

SYNZEN PRODUCT GUIDE 2023



CELLULAR 2G/3G/4G/5G | LTE CAT-M | NB-IoT | WIFI | BLE | ISM / LoRa | GNSS | UWB



Standard Products

Synzen offers top-quality standard antennas for reliable communication in any environment. With a wide range of antenna types including ceramic, laminate, FPC, and Terminal solutions. Trust Synzen for superior antenna solutions.



Custom Design

Looking for a unique antenna solution? Synzen Antenna Company provides custom antenna design services to meet your specific needs. Contact us today.

Free Support Services

We offer free support test services including optimization, tuning, chamber testing, and provide a full detailed report for your device performance including Efficiency, Peak Gain, 3D radiation patterns. Trust us for reliable antenna performance.



Contact Us

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Technical Capabilities – Synzen Advantages



SYNZEN specializes in designing active and passive antennas for Automotive, Medical and IoT applications. Whether you are looking for a standard antenna, a custom design or additional support for an ongoing project we can help at any stage of your development.

STANDARD PRODUCT RANGE

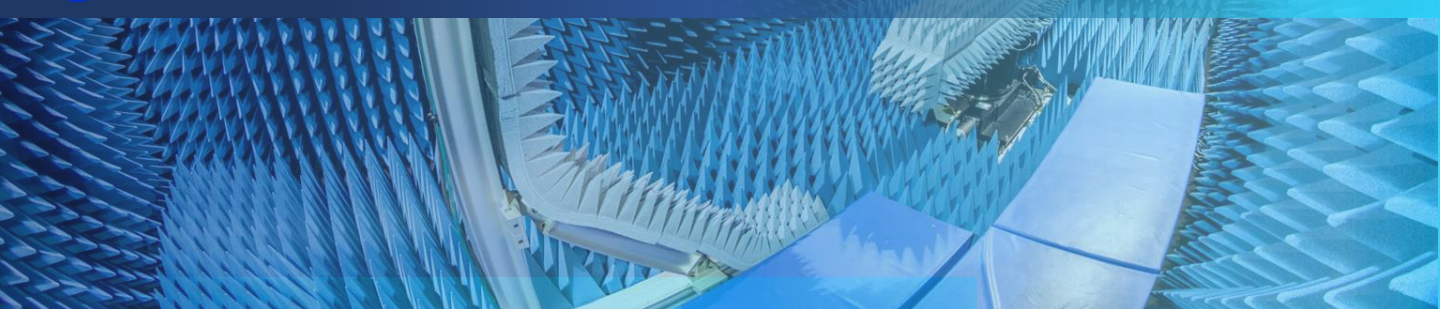
Synzen has an ever-evolving portfolio of standard embedded active and passive antennas. Products that are designed to work together in multi-antenna systems to ensure class leading isolation and cross correlation for optimal performance and reliability.

CUSTOM DESIGN

For applications where a standard part cannot meet your requirements, we can support you with a bespoke solution. Our free consultation service facilitates multiple discussions to take place to ensure you take the right path for your project development and includes a full ongoing technical assessment.

FREE PASSIVE CHAMBER TESTS

Upon engagement using a standard part and having discussed position and layout with you to ensure the design is optimal, we offer a free tuning and test service to fully characterize your device and provide a full test report which includes S11, Efficiency, Gain and full 3D radiated patterns.



CONTINUED SUPPORT

As well as support for the initial development stages, we will continue to provide support as your design progress to MP including a full check of all design files prior to you building prototypes or final products. We can additionally assist with issues unrelated to the antenna such as noise mitigation and RF Schematic/layout checking services Meetings can be setup easily and quickly to ensure your project remains on schedule.

