

# LPWA: 915 MHz Board Antenna

**ABR3407I9**

Request Samples



Check Inventory



34 x 7 x 0.8 mm

RoHS/RoHS II Compliant

MSL Level = 1

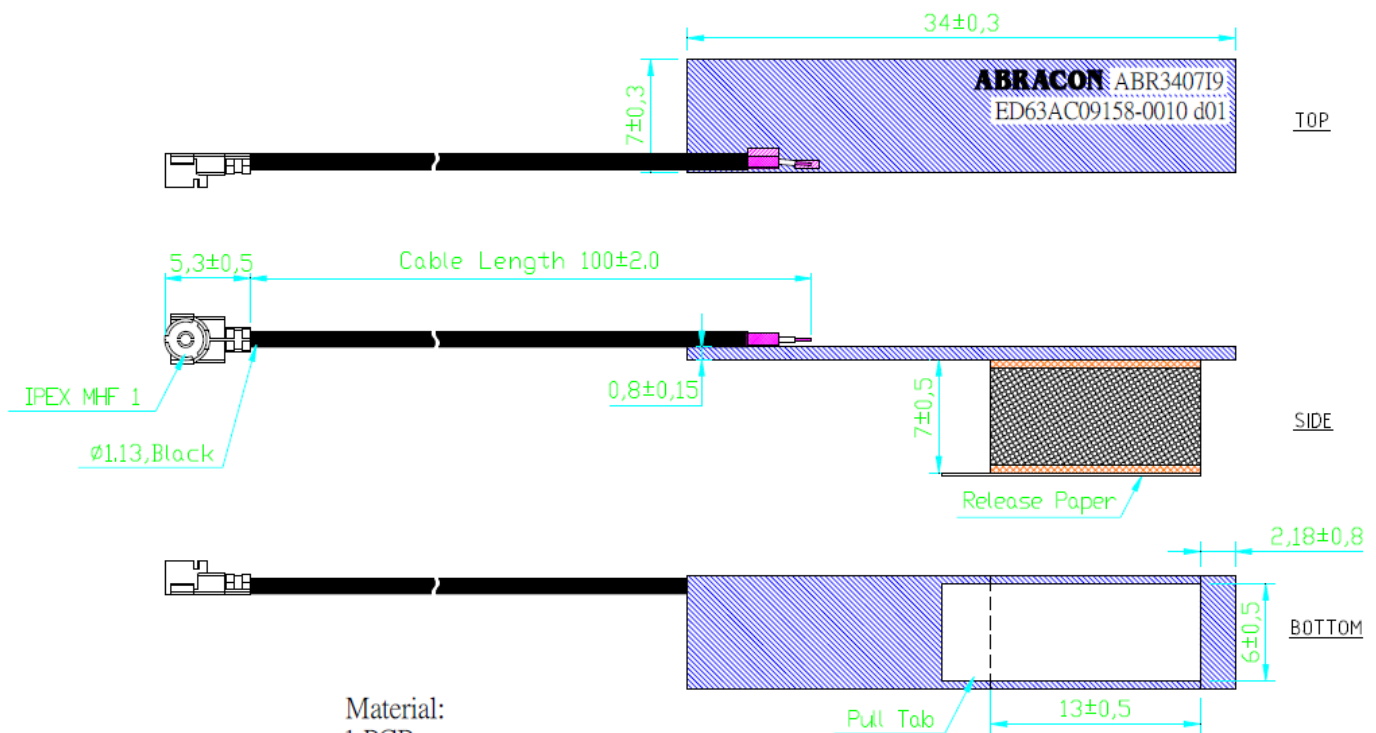
## Features

- Low Profile PCB Antenna
- Compact Design
- Peak Gain of 1.84 dBi
- Linear Polarization
- Adhesive Mount
- Customizable RF cable ad connector options

## Applications

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

## Product Dimensions



Material:

1.PCB:

FR-4 Thickness=0.8mm

2.Double Sided Adhesive+Foam:

3M 9472+CR4305

3.IPEX MHF 1  $\phi$  1.13 Coaxial Cable:

PBT 、 Copper Alloy

Cover Area

Plating Area

Adhesive Area

Unit: mm



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## Part Number Builder

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

| Cable Type & Connector Type |            |                |
|-----------------------------|------------|----------------|
| Code                        | Cable Type | Connector Type |
| S<br>(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            |
|-----------------|--------------|--|
| ABR3407I9-0100S | 0100 mm      | Ø1.13 mm with IPEX-1 (F)<br>(Standard) |
| ABR3407I9-0050A | 0050 mm      | Ø1.13 mm with IPEX-4 (F)               |

### Note:

- For the standard part number (ABR3407I9-0100S), please refer to the packaging at the end of the document.
- For custom configurations (ABR3407I9-     ), MOQs, pricing and packaging changes may be applicable.



