

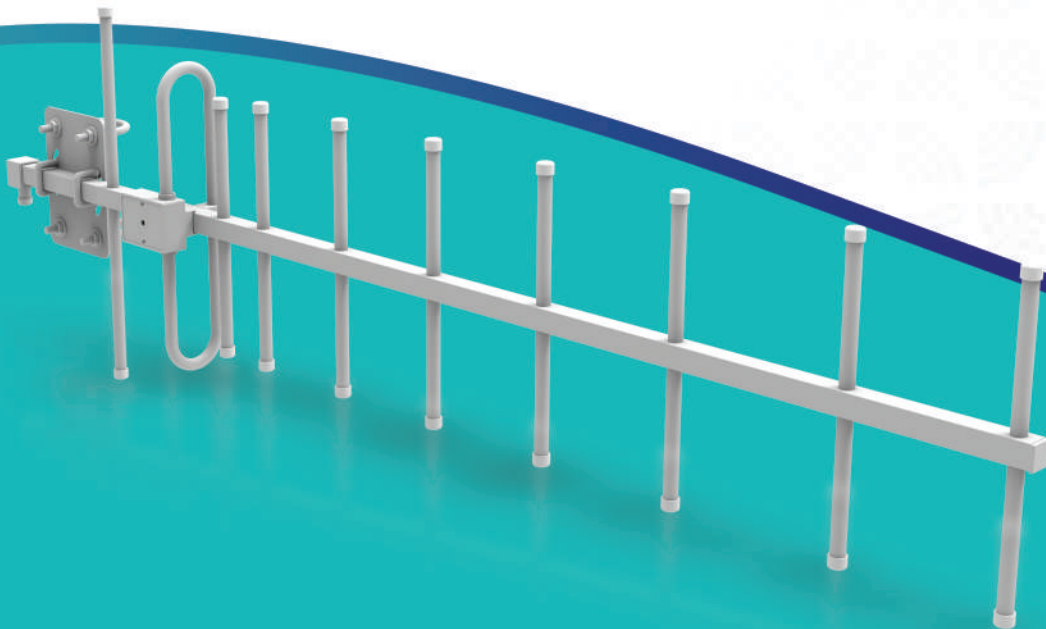


UHFVHF

ULTRA HIGH FREQUENCY
VERY HIGH FREQUENCY

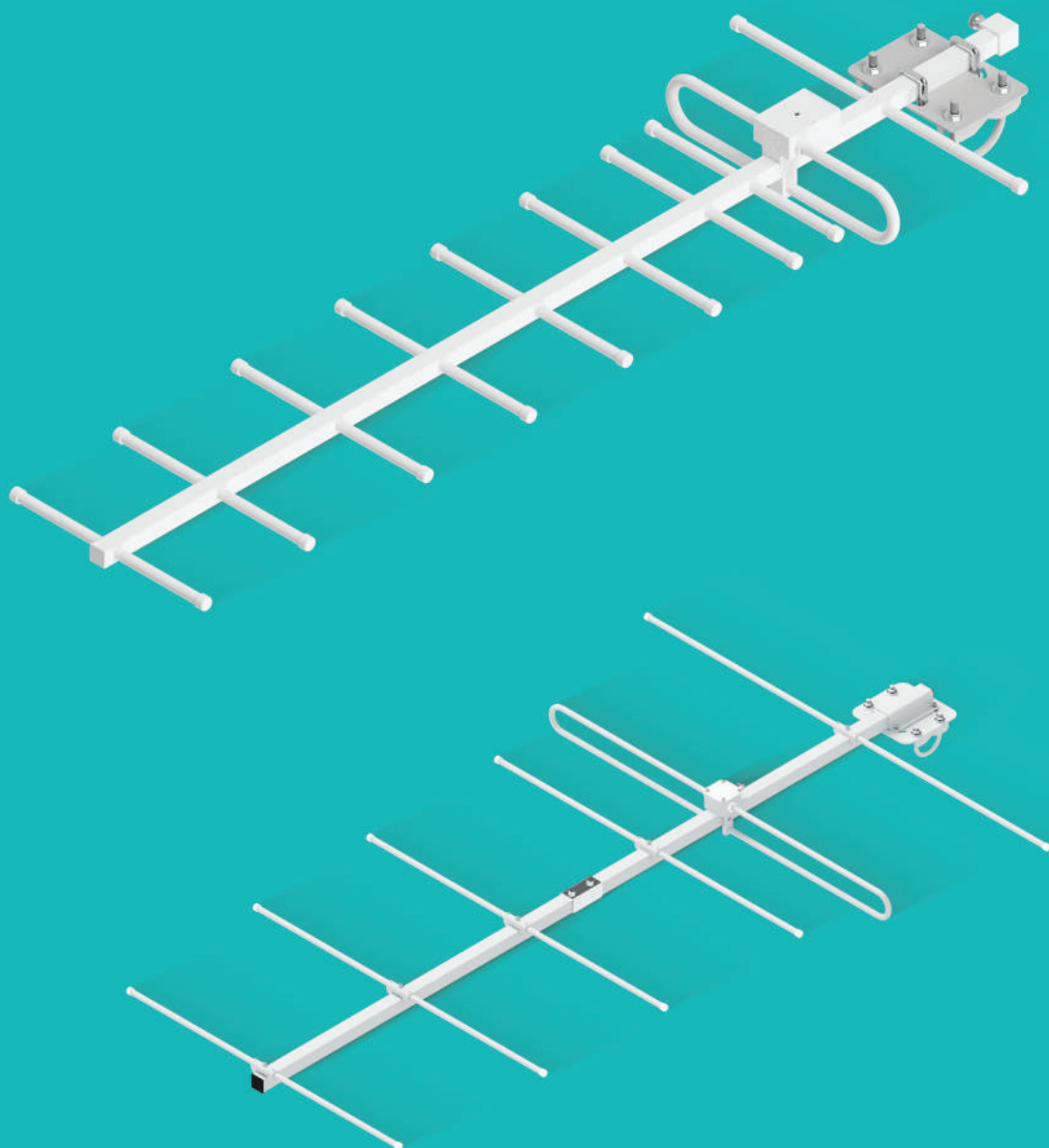
CATALOG

V 1.0.0



 **Phase**





VHF & UHF Antenna

فراموج سازان ارتباطات پارسیان

شرکت فراموج سازان ارتباطات پارسیان با بیش از یک دهه سابقه درخشان در حوزه فناوری‌های مخابراتی، به‌عنوان یکی از شرکت‌های دانش‌بنیان برتر این حوزه شناخته می‌شود. این مجموعه از سال ۱۳۹۱ فعالیت خود را آغاز کرده و با تکیه بر دانش فنی و تجهیزات مدرن، به تولید و توزیع آنتن‌های مخابراتی و تجهیزات رادیویی با نام تجاری فاز در باندهای فرکانسی HF، VHF، UHF، گیگاهرتز و مایکروویو پرداخته است. همچنین، تولید رادیوهای باند ۵ گیگاهرتز تحت برند RAYABOX و توزیع برندهای مطرحی مانند MIKROTIK و MIMOSA نیز در زمره خدمات این شرکت قرار دارد.

محصولات این مجموعه در بازه فرکانسی ۶۰ مگاهرتز تا ۳۸ گیگاهرتز تولید شده و مطابق با استانداردهای ملی و بین‌المللی عرضه می‌شوند. این شرکت با دریافت پروانه بهره‌برداری از وزارت صمت، پروانه عرضه خدمات از سازمان تنظیم مقررات و ارتباطات رادیویی و مجوزهای معتبر دیگر، جایگاه خود را در صنعت مخابرات تثبیت کرده است.

تمامی محصولات این شرکت دارای گارانتی ۱۸ ماهه می‌باشد و همراه با خدمات پس از فروش و پشتیبانی فنی مستمر ارائه می‌شوند. کارخانه شرکت در شهرک صنعتی اصفهان و دفتر مرکزی آن در استان اصفهان قرار دارد. استفاده از محصولات این مجموعه در پروژه‌های شرکت ملی نفت، گاز، برق و... نشان‌دهنده کیفیت و اعتماد بالای مشتریان به این مجموعه است. این شرکت با تمرکز بر نوآوری، بومی‌سازی فناوری‌های مخابراتی و امکان سفارشی‌سازی محصولات، آماده همکاری با تمامی سازمان‌های دولتی و خصوصی برای توسعه ارتباطات پیشرفته در ایران می‌باشد.



ቅጥረት ምዕራፍ

VHF (Very High Frequency)

YAGI

- Yagi - 1 Element **7**
- Yagi - 2 Element **8**
- Yagi - 3 Element **9**
- Yagi - 4 Element **10**
- Yagi - 6 Element **11**

VHF (Very High Frequency)

DIPOLE ARRAY

- 4 Dipole **15**
- 4 Dipole Heavy **16**

VHF (Very High Frequency)

OMNI

- Omni 5dBi **19**
- Omni 6.5dBi **20**
- Omni 8dBi **21**

UHF (Ultra High Frequency)

YAGI

- Yagi - 1 Element **25**
- Yagi - 3 Element **26**
- Yagi - 6 Element **27**
- Yagi -10 Element **28**
- Yagi -16 Element **29**

UHF (Ultra High Frequency)

