

DATASHEET

TABIT SZK-C-3G22 | Flexible Self-Adhesive Antenna | multi-GNSS

Features:

GPS L1 / GALILEO / GLONASS G1 / BEIDOU: 1559-1610 MHz

GPS L2 / GPS L5 / GPS L6: 1164-1300 MHz

>3.5dBi Peak Gain, >75% Efficiency

Dimensions: 59.0 x 28.0 x 0.2 mm

Cable Length: 120mm

Connector: MHF1 (U.FL Compatible)

RoHs compliant

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Introduction

TABIT antenna, a versatile multi-GNSS solution covering L1, L2, L5, L6 frequencies and supporting GPS, GLONASS, GALILEO, BeiDou, and NavIC constellations. TABIT antenna stands out with exceptional efficiency rates, achieving 90% in the L1 bands and 70% in the L2, L5, and Indian L5 bands.

TABIT is a linear cross polarized antenna, features an omnidirectional radiation pattern, enhancing performance regardless of device orientation. With a VSWR below 2.0 across all bands.

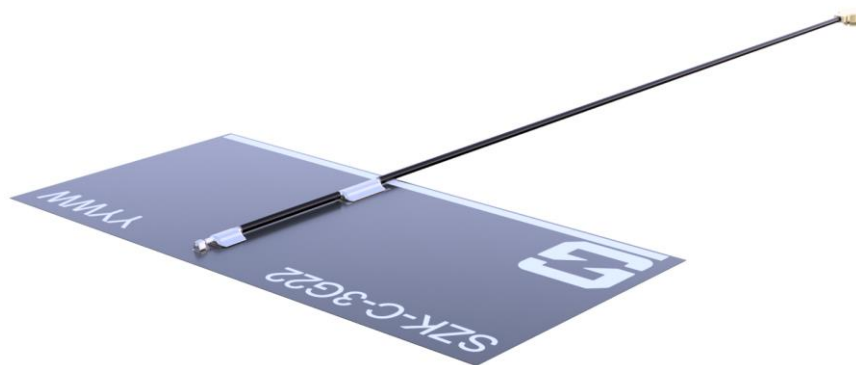
Constructed from robust, flexible substrate, this antenna measures only 58mm x 28mm x 0.2mm and includes a 120mm cable for straightforward installation. It is engineered for direct mounting on the inner shell of plastic enclosures, eliminating the need for PCB space and requiring only a minimal clearance from the PCB Ground for optimal performance. The antenna attaches securely to non-metal surfaces with 3M 468 adhesive, making it suitable for plastic housings.

Ideal applications for the TABIT antenna include:

- Telematics
- Fleet Management
- Positioning

TABIT is a forward-looking solution, supporting current and future signal bands, ensuring longevity and cost-efficiency in product manufacturing. For customized cable

Alternative cable lengths and connector options are available. We also provide a free integration service to ensure your product is fully optimised.



Mechanical Specifications

Parameter	
Part Number	SZK-C-3G22
Name	TABIT
Dimensions (mm)	59.0 x 28.0 x 0.2
Weight	<2g
Antenna Type	FPC + Cable
Cable Length (mm)	120.0, 1.13 \emptyset
Connector	MHF1 (U.FL Compatible)
Adhesive backing	3M 468

Electrical / RF Specifications

Band	Frequency Range (MHz)	Efficiency (%)	Peak Gain (dBi)	VSWR	Impedance
L1 / E1	1563-1587	77.3	4.25	1.51:1	50 Ω
L2	1215-1240	59.0	0.51	1.29:1	
L5	1164-1189	55.6	1.11	1.67:1	
L6 / E6	1278-1299	48.0	1.41	1.64:1	
GLONASS	1593-1610	74.5	4.22	1.28:1	
BEIDOU	1559-1591	77.3	4.26	1.58:1	

