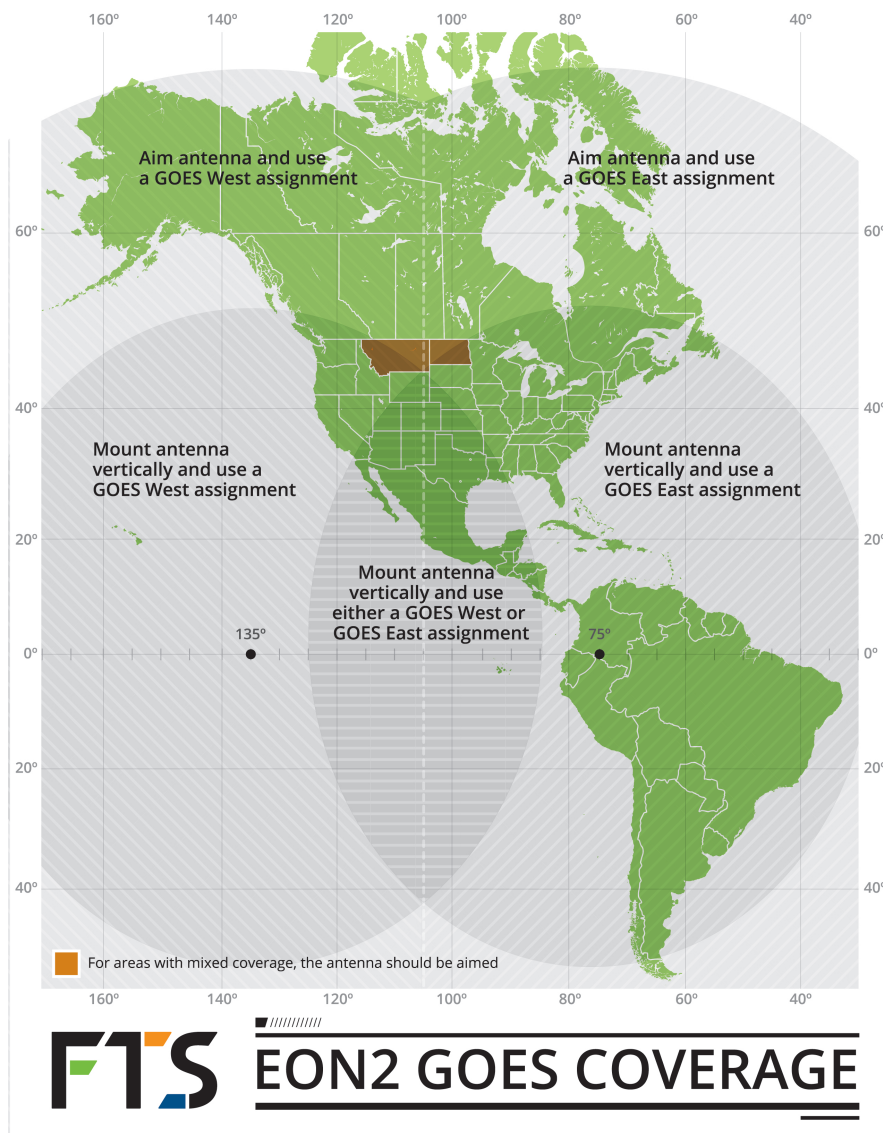


This Technical Bulletin provides information relevant to best practices for omni-directional antenna positioning and power settings. It also includes a drilling template for mounting the EON2 antenna.

AIMING THE ANTENNA

The procedure to position your EON2 antenna will vary depending on your geographical location. If the antenna should be aimed, aim it at an angle towards the GOES satellite's position. Ensure the transmission path is free from obstruction, including potential tree canopy.

Refer to the following image to determine the recommended action for your location.



POWER SETTINGS

The EON2 GOES antenna has a gain of 5.7 dB on axis and the output power of the GOES transmitter must be set as shown in the table below to achieve the recommended EIRP. The values in the table allow for a typical 0.5 dB loss due to the antenna cable and connectors. If the cable loss for a particular installation is higher than this the output power should be adjusted accordingly.

