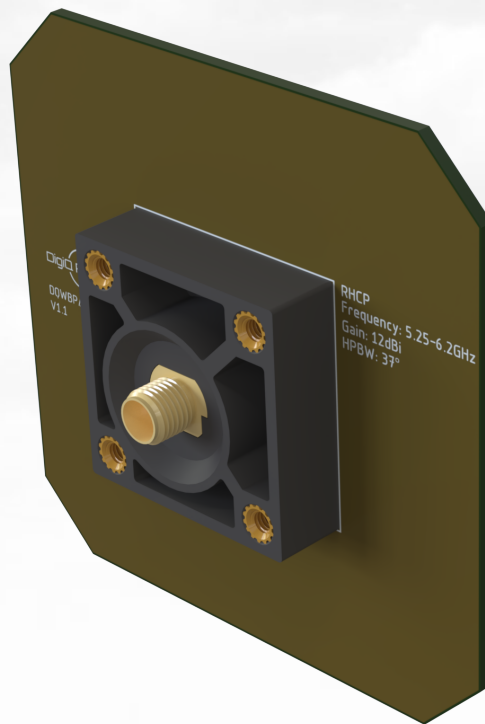




Datasheet

Orbit X4

Part No:
DQWBPA4-RHCP(LHCP)

Description
DQWBPA4 - Wide band patch antenna with circular polarization

Features:
Frequency 5.25–6.2 GHz
Available in RHCP and LHCP version
Gain up to 12 dB
Compact form factor
Dimensions: 70 mm * 70 mm
Supply with SMA(F) connectors
RoHS Compliant

1. Introduction

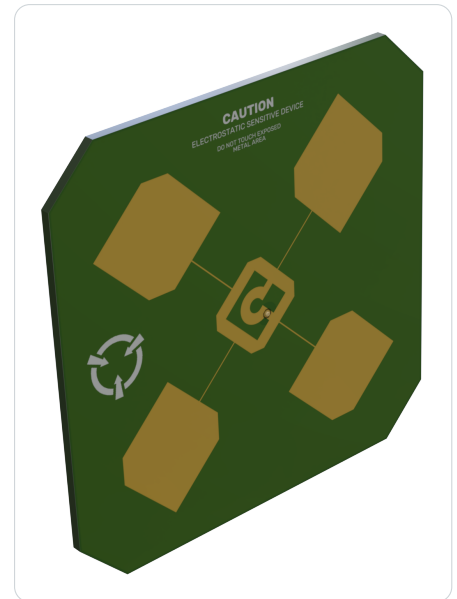
Product Overview

This directional circularly polarized patch antenna is primarily designed for **ground-side drone communication systems**, where reliable, stable links are required between the ground station and airborne platforms. Its directional radiation pattern and controlled beamwidth make it well suited for maintaining high-quality links over extended distances while minimizing interference from off-axis signals.

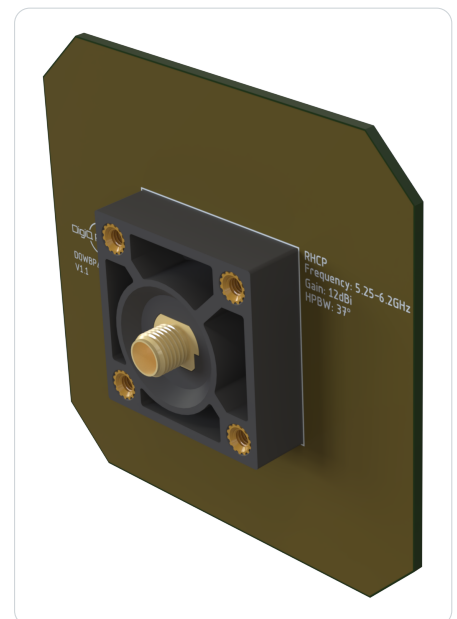
The antenna is equally suitable for **fixed wireless and point-to-point communication applications**, including ground infrastructure where predictable coverage and link robustness are required. Circular polarization helps reduce signal degradation caused by orientation mismatch, multipath propagation, and platform movement, improving link stability in real-world deployment conditions. This makes the antenna suitable for a variety of wireless systems, including digital data links, Wi-Fi-based communication, and analog video transmission applications operating in the supported frequency range.

Featuring a **compact, low-profile** form factor, with **4 integrated M3 threaded holes** the antenna is easy to integrate into ground stations, enclosures, or custom RF systems without imposing mechanical or spatial constraints. It is available in both **RHCP** and **LHCP** variants to support a wide range of system architectures and interference-mitigation strategies.

