



TAOGLAS®



Datasheet

Shockwave 868/915MHz

Part No:
TLS.90.205111

Description:

Shockwave 868/915MHz Permanent Mount External Antenna 2M TGC-200 SMA(M)

Features:

Mechanically robust for indoor/outdoor applications

Vandal Resistant

Permanent Mount

Height: 79.45mm (3.13")

Diameter: 42mm (1.65")

IP67 Waterproof

Connector: SMA Male

Cable: 2m Low loss TGC-200

RoHS & REACH Compliant

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1. Introduction

SMA Male Connector



The Shockwave TLS.90.205111 is a mechanically robust, waterproof, external antenna operating at 868MHz and 915MHz with 2 meter of low loss TGC-200 and SMA(M) connector. It has been designed to be used on a Ground Plane.

Typical applications include:

- Public safety
- Smart meters
- Mesh networks
- Transportation

The antenna has greater than 60% efficiency and 1.58dBi peak gain at 868MHz 64% efficiency and 1.9dBi peak gain at ISM 915MHz on a 30x30 cm ground plane. Stable radiation patterns over low angles provide consistent gain in the horizontal plane, meaning that it is especially suitable for mesh networks or hot spots.

A unique indent tab on the base of the antenna allows a wrench to be used to solidly lock the antenna on top of its mounting location while tightening up the nut beneath the metal panel. Waterproof O-rings around the bottom base prevent water from leaking under the antenna.

The TLS.90 antenna is IP67 waterproof resistant against high pressure water jets in commercial cleaning environments, which makes the antenna ideal for 868 & 915MHz applications in harsh outdoor environments.

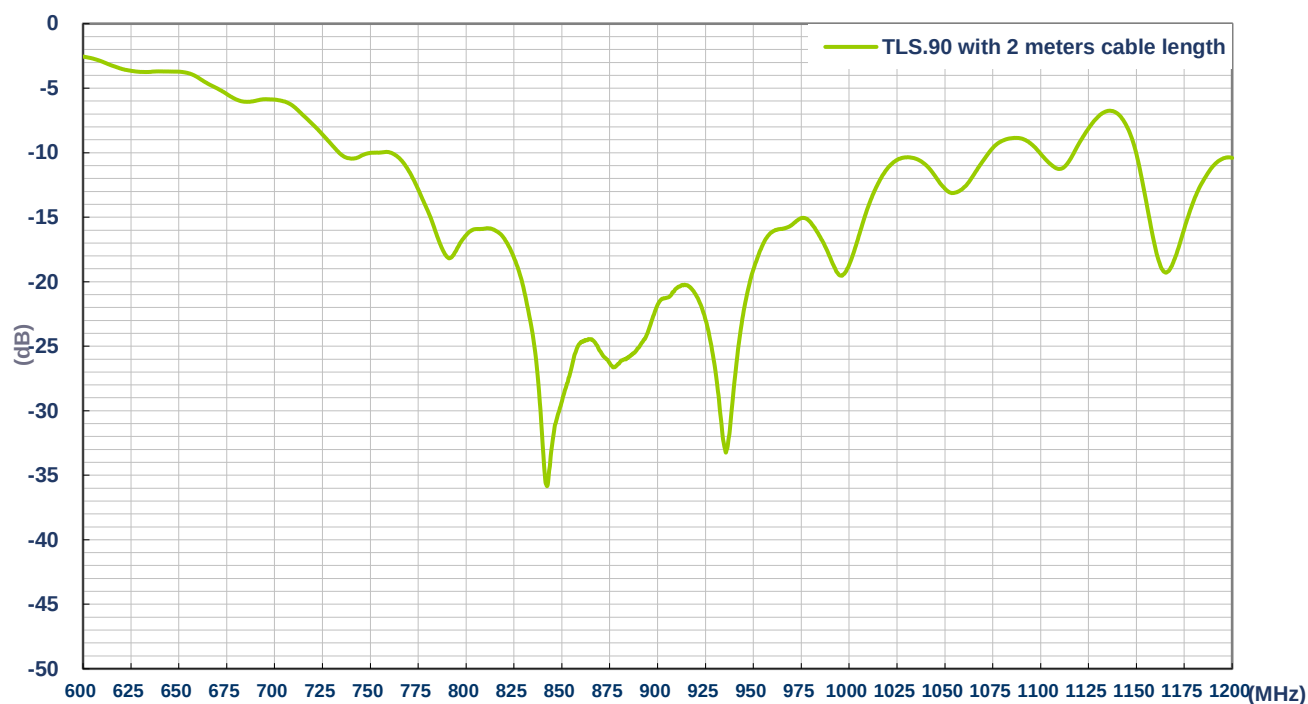
The Cable and Connector are fully customizable, for more information or installation instructions please contact your regional Taoglas Customer Support Team.

2. Specifications

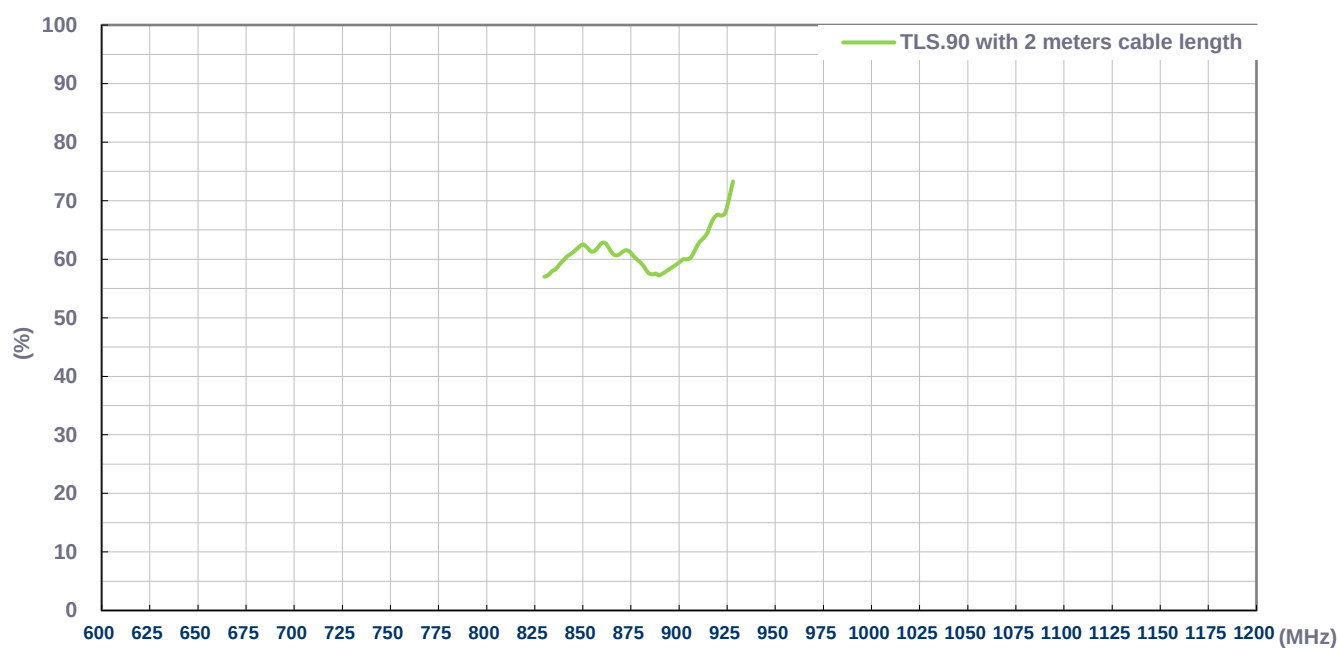
Electrical						
Frequency (MHz)	850	868	880	902	915	928
Peak Gain (dBi)						
With Ground plane(30x30cm)	1.67	1.58	1.57	1.61	1.9	2.46
Average Gain (dBi)						
With Ground plane(30x30cm)	-2.04	-2.17	-2.26	-2.22	-1.89	-1.35
Efficiency (%)						
With Ground plane(30x30cm)	62.52	60.67	59.43	59.98	64.71	73.28
Return Loss (dB)	< -20					
Impedance	50Ω					
Polarization	Linear					
Radiation Pattern	Omni-Directional					
Input Power	100W					
Mechanical						
Height	Height: 79.45mm (3.13")					
Base Diameter	42mm (1.65")					
Weight (g)	245g					
Material	Housing: UV Resistant ABS, Base: Nickel Plated Zinc Alloy					
Connector	SMA Male					
Cable	2 meters TGC-200					
Rec. Torque for Mounting	4.018N.m					
Max. Torque for Mounting	9.8N.m					
Environmental						
Waterproof Rating	IP67					
Temperature Range	-40°C to 85°C					
Humidity	Non-condensing 65°C 95% RH					

