

TRUE GAIN ANTENNAS

All The Signal...®

Antenna Array

- 5.7 / 7.5 / 13.7 GHz

Canopy Accessory Antennas

- 900 MHz ISM
- 2.4 GHz ISM
- 5.4 - 5.9 GHz

Compact, High Performace Antennas

- 470 - 710 MHz
- 900 MHz ISM
- 5.8 GHz ISM
- 1 - 13 GHz

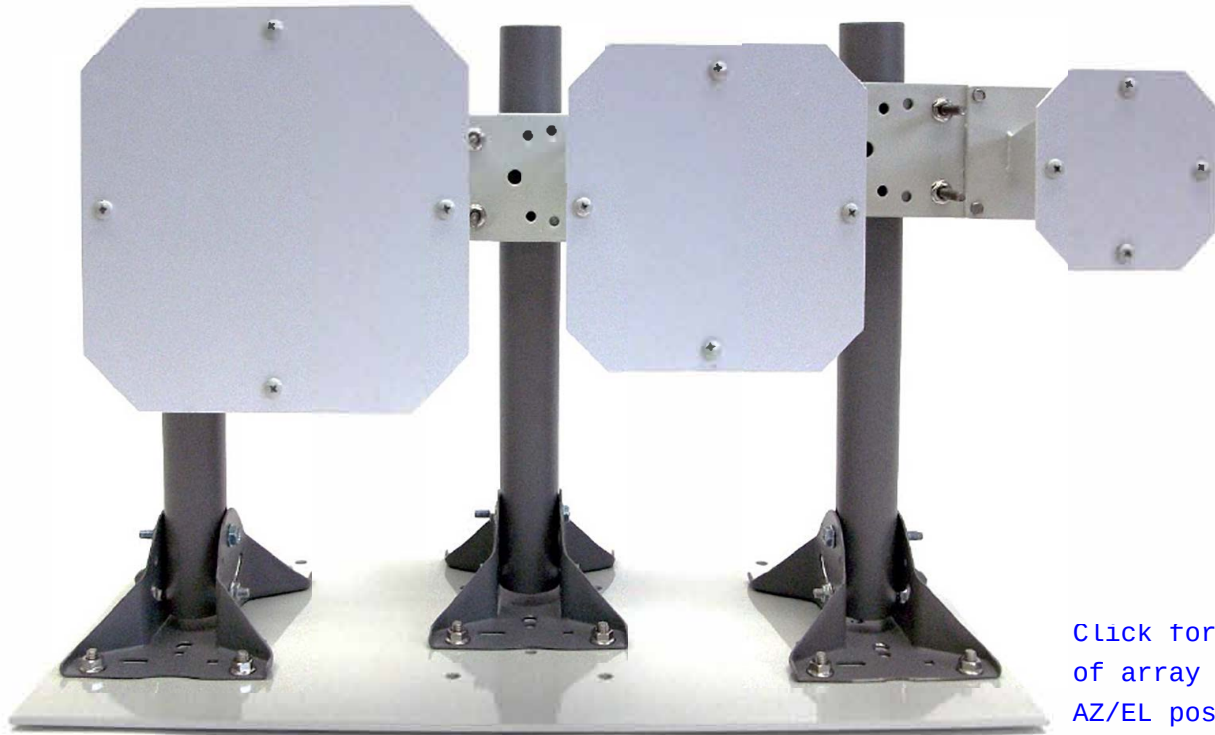
High Gain Antennas

- 900 MHz ISM



TRUE GAIN ANTENNAS

All The Signal...®



[Click for video
of array on an
AZ/EL positioner](#)



Geostationary belt antenna cluster:

Geostationary Belt Antennas / 3 - Band Coverage	
Antenna Cluster General Specifications	Frequency Ranges: 5.75 - 6.5 GHz 7.5 - 8.5 GHz 13.75 - 14.5 GHz
	Gain: ≥ 15 dBi
	SWR: < 2.0 (Return Loss ≥ 9.5 dB)
	Polarization: Circular
	Beam Width: $> 25^\circ$
	Impedance: 50 Ohm
	Connector: Amphenol high frequency SMA
Power: 25W	
Construction: Corrosion and UV resistant surfaces including Kydex RF transparent material covers and Rexolite low loss Er material polarizers	
Typical Application: Geostationary belt coverage	
Deployment: Outdoors on user supplied positioner	

Antennas were designed and built then measured in True Gain Antenna's RF lab and on our far-field range, and exhibited the target performance specifications, as shown below.

Test Results

Note that an axial ratio of better than 3 dB is typically considered to be Circular Polarization. Beamwidth angles have about $\pm 1^\circ$ of uncertainty.

Measurements were conducted with an Agilent 8720B / 86290C plug in, Wiltron Model 97A50 Directional Bridge, and Agilent VSWR meter.

