



Specification

PC14.03.3000D Wi-Fi (2.4 / 5.2 GHz) PCB Antenna



The PC14.03.3000D is a high performance wireless antenna for internal use in Wi-Fi or WLAN equipment worldwide. Omni-directional gain across both bands ensures constant reception and transmission. Its compact size and high performance make it ideal for integration into today's devices.

The antenna is available with a variety of cables and connectors if necessary.

Features

- Dual band Wi-Fi Worldwide use
- Miniaturized Diameter 42mm

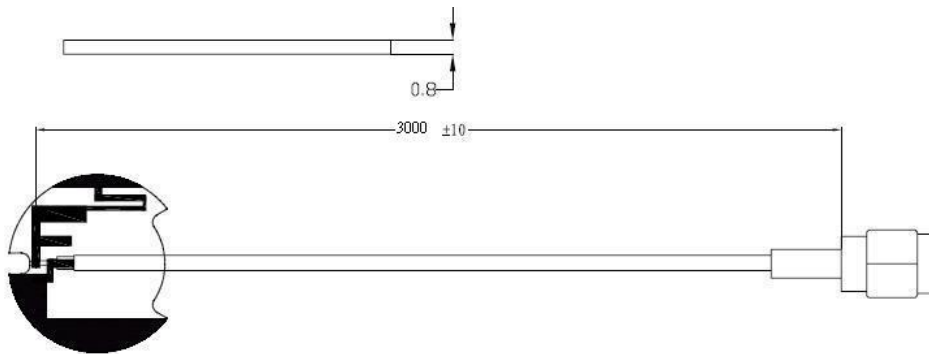
Specifications						
Communication System	WLAN					
Frequency range (GHz)	2.4	2.45	2.5	5.15	5.25	5.35
VSWR	1.46	1.66	1.60	1.76	1.41	1.48
Return Loss	-14.53	-12.10	-12.66	-11.14	-15.25	-14.18
Impedance	50 ohm					
Radiation	Omni					
Polarization	Horizontal					

*note: specifications may be subject to change

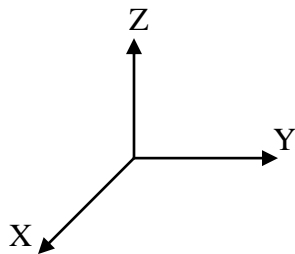


Specification

Outline Drawing



- 1: Unit: mm
- 2. RG-174 PVC Cable Black
- 3. PCB Thickness 0.8mm
- 4. Connector – RP-SMA Plug



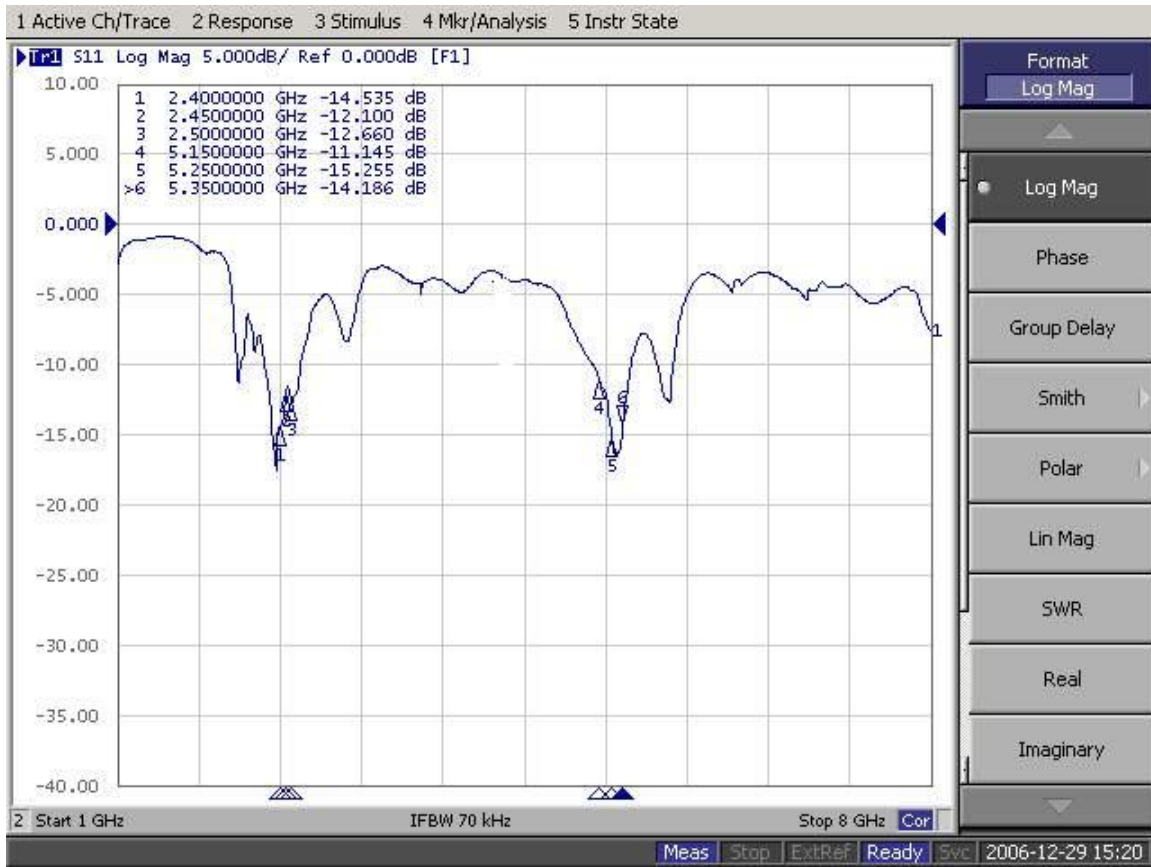
Note : 1. The upper of the PCB is X direction.
2. Connector is toward Z direction.





