Specification

Part No.	:	**PC27.09.0100A**
Product Name	:	TheStripe™ 850 / 900 / 1800 / 1900MHz GSM PCB Antenna W/100mm 1.13 Coaxial Cable MMCX (M) R/A Connector
Feature	:	100mm long, 1.13 mm diameter 850 / 900 / 1800 / 1900MHz GSM Miniature Co-Axial Cable MMCX(M)RA Dims: 34mm*7mm*0.8mm RoHS Compliant

1. Introduction

This miniaturized low profile PCB antenna is based on smart TheStripe™ antenna technology. It consists of a PCB antenna and 1.13mm coaxial cable with MMCX(M) 90 degree connector.

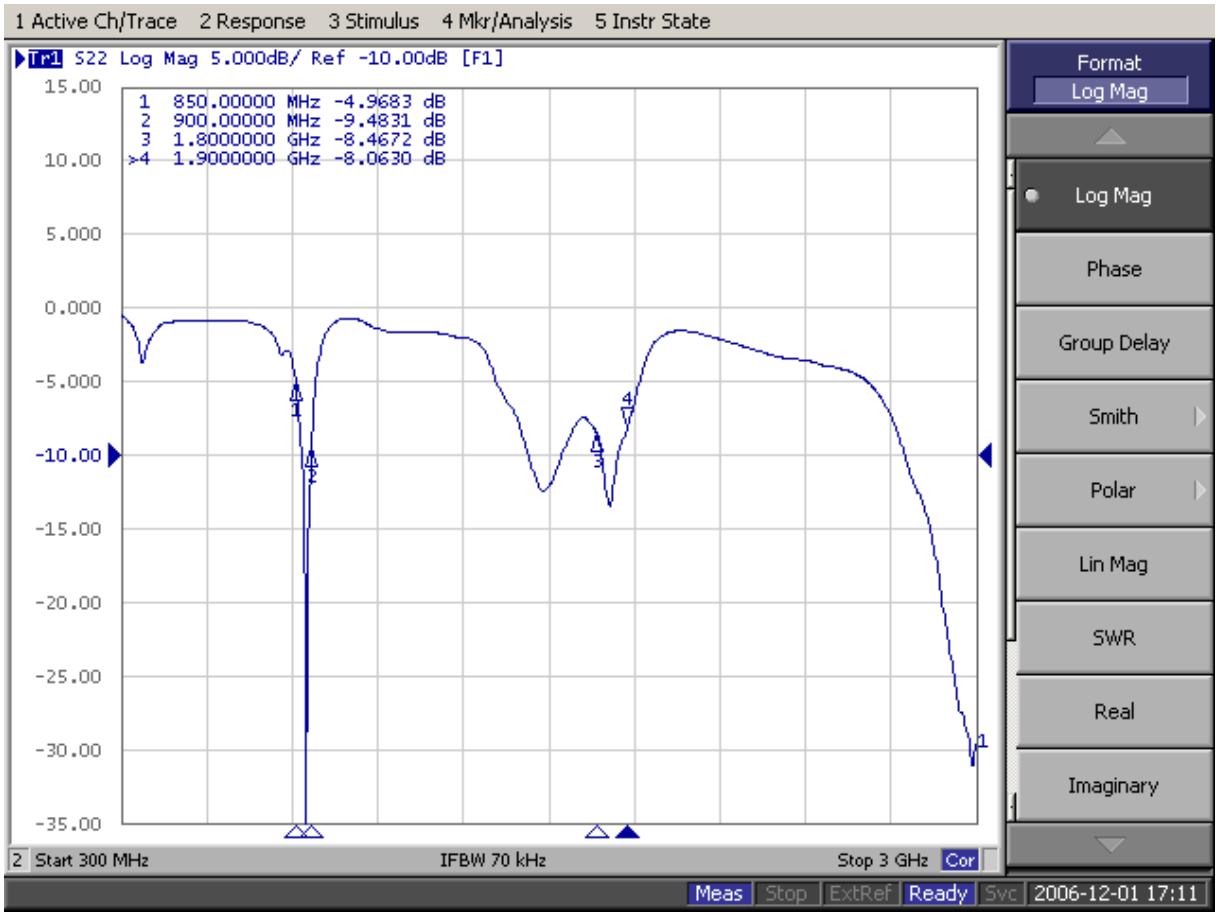
Further optimization can be done upon receipt of the client's device at a local Taoglas facility.