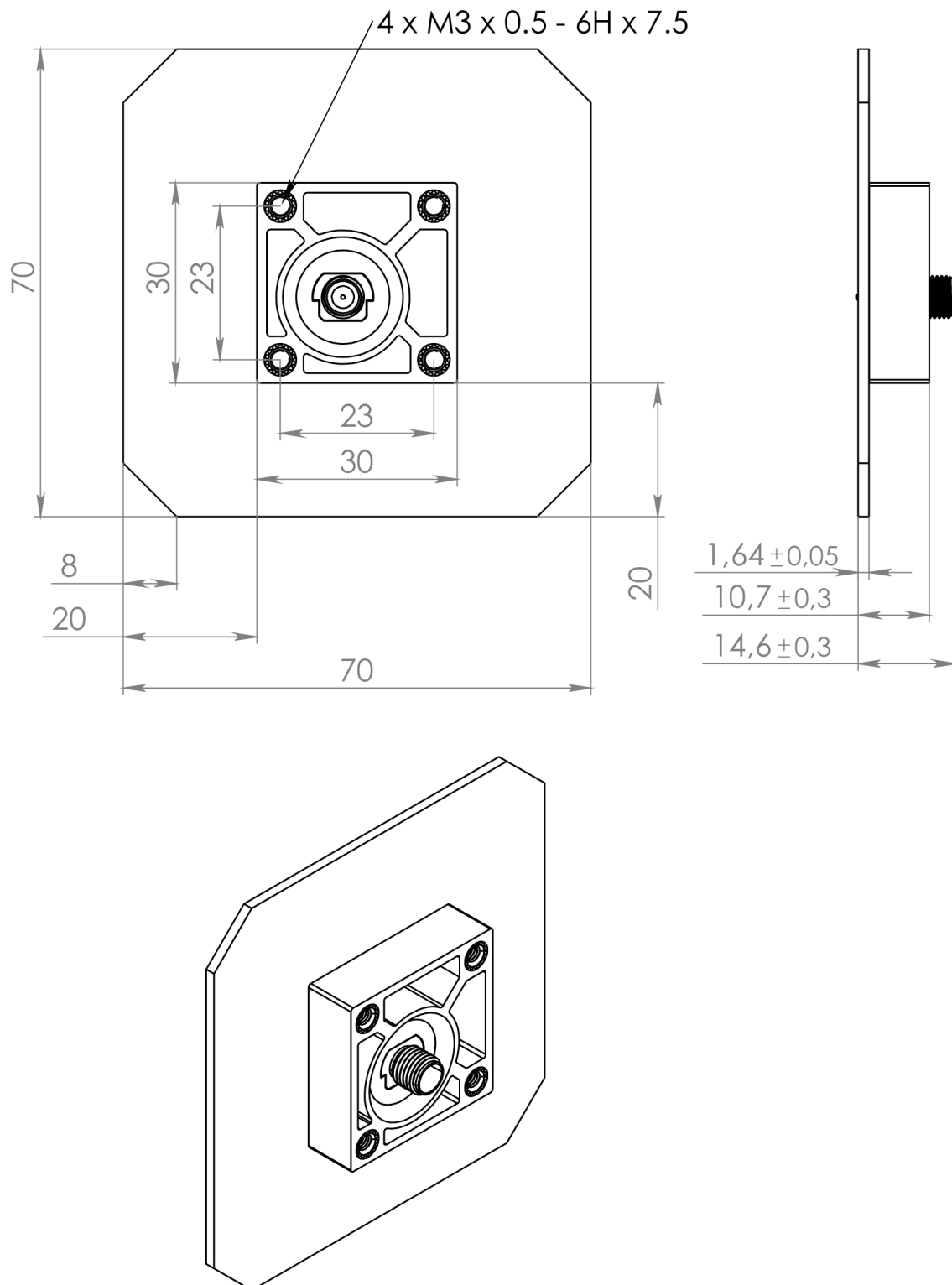
Designed with compliance and integration in mind, the antenna is supplied with standard SMA Female RF connectors and is suitable for professional and industrial deployments where performance, reliability, and mechanical simplicity are essential.



Directional CP Patch Elements



Back Mount Socket

**Figure 1:** Mechanical outline and mounting details

3.

