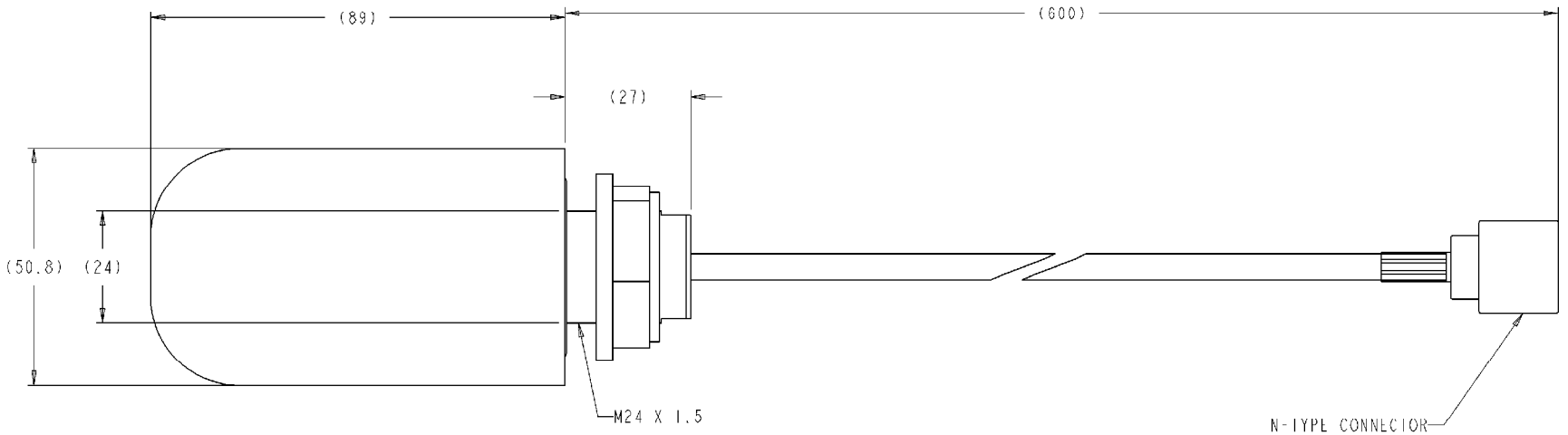
METRIC 447-0331



NOTE A: MALTEC ENGINEERING
447-0331

MATL	A		SOURCE
		IE1541A	WROUGHT MATL
HT TR			
		IE2722B	DRAWING
		IE0507E	IDENT
		IE0435B	SUP COMPONENT
		IE0198R	BRAND MARKINGS
		IE0013Y	CONFIDENTIALITY
		IE0012A	INTERPRETATION
NOTE		IE0011	INTPR & TOL

Caterpillar: Confidential Yellow

PROD. X OTHER

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN mm
DIMENSIONS W/O TOL ARE BASIC

VERSION TYPE: PRIMARY X / SECONDARY

THIRD ANGLE PROJECTION

SHEET 1 OF 1

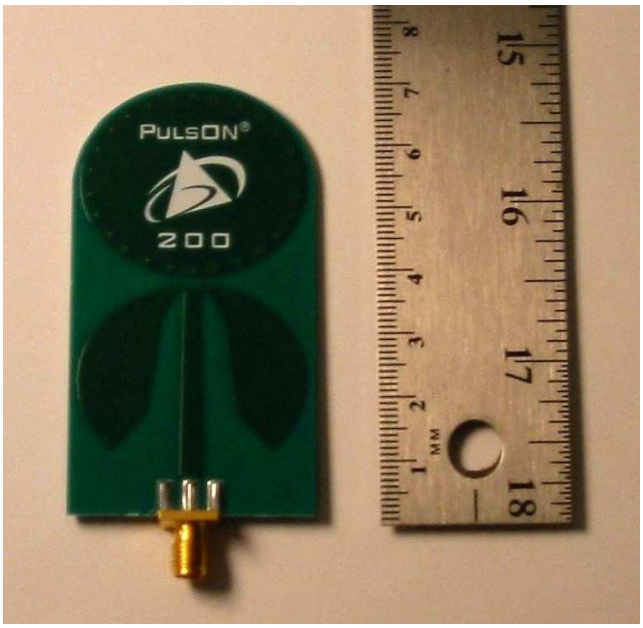
DWG CONTROL CE111

CATERPILLAR

ANTENNA AS.
(FLEET FOR UNDERGROUND)

447-0331 VER HO CHG 01 C

BROADSPEC UWB ANTENNA



Time Domain's BroadSpec™ is a planar elliptical dipole antenna designed to be used with the PulsON 400 (P400) ultra wideband module. It has a standard male SMA connector that allows it to be connected to one of the P400 module's two antenna ports.

