TAOGLAS®



Datasheet

Part No:
TI.89.B.2151

Description

860-930MHz Terminal Antenna 2dBi RP-SMA(M) Fixed Straight IP67 Enclosure

Features:

Terminal Mount Waterproof Antenna
Covering 860-930MHz Bands
Dipole Structure with Real Omni-Directional Radiation Pattern
Ground Independent
IP67 Rated Enclosure Design
Dims: Ø 13 x 180mm
Connector: RP-SMA(M)
RoHS & Reach Compliant

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1. Introduction



The Taoglas **TI.89.B.2151** is a high-performance 860–930 MHz terminal mount antenna designed to provide reliable wireless connectivity for **ISM, LoRaWAN®, Sigfox® and RFID applications**. Its wide 860–930 MHz frequency coverage makes it a versatile antenna solution for IoT gateways, smart metering, asset tracking and remote monitoring equipment operating across sub-GHz wireless networks.

A key feature of the TI.89.B is its **IP67-rated construction**, providing protection against dust and water ingress when correctly installed. Combined with its durable TPEE enclosure, the antenna is well suited to both indoor and outdoor applications where environmental protection and dependable wireless performance are required. The TI.89.B features a **ground-independent dipole design with a 2 dBi peak gain and omnidirectional radiation pattern**, providing flexibility when integrating the antenna onto gateways, enclosures and connected IoT equipment. Its fixed straight **RP-SMA (M) connector** enables direct terminal mounting for straightforward integration into compatible wireless devices.

The TI.89.B provides **omnidirectional coverage across the 860–930 MHz band**, supporting dependable wireless connectivity across a wide range of fixed and mobile IoT applications.

Typical Applications:

- LoRaWAN® Gateways & Nodes
- Smart Metering, Utility, Industrial IoT & Remote Monitoring
- Smart Agriculture and Environmental Monitoring
- Smart City Infrastructure
- Security & Access Control and RFID Systems
- Asset & Fleet Tracking

The antenna connector type can be customized. Please contact your regional Taoglas customer support team for installation guidance or additional support integrating and testing the antenna in your device.

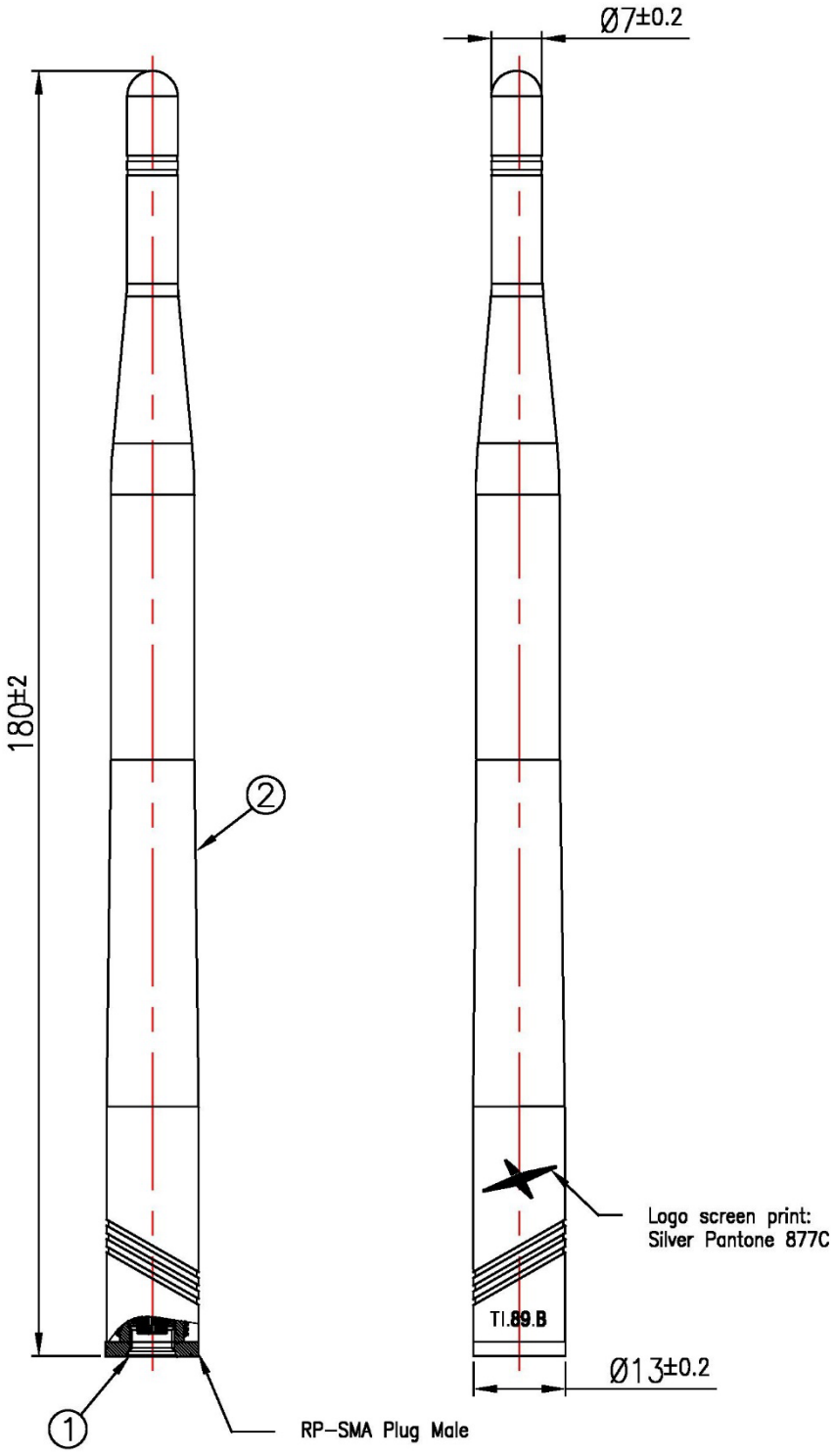
2. Specification

Electrical									
Band	Frequency (MHz)	Measurement	Efficiency (%)	Average Gain (dB)	Peak Gain (dBi)	Impedance	Polarization	Radiation Pattern	Max. input power
868MHz	862-874	150x90mm Eval Board	65.0	-1.87	1.61	50 Ω	Linear	Omni directional	10W
		90x150mm Eval Board	66.7	-1.76	1.70				
		Free Space	73.0	-1.37	0.64				
915MHz	910-920	150x90mm Eval Board	68.3	-1.65	2.24				
		90x150mm Eval Board	66.5	-1.77	1.51				
		Free Space	72.0	-1.43	0.94				

