RFID Reader Antenna



ARRKP7059-S915B

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70.0 x 70.0 x 5.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

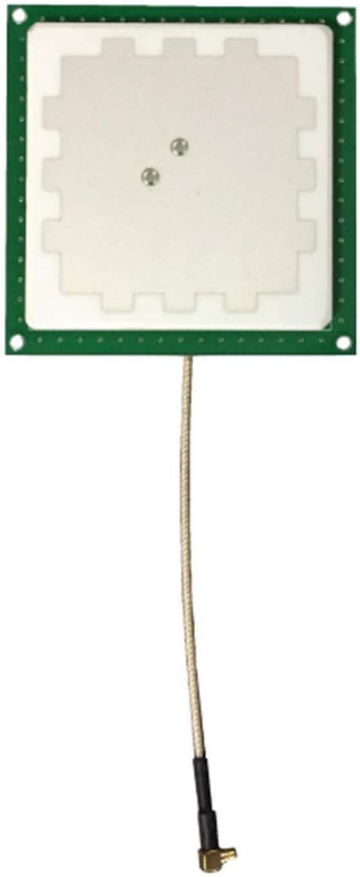
Features

- 902 ~ 928 MHz frequency range
- Gain of 3.5 dBi
- VSWR ≤ 2.0
- Easy to install
- RF Cable and Connector
- RoHS Compliant

Applications

- Industrial automation
- Smart Cards
- Asset Management
- Manufacturing
- Field Mobility
- Transportation

Product Image



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MSL Level = 1

Electrical Specification

Parameter	Specification	Unit	Note
Center Frequency	915	MHz	
Operating Frequency Range	902-928	MHz	
VSWR	< 2	:1	
Polarization	RHCP	-	
Peak Gain	3.5	dBi	Based on 70×70mm ground plane
Axial Ratio	< 3	dB	
Impedance	50	Ω	
Band width @ -10dB	≥20	MHz	

Note: All measurements were performed using the evaluation board in a free-space environment. Actual performance may vary depending on factors such as the ground plane, specific application, and surrounding environment.

Mechanical Specification

Parameter	Specification
Antenna	60 x 60 x 5.0 mm
Evaluation board Dimension	70 x 70 mm
PCB	FR4
RF Cable	RG-178, L1=90±2.5mm
RF Connector	MMCX-JW
Material(s)	Dielectric Ceramics

Environmental Specification

Parameter	Specification
Operating Temperature	-40ºC ~ +85ºC
Storage Temperature	-45ºC ~ +85ºC
Relative Humidity	10% ~ 95% RH
MSL	1

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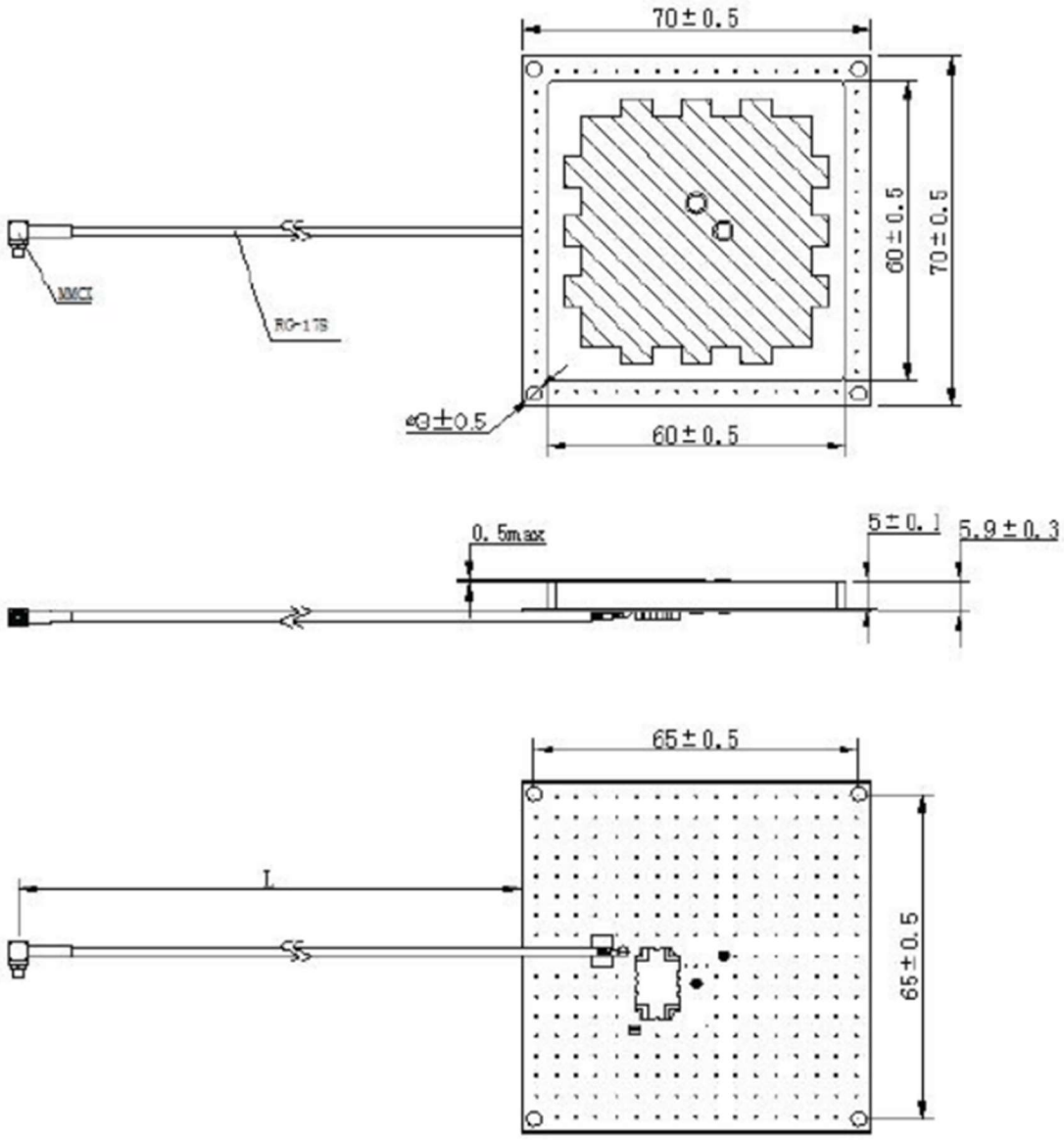


