

Datasheet



Part Number:
GSA.8859.A.105111

Description:
4dBi Adhesive Mini DSRC 5.9GHz Antenna
1m CFD200 with SMA(M) Connector

Features:
5.9GHz DSRC Adhesive Mount Antenna
5850MHz to 5925MHz
High Efficiency and High Peak Gain
IP67 Rated for External Use
Adhesive Mount on Plastic or Glass
1m Low Loss CFD200 Cable with SMA(M) Connector
Dimensions: 36*30*10mm
RoHS & REACH Compliant

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QUALITY MANAGEMENT SYSTEM
IATF16949

1. Introduction



The GSA.8859 is an external adhesive mount DSRC antenna for 5850-5925MHz. Primarily designated for vehicle safety applications, DSRC offers high-speed, low-latency wireless communication over short distances.

The GSA.8859 at only 10mm in height and 30 x 36mm is a very compact size enabling flexibility of integration. It can be mounted on or plastic surfaces easily with the double-sided adhesive. The antenna features peak gain at 4.14 dBi on glass and 3.24 dBi on 2mm plastic. The compact PP enclosure, at just 36*30*10mm, makes it suitable for use where larger antennas cannot be installed. The GSA.8859 is also IP67 rated making suitable for use in harsh outdoor environments. Provided with 1m low loss CFD200 cable and SMA(M) connector as standard, which can be customized upon request.

For support on how to integrate and test this antenna within your application, or for sample requests, contact your regional Taoglas Customer Services Team.

2. Specifications

DSRC		
Frequency		5850~5925MHz
Efficiency (%)		
In free space	0.3m	80.23
	1m	68.30
	2m	54.24
	3m	44.09
	5m	28.26
On glass	0.3m	72.05
	1m	61.33
	2m	48.71
	3m	39.59
	5m	25.38
On the 2mm ABS	0.3m	78.34
	1m	66.67
	2m	52.96
	3m	43.05
	5m	27.60
Average Gain (dBi)		
In free space	0.3m	-0.96
	1m	-1.66
	2m	-2.66
	3m	-3.56
	5m	-5.49
On glass	0.3m	-1.42
	1m	-2.12
	2m	-3.12
	3m	-4.02
	5m	-5.96
On the 2mm ABS	0.3m	-1.06
	1m	-1.76
	2m	-2.76
	3m	-3.66
	5m	-5.59
Peak Gain (dBi)		
In free space	0.3m	3.27
	1m	2.57
	2m	1.57
	3m	0.67
	5m	-1.30
On glass	0.3m	4.84
	1m	4.14
	2m	3.14
	3m	2.24
	5m	0.34
On the 2mm ABS	0.3m	3.94
	1m	3.24
	2m	2.24
	3m	1.34
	5m	-0.66

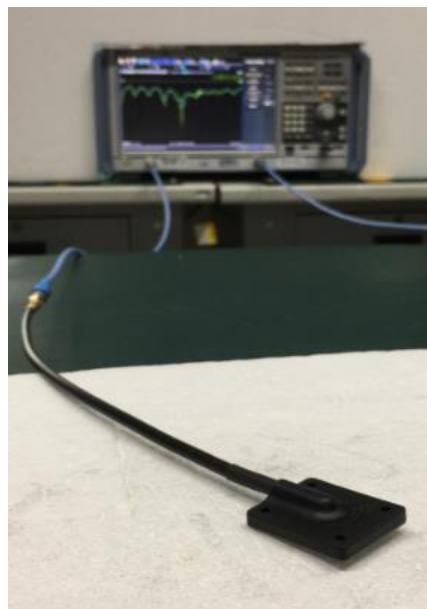
Electrical Specification	
Return loss	<-10
VSWR	<2
Impedance	50
Polarization	Linear
Radiation Pattern	Omnidirectional
Input Power	5W

Mechanical	
Dimensions	36*30*10mm
Casing	PP
Connector	SMA(M) ST, fully customizable
Cable	1M CFD200, fully customizable
Waterproof	IP67
Weight	42g

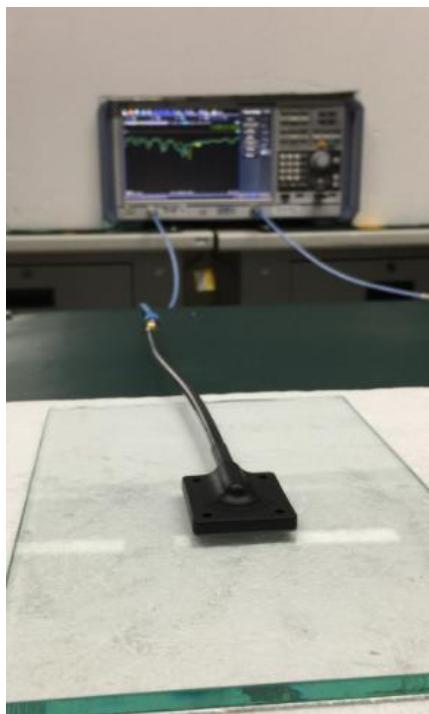
Environmental	
Temperature Range	-40°C to 85°C
Humidity	Non-condensing 65°C 95% RH

