



DATASHEET

KOIT SZK-C-4W25 | Flexible Self-Adhesive Antenna | Tri-band WI-FI

Features:

WI-FI 6 / 7 : 2400-2500; 4900-7125MHz

>4.8dBi Peak Gain, >75% Efficiency

Dimensions: 22.0 x 6.0 x 0.2 mm

Cable Length: 100mm, 0.81mm Ø

Connector: MHF2 (U.FL Compatible)

RoHs compliant

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Introduction

KOIT (SZK-C-4W25) from Synzen is an advanced, ultra-compact antenna specifically designed for Wi-Fi applications operating across the 2.4GHz, 5GHz, and 6GHz frequency bands. Tailored for seamless performance in Wi-Fi 6, Bluetooth, ZigBee, and related wireless protocols, KOIT excels in supporting the latest connectivity standards, including C-V2X and DSRC technologies.

What makes KOIT unique is its innovative design. Constructed from high-quality flexible materials, it features a sleek and ultra-thin form factor, measuring just 22 x 6 mm x 0.2 mm. This makes it an ideal choice for devices where space is limited. The double-sided adhesive backing ensures fast, easy installation—simply peel and stick for a secure mount. KOIT minimizes space consumption, making it perfect for even the tightest enclosures.

KOIT is engineered to deliver consistent performance even in constrained environments, making it an ideal solution for devices like tablets, smart displays, IoT devices, and other compact electronics. Its small size and high performance make it a perfect match for modern devices requiring dependable wireless connectivity

In many wireless modules, peak gain limits are imposed to maintain optimal performance. In real-world scenarios, an antenna's peak gain in free-space conditions may reduce once integrated into a device. KOIT is designed with a slightly elevated peak gain to ensure it retains strong, reliable connectivity even when placed inside a device.

Synzen provides complimentary testing and integration support to ensure KOIT meets your device's regulatory requirements.

KOIT (SZK-C-4W25) is your ideal solution for cutting-edge wireless connectivity in small, confined spaces, without compromising performance.



Mechanical Specifications

Parameter	
Part Number	SZK-C-4W25
Name	KOIT
Dimensions (mm)	22.0 x 6.0 x 0.2
Weight	<1.5g
Antenna Type	FPC + Cable
Cable Length (mm)	100.0, 0.81 \varnothing *
Connector	MHF2 (U. FL Compatible) *
Part Number with Cable and Connector	SZK-C-4W25-100-02
Adhesive backing	3M 468

*Alternate cable length and connectors available upon request

Electrical / RF Specifications

Band	Frequency Range (MHz)	Efficiency (%)	Peak Gain (dBi)	VSWR	Impedance
Wi-Fi 2GHz	2400-2500	>70	4.80	2.00:1	50 Ω
Wi-Fi 5GHz	4900-5850	>45	3.18	2.90:1	
Wi-Fi 6GHz	5925-7125	>60	4.90	2.50:1	