Mechanical	
Dimensions	Ø13mm x 180mm
Weight	23g / 0.8 oz
Material	TPEE
Connector	RP-SMA (M)

Environmental	
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Relative Humidity	Non-condensing 65°C 95% RH
IP Rating	IP 67 Enclosure

3. Mechanical Drawing



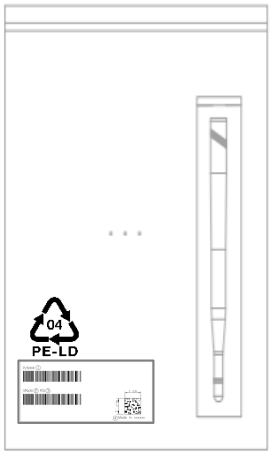
	Name	Material	Finish	QTY
1	Connector RP-SMA	Brass	Ni Plated	1
2	Antenna Cap	TPEE	Black	1

4. Packaging



☑ 1 PCS / Small PE Bag

☑ Small PE Bag (mm): 240x30



☑ 50 PCS / PE Bag

☑ PE bag (mm): 330x230

☑ Weight (kg): 1.2 ±3%

☑ SPQ Label



☑ 400 PCS / Carton

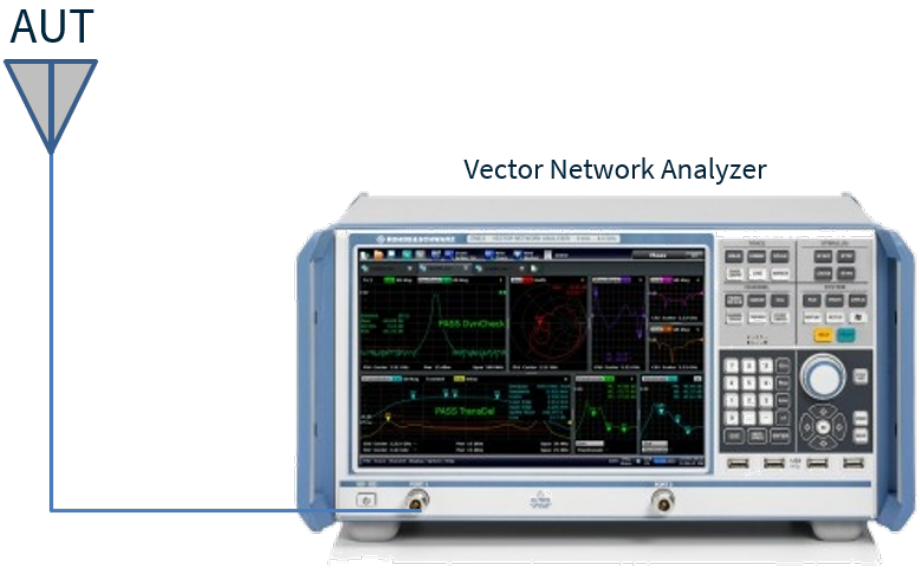
☑ Carton (mm): 320x250x230

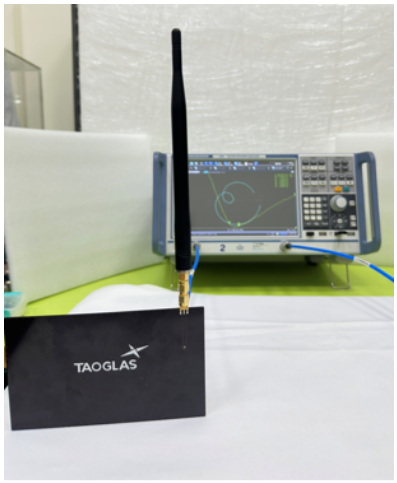
☑ Weight (kg): 10.1 ±3%

☑ Carton Label