3. Antenna Characteristics

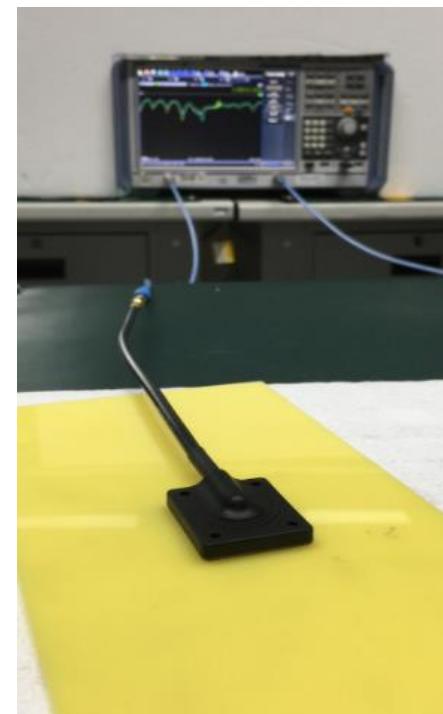
3.1 Antenna Test Setup



Free Space

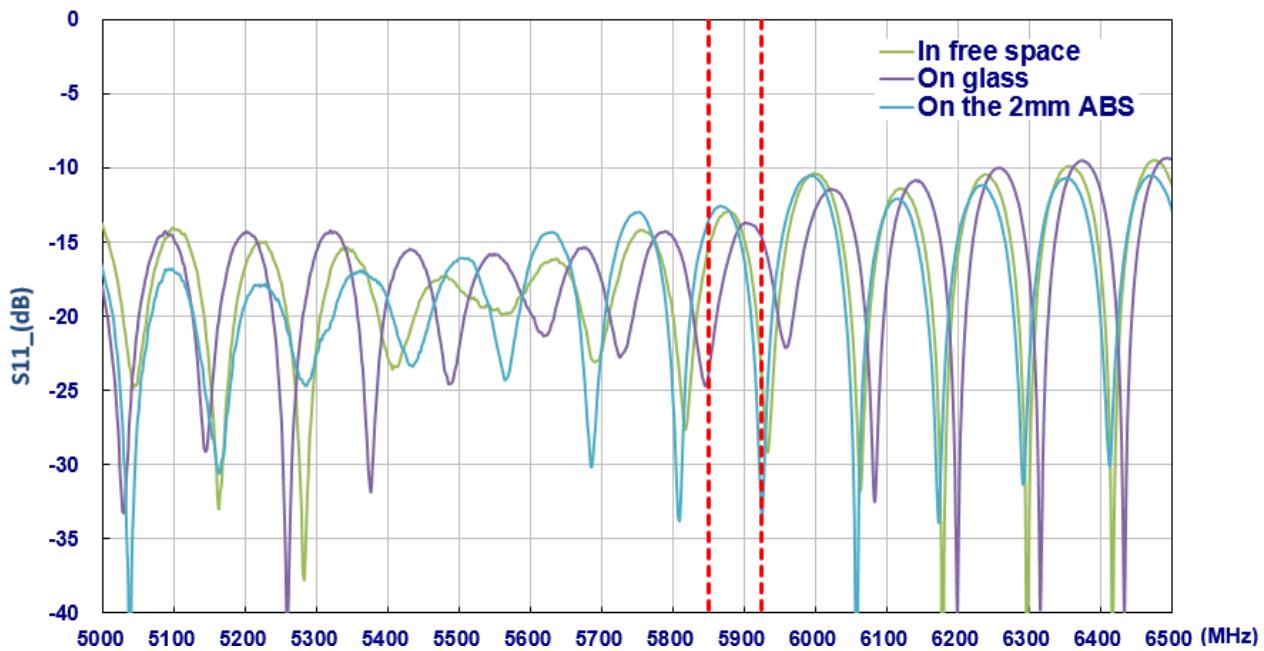


On Glass

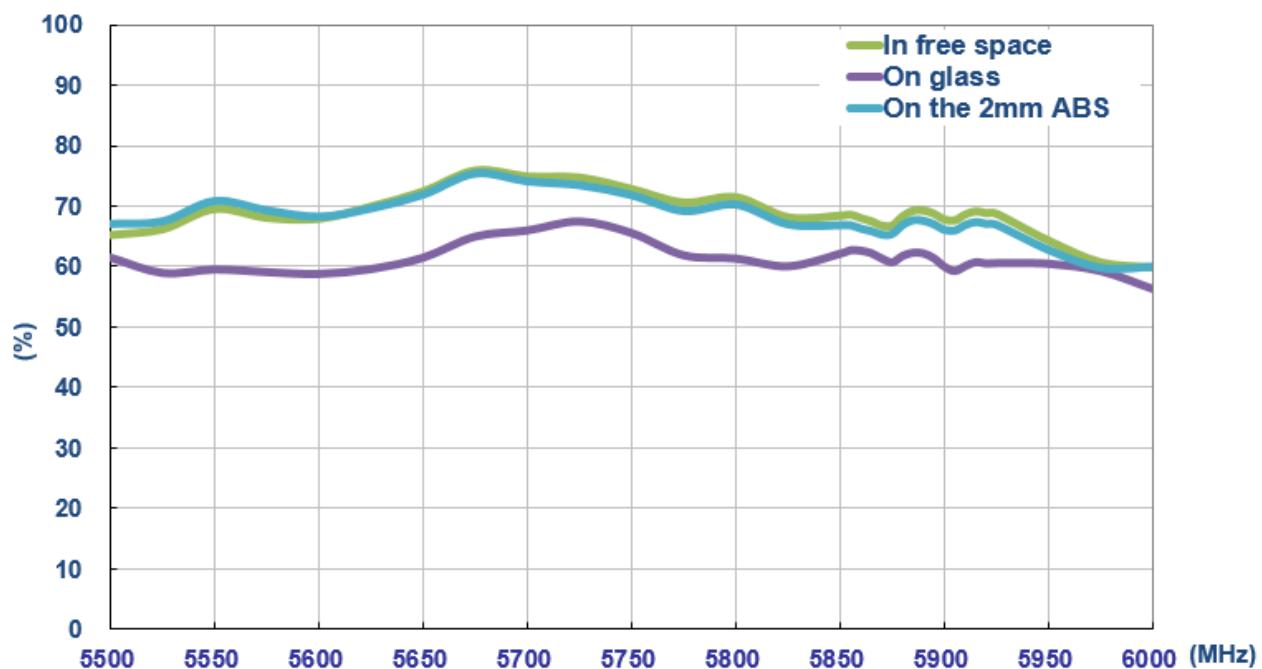


On 2mm ABS

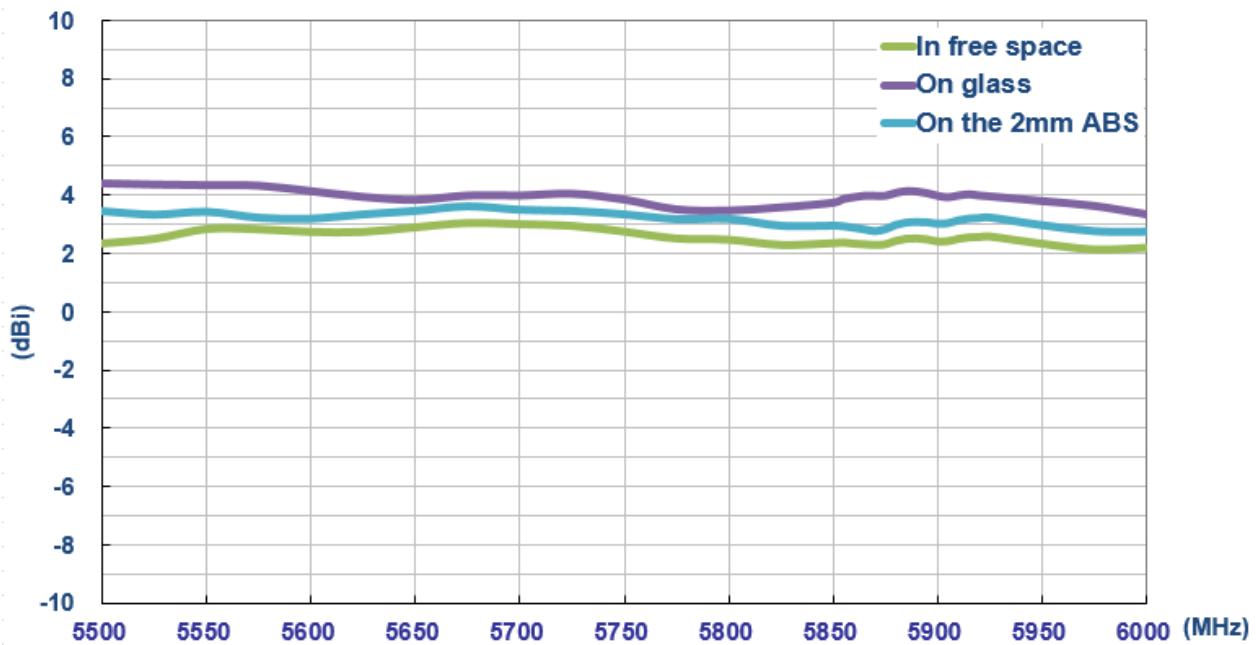
3.2 Return Loss



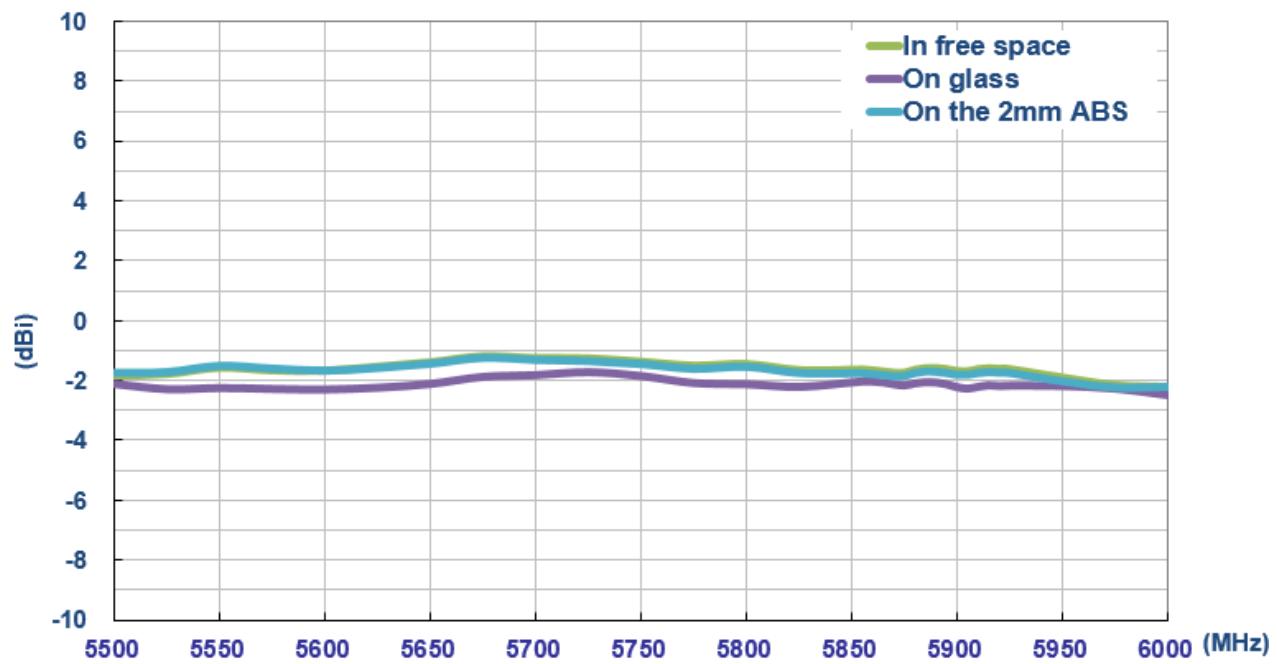