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## Electrical Specification

| Parameter           | Specification |        |      | Unit     |
|---------------------|---------------|--------|------|----------|
|                     | Min           | Typ    | Max  |          |
| Operating Frequency | 902           |        | 928  | MHz      |
| Return Loss         |               |        | -12  | dB       |
| Peak gain           |               |        | 1.84 | 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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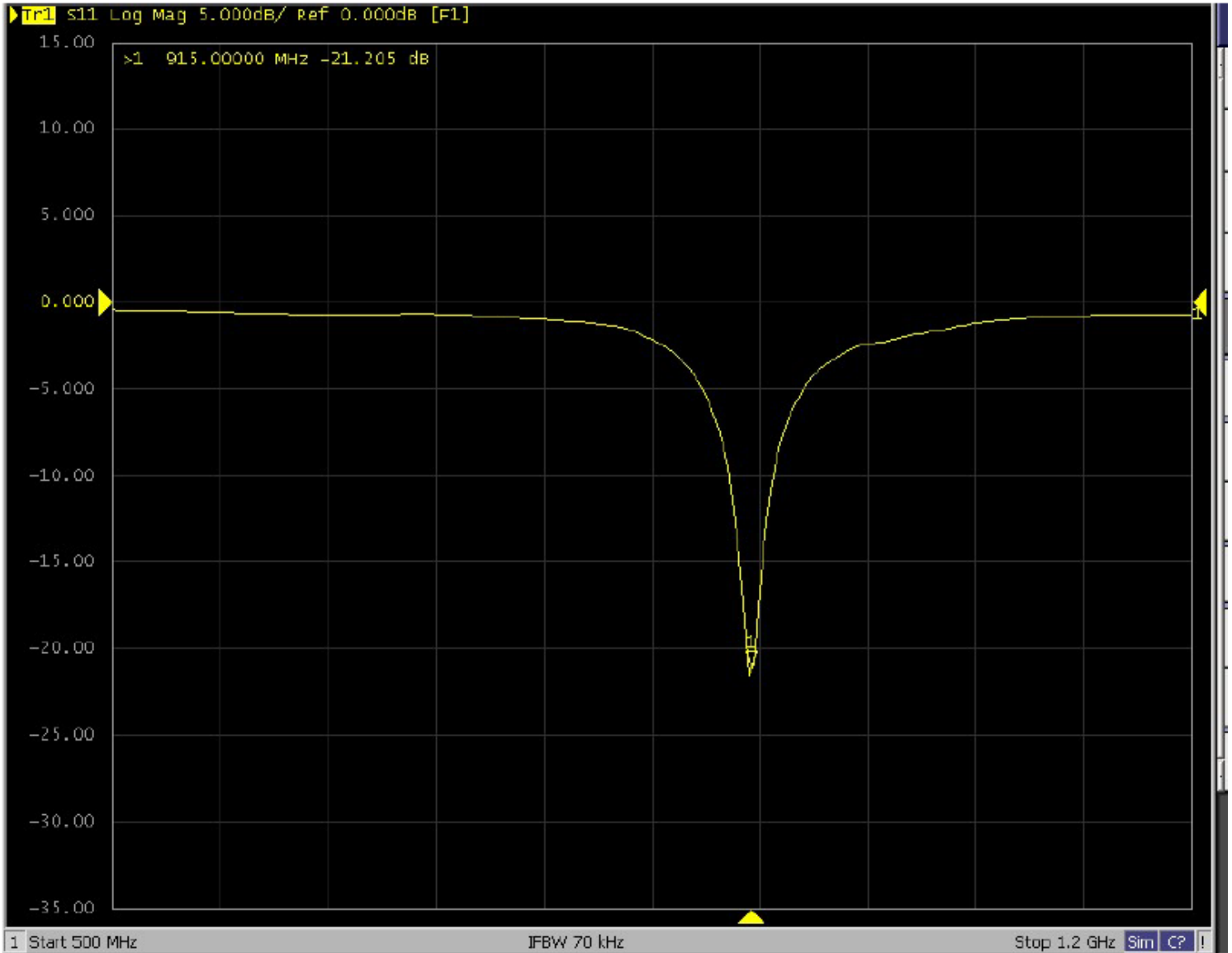