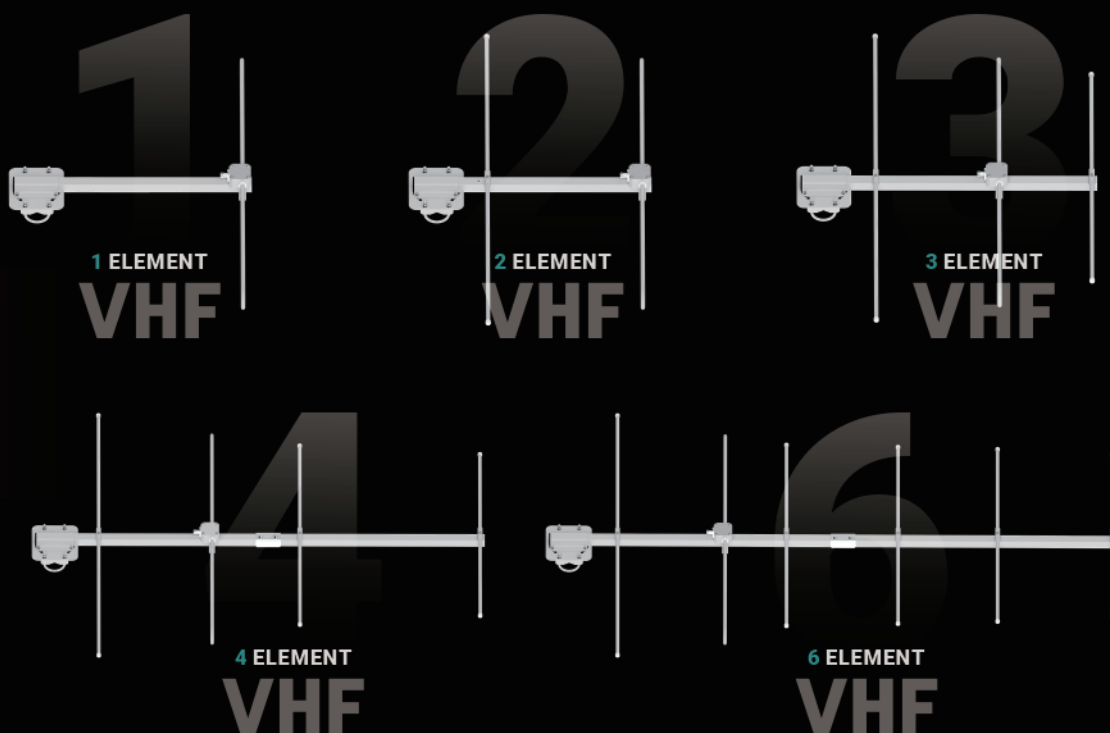
OMNI

- Omni 5dBi **33**
- Omni 8.5dBi **34**
- Omni 11dBi **35**



YAGI

Very High Frequency



ویژگی این محصولات

کابل کشی تو کار آنتن

برگشت سیگنال بسیار پایین

بدنه آنتن از جنس آلومینیوم آلیاژی

کانکتور از نوع N-TYPE-FEMALE

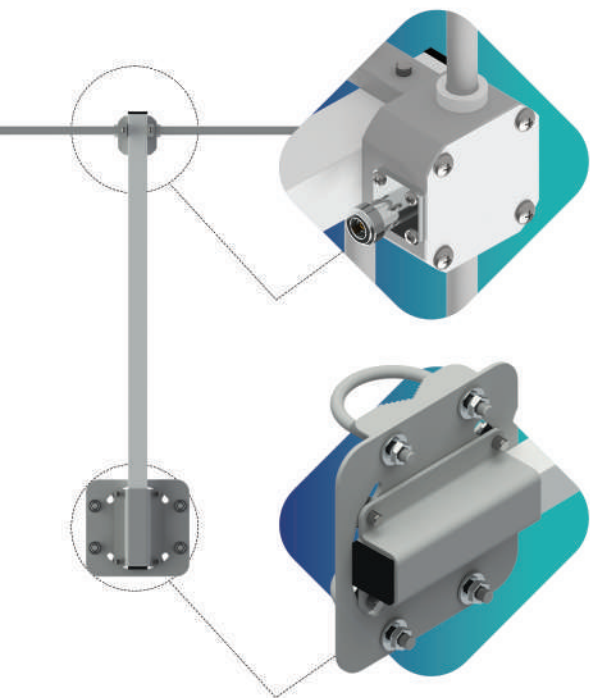
امکان تغییر زاویه ی عمودی پایه تا ± 15 درجه

مقاوم در برابر صاعقه (DC GROUND)

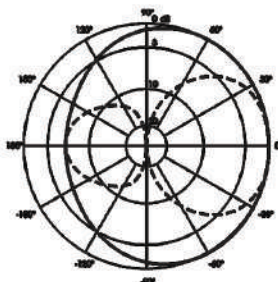
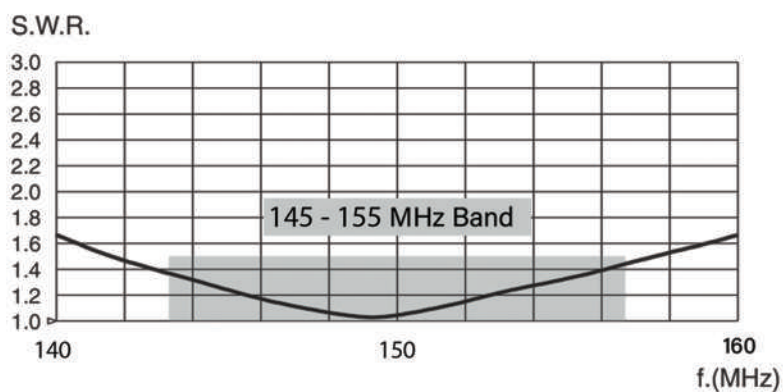
پایه آنتن (MOUNT KIT) از جنس آهن با روکش مقاوم در برابر زنگ زدگی

امکان اتصال پایه آنتن به دکل از سایز لوله 10 الی 60 میلی متر

محدوده ی فرکانسی 20 مگاهرتز با قابلیت سفارشی سازی



TYPICAL S.W.R. RESPONSE



Product Model	
VHF 1 ELEMENT	
Type	Yagi Antenna
Frequency Range	136 - 174 MHz
Impedance	50 Ω
Polarization	Vertical / Horizontal
Max Gain	4dBi
Mechanical Pan/Tilt	$\pm 15^\circ$
S.W.R. in Bandwidth	$\leq 1.2:1$
Max Power	50 Watts
Lightning Protection	DC Ground
Single Unit Dimension	700 x 980
Operating Temperature	-40°C to $+80^\circ\text{C}$
Wind Resistance	180/150 km/h
Weight	net: 2.1 kg
Bandwidth	20 MHz
H plane beamwidth@-3dB	245°
E plane beamwidth@-3dB	85°
Connector	Female Ntype / PL 259
Materials	Aluminium & Iron

1
ELEMENT

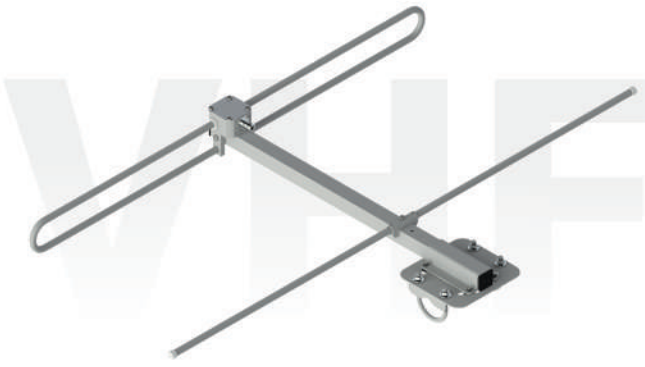
VHF



Phase



7

**Product Model****VHF 2 ELEMENT****Type**

Yagi Antenna

Frequency Range

136 - 174 MHz

Impedance50 Ω **Polarization**

Vertical / Horizontal

Max Gain

5.2dBi

Mechanical Pan/Tilt $\pm 15^\circ$ **S.W.R. in Bandwidth** $\leq 1.2:1$ **Max Power**

50 Watts

Lightning Protection

DC Ground

Single Unit Dimension

650 x 980

Operating Temperature -40°C to $+80^\circ\text{C}$ **Wind Resistance**

180/150 km/h

Weight

net: 2.6 kg

Bandwidth

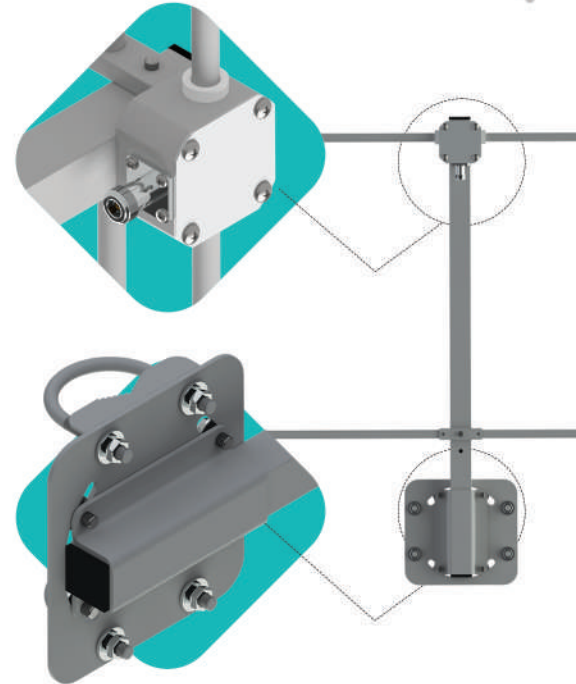
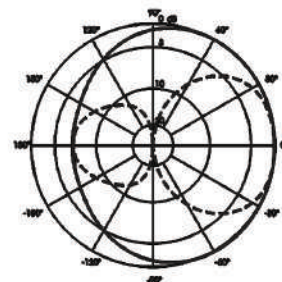
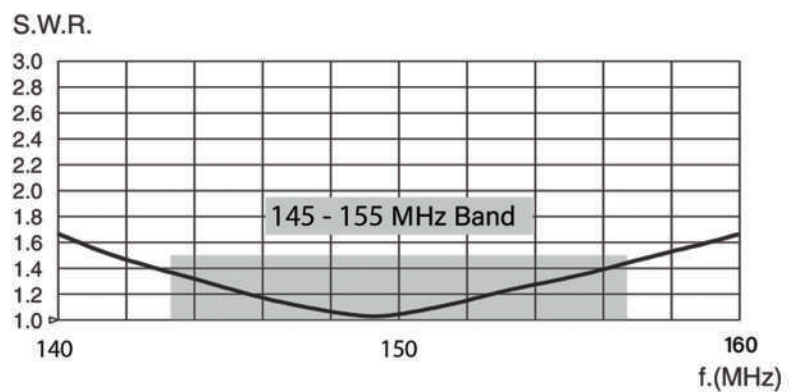
20 MHz

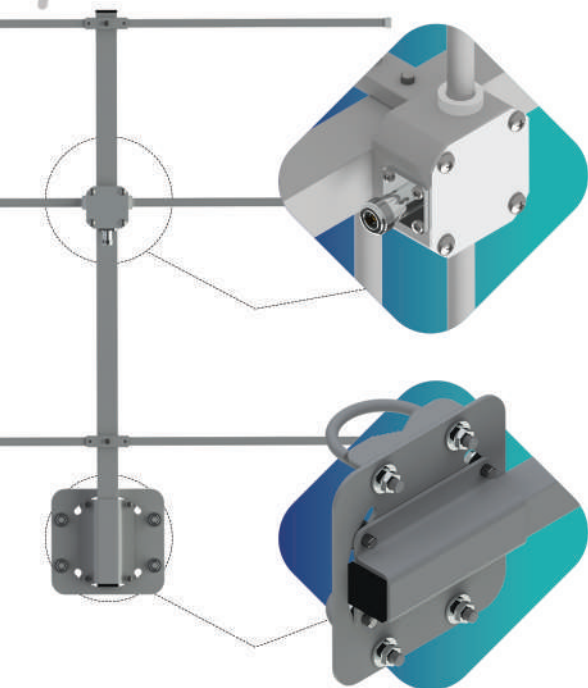
H plane beamwidth@-3dB 165° **E plane beamwidth@-3dB** 75° **Connector**

Female Ntype / PL 259

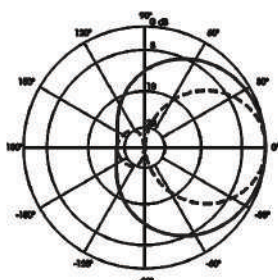
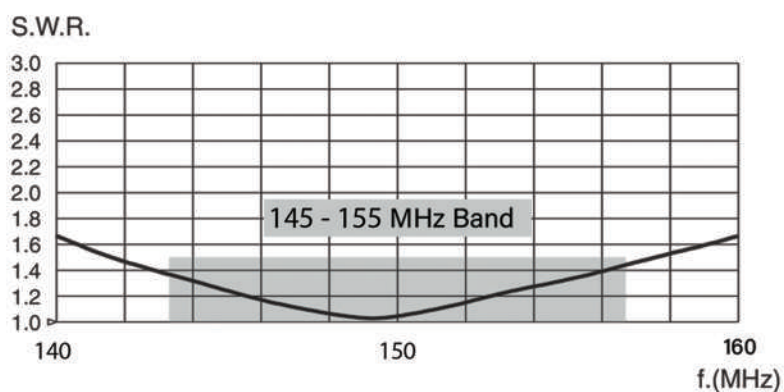
Materials

Aluminium & Iron

**TYPICAL S.W.R. RESPONSE****2****ELEMENT**



TYPICAL S.W.R. RESPONSE



Product Model	VHF 3 ELEMENT
Type	Yagi Antenna
Frequency Range	136 - 174 MHz
Impedance	50 Ω
Polarization	Vertical / Horizontal
Max Gain	7dBi
Mechanical Pan/Tilt	$\pm 15^\circ$
S.W.R. in Bandwidth	$\leq 1.2:1$
Max Power	50 Watts
Lightning Protection	DC Ground
Single Unit Dimension	820 x 980
Operating Temperature	-40C° to +80C°
Wind Resistance	140 /150 km/h
Weight	net: 2.7 kg
Bandwidth	20 MHz
H plane beamwidth@-3dB	130°
E plane beamwidth@-3dB	70°
Connector	Female Ntype / PL 259
Materials	Aluminium & Iron

