

# LPWA: 868 MHz Board Antenna

**ABR3407I8**

Request Samples



Check Inventory



34 x 7 x 0.8 mm

RoHS/RoHS II Compliant

MSL Level = 1

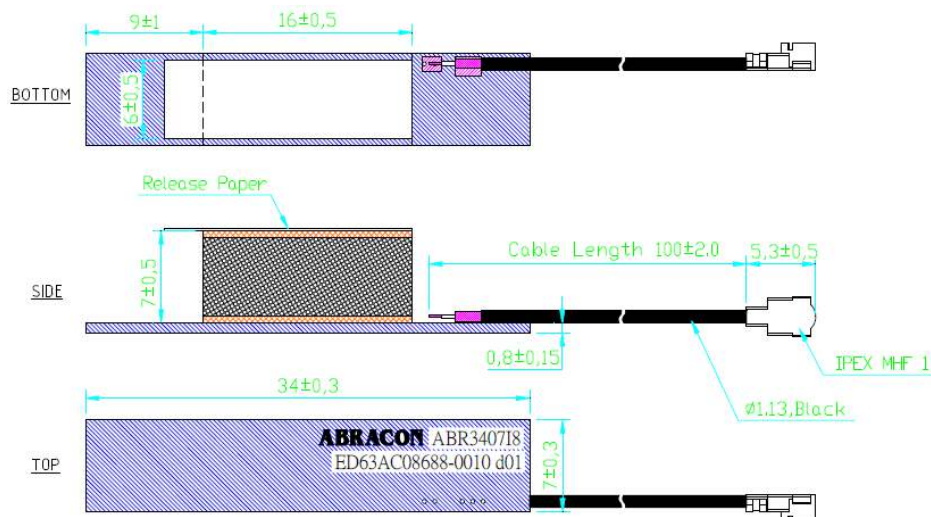
## Features

- Low Profile PCB
- Compact Design
- Double Sided Foam
- Peak Gain of 1.28 dBi
- Linear Polarization
- Adhesive Mount
- Customizable RF cable and connector options

## Applications

- LPWA/LoRA/SigFox/ISM Applications
- Remote Technology / Monitoring
- Network Devices
- Consumer Tracking
- Smart Home

## Product Dimensions



- ▨ Cover Area
- ▨ Plating Area
- ▨ Adhesive Area

Material:

- 1.PCB: FR-4 Thickness=0.8mm
- 2.Double Sided Adhesive+Foam: 3M 9472+CR4305
- 3.IPEX MHF 1  $\varnothing$  1.13 Coaxial Cable: PBT · Copper Alloy

**Unit: mm**



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## Part Number Builder

ABR3407I8 -

Cable length in 'mm'	
Cable length supported : Ø1.13 mm (50 mm to 500 mm)	
Code	Description
0100 (Standard)	100 mm
Other Examples:	
0050	50 mm
0200	200 mm

Cable Type & Connector Type		
Code	Cable Type	Connector Type
S (Standard)	Ø1.13 mm	IPEX-1 (F)
A		IPEX-4 (F)
B		MMCX (F)
C		MMCX (M)
D		MCX (F)
E		MCX (M)
F		SMA (F)
G		SMA (M)
H		RP-SMA (F)
I		RP-SMA (M)
J		SMB (F)
K		SMB (M)
L		FAKRA-D (F)

### Example Configurations:

Part Number	Cable length	Cable Type / Connector Type
ABR3407I8-0100S	0100 mm	Ø1.13 mm with IPEX-1 (F) (Standard)
ABR3407I8-0050A	0050 mm	Ø1.13 mm with IPEX-4 (F)

### Note:

- For the standard part number (ABR3407I8-0100S), please refer to the packaging at the end of the document.
- For custom configurations (ABR3407I8-     ), MOQs, pricing and packaging changes may be applicable.

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## Electrical Specification

Parameter	Specification			Unit
	Min	Typ	Max	
Operating Frequency	868		870	MHz
Return loss			-21.66	dB
Peak gain		1.28		dBi
Impedance		50		$\Omega$
Polarization		Linear		

## Mechanical Specification

Parameter	Specification
Antenna Dimensions	34 x 7 x 0.8 mm
Antenna Type	PCB
Mounting Type	Adhesive
RF Connector	IPEX MHF 1
RF Cable Type	$\varnothing$ 1.13 mm
Cable Length	110 mm

## Environmental Specification

Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Relative Humidity	Up to 95%
ROHS Complaint	Yes
PB Free	No
MSL Level	1