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## Frequency Response Chart



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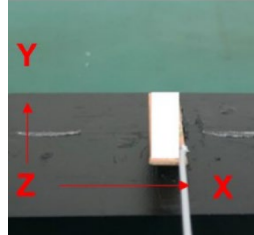


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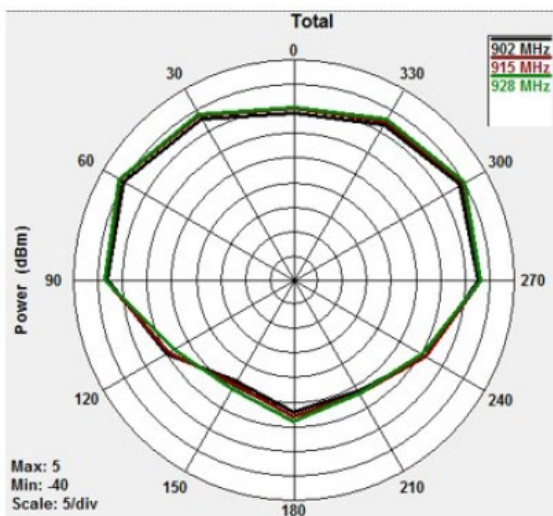
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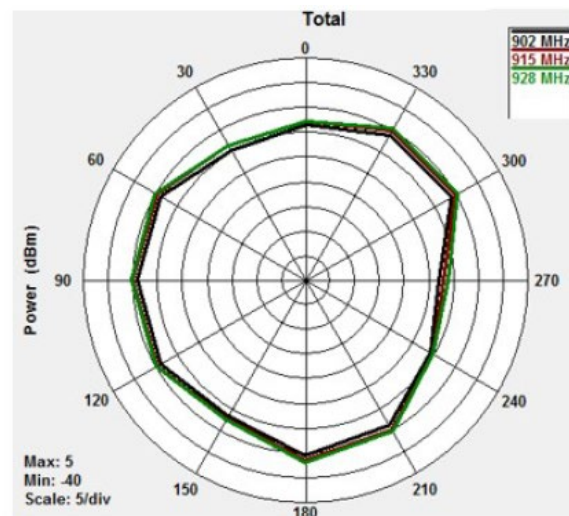
## Radiation Characteristics



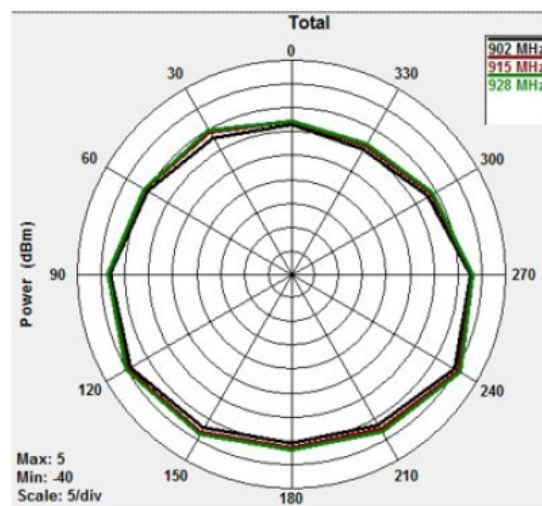
### 2D Patterns



XY-Plane



XZ-Plane



YZ-Plane

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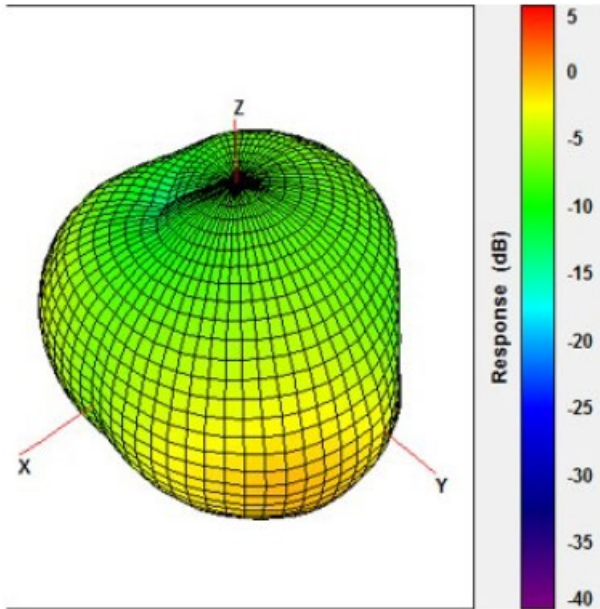