3
ELEMENT

VHF



Phase



9

**Product Model****VHF 4 ELEMENT****Type**

Yagi Antenna

Frequency Range

136 - 174 MHz

Impedance50 Ω **Polarization**

Vertical / Horizontal

Max Gain

8.5dBi

Mechanical Pan/Tilt $\pm 15^\circ$ **S.W.R. in Bandwidth** $\leq 1.2:1$ **Max Power**

50 Watts

Lightning Protection

DC Ground

Single Unit Dimension1305 $\times$ 980**Operating Temperature** -40°C to $+80^\circ\text{C}$ **Wind Resistance**

140 / 150 km/h

Weight

net: 3.6 kg

Bandwidth

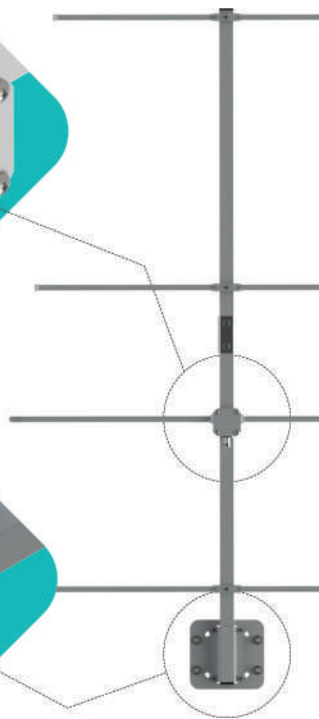
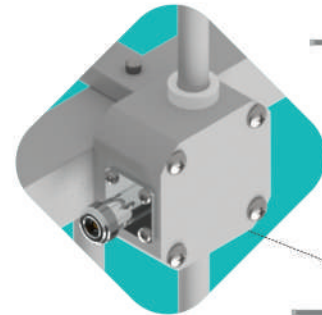
20 MHz

H plane beamwidth@-3dB 100° **E plane beamwidth@-3dB** 65° **Connector**

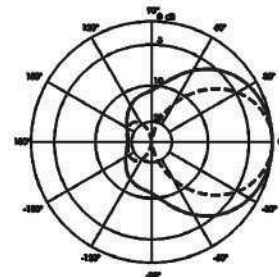
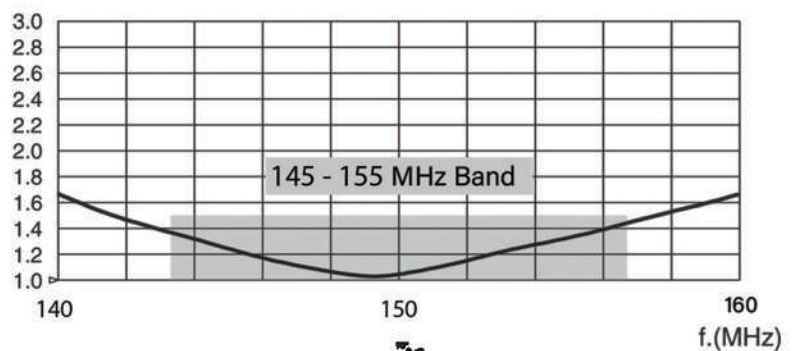
Female Ntype / PL 259

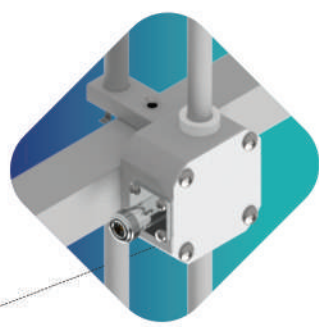
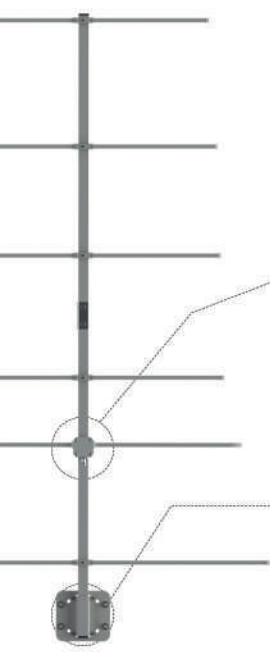
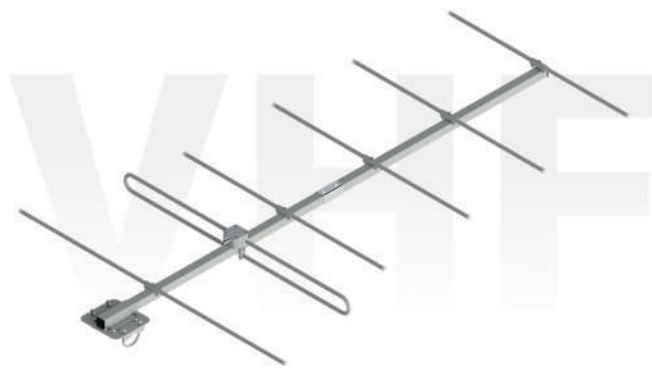
Materials

Aluminium & Iron

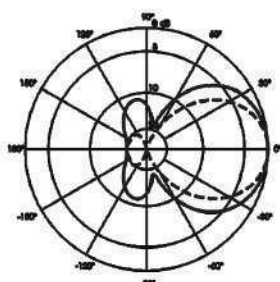
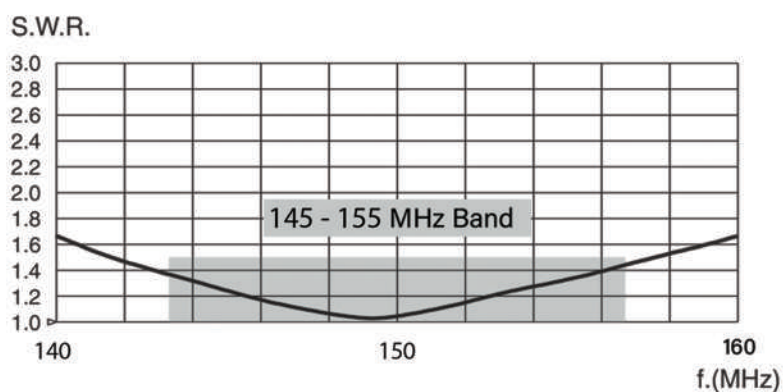
**TYPICAL S.W.R. RESPONSE**

S.W.R.

**4****ELEMENT**



TYPICAL S.W.R. RESPONSE



Product Model
VHF 6 ELEMENT
Type
Yagi Antenna
Frequency Range
136 - 174 MHz
Impedance
50 Ω
Polarization
Vertical / Horizontal
Max Gain
10dBi
Mechanical Pan/Tilt
$\pm 15^\circ$
S.W.R. in Bandwidth
$\leq 1.2:1$
Max Power
50 Watts
Lightning Protection
DC Ground
Single Unit Dimension
1840 $\times$ 980
Operating Temperature
-40°C to $+80^\circ\text{C}$
Wind Resistance
180/150 km/h
Weight
net: 3.6 kg
Bandwidth
20 MHz
H plane beamwidth@-3dB
75°
E plane beamwidth@-3dB
55°
Connector
Female Ntype / PL 259
Materials
Aluminium & Iron