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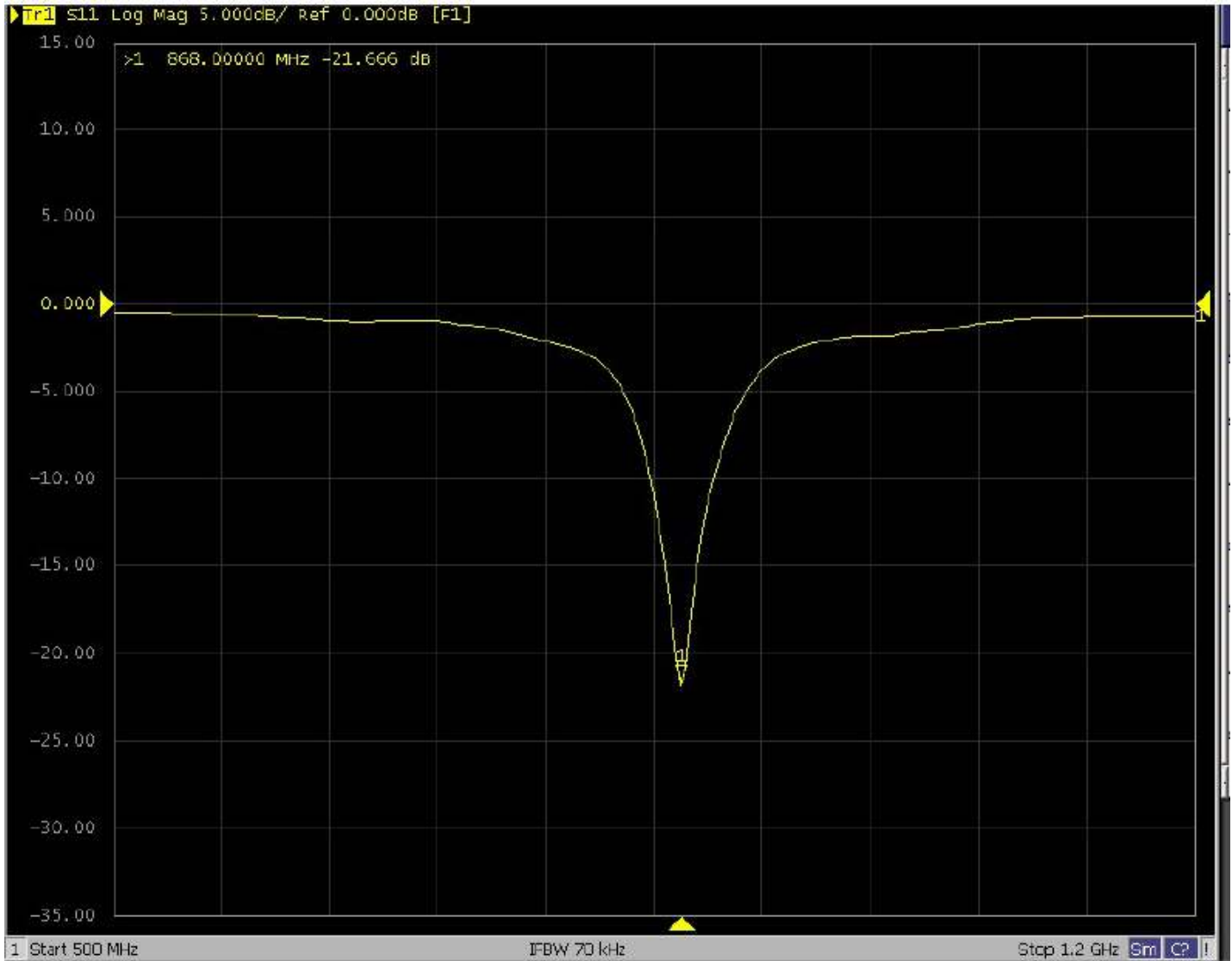


34 x 7 x 0.8 mm

RoHS/RoHS II Compliant

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## Frequency Response Chart



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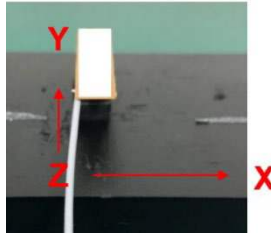