3.3 Efficiency



3.4 Peak Gain

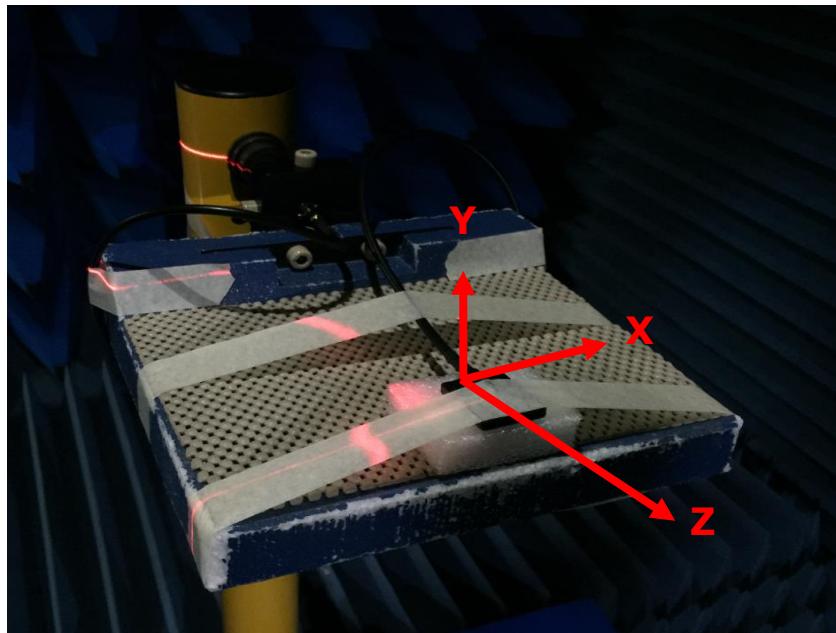


3.5 Average Gain

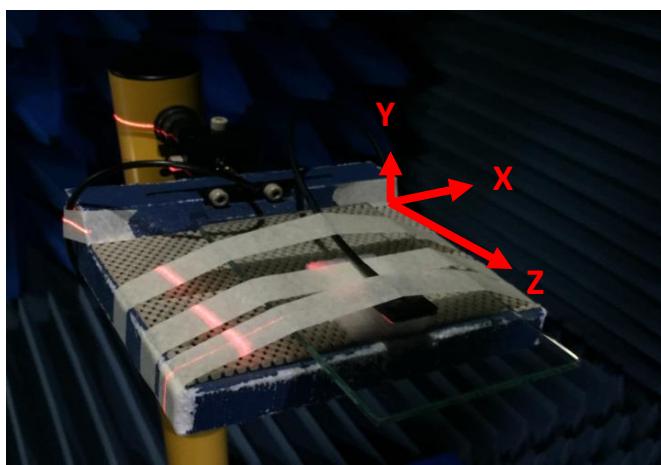


4. 2D Radiation Patterns

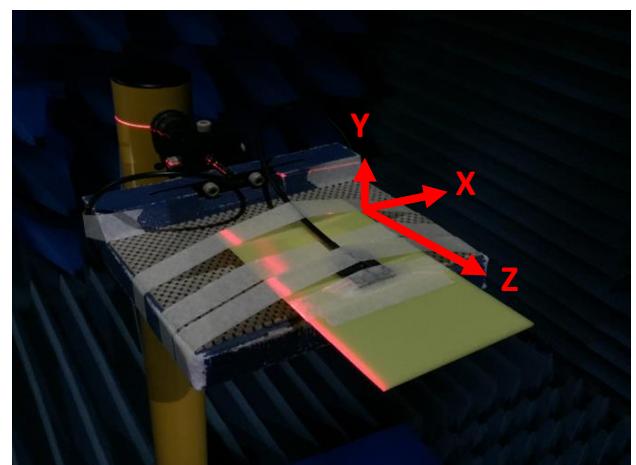
4.1 Test Setup



Free Space



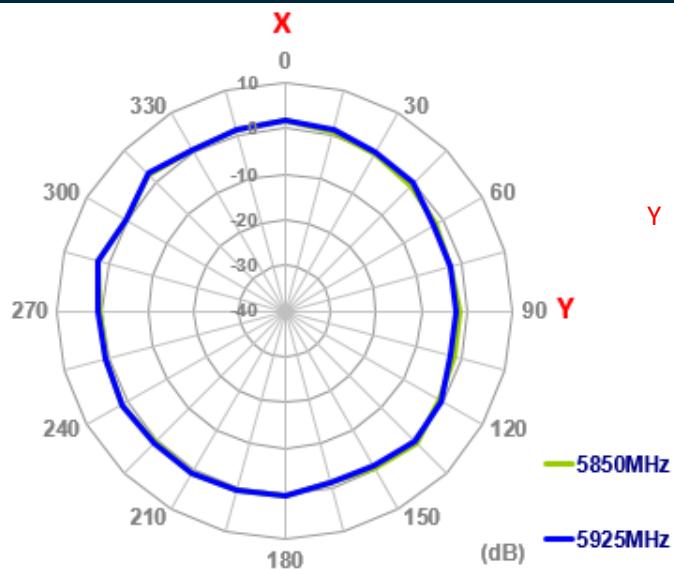