Specification

Antenna Electrical

Frequency (MHz)	5250 - 6200			
	5250 MHz	5500 MHz	5725 MHz	6200 MHz
S11 (typ.)¹	-11	-50	-40	-10
VSWR (max.)	2:1	1.1:1	1.1:1	2:1
Peak Gain (dBi)	11.07	12.58	12.05	11.74
Polarization	RHCP/LHCP			
Impedance	50 Ω			
Connector	SMA(F)			

¹ S11 values are averages based on measurements of multiple antennas.

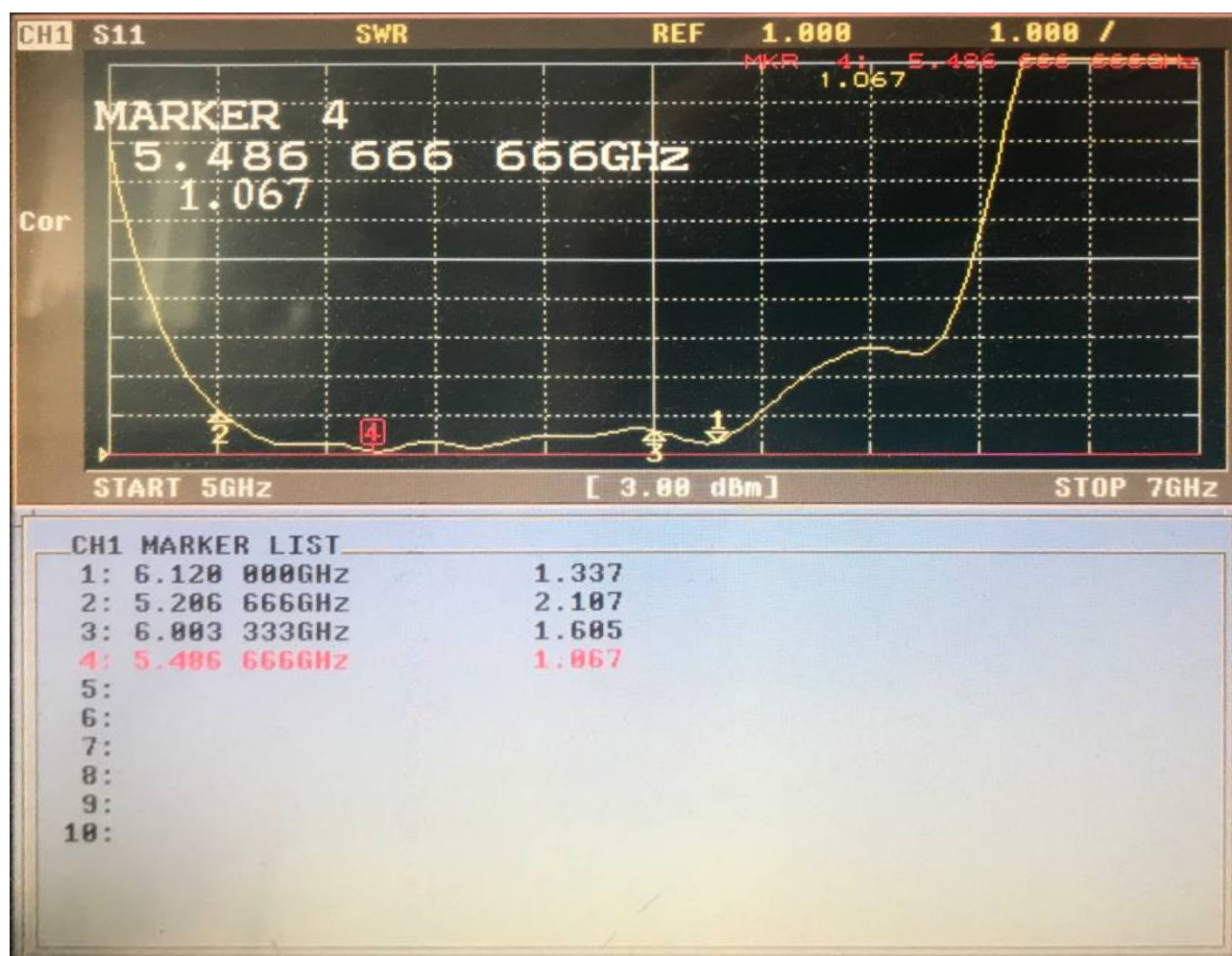


Figure 2: Measured VSWR (typical)

