

# RF Passive & Antenna Products

## RF Passive Products

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# 1-1. Power Divider 2-way 700 ~ 2700MHz for Indoor

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## General Specifications

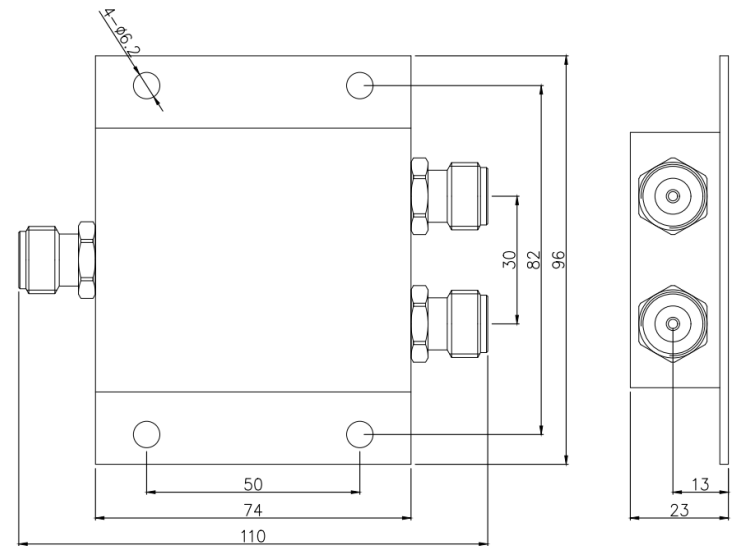
Device Type	Divider
Interface	N-Female
Part Number	DIV-2-NF-0727

## Electrical Specifications

Operating Frequency Bands (MHz)	700 ~ 2700
Impedance (s11, s22), (Max)	50Ω
VSWR (s11, s22), (Max)	1.25 : 1
Insertion Loss (Max)	3.4dB
Isolation (Max)	20dB
Distribution Ratio	1 : 1
Input Power, as divider (Max)	20W
Output Power, as combiner (Max per port)	1W
Operating Temperature / Humidity	-35°C to +75°C / up to 95%

## Mechanical Specifications

Inner Contact Plating	Silver Plated
Interface	Alloy Plated
Ingress Protection Test Method	IEC 60529:2001, IP65
Dimension (mm)	96x74x23 (exclude connectors)
Weight	300g



# 1-2. Power Divider 3-way 700 ~ 2700MHz for Indoor

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## General Specifications

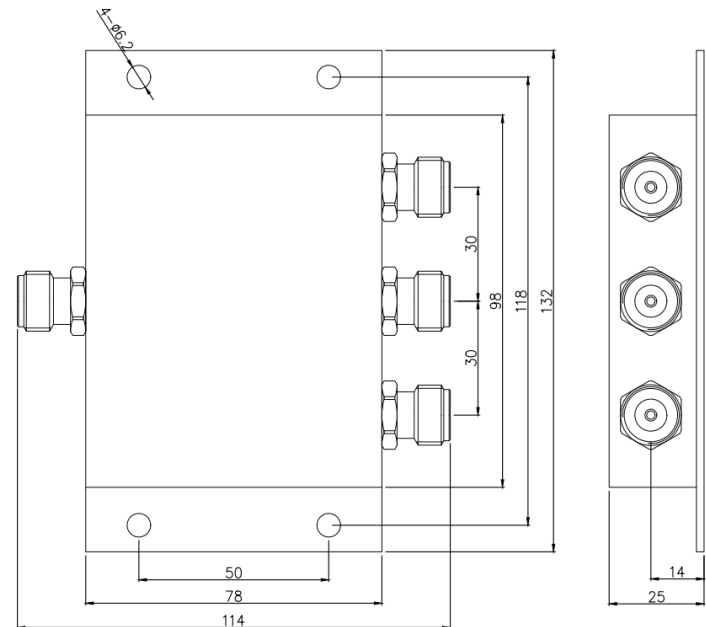
Device Type	Divider
Interface	N-Female
Part Number	DIV-3-NF-0727

## Electrical Specifications

Operating Frequency Bands (MHz)	700 ~ 2700
Impedance (s11, s22), (Max)	50Ω
VSWR (s11, s22), (Max)	1.25 : 1
Insertion Loss (Max)	5.4dB
Isolation (Max)	20dB
Distribution Ratio	1 : 1 : 1
Input Power, as divider (Max)	20W
Output Power, as combiner (Max per port)	1W
Operating Temperature / Humidity	-35°C to +75°C / up to 95%

## Mechanical Specifications

Inner Contact Plating	Silver Plated
Interface	Alloy Plated
Ingress Protection Test Method	IEC 60529:2001, IP65
Dimension (mm)	132*78*25 (exclude connectors)
Weight	540g



# 1-3. Power Divider 4-way 700 ~ 2700MHz for Indoor

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## General Specifications

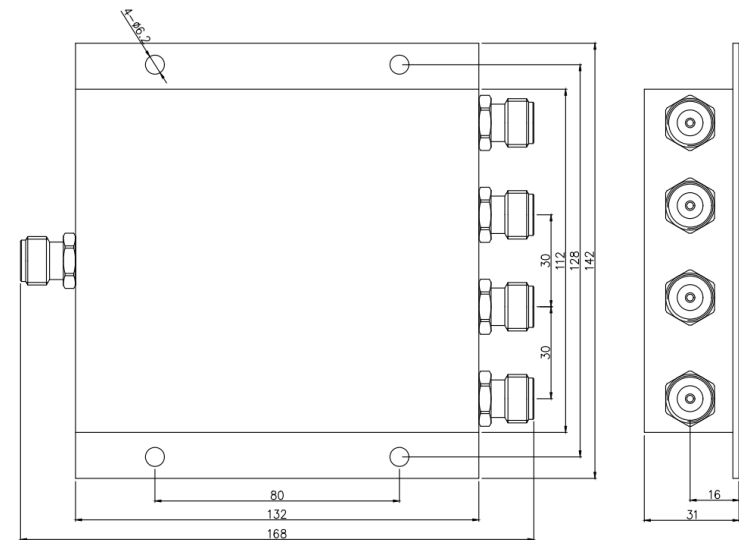
Device Type	Divider
Interface	N-Female
Part Number	DIV-4-NF-0727

## Electrical Specifications

Operating Frequency Bands (MHz)	700 ~ 2700
Impedance (s11, s22), (Max)	50Ω
VSWR (s11, s22), (Max)	1.25 : 1
Insertion Loss (Max)	6.6dB
Isolation (Max)	18dB
Distribution Ratio	1 : 1 : 1 : 1
Input Power, as divider (Max)	20W
Output Power, as combiner (Max per port)	1W
Operating Temperature / Humidity	-35°C to +75°C / up to 95%

## Mechanical Specifications

Inner Contact Plating	Silver Plated
Interface	Alloy Plated
Ingress Protection Test Method	IEC 60529:2001, IP65
Dimension (mm)	142*132*31 (exclude connectors)
Weight	700g



## 2-1. Power Divider 2-way 700 ~ 6000MHz for Indoor

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### General Specifications

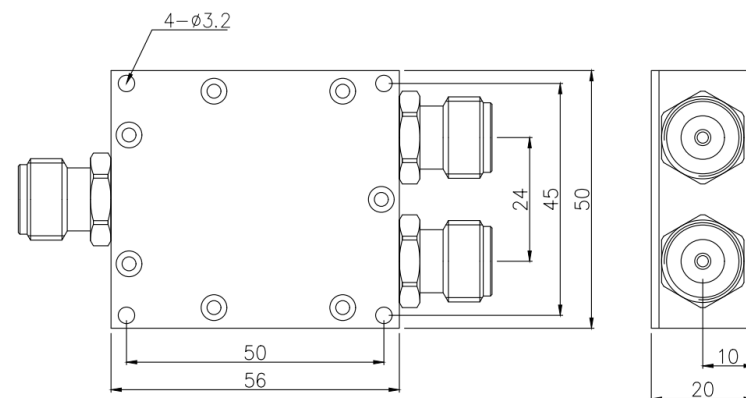
Device Type	Divider
Interface	N-Female
Part Number	DIV-2-NF-0760

### Electrical Specifications

Operating Frequency Bands (MHz)	700 ~ 6000
Impedance (s11, s22), (Max)	50Ω
VSWR (s11, s22), (Max)	Input ≤1.5 , Output ≤1.4
Insertion Loss (Max)	4.2dB
Isolation (Max)	18dB
Distribution Ratio	1 : 1
Input Power, as divider (Max)	20W
Output Power, as combiner (Max per port)	1W
Operating Temperature / Humidity	-35°C to +75°C / up to 95%

### Mechanical Specifications

Inner Contact Plating	Silver Plated
Interface	Alloy Plated
Ingress Protection Test Method	IEC 60529:2001, IP65
Dimension (mm)	50*56*20 (exclude connectors)
Weight	400g



## 2-2. Power Divider 3-way 700 ~ 6000MHz for Indoor

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### General Specifications

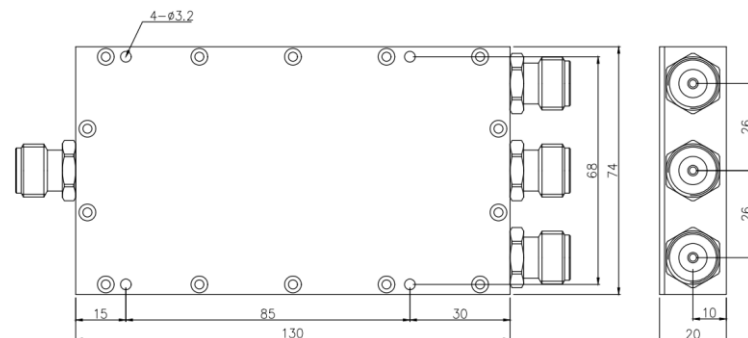
Device Type	Divider
Interface	N-Female
Part Number	DIV-3-NF-0760

### Electrical Specifications

Operating Frequency Bands (MHz)	700 ~ 6000
Impedance (s11, s22), (Max)	50Ω
VSWR (s11, s22), (Max)	Input ≤1.5 , Output ≤1.4
Insertion Loss (Max)	7.6dB
Isolation (Max)	18dB
Distribution Ratio	1 : 1 : 1
Input Power, as divider (Max)	20W
Output Power, as combiner (Max per port)	1W
Operating Temperature / Humidity	-35°C to +75°C / up to 95%

### Mechanical Specifications

Inner Contact Plating	Silver Plated
Interface	Alloy Plated
Ingress Protection Test Method	IEC 60529:2001, IP65
Dimension (mm)	74*130*20 (exclude connectors)
Weight	700g