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

Environmental

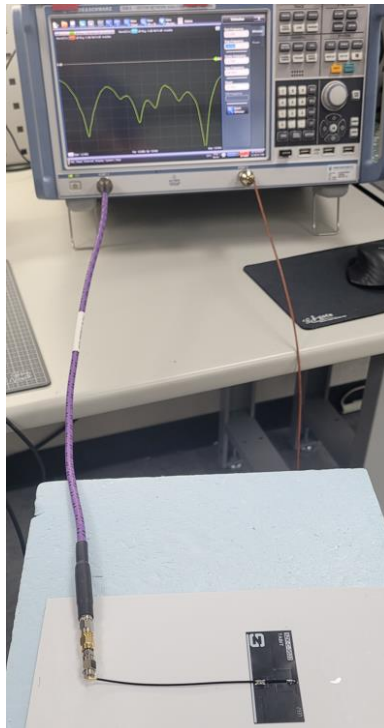
Parameter	
Operational Temperature	-40 to +85
Storage Temperature	-40 to +85
Relative Humidity (Storage)	65 \pm 20% RH
Moisture Sensitivity	1
RoHs and REACH compliant	Yes

GNSS Supported Band List

Constellation	Bands			
GPS	L1	L2	L5	
GLONASS	L1	L2	L3	L5
GALILEO	E1	E5a	E5b	E6
BEIDOU	B1	B2a	B2b	B3
QZSS	L1	L2C	L5	E6/LEX
NavIC	L5			
SBAS	L1			