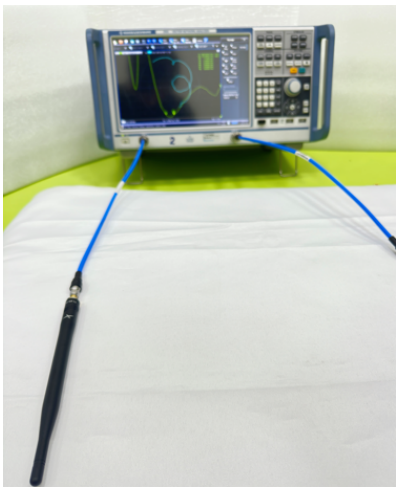
5. Antenna Characteristics

5.1 Test Setup

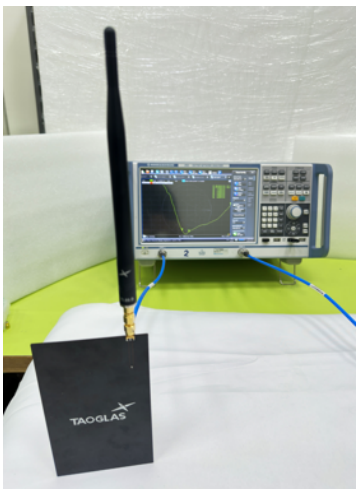




150x90mm Ground Plane

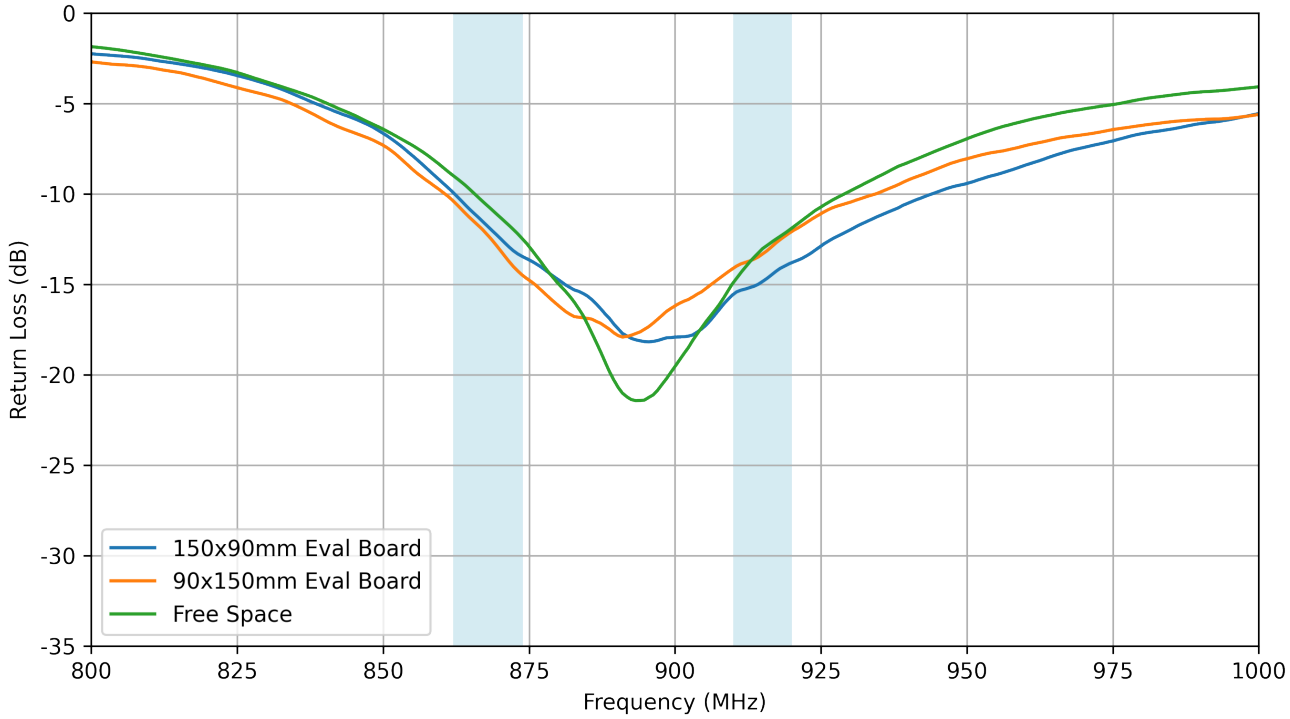


Free Space

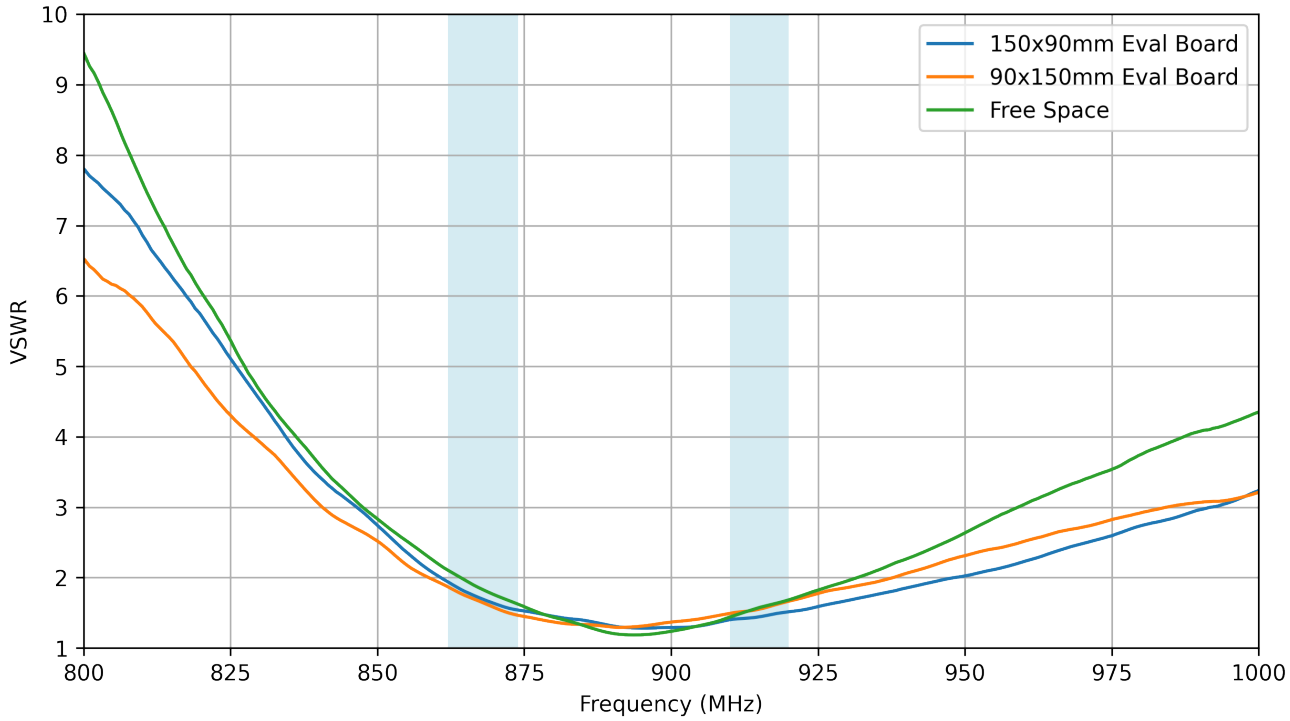


90x150mm Ground Plane

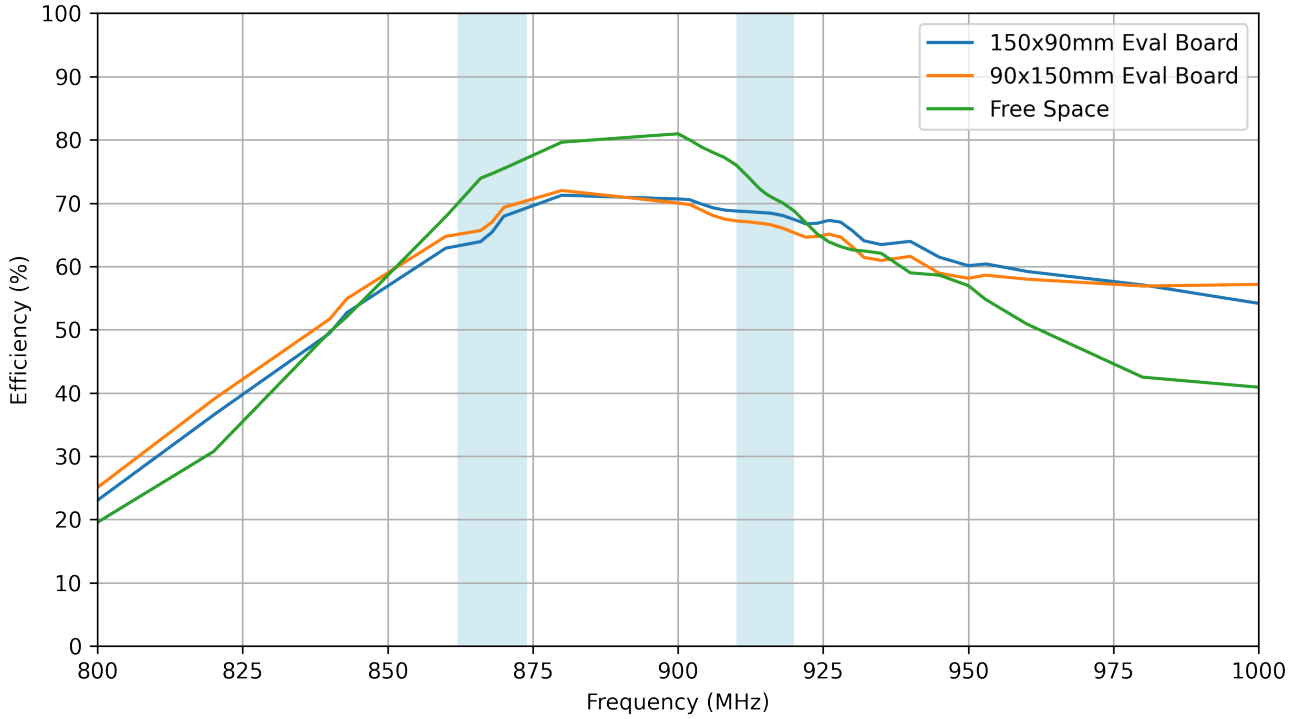
5.2 Return Loss



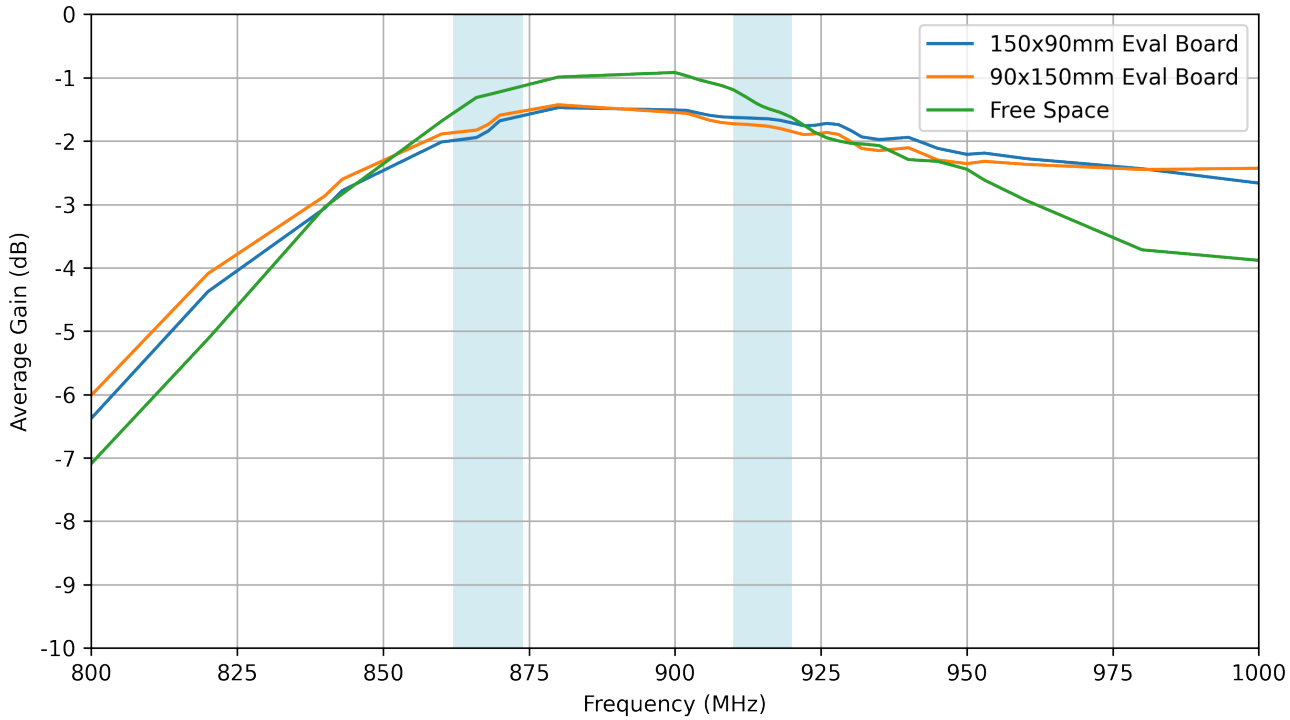