FREE SAMPLES

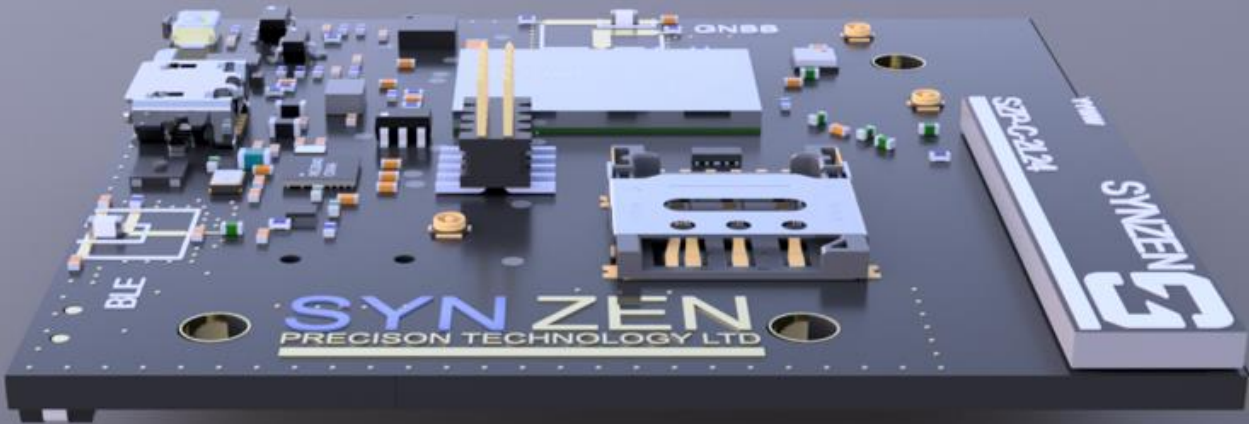
Free standard part samples available at www.synzen.com.tw



Technical Capabilities - Applications

Synzen antennas are designed for multiple applications, and for various types of integration whether embedded, internal or external to the device. With products that utilise state-of-the-art manufacturing capabilities to ensure best-in-class performance, and reliability our antenna's outperform any environment.

 Internet of Things (IoT)	 Digital Technology	 Cloud Computing	 Machine to Machine (M2M)	 Software-Defined Networking (SDN)	 Cyber-Physical Systems (CPS)	 Radio Frequency Identification (RFID)
 Wireless Network	 Wi-Fi	 Transport	 Aerospace	 Autonomous Car	 Health Care	 Wearables
 Industry 4.0	 Manufacturing	 Agriculture	 Smart City	 Building Management	 Retail	 Surveillance
 Smart Home	 Smart Energy	 Smart Meter	 Smart Media	 Consumer Electronics	 Mobile Devices	 Security



Technical Capabilities – Selection Process

A| CONSULTATION:

- Support with overview of device development with input from Synzen Engineers
- Simulation / Feasibility study to understand device performance, Synzen can 3D print and replicate major device components to complete full RF dataset including chamber tests.

B| INTEGRATION:

- Antenna selection
- Guidance for placement, full device review (PCB Layout, 3D CAD)
- Prototype testing; Full RF tune and test for a comprehensive report of device performance. S-parameter (S_{11} , S_{21}), Efficiency, Gain and Peak Gain, ECC (Envelope Correlation Coefficient).

C| FINAL DEVICE OPTIMIZE AND TEST:

- AOS (Antenna Optimisation Service) Tune all matching circuits for the final assembly and verify with chamber testing. Estimate TRP.
- Pre-Certification testing for PTCRB, RSE, GNSS simulator tests.

D| MASS PRODUCTION:

- Multi-source manufacturing locations
- Continued customer support for the product lifetime. Support for new device revisions or changes .