34 x 7 x 0.8 mm

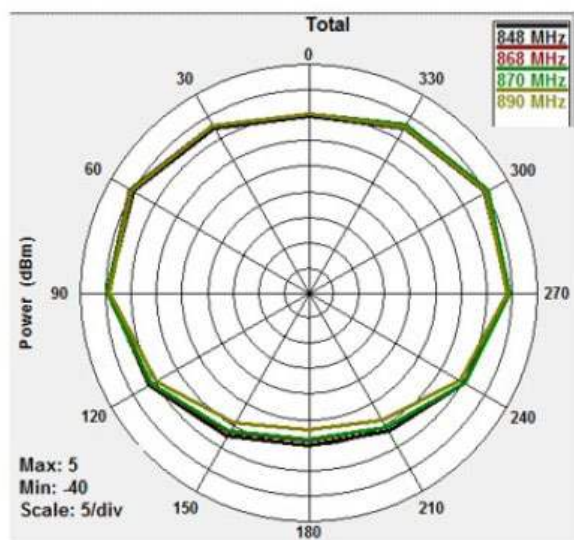
RoHS/RoHS II Compliant

MSL Level = 1

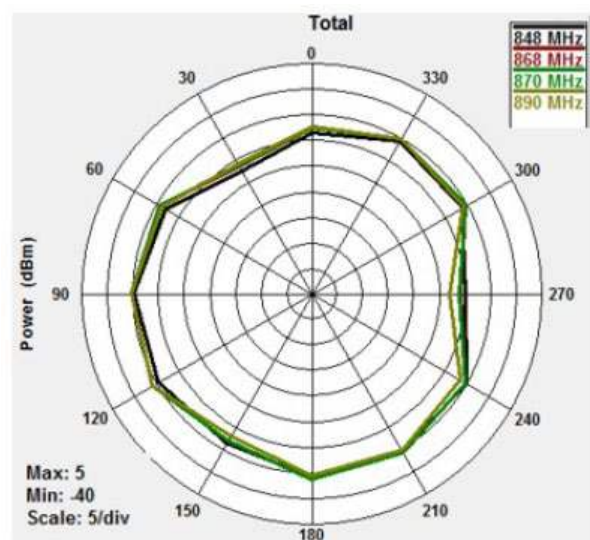
## Radiation Characteristics



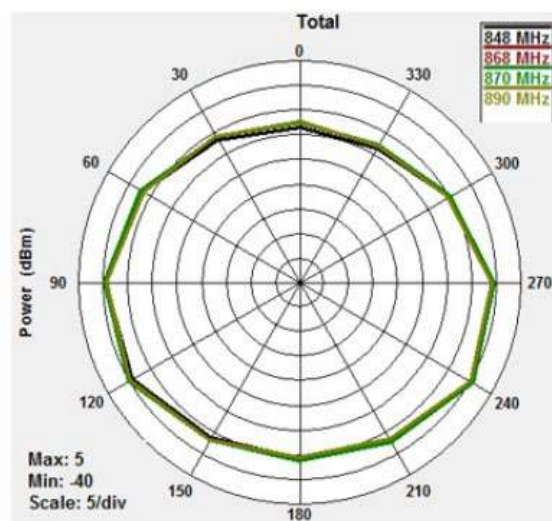
### 2D Patterns



XY-Plane



XZ-Plane



YZ-Plane



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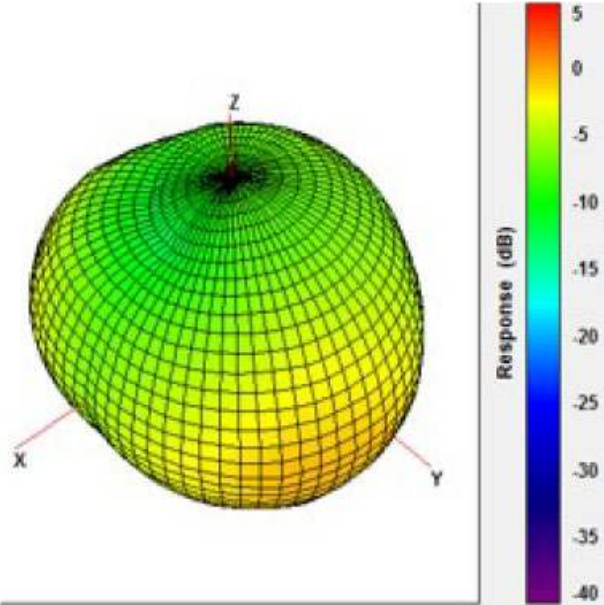