5.3 VSWR



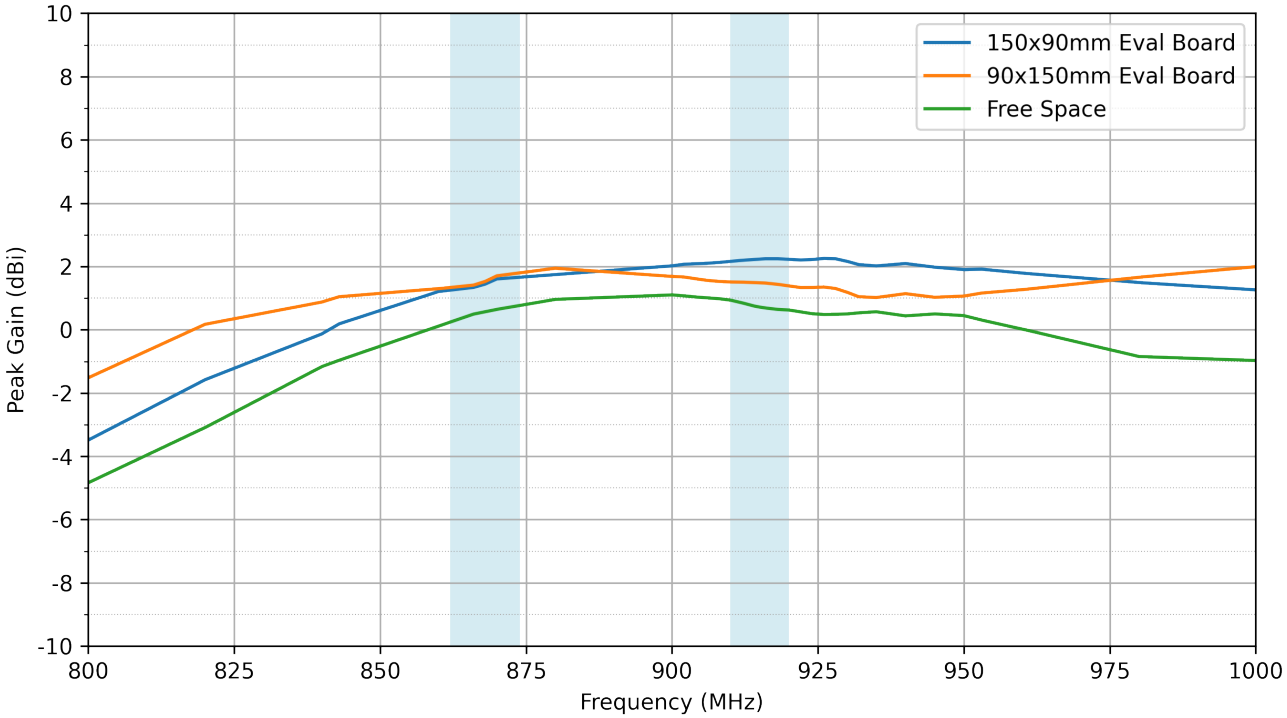
5.4 Efficiency



5.5 Average Gain

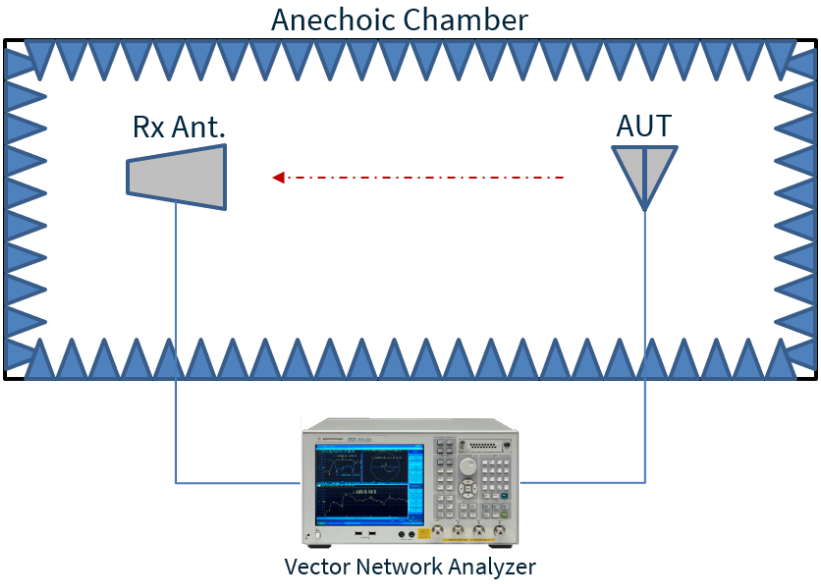


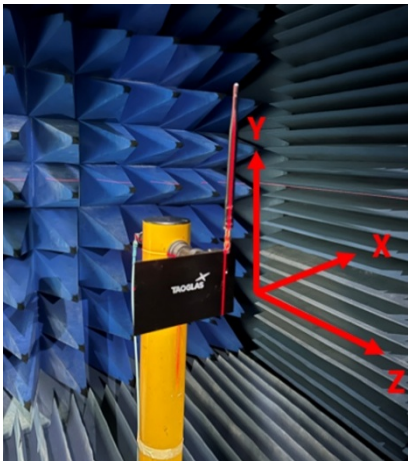
5.6 Peak Gain


150x90mm Eval Board
90x150mm Eval Board
Free Space
Peak Gain (dBi)
Frequency (MHz)
10
8
6
4
2
0
-2
-4
-6
-8
-10
800
825
850
875
900
925
950
975
1000