## 2-3. Power Divider 4-way 700 ~ 6000MHz for Indoor

8

### General Specifications

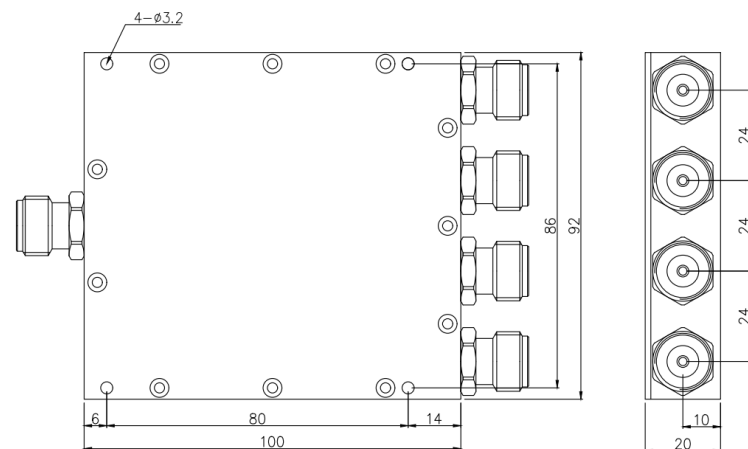
Device Type	Divider
Interface	N-Female
Part Number	DIV-4-10-NF-0760

### Electrical Specifications

Operating Frequency Bands (MHz)	700 ~ 6000
Impedance (s11, s22), (Max)	50Ω
VSWR (s11, s22), (Max)	Input ≤1.5 , Output ≤1.4
Insertion Loss (Max)	7.8dB
Isolation (Max)	18dB
Distribution Ratio	1 : 1 : 1 : 1
Input Power, as divider (Max)	20W
Output Power, as combiner (Max per port)	1W
Operating Temperature / Humidity	-35°C to +75°C / up to 95%

### Mechanical Specifications

Inner Contact Plating	Silver Plated
Interface	Alloy Plated
Ingress Protection Test Method	IEC 60529:2001, IP65
Dimension (mm)	92*100*20 (exclude connectors)
Weight	950g





### 3. 2\*2 Hybrid Combiner 718 ~ 4600MHz for Indoor

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#### General Specifications

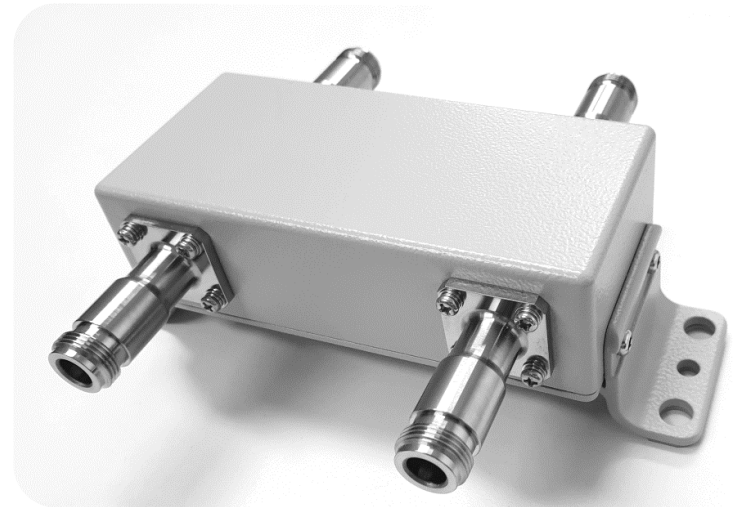
Device Type	Combiner
Interface	N-Female
Part Number	COM-22-NF-0746

#### Electrical Specifications

Operating Frequency Bands (MHz)	718 ~ 4600
Insertion Loss	$3 \pm 0.7\text{dB}$
Return Loss	19.1dB (Min)
In/Out Isolation	20dB (Min)
Impedance	50 $\Omega$
PIMD (43dBm*2)	-155 dBc (Min), -158 dBc (Typical)
Input Power	150Watt/Total (Average Power)
Operating Temperature / Humidity	-35°C to +75°C / up to 95%

#### Mechanical Specifications

Inner Contact Plating	Silver Plated
Interface	Alloy Plated
Ingress Protection Test Method	IP67
Dimension (mm)	177*60.1*56.9 (including bracket)
Weight	< 1.2kg



## 4. 4\*4 Hybrid Coupler 600 ~ 6000MHz for Indoor

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### General Specifications

Device Type	Combiner
Interface	4.3-10-Female
Part Number	COM-44-4310-0660

### Electrical Specifications

Operating Frequency Bands (MHz)	600 ~ 6000
Impedance	50Ω
VSWR	≤1.35 (600~2700) , ≤1.40 (2700~6000)
Insertion Loss (Max)	6.2dB±2.0
Isolation	≥ 20dB
PIMD (43dBm*2)	-155 dBc (Min)
Average Power	200W
Operating Temperature / Humidity	-35°C to +75°C / up to 95%

### Mechanical Specifications

Inner Contact Plating	Silver Plated
Interface	Alloy Plated
Ingress Protection Test Method	IEC 60529:2001, IP65
Dimension (mm)	225*78*59 (exclude connectors)
Weight	1.8kg



# 5. 5G Modular POI 698~6000MHz for Indoor

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## Key Features

- Future Proof to New Spectrum
- Modular Slots
- Expandable with more Ports
- 19" Rack Type or Stand-alone Type

## Expandable with more Ports

13 Input Ports

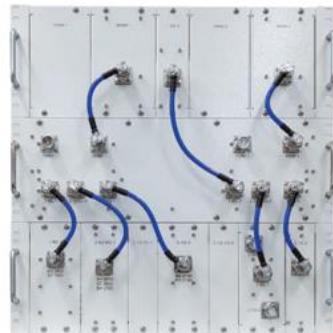


20 Input Ports



## 19" Rack Type or Stand-alone Type

Rack Type



Stand-alone Type



## 6. 5G Add-on POI 698~6000MHz for Indoor

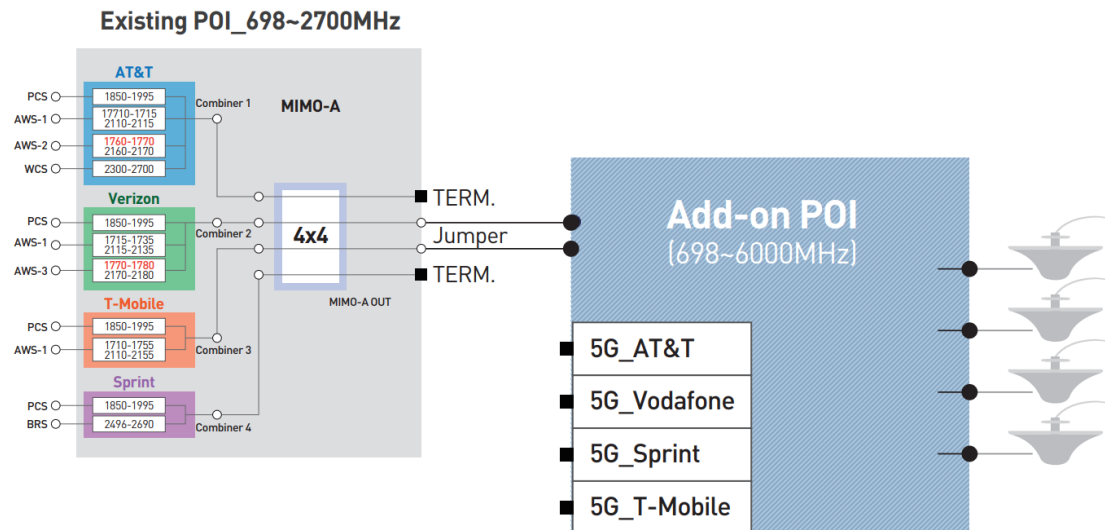
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### Advantages

- Utilizing existing antenna feeder network (cables)
- Less new 5G antenna feeder network installation
- Less cost – Labor & Materials



### Configuration



# Antenna Products

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# 1. Flat Antenna

819~960, 1710~2690MHz / 3, 3.5dBi

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## General Specifications

Device Type	RF Antenna
Connector Type	N-Female
Part Number	Omni-3.5dBi _Flat

## Electrical Specifications

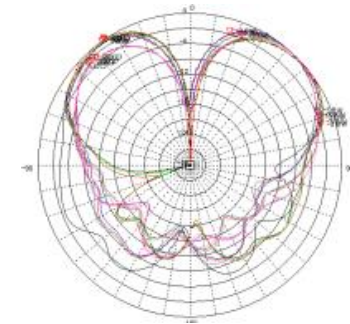
Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2690
Gain (dBi)	3 ~ 3.5
VSWR	1.6 : 1

Beam Width	Horizontal 360° Vertical $\geq 30^\circ \sim 90^\circ$
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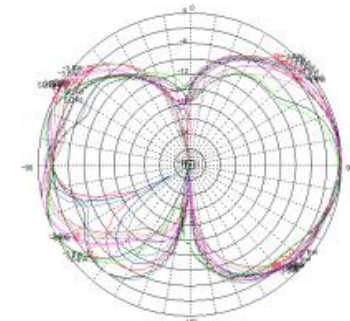
Polarization	-
Isolation	-
IMD (3rd)	$\leq -150\text{dBc} @ 2 \times 40\text{dBm}$
Input Power (Max)	$\leq 20 \text{ W}$
Impedance	50 $\Omega$

## Mechanical Specifications

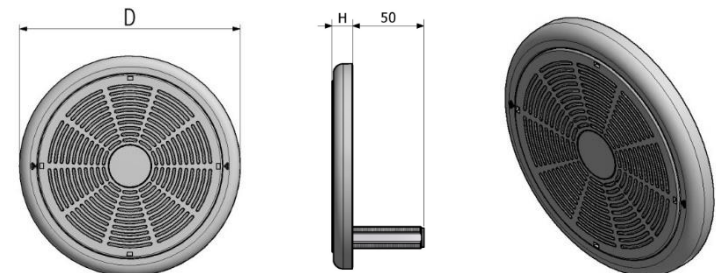
Radom Dimension (D x H)	$\varnothing 147 \times 15 \text{ mm}$
Weight (exclude bracket)	$\leq 0.2 \text{ kg}$
Radom Material (color)	ABS (White)
Operating Temperature / Humidity	$-40^\circ \text{C} \sim 70^\circ \text{C}$



Vertical Pattern  
(High Band)



Vertical Pattern  
(Low Band)



## 2. Flat MIMO Antenna

819~960, 1710~2690MHz / 3, 3.5dBi

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### General Specifications

Device Type	RF Antenna
Connector Type	N-Female x 2
Part Number	Omni-3.5dBi_Flat_MIMO