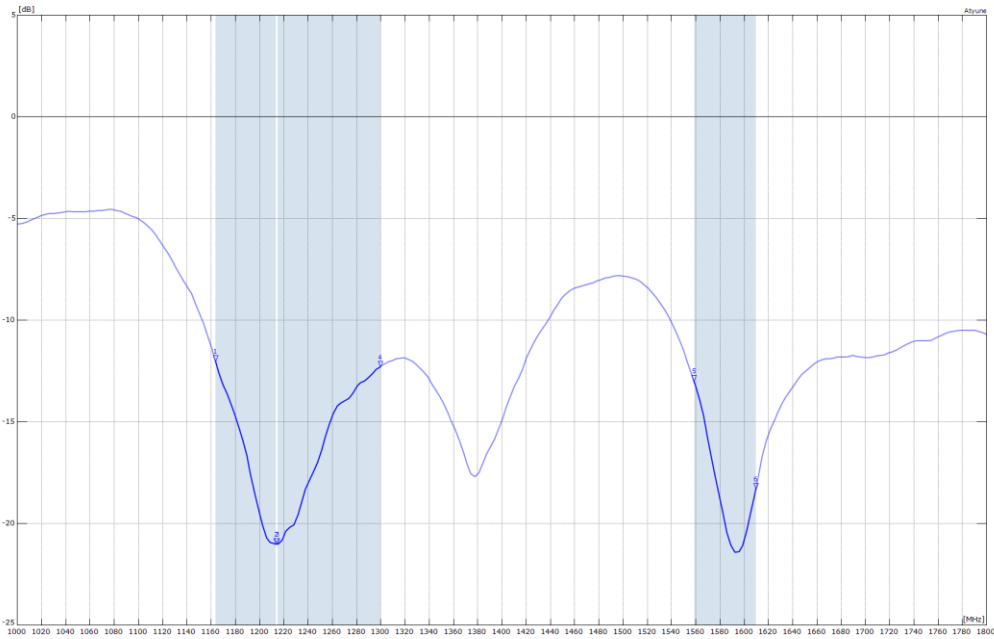
RF Performance

Analyzer Test Setup

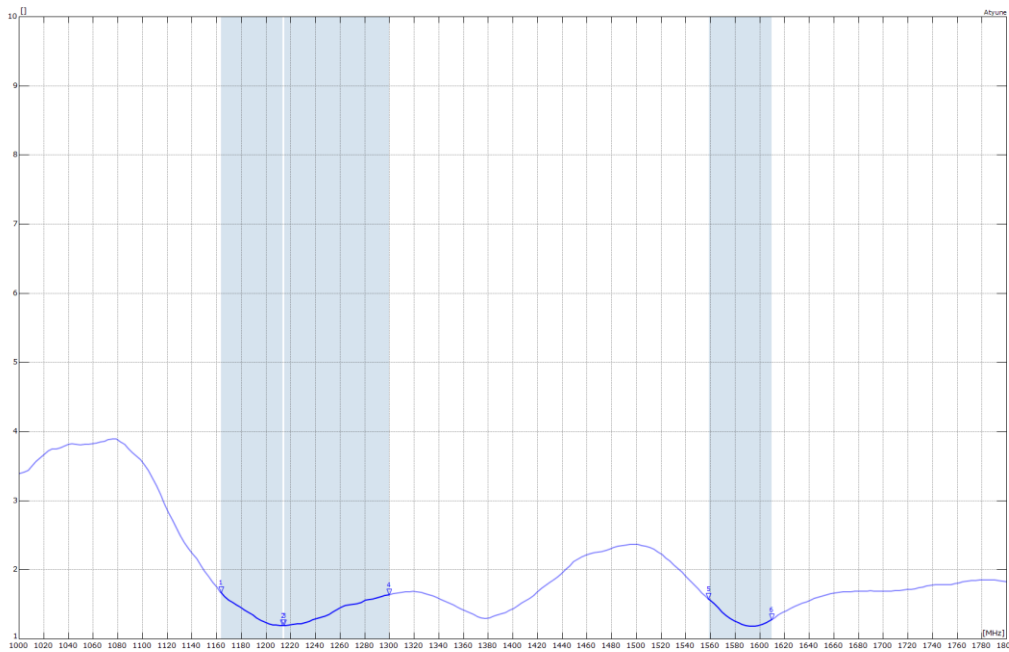


RF Characteristics

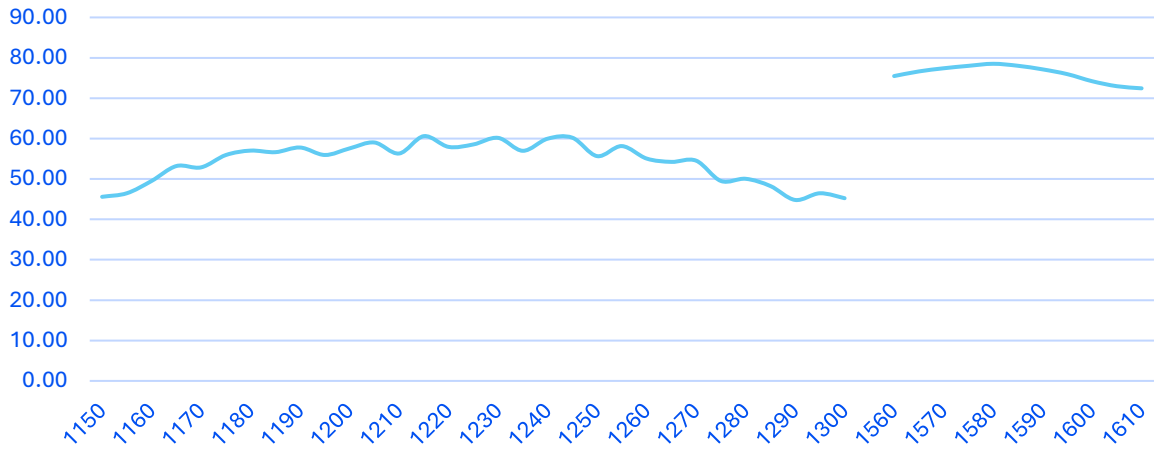