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MSL Level = 1

Product Dimensions



Unit: mm

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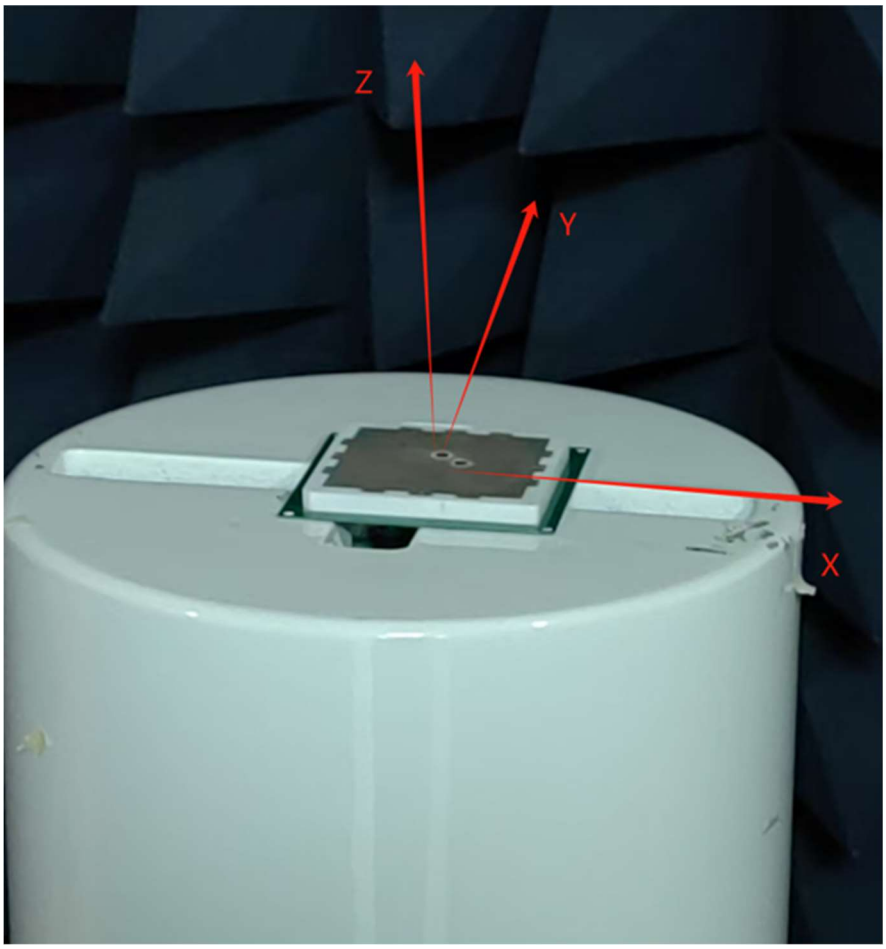


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Measurement Setup photo



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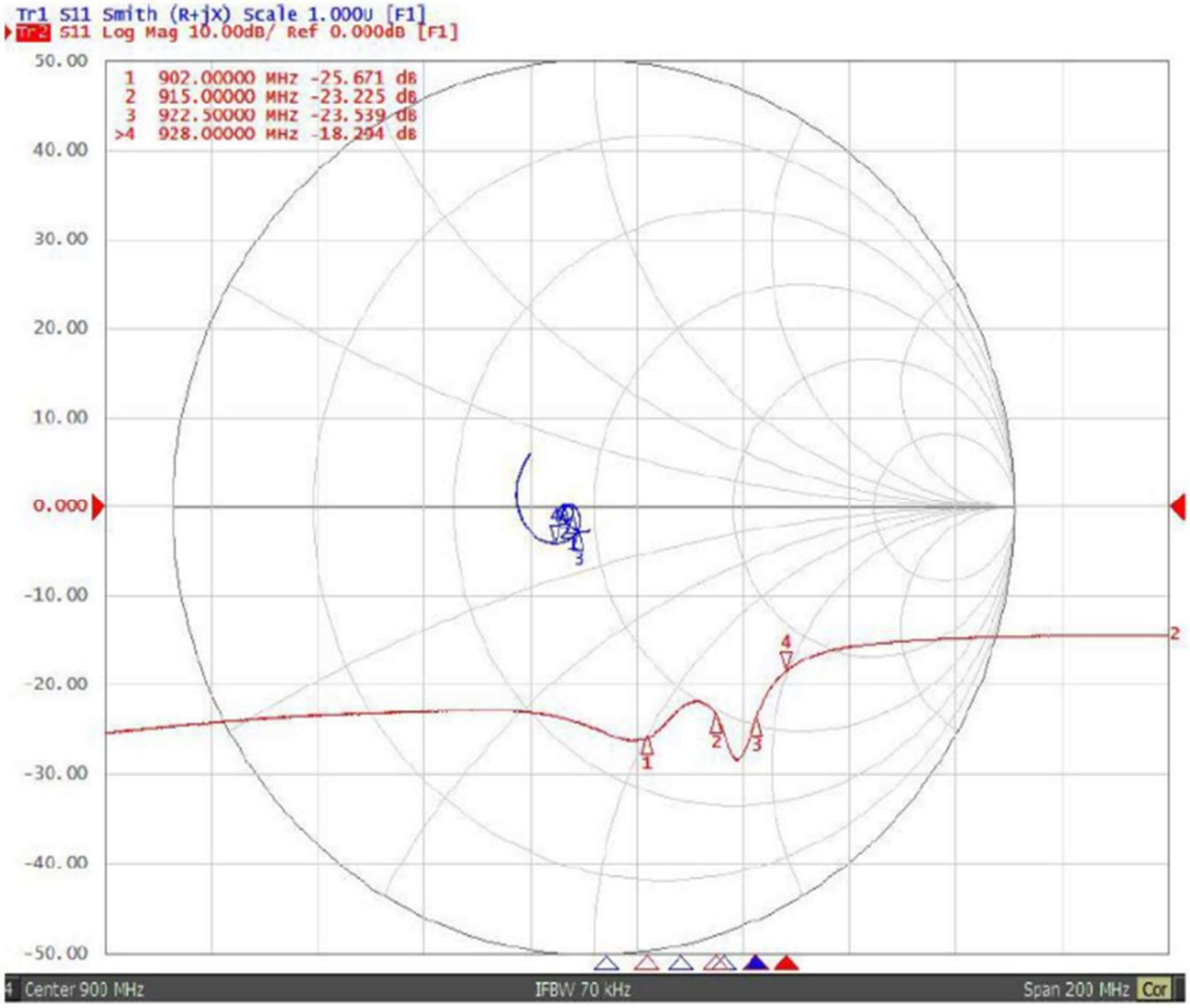
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70.0 x 70.0 x 5.9 mm
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MSL Level = 1