On Glass



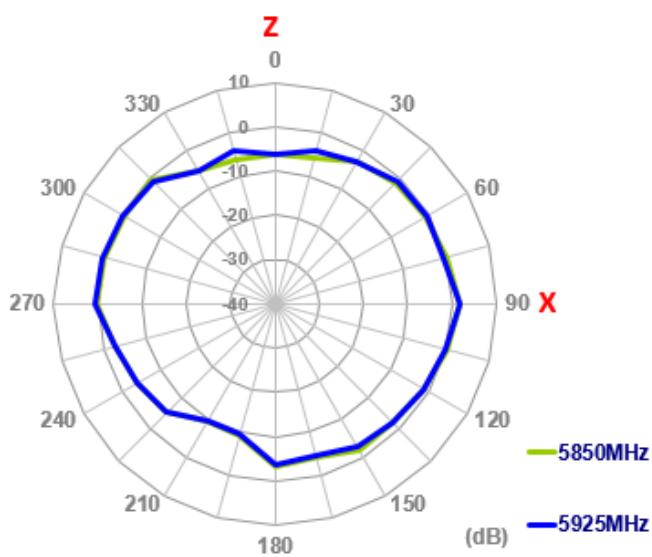
On 2mm ABS

4.2 In Free Space

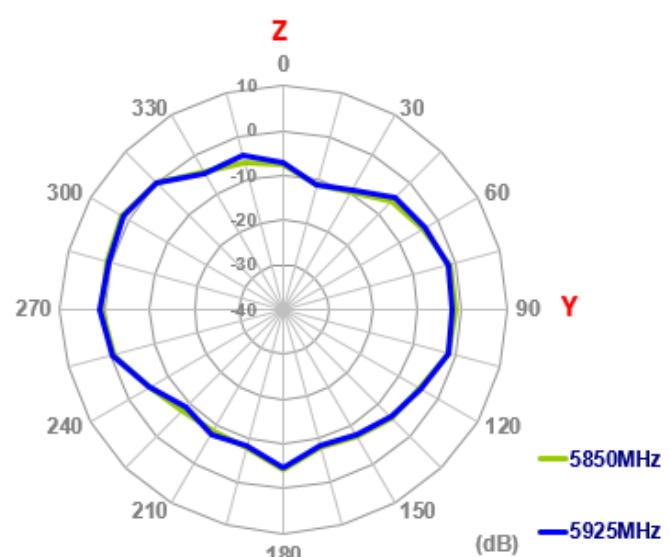
XY Plane



XZ Plane

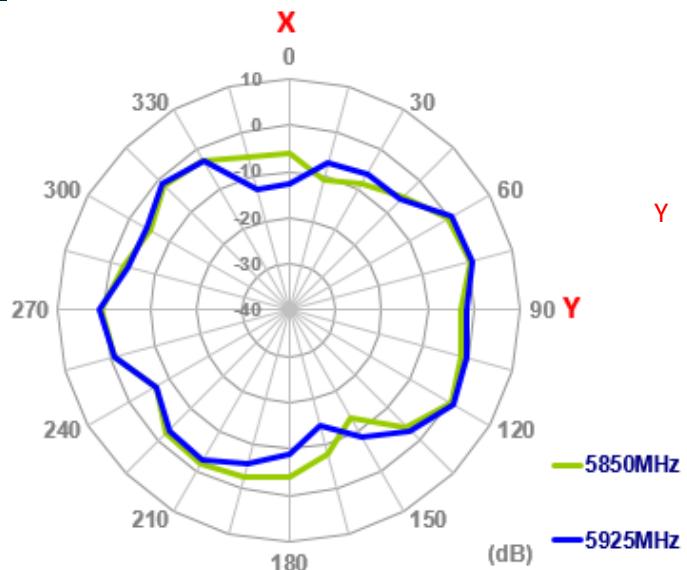


YZ Plane



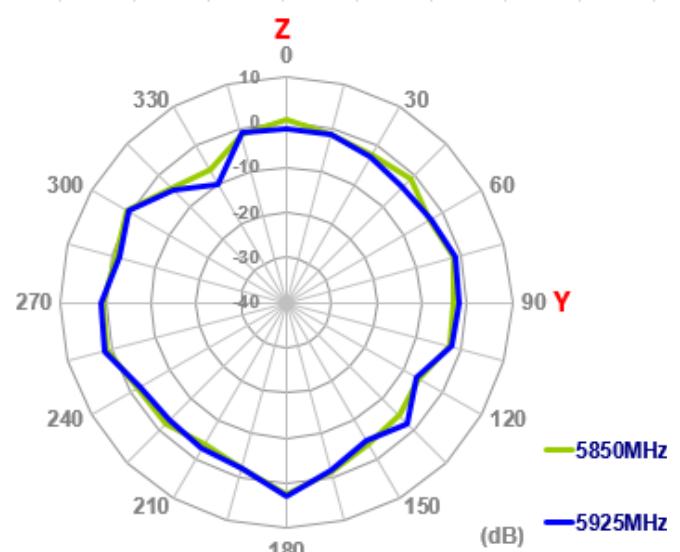
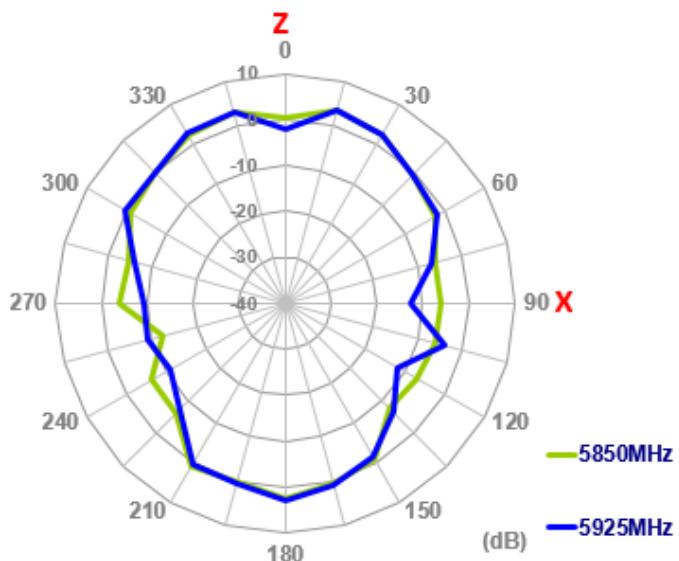
4.3 On Glass