### Electrical Specifications

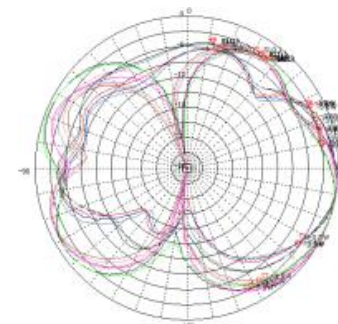
Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2690
Gain (dBi)	3 ~ 3.5
VSWR	1.8 : 1

Beam Width	Horizontal 360° Vertical $\geq 30^\circ \sim 90^\circ$
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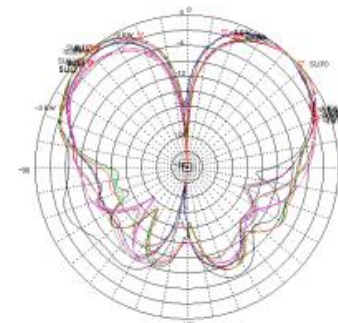
Polarization	-
Isolation	$\geq 20 \text{ dB} \sim \geq 25 \text{ dB}$
IMD (3rd)	$\leq -150\text{dBc} @ 2 \times 40\text{dBm}$
Input Power (Max)	$\leq 20 \text{ W}$
Impedance	50 $\Omega$

### Mechanical Specifications

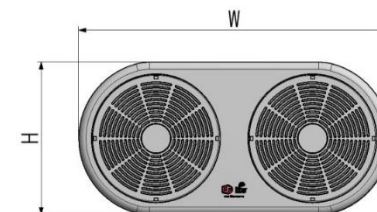
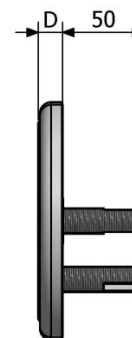
Radom Dimension (W x D)	299 x 15 mm
Weight (exclude bracket)	$\leq 0.5 \text{ kg}$
Radom Material (color)	ABS (White)
Operating Temperature / Humidity	-40 °C ~ 70 °C



Vertical Pattern  
(High Band)



Vertical Pattern  
(Low Band)





# 3-1. Multi-Band Omni Antenna

819~960, 1710~2690, 3400~3700MHz / 2, 3, 4dBi

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## General Specifications

Device Type	RF Antenna
Connector Type	N-Female x 1
Part Number	CPWWM-WDT-234

## Electrical Specifications

Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2690 / 3400 ~ 3700
Gain (dBi)	2 ~ 4
VSWR	1.7 : 1

Beam Width	Horizontal 360° Vertical 30° ~ 140°
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Polarization	-
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Isolation	-
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IMD (3rd)	$\leq -140\text{dBc}$ @ 2x40dBm
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Input Power (Max)	$\leq 10\text{ W}$
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Impedance	50 $\Omega$
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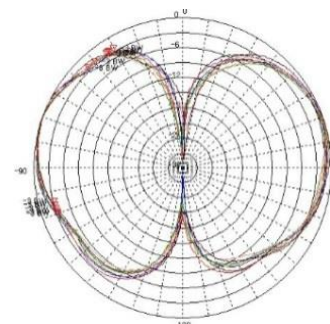
## Mechanical Specifications

Radom Dimension (D x H)	180 $\varnothing$ x 109 mm
-------------------------	----------------------------

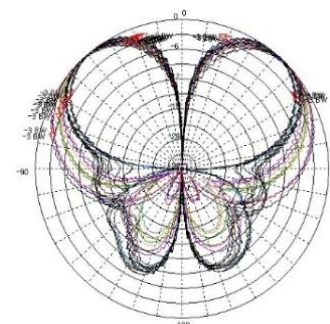
Weight (exclude bracket)	$\leq 0.5\text{ kg}$
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Radom Material (color)	ABS (White)
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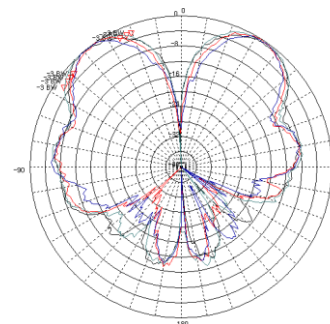
Operating Temperature / Humidity	-30 °C ~ 60 °C
----------------------------------	----------------



Vertical Pattern  
(Low Band)



Vertical Pattern  
(High Band)



Vertical Pattern  
(3.5 Band)





## 3-2. Multi-Band Omni Antenna

819~960, 1710~2690MHz / 2, 3dBi

17

### General Specifications

Device Type	RF Antenna
Connector Type	N-J (Female)
Part Number	CPWW-IDT-23

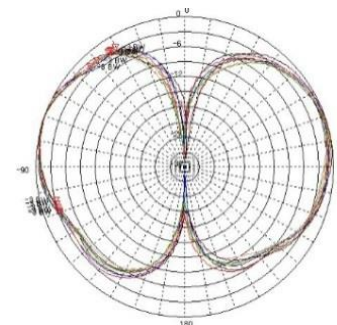
### Electrical Specifications

Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2690
Gain (dBi)	2 ~ 3
VSWR	1.8 : 1
Beam Width	Horizontal 360° Vertical $\geq 30^\circ \sim 90^\circ$

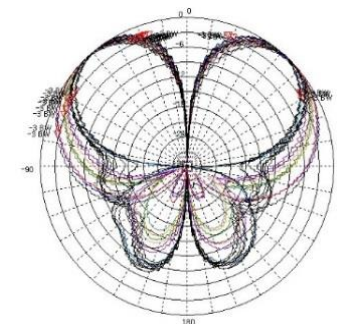
Polarization	-
Isolation	-
IMD (3rd)	$\leq -140\text{dBc} @ 2 \times 40\text{dBm}$
Input Power (Max)	$\leq 10 \text{ W}$
Impedance	50 $\Omega$

### Mechanical Specifications

Radom Dimension (D x H)	$\varnothing 180 \times 110 \text{ mm}$
Weight (exclude bracket)	$\leq 0.4 \text{ kg}$
Radom Material (color)	ASA (Gray)
Operating Temperature / Humidity	$-30^\circ \text{C} \sim 60^\circ \text{C}$



Vertical Pattern  
(High Band)



Vertical Pattern  
(Low Band)



## 4. Multi-Band Omni(Pole) Antenna

824~894, 1710~2170MHz / 2dBi, 2dBi

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### General Specifications

Device Type	RF Antenna
Connector Type	N-J (Female)
Part Number	CP-ST-22

### Electrical Specifications

Operating Frequency Bands (MHz)	824 ~ 894 / 1710 ~ 2170
Gain (dBi)	2
VSWR	1 : 1.8

Beam Width	Horizontal 360° Vertical $\geq 30^\circ$
------------	---

Polarization

-

Isolation

-

IMD (3rd)

$\leq -140\text{dBc}$  @ 2x40dBm

Input Power (Max)

$\leq 50\text{ W}$

Impedance

50  $\Omega$

### Mechanical Specifications

Radom Dimension (D x H)

$\varnothing 20 \times 215\text{ mm}$

Weight (exclude bracket)

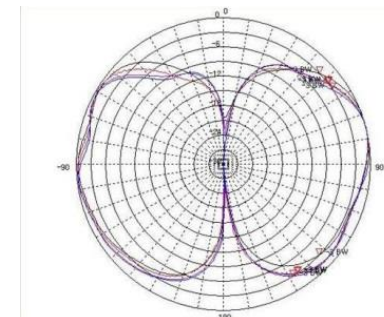
$\leq 0.2\text{ kg}$

Radom Material (color)

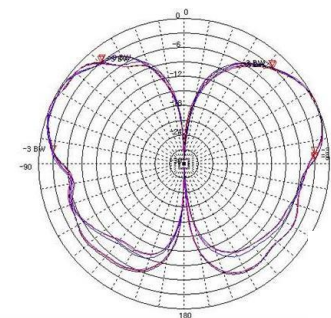
FRP (Gray)

Operating Temperature / Humidity

$-40^\circ\text{C} \sim 70^\circ\text{C}$



Vertical Pattern  
(High Band)



Vertical Pattern  
(Low Band)



# 5-1. Multi-Band Patch Antenna

819~960, 1710~2690, 3400~3700MHz / 4, 6, 7dBi

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## General Specifications

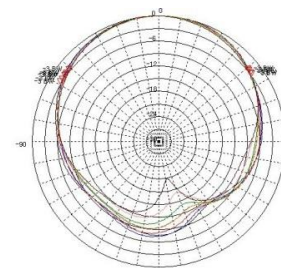
Device Type	RF Antenna
Connector Type	N-Female X 1
Part Number	CPWWM-CPB-467

## Electrical Specifications

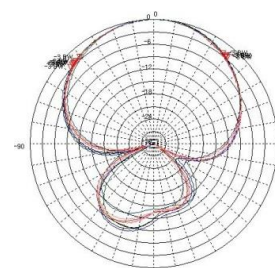
Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2690 / 3400 ~ 3700
Gain (dBi)	4 ~ 7
VSWR	1 : 1.8
Beam Width	Horizontal 90° ~ 150° / 40° ~ 80° / 40° ~ 70° Vertical 30° ~ 95° / 40° ~ 80° / 20° ~ 50°
Polarization	V / V
Isolation	-
IMD (3rd)	≤ -140dBc @ 2x37dBm
Input Power (Max)	≤ 10 W
Impedance	50 Ω

## Mechanical Specifications

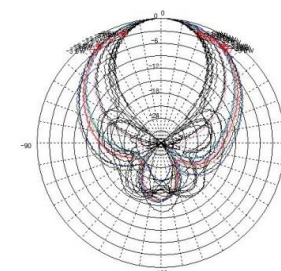
Radom Dimension (W x D x H)	111 x 45 x 145 mm
Weight (exclude bracket)	≤ 0.4 kg
Radom Material (color)	ASA (Gray)
Operating Temperature / Humidity	-40 °C ~ 70 °C
Mechanical Tilt	± 30°



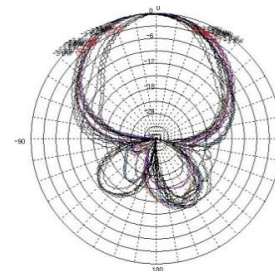
Horizontal Pattern  
(Low Band)