SYNZEN

Antenna Overview - Cellular

5G / 4G LTE / NB-IoT / 3G / 2G / LTE 450	PART NUMBER / NAME	DESCRIPTION	FREQUENCY RANGE
	SZP-C-2L22 (ALCOR)	Surface Mount / Low profile	617-6000MHz
	SZP-C-2L11 (ALTAIR)	Surface Mount	617-6000MHz
	SZP-C-2L23 (ATRIA)	Surface Mount / Low profile	698-2690MHz
	SZP-C-0L02 (OPALA)	Surface Mount	698-2690MHz
	SZP-C-0L09 / 10 (PROCYON a / b)	Surface Mount	698-2690MHz
	SZP-C-1C02/3 (TAU1/2)	Surface Mount / Low profile	791-2690MHz
	SZP-C-0C01 (CETI)	Surface Mount	824-1990MHz
	SZP-C-1L11/12 (ARRAKIS a / b)	Surface Mount	698-2690MHz
	SZP-C-1L13 (CAPELLA)	Surface Mount / Low profile	698-2690MHz
	SZC-C-2L21 (PALOMAR)	Ceramic SMD	3300-5000MHz
	SZK-C-1L14 (ARCTURUS)	FPC + Cable (Flex)	617-5000MHz
	SZK-C-0L05 (ANTARES)	FPC + Cable (Flex)	617-5000MHz
	SZK-C-0L04 (LALANDE)	FPC + Cable (Flex)	698-2690MHz
	SZK-C-0L06 (AVICI)	FPC + Cable (Flex)	698-2690MHz
	SZK-C-2L18 (AVIOR)	FPC + Cable (Flex)	791-2690MHz
	SZK-C-2L20 (PETRA)	FPC + Cable (Flex)	698-2690MHz
	SZK-C-2C04 (ELECTRA)	FPC + Cable (Flex)	824-2200MHz
	SZK-C-1L08 (PERSEI)	FR4 + Cable (Rigid)	698-2690MHz
	SZK-C-1L07 (PEGASI)	FR4 + Cable (Rigid)	617-5000MHz
	SZW-N-1L15 (TELESTO)	Terminal	617-7150MHz
	SZW-N-1L16 (ATLAS)	Terminal	617-7150MHz
	SZW-N-1L17 (TITAN)	Terminal	617-7150MHz
	SZW-N-2L26 (OBERON)	Panel Mount	430-2690MHz
	SZW-N-2L27 (OPHELIA)	Wall Mount	430-2690MHz

Synzen cellular antennas operate over the full 5G, 4G LTE, NB-IoT, and 3G networks. Available in multiple package styles, including SMD type, Flexible adhesive type, FR4 rigid adhesive type, and panel and wall mount.

We offer excellent performance, reliability, and durability for a wide range of applications. Whether you need an SMD type for a portable device or a panel and wall mount for a fixed application, Synzen has an antenna that will meet your needs. With their high-quality construction and advanced technology, Synzen cellular antennas are an excellent choice for anyone looking to improve their cellular signal strength and reception.



CELLULAR ANTENNAS | 5G/4G LTE/3G/2G/NB-IoT

ALCOR | Low Profile Surface Mount Antenna | 5G

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ALCOR SZP-C-2L22 Click for Datasheet	40.0 x 10.0 x 1.6	617-960	>55	2.05
			1452-1496	>40	0.00
			1710-2200	>65	3.49
			2300-2400	>60	3.77
			2500-2690	>55	3.99
			3300-4200	>50	5.22
			4400-5000	>45	3.26
			5000-6000	>40	1.70

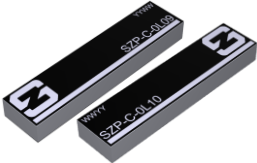
ALTAIR | Surface Mount Antenna | 5G

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ALTAIR SZP-C-2L14 Click for Datasheet	40.0 x 10.6 x 3.3	617-960	>60	1.47
			1452-1496	>45	0.01
			1710-2200	>75	2.82
			2300-2400	>70	3.69
			2500-2690	>60	3.26
			3300-4200	>65	5.91
			4400-5000	>45	3.18
			5000-6000	>40	2.94

ATRIA | Low Profile Surface Mount Antenna | 4G LTE / NB-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ATRIA SZP-C-2L23/24 Click for Datasheet	30.0 x 7.0 x 1.6	698-960	>50	1.50
			1710-2200	>60	3.71
			2300-2400	>50	0.97
			2500-2690	>55	2.15