Return loss



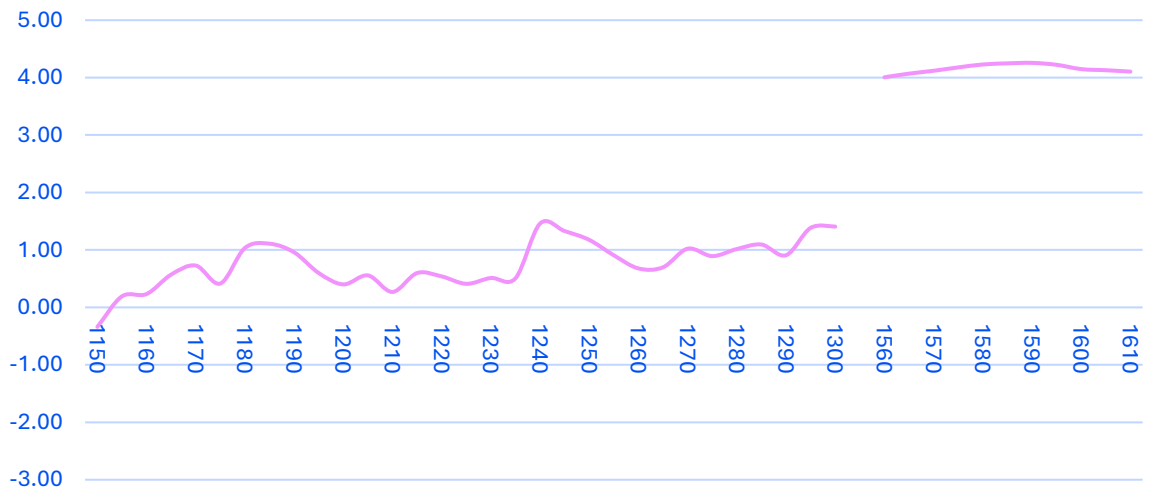
VSWR



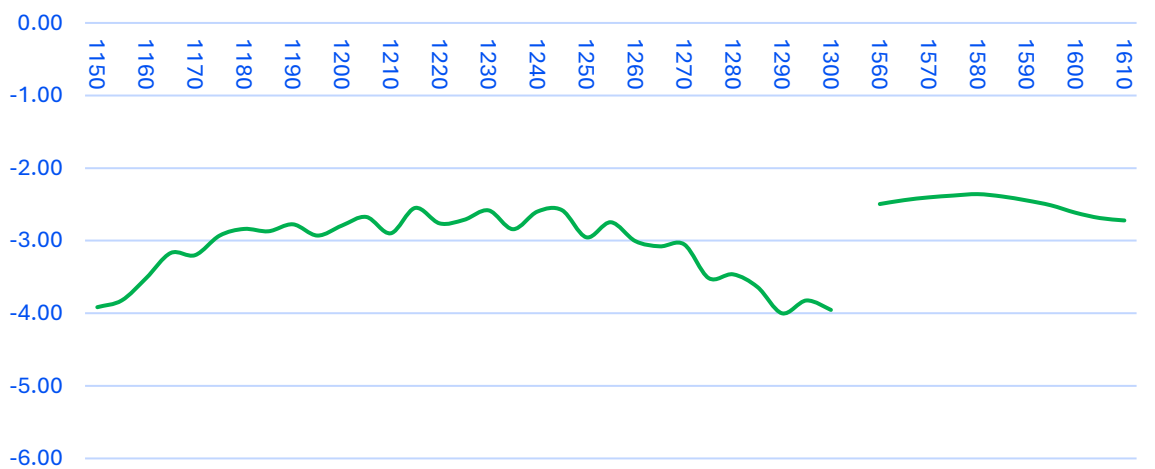
Efficiency



Peak Gain

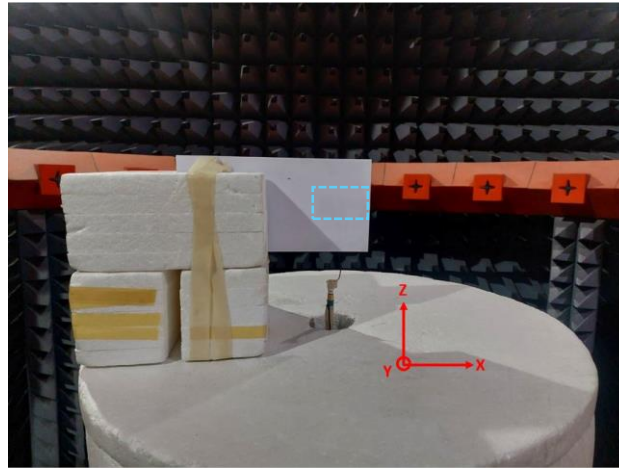