6
ELEMENT

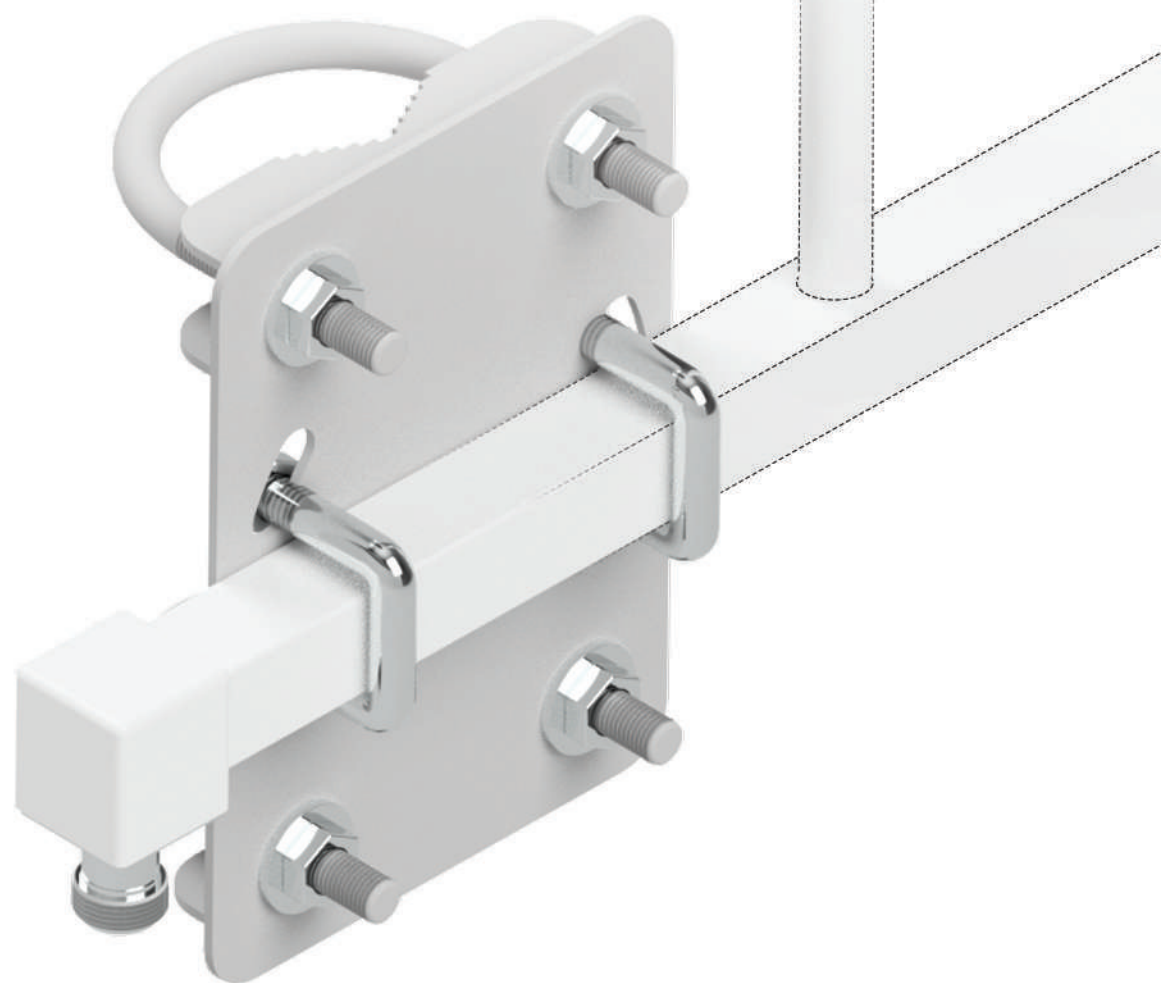
VHF



Phase



11





4 DIPOLE

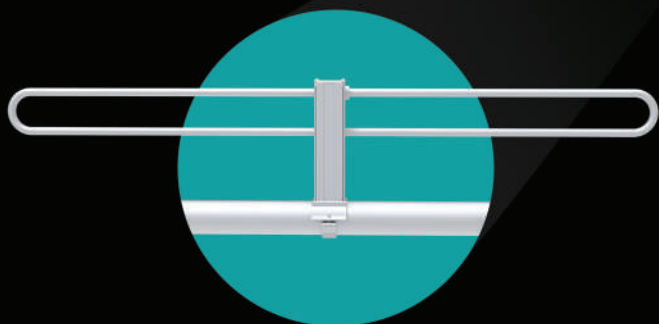
Very High Frequency

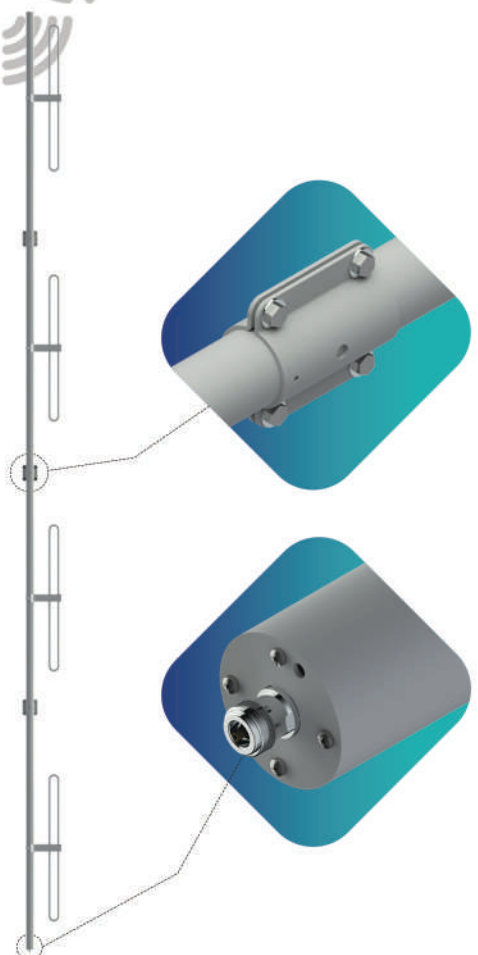
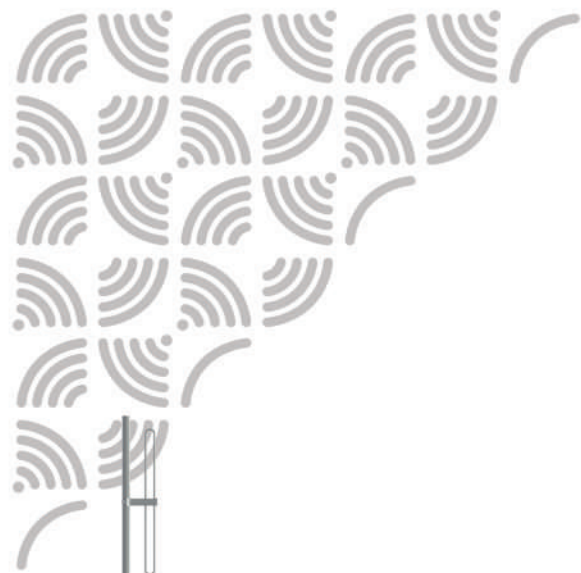


4 DIPOLE 6000×210 mm
12.8 ±0.5 kg

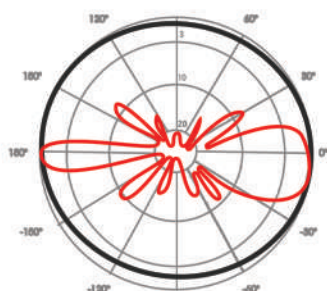
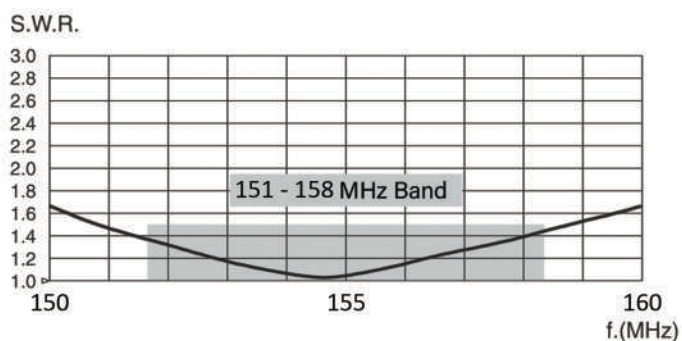


4 DIPOLE HEAVY 6000×210 mm
14.5 ±0.5 kg





TYPICAL S.W.R. RESPONSE



Product Model	4 DIPOLE
Type	Dipole Array
Frequency Range	136 - 174 MHz
Impedance	50 Ω
Polarization	Vertical
Max Gain	6dBi
Mounting	Tower Mount
S.W.R. in Bandwidth	$\leq 1.2:1$
Max Power	50 Watts
Lightning Protection	DC Ground
Single Unit Dimension	6000 x 210
Operating Temperature	-40C° to +80C°
Wind Resistance	150/100 km/h
Weight	net: 12.8 kg
Bandwidth	10 MHz
H plane beamwidth@-3dB	360°
E plane beamwidth@-3dB	85°
Connector	Female Ntype / PL 259
Materials	Aluminium & Iron

4
DIPOLE

VHF



Phase



15

**Product Model****4 DIOLE****HEAVY****Type**

Dipole Array

Frequency Range

136 - 174 MHz

Impedance50 Ω **Polarization**

Vertical

Max Gain

6dBi

Mounting

Tower and Top Mount

S.W.R. in Bandwidth $\leq 1.2:1$ **Max Power**

50 Watt

Lightning Protection

DC Ground

Single Unit Dimension6000 $\times$ 210**Operating Temperature**

-40C° to +80C°

Wind Resistance

200/150 km/h

Weight

net: 14.5 kg

Bandwidth

10 MHz

H plane beamwidth@-3dB

360°

E plane beamwidth@-3dB

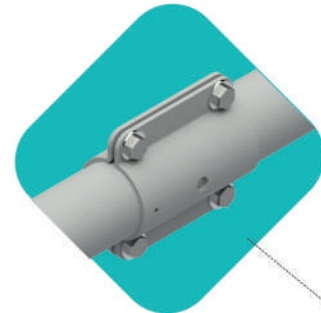
85°

Connector

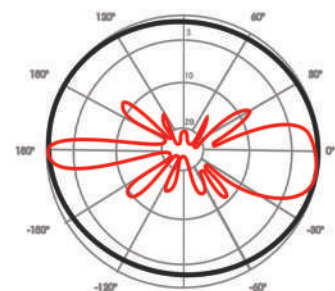
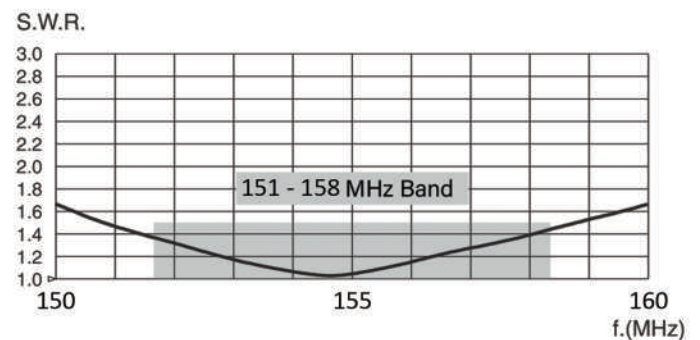
Female Ntype / PL 259

Materials

Aluminium & Iron



TYPICAL S.W.R. RESPONSE

**4**

DIPOLE



OMNI

VERY High Frequency

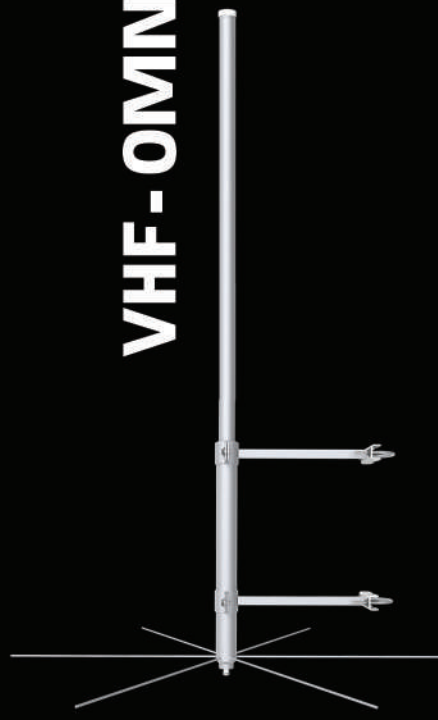
VHF-OMNI 5.6 **13.0 kg**
METRES

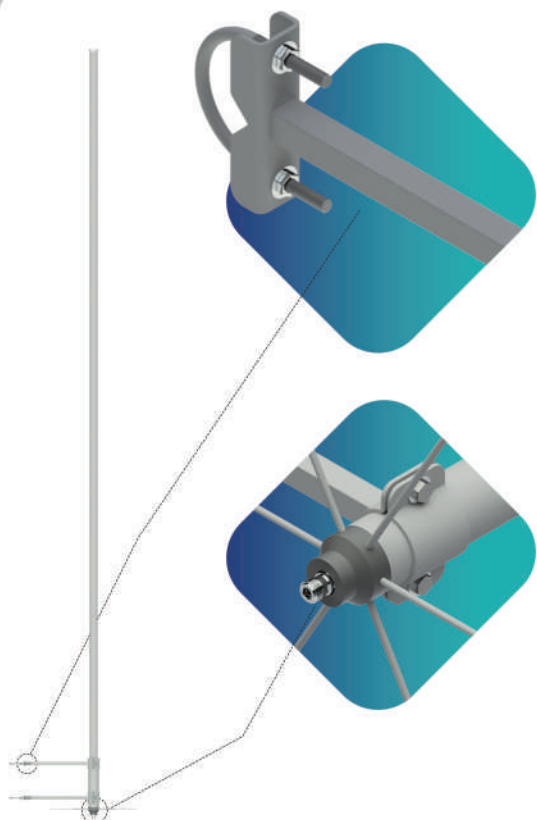


VHF-OMNI 4.5 **6.5 kg**
METRES

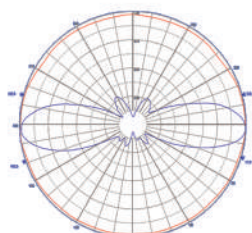
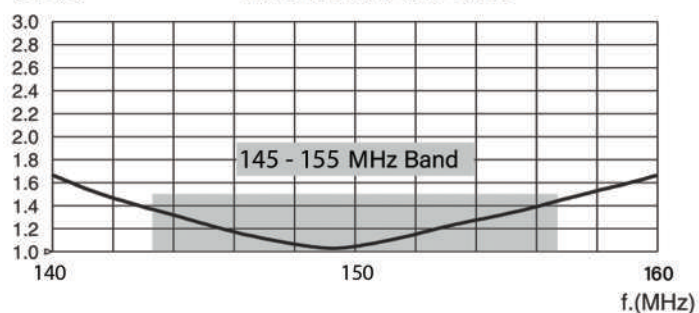


VHF-OMNI 3.5 **4.0 kg**
METRES





S.W.R. TYPICAL S.W.R. RESPONSE



Product Model
OMNI DIRECTIONAL 5 dBi

Construction
White FRP Radome Aluminium Mount Section

Frequency Range
136 - 174 MHz

Impedance
50 Ω

Polarization
Vertical

Max Gain
5dBi

Mechanical Pan/Tilt
 $\pm 15^\circ$

S.W.R. in Bandwidth
 $\leq 1.5:1$

Max Power
50 Watts

Lightning Protection
DC Ground

Antenna Height
3.5 Meters

Operating Temperature
 -40°C to $+80^\circ\text{C}$

Wind Resistance
180/150 km/h

Weight
net: 4 kg

Bandwidth
20 MHz

H plane beamwidth@-3dB
 360°

E plane beamwidth@-3dB
 32°

Connector
Female Ntype

**5
DBI**

VHF



Phase



19

**Product Model****OMNI DIRECTIONAL 6.5 dBi****Construction**

White FRP Radome Aluminium Mount Section

Frequency Range

136 - 174 MHz

Impedance50 Ω **Polarization**

Vertical

Max Gain

6.5dBi

Mechanical Pan/Tilt $\pm 15^\circ$ **S.W.R. in Bandwidth** $\leq 1.5:1$ **Max Power**