Smith Chart



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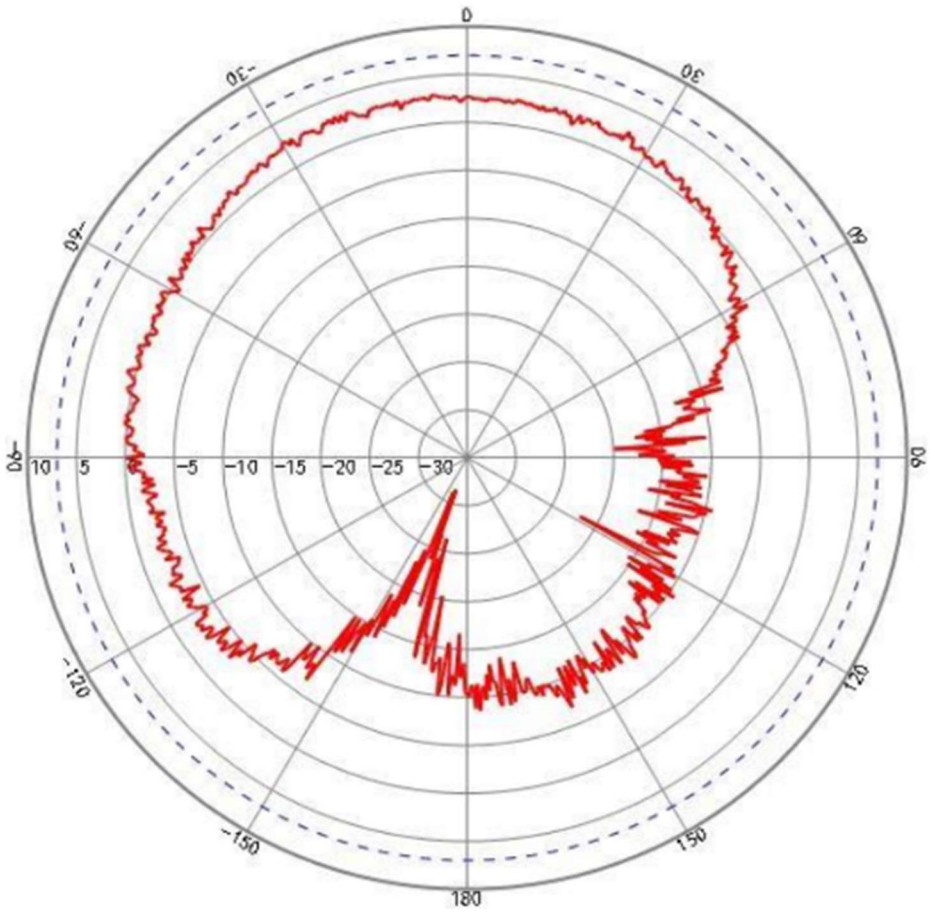
70.0 x 70.0 x 5.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

Radiation Pattern

2D Pattern @ 915MHz

Plane	XZ	YZ	XY
Measurement Angle(deg)	94.37	110.06	0-360
Peak Gain (dBi)	3.10	2.80	3.20

XZ - Plane



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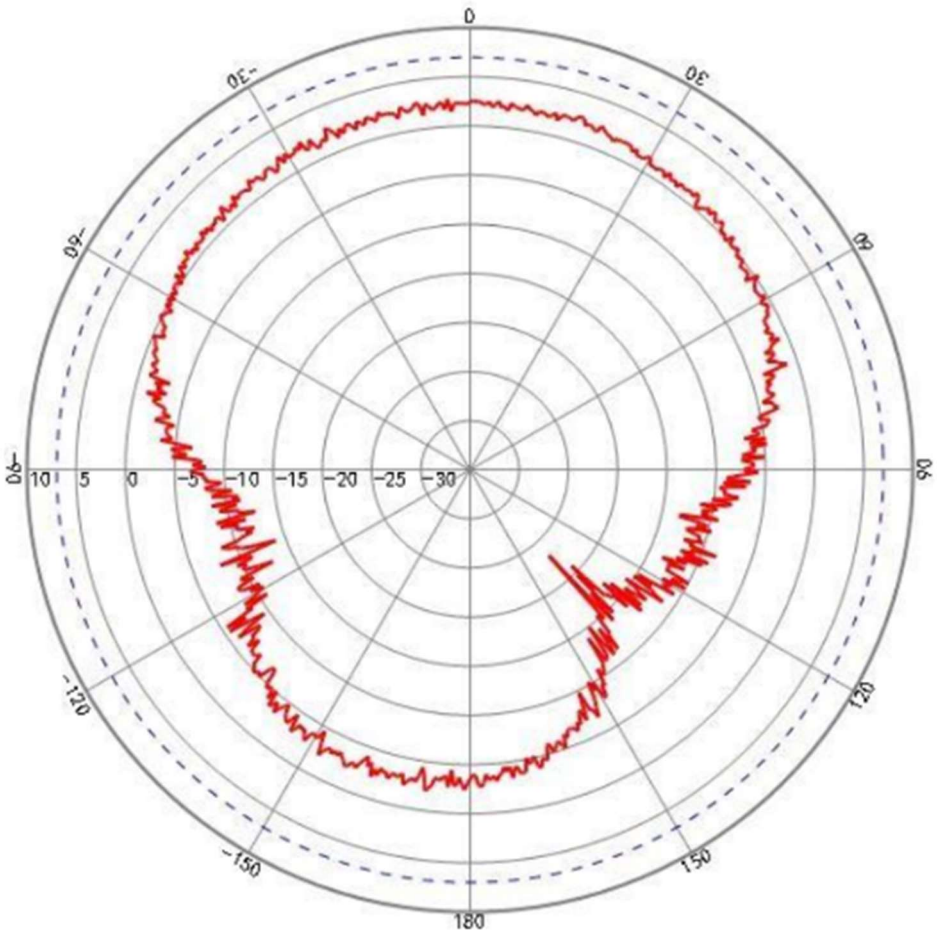


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70.0 x 70.0 x 5.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