Specification

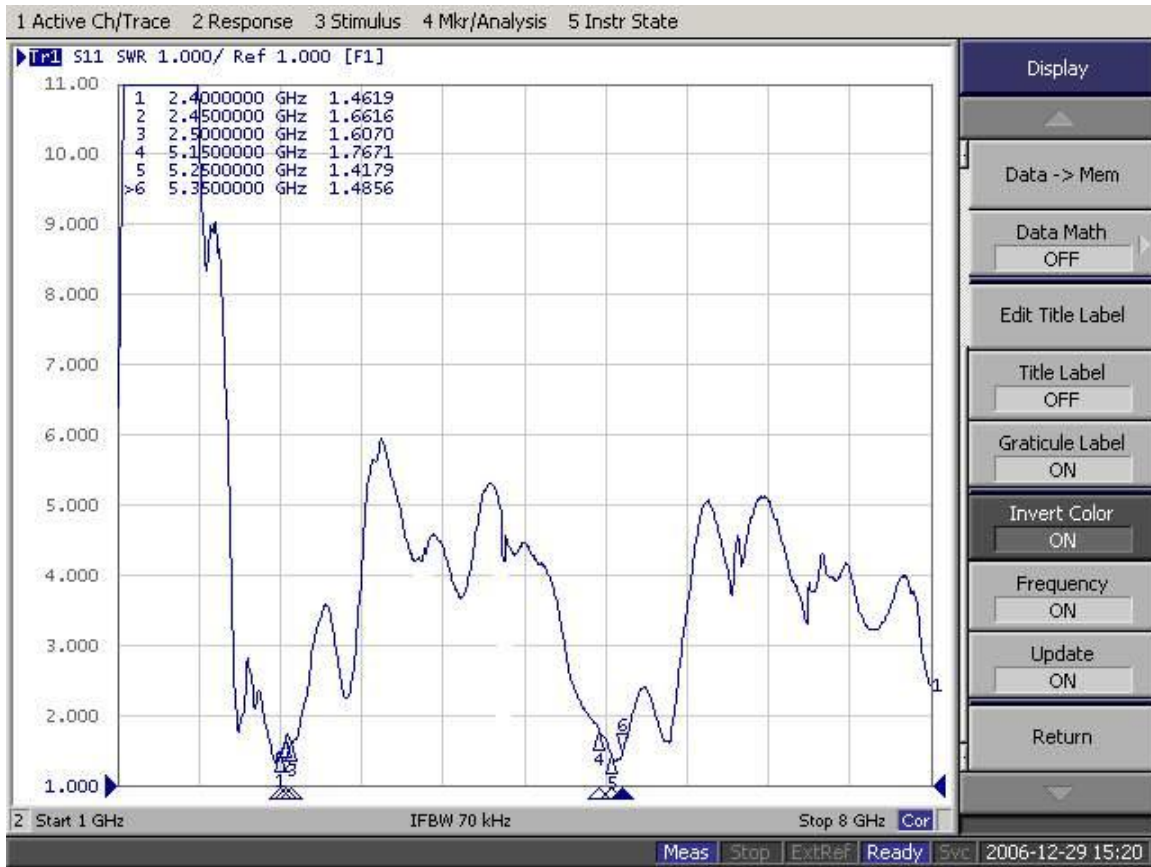
S11 Magnitude (Return Loss)





