

ROSEMOUNT 3408 WIRELESS LEVEL TRANSMITTER ANTENNA DIAGRAMS (RADAR)

This document describes the Radar antennas used in the 3408 Wireless Level transmitter.

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1 RADAR ANTENNA DESCRIPTION

There are 3 different types of Radar Antennas, all of the are reuse and identical to the antennas for the original 3408 Level Transmitter.

The Process seal antennas (antenna designation SAA and SBA, Figure 1 and 2), with threaded or PTFE plate process connection, are suitable for TLPR use. The version with PTFE disc pressed between the flange and the tank has slightly higher gain and could also be a possible RF leakage path and is deemed worst case for testing and the testing will cover both versions.

The "ATAP" antenna (antenna designation SCA, Figure 3) with a sleeve/nozzle is compliant with LPR antenna requirements.

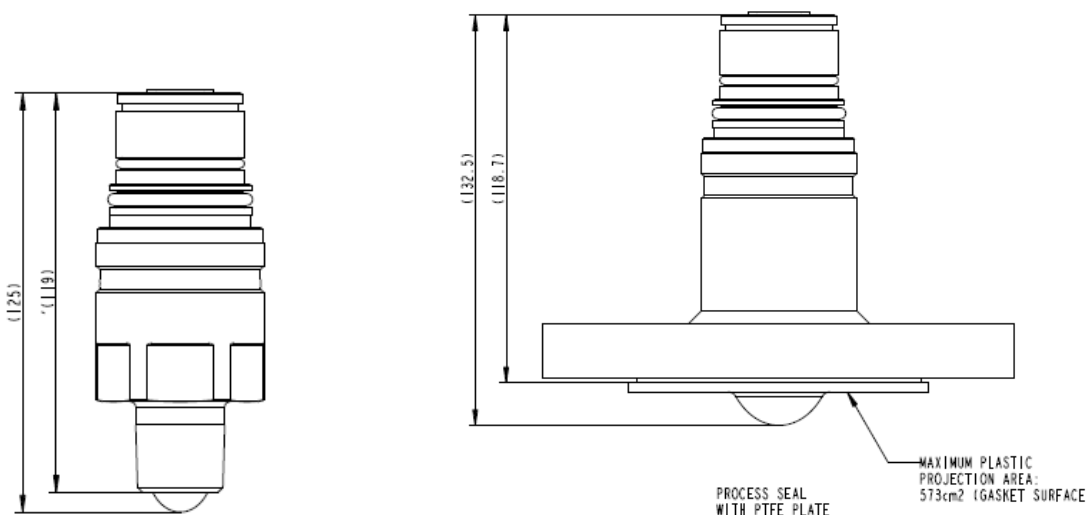


Figure 1 and 2: Process Seal antenna without and with PTFE plate. (TLPR antennas, model codes SAA and SBA).

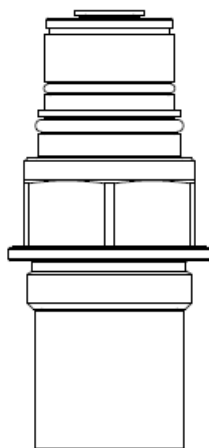


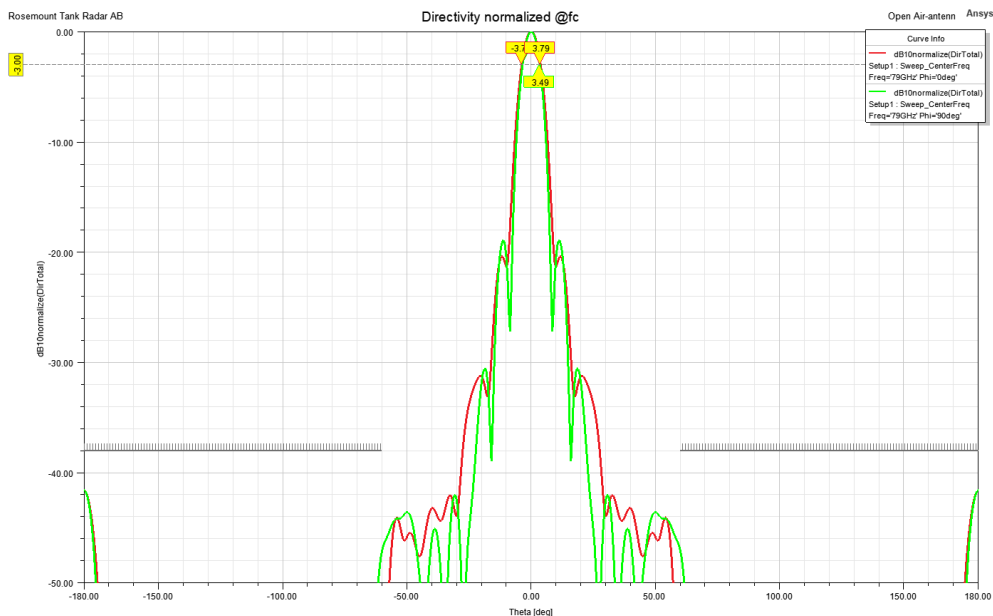
Figure 3: ATAP antenna with nozzle (LPR antenna, model code SCA)

2 RADAR ANTENNA DIAGRAMS

Antenna	Antenna gain @79 GHz	HPBW @79 GHz	Level >60°
Process Seal (threaded)	24 dB	9°	N.A. (TLPR)
Process Seal (Plate)	25 dB	8°	N.A. (TLPR)
ATAP (w. LPR nozzle)	26 dB	<8°	<-38 dBc



Normalized directivity for the Process Seal (29 mm) antenna @79 GHz



Normalized directivity for the ATAP (32 mm) antenna including LPR nozzle @79 GHz

3 REVISION HISTORY

ISSUE	DATE	AUTHOR	MODIFICATION
1.0	2025-07-10	EAp-BH	Initial Release