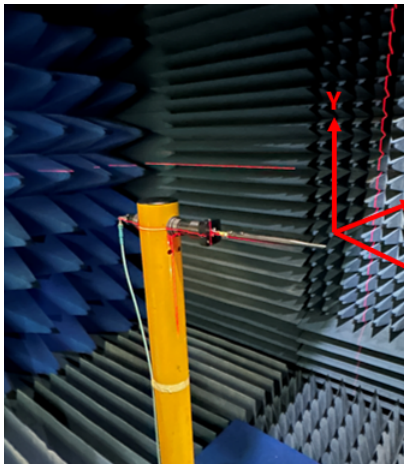
6. Radiation Patterns

6.1 Test Setup

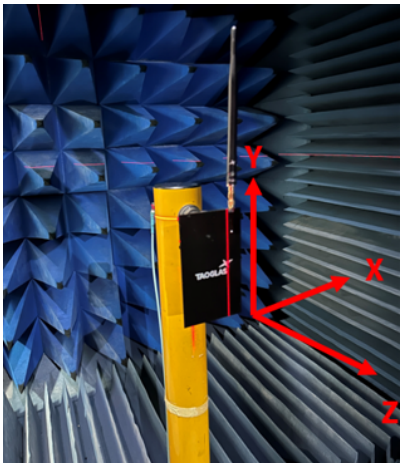




150x90mm Ground Plane

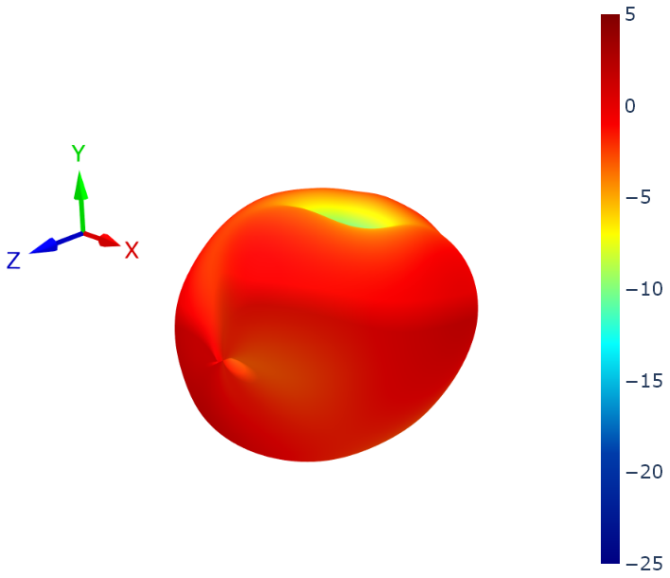


Free Space

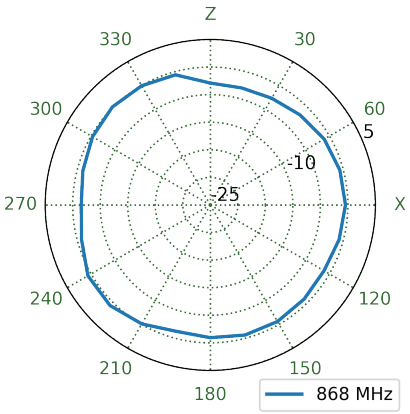


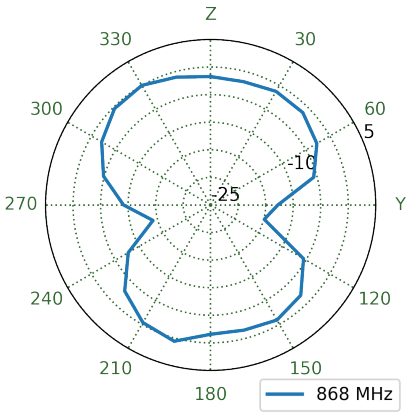
90x150mm Ground Plane

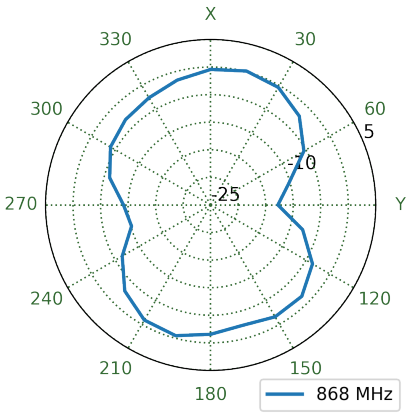
6.2 150x90mm Eval Board Patterns at 868 MHz



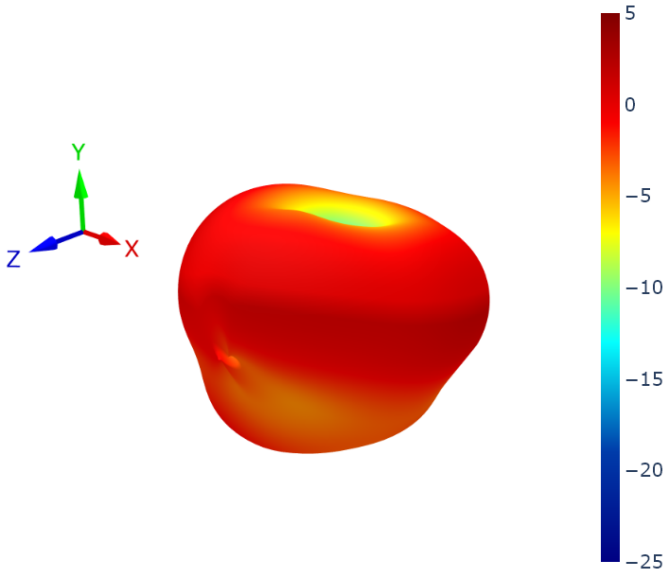
XZ Plane	YZ Plane	XY Plane

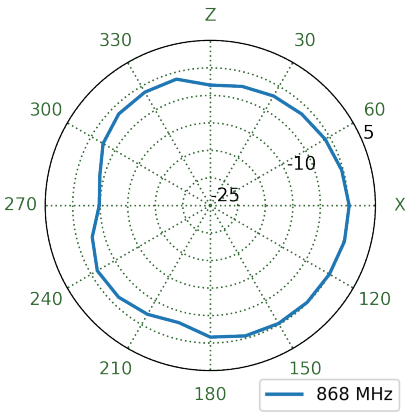
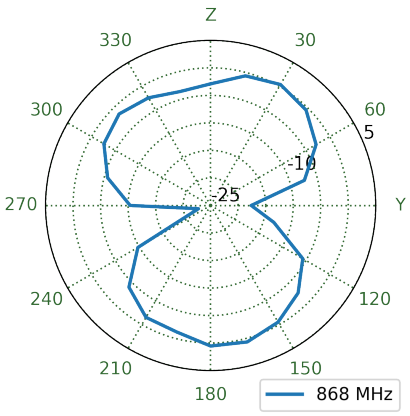
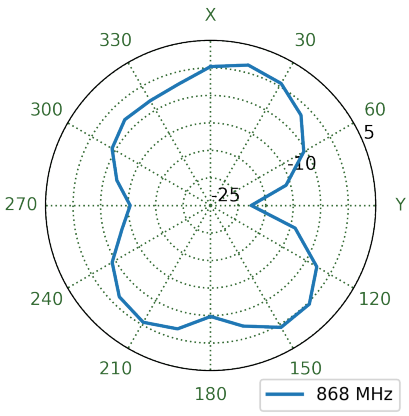