3. Antenna Characteristics

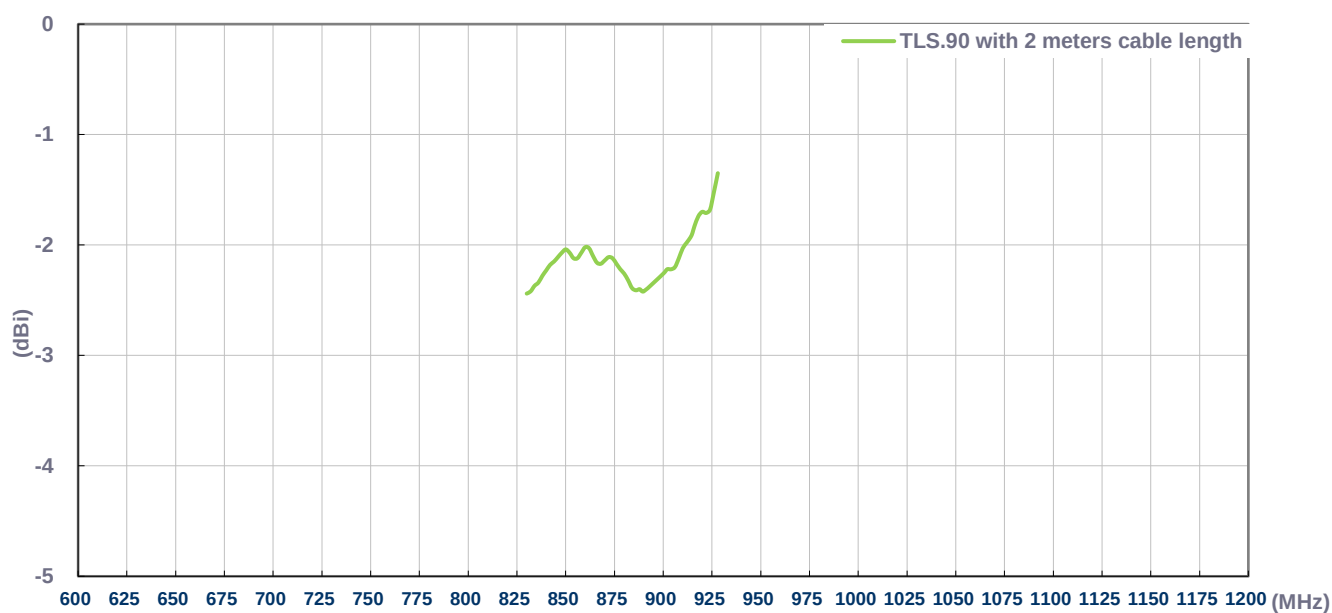
3.1 Return Loss



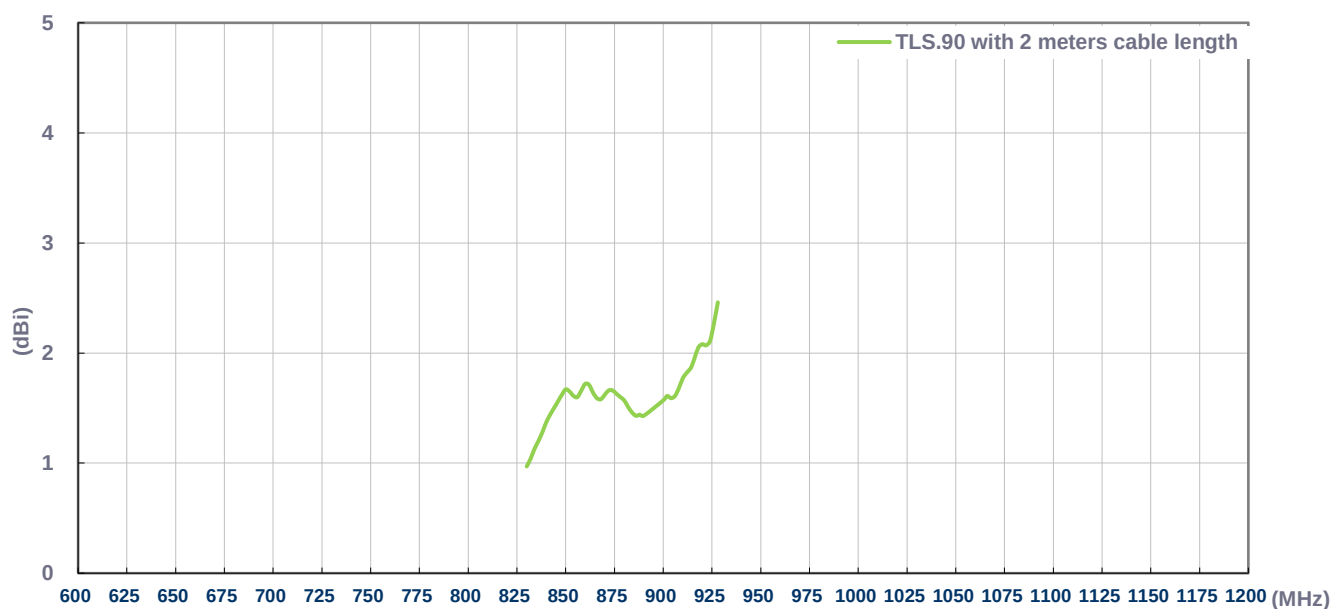
3.2 Efficiency



3.3 Average Gain



3.4 Peak Gain



4. Radiation Patterns