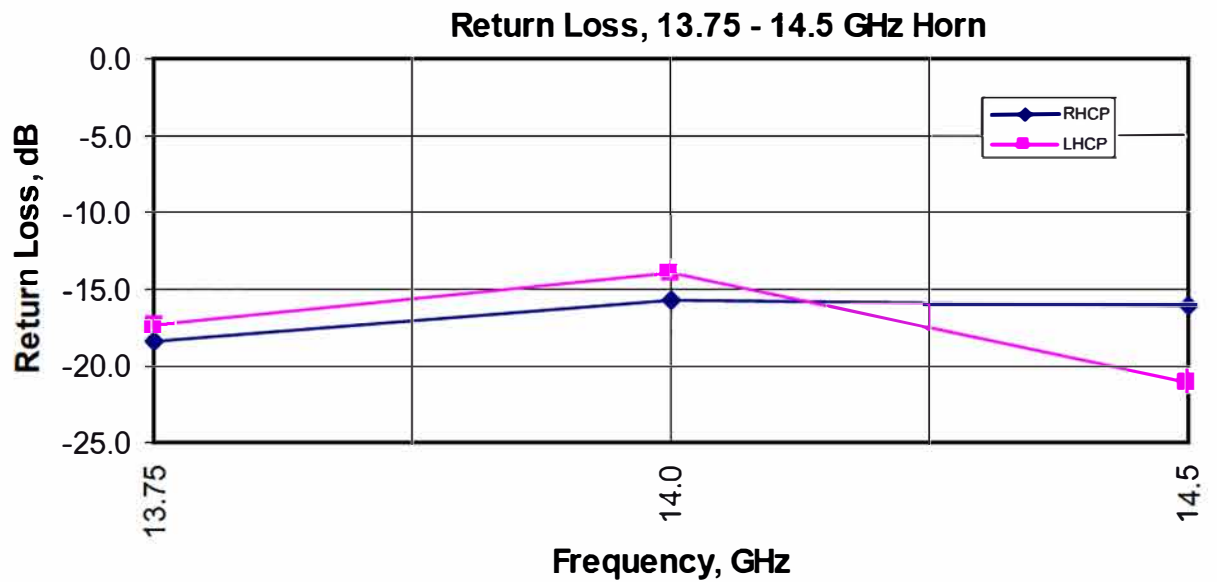
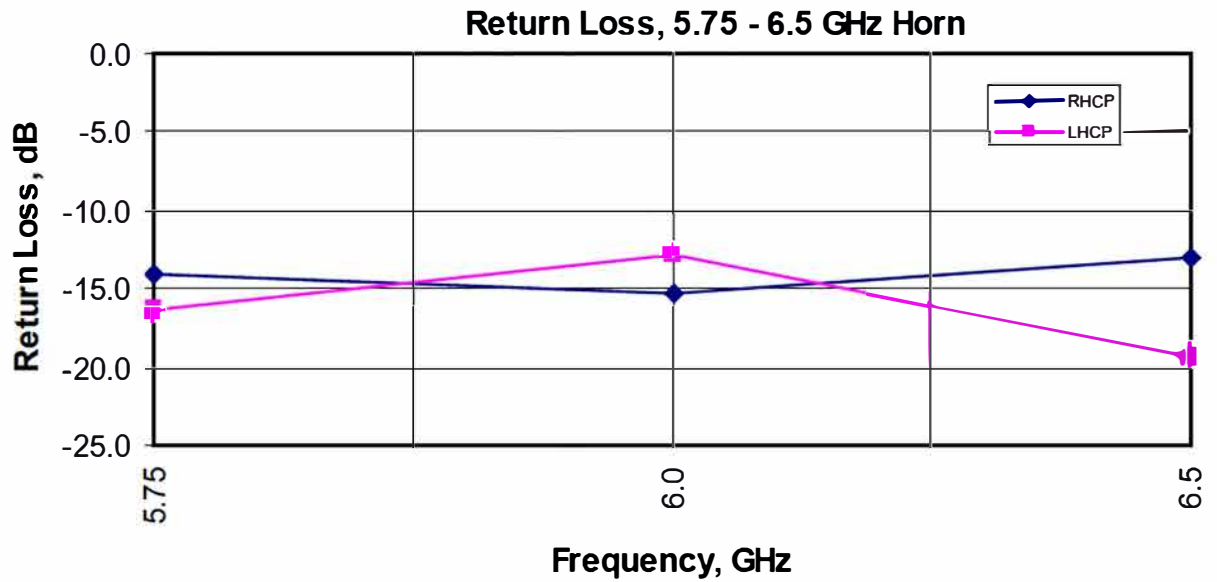
The following tables show the typical performance of each horn:

5.75-6.5 GHz Horn							
Test Freq. (GHz)	Port	-3 dB Beamwidth (degrees °)		Axial Ratio, dB	Return Loss, dB	Gain	
		E Plane	H Plane			Linear, dBi	CP, dBic
5.75	RHCP	26	27	2.3	-14.0	13.4	16.0
	LHCP	27	25	1.7	-16.4	13.6	16.3
6.0	RHCP	27	28	1.8	-15.4	13.1	15.9
	LHCP	26	26	1.1	-12.8	13.0	15.9
6.5	RHCP	27	28	1.8	-15.4	13.8	16.8
	LHCP	26	26	1.1	-12.8	13.0	15.9

7.5-8.5 GHz Horn							
Test Freq. (GHz)	Port	-3 dB Beamwidth (degrees °)		Axial Ratio, dB	Return Loss, dB	Gain	
		E Plane	H Plane			Linear, dBi	CP, dBic
7.5	RHCP	28	26	1.0	-16.8	13.0	15.9
	LHCP	28	27	0.6	-17.7	12.8	15.8
8.0	RHCP	29	26	2.0	-13.8	12.6	15.4
	LHCP	28	27	1.1	-12.8	12.7	15.4
8.5	RHCP	26	26	1.3	-13.9	13.7	16.5
	LHCP	27	27	1.7	-14.0	13.0	15.7

13.75-14.5 GHz Horn							
Test Freq. (GHz)	Port	-3 dB Beamwidth (degrees °)		Axial Ratio, dB	Return Loss, dB	Gain	
		E Plane	H Plane			Linear, dBi	CP, dBic
13.75	RHCP	28	29	2.7	-18.4	12.9	15.5
	LHCP	27	28	2.5	-17.3	13.3	15.0
14.0	RHCP	26	25	1.2	-15.7	13.9	15.8
	LHCP	26	26	1.3	-14.0	13.9	15.8
14.5	RHCP	25	26	0.5	-16.0	14.0	16.9
	LHCP	25	27	1.4	-21.1	13.8	16.5

The following charts show graphically the antennas' respective return loss:



TRUE GAIN ANTENNAS

All The Signal...®

Slip-on 10 dB with the patented Mighty Mini 900 MHz antenna for Canopy radios. This Mighty Mini delivers high performance at low cost from a minimal footprint, ...and in any weather. Vertical or horizontal, the antenna installs in seconds.