PROCYON | Surface Mount Antenna | 4G LTE / NB-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	PROCYONa/b SZP-C-0L09/10 Click for Datasheet	30.0 x 7.0 x 3.3	698-960	>50	1.20
			1710-2200	>60	3.10
			2300-2400	>60	2.50
			2500-2690	>50	3.20

ARRAKIS | Surface Mount Antenna | 4G LTE / NB-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ARRAKISa/b SZP-C-1L12 / 13	30.0 x 7.0 x 3.3	698-960	>60	2.20
			1710-2200	>65	3.20
			2300-2400	>55	3.15
			2500-2690	>60	3.15

TAU | Low Profile Surface Mount Antenna | 4G LTE / NB-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	TAU1/2 SZP-C-1C02 Click for Datasheet	26.0 x 6.0 x 1.7	791-960	>55	1.14
			1710-2200	>55	2.99
			2300-2400	>60	2.67
			2500-2690	>65	3.00

CELLULAR ANTENNAS | 5G/4G LTE/3G/2G/NB-IoT

OPALA | Surface Mount Antenna | 4G LTE

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	OPALA	32.8 x 9.6 x 3.3	698-960	>50	1.50
	SZP-C-0L02		1710-2200	>55	3.40
	Click for Datasheet		2300-2400	>50	2.70
			2500-2690	>50	1.50

CAPELLA | Low Profile Surface Mount Antenna | 4G LTE

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	CAPELLA	30.0 x 7.0 x 0.9	698-960	>50	1.20
	SZP-C-1L13		1710-2200	>60	3.10
			2300-2400	>60	2.50
			2500-2690	>50	3.20

CETI | Surface Mount Antenna | 3G

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	SZP-C-0C01	25.0 x 10.0 x 3.3	824-960	>50	0.60
	Click for Datasheet		1710-1990	>55	2.40

ARCTURUS | Flexible Self-Adhesive Antenna with Cable | 5G

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ARCTURUS	88.0 x 14.0 x 0.2 Cable=180mm* IPEX MHFI**	617-960	>50	2.80
	SZK-C-1L14		1452-1660	>30	1.20
	Click for Datasheet		1710-2200	>60	2.90
			2300-2690	>70	3.20
			3300-3800	>50	4.20
			4200-5000	>45	3.10

ANTARES | Flexible Self-Adhesive Antenna with Cable | 5G

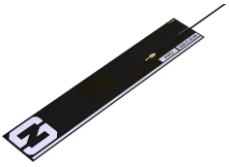
	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ANTARES	100.0 x 20.0 x 0.2 Cable = 180mm* IPEX MHFI**	617-960	>50	2.60
	SZK-C-0L05		1452-1660	>65	3.20
	Click for Datasheet		1710-2200	>65	3.10
			2300-2690	>70	3.70
			3300-3800	>70	4.50
			4200-5000	>30	4.40

LALANDE | Flexible Self-Adhesive Antenna with Cable | 4G LTE / NB-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ANTARES	100.0 x 20.0 x 0.2 Cable = 180mm* IPEX MHFI**	617-960	>50	2.60
	SZK-C-0L05		1452-1660	>65	3.20
	Click for Datasheet		1710-2200	>65	3.10
			2300-2690	>70	3.70
			3300-3800	>70	4.50
			4200-5000	>30	4.40

CELLULAR ANTENNAS | 5G/4G LTE/3G/2G/NB-IoT

AVICI | Flexible Self-Adhesive Antenna with Cable | 4G LTE / NB-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	AVICI	110.0 x 20.0 x 0.2	791-960	>60	2.30
	SZK-C-0L06		1710-2200	>70	2.60
	Click for Datasheet	Cable = 180mm*	2300-2400	>65	2.90
		IPEX MHFI**	2500-2690	>65	3.50