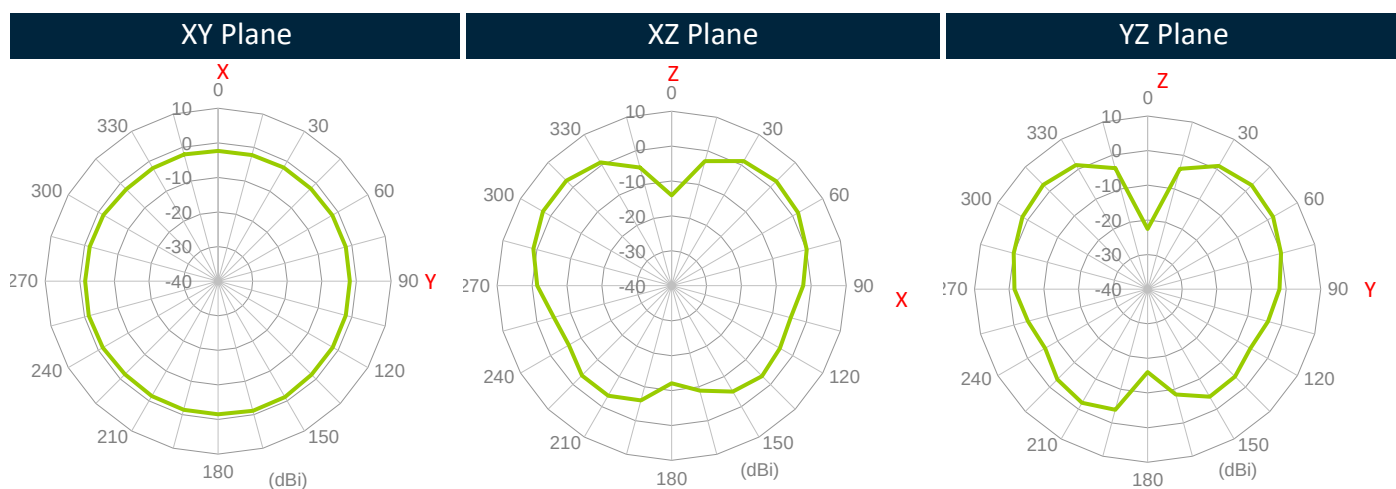
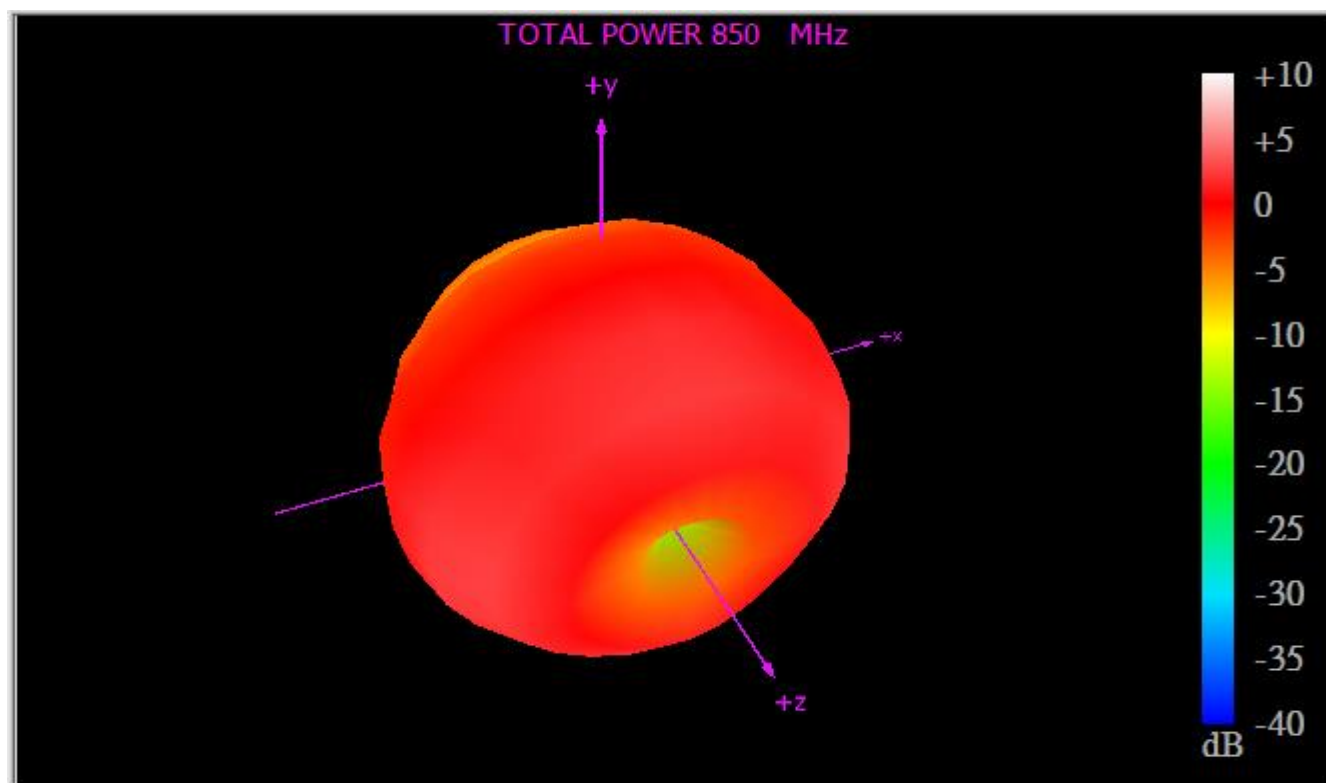
4.1 Test Setup



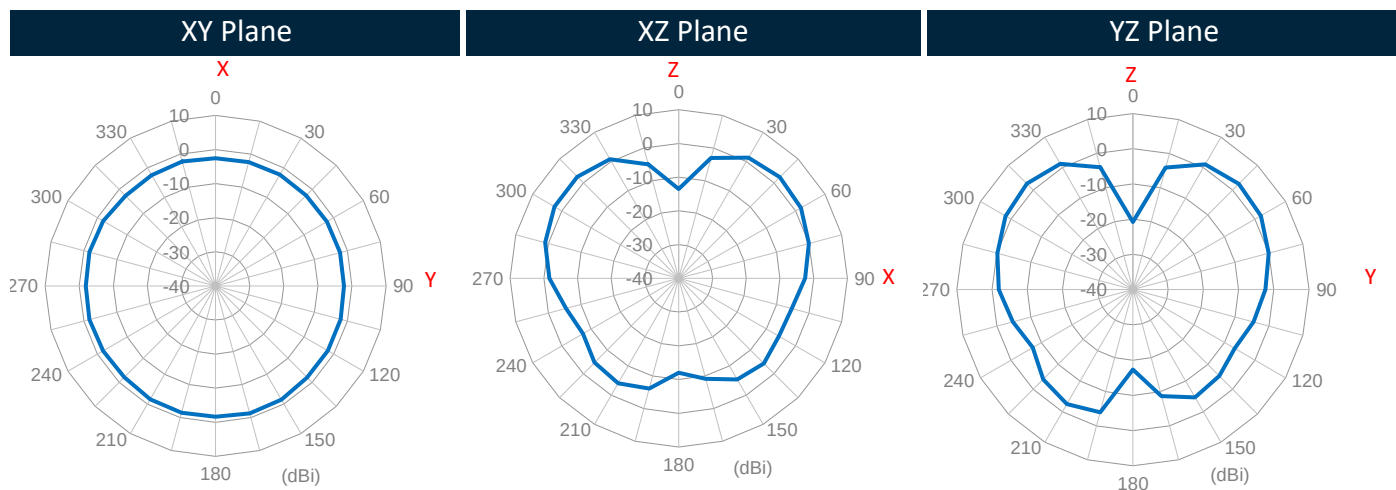
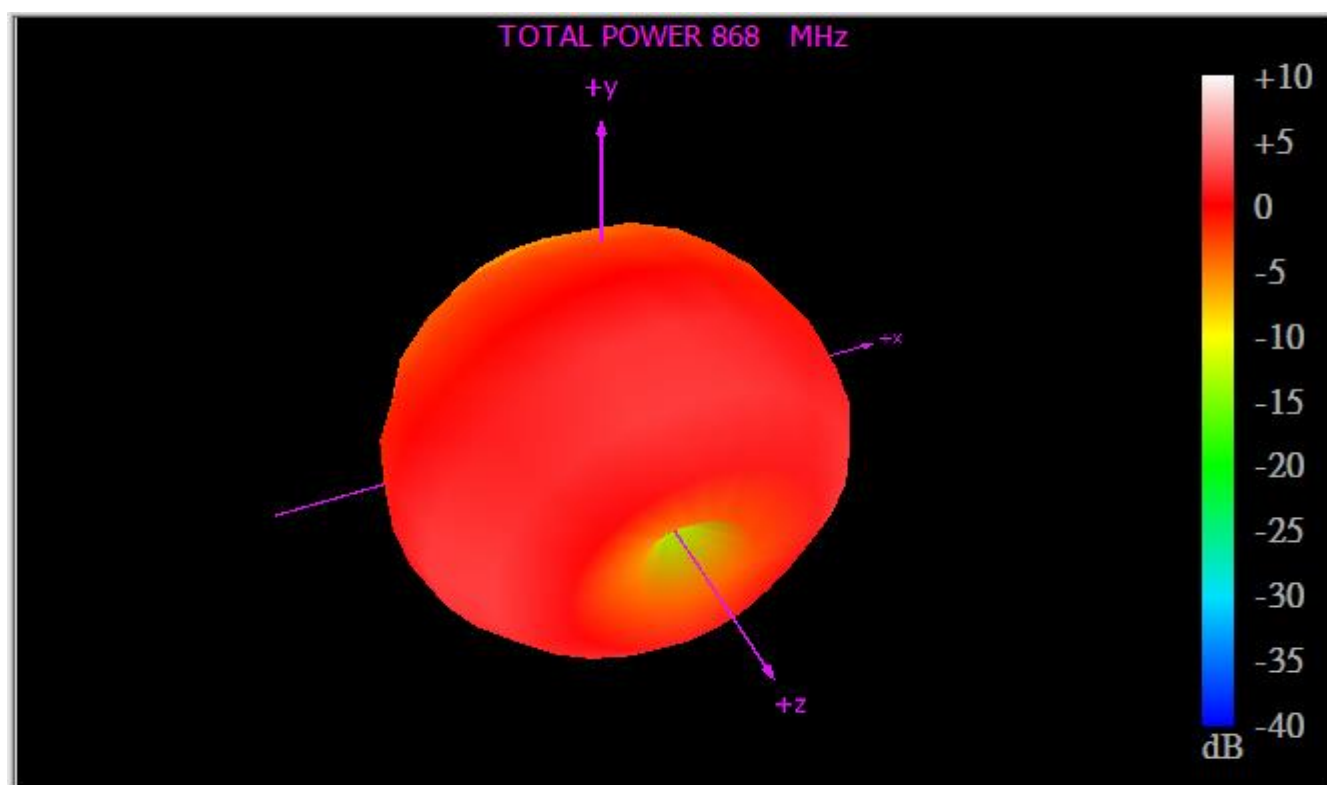
Free space