Specification

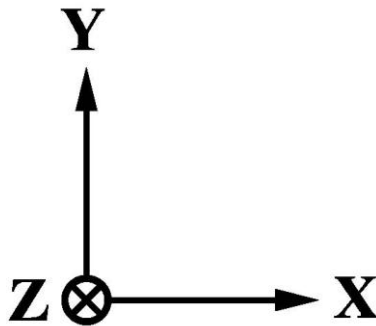
VSWR



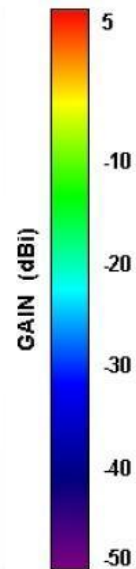
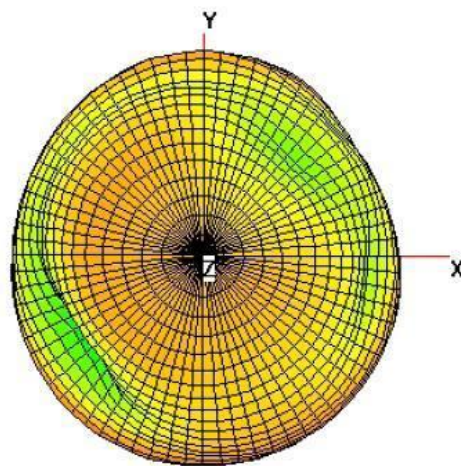