Average Gain

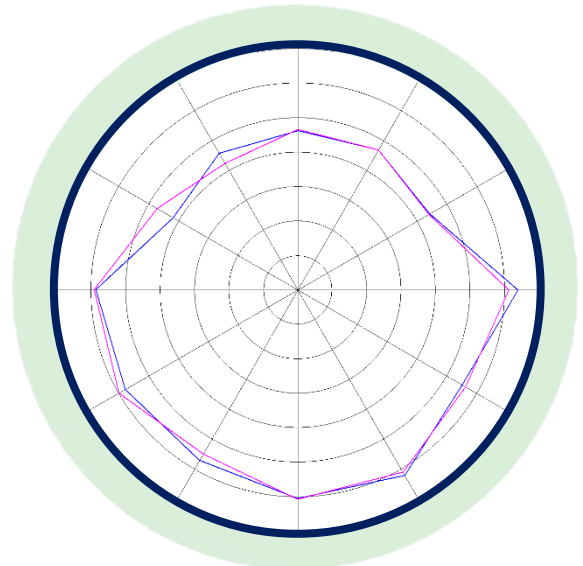
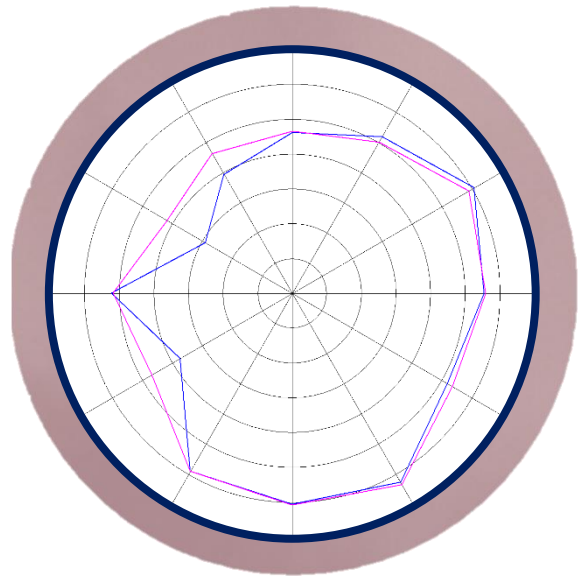
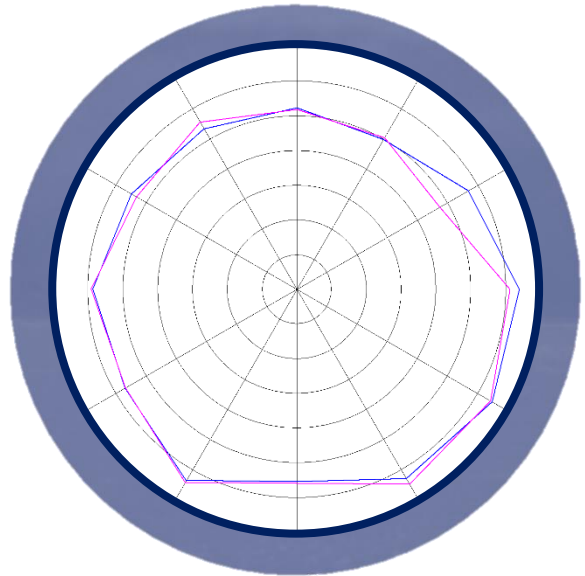
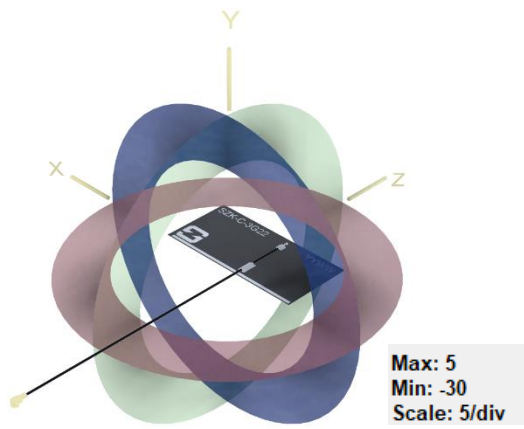