50 Watts

Lightning Protection

DC Ground

Antenna Height

3.5 Meters

Operating Temperature -40°C to $+80^\circ\text{C}$ **Wind Resistance**

180/150 km/h

Weight

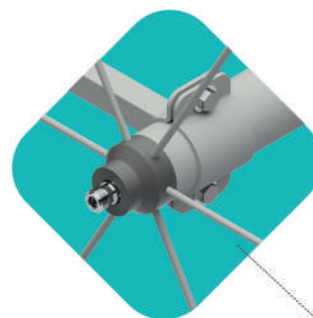
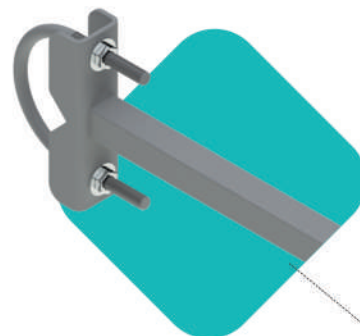
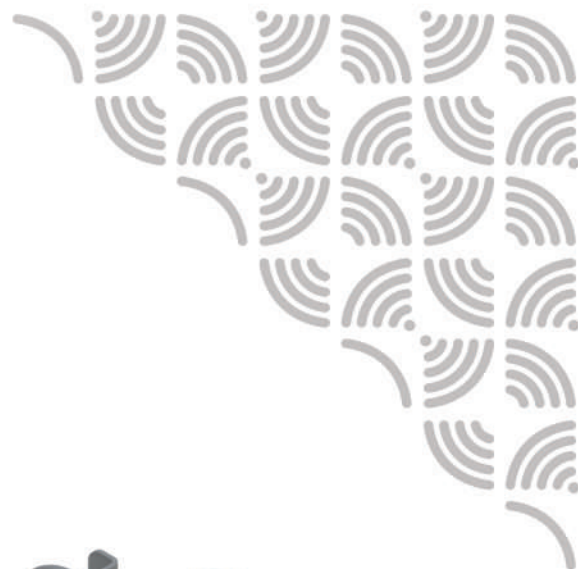
net: 6.5 kg

Bandwidth

20 MHz

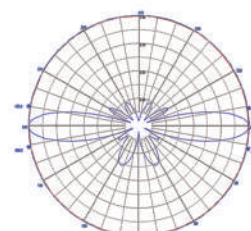
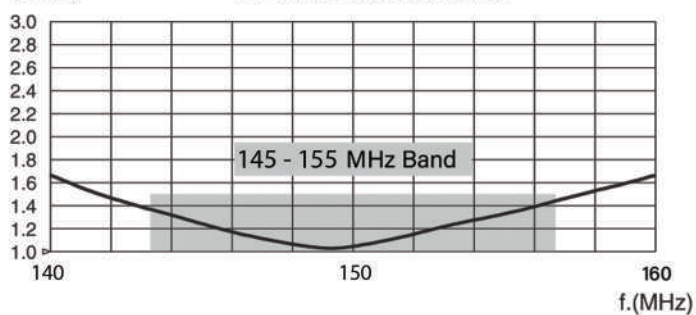
H plane beamwidth@-3dB 360° **E plane beamwidth@-3dB** 26° **Connector**

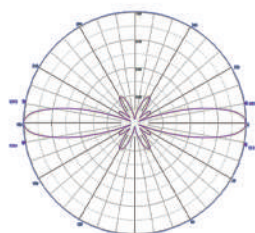
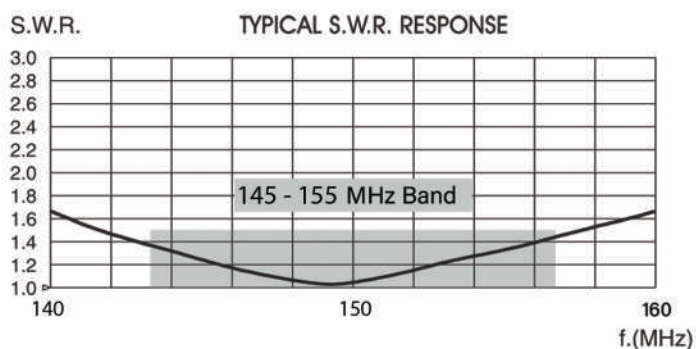
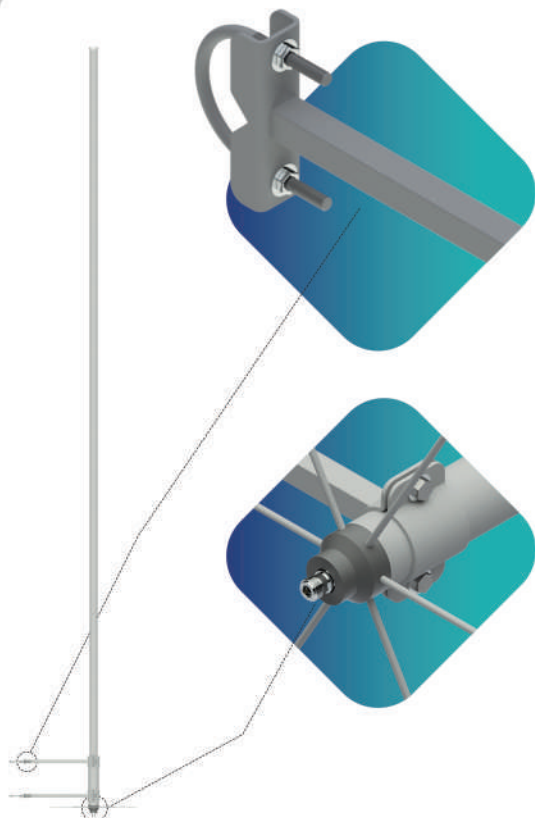
Female Ntype



S.W.R.

TYPICAL S.W.R. RESPONSE


6.5
DBI



Product Model	OMNI DIRECTIONAL 8dBi
Construction	White FRP Radome Aluminium Mount Section
Frequency Range	136 - 174 MHz
Impedance	50 Ω
Polarization	Vertical
Max Gain	8dBi
Mechanical Pan/Tilt	$\pm 15^\circ$
S.W.R. in Bandwidth	$\leq 1.5:1$
Max Power	50 Watts
Lightning Protection	DC Ground
Antenna Height	5.6 Meters
Operating Temperature	-40°C to $+80^\circ\text{C}$
Wind Resistance	200/150 km/h
Weight	net: 13 kg
Bandwidth	20 MHz
H plane beamwidth@-3dB	360°
E plane beamwidth@-3dB	16°
Connector	Female Ntype

**8
DBI**

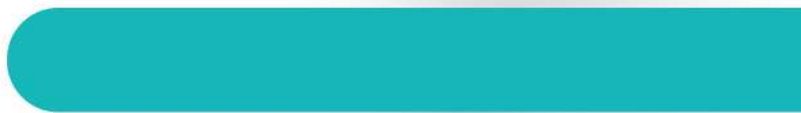
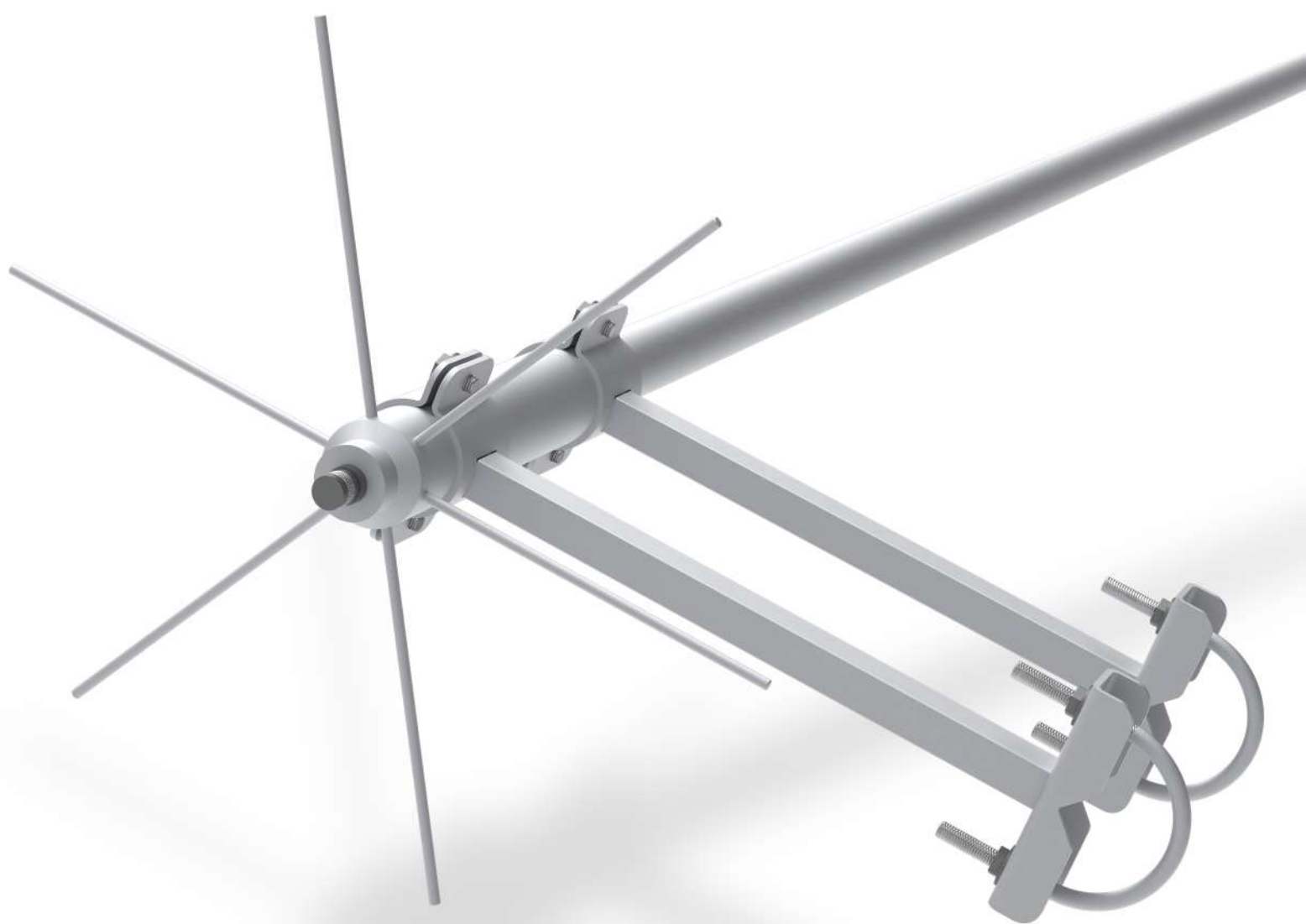
VHF