Specification

3D Radiation Pattern



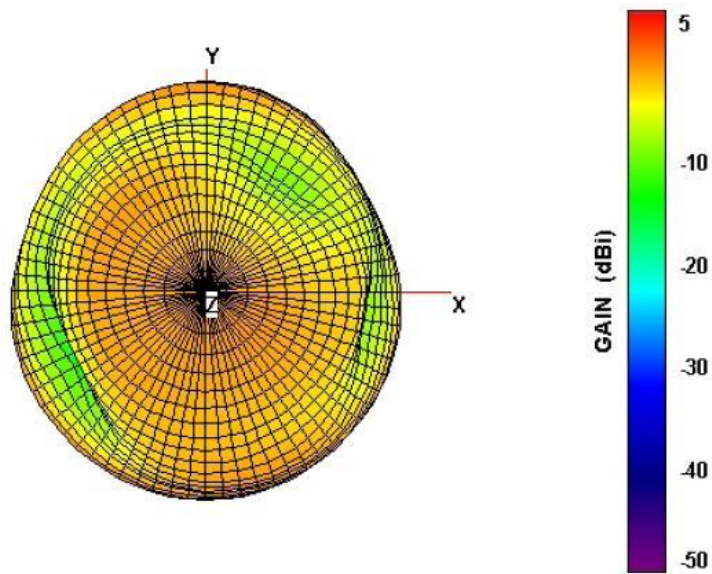
2.4GHz



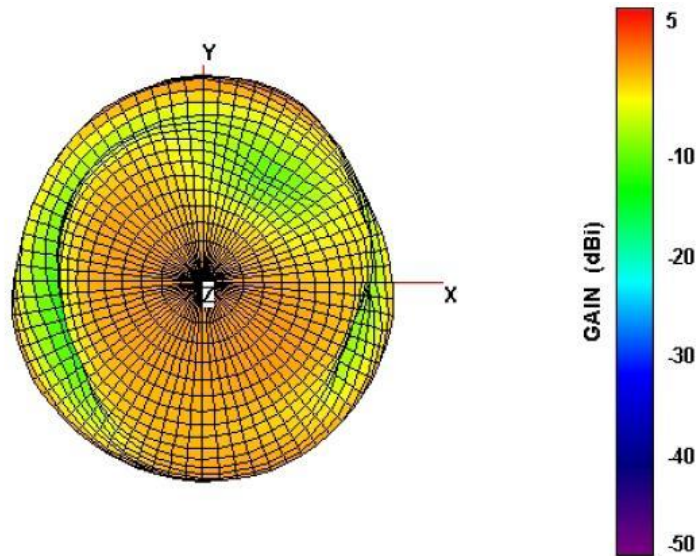


Specification

2.45GHz



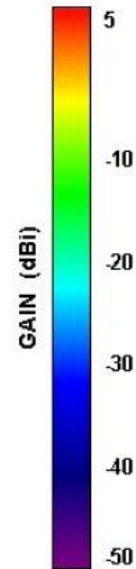
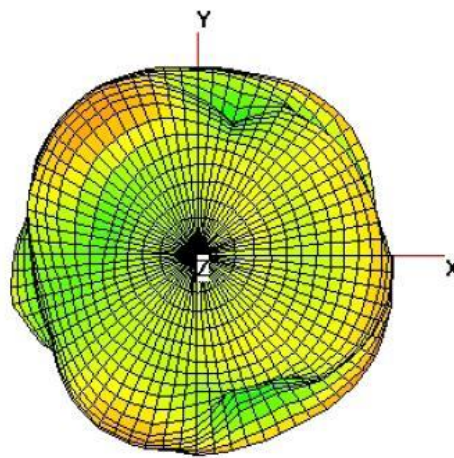
2.5GHz



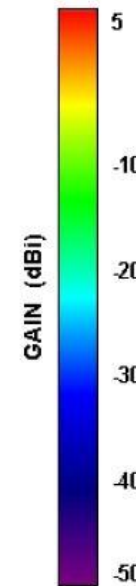
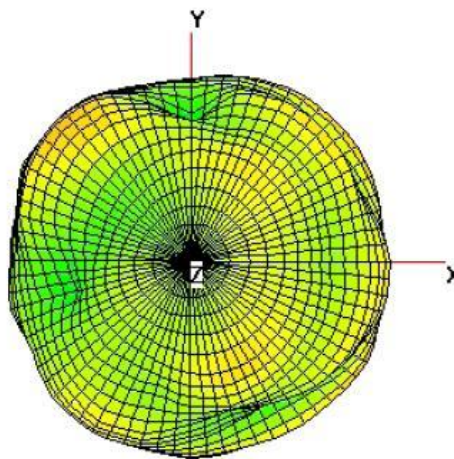