Bit Rate	Antenna Orientation	Output Power (dBm)	Expected EIRP (dBm)	NOAA Required EIRP (dBm)
300	Aimed	34	39	37 - 41
1200		38	43	43 - 47
300	Vertical	37	39	37 - 41
1200		41	43	43 - 47

The output power numbers in the table for the vertical antenna orientation are appropriate for locations that do not need aiming as shown in the map above. For higher latitudes the output power should be increased or the antenna should be aimed at the satellite. Note that not all GOES transmitters can achieve an output power of 41 dBm. If this is the case the antenna may need to be aimed at the satellite if a bit rate of 1200 bps is used.

The table provides a guideline for setting transmitter output power for use with the EON2 antenna. The output power of a specific station may need to be adjusted from these values, either up or down, to achieve the recommended EIRP as measured by the GOES system and reported in the received message.

MOUNTING THE ANTENNA

Vertical surfaces too close to the antenna act as reflectors and can degrade or interfere with signal strength. These effects are reduced the greater the separation between the reflector and the antenna but they are still detectable out to 15 m (49.2 ft).


There should be a separation of 75 cm (29.5") or greater between the antenna and any metal surface parallel to the axis of the antenna. If necessary, the EON2 Antenna Tower Mounting Arm is available as an optional accessory.

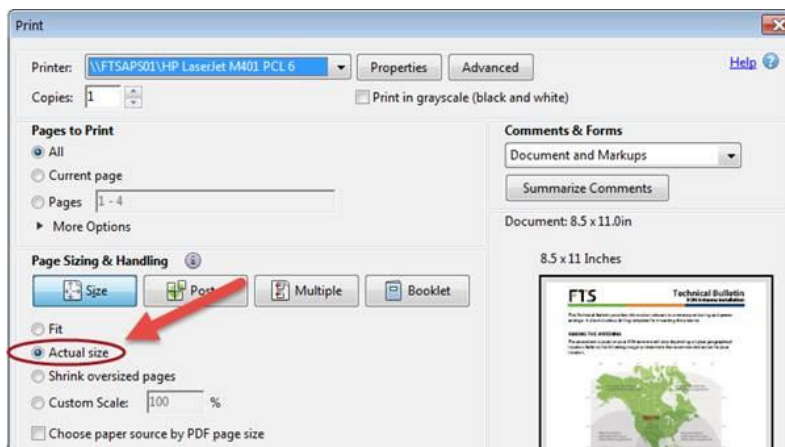
Should it not be possible to mount the antenna at the recommended distance from the metal post, the following guidelines should be followed:

D= distance between EON2 antenna and metal post (or other reflector)

- 1) $D < 18$ cm (7"): Not recommended.
- 2) $D = 18$ cm (7"): Acceptable if the reflector is not between the antenna and the satellite. This is the normal case for an aimed antenna
- 3) $D = 37.5$ cm (14.5"): Not recommended, as it causes a large null in front of the antenna.
- 4) $D = 56$ cm (22"): Acceptable if the reflector is directly behind the antenna relative to the satellite. Not recommended if the reflector is 45 degrees to either side behind the antenna relative to the satellite.

Use the template to drill the holes for mounting the antenna. Dimensions are in inches and the template must be to scale.

	<p>IMPORTANT! Ensure "Actual size" is selected from your Print screen when printing the template for it to be to scale.</p> <p>Before drilling any holes measure the Ø4.75 REF ANTENNA FOOT PRINT on your printed template to ensure it measure 4.75 inches in diameter.</p>
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For further information, contact FTS by phone 1.800.548.4264, e-mail service@ftsinc.com, or visit our support site at support.ftsinc.com.

