



**UHF RFID ANTENNA
(PART NO. ANT-TE-860960/V01/21)**

Fig 1. UHF RFID ANTENNA



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TECHNICAL SPECIFICATION OF ANTENNA

S.No	Parameter	Description
1.	Antenna type	Planar
2.	Frequency	860-960 MHz
3.	Gain	9dBi
4.	Polarization	Circular
5.	Return loss	< -15dB (VSWR 2:1) for 860 MHz - 960 MHz band)
6.	Size	140 mm x140 mm X10 mm PCB (FR4 1.6 mm thickness)
7.	Radiation pattern	Omni-directional
8.	Connector	SMA female

This UHF (860-960 MHz) passive antenna is circular polarised & omni-directional. It is very compact, small in size (14X14 cm) with high gain antenna (9dBi). PCB Antenna is indigenously developed antenna from design to fabrication. PCB antenna is **a transducer converting current waves into electromagnetic (EM) waves** in a high frequency PCB. PCB antennas convert current in high frequency into EM waves that propagate into the air. FR4 PCB antenna is rightly the most used material in PCB construction. Boards made from FR4 are strong, water resistant, and provide good insulation between copper layers that minimizes interference and supports good signal integrity. We also offers directional, Omni antennae in various polarizations and a wide range of frequencies. These antennae are used in Airborne, Ground and Marine vehicles and various other systems

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POWER DIVIDER (3:1) (PART NO. TE-PWD-3:1/21)

Fig 2. POWER DIVIDER (3:1)



TECHNICAL SPECIFICATION OF POWER DIVIDER

S.No	Parameter	Description
1.	Power Divider type	Wilkinson (3:1)
2.	Frequency	860-960 MHz
3.	VSWR i/p & o/p	1.5:1
4.	Size	60 mm X 60 mm X 6 mm PCB (FR4 0.8 mm thickness)
5.	Connector	PCB mount 04 SMA

RF Power Dividers or power splitters are passive RF devices that split an input signal into two or more output signals with minimal losses. Power dividers are widely used in wireless systems to divide power across equally across the system. The out signals that are generated by the power divider are usually of equal amplitude and phase however based on the requirement dividers with can vary the amplitude and phase of the signals at the output. Wilkinson power divider used in radio frequency communication systems utilizing multiple channels since the high degree of isolation between the output ports prevents crosstalk between the individual channels. Here, it takes input from three antennae and give one output or vice versa.

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POWER DIVIDER (2:1) (PART NO. TE-PWD-2:1/21)

Fig 2. POWER DIVIDER (2:1)



TECHNICAL SPECIFICATION OF POWER DIVIDER

S.No	Parameter	Description
1.	Power Divider type	Wilkinson (2:1)
2.	Frequency	860-960 MHz
3.	VSWR	1.5:1
4.	Size	60 mm X 60 mm X 6 mm PCB (FR4 0.8 mm thickness)
5.	Connector	PCB mount 04 SMA

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TECHNICAL EXPLANATION OF POWER DIVIDER/COMBINER/SPLITTER

A splitter is a passive device, which accepts an input signal and delivers multiple output signals with specific phase and amplitude characteristics. The output signals theoretically possess the following characteristics:

- Equal amplitude
- 0° phase relationship between any two output signals
- High isolation between each output signal

Insertion loss as follows:

Number of Theoretical Output	Ports Insertion Loss (dB)
2	3.0
3	4.8
4	6.0
5	7.0
6	7.8
8	9.0
10	10.0
12	10.8
16	12.0
24	13.8
48	16.8

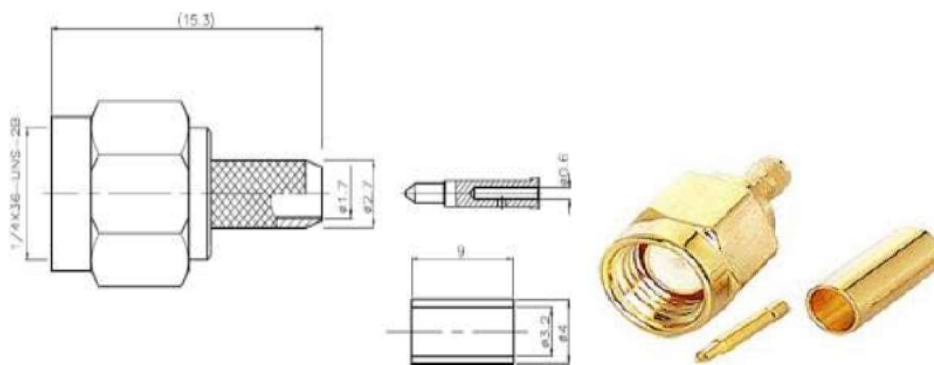
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SMA connectors are precision connectors for microwave applications up to 6 GHz. The extended frequency version operates with excellent return loss performances up to 18 GHz. There is a huge variety of applications for SMA connectors, as in telecom, test & measurement, instruments, avionics, etc.

SMA (M) RG316/174/179-LMR-100 CRIMP



Electrical:

Characteristic Impedance	50 ohm
Frequency Range	DC-6Ghz
VSWR	≤1.15@DC-6GHz
Dielectric Withstanding Voltage	≥1000V RMS,50Hz,at sea level
Dielectric Resistance	≥5000MΩ
Contact Resistance	Center Contact ≤3mΩ Outer Contact ≤2.5mΩ

Mechanical:

Durability	Mating Cycles ≥500
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Material and Plating:

	Material	Plating
Body	Brass	Au
Insulator	PTFE(Teflon)	—
Center conductor	Phosphor Copper	Au

Environmental:

Operating Temperature Range	-40°C~+85°C
RoHs	Compliant

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RG316 RF cable assembly used in radiofrequency and telecommunications applications. **RG316 coaxial cable** is a good choice for applications requiring good performance and stability in high-temperature environments.

RG316DS



Construction

	Material	Diameter(mm)
Inner Conductor	Silver Plated Copper	7/0.17
Dielectric	PTFE	1.50
Shield	Double Silver Plated Copper Braid 93%	64*0.1
Jacket	FEP	2.90

Electrical Characteristics

Capacitance (pF/m)	95.0
Impedance (Ω)	50.0
Velocity of Propagation (%)	70.0
Max Operating Frequency (MHz)	3000.0
Max Operating Voltage(VRMS)	1200.0
Operating Temperature($^{\circ}$ C)	-55 to +200

Attenuation [$@68^{\circ}$ F (20° C)]

Frequency(MHz)	Max Attenuation (dB/100m)
100	27.2
200	36.1
400	54.8
700	74.8
900	86.3
1000	90.2
3000	155.2

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