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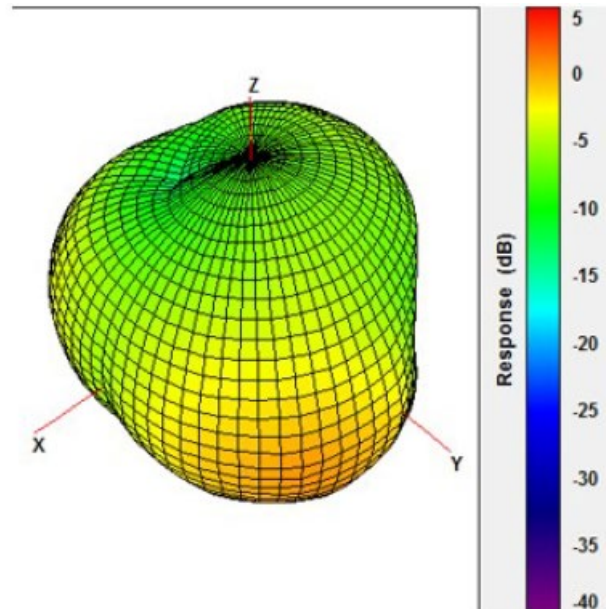
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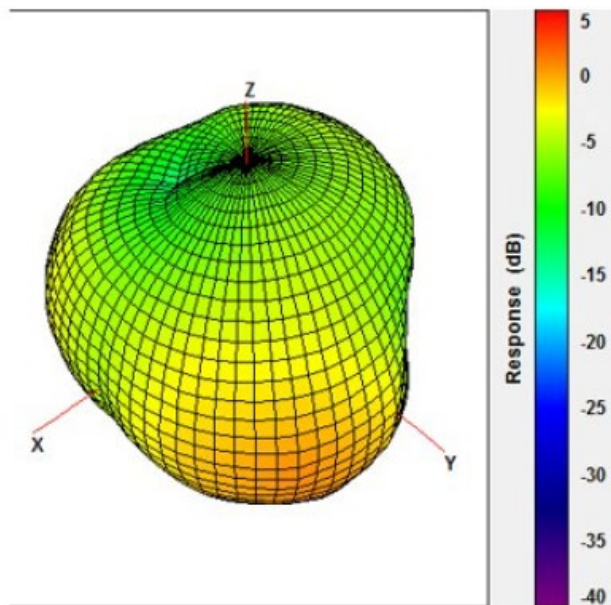
## 3D Patterns