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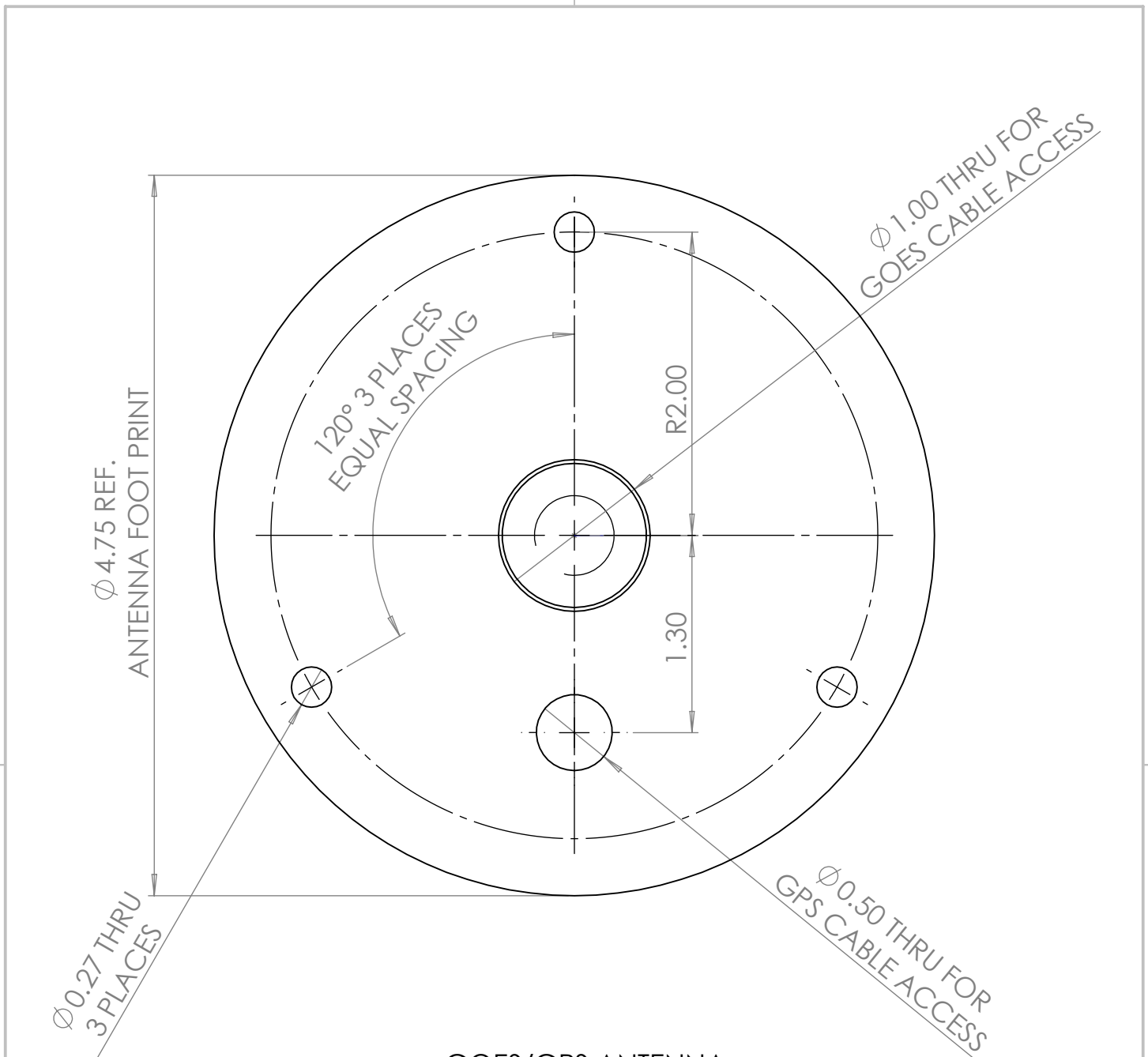
1

B

B

A

A



ϕ 4.75 REF.
ANTENNA FOOT PRINT

120° 3 PLACES
EQUAL SPACING

R2.00

1.30

ϕ 1.00 THRU FOR
GOES CABLE ACCESS

ϕ 0.27 THRU
3 PLACES

ϕ 0.50 THRU FOR
GPS CABLE ACCESS

GOES/GPS ANTENNA
DRILLING TEMPLATE

NOTES:

1. USE THIS TEMPLATE IN FULL SIZE.
2. CUT OUT THE TEMPLATE AND TAPE IT TO THE CORRESPONDING SURFACES.
3. CENTE PUNCH ALL REQUIRED HOLES THEN DRILL THRU IN THE SIZE SPECIFIED.
4. ALL DIMENSIONS ARE IN INCHES.
5. TOLERANCE +/- 0.01"

2

1