34 x 7 x 0.8 mm

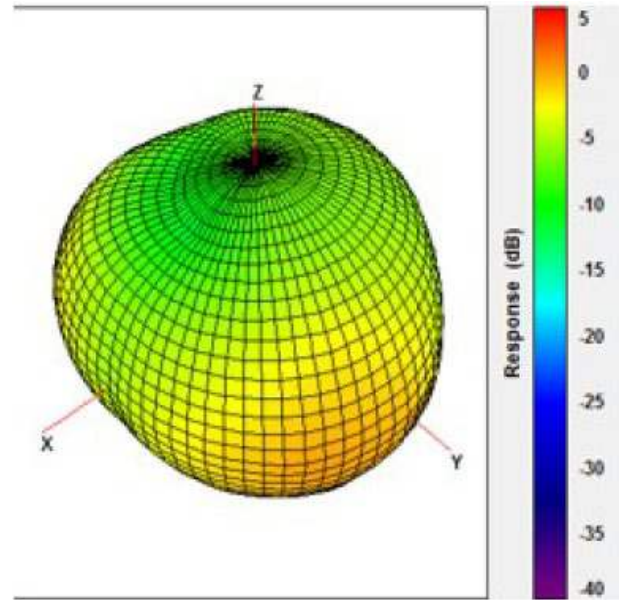
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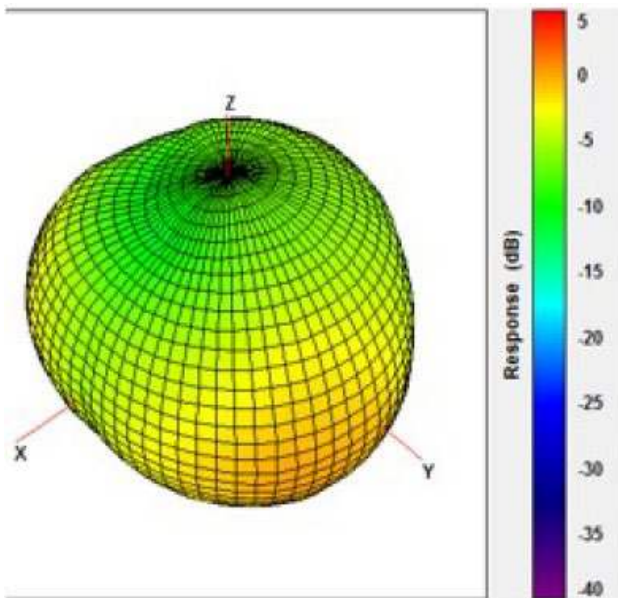
## 3D Patterns