4.2 2D & 3D Radiation Patterns

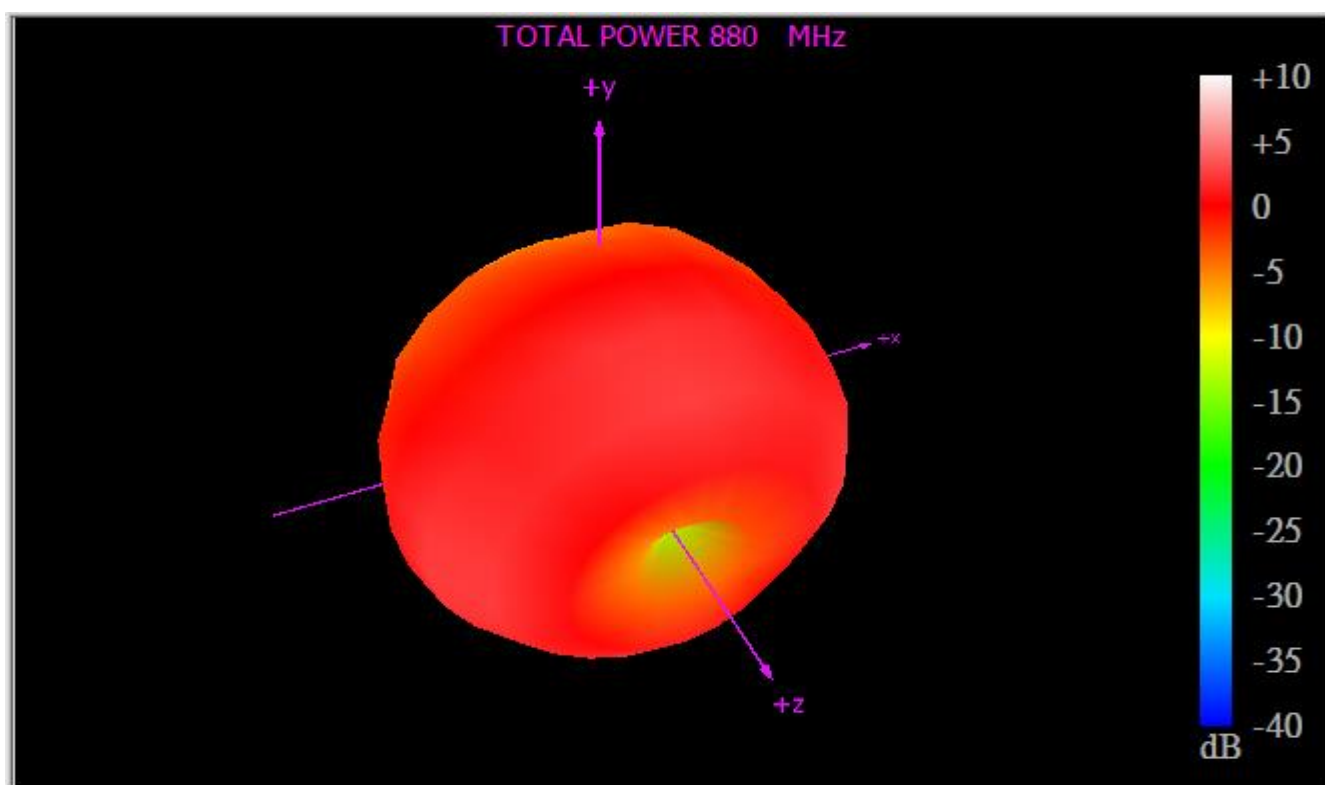
850MHz



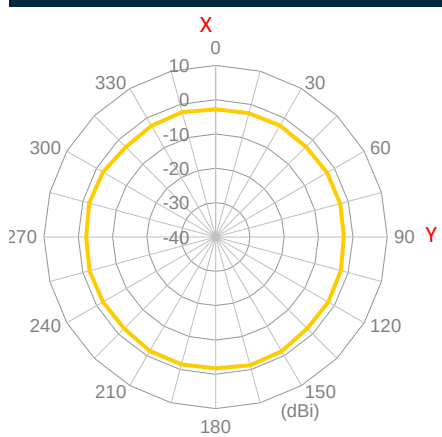
868MHz



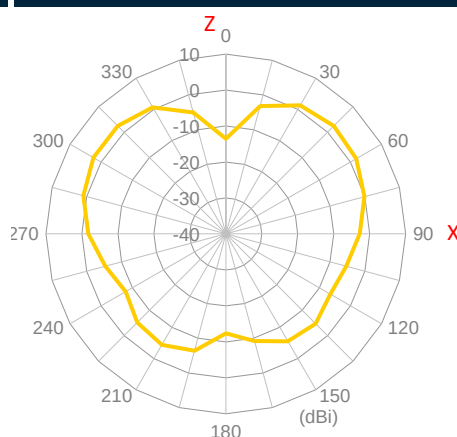
880MHz



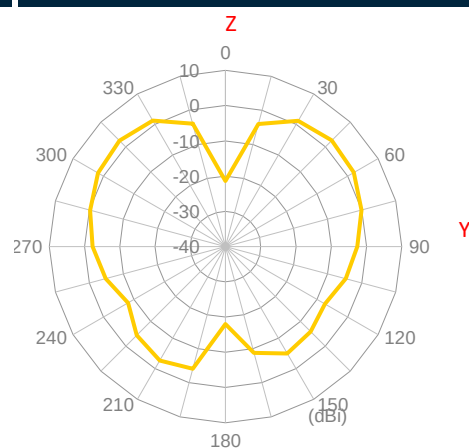
XY Plane



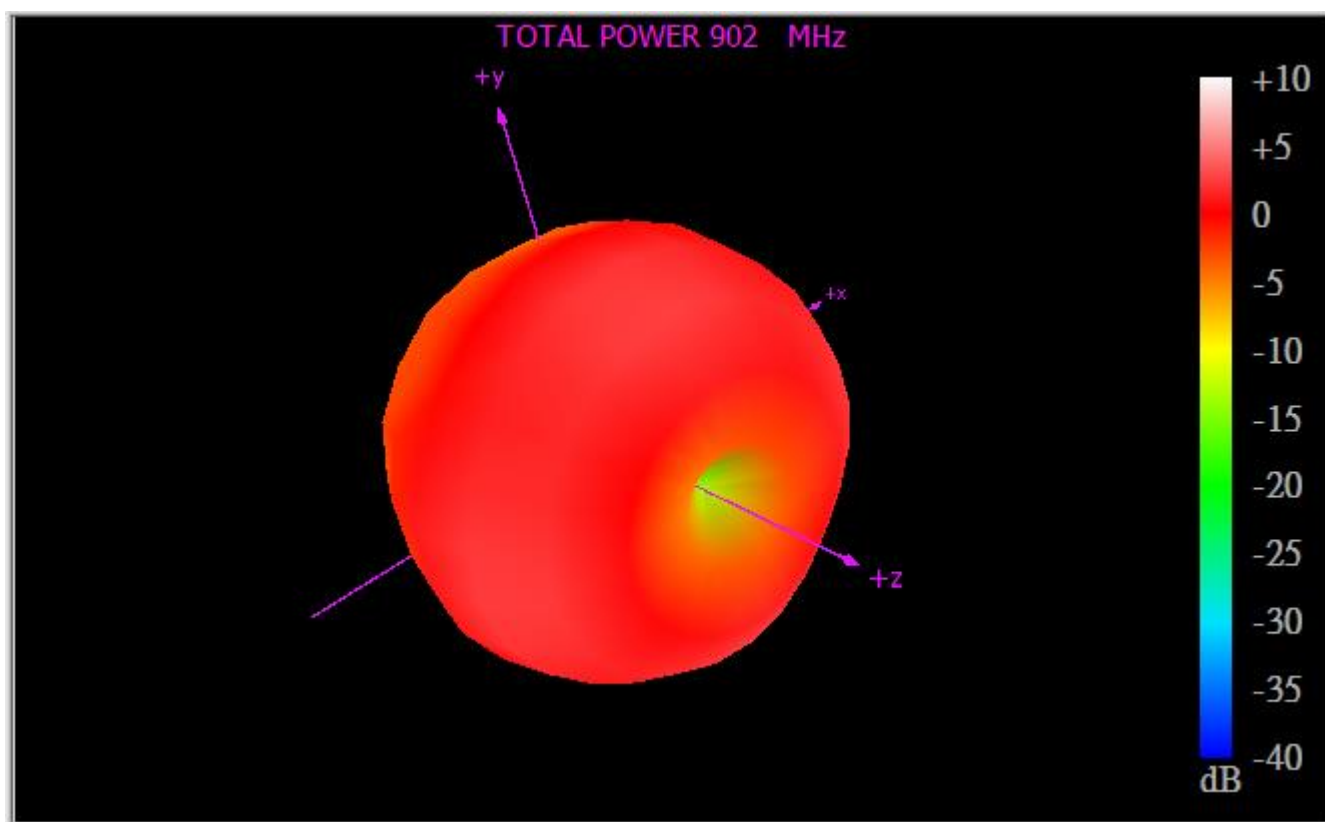
XZ Plane



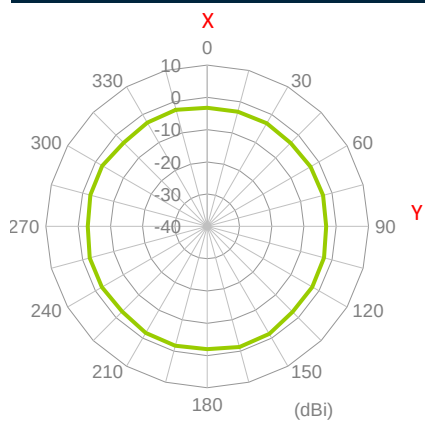
YZ Plane