902MHz



915MHz



928MHz

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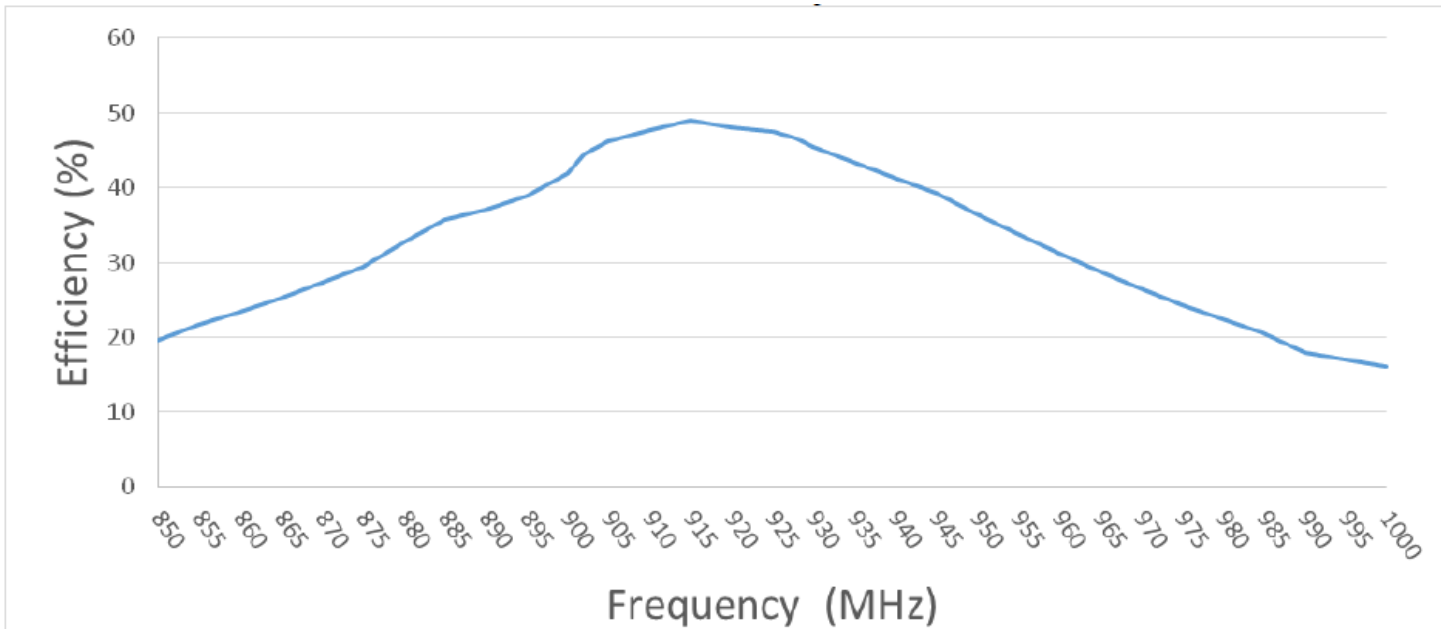
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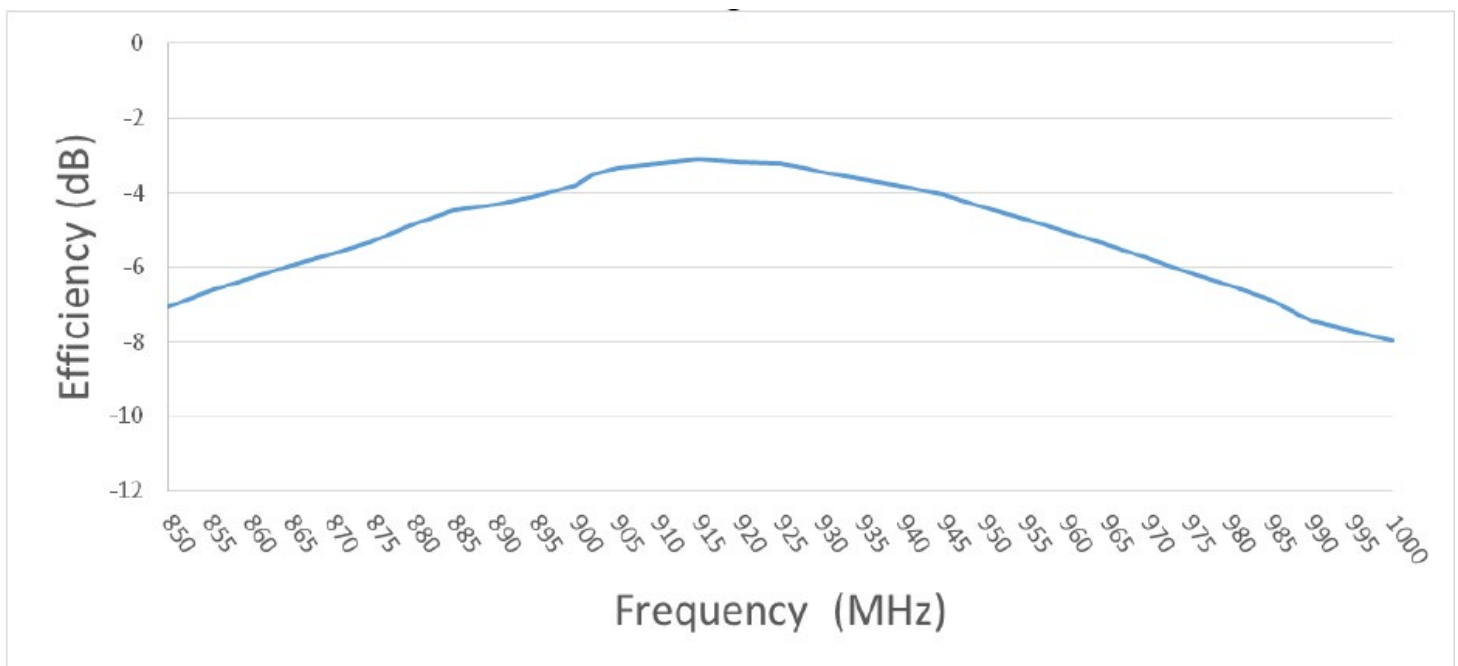
MSL Level = 1