2. Specifications

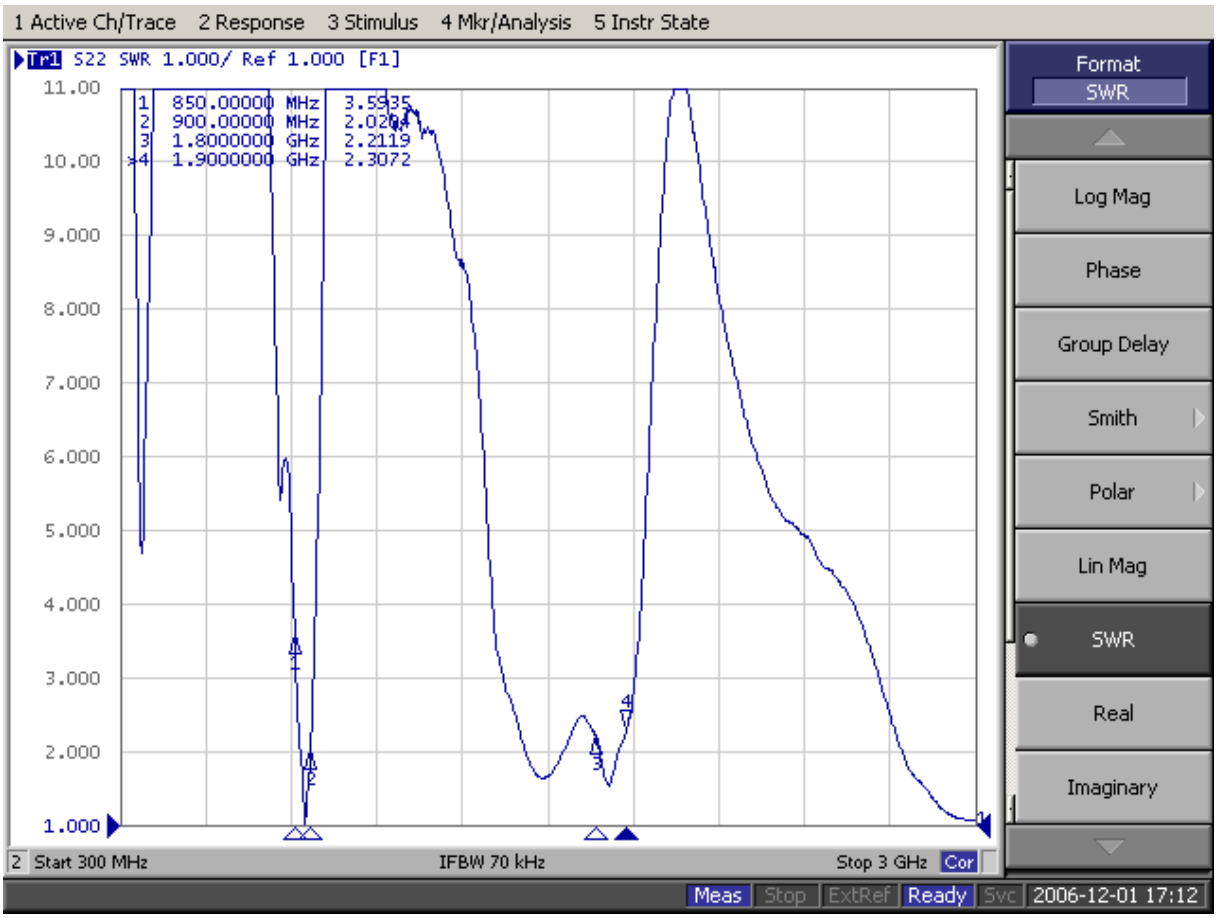
CELLULAR				
Communication system	AMPS	GSM	DCS	PCS
Frequency Band	800MHz	900MHz	1800MHz	1900MHz
VSWR	3.59	2.02	2.21	2.3
Return Loss	-4.96 dB	-9.48 dB	-8.46 dB	-8.06 dB
Efficiency	56.84%	72.98%	63.52%	55.79%
Peak Gain	0.01dBi	1.2dBi	2.66dBi	1.25dBi
Average Gain	-2.45dB	- 1.37dB	- 1.97dB	-2.53dB
Impedance	50 Ohm			
Radiation Pattern	Omnidirectional			
Polarization	Horizontal			
MECHANICAL				
Dimensions	34 * 7 * 0.8mm			
RF Cable	RF Coaxial Cable ψ1.13 ± 0.1mm, L = 100 mm Gray Color			
RF Connector	MMCX(M)RA			
ENVIRONMENTAL				
Operation Temperature	-20°C to + 55°C			
Storage Temperature	-30°C to + 75°C			
Relative Humidity	40% to 95%			