Name	Theta [deg]	Ang	Mag
m1	0E+00	4.9738E-13	11.0680
m2	-18	-18.0000	8.0769
m3	26	26.0000	7.9869

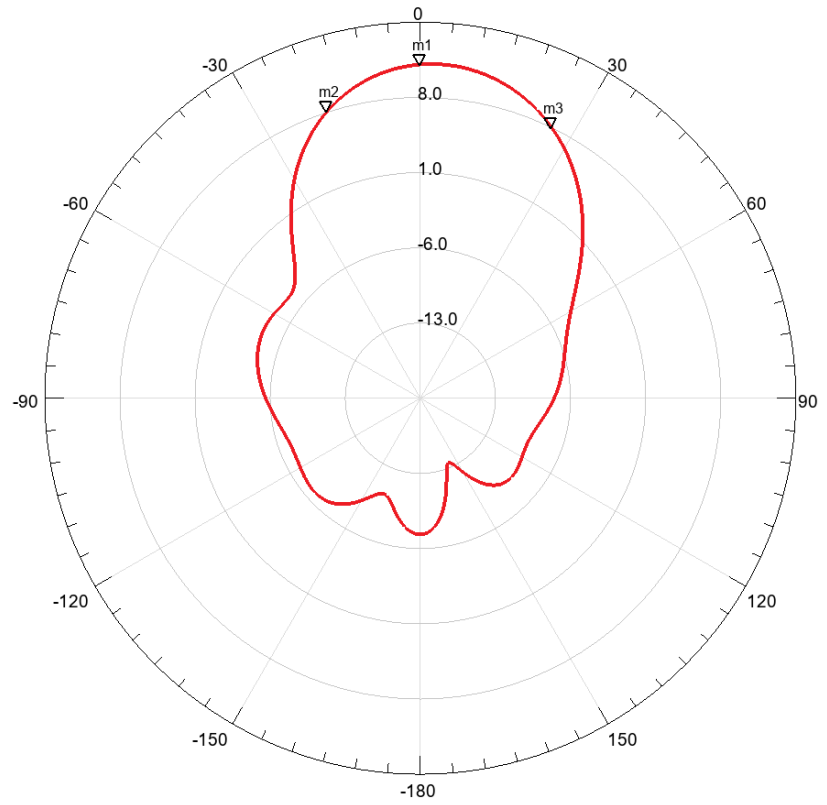


Figure 3: Free Space Elevation Pattern at 5250 MHz

Name	Theta [deg]	Ang	Mag
m1	0E+00	4.9738E-13	12.5773
m2	-19	-19.0000	9.6301
m3	18	18.0000	9.6219

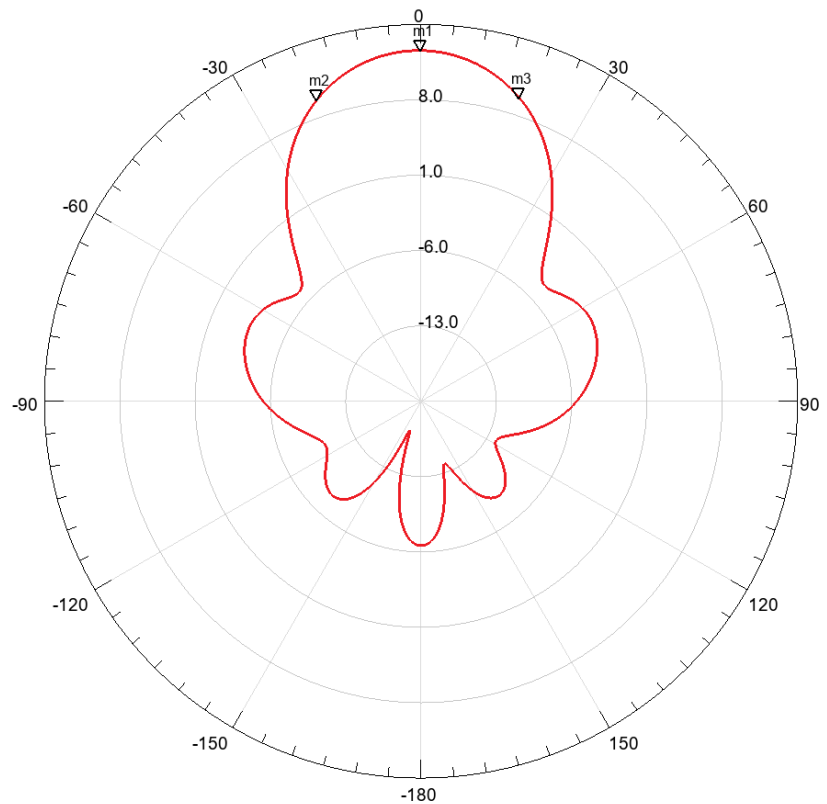


Figure 4: Free Space Elevation Pattern at 5500 MHz

Name	Theta [deg]	Ang	Mag
m1	0E+00	4.9738E-13	12.0531
m2	-16	-16.0000	9.0681
m3	21	21.0000	9.1319