YZ- Plane



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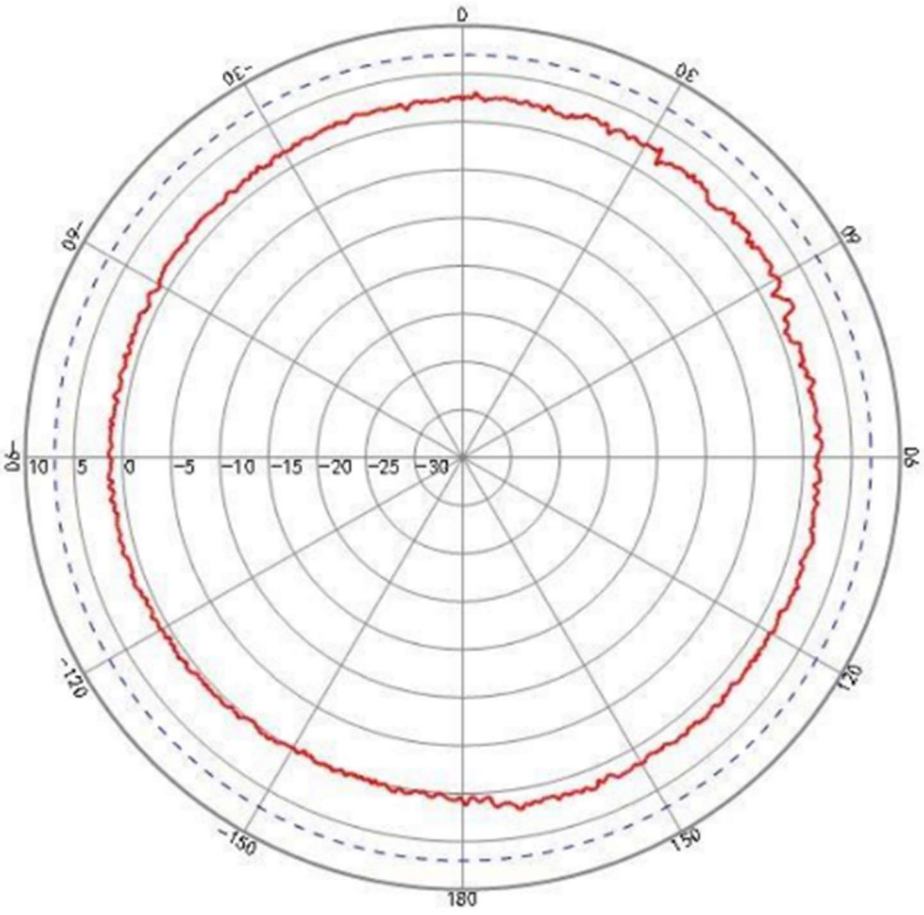


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70.0 x 70.0 x 5.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

XY -Plane



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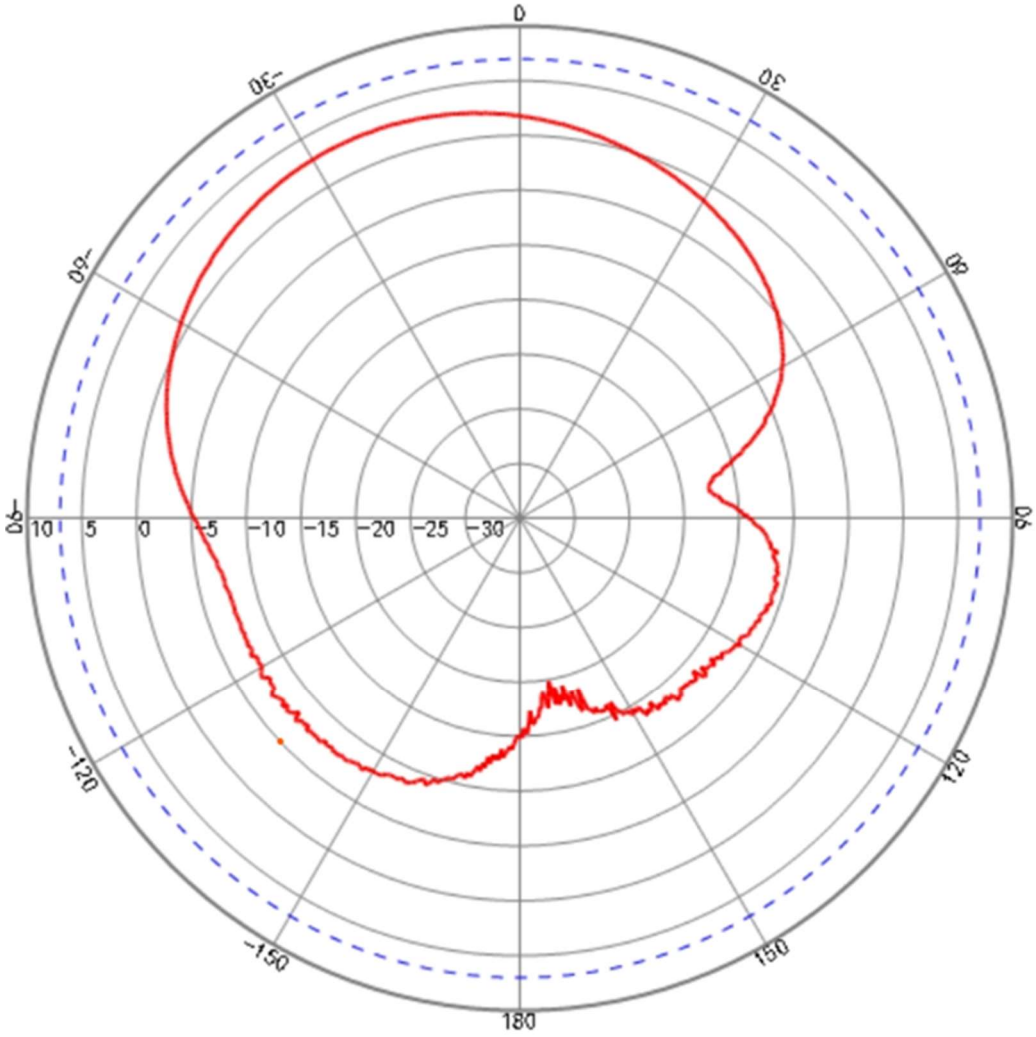
Request Samples | Check Inventory

70.0 x 70.0 x 5.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

2D Pattern @ 917MHz

Measurement Frequency: 917 MHz
Polarization Mode: Right-Handed
Comparison Error: 2.90