RF Radiation Patterns

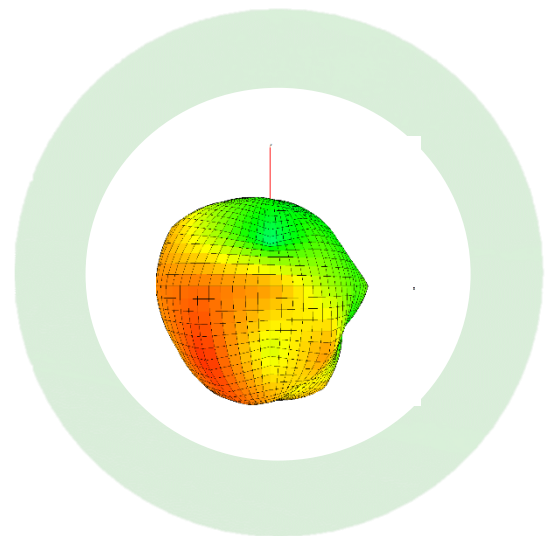
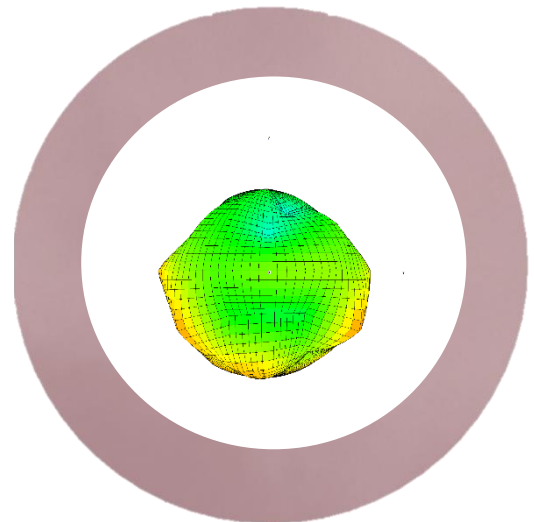
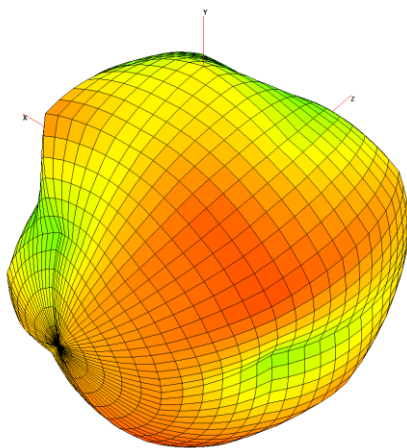
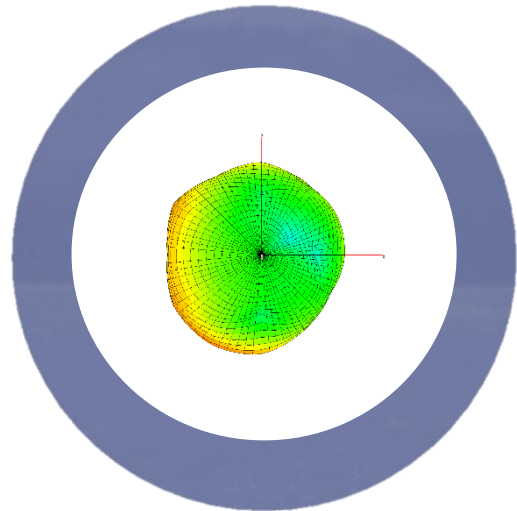
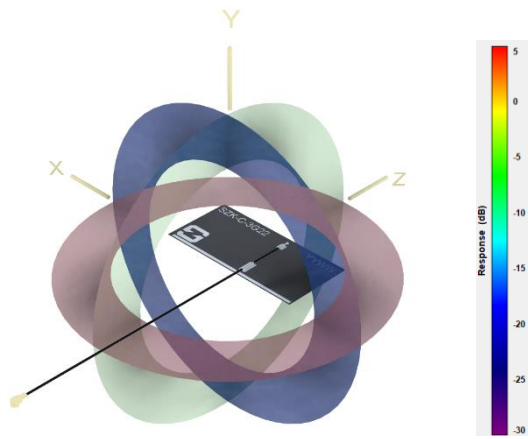
Chamber Test Setup