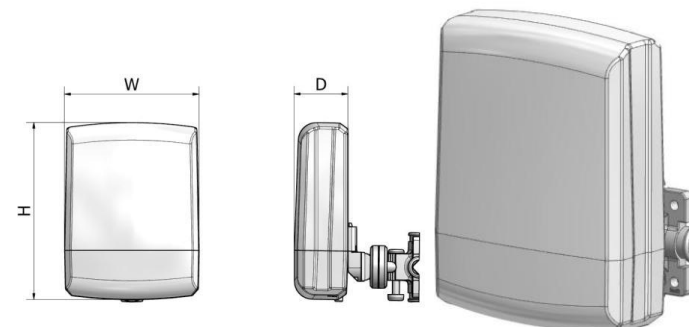
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)

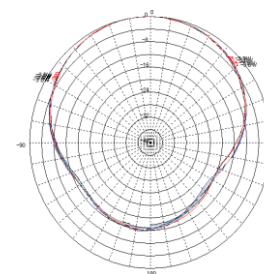


## 5-2. Multi-Band Patch Antenna

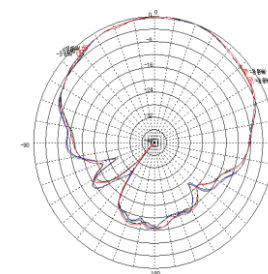
839~894, 1710~2120, 2520~2660, 3400~3700MHz / 5, 7, 7, 8dBi

20

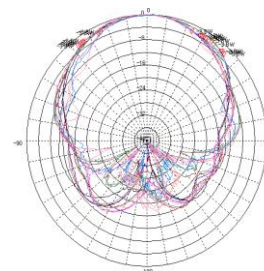
General Specifications	
Device Type	RF Antenna
Connector Type	SMA-Female x 1
Part Number	CPWWM-CPB-578
Electrical Specifications	
Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2120 / 2520 ~ 2660 / 3400 ~ 3700
Gain (dBi)	5 ~ 8
VSWR	1 : 1.6
Beam Width	Horizontal 70° ~ 110° / 40° ~ 100° / 30° ~ 90° / 20° ~ 80° Vertical 60° ~ 100° / 40° ~ 90° / 20° ~ 80° / 20° ~ 80°
Polarization	V / V
Isolation	-
IMD (3rd)	≤ -140dBc @ 2x37dBm
Input Power (Max)	≤ 10 W
Impedance	50 Ω
Mechanical Specifications	
Radom Dimension (W x D x H)	172 x 182 x 54 mm
Weight (exclude bracket)	≤ 0.8 kg
Radom Material (color)	ASA (Gray)
Operating Temperature / Humidity	-40 °C ~ 70 °C
Mechanical Tilt	± 30°



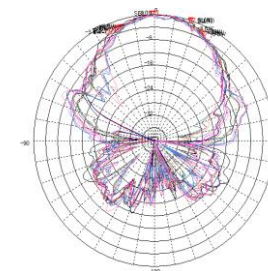
Horizontal Pattern  
(Low Band)



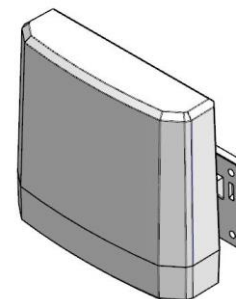
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(2.6 High Band)



Vertical Pattern  
(2.6 High Band)



## 6. Quad-Band Patch Antenna

839~894, 1710~2120, 2520~2660MHz / 6, 8, 8dBi

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### General Specifications

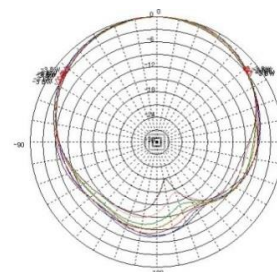
Device Type	RF Antenna
Connector Type	SMA-J (Female)
Part Number	CPWW-CPB-688

### Electrical Specifications

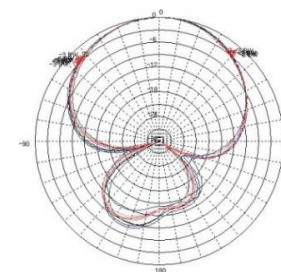
Operating Frequency Bands (MHz)	839 ~ 894 / 1710 ~ 2120 / 2520 ~ 2690
Gain (dBi)	6 ~ 8
VSWR	1 : 1.5
Beam Width	Horizontal 70° ~ 90° / 40° ~ 80° / 40° ~ 80° Vertical 70° ~ 90° / 40° ~ 80° / 40° ~ 80°
Polarization	V / V / V
Isolation	-
F-B ratio (-180 ± 30°)	13 dB ~ 15 dB
Input Power (Max)	≤ 10 W
Impedance	50 Ω

### Mechanical Specifications

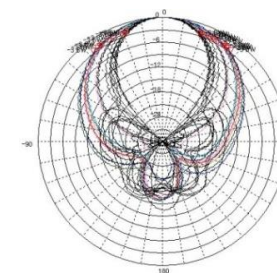
Radom Dimension (W x D x H)	169 x 44 x 155 mm
Weight (exclude bracket)	≤ 0.4 kg
Radom Material (color)	ASA (Gray)
Operating Temperature / Humidity	-40 °C ~ 70 °C
Mechanical Tilt	± 30°



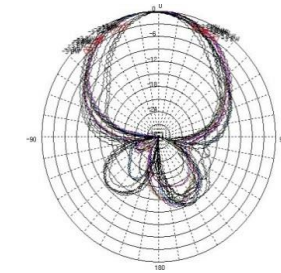
Horizontal Pattern  
(Low Band)



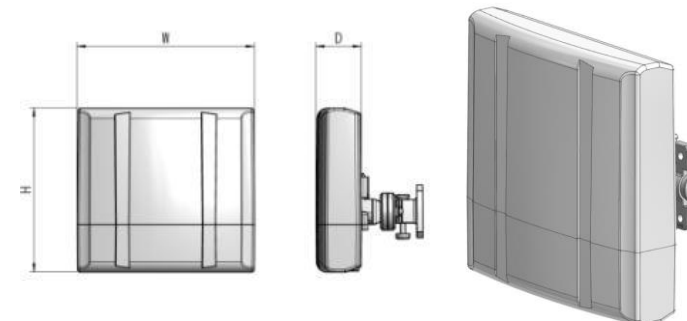
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)





# 7-1. Multi-Band MIMO Patch Antenna

819~960, 1710~2690, 3400~3700MHz / 4, 6, 7dBi

22

## General Specifications

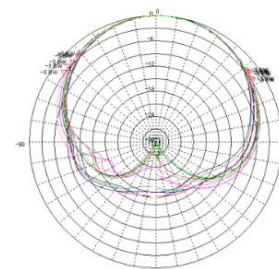
Device Type	RF Antenna
Connector Type	N-Female x 2
Part Number	CPWWM-CPBM-467

## Electrical Specifications

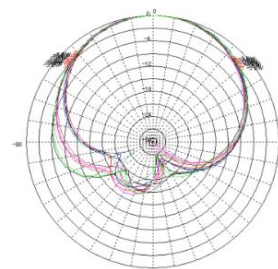
Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2690 / 3400 ~ 3700
Gain (dBi)	4 ~ 7
VSWR	1 : 1.9
Beam Width	Horizontal 90° ~ 180° / 40° ~ 90° / 20° ~ 60° Vertical 90° ~ 160° / 40° ~ 90° / 20° ~ 60°
Polarization	±45°
Isolation	17 dB
F-B ratio (-180 ± 30°)	15 dB ~ 18 dB
Input Power (Max)	≤ 10 W
Impedance	50 Ω

## Mechanical Specifications

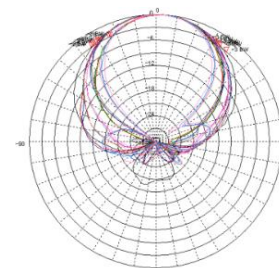
Radom Dimension (W x D x H)	198 x 198 x 68 mm
Weight (exclude bracket)	≤ 2 kg
Radom Material (color)	ASA (White)
Operating Temperature / Humidity	-40 °C ~ 70 °C
Mechanical Tilt	± 30°



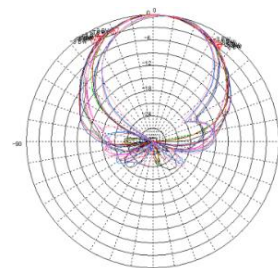
Horizontal Pattern  
(Low Band)



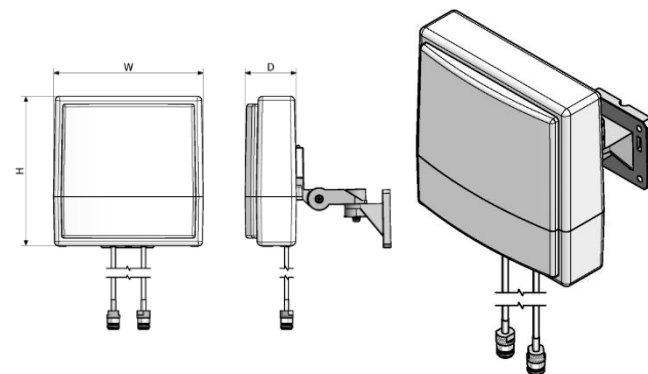
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)



## 7-2. Multi-Band MIMO Patch Antenna

814~960, 1710~2170, 2300~2690MHz / 5, 8, 9dBi

23

### General Specifications

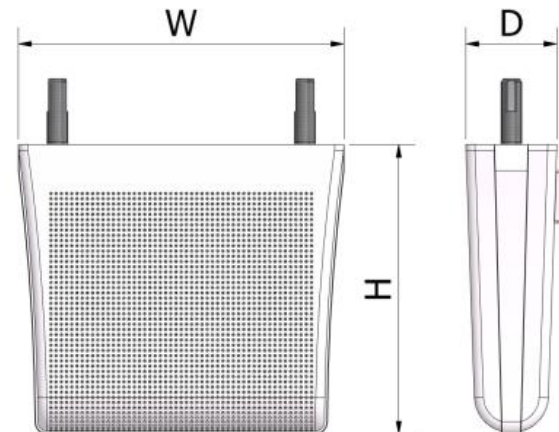
Device Type	RF Antenna
Connector Type	N-Female x 2
Part Number	Patch-9dBi_MIMO

### Electrical Specifications

Operating Frequency Bands (MHz)	814 ~ 960 / 1710 ~ 2170 / 2300 ~ 2690
Gain (dBi)	5 ~ 9
VSWR	1 : 1.9
Beam Width	Horizontal 90° ~ 130° / 35° ~ 75° / 35° ~ 75° Vertical 90° ~ 130° / 35° ~ 75° / 35° ~ 75°
Polarization	±45°
Isolation	-
IMD (3rd)	≤ -140 dBc @ 2x37dBm
Input Power (Max)	≤ 150 W
Impedance	50 Ω