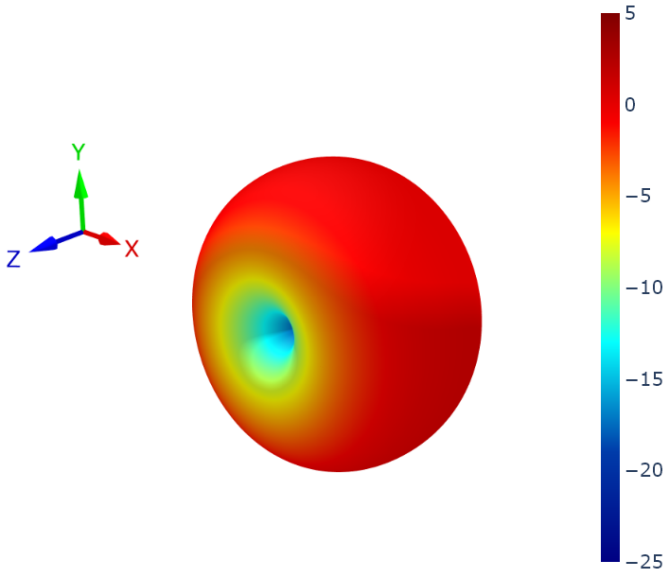


6.3 90x150mm Eval Board Patterns at 868 MHz

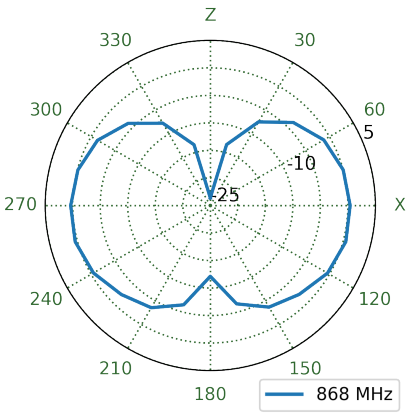


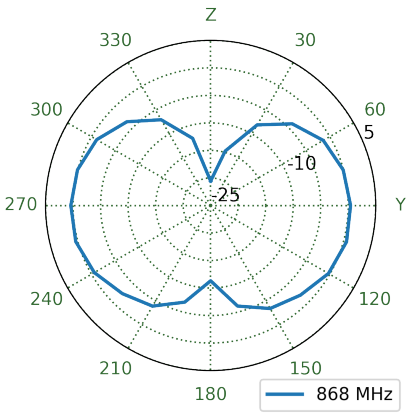
XZ Plane	YZ Plane	XY Plane
		

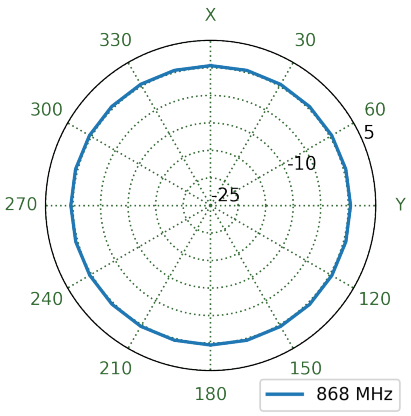
6.4 Free Space Patterns at 868 MHz



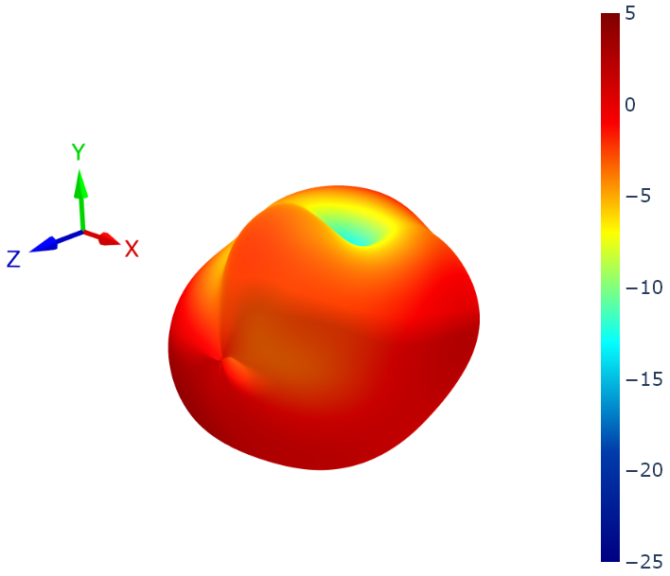
XZ Plane	YZ Plane	XY Plane

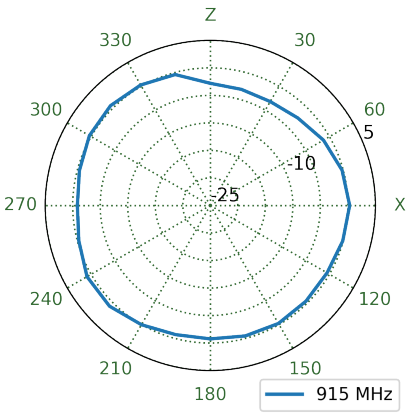
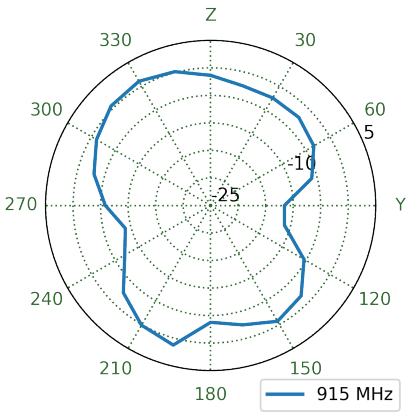
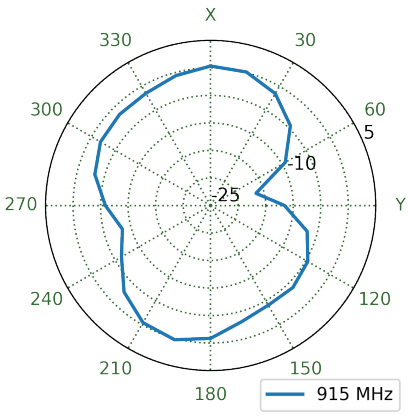