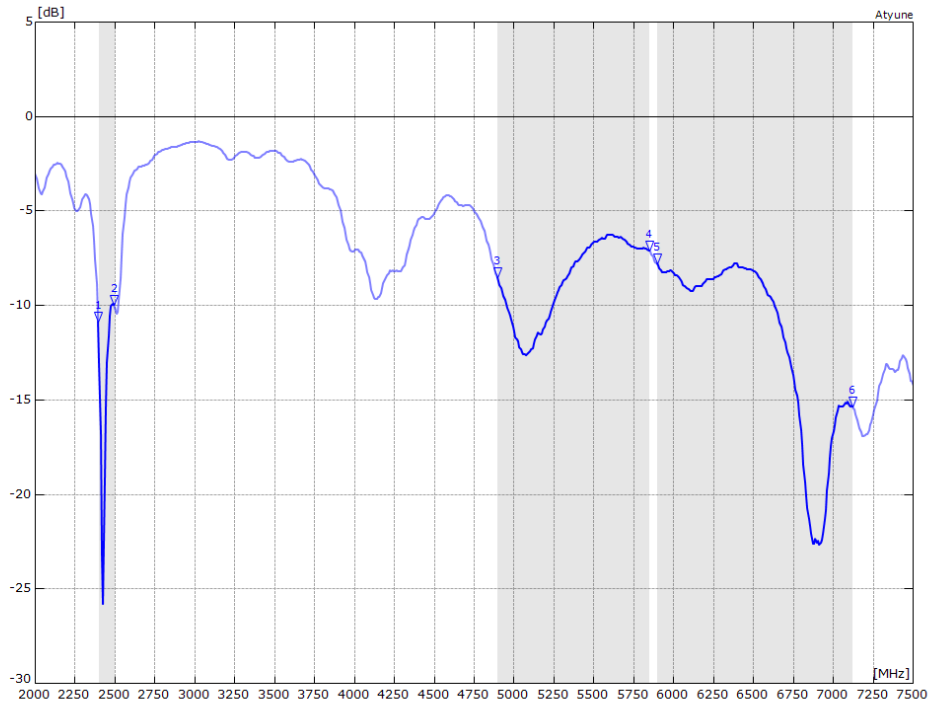
Note: The antenna performance was measured on a 2mm thick ABS plastic sheet

Environmental

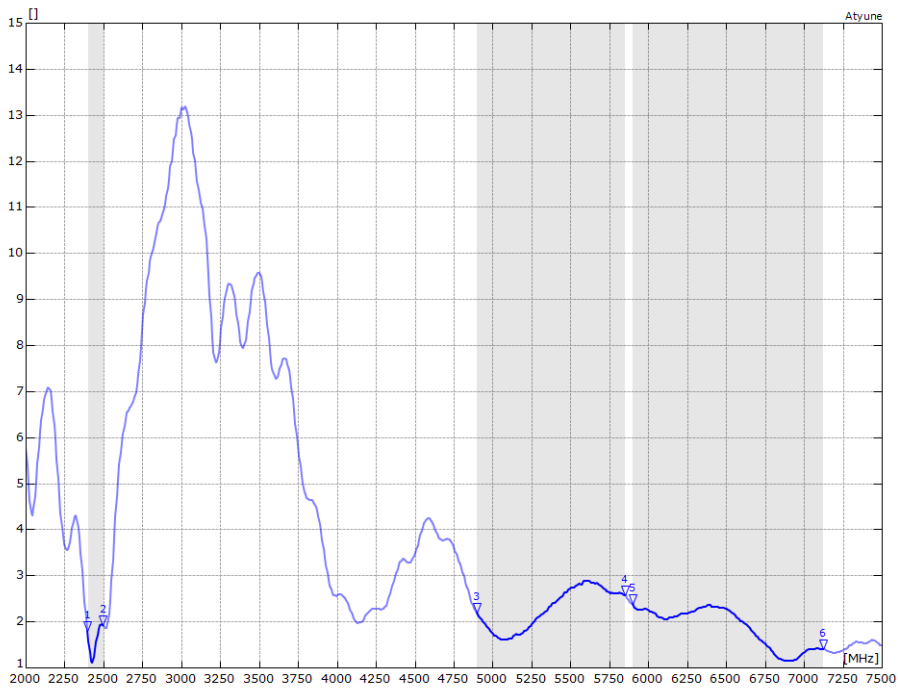
Parameter	
Operational Temperature	-40 to +85
Storage Temperature	-40 to +85
Relative Humidity (Storage)	65 \pm 20% RH
Moisture Sensitivity	1
RoHs and REACH compliant	Yes