Specification

5.15GHz



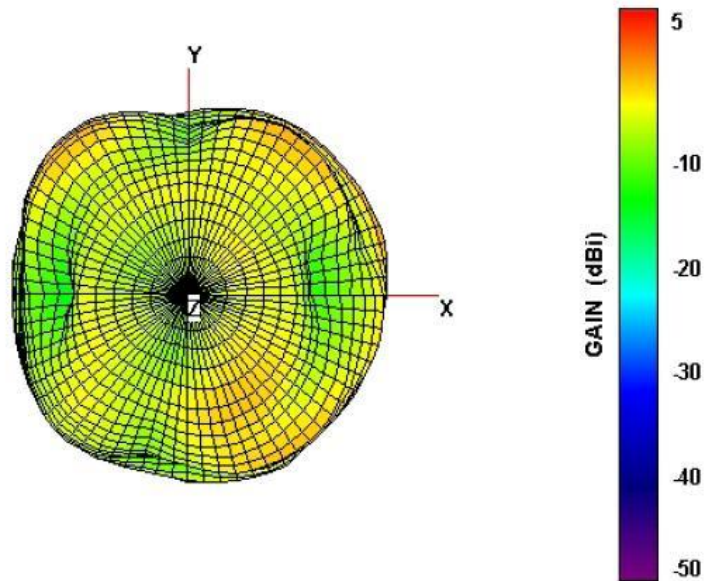
5.25GHz





Specification

5.35GHz





Specification

Result Summary

Channel	2400	2450	2500	5150	5250	5350
Note						
Ant. Port Input Pwr. (dBm)	0	0	0	0	0	0
Tot. Rad. Pwr. (dBm)	-1.98761	-1.61782	-1.77651	-3.01447	-3.8051	-3.23583
Peak EIRP (dBm)	3.0513	4.05447	4.1152	4.7407	4.37813	4.71773
Directivity (dBi)	5.03891	5.67229	5.89171	7.75517	8.18322	7.95356
Efficiency (dB)	-1.98761	-1.61782	-1.77651	-3.01447	-3.8051	-3.23583
Efficiency (%)	63.276	68.8997	66.4276	49.952	41.638	47.4698
Gain (dBi)	3.0513	4.05447	4.1152	4.7407	4.37813	4.71773
NHPRP $\pm\pi/4$ (dBm)	-3.25016	-2.86259	-3.02232	-4.67614	-5.69757	-5.29538
NHPRP $\pm\pi/6$ (dBm)	-4.39266	-4.02363	-4.19465	-6.60698	-7.70604	-7.19484
NHPRP $\pm\pi/8$ (dBm)	-5.32364	-5.01353	-5.19258	-7.87659	-8.98205	-8.37507
Upper Hem. PRP (dBm)	-6.08301	-5.80993	-5.86805	-7.71601	-8.71586	-8.08409
Lower Hem. PRP (dBm)	-4.13045	-3.70008	-3.92182	-4.81064	-5.49788	-4.95872
NHPRP4 / TRP Ratio (dB)	-1.26255	-1.24477	-1.2458	-1.66167	-1.89247	-2.05955
NHPRP4 / TRP Ratio (%)	74.773	75.0798	75.062	68.2076	64.6774	62.2365
NHPRP6 / TRP Ratio (dB)	-2.40505	-2.4058	-2.41814	-3.59251	-3.90094	-3.95901
NHPRP6 / TRP Ratio (%)	57.4771	57.4672	57.3041	43.7269	40.7292	40.1882
NHPRP8 / TRP Ratio (dB)	-3.33604	-3.39571	-3.41607	-4.86212	-5.17695	-5.13924
NHPRP8 / TRP Ratio (%)	46.387	45.754	45.54	32.6428	30.3602	30.625
UHPRP / TRP Ratio (dB)	-4.0954	-4.19211	-4.09154	-4.70155	-4.91076	-4.84826
UHPRP / TRP Ratio (%)	38.9457	38.0881	38.9804	33.8723	32.2793	32.7472
LHPRP / TRP Ratio (dB)	-2.14284	-2.08226	-2.1453	-1.79617	-1.69279	-1.7229
LHPRP / TRP Ratio (%)	61.0543	61.9119	61.0196	66.1277	67.7207	67.2528
Front/Back Ratio (dB)	3.42725	3.56765	3.94055	10.1253	13.1799	10.9587
Phi BW (°)	112	96	86	42	40	42
+ Phi BW (°)	66	58	52	17	19	24
- Phi BW (°)	46	38	34	25	21	18
Theta BW (°)	49	35	35	36	34	32
+ Th. BW (°)	25	20	24	23	23	12
- Th. BW (°)	24	15	11	13	11	20
Boresight Phi (°)	270	270	270	75	75	60
Boresight Th. (°)	105	105	105	135	135	150
Maximum Power (dBm)	3.0513	4.05447	4.1152	4.7407	4.37813	4.71773
Minimum Power (dBm)	-15.0552	-14.2956	-14.3893	-15.5291	-16.4014	-15.3489
Average Power (dBm)	-2.26887	-1.84221	-2.02397	-3.4037	-4.13521	-3.4448
Max/Min Ratio (dB)	18.1065	18.3501	18.5045	20.2699	20.7795	20.0666
Max/Avg Ratio (dB)	5.32018	5.89668	6.13917	8.14441	8.51333	8.16253
Min/Avg Ratio (dB)	-12.7863	-12.4534	-12.3653	-12.1254	-12.2662	-11.9041
Average Gain (dB)	-1.98761	-1.61782	-1.77651	-3.01447	-3.8051	-3.23583
E-Plane BW (°)	45	33	34	32	31	35
+ E-Plane BW (°)	20	18	22	19	20	12
- E-Plane BW (°)	25	15	12	13	11	23
H-Plane BW (°)	115	105	93	51	45	39
+ H-Plane BW (°)	69	70	65	16	16	20
- H-Plane BW (°)	46	35	28	35	29	19

