

Model 195Eg Specifications

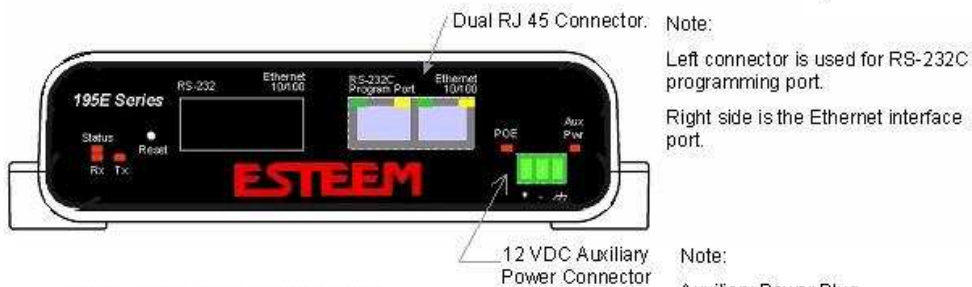
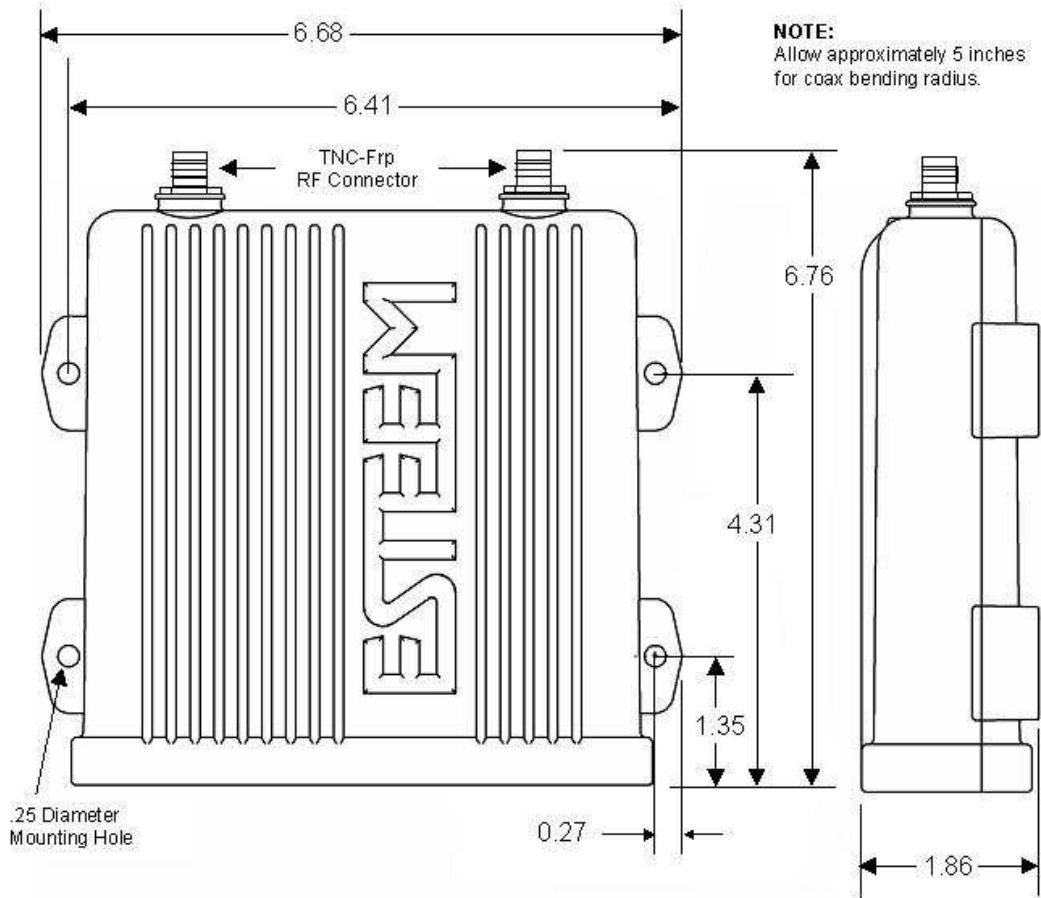
LED Indicators	
Power On/Off	Receiver On/Off
Carrier Detect On/Off	Transmitter On/Off
Link Status On/Off	
I/O Connectors	
Ethernet 10/100Base T	RJ-45
RS-232C Programming/Data Port	RJ-45
Dual Antenna input/Outputs	TNC Reverse Female
Remote Input Power	Power Over Ethernet Cable
Direct Input Power	Optional, Header Screw Connector
Transmitter	
Frequency of Operation	2.412 to 2.462 GHz Software Selectable in 11 Channels
RF Data Rates	1,2,5.5,6,9,11,12,18,24,36,48, & 54 Mbps Fixed or Auto Scaling
Tx Peak Output Power	1 Watt
RF Output Impedance	50 ohms
Receiver	
Rx Sensitivity	-68 dBm @54 Mbps to -89 dBm @ 1 Mbps Frame Error Rate <10%
Power	
Power over Ethernet	IEEE 802.3af Standard Power Supply, 48 VDC @ 13 Watts
Power Connector on Unit	10 to 16 VDC
Receive	320 ma @ 12 VDC
Transmit	1000 ma @ 12 VDC
Case	
Dimensions	1.9 in. H x 6.7 in. W x 6.2 in. L
Weight	1.25 lbs.
Outdoor Pole Mounting Kit	Optional, EST P/N 195PM
Other	
Warranty	1 Year
Temperature Range	-30° to +60° C
Humidity	95% Non-condensing
FCC Type Acceptance	ENPESTEEM195EG-1
Industry Canada Type Acceptance	1457A-195EG