XZ -Plane



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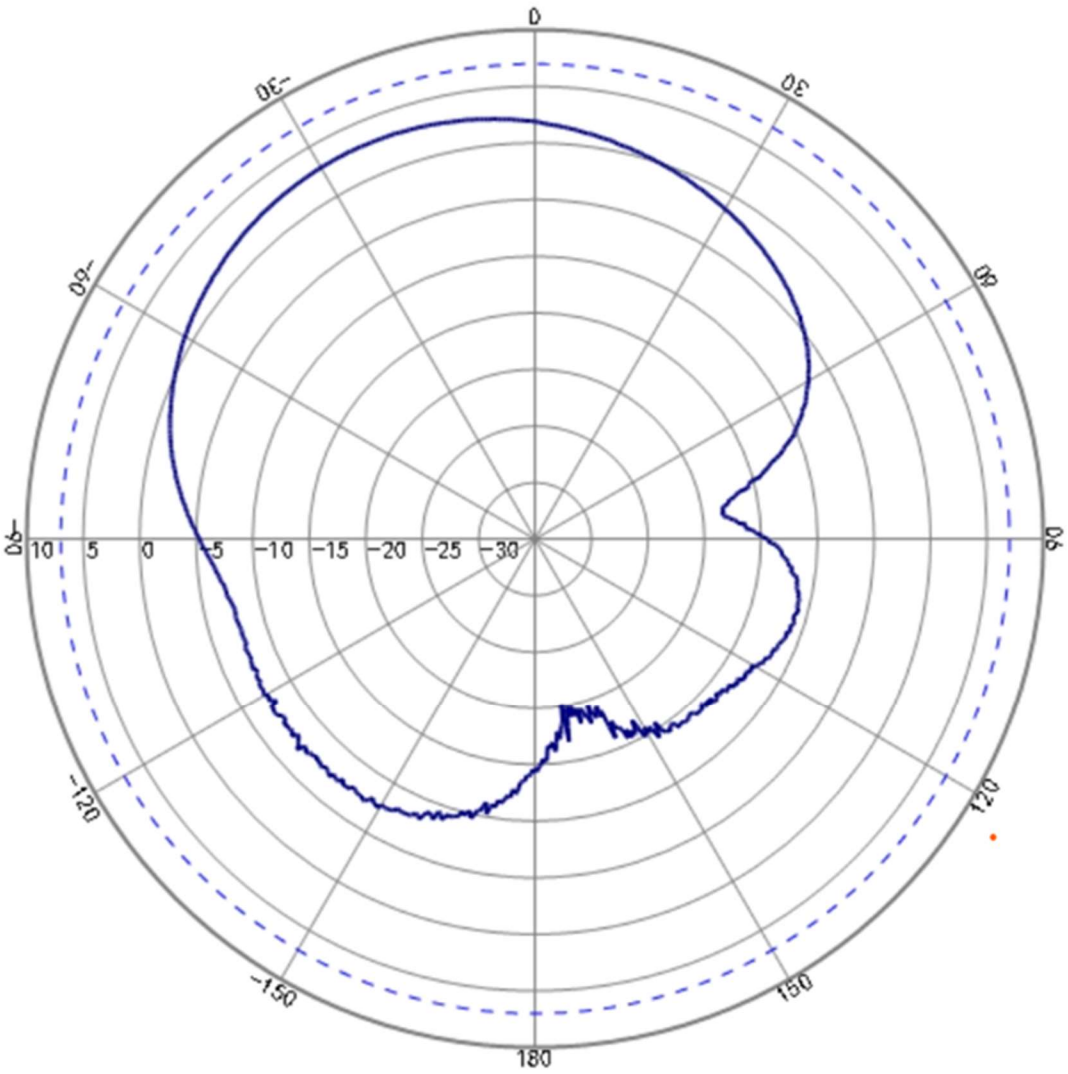
Request Samples | Check Inventory

70.0 x 70.0 x 5.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

2D Pattern @ 918MHz

Measurement Frequency: 918 MHz
Polarization Mode: Right-Handed
Comparison Error: 2.98

XZ -Plane



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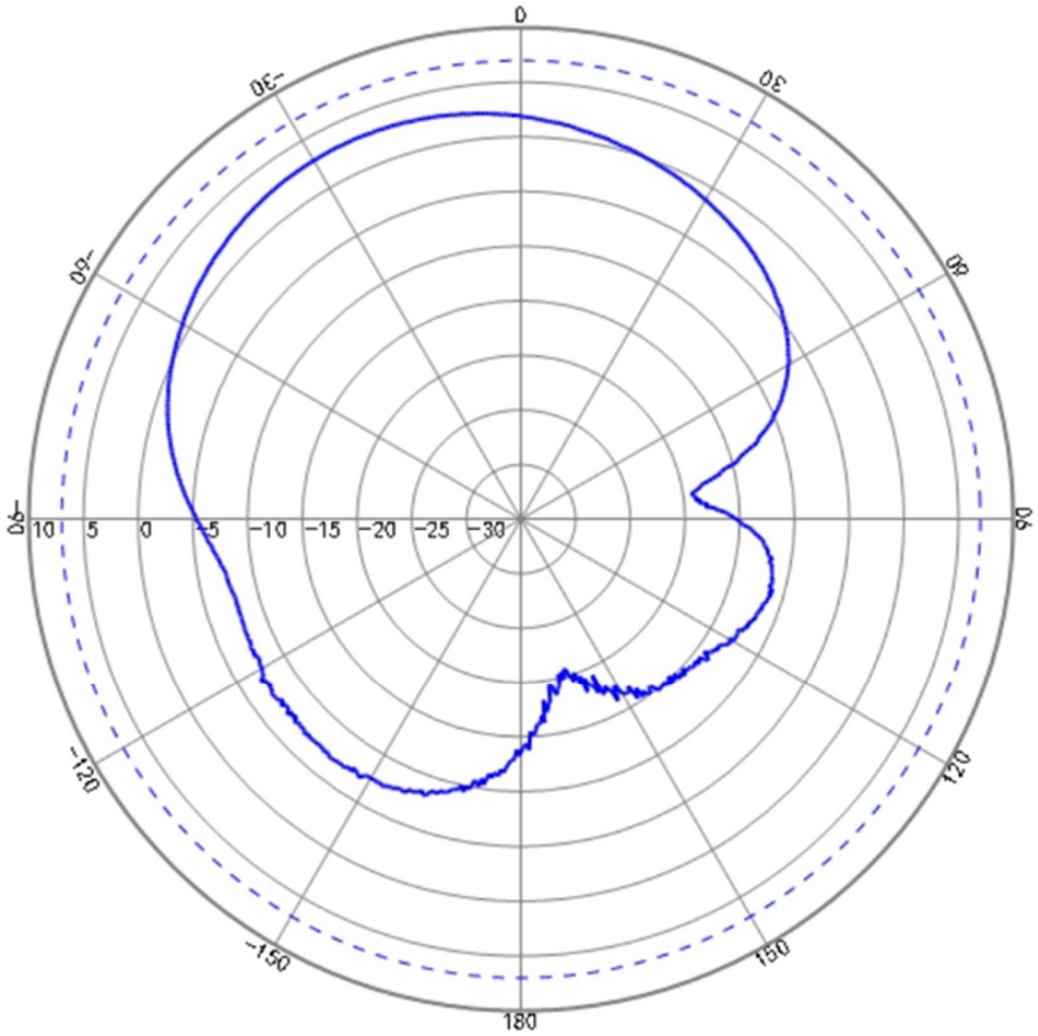
Request Samples | Check Inventory