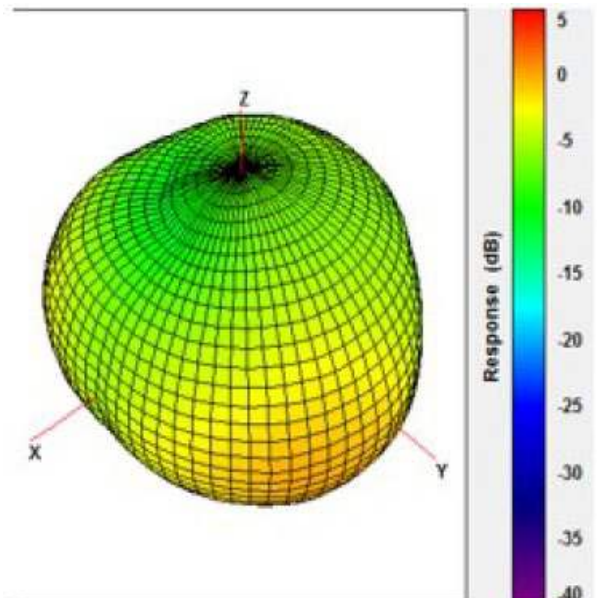
**848MHz**



**868MHz**



**870MHz**



**890MHz**

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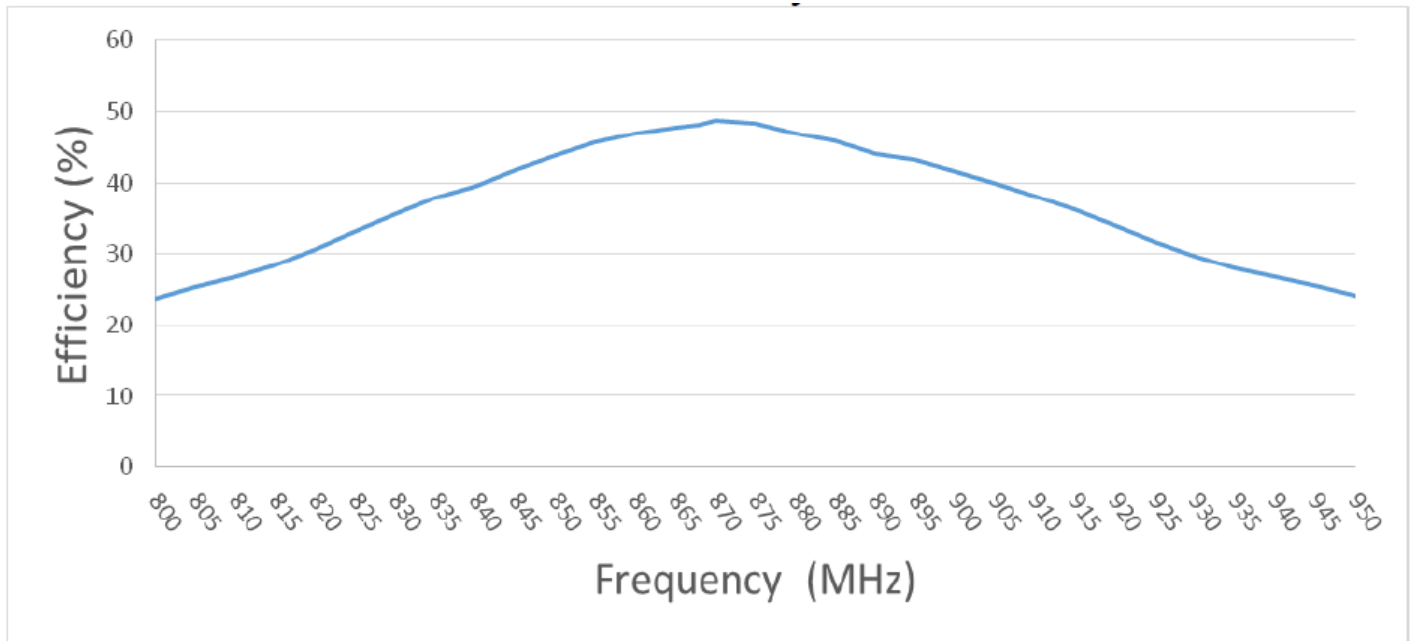
34 x 7 x 0.8 mm

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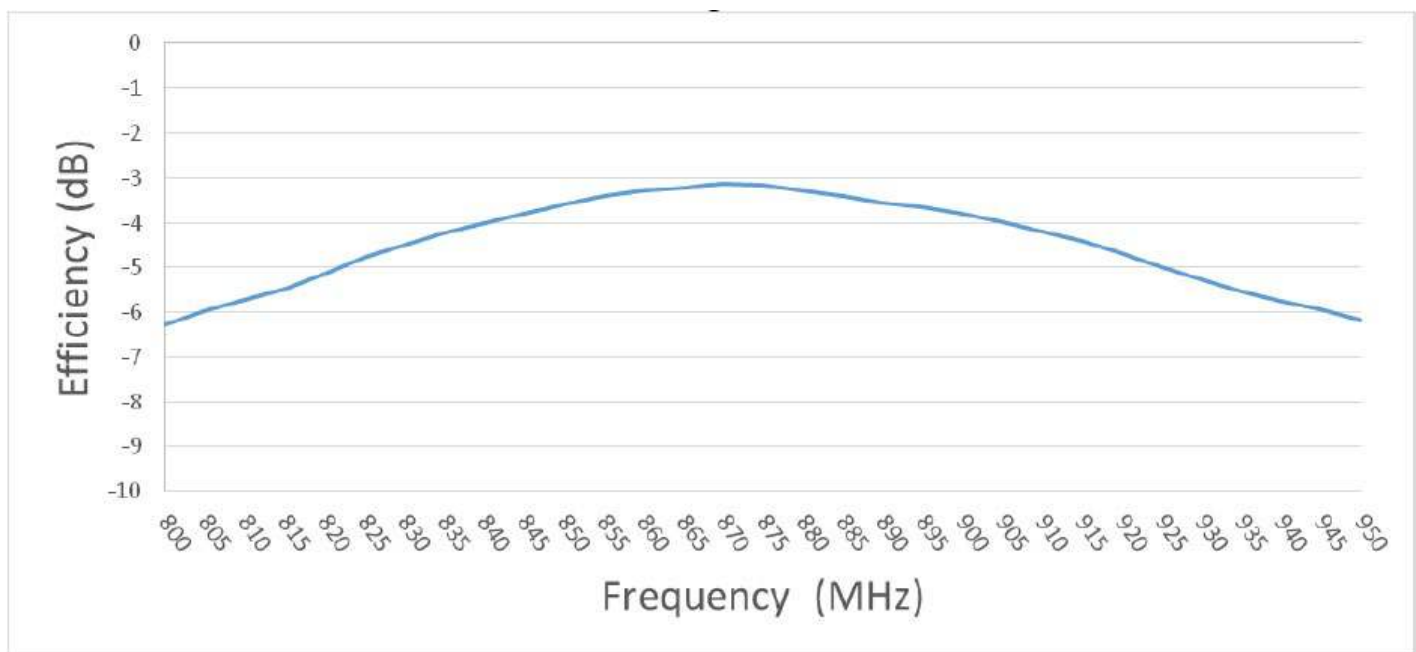
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## Gain and Efficiency