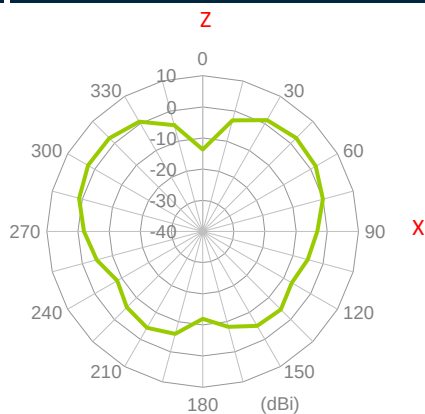
902MHz



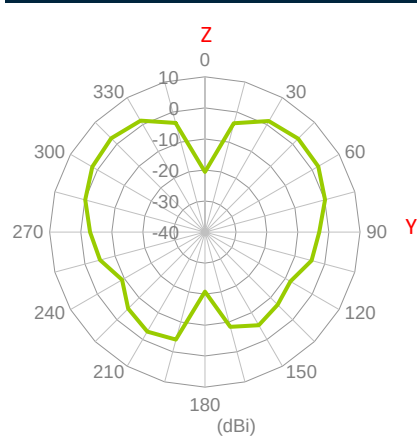
XY Plane



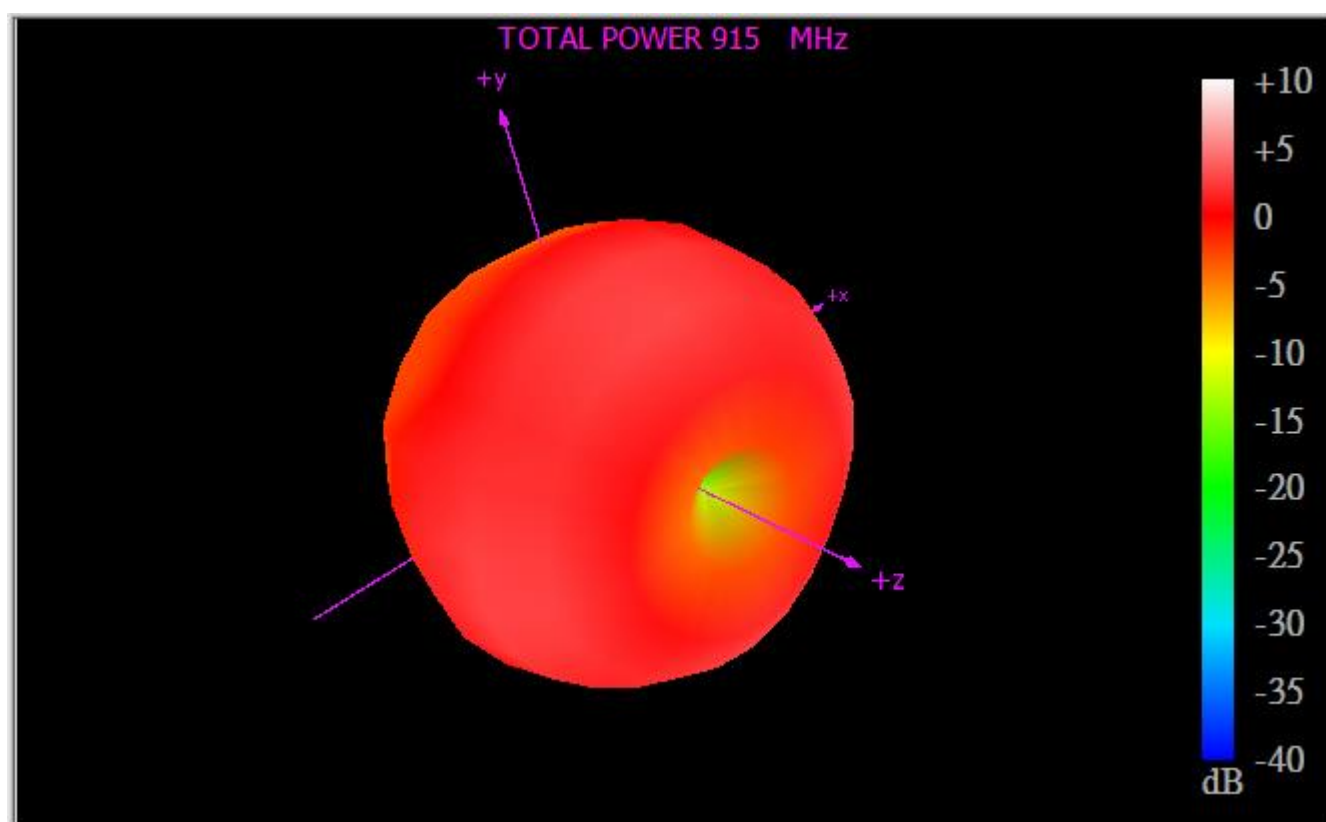
XZ Plane



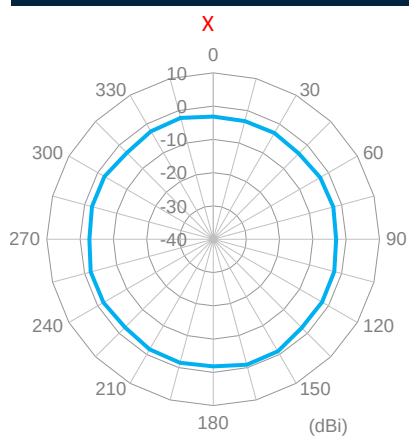
YZ Plane



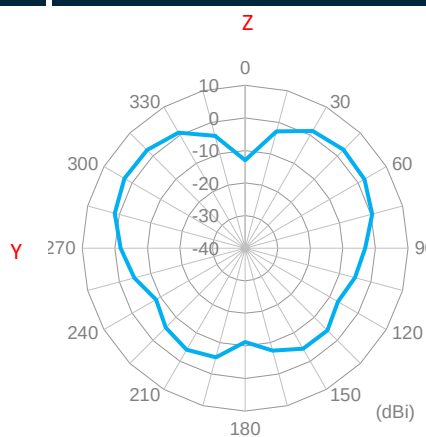
915MHz



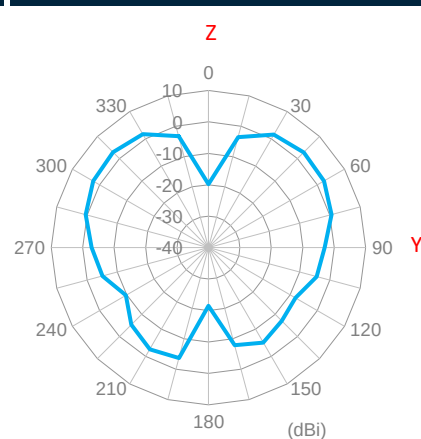
XY Plane



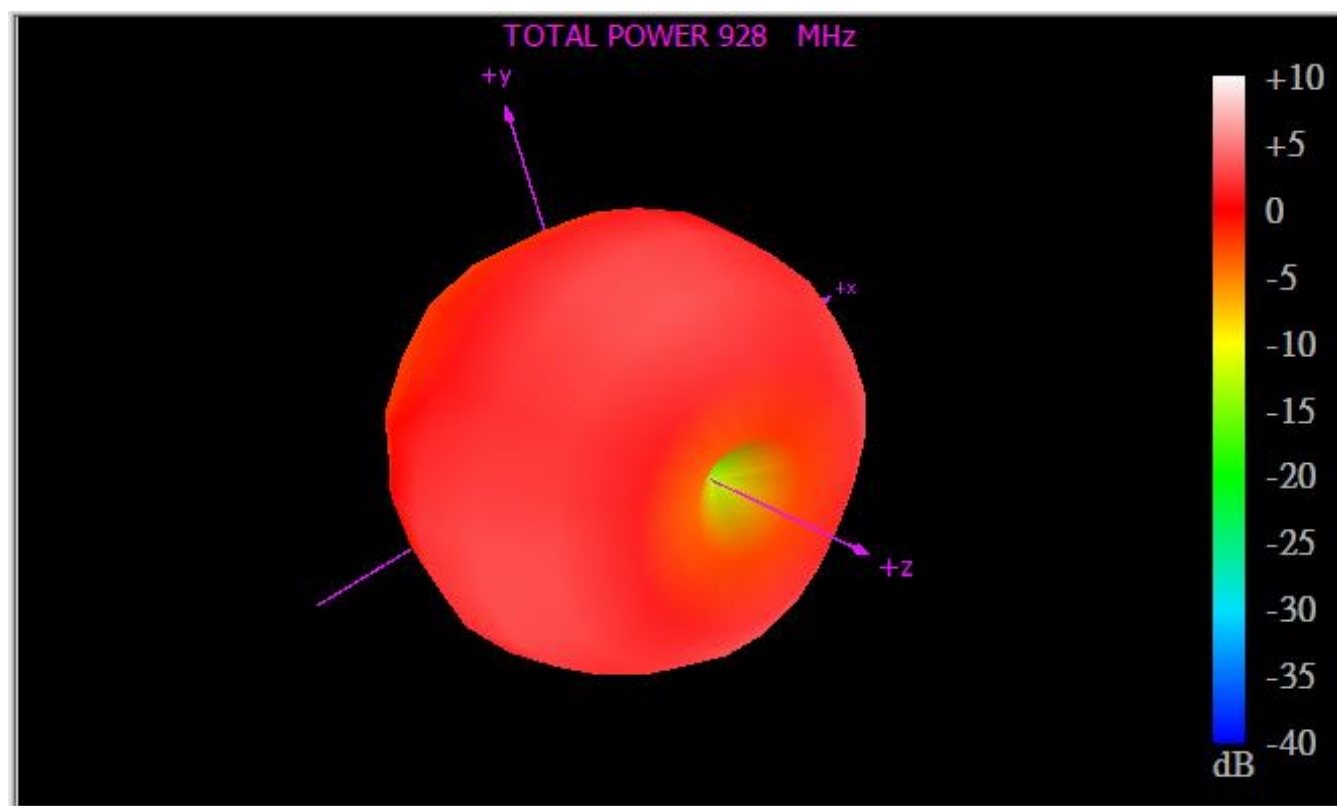