3. Antenna Characteristics

3.1. Return loss



3.2. VSWR


1 Active Ch/Trace
2 Response
3 Stimulus
4 Mkr/Analysis
5 Instr State
Tr1 S22 SWR 1.000/ Ref 1.000 [F1]
1 850.00000 MHz 3.5935
2 900.00000 MHz 2.0264
3 1.8000000 GHz 2.2119
>4 1.9000000 GHz 2.3072
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
2 Start 300 MHz
IFBW 70 kHz
Stop 3 GHz
Cor
Meas
Stop
ExtRef
Ready
Svc
2006-12-01 17:12
Format
SWR
Log Mag
Phase
Group Delay
Smith
Polar
Lin Mag
SWR
Real
Imaginary

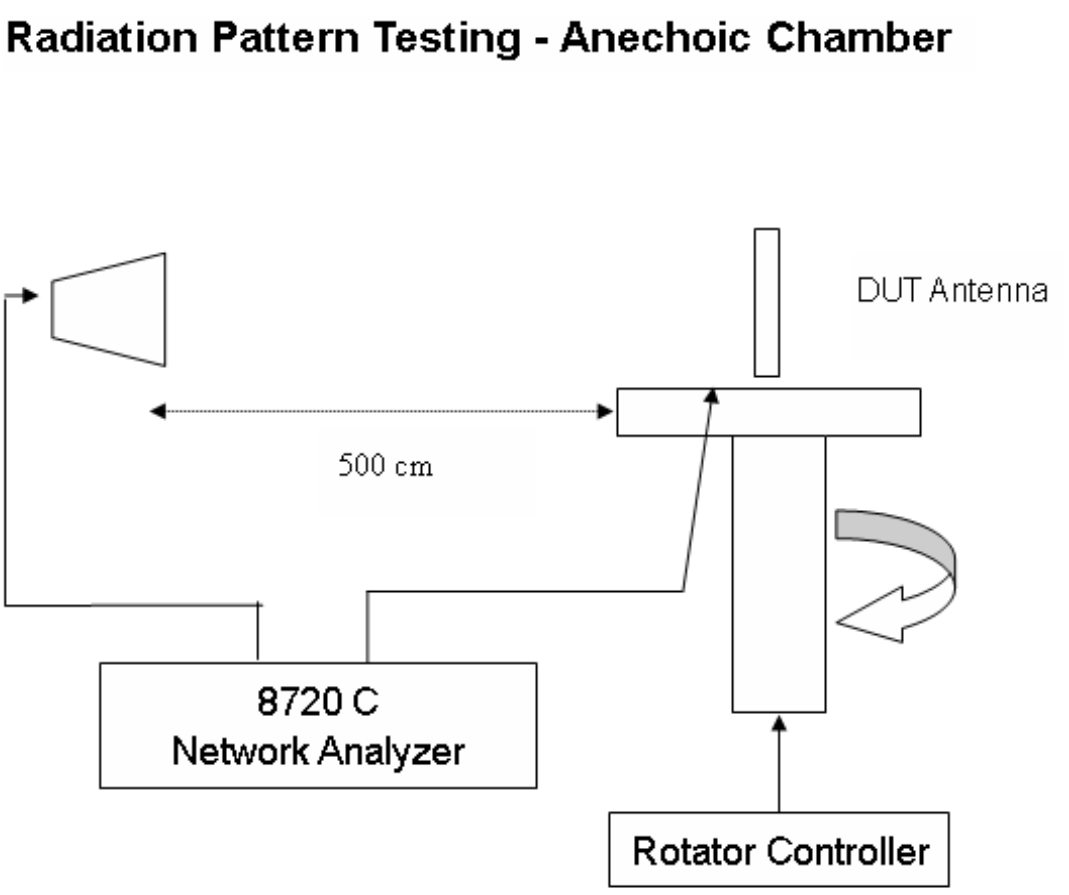
4. Reliability

Test Items	Procedure	Requirement
Thermal Shock	Starting at -40 for 30 minutes and then cycled to +85 to remain 30 minutes (a complete cycle). To repeat 5 complete cycles. (Refer to IEC 68-2-14 Method Na)	1. The value of return loss must be within product specifications after this test. 2. 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)	1. The value of return loss must be within product specifications after this test. 2. 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)	1. The value of return loss must be within product specifications after this test. 2. 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)	1. The value of return loss must met specification during test/after test 2. 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)	1. The value of return loss must met specification during test/after test 2. No mechanical defects after test.