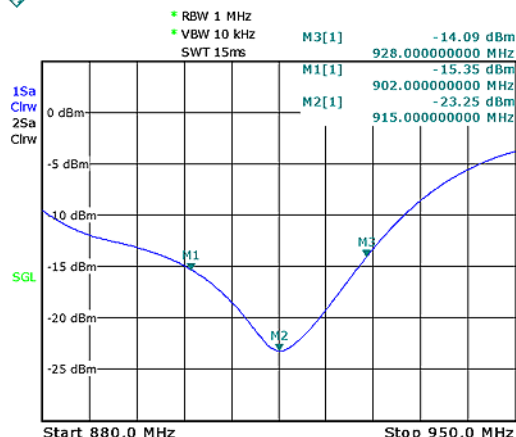
Applications:

- 900 MHz V & H Canopy Radios



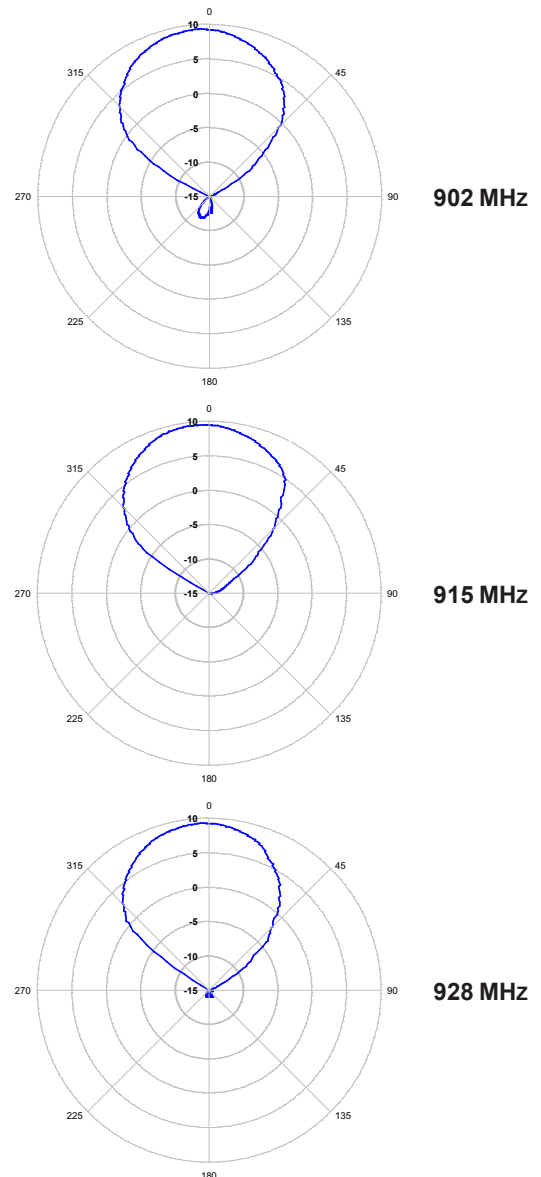
TG-CA915-10 Features –

- Lifetime Warranty:** Materials and Workmanship
- Length:** 8.8" (22.4 cm)
- Width:** 7.5" (19.1 cm)
- Height:** 3.8" (9.6 cm)
- Weight:** 17.5 oz. (0.5 kg)
- Rugged Environmental Resistant Design**
- Environment:**
 - Operational: 100 mph (161 Km/hr.)
 - Survival: 100 mph (161 Km/hr.)
- Connector:** Female-N



VSWR

M1 = 1.41
M2 = 1.15
M3 = 1.49



Electrical Specifications:

Model	Frequency (MHz)	Polarization	Gain (dBi) @ 915 MHz	Beamwidth (°) -3 dB @ 915 MHz	F/B (dB) @ 915 MHz	VSWR
TG-CA915-10	900 - 928	Hrz. / Vert.	10.0	59.8	24.8	1.49:1

Specifications subject to change without notice.

TRUE GAIN ANTENNAS

All The Signal...®

Slip-on +6 dB with the Mighty Mini 2400 MHz antenna for Canopy radios. This Mighty Mini delivers high performance at low cost from a minimal footprint, ...and in any weather. Vertical or horizontal, the antenna installs in seconds.

Applications:

- 2400 MHz V & H Canopy Radios



TG-CA2400-6 Features –

- **Lifetime Warranty:** Materials and Workmanship
- **Length:** 8.8" (22.4 cm)
- **Width:** 7.5" (19.1 cm)
- **Height:** 3.8" (9.6 cm)
- **Weight:** 13.5 oz. (0.38 kg)
- **Rugged Environmental Resistant Design**
- **Environment:**
 - Operational: 100 mph (161 Km/hr.)
 - Survival: 100 mph (161 Km/hr.)
- **Color:** Unique "no see" light gray

Mighty Mini antennas perform every time..., in any weather.

Experience exceptional range and industry best jitter performance. Say goodbye to those high defect accessory antennas and unsightly dishes. Now enjoy rock-solid performance where you need it.

Electrical Specifications:

Model	Frequency (MHz)	Polarization	Gain (dBi) @ 2440 MHz	Beamwidth (°) -3 dB @ 2440 MHz	F/B (dB) @ 2440 MHz
TG-CA2400-6	2400 ISM	Hrz. / Vert.	+ 6	48	30

Specifications subject to change without notice.

TRUE GAIN ANTENNAS

All The Signal...®

True Gain Mighty Mini 5000 coupling antenna for Canopy radios delivers high performance in any weather. Slip on the Canopy radio mounting hardware and boost effective range up to 5x.

A rock-solid range boosting solution with industry best jitter performance...!

Applications:

- 5.4 & 5.8 GHz V & H Canopy Radios

TG-CH5000-10 Features –

- **Lifetime Warranty:** Materials and Workmanship
- **Antenna Length:** 7" (17.7 cm)
- **Width:** 7" (17.7 cm)
- **Height:** 5.5" (14.0 cm)
- **Weight:** 2 lbs. 9 oz. (1.16 kg)
- **Rugged Environmental Resistant Design**
- **Environment:**
 - Operational: 100 mph (161 Km/hr.)
 - Survival: 100 mph (161 Km/hr.)
- **Color:** Unique "no see" light gray powder coat



Mighty Mini antennas perform every time..., in any weather.

Experience exceptional range and industry best jitter performance. Say goodbye to those high defect accessory antennas and unsightly dishes. Now enjoy rock-solid performance where you need it.

Electrical Specifications:

Model	Frequency (MHz)	Polarization	Gain (dBi) typical	Beamwidth (°) -3 dB @ 5.7 GHz	F/B (dB) @ 5.7 GHz
TG-CH5000V-10	5300 - 5900	Vertical	+ 10.4	16	> 35
TG-CH5000H-10	5300 - 5900	Horizontal	+ 10.4	16	> 35

Patent Pending/ Specifications subject to change without notice.

TRUE GAIN ANTENNAS

All The Signal...®

True Gain's 900 MHz ISM band Yagi antennas are expertly engineered and manufactured in the USA to highest standards of quality and performance. Antennas include mounting bracket and hardware for up to 2" O.D. masts.