RF Characteristics

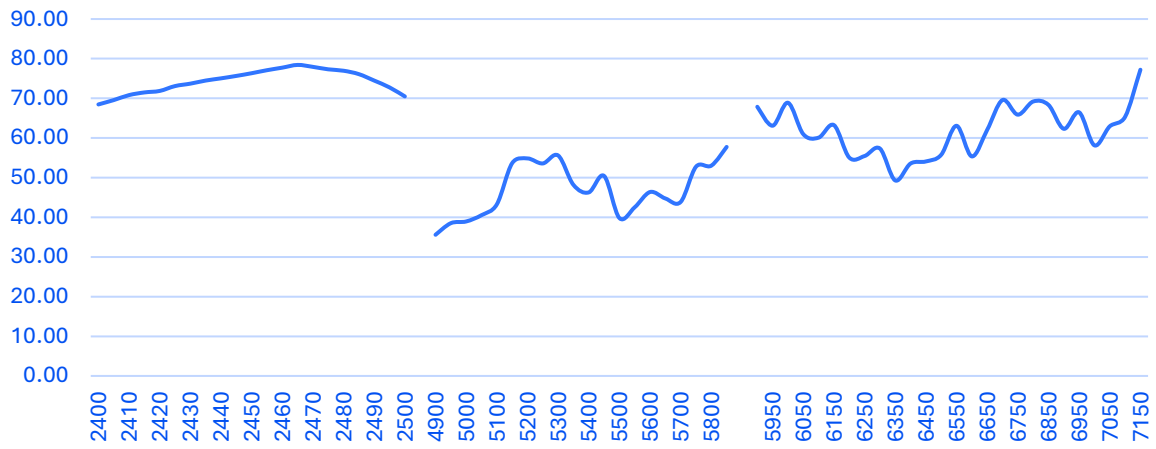
Return loss



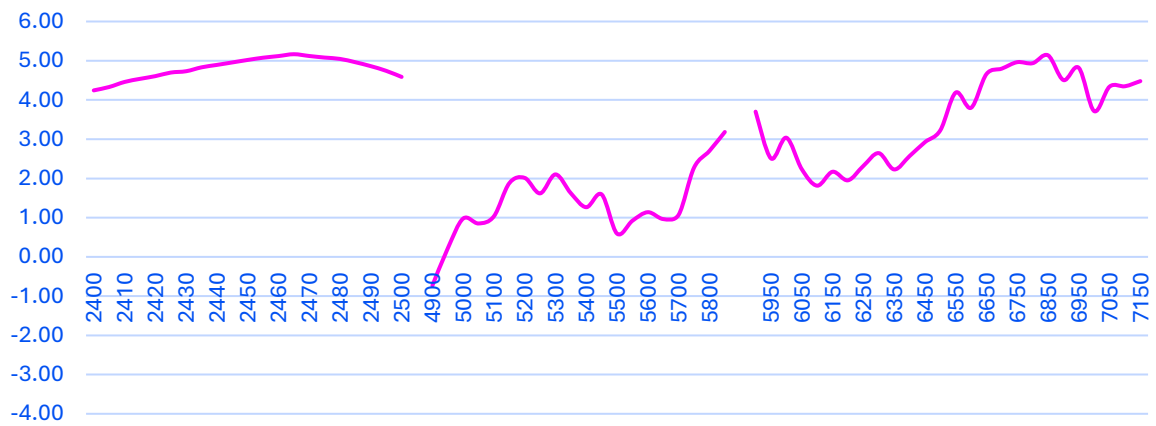
VSWR