The GPL source code contained in this product is available as a free download from the following:
<ftp://ftp.esteem.com/opensource/gplsourcepackage.tar.bz2>

If you would like a copy of the GPL source code contained in this product shipped to you on CD, please send \$9.99 to 415 N. Quay Street, Kennewick, WA 99336 which covers the cost of preparing and mailing a CD to you.

Specifications Subject to Change Without Notice

Model 195Eg Case Specifications



Note: All dimensions are in inches.

Antenna Specifications

Model No:	AA01S	
Antenna Type:	Omni-Directional, variable angle rubber duck	
Applications:	Direct mount	
Frequency:	2400 to 2485 MHz	
Polarization:	Vertical	
Impedance:	50 ohms	Caution
Gain:	Unity	Omni-directional antenna should not be located within 20 cm of personnel.
VSWR:	< 1.5	
Front to Back Ratio:	n/a	
Horizontal Beamwidth:	n/a	
Vertical Beamwidth:	n/a	
Antenna Material:	Rubber duct whip.	
Mounting Hardware:	n/a	
Antenna Connector:	TNC-R Male	
Antenna Envelope:	4.25 in. length by 1.75 in width	
Weight:	.08 lbs.	



Model AA01S

Model:	AA20DMEg	
Applications:	Model 195Eg direct case mount	
Antenna Type:	Omni-Directional, Sleeve dipole	
Frequency:	2400 to 2485 MHz	
Polarization:	Vertical	
Impedance:	50 ohms	Caution
Gain:	5 dBi (3 dBd)	Omni-directional antenna should not be located within 20 cm of personnel.
VSWR:	< 2:1	
Power:	10 W	
Front To Back Ratio:	n/a	
Horizontal Beamwidth:	n/a	
Vertical Beamwidth:	n/a	
Antenna Material:	Polyurethane Plastic Radome	
Recommended Mounting Hardware:	n/a	
Antenna Connector:	TNC-R Male	
Flexibility:	+/- 20 °	
Antenna Envelope:	8.28 in. length by .54 in. width	
Temperature:	-40 to +70 C°	
Weight:	33 grams	

Caution

Omni-directional antenna should not be located within 20 cm of personnel.



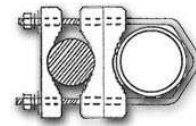
Model AA20DMEg

Antenna Specifications

Model No:	AA20Eg
Antenna Type:	Omni Directional, DC Grounded
Applications:	Fixed base
Frequency:	2400 to 2500 MHz
Polarization:	Vertical
Impedance:	50 ohms
Gain:	6 dBi (4dBd)
VSWR:	1.2:1 Typical
Front to Back Ratio:	n/a
Horizontal Beamwidth:	n/a
Vertical Beamwidth:	40 degrees @ ½ power
Antenna Material:	Brass radiator, UV inhibited fiberglass enclosed
Mounting Hardware:	Base to Mast, Supplied.
Antenna Connector:	TNC-R Male with 36in. pig-tail.
Antenna Envelope:	12 in. length by 1 in. diameter
Weight:	1.5 lbs.