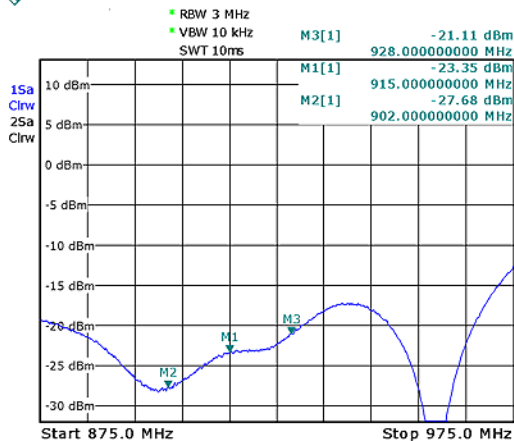
Applications:

- Broadband networks and service
- Canopy and Ubiquiti radios
- Point to multipoint



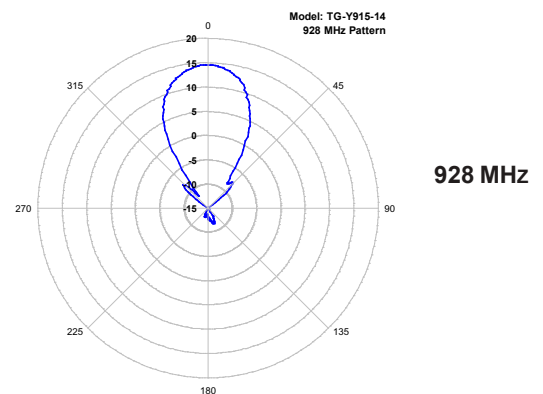
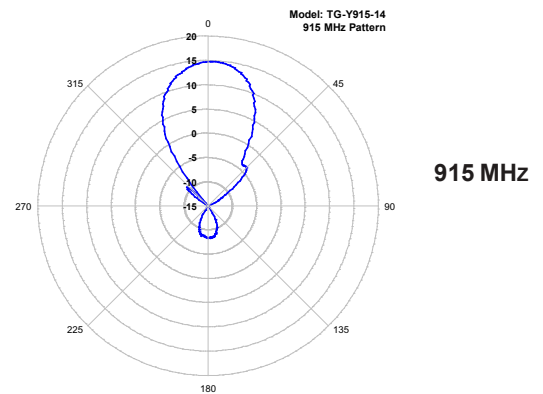
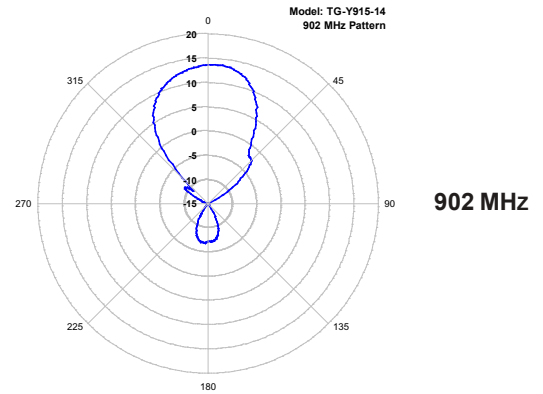
TG-Y915-14 Features –

- **Lifetime Warranty:** Materials and Workmanship
- **Boom Length:** 41.3 (104.8 cm)
- **Maximum Width:** 6.5" (16.6 cm)
- **Weight:** 1 lb. 5 oz. (0.60 kg)
- **Rugged Environmental Resistant Design**
- **Environment:**
 - Operational: 100 mph (161 Km/hr.)
 - Survival: 100 mph (161 Km/hr.)
- **Color:** Unique “no see” light gray powder coat
- **Connection:** Low loss 24" coax, N or SMA



VSWR

M1 = 1.15
M2 = 1.09
M3 = 1.19



Electrical Specifications:

Model	Frequency (MHz)	Polarization	Gain (dBi) typical	Beamwidth (°) -3 dB @ 915 MHz	F/B (dB) @ 915 MHz	VSWR max.	Elements
TG-Y915-14	900 - 928	Hrz. / Vert.	14.3	40.3	26	1.19:1	10

Specifications subject to change without notice.

TRUE GAIN ANTENNAS

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True Gain Yagi 900 MHz ISM band antennas are expertly engineered and manufactured in the USA to highest standards of quality and performance. Antennas include mounting bracket and hardware for up to 2" O.D. masts.

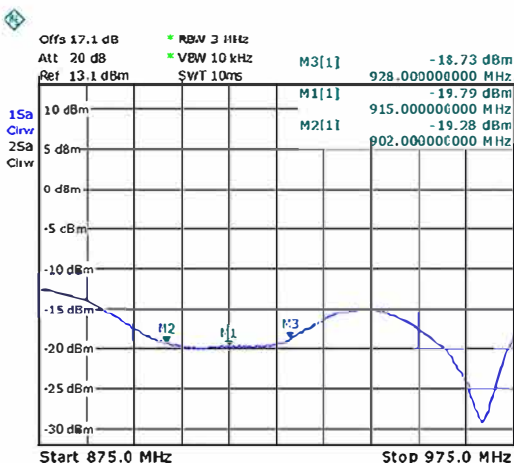
Applications:

