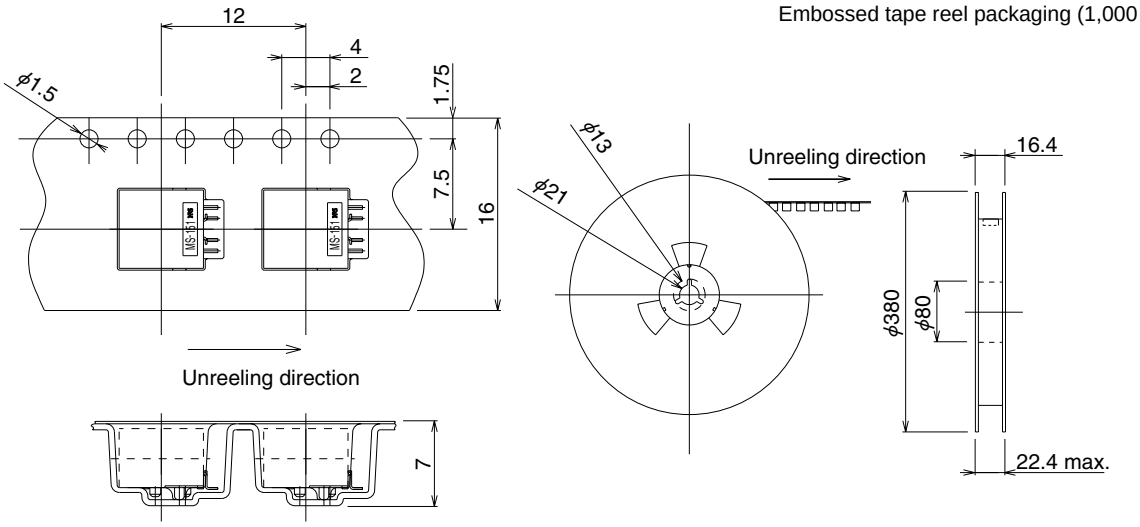
◆Circuit diagram

◆PCB mounting pattern

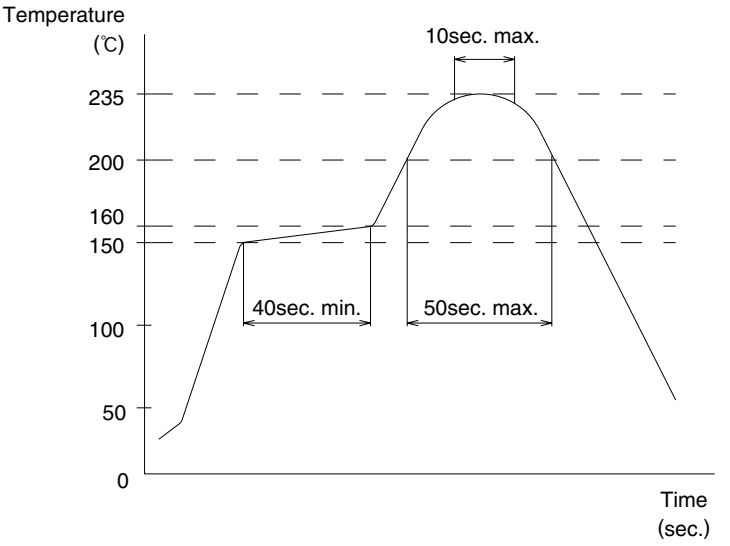


Packaging Specifications

Embossed tape reel packaging (1,000 pieces/reel)

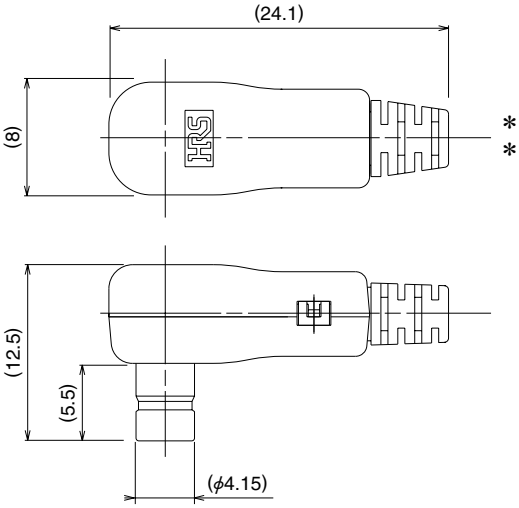


Recommended Temperature Profile



Maximum temperature	: 240℃
Peak temperature duration	: 10 sec. Max.
Peak temperature	: 220℃ to 235℃
200℃ min.	: 50 sec. Max.
150℃ to 160℃	: 40 sec. Min.