XZ Plane



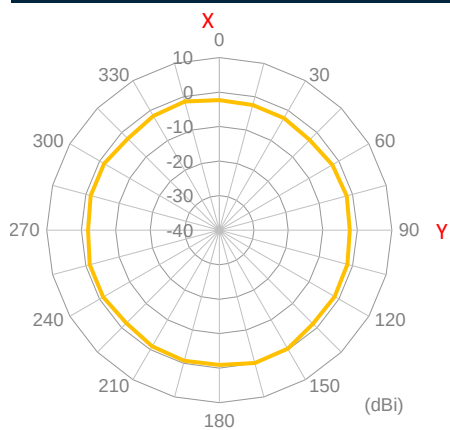
YZ Plane



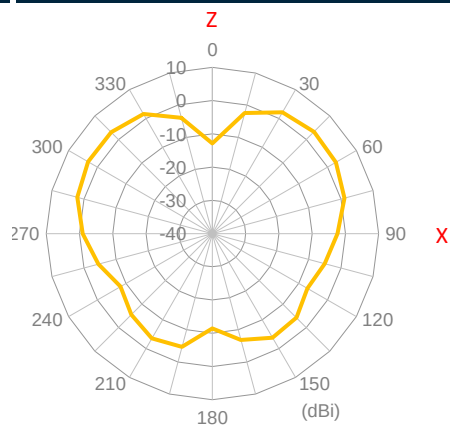
928MHz



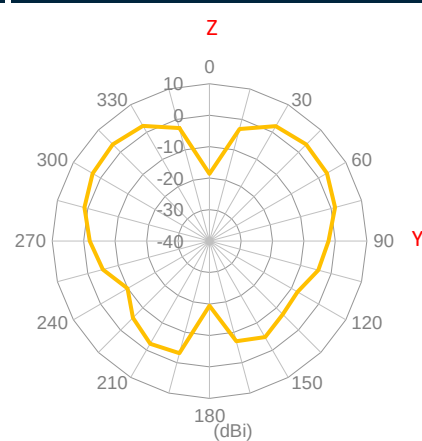
XY Plane



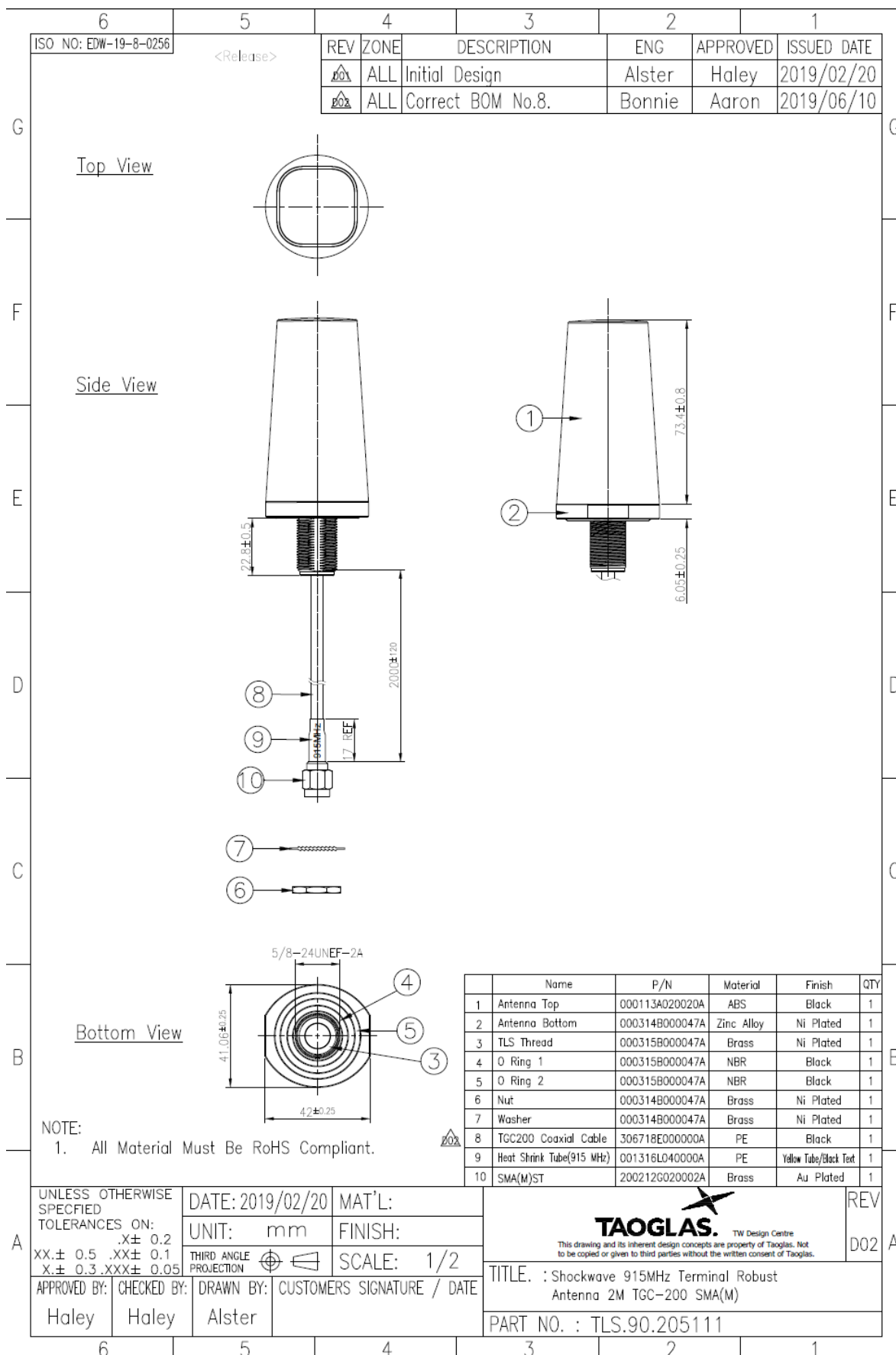
XZ Plane



YZ Plane

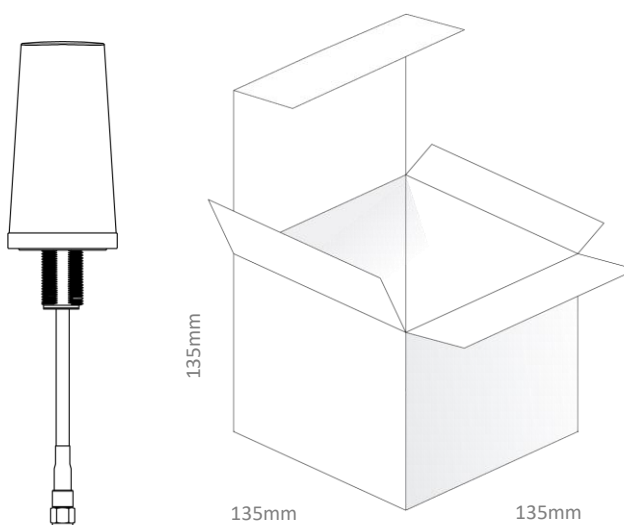


5. Mechanical Drawing (Units: mm)

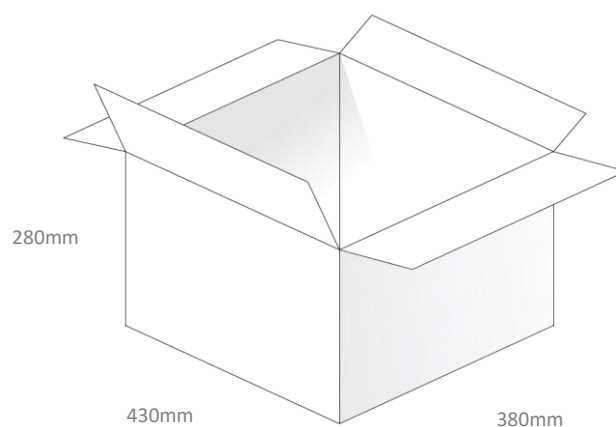