Caution

To comply with the FCC exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna and all persons.



Mounting Bracket



Model AA20Eg

Antenna Specifications

Model No:	AA203Eg
Antenna Type:	Directional, DC grounded
Applications:	Fixed base.
Frequency:	2400 to 2485 MHz
Polarization:	Vertical or Horizontal
Impedance:	50 ohms
Gain:	6 dBi (4 dBd)
VSWR:	< 1.5
Front to Back Ratio:	>23 dB
Horizontal Beamwidth:	55 degrees @ ½ power
Vertical Beamwidth:	55 degrees @ ½ power
Antenna Material:	Sealed in UV stable fiberglass enclosed radome
Mounting Hardware:	Stainless steel U bolts (included) for mounting up to 1 5/8 in. diameter pipe.
Antenna Connector:	TNC-R Male with 36in. pig tail
Maximum Power Input:	5 Watts
Antenna Envelope:	4.5 in. length by 3 in. diameter
Windload (RWV):	125 mph
Lateral Thrust at Rated Wind:	5.8 lbs.
Wind Surface Area:	0.060 ft ²
Weight:	1 lbs.

Caution

To comply with the FCC exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna and all persons.



Model AA203Eg

Antenna Specifications

Model No:	AA204Eg
Applications:	Fixed base mounting
Antenna Type:	2.4 GHz ISM, Directional, DC Grounded, Parabolic Grid
Frequency:	2400-2485 MHz
Polarization:	Vertical or Horizontal
Impedance:	50 ohms
Gain:	19 dBi (17 dBd) nominal
VSWR:	< 1.5:1 nominal
Front to Back Ratio:	>24 dB
Horizontal Beamwidth:	16 degrees @ ½ power
Vertical Beamwidth:	11 degrees @ ½ power
Antenna Material:	Zinc plated cold rolled steel with polyester power coat finish
Recommended Mounting Hardware:	Standard U-bolt steel mast clamp complete with mounting hardware. Designed for masts of up to 2.5 in. O.D.
Antenna Connector:	TNC-R Male with 36 in. pig-tail
Maximum Power Input:	10 Watts
Wind Survival:	100 mph
Wind Load:	16 mph
Antenna Envelope:	34 in. length by 17 in. width by 11 in. height
Weight:	3 lbs.

Caution

To comply with the FCC exposure compliance requirements, a separation distance of at least 50 cm must be maintained between the antenna and all persons.



Model AA204Eg

Use of the AA204Eg, directional antenna is limited to fixed point-to-point applications only. In accordance with FCC Section 15.247(b)iii, this antenna must be professionally installed. The installer must ensure the system is used exclusively for fixed, point-to-point applications and the ESTeem Model 195Eg is set for 0.25 Watts output power (Power Level = Min).

Antenna Specifications

Model No:	AA20E
Antenna Type:	Omni Directional, DC Grounded
Applications:	Fixed base
Frequency:	2400 to 2500 MHz
Polarization:	Vertical
Impedance:	50 ohms
Gain:	6 dBd
VSWR:	< 1.5
Front To Back Ratio:	n/a
Horizontal Beamwidth:	n/a
Vertical Beamwidth:	35 degrees @ ½ power
Antenna Material:	Copper alloy radiator, UV inhibited fiberglass enclosed
Mounting Hardware:	Aluminum bracket for mounting to 1 ¼ to 2 in. diameter mast included.
Antenna Connector:	N female reverse polarity.
Antenna Envelope:	20 in. length by 1.35 in. diameter
Weight:	2 lbs.

Caution

To comply with the FCC exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna and all persons



Model AA20E

Only pre-made coax cables from the factory used in conjunction with either the AA20E omni-directional and AA203ES or AA204ES directional antennas meet all FCC Section 15.247(b) EIRP maximum power requirements. See Chapter 8 for details on maximum cable lengths.