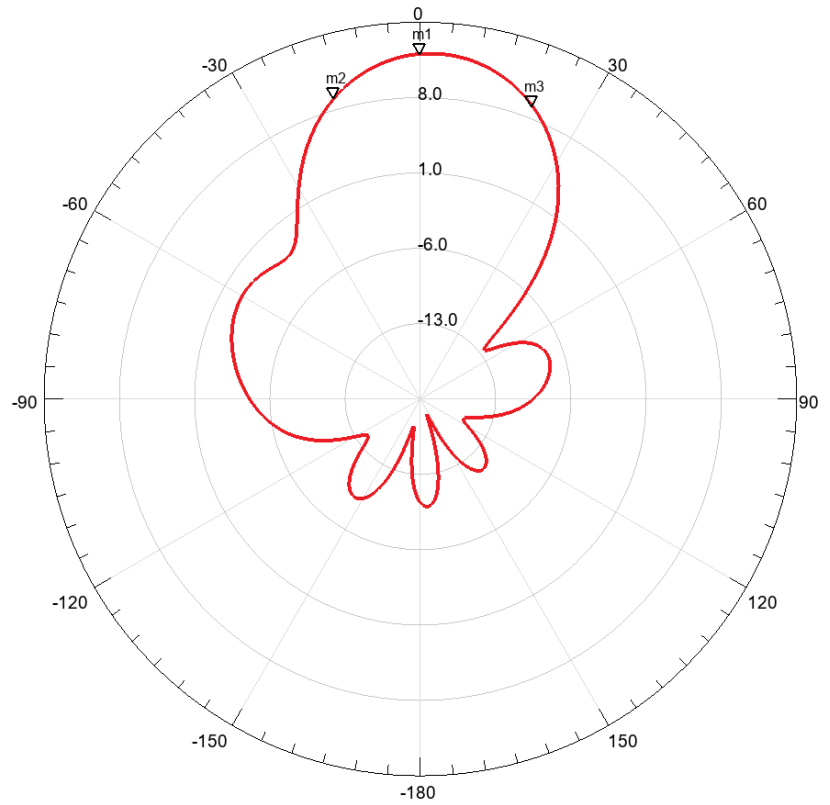


Figure 5: Free Space Elevation Pattern at 5725 MHz

Name	Theta [deg]	Ang	Mag
m1	0E+00	4.9738E-13	11.7382
m2	-21	-21.0000	8.6438
m3	19	19.0000	8.8658