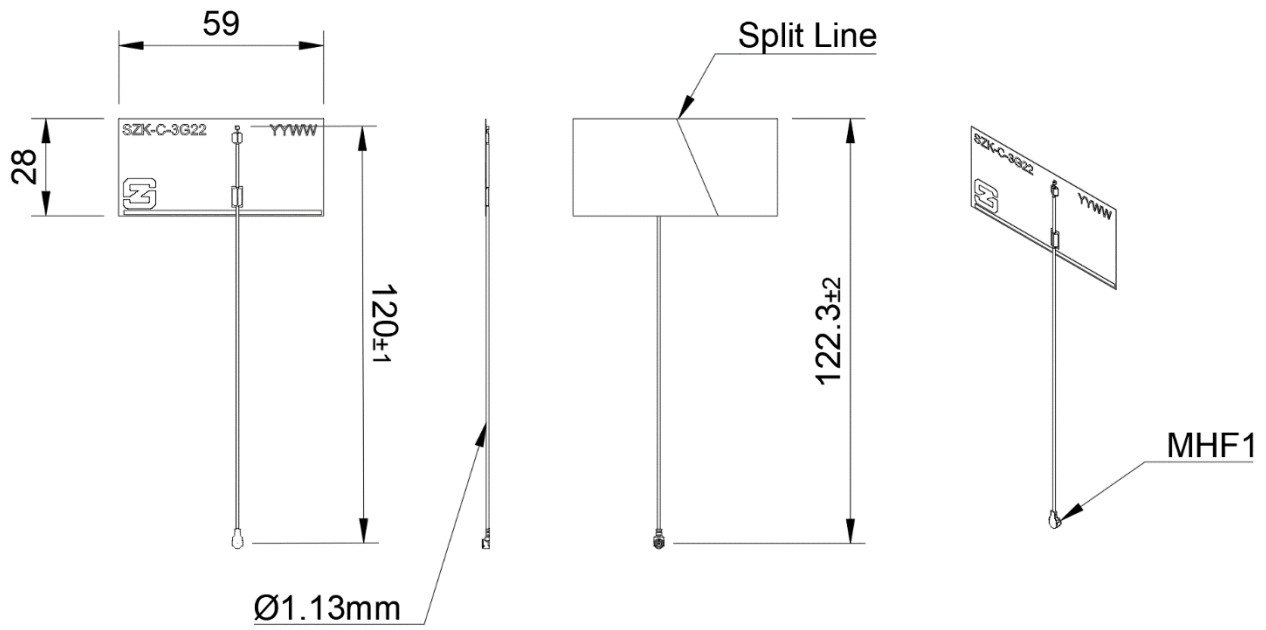
RF Radiation Patterns – 2D



RF Radiation Patterns – 3D at 1575MHz



Mechanical Drawing



ALL DIMENSIONS IN MM



Packaging

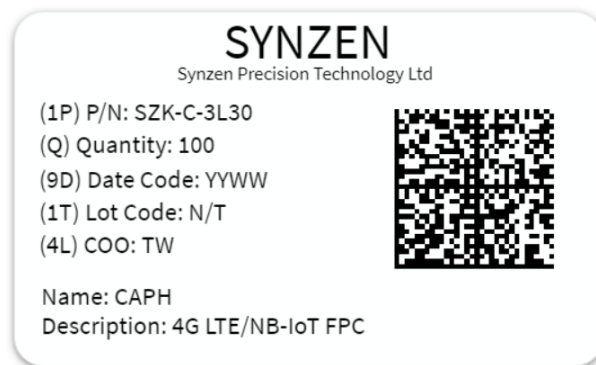
Antennas packed in PE bag (20 per bag)

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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