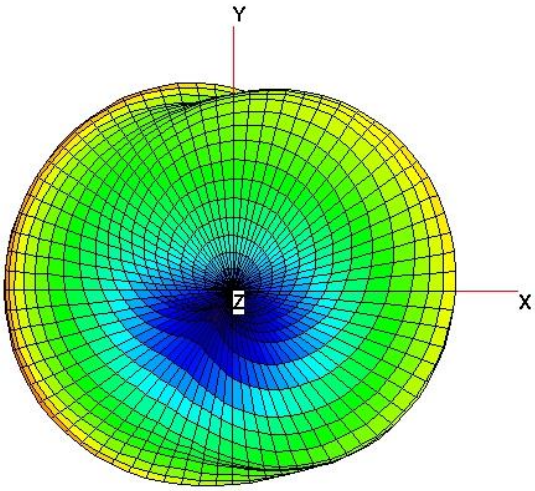
5. Antenna Test Procedures and Setup

5.1. 3D Radiation Pattern Testing

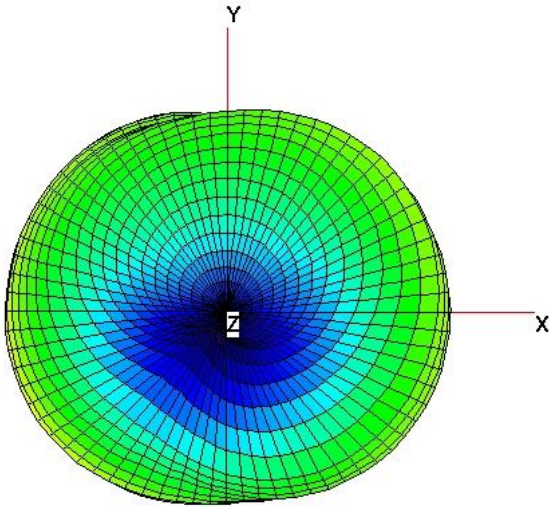
Test Setup Diagram



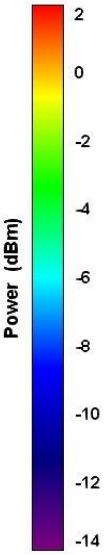
5.2. 3D Radiation Pattern Testing

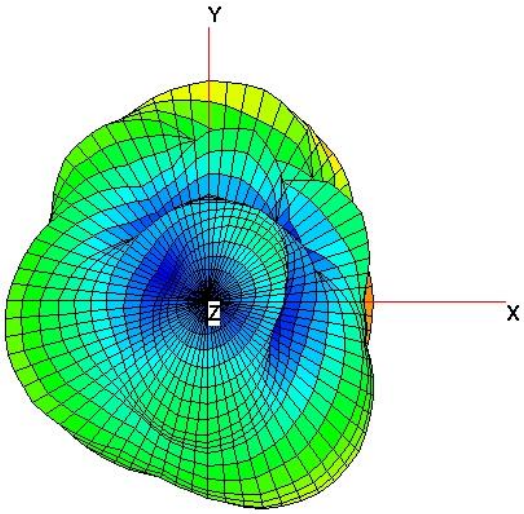