### Mechanical Specifications

Radom Dimension (W x D x H)	250 x 75 x 250 mm
Weight (exclude bracket)	≤ 2 kg
Radom Material (color)	ABS (White)
Operating Temperature / Humidity	-40 °C ~ 70 °C



## 8. Single-Band MIMO Omni Antenna

3600~4100MHz / 4dBi

24

### General Specifications

Device Type	RF Antenna
Connector Type	N-J (Female) × 2
Part Number	O-0T04XT-0004-K

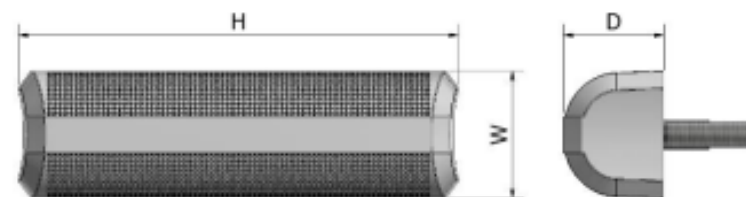
### Electrical Specifications

Operating Frequency Bands (MHz)	3600 ~ 4100
Gain (dBi)	≥ 4
VSWR	1.5 : 1
Beam Width	Horizontal 360° Vertical 10°
Polarization	V / V
F-B Ratio	-

Isolation	≥ 15 dB
Input Power (Max)	50 W
Impedance	50 Ω

### Mechanical Specifications

Radom Dimension (W x D x H)	72 x 58 x 246 mm
Weight (exclude bracket)	≤ 1.5 kg
Radom Material (color)	White / Gray
Operating Temperature / Humidity	-30 °C ~ 60 °C





# 9. Multi-Band MIMO Omni Antenna

819~960, 1710~2690, 3400~3700MHz / 3, 3, 4dBi

25

## General Specifications

Device Type	RF Antenna
Connector Type	N-J (Female) × 2
Part Number	CPWWM-MDT-334

## Electrical Specifications

Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2690 / 3400 ~ 3700
Gain (dBi)	3 ~ 4
VSWR	1.9 : 1

Beam Width	Horizontal 360° Vertical 20° ~ 8°
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Polarization	-
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Isolation	≥ 15 dB
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IMD (3rd)	≤ -140dBc @ 2x40dBm
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Input Power (Max)	≤ 50 W
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Impedance	50 Ω
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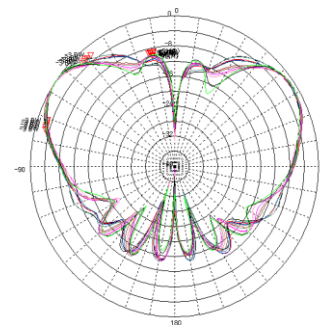
## Mechanical Specifications

Radom Dimension (W x D x H)	73 x 57 x 246 mm
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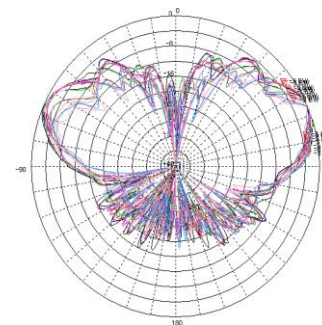
Weight (exclude bracket)	≤ 1.5 kg
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Radom Material (color)	ABS (White)
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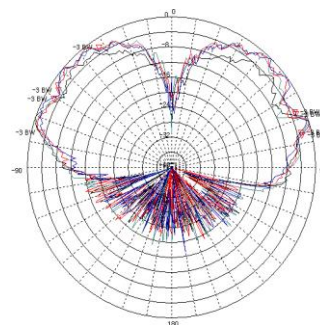
Operating Temperature / Humidity	-30 °C ~ 60 °C
----------------------------------	----------------



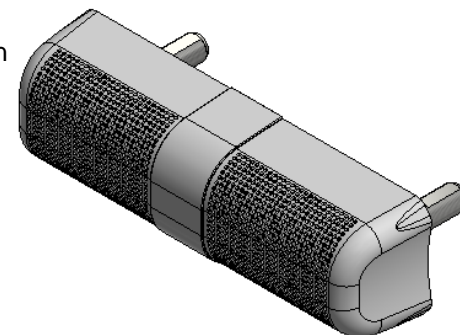
Vertical Pattern  
(Low Band)



Vertical Pattern  
(High Band)



Vertical Pattern  
(3.5 Band)



# 10-1. Multi-Band Yagi Antenna

819~960, 1710~2690, 3400~3700MHz / 5, 11, 12dBi

26

## General Specifications

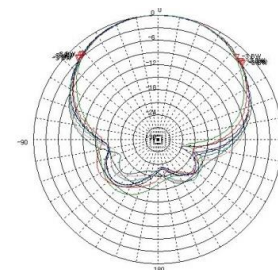
Device Type	RF Antenna
Connector Type	N-J (Female)
Part Number	CPWWM-YG-512

## Electrical Specifications

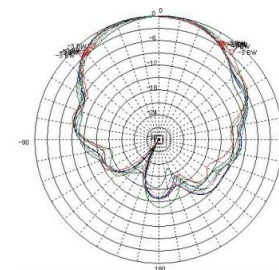
Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2690 / 3400 ~ 3700
Gain (dBi)	5 ~ 12
VSWR	1 : 1.5
Beam Width	Horizontal 70° ~ 130° / 35° ~ 60° / 30° ~ 70° Vertical 50° ~ 90° / 30° ~ 55° / 30° ~ 60°
Polarization	V / V
IMD (3rd)	≤ -140dBc @ 2x40dBm
F-B ratio (-180 ± 30°)	10 dB ~ 15 dB
Input Power (Max)	≤ 100 W
Impedance	50 Ω

## Mechanical Specifications

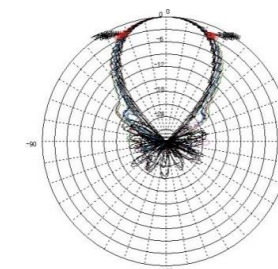
Radom Dimension (W x D x H)	40 x 620 x 100 mm
Weight (exclude bracket)	≤ 0.9 kg
Radom Material (color)	ASA (White)
Operating Temperature / Humidity	-40 °C ~ 70 °C
Mechanical Tilt	Up/Down ± 30° / Right/Left 0°~ 30°



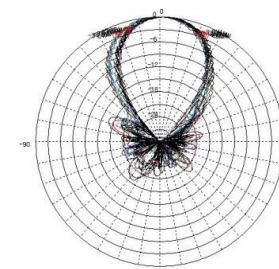
Horizontal Pattern  
(Low Band)



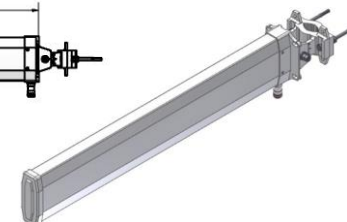
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)



# 10-2. Multi-Band Yagi Antenna

## 819~960, 1710~2690MHz / 8, 14dBi

27

### General Specifications

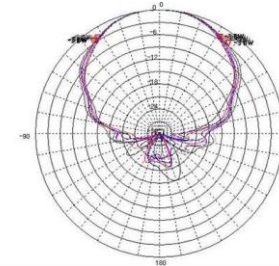
Device Type	RF Antenna
Connector Type	N-J (Female)
Part Number	CPWW-YG-814 (Variable)

### Electrical Specifications

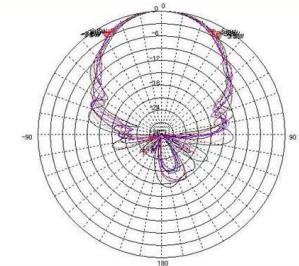
Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2690
Gain (dBi)	8 ~ 14
VSWR	1 : 1.6
Beam Width	Horizontal 60° ~ 130° / 25° ~ 60° Vertical 40° ~ 90° / 20° ~ 55°
Polarization	Vertical @ 0° , Horizontal @ 90°
IMD (3rd)	≤ -140dBc @ 2x40dBm
Isolation between two antennas	≥ 30 dB (Pol. Angle 90°, Distance 1m)
Input Power (Max)	≤ 200 W
Impedance	50 Ω

### Mechanical Specifications

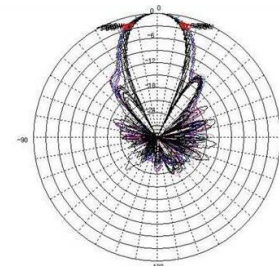
Radom Dimension (W x D x H)	100 x 36 x 1080 mm
Weight (exclude bracket)	≤ 3 kg
Radom Material (color)	ASA (Gray)
Operating Temperature / Humidity	-40 °C ~ 70 °C
Mechanical Tilt	Up/Down ± 30° / Right/Left 0°~ 30°



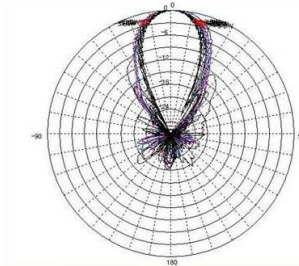
Horizontal Pattern  
(Low Band)



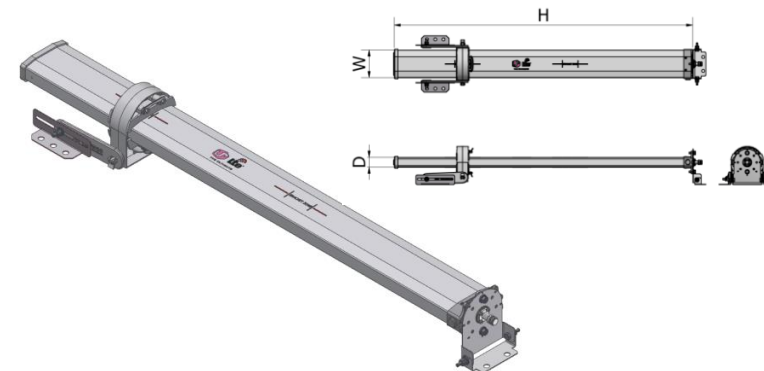
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)



# 10-3. Multi-Band Yagi Antenna

## 819~960, 1710~2690MHz / 12dBi

28

### General Specifications

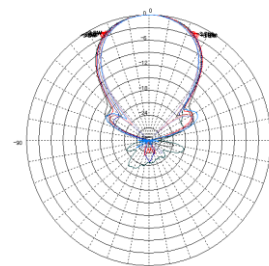
Device Type	RF Antenna
Connector Type	N-J (Female)
Part Number	CPWW-YG-1212 (Variable)