XY Plane



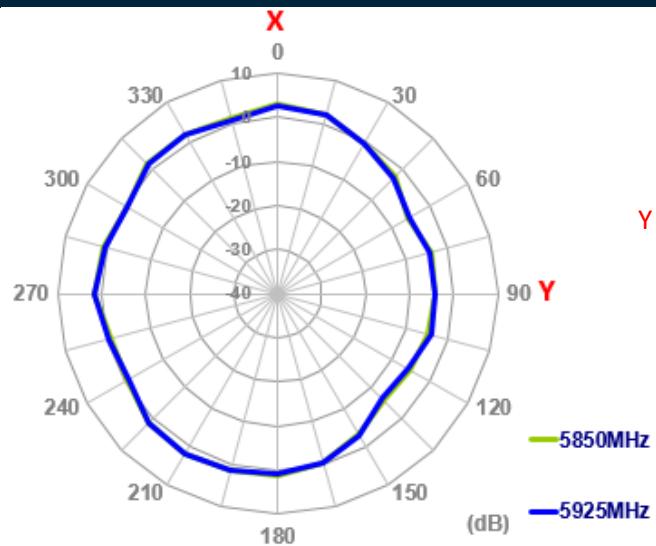
XZ Plane

YZ Plane

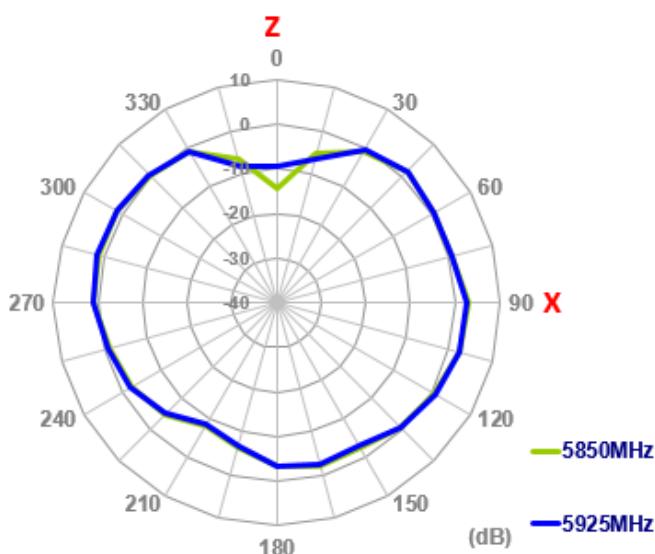


4.4 On 2mm ABS

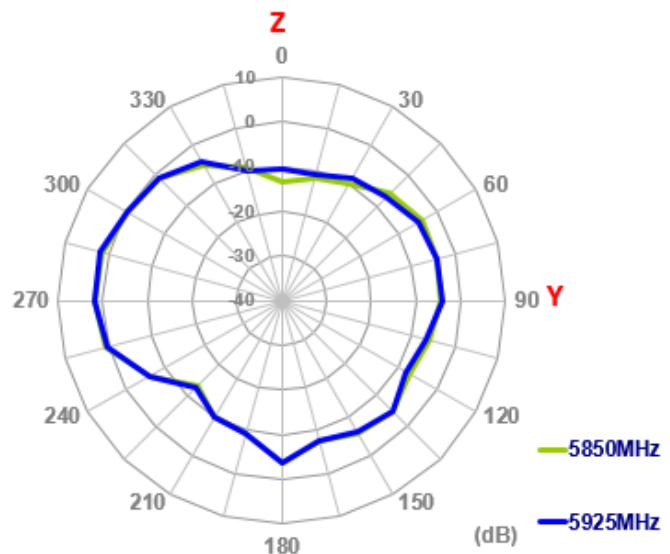
XY Plane



XZ Plane