Phase



21



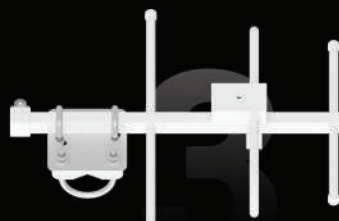


YAGI

Ultra High Frequency



1 ELEMENT
UHF



3 ELEMENT
UHF



6 ELEMENT
UHF



10 ELEMENT
UHF

ویژگی این محصولات

برگشت سیگنال بسیار پایین

کابل کشی تو کار آنتن

بدنه آنتن از جنس آلومینیوم آلیاژی

کانکتور از نوع N-TYPE-FEMALE

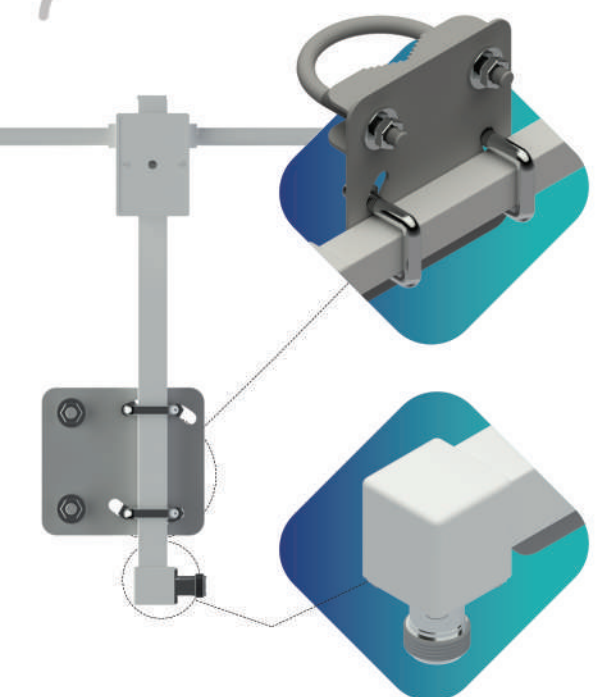
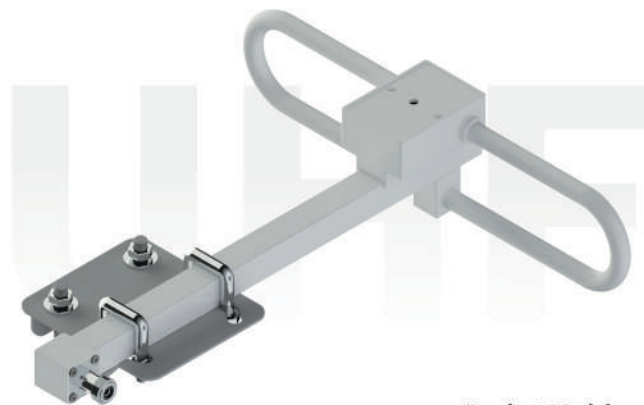
امکان تغییر زاویه ی عمودی پایه تا ± 15 درجه

مقاوم در برابر صاعقه (DC GROUND)

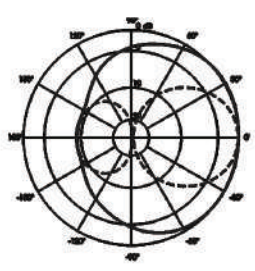
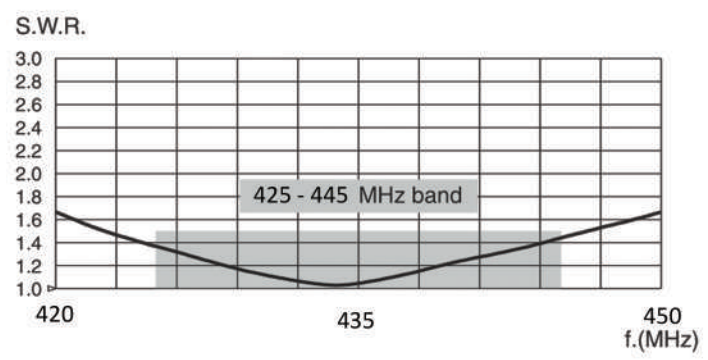
پایه آنتن (MOUNT KIT) از جنس آهن با روکش مقاوم در برابر زنگ زدگی

امکان اتصال پایه آنتن به دکل از سایز لوله 10 الی 60 میلی متر

محدوده ی فرکانسی 20 مگاهرتز با قابلیت سفارشی سازی



TYPICAL S.W.R. RESPONSE



Product Model	UHF 1 ELEMENT
Type	Yagi Antenna
Frequency Range	350 - 470 MHz
Impedance	50 Ω
Polarization	Vertical / Horizontal
Max Gain	4.5dBi
Mechanical Pan/Tilt	$\pm 15^\circ$
S.W.R. in Bandwidth	$\leq 1.2:1$
Max Power	50 Watts
Lightning Protection	DC Ground
Single Unit Dimension	350 x 380
Operating Temperature	-40C° to +80C°
Wind Resistance	180/150 km/h
Weight	net: 0.8 kg
Bandwidth	20 MHz
H plane beamwidth@-3dB	200°
E plane beamwidth@-3dB	68°
Connector	Female Ntype / PL 259
Materials	Aluminium - Iron & UV Resistant Polymer

1
ELEMENT

**Product Model****UHF 3 ELEMENT****Type**

Yagi Antenna

Frequency Range

350 - 470 MHz

Impedance50 Ω **Polarization**

Vertical / Horizontal

Max Gain

7dBi

Mechanical Pan/Tilt $\pm 15^\circ$ **S.W.R. in Bandwidth** $\leq 1.2:1$ **Max Power**

50 Watts

Lightning Protection

DC Ground

Single Unit Dimension

400 x 380

Operating Temperature -40°C to $+80^\circ\text{C}$ **Wind Resistance**

180/150 km/h

Weight

net: 1 kg

Bandwidth

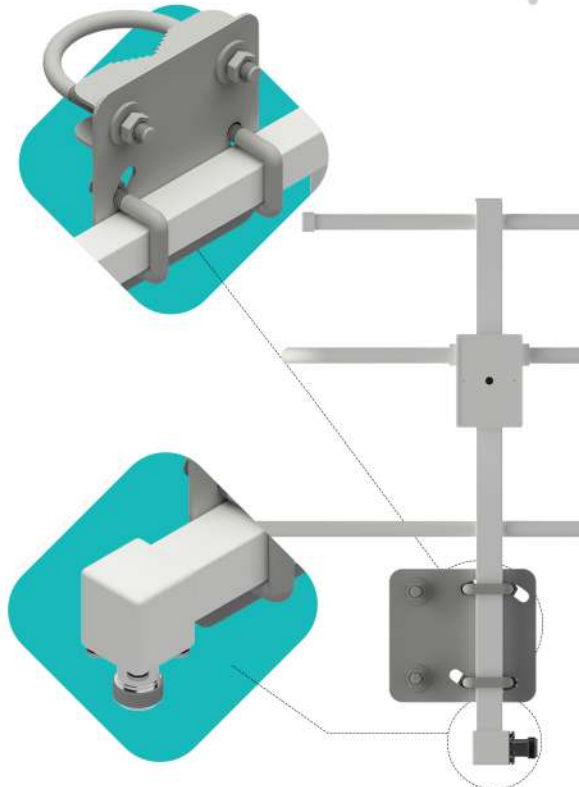
20 MHz

H plane beamwidth@-3dB 125° **E plane beamwidth@-3dB** 65° **Connector**

Female Ntype / PL 259

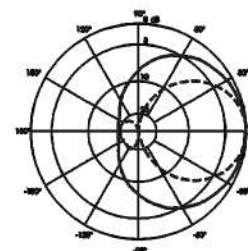
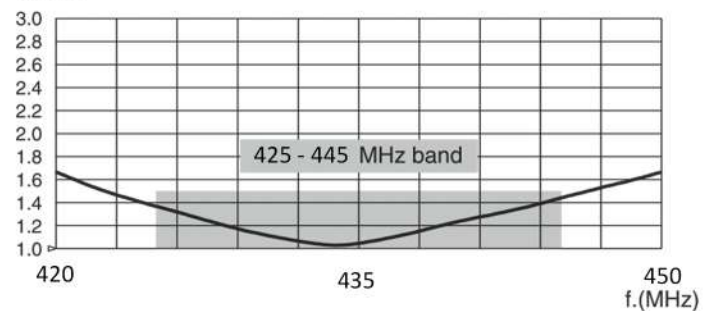
Materials

Aluminium - Iron & UV Resistant Polymer

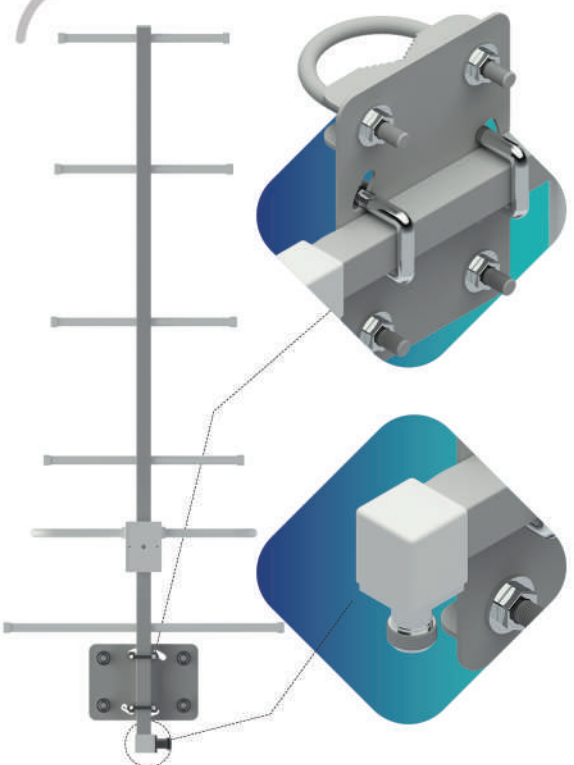
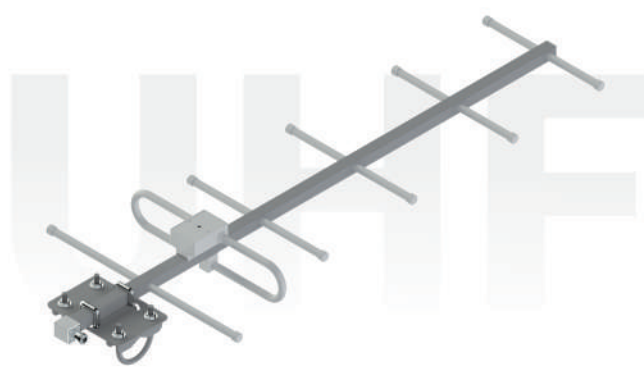


TYPICAL S.W.R. RESPONSE

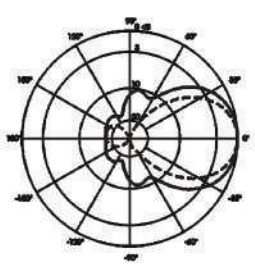
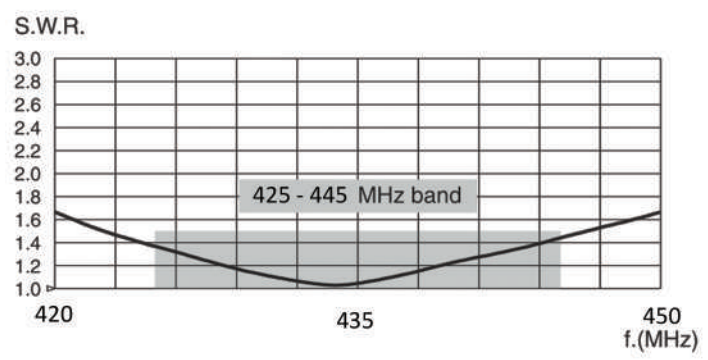
S.W.R.