850 MHz

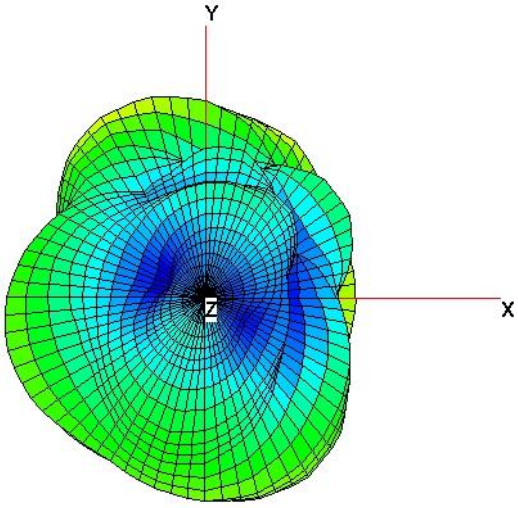


900 MHz

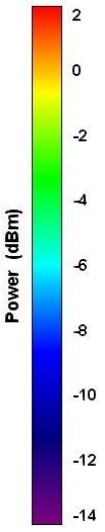




1800 MHz



1900 MHz

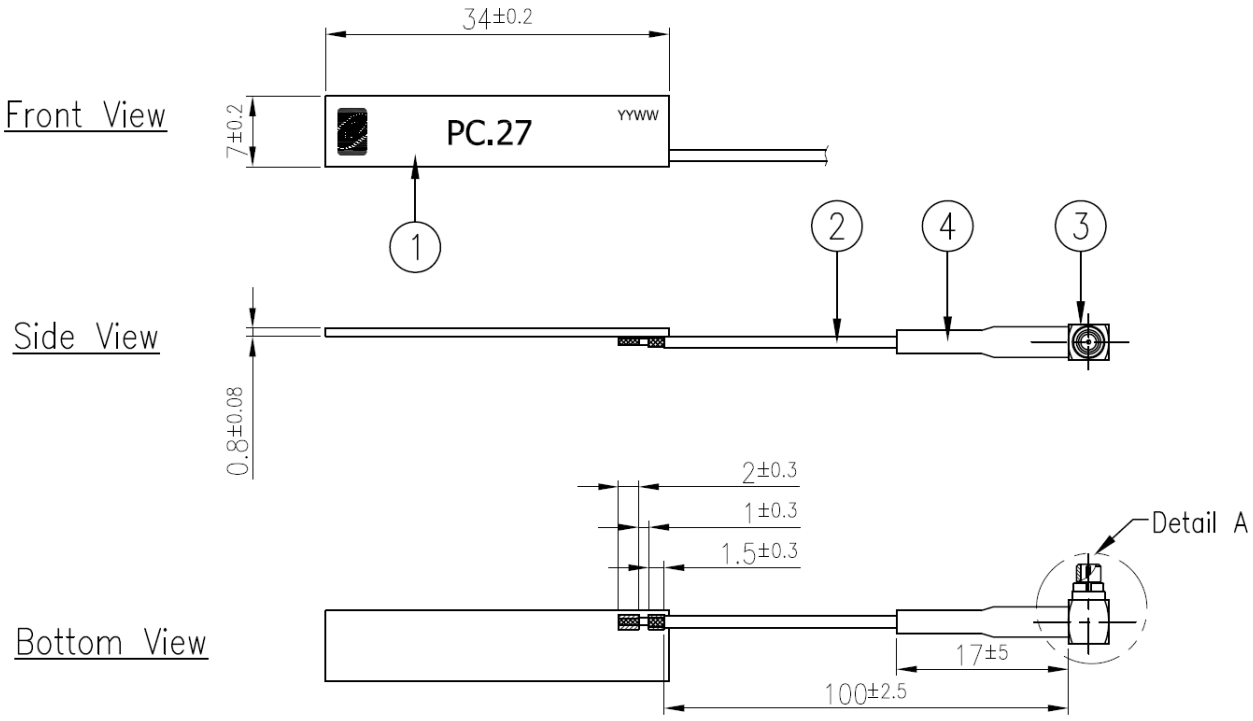


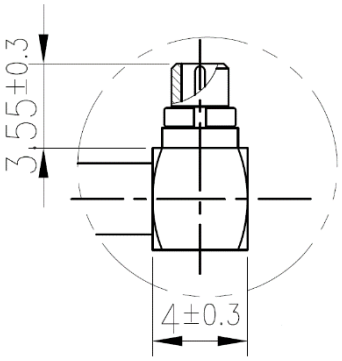
5.3. 3D Chamber Testing – Tabular Results