70.0 x 70.0 x 5.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

2D Pattern @ 919MHz

Measurement Frequency: 919 MHz
Polarization Mode: Right-Handed
Comparison Error: 2.98

XZ -Plane



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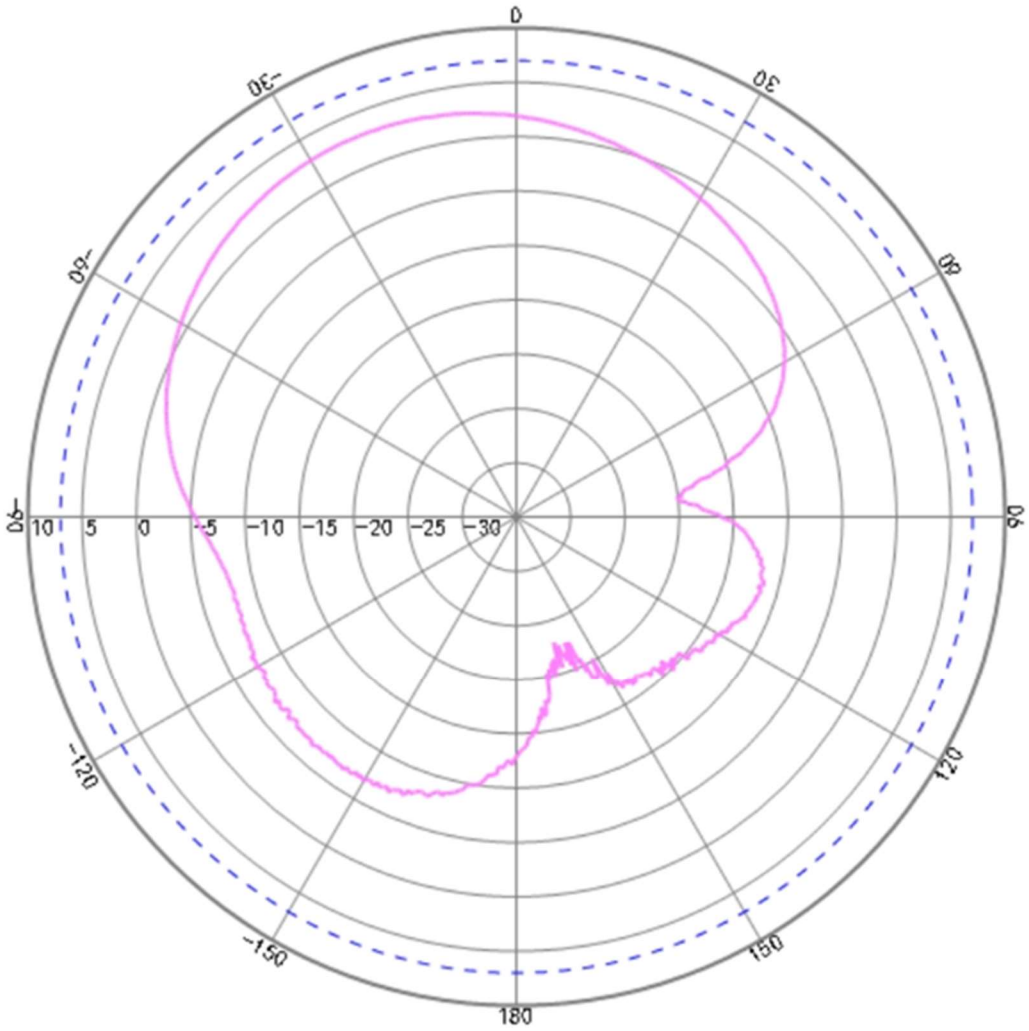
Request Samples | Check Inventory

70.0 x 70.0 x 5.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

2D Pattern @ 920MHz

Measurement Frequency: 920 MHz
Polarization Mode: Right-Handed
Comparison Error: 2.97

XZ -Plane



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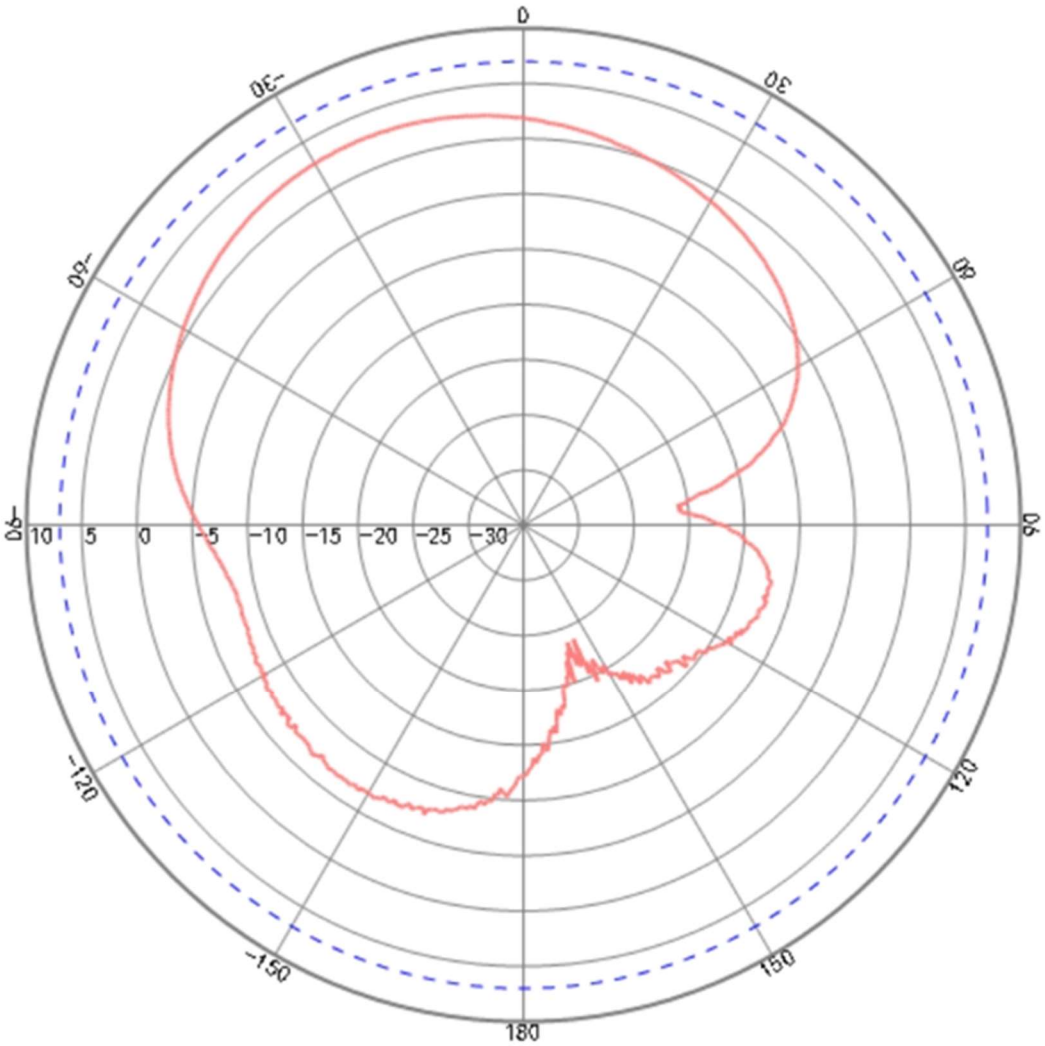
Request Samples | Check Inventory