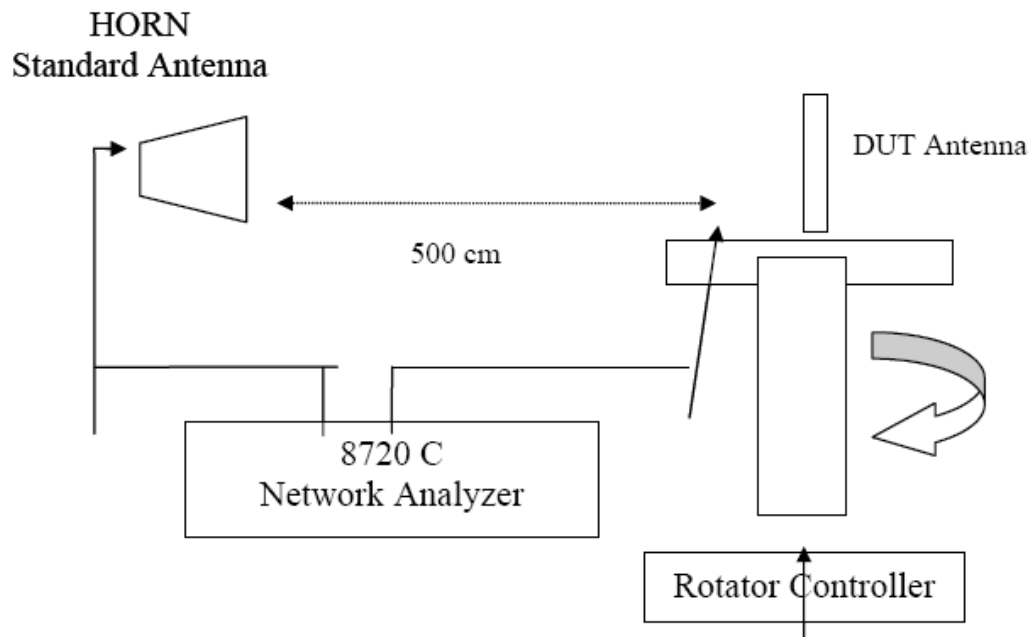


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Test Items	Procedure	Requirement
Thermal Shock	Starting at -40°C for 30minutes and then cycled to +85°C to remain 30minutes (a complete cycle). To repeat 5 complete cycles. (Refer to IEC 68-2-14 Method Na)	<ol style="list-style-type: none"> The value of return loss must be within product specifications after this test. No physical deformation should be evident.
Storage Temperature (Cold)	Samples must be put into -30°C chamber for 72 hours and samples shall be powered during test. (Refer to IEC 68-2-1 Method Aa)	<ol style="list-style-type: none"> The value of return loss must be within product specifications after this test. No physical deformation should be evident.
Storage Temperature (Dry Heat)	Samples must be put into +75°C chamber for 72 hours and samples shall be powered during test. (Refer to IEC 68-2-1 Method Ba)	<ol style="list-style-type: none"> The value of return loss must be within product specifications after this test. No physical deformation should be evident.
Operating Temperature (Cold)	Samples must be put into -20°C chamber for 2 hours and samples shall be powered during test. (Refer to IEC 68-2-1 Method Aa)	<ol style="list-style-type: none"> The value of return loss must met specification during test/after test No mechanical defects after test.
Operating Temperature (Dry Heat)	Samples must be put into +65°C chamber for 72 hours and samples shall be powered during test. (Refer to IEC 68-2-1 Method Ba)	<ol style="list-style-type: none"> The value of return loss must met specification during test/after test no mechanical defects after test.