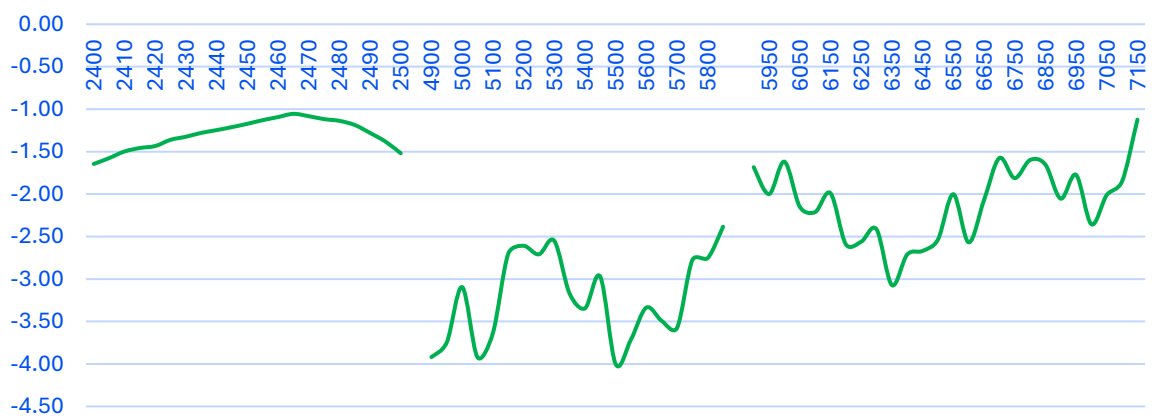
Efficiency



Peak Gain

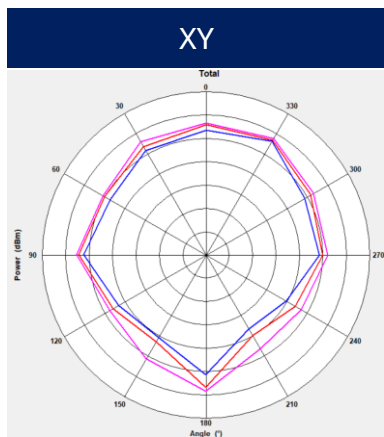
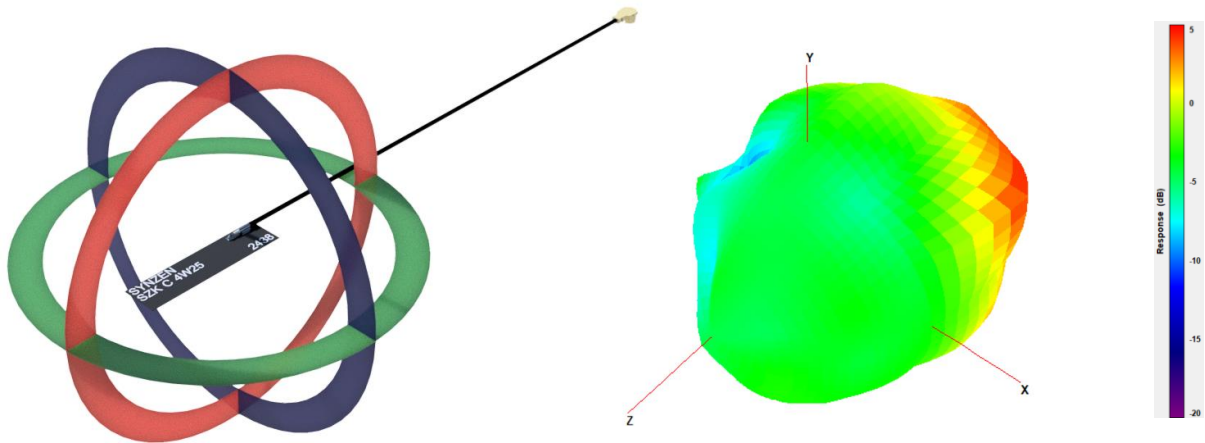