- Broadband networks and service
- Canopy radios
- Point to multipoint

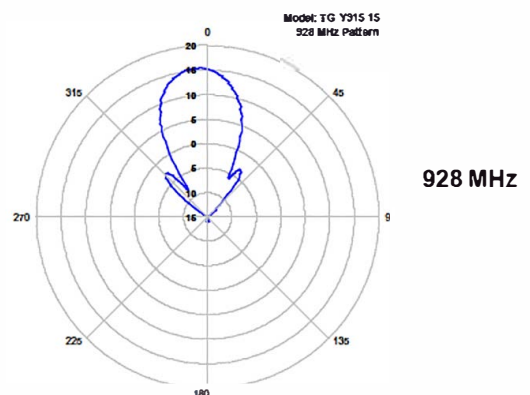
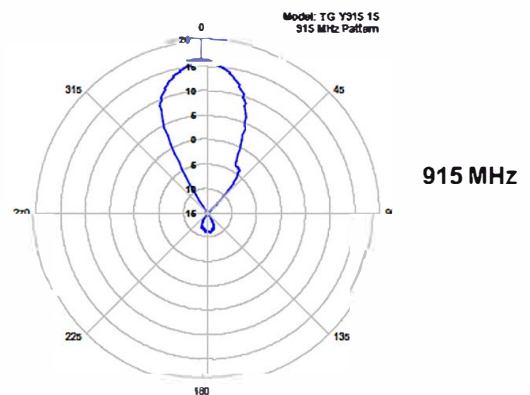
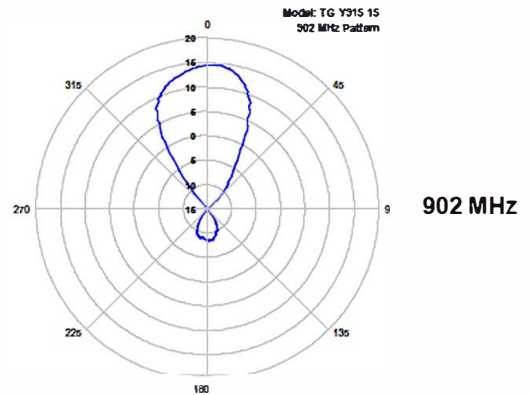


TG-Y915-15 Features –

- **Lifetime Warranty:** Materials and Workmanship
- **Boom Lengths:** 50.9" (129.4 cm)
- **Maximum Width:** 6.5" (16.6 cm)
- **Weight:** 1 lb. 10 oz. (0.74 kg)
- **Rugged Environmental Resistant Design**
- **Environment:**
 - Operational: 100 mph (161 Km/hr.)
 - Survival: 100 mph (161 Km/hr.)
- **Color:** Unique "no see" light gray powder coat
- **Connection:** Low loss 24" coax, N or SMA



VSWR
M1 = 1.23
M2 = 1.24
M3 = 1.26



Electrical Specifications:

Model	Frequency (MHz)	Polarization	Gain (dBi) typical	Beamwidth (°) -3 dB @ 915 MHz	F/B (dB) @ 915 MHz	VSWR max.	Elements
TG-Y915-15	900 - 928	Hz. / Vert.	15.2	26.7	18	1.26:1	12

Specifications subject to change without notice.

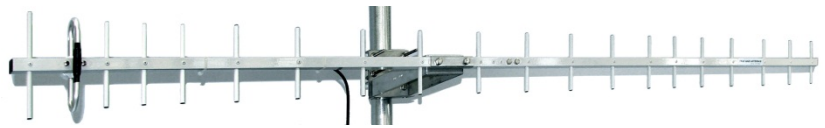
TRUE GAIN ANTENNAS

All The Signal...®

True Gain's 900 MHz ISM band Yagi antennas are expertly engineered and manufactured in the USA to highest standards of quality and performance. Antennas include mid-mounting bracket and hardware for up to 2" O.D. masts.

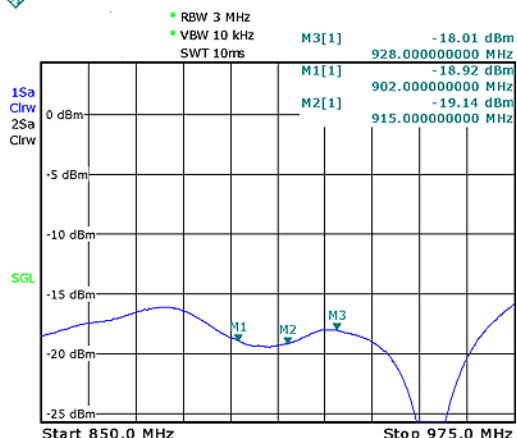
Applications:

- Broadband networks and service
- Canopy & Ubiquiti radios
- Point to multipoint



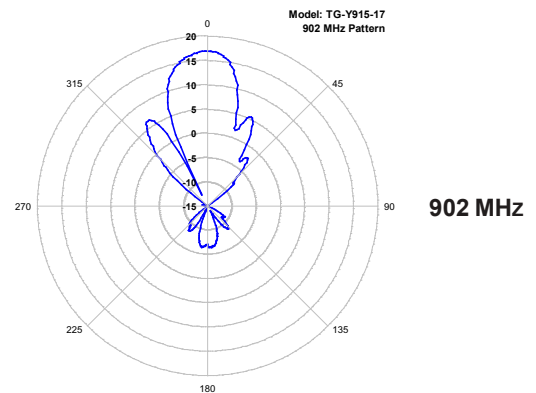
TG-Y915-17 Features –

- **Lifetime Warranty:** Materials and Workmanship
- **Boom Length:** 79.4" (201.7 cm)
- **Maximum Width:** 6.4" (16.2 cm)
- **Weight:** 2 lbs. 1 oz. (0.94 kg)
- **Rugged Environmental Resistant**
- **Patent Pending Mid-Mount Design**
- **Environment:**
 - Operational: 100 mph (161 Km/hr.)
 - Survival: 100 mph (161 Km/hr.)
- **Color:** Unique "no see" light gray powder coat
- **Connection:** Low loss 24" coax, N or SMA

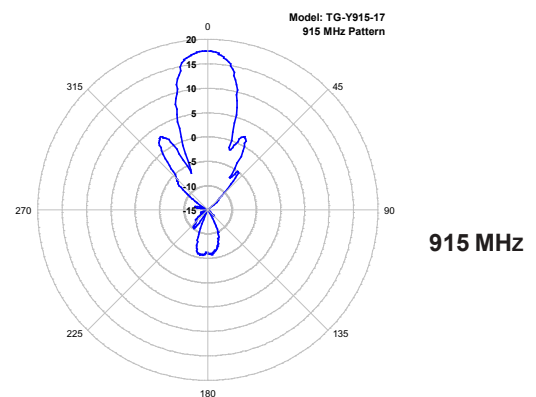


VSWR

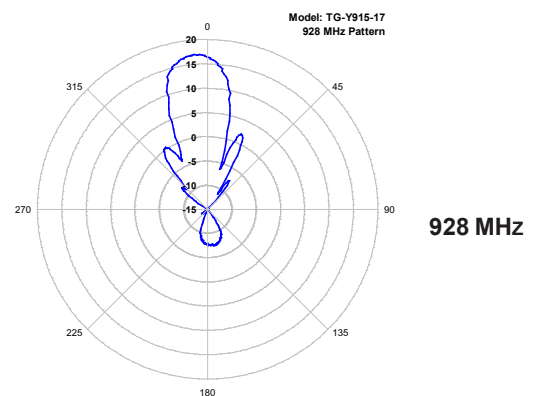
M1 = 1.26
M2 = 1.25
M3 = 1.29



902 MHz



915 MHz



928 MHz

Electrical Specifications:

Model	Frequency (MHz)	Polarization	Gain (dBi) typical	Beamwidth (°) -3 dB @ 915 MHz	F/B (dB) @ 915 MHz	VSWR max.	Elements
TG-Y915-17	900 - 928	Hz. / Vert.	17.3	25.9	26.7	1.29:1	20

All specifications subject to change without notice

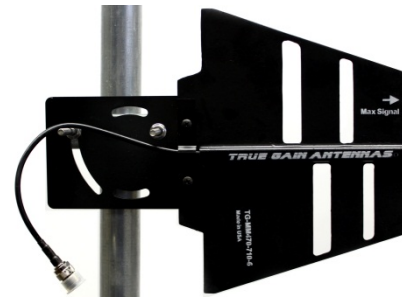
TRUE GAIN ANTENNAS

All The Signal...®

True Gain's TV White Space Subscriber Antenna delivers high performance from a minimal footprint in any weather. This Mighty Mini antenna installs quickly in virtually any position with included True Gain Versamount.™

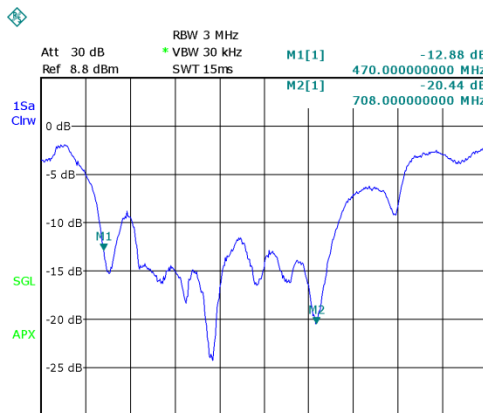
Applications:

- KTS Radios
- White Space networks and service
- Point to point or multipoint



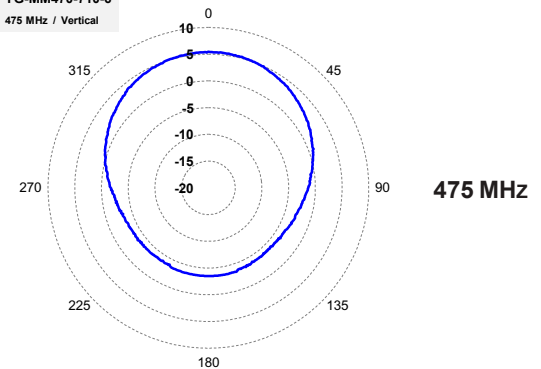
TG-MM470-710-6 Features –

- **Lifetime Warranty:** Materials and Workmanship
- **True Gain Versamount™**
- **Max. Length:** 12.3" (31.2 cm)
- **Max. Width:** 10.0" (25.4 cm)
- **Max. Height:** 0.6" (1.5 cm)
- **Weight:** 2.0 lbs. (0.91 kg)
- **Environmental Resistant**
- **Environment:**
 - Operational: 100 mph (161 Km/hr.)
 - Survival: 100 mph (161 Km/hr.)
- **Connection:** Type N (F) w/ 12" LMR 200

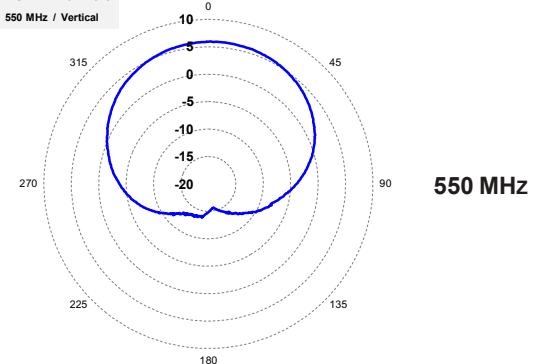


VSWR
M1 = 1.59
M2 = 1.21

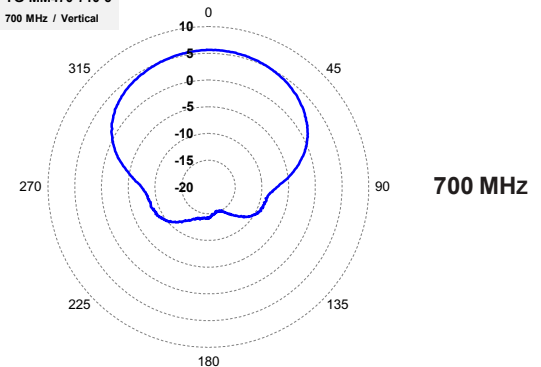
TG-MM470-710-6
475 MHz / Vertical



TG-MM470-710-6
550 MHz / Vertical



TG-MM470-710-6
700 MHz / Vertical



Electrical Specifications:

Model	Frequency (MHz)	Polarization	Gain (dBi) @ 550 MHz	Beamwidth (°) -3 dB @ 550 MHz	F/B (dB) @ 550 MHz	VSWR@ 550 MHz
TG-MM470-710-6	470 - 710	Vertical	6.0	98.6	20.8	1.43:1

Specifications subject to change without notice.