### Efficiency



### Average Gain



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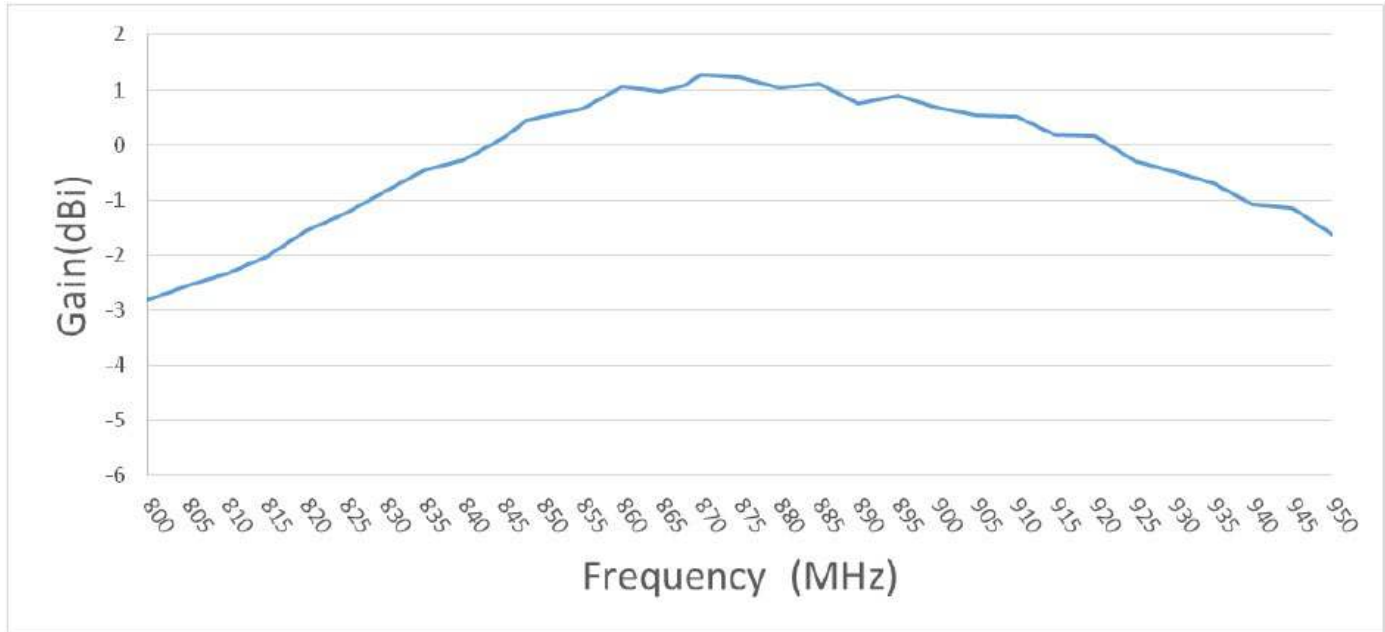


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## Peak Gain



Frequency (MHz)	800	810	820	830	840	850	860	868	870	880	890	900
Efficiency (%)	23.59	26.77	30.64	35.53	39.59	43.79	46.97	48.22	48.74	47.01	44.13	41.6
Average Gain (dB)	-6.27	-5.72	-5.14	-4.49	-4.02	-3.59	-3.28	-3.17	-3.12	-3.28	-3.55	-3.81
Peak Gain (dBi)	-2.81	-2.35	-1.55	-0.84	-0.27	0.52	1.06	1.09	1.28	1.03	0.75	0.69

## Packaging Information

Number of Antenna/ Carton: 1600 pcs

Dimension of the Carton: 330 x 280 x 254 mm

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