Average Gain

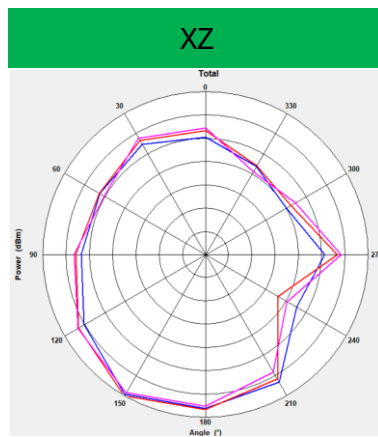


RF Radiation Patterns

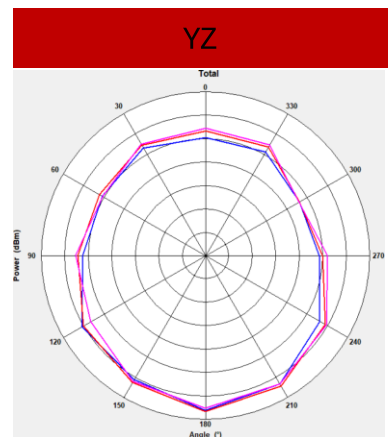
RF Radiation Patterns at 2450MHz



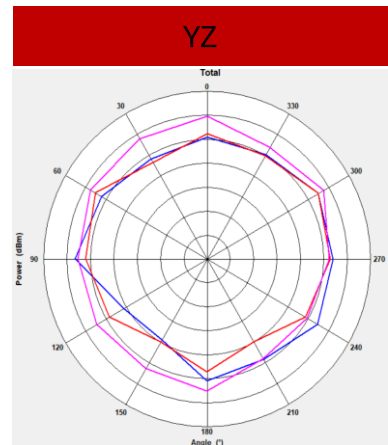
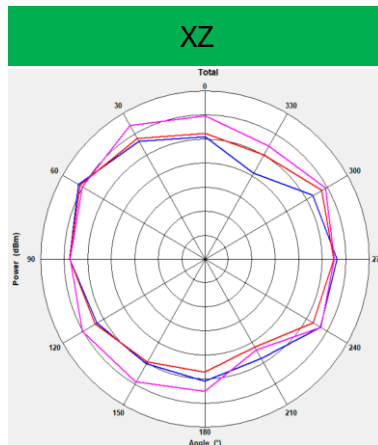
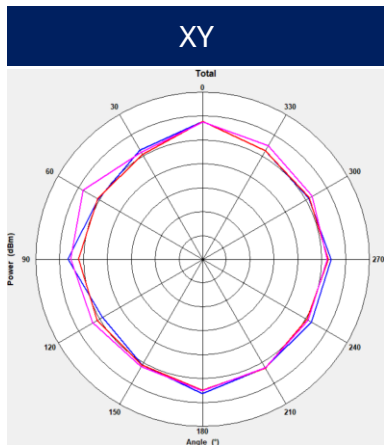
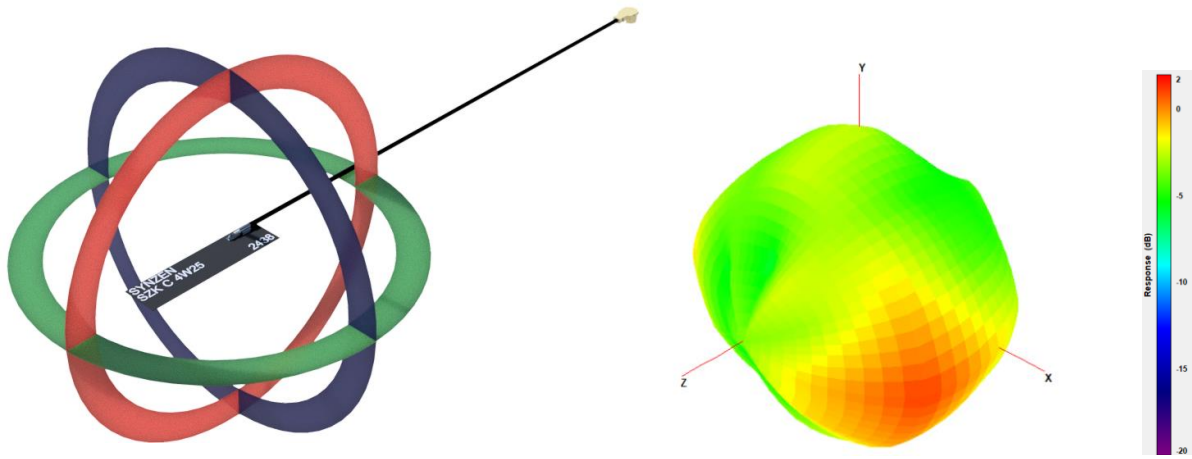
Max: 5
Min: -30
Scale: 5/div