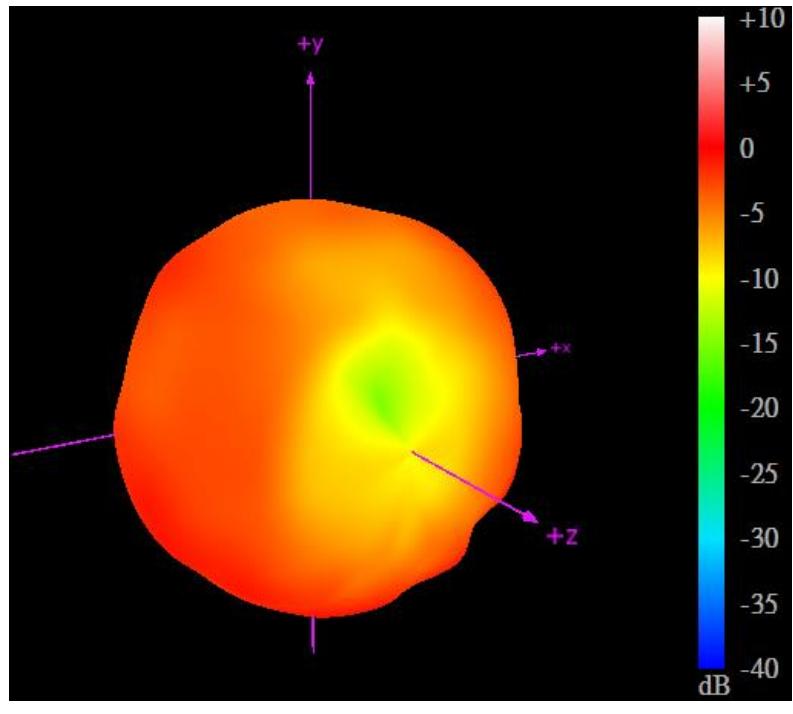


YZ Plane

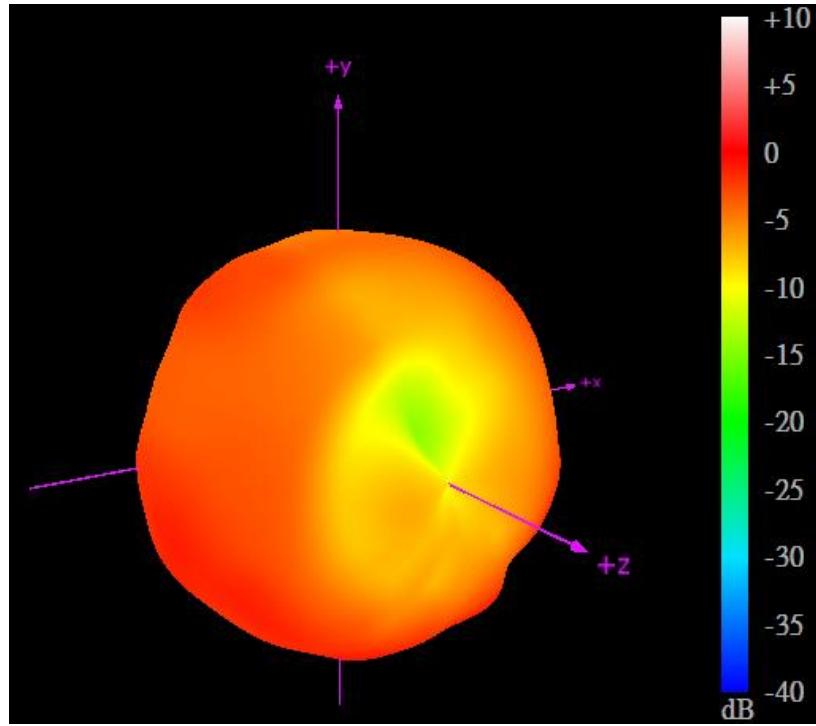


5. 3D Radiation Patterns

5.1 Free Space

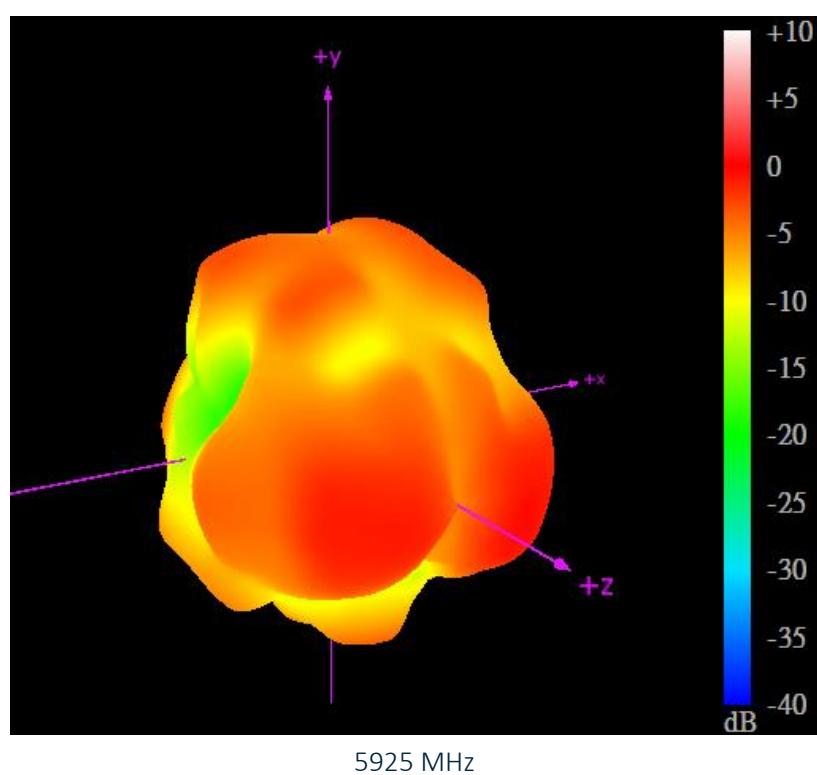
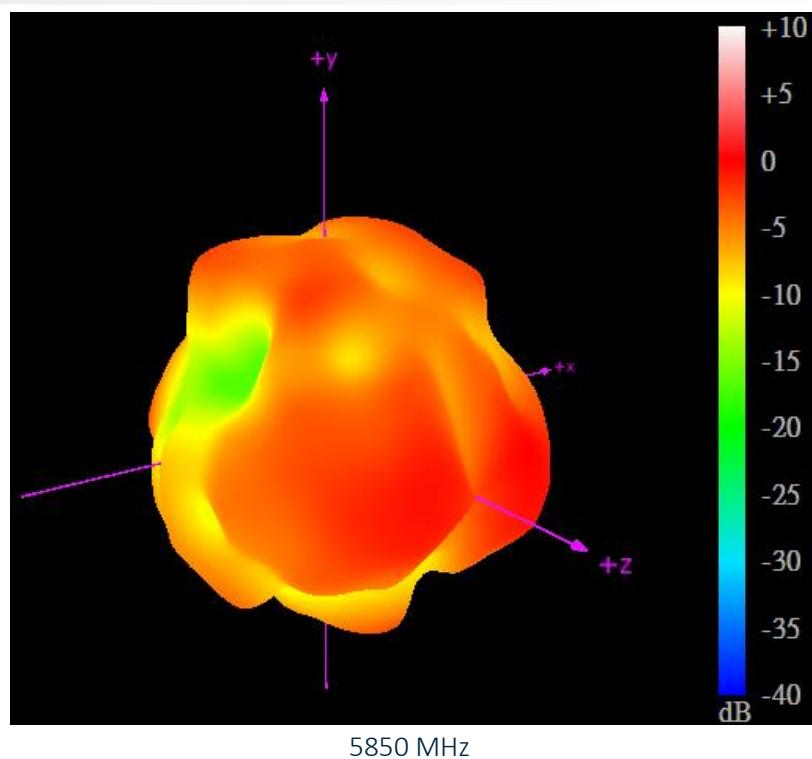