### Electrical Specifications

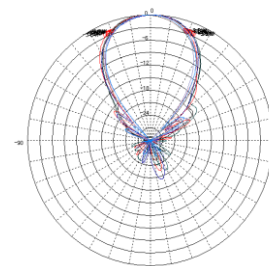
Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2690
Gain (dBi)	12~ 12
VSWR	1 : 1.6
Beam Width	Horizontal 20° ~ 70° / 20° ~ 70° Vertical 20° ~ 70° / 20° ~ 70°
Polarization	V / V
IMD (3rd)	≤ -140dBc @ 2x40dBm
F-B ratio (-180 ± 30°)	10 dB ~ 15 dB
Input Power (Max)	≤ 200 W
Impedance	50 Ω

### Mechanical Specifications

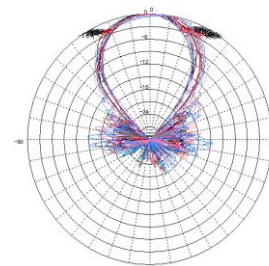
Radom Dimension (W x D x H)	100 x 36 X 1251 mm
Weight (exclude bracket)	≤ 3 kg
Radom Material (color)	ASA (Gray)
Operating Temperature / Humidity	-40 °C ~ 70 °C
Mechanical Tilt	Up/Down ± 30° / Right/Left 0°~ 30°



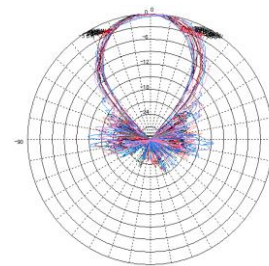
Horizontal Pattern  
(Low Band)



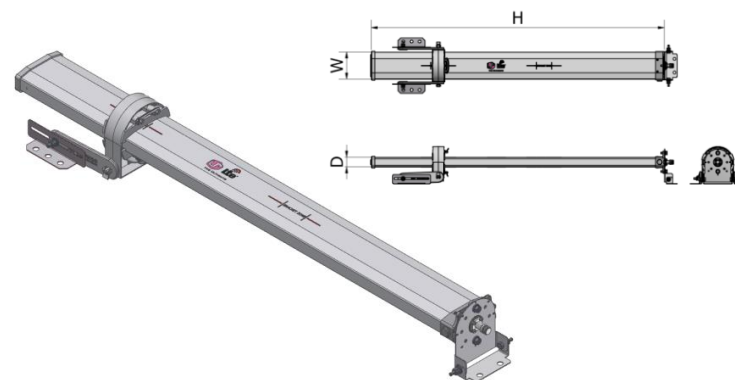
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)



# 11. Multi-Band MIMO Yagi Antenna

819~960, 1710~2690, 3400~3700MHz / 8, 14, 14dBi

29

## General Specifications

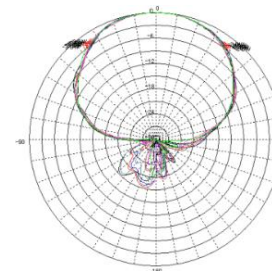
Device Type	RF Antenna
Connector Type	N-J (Female) x 2
Part Number	CPWW-MYG-814

## Electrical Specifications

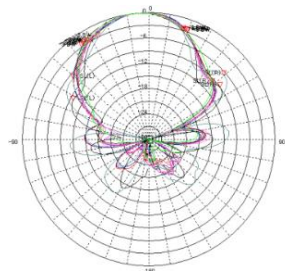
Operating Frequency Bands (MHz)	819 ~ 960 / 1710 ~ 2690 / 3400 ~ 3700
Gain (dBi)	8~ 14
VSWR	1 : 1.6
Beam Width	Horizontal 40° ~ 120° / 20° ~ 60° / 20° ~ 60° Vertical 30° ~ 90° / 20° ~ 60° / 20° ~ 60°
Polarization	VH
IMD (3rd)	≤ -140dBc @ 2x40dBm
F-B ratio (-180 ± 30°)	15 dB
Input Power (Max)	≤ 100 W
Impedance	50 Ω

## Mechanical Specifications

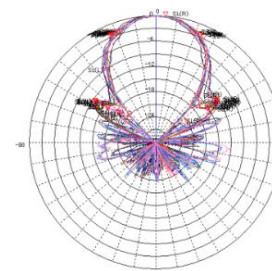
Radom Dimension (W x D x H)	1300 x 100 x 160 mm
Weight (exclude bracket)	≤ 5 kg
Radom Material (color)	ASA (Gray)
Operating Temperature / Humidity	-40 °C ~ 70 °C
Mechanical Tilt	Up/Down ± 30° / Right/Left 0°~ 30°



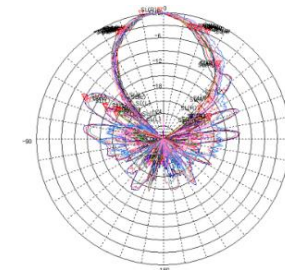
Horizontal Pattern  
(Low Band)



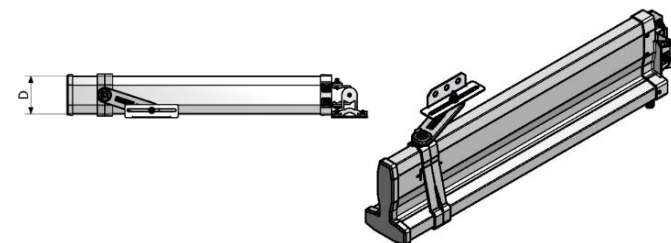
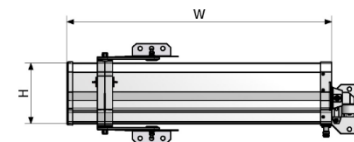
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)





# 12. Single Band Dual Polarization Horizontal 63° 17dBi

## Adjust. Electrical Down tilt

30

### General Specifications

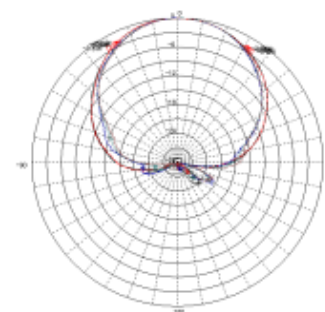
Device Type	RF Antenna
Connector Type	Mini DIN-Female x 4
Part Number	ESBDP_H65_17dBi_4x4_3.5GHz

### Electrical Specifications

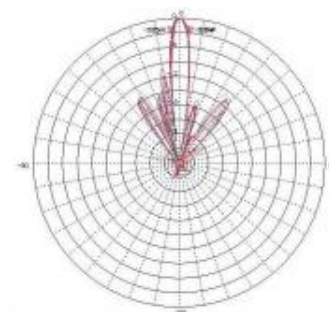
Operating Frequency Bands (MHz)	3600 ~ 4100
Gain (dBi)	16 ~ 17
VSWR	1.5 : 1
Beam Width	Horizontal 63° ± 9° Vertical ≥ 4.5°
Polarization	± 45° SLANT
Isolation	≥ 27 dB
IMD (3rd)	≤ -150 dBc @ 2x43dBm
Input Power (Max)	200 W
Impedance	50 Ω

### Mechanical Specifications

Radom Dimension (W x D x H)	≤ 262 x 140 x 1000 mm
Weight (exclude bracket)	≤ 12 kg
Withstand Wind Pressure	60 m/sec
Radom Material (color)	A.S.A. (Cool Gray 4C)
Operating Temperature / Humidity	-40 °C ~ 70 °C
Mechanical Tilt	± 30°



Horizontal Pattern



Vertical Pattern



# 13-1. Quad Band Dual Polarization Horizontal 63° 15dBi

## Adjust. Electrical Down tilt

31

### General Specifications

Device Type	RF Antenna
Connector Type	7/16"DIN-Female x 6
Part Number	2.6G_EQBDP_63_15dBi

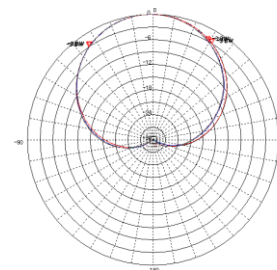
### Electrical Specifications

Operating Frequency Bands (MHz)	839~894 / 1755~2130 / 2500~2660
Gain (dBi)	$\geq 13 \sim \geq 14$
VSWR	1.5 : 1
Beam Width	Horizontal $65^\circ \pm 5^\circ / 63^\circ \pm 9^\circ / 63^\circ \pm 9^\circ$ Vertical $13^\circ \pm 3^\circ / 12^\circ \pm 3^\circ / 9^\circ \pm 3^\circ$

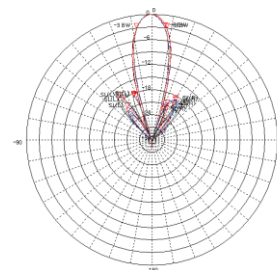
Polarization	$\pm 45^\circ$ SLANT
Isolation	$\geq 27$ dB $\sim \geq 30$ dB
IMD (3rd)	$\leq -150$ dBc @ 2x43dBm
Input Power (Max)	200 W
Impedance	50 $\Omega$

### Mechanical Specifications

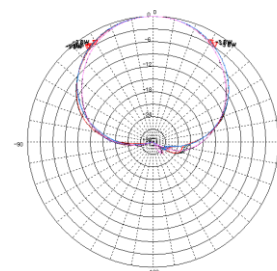
Radom Dimension (W x D x H)	297 x 150 x 1599 mm
Weight (exclude bracket)	$\leq 13$ kg
Withstand Wind Pressure	60 m/sec
Radom Material (color)	A.S.A. (Cool Gray 4C)
Operating Temperature / Humidity	-30 $^\circ$ C $\sim$ 60 $^\circ$ C
Mechanical Tilt	$\pm 30^\circ$



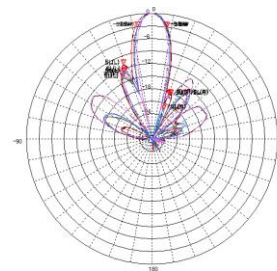
Horizontal Pattern  
(Low Band)



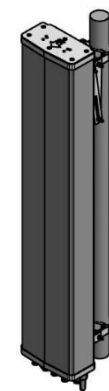
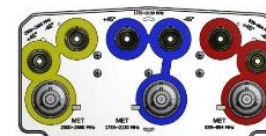
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)



# 13-2. Quad Band Dual Polarization Horizontal 63° 12.5dBi

## Adjust. Electrical Down tilt

32

### General Specifications

Device Type	RF Antenna
Connector Type	7/16"DIN-Female x 6
Part Number	2.6G_EQBDP_63_12.5dBi