2400
2450
2500



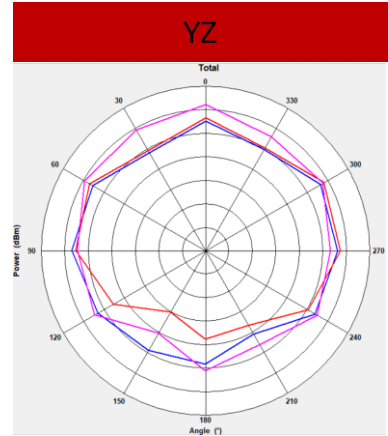
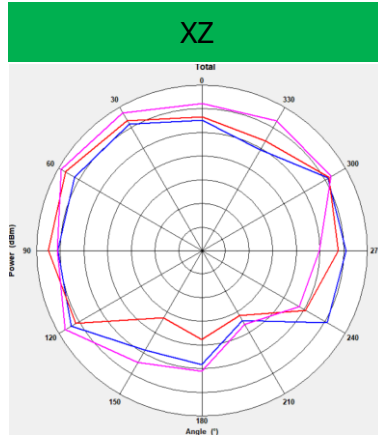
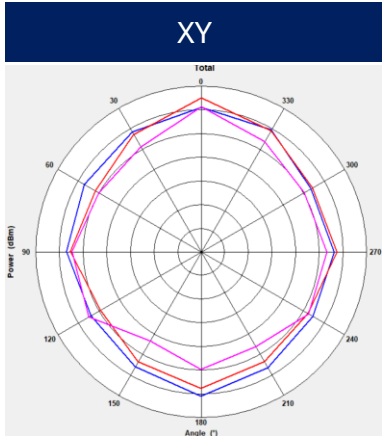
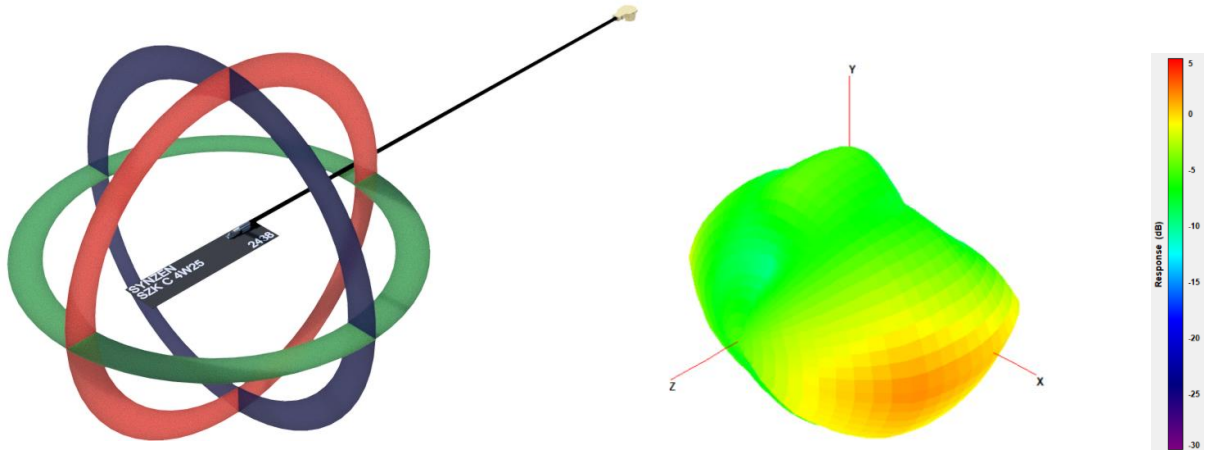
RF Radiation Patterns at 5500MHz