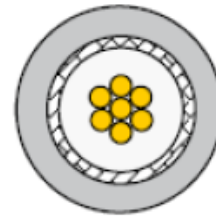


Radiation Pattern Testing - Anechoic Chamber

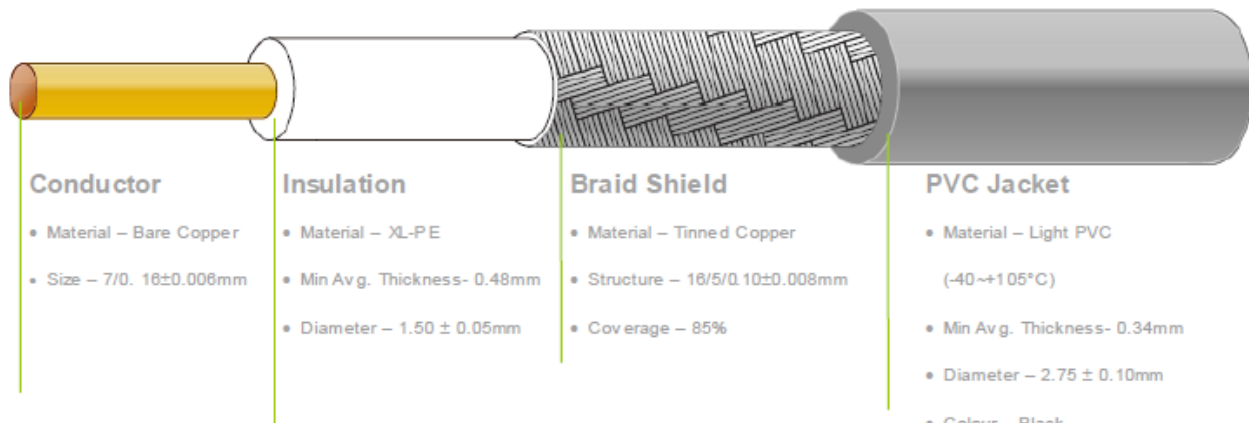




RG-174 Coaxial Cable



Structure and Dimensions



Electrical & Physical Specification

1	Temperature rating:	80°C
2	Voltage Rating:	30V
3	Insulation Resistance:	10MΩ-Km (Min) at 20°C dc 500V(EIA-364-21)
4	Conductor Resistance:	20°C 26 AWG: 148.96 Ω/Km (Max)
5	Capacitance:	30.8pf/ft
6	Dielectric Strength	AC 500V/1 minute no breakdown (EIA-364-20)
7	Impedance:	10MHz~3GHz 50 ± 5 Ω

RG-174 Cable loss Data – Specification

RG-174 cable attenuation(dB/100mm)												
GHz	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
RG-174	67	110	127	153	168	183	207	229	252	272	291	311



Specification

RP-SMA Plug connector

NOTES: TYPICAL SPECIFICATIONS

- 1.0. ELECTRICAL DATA
 - 1.1. FREQUENCY RANGE ---- DC ... 6 GHz
 - 1.2. IMPEDANC ---- 50 Ohms
 - 1.3. VSWR ---- < 1.25
 - 1.4. DIELECTRIC WITHSTANDING VOLTAGE ---- 500 Vrms
 - 1.5. WORKING VOLTAGE ---- 170 Vrms max.
 - 1.6. INSULATION RESISTANCE ---- 5000 Mega-Ohms
 - 1.7. CENTER CONTACT RESISTANCE ---- 4.0 mini-Ohms
 - 1.8. OUTER CONTACT RESISTANCE ---- 2.5 mini-Ohms
- 2.0. MECHANICAL DATA
 - 2.1. COUPLING METHOD ---- THREADED
 - 2.2. DURABILITY (MATING/UNMATING) ---- 500 Cycles
 - 2.3. ROTATE TORQUE ---- 200-400 gf-cm (ANTENNA USED)
 - 2.4. COUPLING NUT RETENTION ---- 60 lbs
 - 2.5. MATING TORQUE ---- 10 in-lbs max.
- 3.0. ENVIRONMENTAL DATA
 - 3.1. TEMPERATURE RANGE ---- -65° to 165°
 - 3.2. VIBRATION ---- MIL-STD-202,METHOD 204,TEST CONDITION D
 - 3.3. THERMAL SHOCK ---- MIL-STD-202,METHOD 107,TEST CONDITION B
 - 3.4. SALT SPRAY ---- MIL-STD-202,METHOD 101,TEST CONDITION B
 - 3.5. MECHANICAL SHOCK ---- MIL-STD-202,METHOD 213,TEST CONDITION I
 - 3.6. MOISTURE RESISTANCE ---- MIL-STD-202,METHOD 106
- 4.0. OTHERS
 - 4.1. PACKAGE REFER: TRAY
 - 4.2. REMOVED ALL BURRS & BREAK ALL SHARP EDGES
 - 4.3. ALL CORNERS TO BE R0.1 max.

BOM

ITEM	ITEM NAME	MATERIAL	FINISH	Q'TY/EA	PART NUMBER
4	MALE CONDUCTOR	PHOSPHOR BR	GOLD 10u*	1	
3	MALE INSULATOR	TEFLON		1	
2	MALE BODY	BRASS	GOLD	1	
1	SHELL	BRASS	GOLD	1	

Recommended Cable Strip

ITEM	ITEM NAME	MATERIAL	FINISH	Q'TY/EA	PART NUMBER
	RG 178/u				