■Plug



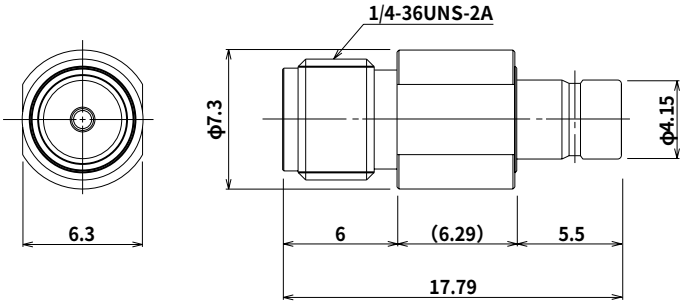
✻ Dedicated termination tools required.
✻ Can be supplied terminated with cable.

Part Number	CL No.	Packaging	Applicable cable
MS-151-C(LP)	358-0160-9	1	1.5DS-QEHV(TA) or UL1.5DL1.5DS-QEHV(TA)

Termination fixture: MS-151/CF-MD, MS-151/SO-MD, MS-151/BE-MP and MS-151/CK-MP
Please contact your Hirose Electric representative for information.

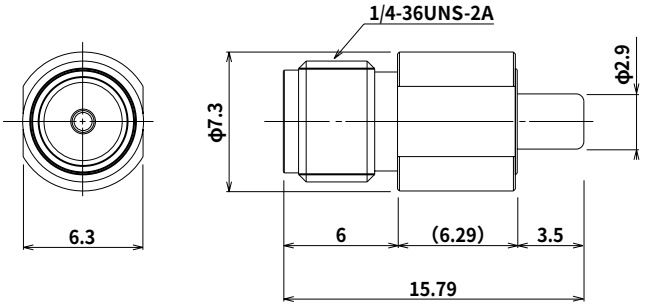
■SMA Conversion adaptors

●For Receptacle: MS-151



Part Number	CL No.	Packaging
MS151P-HRMJ	355-0089-7	1

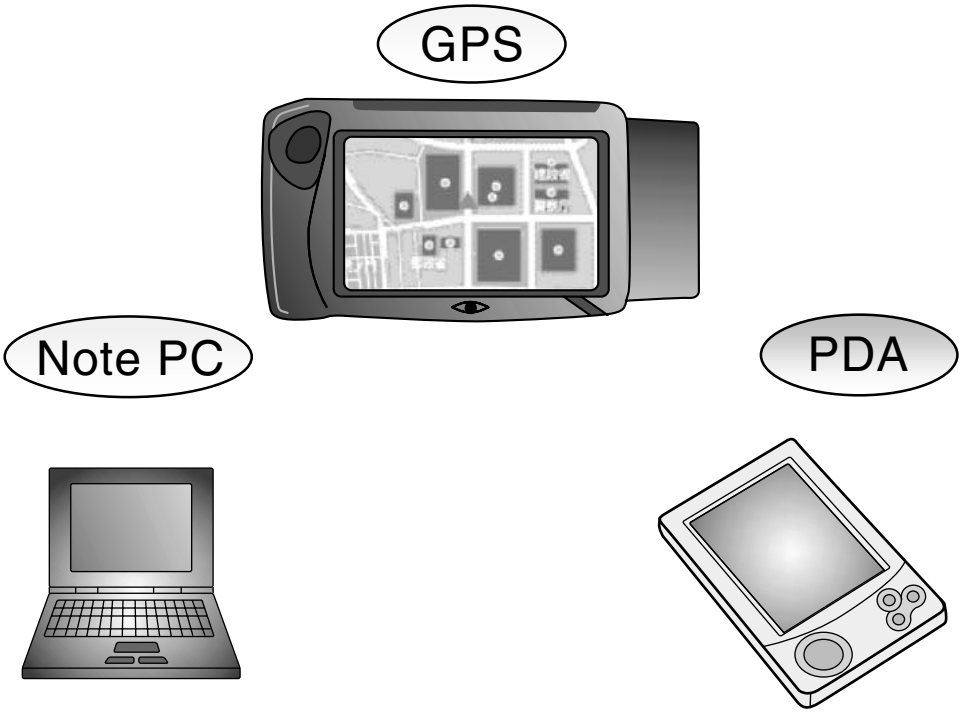
●For Plug: MS-151-C(LP)



Part Number	CL No.	Packaging
MS151J-HRMJ	355-0088-4	1

■Applications

●Notebook PC's, PDA's, GPS terminals, wireless communications equipments.



◈Antenna Circuit Re-directing