**3**

ELEMENT



TYPICAL S.W.R. RESPONSE



Product Model	UHF 6 ELEMENT
Type	Yagi Antenna
Frequency Range	350 - 470 MHz
Impedance	50 Ω
Polarization	Vertical / Horizontal
Max Gain	10.5dBi
Mechanical Pan/Tilt	$\pm 15^\circ$
S.W.R. in Bandwidth	$\leq 1.2:1$
Max Power	50 Watts
Lightning Protection	DC Ground
Single Unit Dimension	1000 x 380
Operating Temperature	-40C° to +80C°
Wind Resistance	140/100 km/h
Weight	net: 1.2 kg
Bandwidth	20 MHz
H plane beamwidth@-3dB	70°
E plane beamwidth@-3dB	55°
Connector	Female Ntype / PL 259
Materials	Aluminium - Iron & UV Resistant Polymer

6
ELEMENT

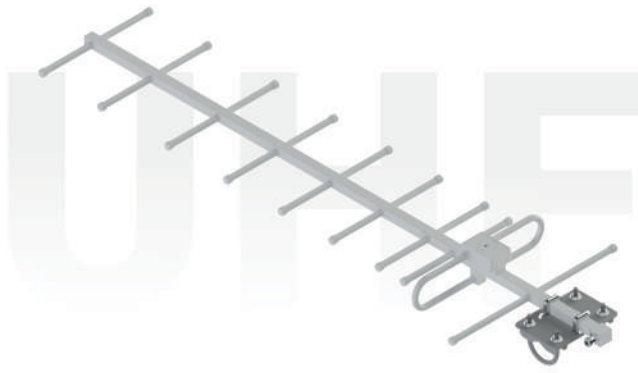
UHF



Phase



27

**Product Model****UHF 10 ELEMENT****Type**

Yagi Antenna

Frequency Range

350 - 470 MHz

Impedance50 Ω **Polarization**

Vertical / Horizontal

Max Gain

14dBi

Mechanical Pan/Tilt $\pm 15^\circ$ **S.W.R. in Bandwidth** $\leq 1.2:1$ **Max Power**

50 Watts

Lightning Protection

DC Ground

Single Unit Dimension

1230 x 380

Operating Temperature -40°C to $+80^\circ\text{C}$ **Wind Resistance**

140/100 km/h

Weight

net: 1.9 kg

Bandwidth

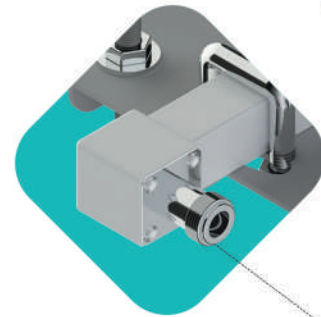
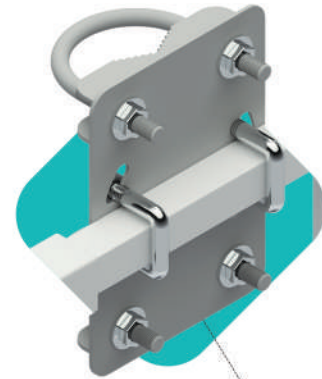
20 MHz

H plane beamwidth@-3dB 50° **E plane beamwidth@-3dB** 45° **Connector**

Female Ntype / PL 259

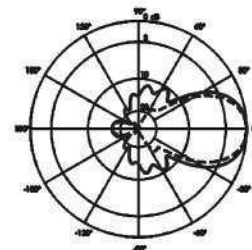
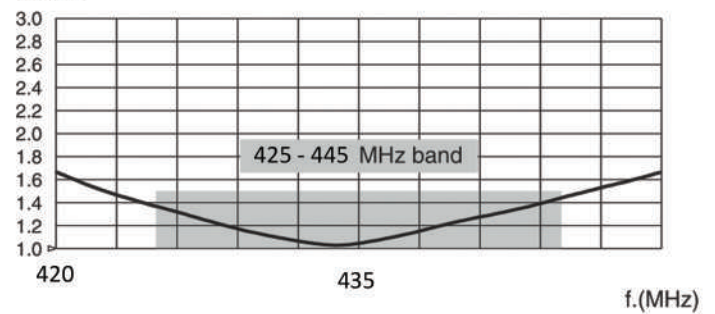
Materials

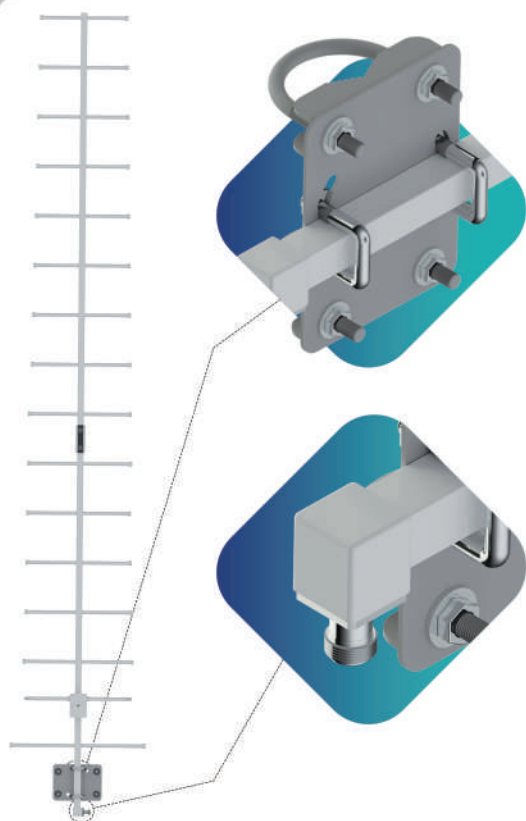
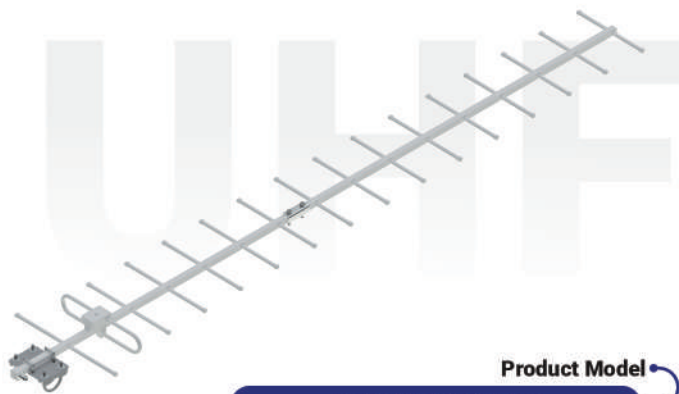
Aluminium - Iron & UV Resistant Polymer



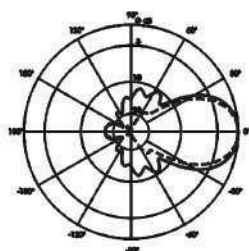
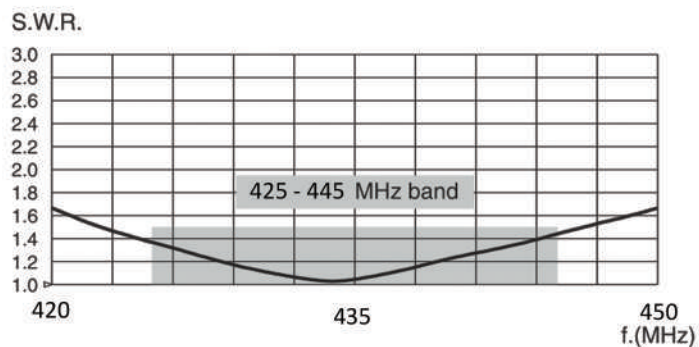
TYPICAL S.W.R. RESPONSE

S.W.R.


10
ELEMENT



TYPICAL S.W.R. RESPONSE



Product Model	UHF 16 ELEMENT
Type	Yagi Antenna
Frequency Range	350 - 470 MHz
Impedance	50 Ω
Polarization	Vertical / Horizontal
Max Gain	16dBi
Mechanical Pan/Tilt	$\pm 15^\circ$
S.W.R. in Bandwidth	$\leq 1.2:1$
Max Power	50 Watts
Lightning Protection	DC Ground
Single Unit Dimension	2300 x 380
Operating Temperature	-40C° to +80C°
Wind Resistance	140/100 km/h
Weight	net: 2.4 kg
Bandwidth	20 MHz
H plane beamwidth@-3dB	37°
E plane beamwidth@-3dB	33°
Connector	Female Ntype / PL 259
Materials	Aluminium - Iron & UV Resistant Polymer