6. Packaging

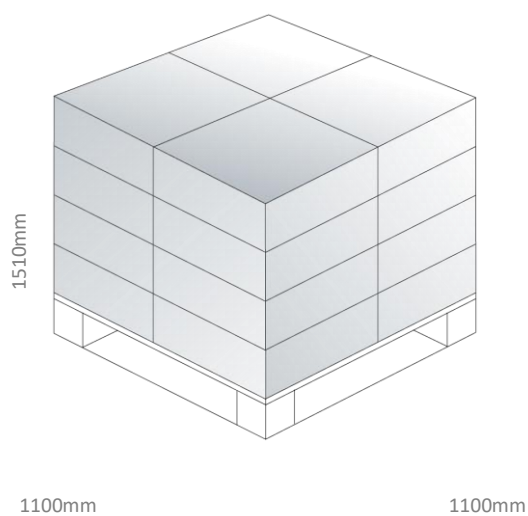
1pc TLS.90.205111 per Small Box
Dimensions: 135*135*135mm
Weight: 370g



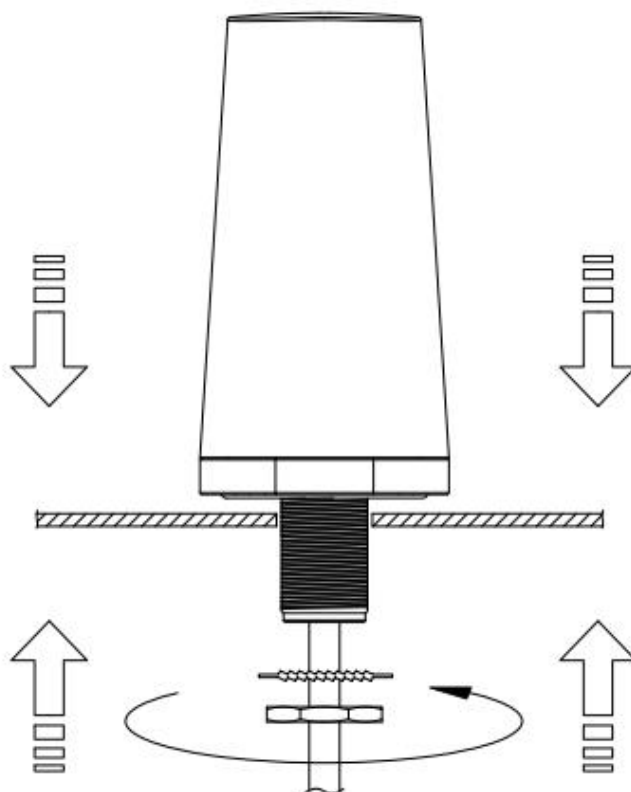
24pcs TLS.90.205111 per Carton
Carton Dimensions: 430*380*280mm
Weight: 10.2Kg



Pallet Dimensions:
1100*1100*1510mm
16 Cartons per Pallet
4 Cartons per layer, 4 Layers