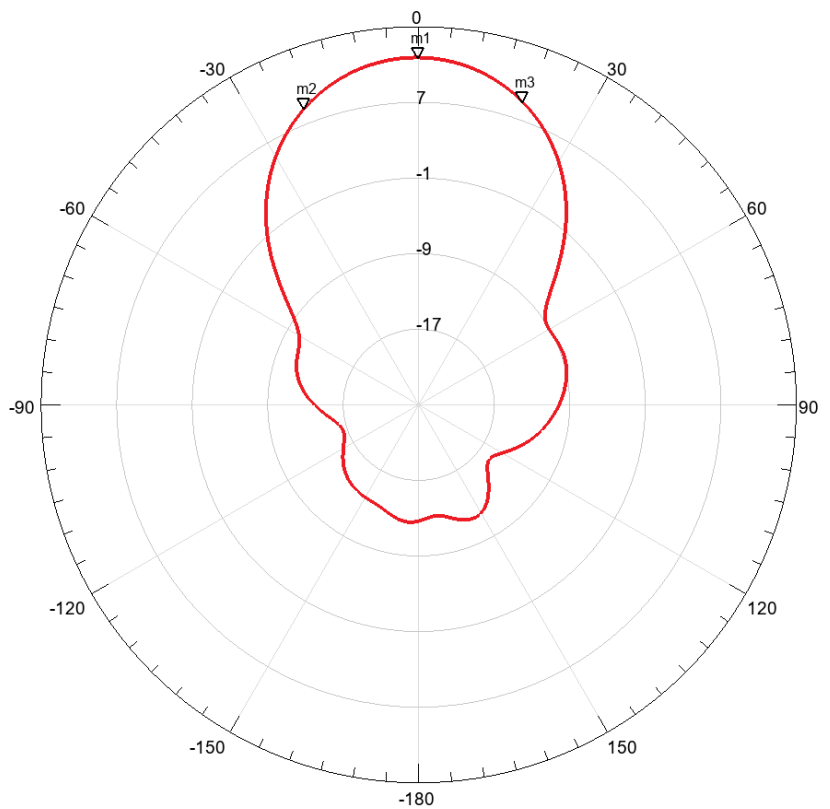


Figure 6: Free Space Elevation Pattern at 6200 MHz

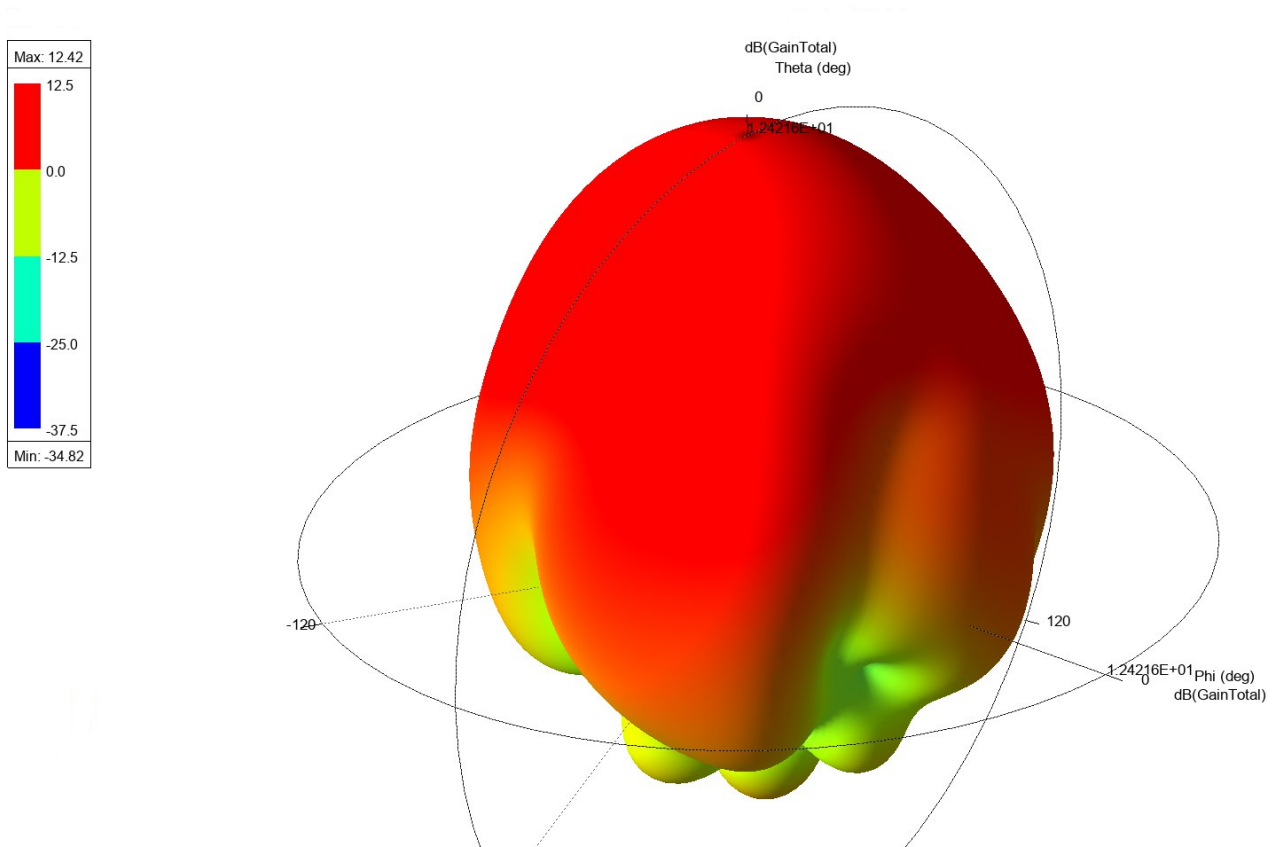


Figure 7: Free Space Pattern at 5600 MHz

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