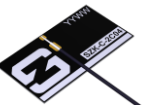
PETRA | Micro Flexible Self-Adhesive Antenna with Cable | 4G LTE / NB-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	PETRA	45.0 x 15.0 x 0.2	698-960	>50	3.35
	SZK-C-2L20		1710-2200	>55	3.37
	Click for Datasheet	Cable = 150mm*	2300-2400	>50	2.21
		IPEX MHFI**	2500-2690	>55	2.50

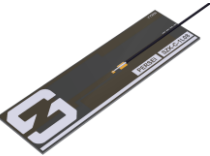
AVIOR | Micro Flexible Self-Adhesive Antenna with Cable | 4G LTE / NB-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	AVIOR	38.0 x 15.0 x 0.2	791-960	>65	2.88
	SZK-C-2L18		1710-2200	>75	4.31
	Click for Datasheet	Cable = 100mm*	2300-2400	>70	1.95
		IPEX MHFI**	2500-2690	>75	2.01

ELECTRA | Micro Flexible Self-Adhesive Antenna with Cable | 3G / NB-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ELECTRA	28.0 x 15.0 x 0.2	824-960	>65	2.03
	SZK-C-2C04		1710-2200	>70	3.80
	Click for Datasheet	Cable = 100mm*			
		IPEX MHFI**			

PERSEI | Rigid FR4 Self-Adhesive Antenna with Cable | 4G LTE / NB-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	PERSEI	69.0 x 20.0 x 0.6	698-960	>50	2.80
	SZK-C-1L08		1452-1660	>30	1.20
	Click for Datasheet	Cable = 180mm*	1710-2200	>60	2.90
		IPEX MHFI**	2300-2690	>70	3.20

			3300-3800	>50	4.20
			4200-5000	>45	3.10

PEGASI | Rigid FR4 Self-Adhesive Antenna with Cable | 5G

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	PEGASI	100.0 x 20.0 x 0.6	617-960	>50	2.60
	SZK-C-0L07		1452-1660	>65	3.20
	Click for Datasheet	Cable = 180mm*	1710-2200	>65	3.10
		IPEX MHFI**	2300-2690	>70	3.70

			3300-3800	>70	4.50
			4200-5000	>30	4.40

CELLULAR ANTENNAS | 5G/4G LTE/3G/2G/NB-IoT

TITAN | Terminal Antenna | 5G / Wi-Fi 7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	TITAN SZW-C-1L17 Click for Datasheet	135.0 x Ø=13 SMA (M) Plug Connector	617-960	>40	1.00
			1452-1660	>50	2.00
			1710-2690	>55	2.00
			3300-4200	>55	2.00
			4400-5000	>55	2.00
			5150-7150	>55	2.00

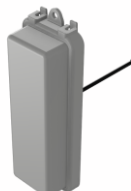
TELESTO | Terminal Antenna | 5G / Wi-Fi 7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	TELESTO SZW-C-0L15 Click for Datasheet	160.0 x Ø=13 SMA (M) Plug Connector	617-960	>40	1.00
			1452-1660	>55	2.00
			1710-2690	>55	2.00
			3300-4200	>55	2.00
			4400-5000	>55	2.00
			5150-7150	>55	2.00

ATLAS | Terminal Antenna | 5G / Wi-Fi 7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ATLAS SZW-N-1L16 Click for Datasheet	205.0 x Ø=13 SMA (M) Plug Connector	617-960	>50	1.00
			1452-1660	>60	2.50
			1710-2690	>60	2.50
			3300-4200	>60	2.50
			4400-5000	>60	2.50
			5150-7150	>60	2.50

OBERON | Panel Mount Antenna | 4G LTE / ISM433/868/915 / LTE 450 / Nb-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	OBERON SZW-N-2L26 Click for Datasheet	130.0 x 45.0 x 27.0 Cable = 3m* SMA plug**	430-480	>20	-4.50
			863-928	>60	2.73
			698-960	>50	3.77
			1427-1518	>50	1.29
			1710-2200	>60	3.18
			2300-2690	>55	3.43