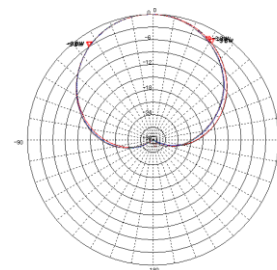
### Electrical Specifications

Operating Frequency Bands (MHz)	839~894 / 1755~2130 / 2500~2660
Gain (dBi)	$\geq 11.5 \sim \geq 12.5$
VSWR	1.5 : 1
Beam Width	Horizontal $65^\circ \pm 5^\circ / 63^\circ \pm 9^\circ / 63^\circ \pm 9^\circ$ Vertical $22^\circ \pm 3^\circ / 20^\circ \pm 3^\circ / 18^\circ \pm 3^\circ$

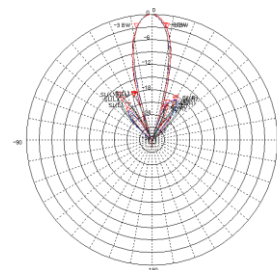
Polarization	$\pm 45^\circ$ SLANT
Isolation	$\geq 27$ dB $\sim \geq 30$ dB
IMD (3rd)	$\leq -150$ dBc @ 2x43dBm
Input Power (Max)	200 W
Impedance	50 $\Omega$

### Mechanical Specifications

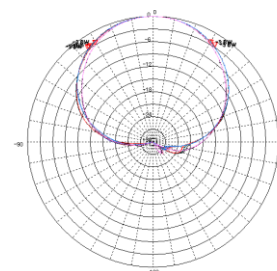
Radom Dimension (W x D x H)	290 x 147 x 1096 mm
Weight (exclude bracket)	$\leq 10$ kg
Withstand Wind Pressure	60 m/sec
Radom Material (color)	A.S.A. (Cool Gray 4C)
Operating Temperature / Humidity	-30 $^\circ$ C $\sim$ 60 $^\circ$ C
Mechanical Tilt	$\pm 30^\circ$



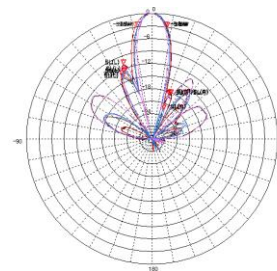
Horizontal Pattern  
(Low Band)



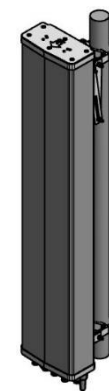
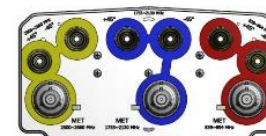
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)





# 14. Tilt Max Sector Dual Polarization Horizontal 63° 14dBi

## Adjust. Wide Range Electrical Down tilt

33

### General Specifications

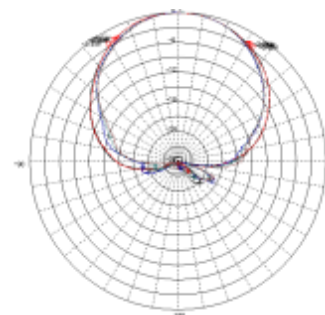
Device Type	RF Antenna
Connector Type	4.3-10 Female x 4
Part Number	B-0T04XV-0014

### Electrical Specifications

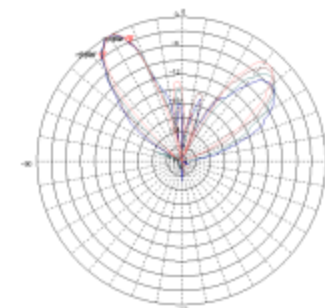
Operating Frequency Bands (MHz)	3600 ~ 4100
Gain (dBi)	≥ 14
VSWR	1.5 : 1
Beam Width	Horizontal 63° ± 9° Vertical ≥ 14° ± 3°
Polarization	± 45° SLANT
Isolation	≥ 27 dB
IMD (3rd)	≤ -150 dBc @ 2x43dBm
Input Power (Max)	200 W
Impedance	50 Ω
Electrical tilt	30°

### Mechanical Specifications

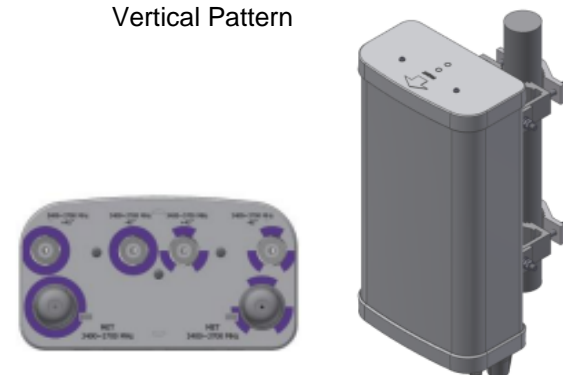
Radom Dimension (W x D x H)	≤ 262 x 140 x 500 mm
Weight (exclude bracket)	≤ 7 kg
Withstand Wind Pressure	60 m/sec
Radom Material (color)	A.S.A. (Cool Gray 4C)
Operating Temperature / Humidity	-30 °C ~ 60 °C



Horizontal Pattern



Vertical Pattern



# 15. Tilt Max Cylindrical Dual Polarization Horizontal 65° 10dBi High Angle Electrical Up tilt

34

## General Specifications

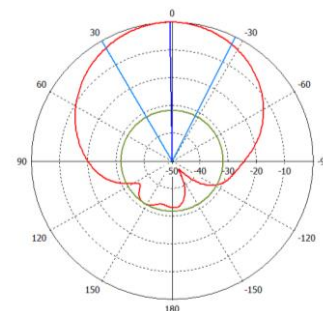
Device Type	RF Antenna
Connector Type	4.3-10 Female x 4
Part Number	C-0T04XV-0010

## Electrical Specifications

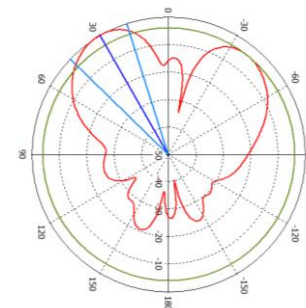
Operating Frequency Bands (MHz)	3600 ~ 4100
Gain (dBi)	≥ 10
VSWR	1.5 : 1
Beam Width	Horizontal 65° ± 8° Vertical ≥ 30° ± 5°
Polarization	± 45° SLANT
Isolation	≥ 27 dB
IMD (3rd)	≤ -150 dBc @ 2x43dBm
Input Power (Max)	200 W
Impedance	50 Ω
Electrical tilt	28° ~ 32°

## Mechanical Specifications

Radom Dimension (D x H)	≤ 120 x 500 mm
Weight (exclude bracket)	≤ 3 kg
Withstand Wind Pressure	60 m/sec
Radom Material (color)	ASA FRP
Operating Temperature / Humidity	-30 °C ~ 60 °C



Horizontal Pattern



Vertical Pattern



# 16-1. Cylinder Type Sector Antenna

814~960, 1710~2690MHz / 10dBi

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## General Specifications

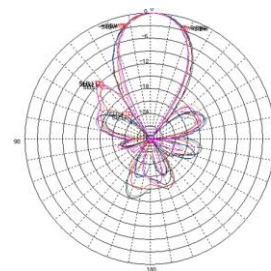
Device Type	RF Antenna
Connector Type	N-J (Female) x 2
Part Number	MB2P-35-10dBi-T0

## Electrical Specifications

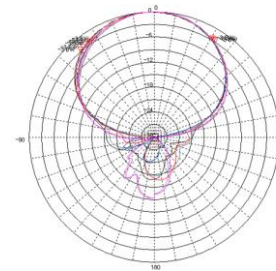
Operating Frequency Bands (MHz)	814 ~ 960 / 1710 ~ 2690
Gain (dBi)	$\geq 10$
VSWR	1.5 : 1
Beam Width	Horizontal $35^{\circ} \pm 10^{\circ} / 35^{\circ} \pm 10^{\circ}$ Vertical $65^{\circ} \pm 10^{\circ} / 35^{\circ} \pm 10^{\circ}$
Polarization	$\pm 45^{\circ}$ SLANT
Isolation	$\geq 23$
IMD (3rd)	$\leq -150\text{dBc}$ @ 2x43dBm
Input Power (Max)	200 W
Impedance	50 $\Omega$

## Mechanical Specifications

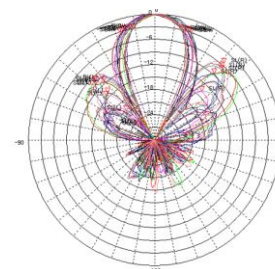
Radom Dimension (D x H)	$\varnothing 200 \times 670$ mm
Weight (exclude bracket)	$\leq 5$ kg
Withstand Wind Pressure	60 m/sec
Radom Material (color)	A.S.A. (Cool Gray 4C)
Operating Temperature / Humidity	-30 $^{\circ}\text{C}$ ~ 60 $^{\circ}\text{C}$



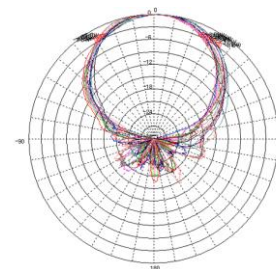
Horizontal Pattern  
(Low Band)



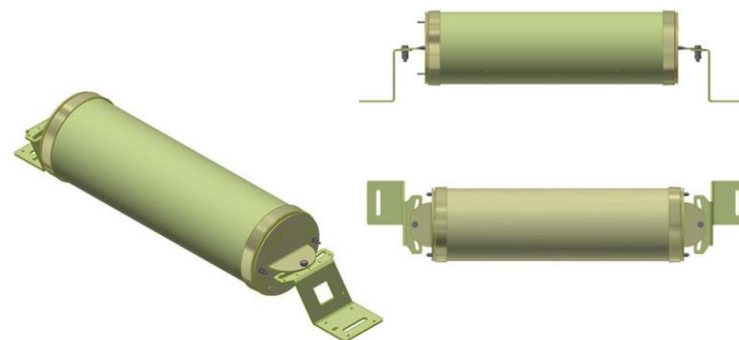
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)



# 16-2. Cylinder Type Sector Antenna

814~960, 1710~2690MHz / 10dBi

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## General Specifications

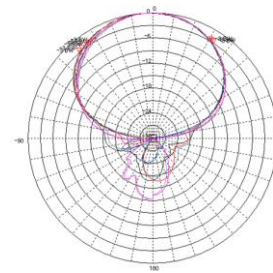
Device Type	RF Antenna
Connector Type	N-J (Female) x 2
Part Number	MB2P-35-10dBi-T0