Antenna Specifications

Model No:	AA203ES
Antenna Type:	Directional, 6 element yagi, DC grounded
Applications:	Fixed base.
Frequency:	2400 to 2483.5 MHz
Polarization:	Vertical or Horizontal
Impedance:	50 ohms
Gain:	7 dBd
VSWR:	< 1.5
Front To Back Ratio:	13.5 dB
Horizontal Beamwidth:	47 degrees @ 1/2 power
Vertical Beamwidth:	55 degrees @ 1/2 power
Antenna Material:	Sealed in UV stable fiberglass enclosed radome
Mounting Hardware:	Stainless steel U bolts (included) for mounting up to 1 5/8 in. diameter pipe.
Antenna Connector:	N male reverse polarity with 18 in. pig tail
Maximum Power Input:	50 Watts
Antenna Envelope:	7 1/4 in. length by 2.0 in. diameter
Windload (RWV):	120 mph
Lateral Thrust at	
Rated Wind:	12.2 lbs.
Wind Surface Area:	0.146 ft ²
Bending Moment at	
Base Rated Wind:	3.6 lb-ft.
Weight:	.48 lbs.

Caution

To comply with the FCC exposure compliance requirements, a separation distance of at least 100cm must be maintained between the antenna and all persons.



Model AA203ES

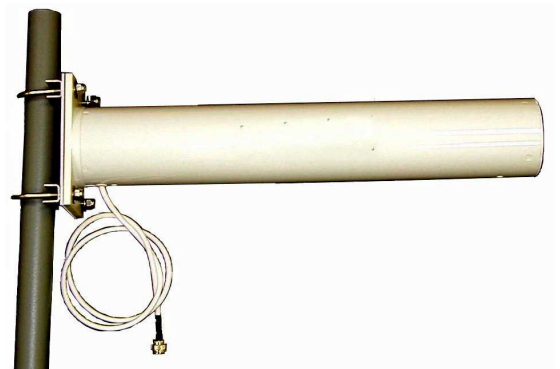
Only pre-made coax cables from the factory used in conjunction with either the AA20E omni-directional and AA203ES or AA204ES directional antennas meet all FCC Section 15.247(b) EIRP maximum power requirements. See Chapter 8 for details on maximum cable lengths.

Antenna Specifications

Model No:	AA204ES
Applications:	Fixed base mounting
Antenna Type:	2.4 GHz ISM, Directional, 16 Element Yagi, DC Grounded
Frequency:	2400-2483.5 MHz
Polarization:	Vertical or Horizontal
Impedance:	50 ohms
Gain:	13.5 dBi (11.3 dBd nominal)
VSWR:	< 2.1, 1.5:1 nominal
Front To Back Ratio:	>20 dB
Horizontal Beamwidth:	28 degrees @ ½ power
Vertical Beamwidth:	30 degrees @ ½ power
Antenna Material:	Fiberglass enclosed
Recommended Mounting Hardware:	Heavy duty U bolts for mounting up to 1 5/8 in. pipe (included). Adjustable yagi mounting kit for mounting up to 1 ½ in. pipe optional
Antenna Connector:	N male reverse polarity
Cable Length:	18 in.
Maximum Power Input:	50 Watts
Wind Survival:	120 mph
Antenna Envelope:	18 in. length by 3 in. width
Equiv. Flat Plate Area:	0.375 ft ²
Lateral Thrust at Rated Wind:	31.4 lbs.
Bending Moment at Base Rated Wind:	23.6 lb-ft.
Weight:	.76 lbs.

Caution

To comply with the FCC exposure compliance requirements, a separation distance of at least 100cm must be maintained between the antenna and all persons.



Model 204ES

Only pre-made coax cables from the factory used in conjunction with either the AA20E omni-directional and AA203ES or AA204ES directional antennas meet all FCC Section 15.247(b) EIRP maximum power requirements. See Chapter 8 for details on maximum cable lengths.

Use of the AA204ES, directional antenna is limited to fixed point to point applications only. In accordance FCC Section 15.247(b)iii, the operator or installer is responsible for ensuring the systems is used exclusively for fixed, point-to-point applications.