TRUE GAIN ANTENNAS

All The Signal...®

True Gain's TV White Space, 120° Sector Antenna delivers high performance from a minimal footprint in any weather. This Mighty Mini antenna installs quickly in virtually any position with included True Gain Versamount.™

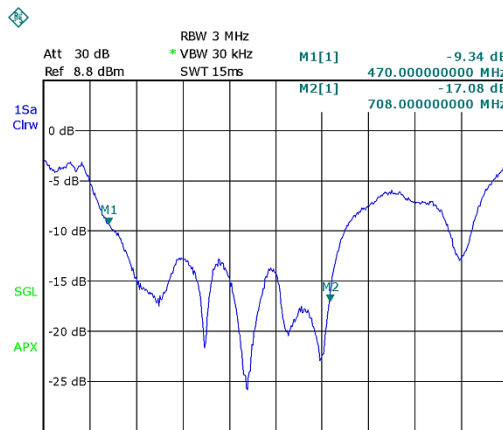
Applications:

- KTS Radios
- White Space networks and service
- Point to multipoint



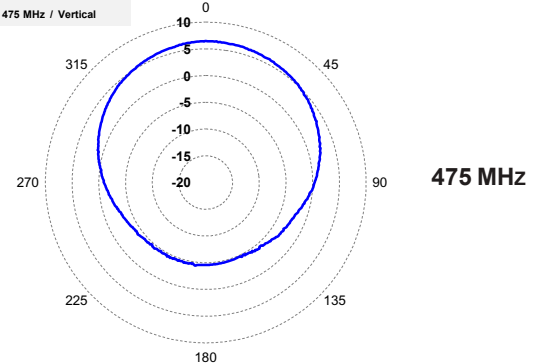
TG-MM470-710-120 Features –

- **Lifetime Warranty:** Materials and Workmanship
- **True Gain Versamount™**
- **Max. Length:** 11.5" (29.2 cm)
- **Max. Width:** 10.0" (25.4 cm)
- **Max. Height:** 0.6" (1.5 cm)
- **Weight:** 1.9 lbs. (0.86 kg)
- **Environmental Resistant**
- **Environment:**
 - Operational: 100 mph (161 Km/hr.)
 - Survival: 100 mph (161 Km/hr.)
- **Connection:** Type N (F) w/ 12" LMR 200

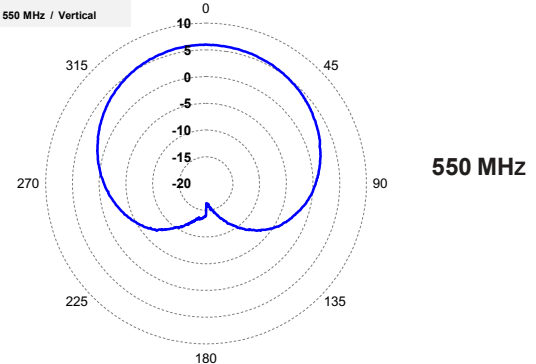


VSWR
M1 = 2.03
M2 = 1.32

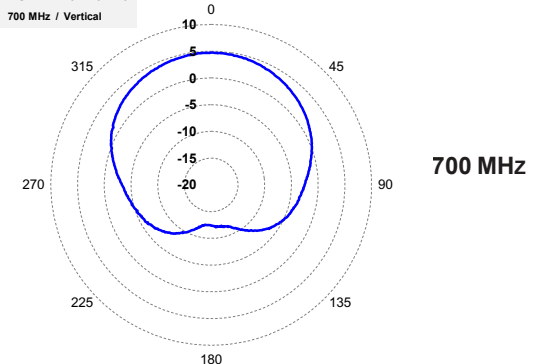
TG-MM470-710-120
475 MHz / Vertical



TG-MM470-710-120
550 MHz / Vertical



TG-MM470-710-120
700 MHz / Vertical



Electrical Specifications:

Model	Frequency (MHz)	Polarization	Gain (dBi) @ 550 MHz	Beamwidth (°) -3 dB @ 550 MHz	F/B (dB) @ 550 MHz	VSWR@ 550 MHz
TG-MM470-710-120	470 - 710	Vertical	6.0	125.3	22.2	1.60:1

Specifications subject to change without notice.

TRUE GAIN ANTENNAS

All The Signal...®

True Gain's patented Mighty Mini 900 MHz antenna delivers high performance from a minimal footprint in any weather. Vertical or horizontal, the antenna installs quickly in virtually any position with included Maxi-Position Mount™.

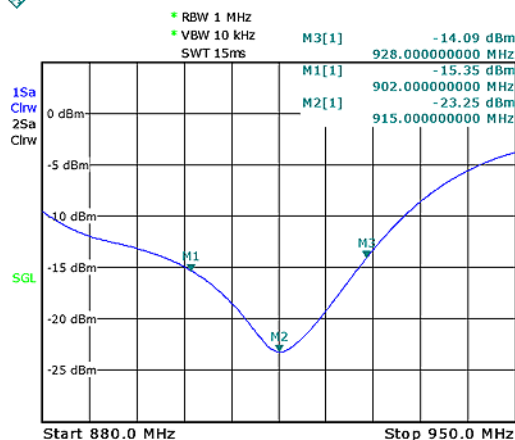
Applications:

- Canopy & Ubiquiti Radios
- Broadband networks and service
- Point to multipoint