## Electrical Specifications

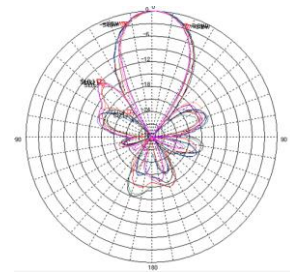
Operating Frequency Bands (MHz)	814 ~ 960 / 1710 ~ 2690
Gain (dBi)	$\geq 10$
VSWR	1.5 : 1
Beam Width	Horizontal $65^{\circ} \pm 10^{\circ} / 65^{\circ} \pm 10^{\circ}$ Vertical $35^{\circ} \pm 10^{\circ} / 35^{\circ} \pm 10^{\circ}$
Polarization	$\pm 45^{\circ}$ SLANT
Isolation	$\geq 23$
IMD (3rd)	$\leq -150\text{dBc} @ 2 \times 43\text{dBm}$
Input Power (Max)	200 W
Impedance	50 $\Omega$

## Mechanical Specifications

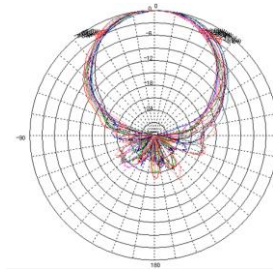
Radom Dimension (D x H)	$\varnothing 200 \times 670$ mm
Weight (exclude bracket)	$\leq 5$ kg
Withstand Wind Pressure	60 m/sec
Radom Material (color)	A.S.A. (Cool Gray 4C)
Operating Temperature / Humidity	$-30^{\circ}\text{C} \sim 60^{\circ}\text{C}$



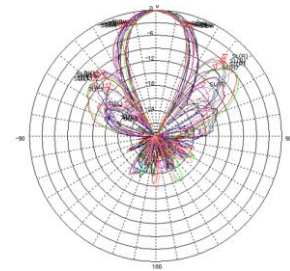
Horizontal Pattern  
(Low Band)



Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)



# 16-3. Cylinder Type Sector Antenna

814~960, 1710~2200MHz / 6.5dBi

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## General Specifications

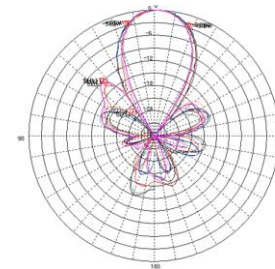
Device Type	RF Antenna
Connector Type	N-J (Female)
Part Number	CPI-CQBDP-066DT

## Electrical Specifications

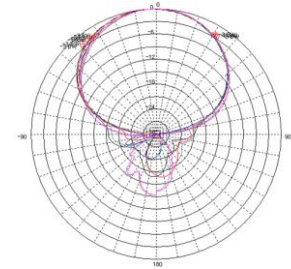
Operating Frequency Bands (MHz)	814 ~ 960 / 1710 ~ 2200
Gain (dBi)	$\geq 6.5$
VSWR	1.5 : 1
Beam Width	Horizontal $100^{\circ} \pm 30^{\circ}$ / $75^{\circ} \pm 20^{\circ}$ Vertical $50^{\circ} \pm 20^{\circ}$ / $50^{\circ} \pm 20^{\circ}$
Polarization	$\pm 45^{\circ}$ SLANT
Isolation	$\geq 20$ / $\geq 25$
IMD (3rd)	$\leq -140\text{dBc}$ @ 2x43dBm
Input Power (Max)	200 W
Impedance	50 $\Omega$

## Mechanical Specifications

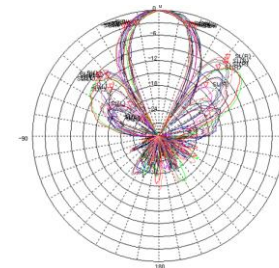
Radom Dimension (D x H)	$\varnothing 120 \times 520$ mm
Weight (exclude bracket)	$\leq 5$ kg
Withstand Wind Pressure	60 m/sec
Radom Material (color)	A.S.A. (Cool Gray 4C)
Operating Temperature / Humidity	$-30^{\circ}\text{C} \sim 60^{\circ}\text{C}$



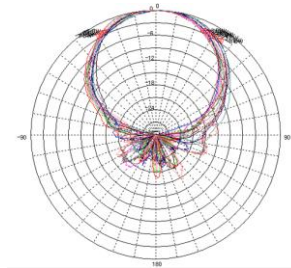
Horizontal Pattern  
(Low Band)



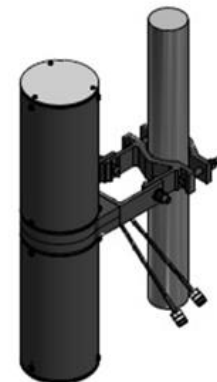
Vertical Pattern  
(Low Band)



Horizontal Pattern  
(High Band)



Vertical Pattern  
(High Band)



# 16-4. Cylinder Type Sector Antenna

4T4R 3600~4100MHz / 6dBi

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## General Specifications

Device Type	RF Antenna
Connector Type	7/16" DIN-Female × 4
Part Number	TM-CQBBDP-06(4T4R)

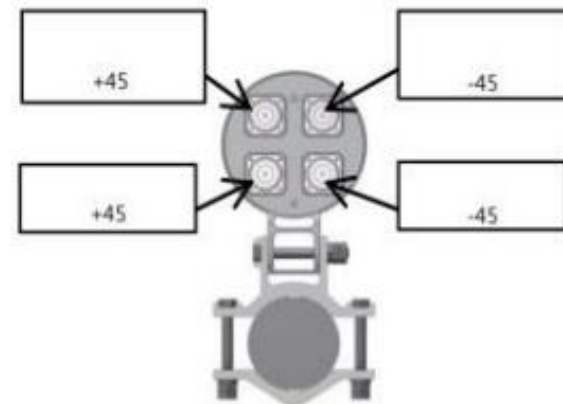
## Electrical Specifications

Operating Frequency Bands (MHz)	3600 ~ 4100
Gain (dBi)	≥ 6
VSWR	1.5 : 1
Beam Width	Horizontal 70° ± 20° Vertical ≥ 50° ± 20°
Polarization	± 45° SLANT

F-B Ratio	≥ 13 dB
PIMD (3rd)	-140dBc
Input Power (Max)	200 W
Impedance	50 Ω

## Mechanical Specifications

Radom Dimension (D x H)	Ø120 × 400 mm
Weight (exclude bracket)	≤ 3 kg
Withstand Wind Pressure	60 m/sec
Radom Material (color)	ASA FRP
Operating Temperature / Humidity	-40 °C ~ 70 °C





# 17. 4 GHz Patch Antenna

3600~4100MHz / 16dBi

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## General Specifications

Device Type	RF Antenna
Connector Type	N-J (Female) × 2
Part Number	P-0T02XT-0016-K

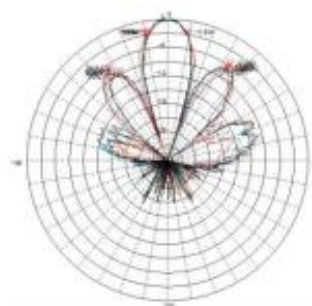
## Electrical Specifications

Operating Frequency Bands (MHz)	3600 ~ 4100
Gain (dBi)	≥ 16
VSWR	1.5 : 1
Beam Width	Horizontal 20° ± 5° Vertical 20° ± 5°

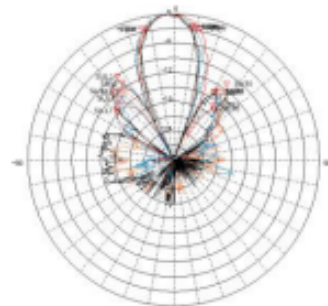
Polarization	± 45°
F-B Ratio	≥ 13 dB
Isolation	≥ 20 dB
Input Power (Max)	100 W
Impedance	50 Ω

## Mechanical Specifications

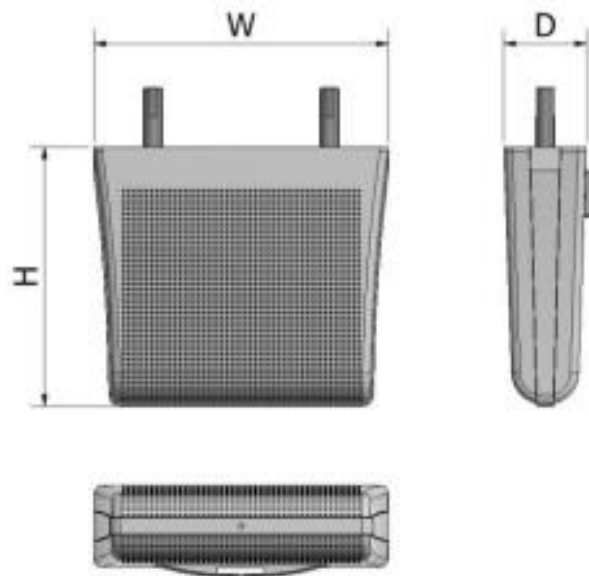
Radom Dimension (W x D x H)	222 x 250 x 70 mm
Weight (exclude bracket)	≤ 1.5 kg
Radom Material (color)	White
Operating Temperature / Humidity	-30 ° C ~ 60 ° C



Horizontal Pattern



Vertical Pattern



# 18. 4 GHz 4T4R Patch Antenna

3600~4100 MHz/ 10dBi

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## General Specifications

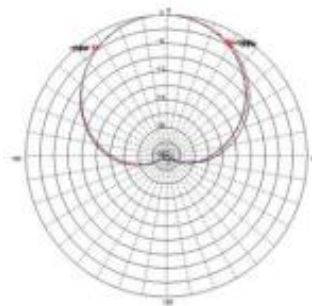
Device Type	RF Antenna
Connector Type	N-J (Female) × 4
Part Number	P-0T04XT-0010-K

## Electrical Specifications

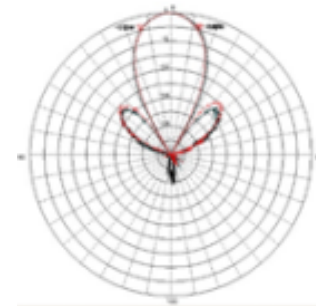
Operating Frequency Bands (MHz)	3600 ~ 4100
Gain (dBi)	≥ 10
VSWR	1.5 : 1
Beam Width	Horizontal ≥ 60° Vertical 30°
Polarization	± 45°
F-B Ratio	≥ 15 dB
Isolation	≥ 20 dB
Input Power (Max)	100 W
Impedance	50 Ω

## Mechanical Specifications

Radom Dimension (W x D x H)	195 x 195 x 45 mm
Weight (exclude bracket)	≤ 800 g
Radom Material (color)	White
Operating Temperature / Humidity	-30 ° C ~ 60 ° C
Mechanical Tilt	± 30°



Horizontal Pattern



Vertical Pattern