Performance Specification

Radiated Waveform: 500ps monocycle; 1 ns waveform
Pattern: Omni in azimuth to +/- 1.5dB
Polarization: VSWR ~ 1.75:1; S11 ~-12 dB
Gain: Nominally ~3dBi
Phase Response: Linear
Efficiency: Nominally ~90%

Antenna Beam Patterns

Figure 1 below shows the antenna azimuth beam pattern, and **Figure 2** illustrates the elevation beam pattern. For the azimuth beam pattern, 0 and 180 degrees represent the flat face of the antenna ("boresight"), and 90 and 270 degrees represent the edge of the antenna. Note that when two radios at the same elevation are rotated so the flat sides of the antennas face one another, radio performance will be approximately 6 dB higher than when the antennas are edge-on.

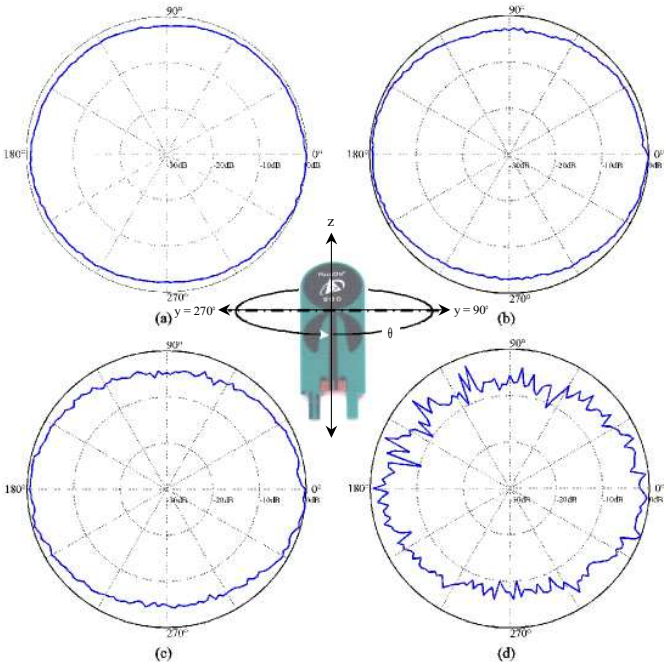


Fig. 1 Azimuth Beam Pattern for a) 3 GHz, b) 4 GHz, c) 5 GHz, and d) 6 GHz

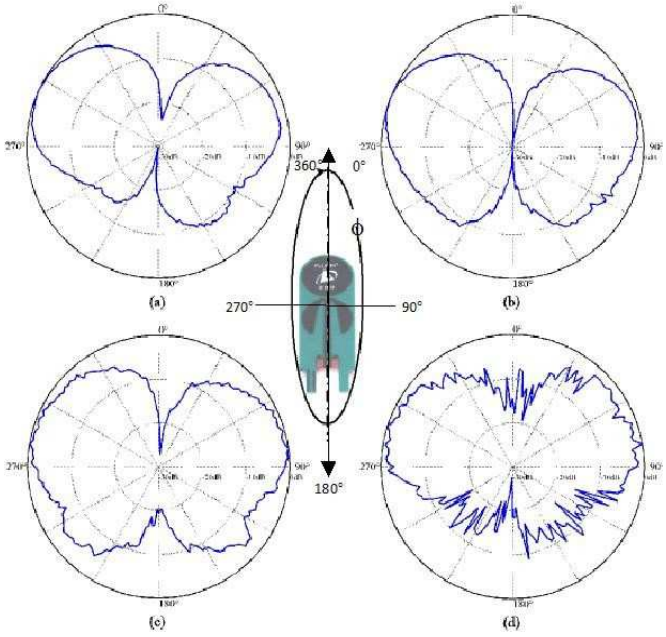


Fig. 2 Elevation Beam Pattern for a) 3GHz, b) 4 GHz, c) 5 GHz, and d) 6 GHz

FOR MORE INFORMATION

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