70.0 x 70.0 x 5.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

2D Pattern @ 921MHz

Measurement Frequency: 921 MHz
Polarization Mode: Right-Handed
Comparison Error: 2.90

XZ -Plane



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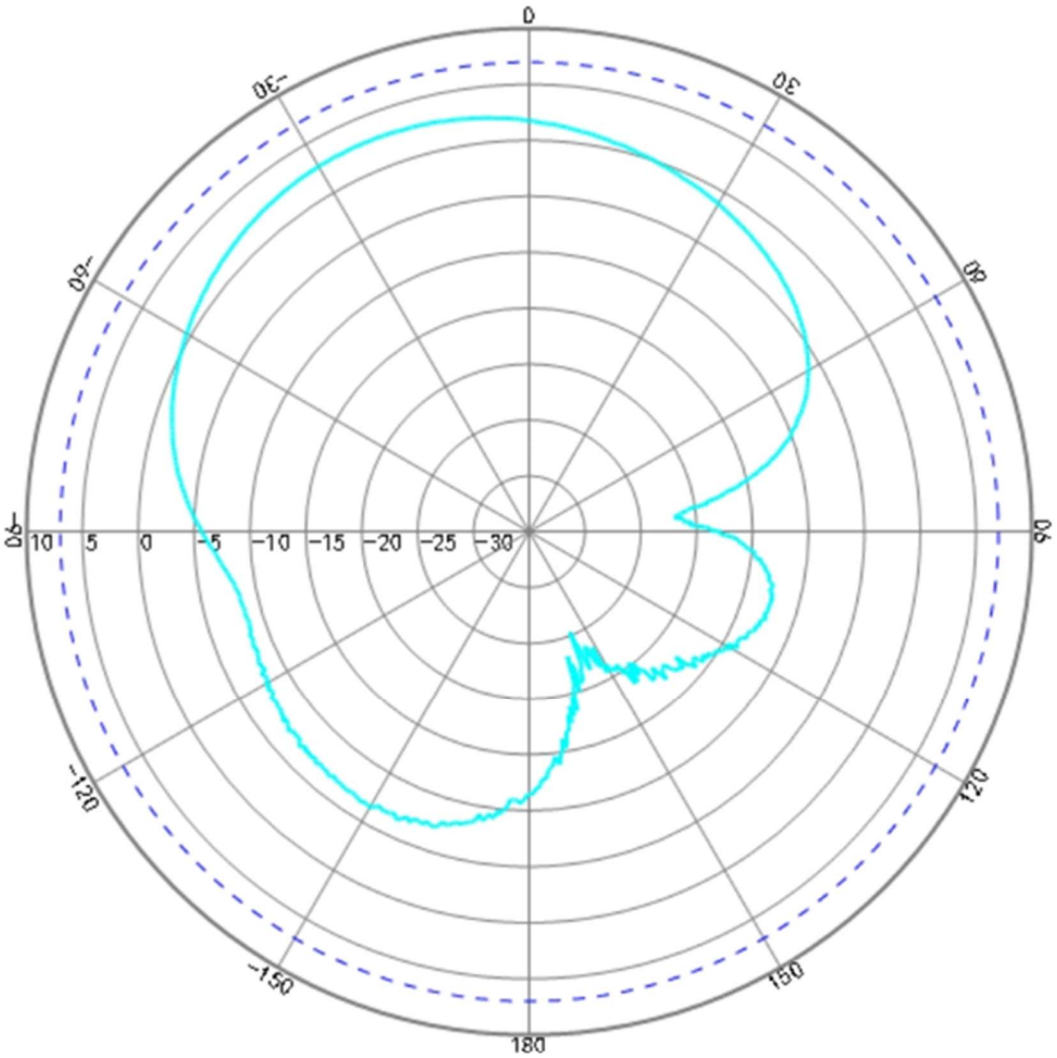
Request Samples | Check Inventory

70.0 x 70.0 x 5.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

2D Pattern @ 922MHz

Measurement Frequency: 922 MHz
Polarization Mode: Right-Handed
Comparison Error: 2.78