Max: 5
Min: -30
Scale: 5/div

5100
5500
5850

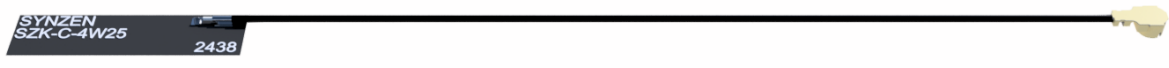
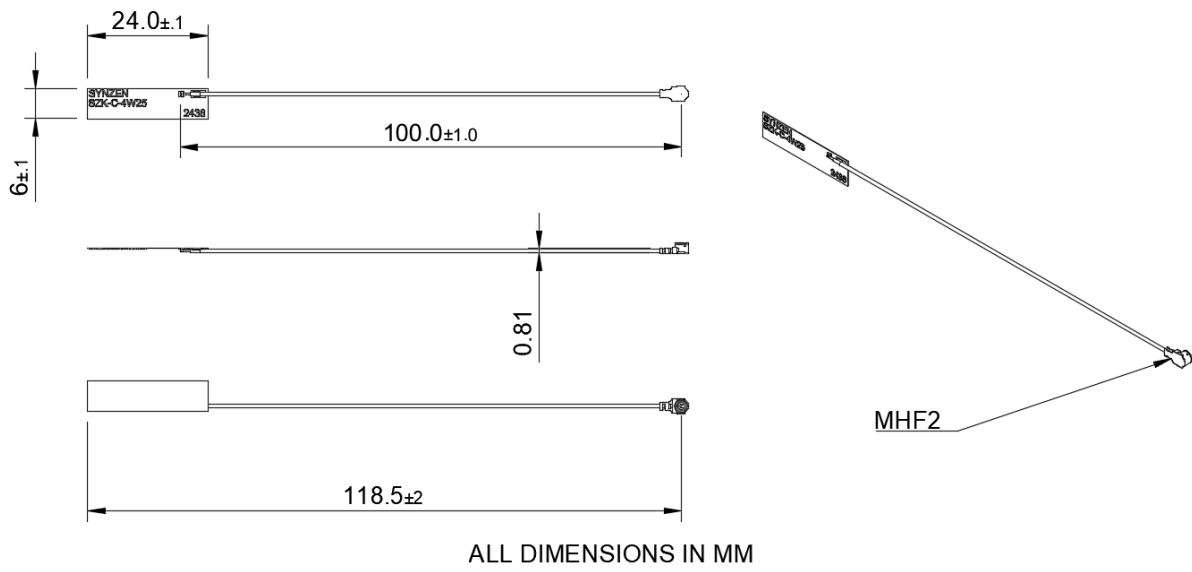
RF Radiation Patterns at 6500MHz



Max: 5
Min: -30
Scale: 5/div

6100
6500
7100

Mechanical Drawing



Packaging

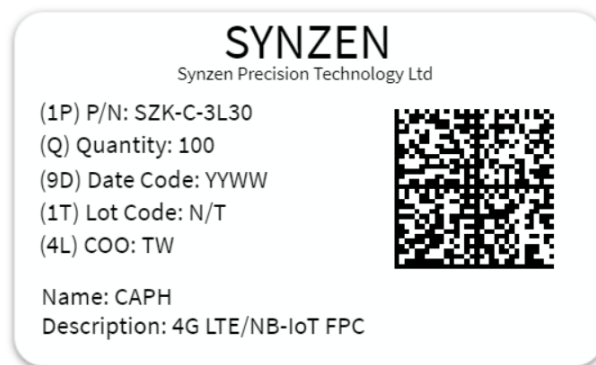
Antennas packed in PE bag (20 per bag)

Small bag dimensions: 28.5 x 9.5 (cm)

100pcs per larger PE bag with product label

Bag dimensions = 30 x 19 (cm)

Label



Material Regulation

The antenna has been assessed to conform to RoHS requirements. A certificate of conformance is available upon request.

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