7. Installation

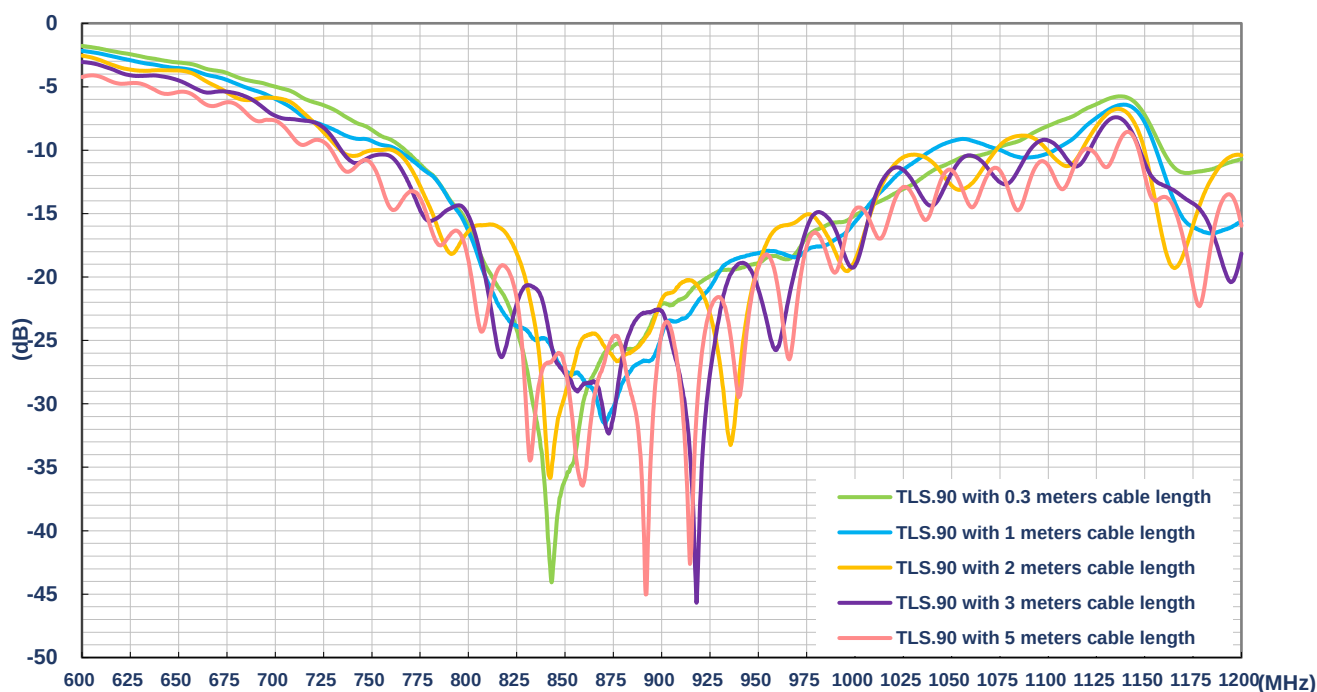


Recommended torque for mounting is 4.018 N.m or 41 kgf.cm

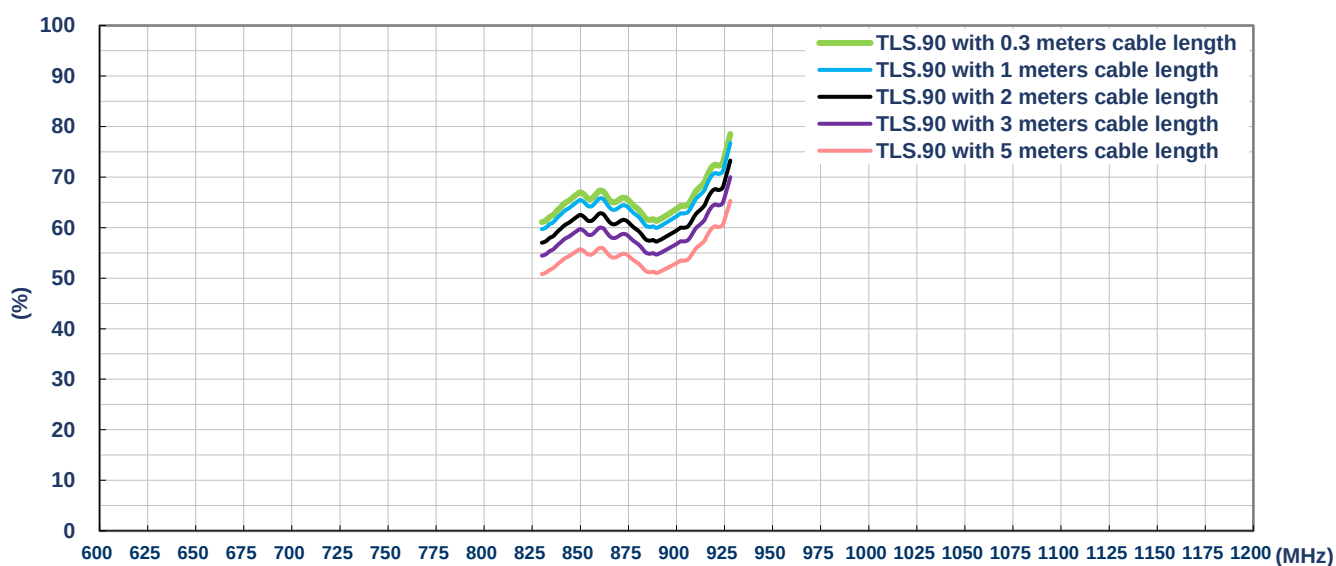
Maximum torque for mounting is 9.8 N.m or 100 kgf.cm

8. Application Note(with different cable length)

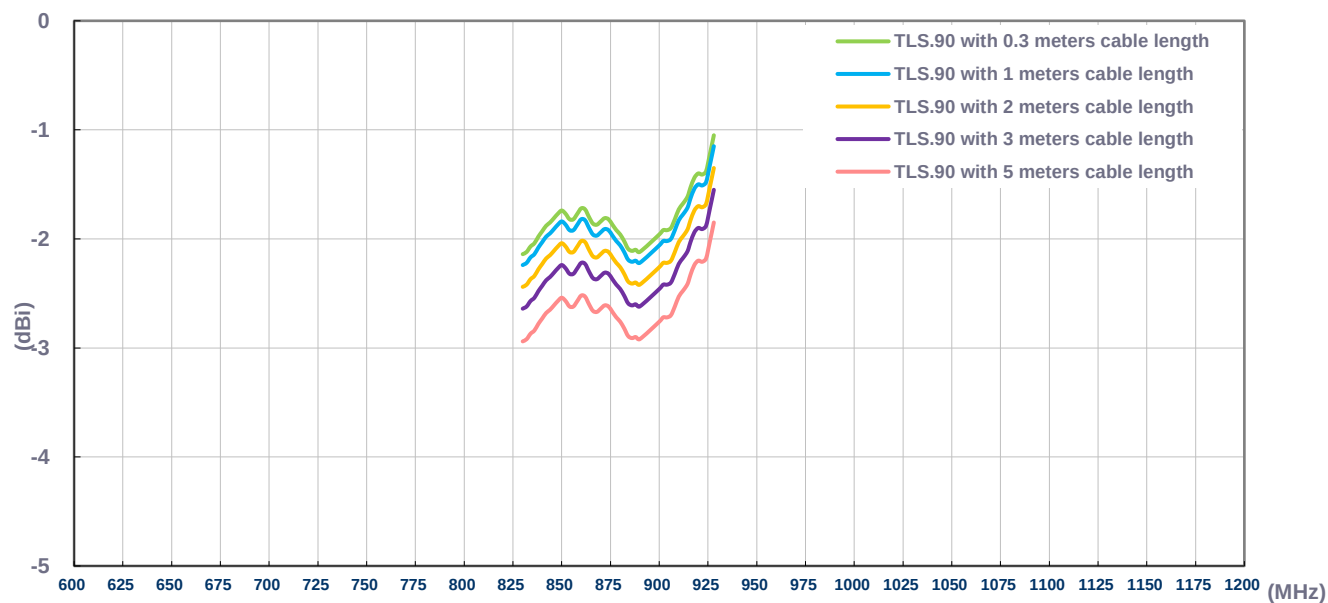
8.1 Return Loss



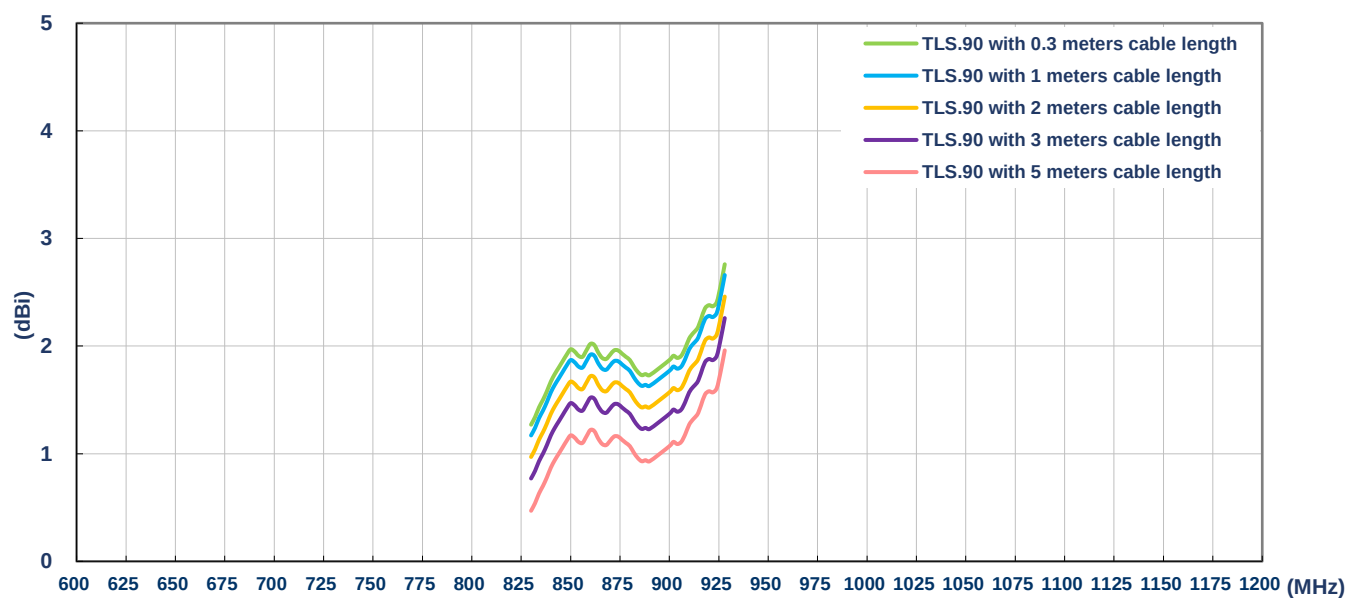
8.2 Efficiency



8.3 Average Gain



8.4 Peak Gain



Changelog for the datasheet

SPE-19-8-096 – TLS.90.205111

Revision: B (Currently version)

Date:	2022-09-15
Changes:	Updated specifications
Changes Made by:	Cesar Sousa

Previous Revisions

Revision: A (Original First Release)

Date:	2019-08-01
Notes:	
Author:	Jack Conroy



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