XZ -Plane



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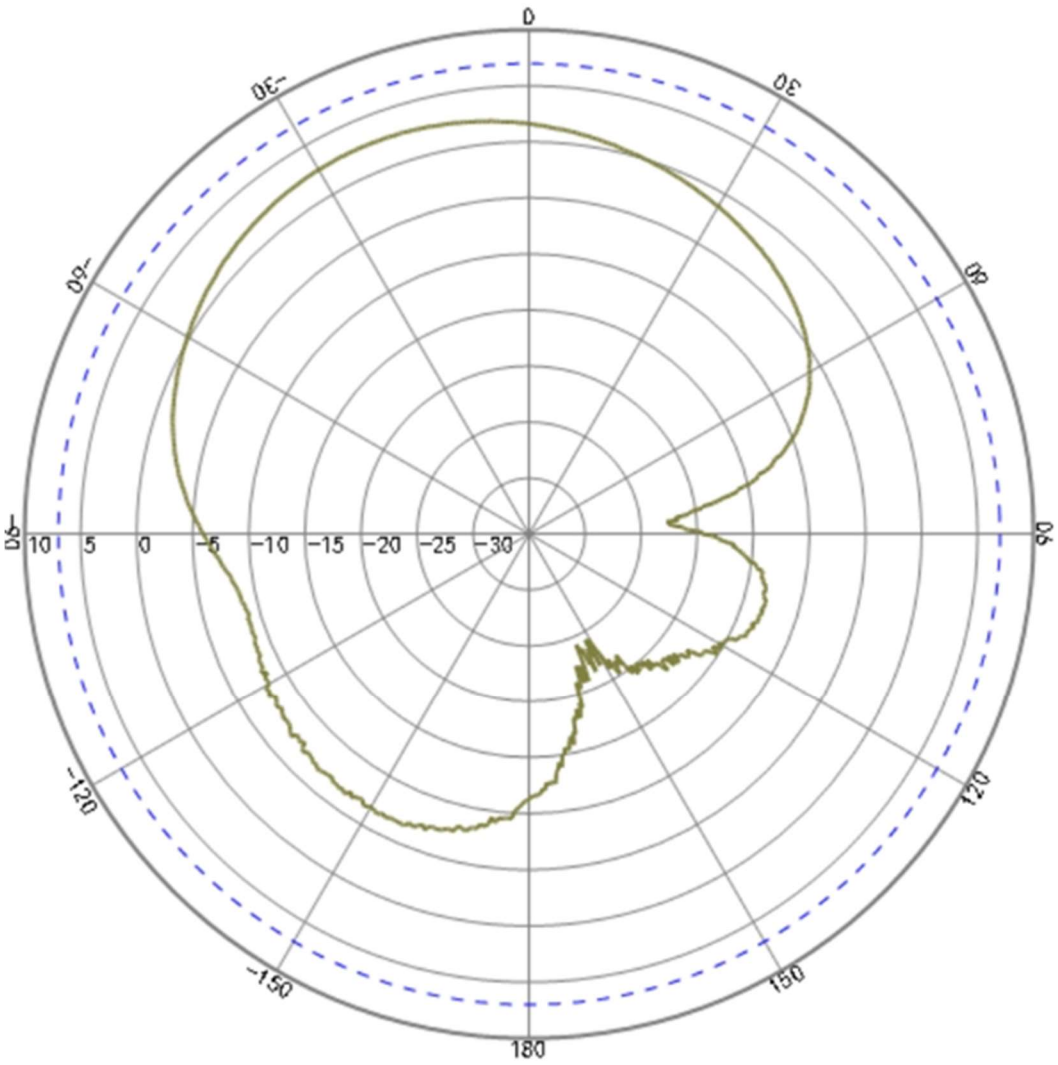
Request Samples | Check Inventory

70.0 x 70.0 x 5.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

2D Pattern @ 923MHz

Measurement Frequency: 923 MHz
Polarization Mode: Right-Handed
Comparison Error: 2.61

XZ -Plane



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MSL Level = 1

Reflow Profile [JEDEC J-STD-020]

Solder paste: Sn/3.0Ag/0.5Cu

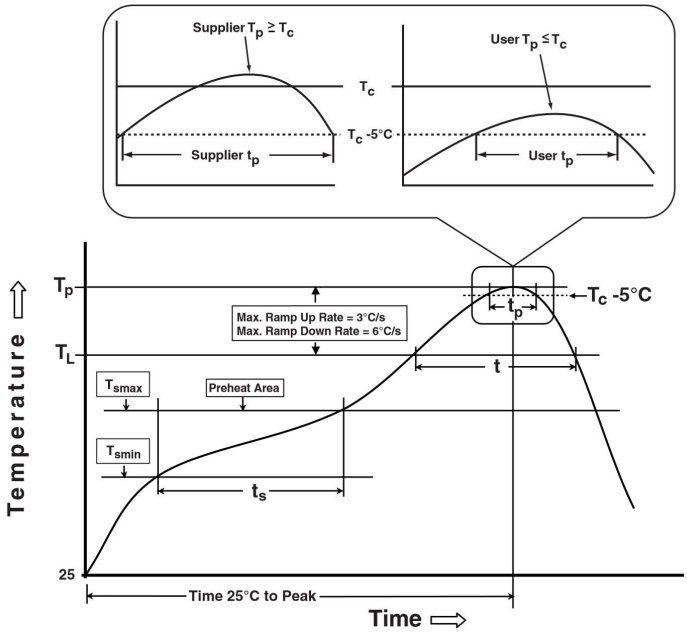


Table 1

SnPb Eutectic Process Classification Temperatures (T_c)		
Package Thickness	**Volume mm³ <350**	**Volume mm³ ≧350**
<2.5mm	235°C	220°C
≧2.5mm	220°C	220°C

Table 2

Pb-Free Process Classification Temperatures (T_c)			
Package Thickness	**Volume mm³ <350**	**Volume mm³ 350-2000**	**Volume mm³ >2000**
<1.6mm	260°C	260°C	260°C
1.6mm - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat / soak		
Temperature minimum (T_{smin})	100°C	150°C
Temperature maximum (T_{smax})	150°C	200°C
Time (T_{smin} to T_{smax}) (t_s)	60 – 120 sec.	60 – 90 sec.
Average ramp-up rate (T_{smax} to T_p)	3°C/sec. max	3°C/sec. max
Liquidous temperature (T_L)	183°C	217°C
Time at Liquidous (T_L)	60 – 150 sec.	60 – 150 sec.
Peak package body temperature (T_p)*	**See Table 1**	**See Table 2**
Time (T_p)** within 5°C of the specified classification temperature (T_c)	20 sec.	10 sec.
Ramp-down rate (T_p to T_{smax})	6°C/sec. max	6°C/sec. max
Time 25°C to peak temperature	6 min. max	8 min. max
Reflow cycles	2 max	2 max

*Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.
**Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.

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MSL Level = 1

Packaging

The carton contains 2 inner boxes each with 18 pcs inside, and the size of each carton is 38 x 30 x 24cm.

Package Type	Quantity
Inner Box	18
Boxes per carton	2
Total qty per carton	36
Carton Gross weight	4Kg
Carton dimensions	38*30*24cm

Caution

(1) Do not apply excess mechanical stress to the component body or terminations. Do not attempt to re-form or bend the components as this will cause damage to the component.

(2) Do not expose the component to open flame.

(3) This specification applies to the functionality of the component as a single unit. Please ensure the component is thoroughly evaluated in the application circuit.

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