Frequency	850	900	1800	1900
Note	MMCX			
Ant. Port Input Pwr. (dBm)	0	0	0	0
Tot. Rad. Pwr. (dBm)	-6.70207	-5.99557	-3.58516	-5.37679
Peak EIRP (dBm)	-2.40694	-1.57714	1.90289	0.060763
Directivity (dBi)	4.29514	4.41842	5.48805	5.43755
Efficiency (dB)	-6.70207	-5.99557	-3.58516	-5.37679
Efficiency (%)	21.3694	25.1445	43.801	28.9949
Gain (dBi)	-2.40694	-1.57714	1.90289	0.060763
NHPRP ±Pi/4 (dBm)	-7.60628	-6.98737	-4.95228	-6.71252
NHPRP ±Pi/6 (dBm)	-8.96174	-8.37139	-6.68997	-8.43839
NHPRP ±Pi/8 (dBm)	-10.17	-9.55263	-7.9014	-9.58462
Upper Hem. PRP (dBm)	-11.6509	-11.2301	-8.08553	-9.80534
Lower Hem. PRP (dBm)	-8.37684	-7.54214	-5.48811	-7.31973
NHPRP4 / TRP Ratio (dB)	-0.90421	-0.9918	-1.36712	-1.33574
NHPRP4 / TRP Ratio (%)	81.2044	79.5829	72.9942	73.5235
NHPRP6 / TRP Ratio (dB)	-2.25967	-2.37582	-3.10481	-3.0616
NHPRP6 / TRP Ratio (%)	59.4338	57.8653	48.9237	49.4128
NHPRP8 / TRP Ratio (dB)	-3.46791	-3.55706	-4.31624	-4.20784
NHPRP8 / TRP Ratio (%)	44.9996	44.0853	37.0149	37.9504
UHPRP / TRP Ratio (dB)	-4.94881	-5.2345	-4.50037	-4.42856
UHPRP / TRP Ratio (%)	31.9977	29.9606	35.4784	36.0698
LHPRP / TRP Ratio (dB)	-1.67477	-1.54657	-1.90295	-1.94294
LHPRP / TRP Ratio (%)	68.0023	70.0394	64.5216	63.9302
Front/Back Ratio (dB)	3.58199	5.22619	7.98457	8.74956
Phi BW (°)	137	132	109	92
+ Phi BW (°)	52	51	76	61
- Phi BW (°)	85	81	33	31
Theta BW (°)	53	51	18	18
+ Th. BW (°)	25	27	9	10
- Th. BW (°)	28	24	9	8
Boresight Phi (°)	210	210	0	360
Boresight Th. (°)	120	120	135	135
Maximum Power (dBm)	-2.40694	-1.57714	1.90289	0.060763
Minimum Power (dBm)	-20.7114	-19.4284	-12.8702	-17.302
Average Power (dBm)	-7.56269	-6.68836	-3.63931	-5.51374
Max/Min Ratio (dB)	18.3044	17.8513	14.7731	17.3628
Max/Avg Ratio (dB)	5.15575	5.11122	5.5422	5.5745
Min/Avg Ratio (dB)	-13.1487	-12.7401	-9.23091	-11.7883
Average Gain (dB)	-6.70207	-5.99557	-3.58516	-5.37679
E-Plane BW (°)	143	77	113	70
+ E-Plane BW (°)	108	46	92	51
- E-Plane BW (°)	35	31	21	19
H-Plane BW (°)	103	104	19	19
+ H-Plane BW (°)	70	75	10	10
- H-Plane BW (°)	33	29	9	9

6. Mechanical Drawings (Unit: mm)

6.1. Dimensions and Drawing





	Name	P/N	Material	Finish	QTY
1	PC27 PCB	100211D010011A	Composite 0.8t	Black	1
2	1.13 Coaxial Cable	300215C020000A	FEP	Black	1
3	MMCX(M)RA	202712G000013A	Brass	Au Plated	1
4	Heat Shrink Tube	001315C000000A	PE	Black	1

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Antennas ***category:***

Click to view products by Taoglas ***manufacturer:***

Other Similar products are found below :

GAN30084EU 930-033-R GW17.07.0250E 1513563-1 EXE902SM APAMPG-117 MAF94383 W3908B0100 W6102B0100 YE572113-30RSMM 108-00014-50 66089-2406 A09-F8NF-M A09-F5NF-M RGFRA1903041A1T W3593B0100 W3921B0100 SIMNA-868 SIMNA-915 SIMNA-433 W1044 W1049B090 A75-001 WTL2449CQ1-FRSMM CPL9C EXB148BN 0600-00060 TRA9020S3PBN-001 GD5W-28P-NF MA9-7N GD53-25 GD5W-21P-NF EXB144SM C37 MAF94051 P1744 MA9-5N EXD420PL B1322NR QWFTB120 MAF94271 MAF94300 GPSMB301 FG4403 AO-AGSM-OM54 5200232 MIKROE-2349 WCM.01.0111 MIKROE-2393 MIKROE-2352