16
ELEMENT

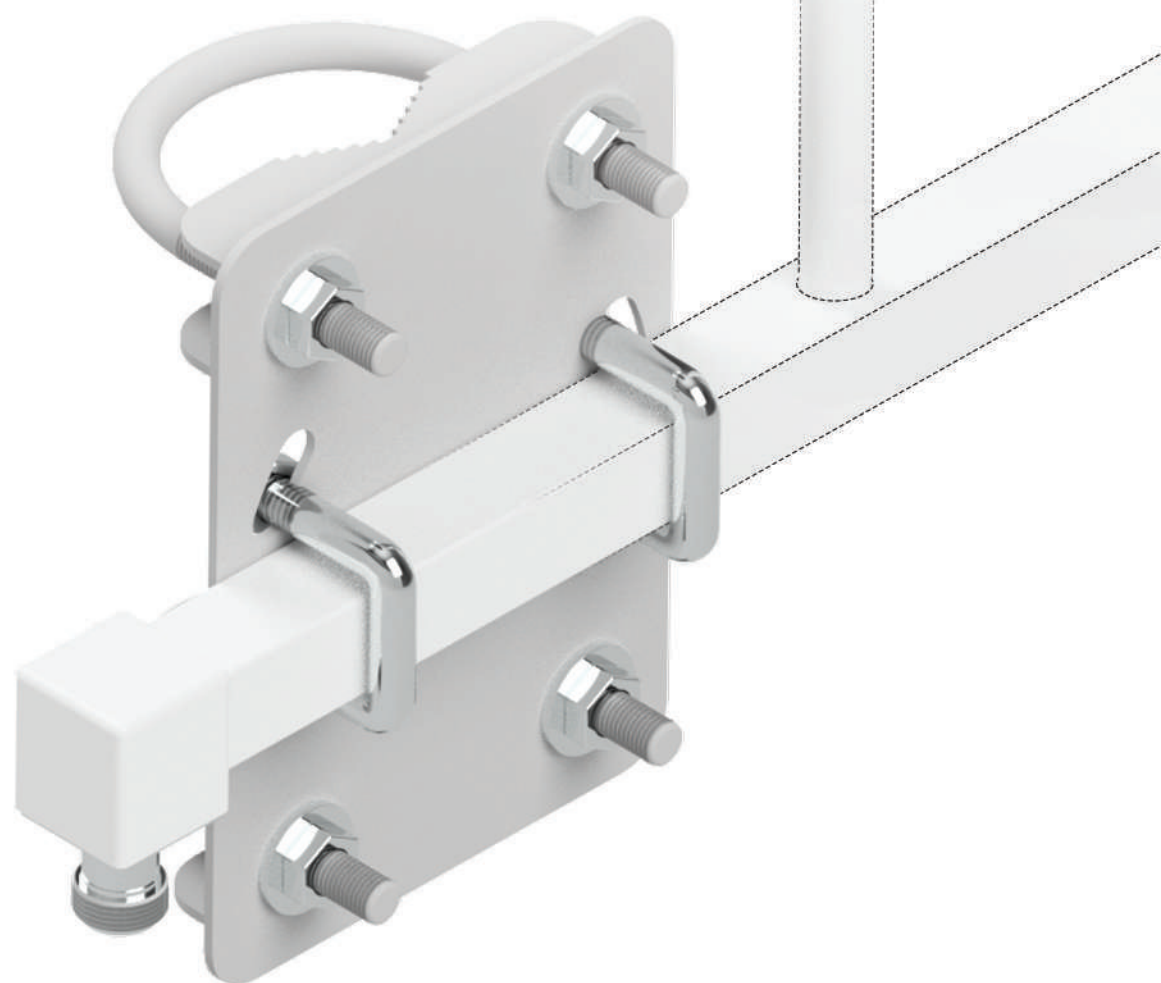
UHF



Phase



29





OMNI

U l t r a H i g h F r e q u e n c y

UHF-OMINI 3.5 **4.0 kg**
METRES

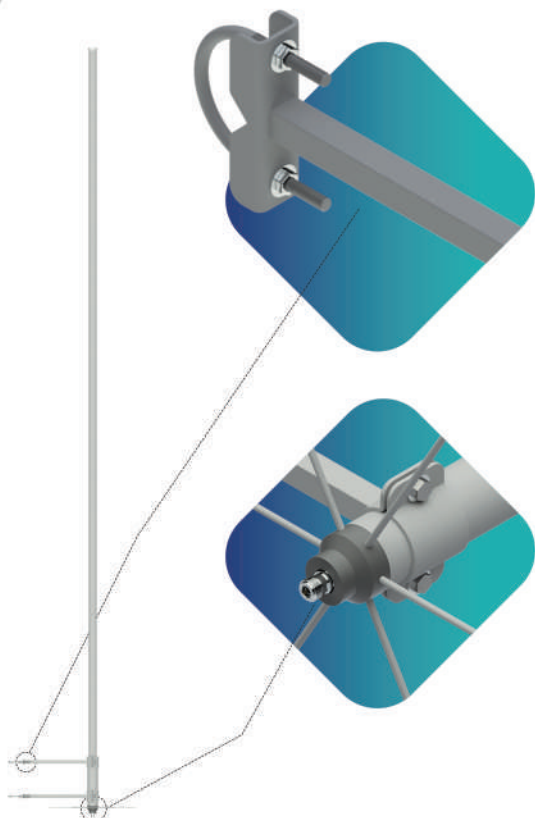
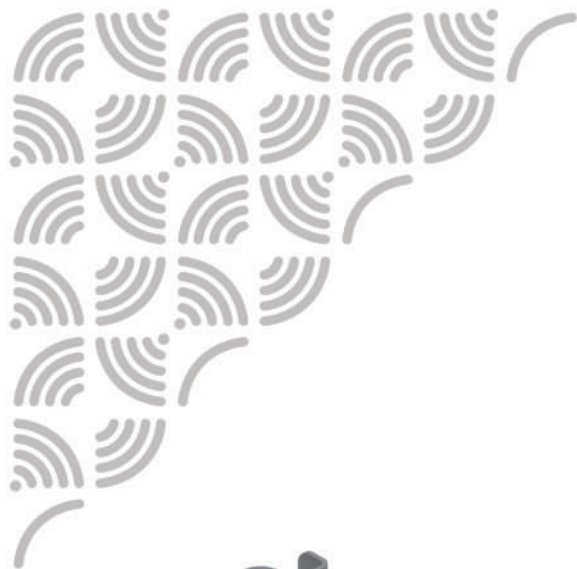


UHF-OMINI 3 **3.0 kg**
METRES

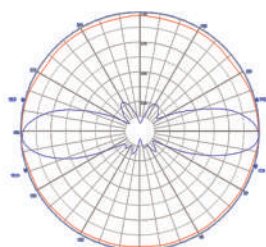
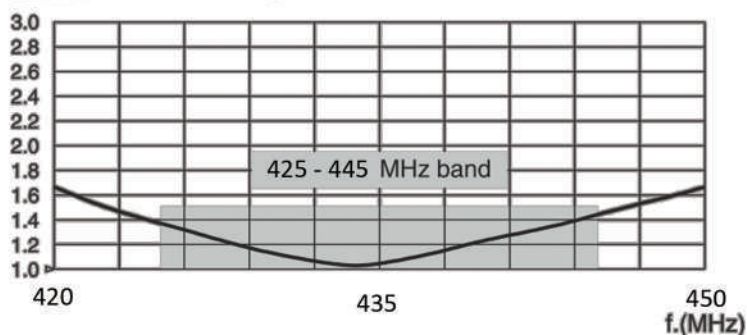


UHF-OMINI 2.5 **2.0 kg**
METRES





S.W.R. TYPICAL S.W.R. RESPONSE



Product Model
OMNI DIRECTIONAL 5dBi

Construction
White FRP Radome Aluminium Mount Section

Frequency Range
350 - 470 MHz

Impedance
50 Ω

Polarization
Vertical

Max Gain
5dBi

Mechanical Pan/Tilt
 $\pm 15^\circ$

S.W.R. in Bandwidth
 $\leq 1.5:1$

Max Power
50 Watts

Lightning Protection
DC Ground

Antenna Height
2.5 Meters

Operating Temperature
 -40°C to $+80^\circ\text{C}$

Wind Resistance
200/150 km/h

Weight
net: 4.5 kg

Bandwidth
20 MHz

H plane beamwidth@-3dB
 360°

E plane beamwidth@-3dB
 32°

Connector
Female Ntype

**5
DBI**

UHF



Phase



33

UHF

OMNI

Product Model

OMNI DIRECTIONAL 8.5dBi

Construction

White FRP Radome Aluminium Mount Section

Frequency Range

350 - 470 MHz

Impedance

50 Ω

Polarization

Vertical

Max Gain

8.5dBi

Mechanical Pan/Tilt

$\pm 15^\circ$

S.W.R. in Bandwidth

$\leq 1.5:1$

Max Power

50 Watts

Lightning Protection

DC Ground

Antenna Height

3 Meters

Operating Temperature

-40°C to $+80^\circ\text{C}$

Wind Resistance

180/150 km/h

Weight

net: 5.8 kg

Bandwidth

20 MHz

H plane beamwidth@-3dB

360°

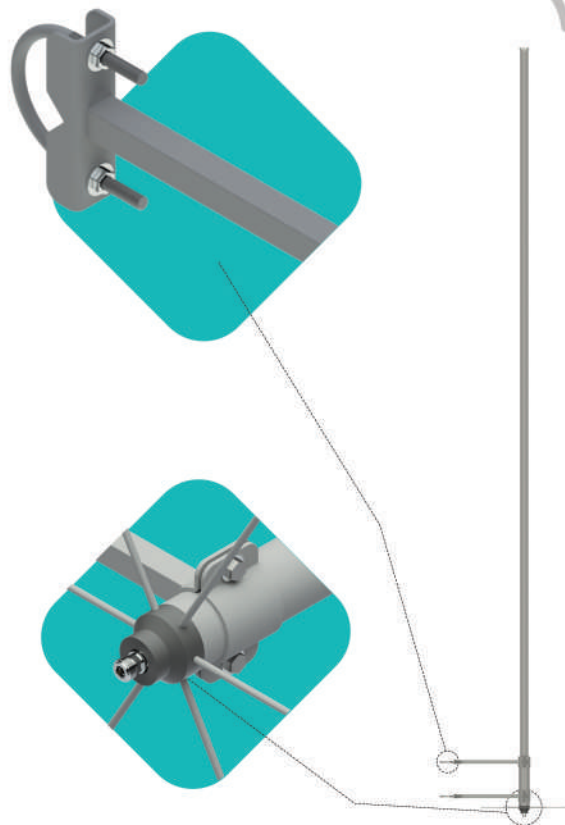
E plane beamwidth@-3dB

16°

Connector

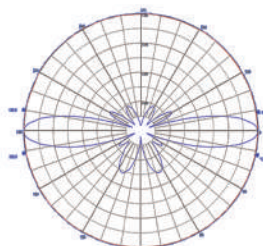
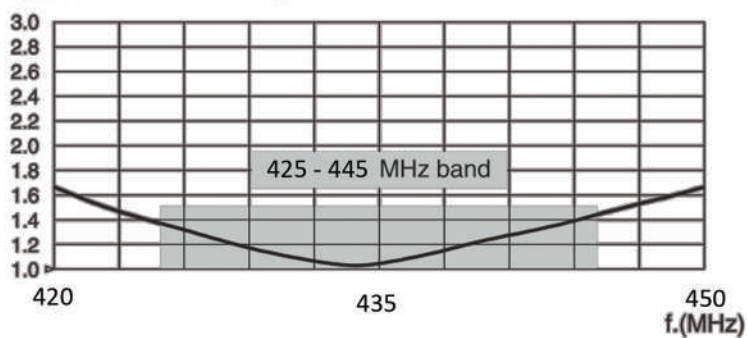
Female Ntype

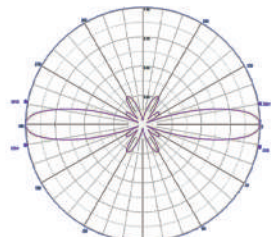
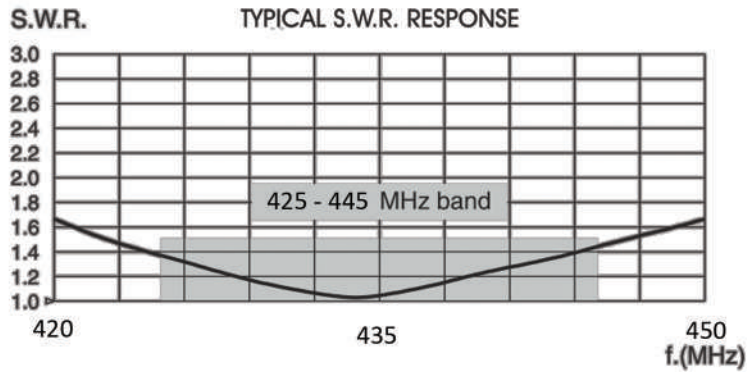
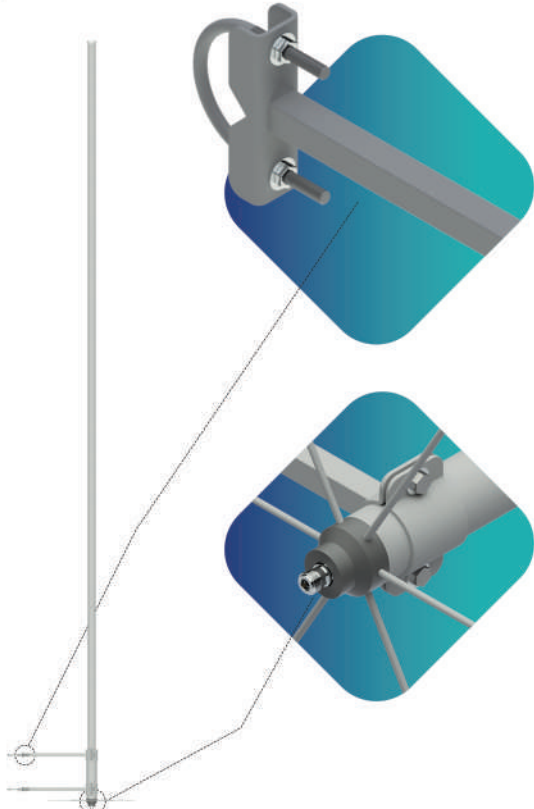
8.5
DBI



S.W.R.

TYPICAL S.W.R. RESPONSE





- Product Model**
OMNI DIRECTIONAL 11dBi
- Construction**
White FRP Radome Aluminium Mount Section
- Frequency Range**
350 - 470 MHz
- Impedance**
50 Ω
- Polarization**
Vertical
- Max Gain**
11dBi
- Mechanical Pan/Tilt**
 $\pm 15^\circ$
- S.W.R. in Bandwidth**
 $\leq 1.5:1$
- Max Power**
50 Watts
- Lightning Protection**
DC Ground
- Antenna Height**
3.5 Meters
- Operating Temperature**
 -40°C to $+80^\circ\text{C}$
- Wind Resistance**
200/150 km/h
- Weight**
net: 6.5 kg
- Bandwidth**
20 MHz
- H plane beamwidth@-3dB**
 360°
- E plane beamwidth@-3dB**
 9°
- Connector**
Female Ntype

**11
DBI**

UHF



Phase



35





شرکت فراموج سازان ارتباطات پارسیان

تولیدکننده و تامین کننده انواع آنتن و تجهیزات مخابراتی



WWW.FARA-MOJ.COM



INFO@FARA-MOJ.COM



03195018100 - 02191620600