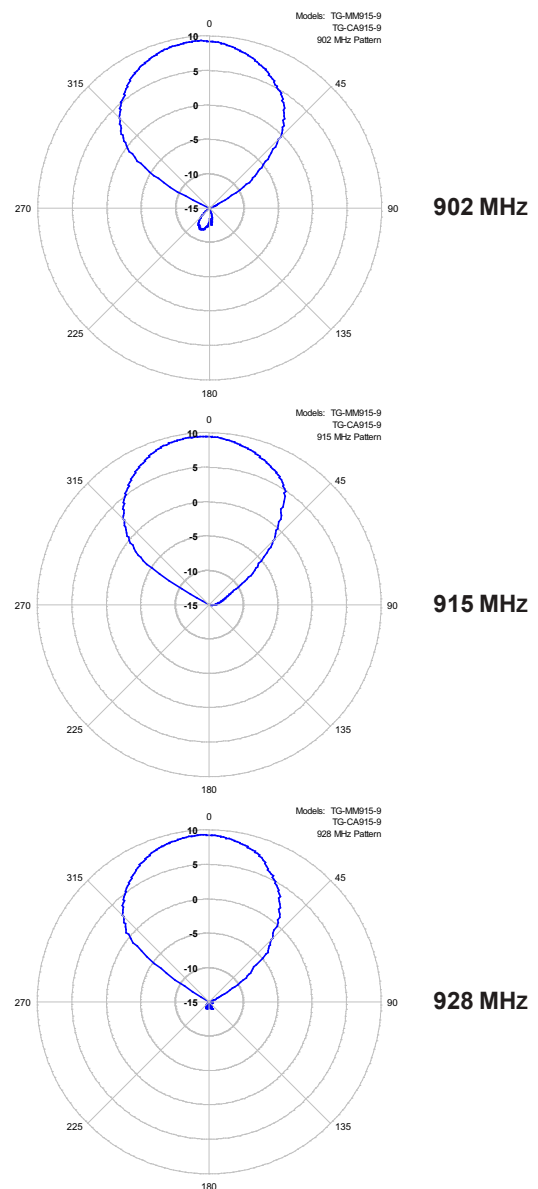
TG-MM915-10 Features –

- **Lifetime Warranty:** Materials and Workmanship
- **Maxi-Position Mount™**
- **Length:** 8.8" (22.4 cm)
- **Width:** 7.5" (19.1 cm)
- **Height:** 3.8" (9.6 cm)
- **Weight:** 13.5 oz. (0.38 kg)
- **Rugged Environmental Resistant**
- **Environment:**
 - Operational: 100 mph (161 Km/hr.)
 - Survival: 100 mph (161 Km/hr.)
- **Connection:** 18" LMR 200 w/ N, RP-SMA, or SMA



VSWR

M1 = 1.41
M2 = 1.15
M3 = 1.49



Electrical Specifications:

Model	Frequency (MHz)	Polarization	Gain (dBi) @ 915 MHz	Beamwidth (°) -3 dB @ 915 MHz	F/B (dB) @ 915 MHz	VSWR
TG-MM915-10	900 - 928	Hz. / Vert.	10.0	59.8	24.8	1.49:1

Specifications subject to change without notice.

TRUE GAIN ANTENNAS

All The Signal...®

True Gain's Mighty Mini 5.8 GHz panel delivers high performance over the entire ISM band in any weather. The antenna easily installs in most any application with the included Maxi-Position Mount™.

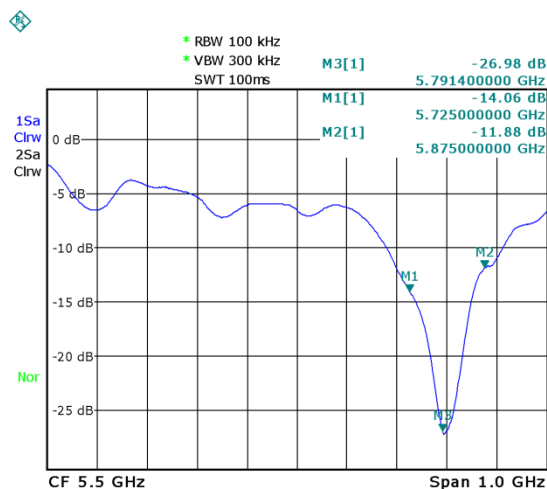
Applications:

- Broadband networks
- Canopy & Ubiquiti radios
- Point to multipoint
- UNII & ISM
- Wireless bridges
- Wireless LAN



TG-MM5800-17 Features -

- **Lifetime Warranty:** Materials and Workmanship
- **Maxi-Position Mount™**
- **Length:** 8.8" (22.4 cm)
- **Width:** 7.5" (19.1 cm)
- **Height:** 3.8" (9.6 cm)
- **Weight:** 13.5 oz. (0.38 kg)
- **Rugged Environmental Resistant**
- **Environment:**
 - Operational: 100 mph (161 Km/hr.)
 - Survival: 100 mph (161 Km/hr.)
- **Connection:** 18" LMR 200 w/ N, RP-SMA, or SMA



VSWR

M1 = 5.73 GHz, 1.49
M2 = 5.88 GHz, 1.69
M3 = 5.79 GHz, 1.09

Electrical Specifications:

Model	Frequency (GHz)	Polarization	Gain (dBi) @ 5.8 GHz	Beamwidth (°) -3 dB @ 5.8 GHz	F/B (dB) @ 5.8 GHz	VSWR
TG-MM5800-17	5.6 - 5.9	Linear	17.6	23.8	31.1	1.10:1

Specifications subject to change without notice.

TRUE GAIN ANTENNAS

All The Signal...®

True Gain's Mighty Mini 09-130 Ultra Wide Band antenna delivers high performance from 0.9 - 13 GHz in any weather. Vertical or horizontal, the antenna installs quickly in virtually any position with included Maxi-Position Mount™.

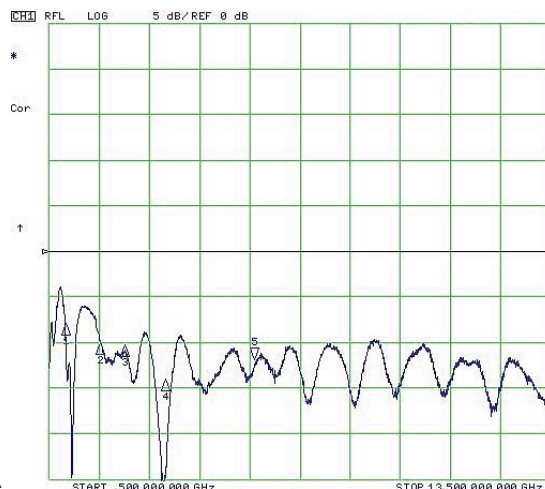
Applications:

- Broadband networks and service
- Point to multipoint



TG-MM09-130-8 Features -

- **Lifetime Warranty:** Materials and Workmanship
- **Maxi-Position Mount™**
- **Length:** 8.8" (22.4 cm)
- **Width:** 7.5" (19.1 cm)
- **Height:** 3.8" (9.6 cm)
- **Weight:** 13.5 oz. (0.38 kg)
- **Rugged Environmental Resistant**
- **Environment:**
 - Operational: 100 mph (161 Km/hr.)
 - Survival: 100 mph (161 Km/hr.)
- **Connection:** 18" LMR 200 w/ N, RP-SMA, or SMA



VSWR

M1 = 915 MHz, 2.33
M2 = 1.80 GHz, 1.90
M3 = 2.44 GHz, 1.87
M4 = 3.50 GHz, 1.49
M5 = 5.80 GHz, 1.68

Electrical Specifications:

Model	Frequency (GHz)	Polarization	Gain (dBi) @ 5.8 GHz	Beamwidth (°) -3 dB @ 5.8 GHz	F/B (dB) @ 5.8 GHz	VSWR
TG-MM09-130-8	0.9 - 13	Hrz. / Vert.	8.1	70.3	17.5	1.68:1

Specifications subject to change without notice.