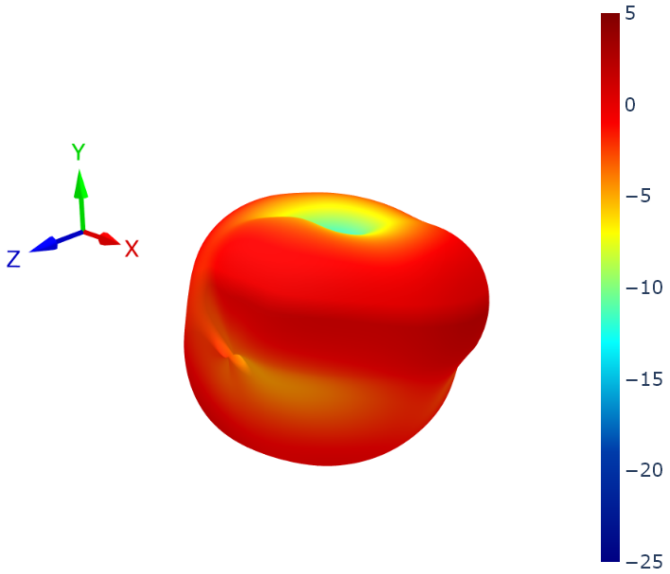


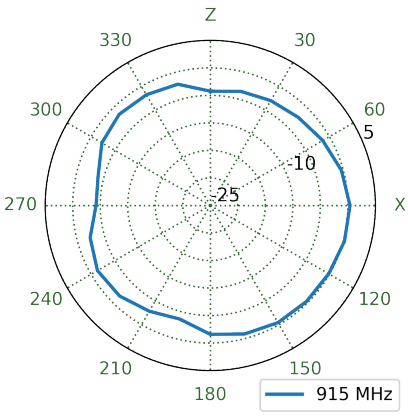
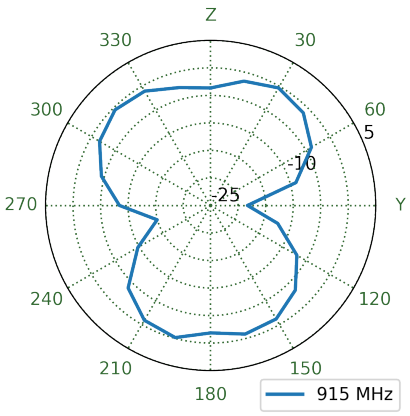
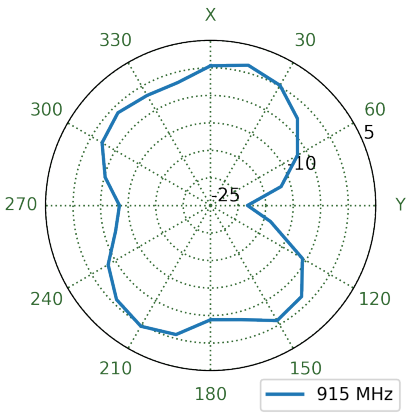
6.5 150x90mm Eval Board Patterns at 915 MHz



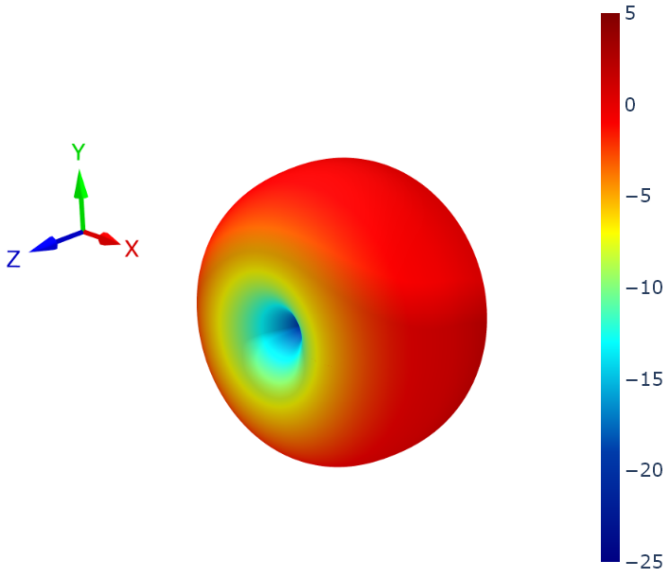
XZ Plane	YZ Plane	XY Plane
		

6.6 90x150mm Eval Board Patterns at 915 MHz

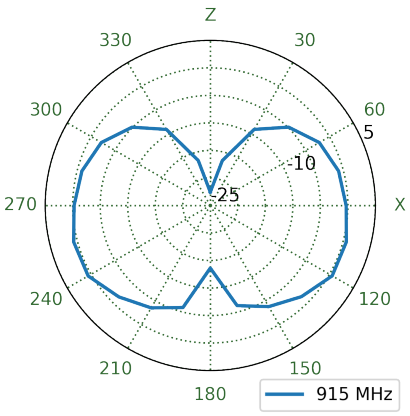


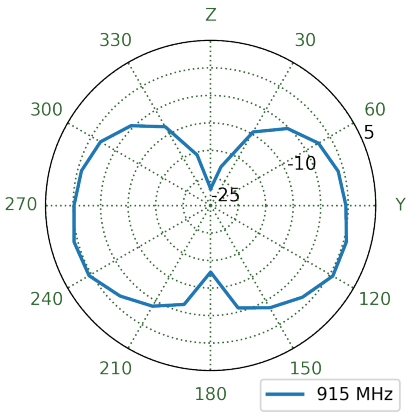
XZ Plane	YZ Plane	XY Plane
		

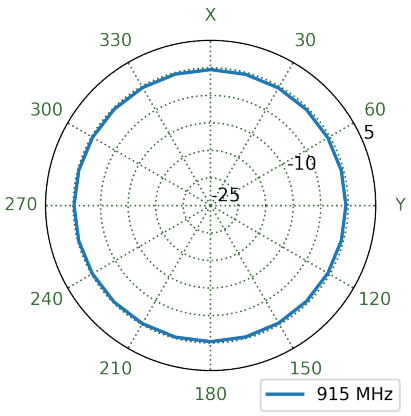
6.7 Free Space Patterns at 915 MHz



XZ Plane	YZ Plane	XY Plane







Changelog for the datasheet

SPE-26-8-208- TI.89.B.2151

Revision: A (Original First Release)	
Date:	2026-09-23
Notes:	Initial Release
Author:	Gary West

Previous Revisions

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