## Gain and Efficiency

### Efficiency



### Average Gain



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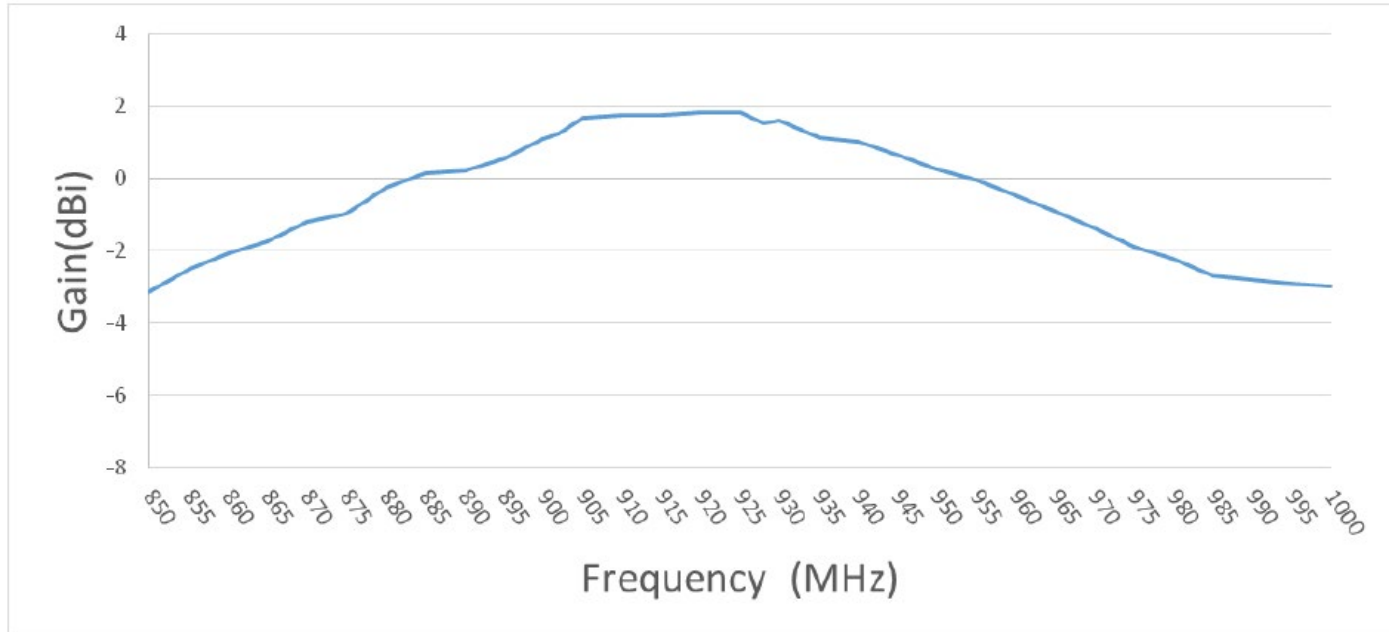


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## Peak Gain



| Frequency (MHz)   | 850   | 860   | 870   | 880   | 890   | 900   | 910   | 920   | 930   | 940   | 950   | 960   | 969   |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Efficiency (%)    | 19.69 | 23.46 | 27.28 | 32.67 | 36.98 | 41.96 | 47.96 | 48.06 | 45.44 | 41.43 | 36.46 | 31.18 | 26.54 |
| Average Gain (dB) | -7.06 | -6.3  | -5.64 | -4.86 | -4.32 | -3.77 | -3.22 | -3.18 | -3.43 | -3.83 | -4.3  | -5.06 | -5.76 |
| Peak Gain (dBi)   | -3.13 | -2.09 | -1.2  | -0.24 | 0.24  | 1.08  | 1.75  | 1.84  | 1.6   | 1.02  | 0.25  | -0.48 | -1.38 |

## Packaging Information

Number of Antenna/ Carton: 1600 pcs

Dimension of the Carton: 330 x 280 x 254 mm

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