5850 MHz

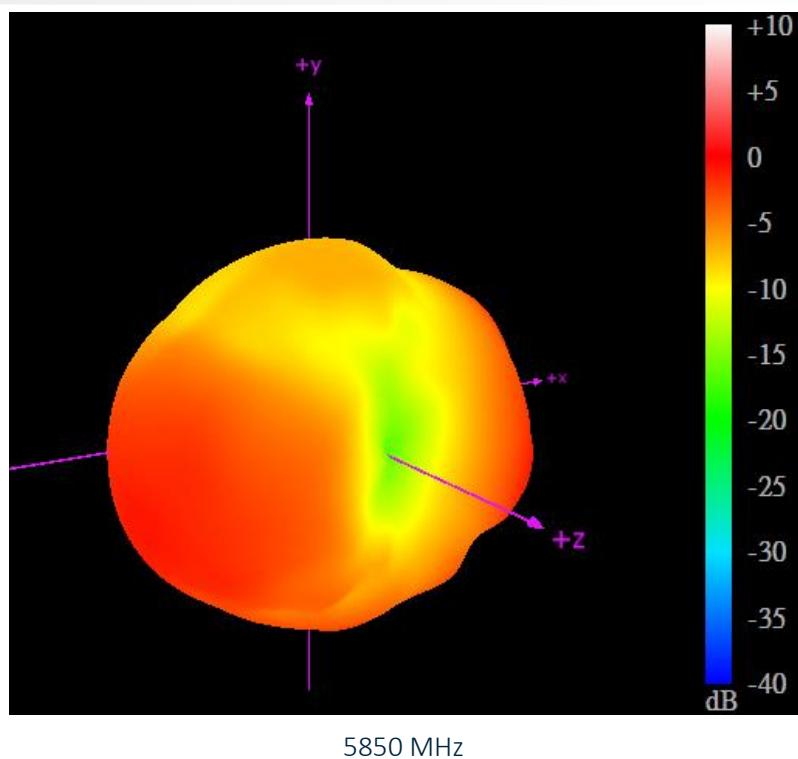


5925 MHz

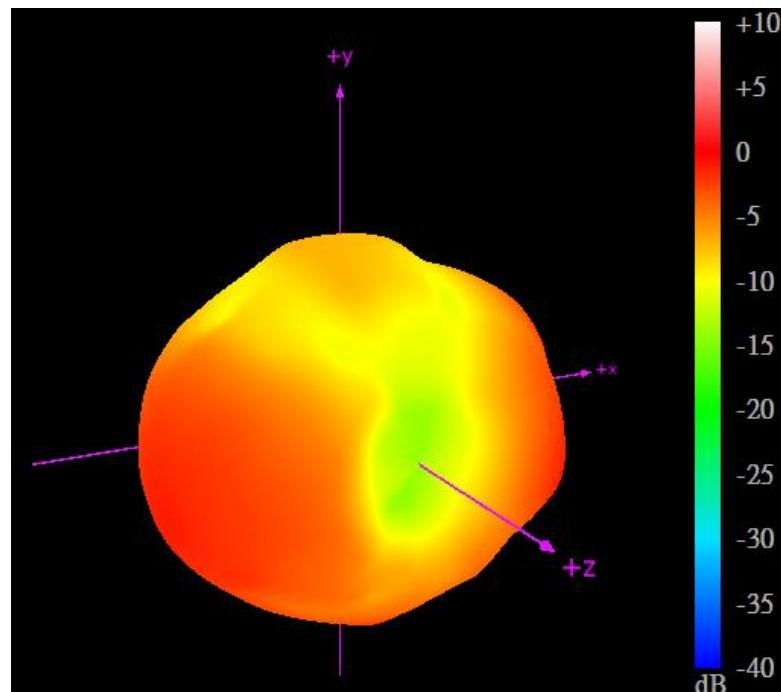
5.2 On Glass



5.3 On 2 mm ABS

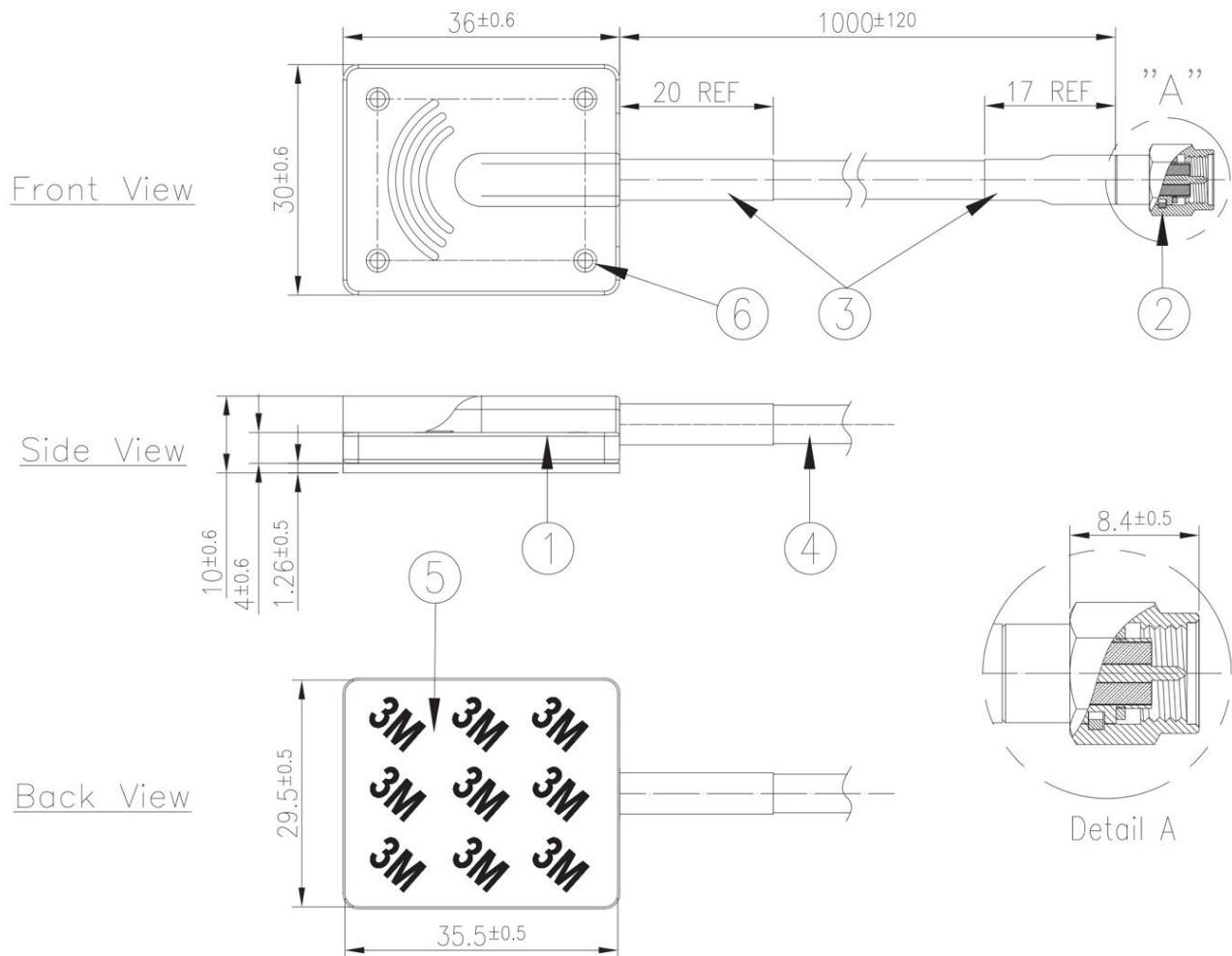


5850 MHz



5925 MHz

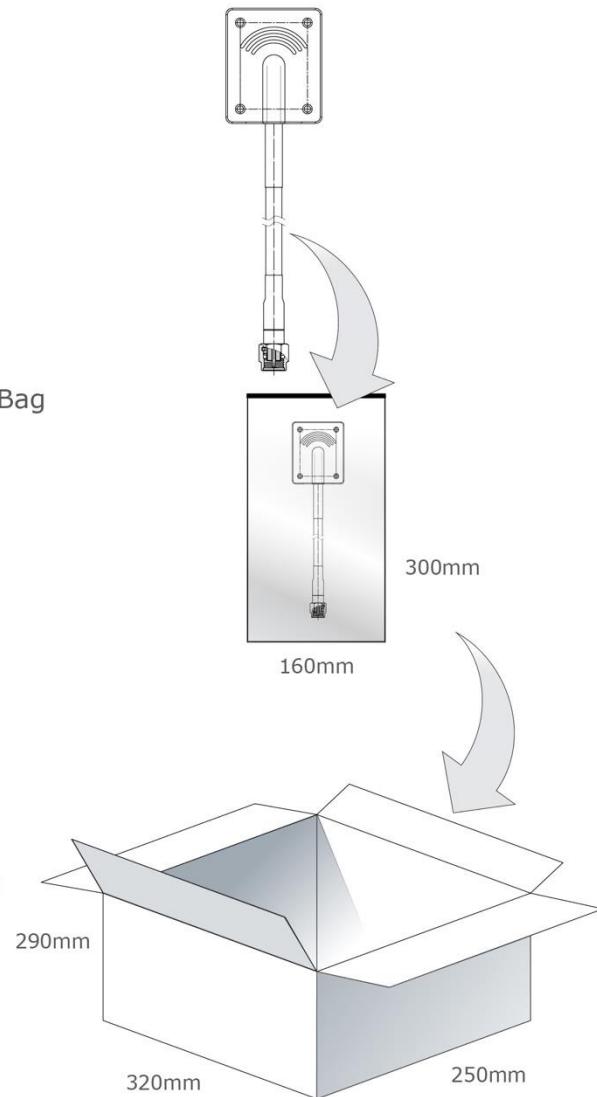
6. Mechanical Drawing (Units: mm)



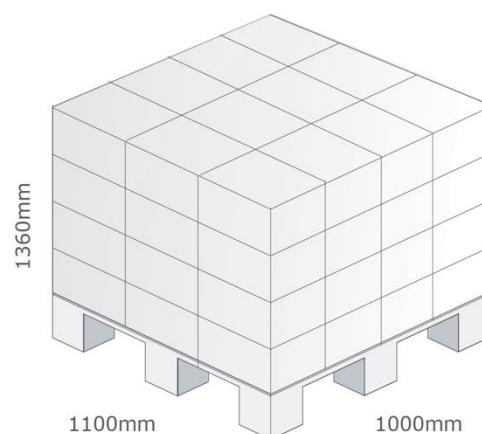
	Name	Material	Finish	QTY
1	GSA.8859 Housing	PP	Black	1
2	SMA(M)ST	Brass	Au Plated	1
3	Heat Shrink Tube	PE	Black	2
4	CFD200 Coaxial Cable	PE	Black	1
5	Double-Side Adhesive With Gray Foam	VHB 4941 1.26t	White Liner	1
6	GSA.8859 PCB	FR4 1.0t	Black	1

7. Packaging

1pc GSA.8859.A.105111 per Small PE Bag
 Bag Dimensions - 160*300 mm
 Weight - 50g



50pcs GSA.8859.A.105111 per Carton
 Carton Dimensions - 320*250*290mm
 Weight - 2.6Kg



Pallet Dimensions:
 1100mm*1000mm*1360mm
 48 Cartons per Pallet
 12 Cartons per Layer, 4 Layers

Changelog for the datasheet

SPE-17-8-012 - GSA.8859.A.105111

Revision: C (Current Version)

Date:	20223-10-16
Changes:	Updated specification
Changes Made by:	Cesar Sousa

Previous Revisions

Revision: B

Date:	2019-10-25
Changes:	Updated Specifications
Changes Made by:	Jack Conroy

Revision: A (Original First Release)

Date:	2016-09-27
Notes:	
Author:	Your Name Here



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