OPHELIA | Wall Mount Antenna | 4G LTE / ISM433/868/915 / LTE 450 / Nb-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	OPHELIA SZW-N-2L27 Click for Datasheet	130.0 x 45.0 x 27.0 Cable = 3m* SMA plug**	430-480	>20	-4.50
			863-928	>60	2.73
			698-960	>50	3.77
			1427-1518	>50	1.29
			1710-2200	>60	3.18
			2300-2690	>55	3.43

PALOMAR | SMD Ceramic Chip Antenna | 5G B77/B79

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	PALOMAR SZC-C-2L21	1.6 x 0.8 x 0.8	3300-4200 / 4400-5000	>60	3.30

Antenna Overview – ISM / LoRa

ISM 433/868/915/LoRa	PART NUMBER / NAME	DESCRIPTION	FREQUENCY RANGE
	SZC-C-0M01 (VEGA)	Ceramic Ship SMD	863-928MHz
	SZC-C-1M07 (CORVI)	Ceramic Ship SMD	863-870; 902-928MHz
	SZK-C-0M02 (CYGNI a)	FPC + Cable (Flex)	902-928MHz
	SZK-C-0M04 (CYGNI b)	FPC + Cable (Flex)	863-870MHz
	SZK-C-0M05 (SERPENTIS1)	FPC + Cable (Flex)	410-470MHz
	SZK-C-0M06 (SERPENTIS2)	FPC + Cable (Flex)	410-435MHz
	SZK-C-2M09 (CORVUS)	FPC + Cable (Flex)	863-870MHz
	SZC-C-2M10 (DRANCONIS)	FPC + Cable (Flex)	863-902MHz
	SZW-N-1M07 (PROTEUS)	Terminal	863-870MHz
	SZW-N-1M08 (TRITON)	Terminal	902-928MHz



Synzen's ISM antennas are high-performance antennas designed for Industrial, Scientific, and Medical applications operating in the 433MHz, 868MHz, and 915MHz frequency bands. They come in three types: ceramic, flexible printed circuit (FPC), and terminal antennas.

These antennas offer excellent performance, reliability, and versatility. With a choice of three antenna types, engineers and designers can select the best antenna for their specific application. The self-adhesive design of these antennas makes them easy to install on a variety of surfaces. Synzen's ISM antennas are a popular choice for a wide range of ISM applications due to their small size and high performance.



ISM/LoRa ANTENNAS | ISM 433/868/915

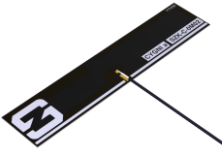
VEGA | SMD Ceramic Chip Antenna | ISM 868/928

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	VEGA SZC-C-0M01 Click for Datasheet	1.6 x 0.8 x 0.8	863-928	>65	1.20

CORVI | SMD Ceramic Chip Antenna | ISM 868/928

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	CORVI SZC-C-1M07 Click for Datasheet	1.6 x 0.8 x 0.8	863-870 902-928	>50 >55	0.35 1.60

CYGN1a | Flexible Self-Adhesive Antenna with Cable | ISM868

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	CYGN1a SZK-C-0M02 Click for Datasheet	70.0 x 15.0 x 0.2	902-928	>60	1.20

CYGN1b | Flexible Self-Adhesive Antenna with Cable | ISM915

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	CYGN1b SZK-C-0M04 Click for Datasheet	70.0 x 15.0 x 0.2	863-928	>70	1.21

DRACONIS | Micro Flexible Self-Adhesive Antenna with Cable | ISM868/915

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	DRACONIS SZK-C-2M10 Click for Datasheet	33.0 x 8.0 x 0.2	863-870 902-928	>75 >65	1.40 0.76

CORVUS | Flexible Self-Adhesive Antenna with Cable | ISM868

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	CORVUS SZK-C-2M09 Click for Datasheet	60.0 x 15.0 x 0.2	863-870	>64	0.91

ISM/LoRa ANTENNAS | ISM 433/868/915

SERPENTIS 1 | Flexible Self-Adhesive Antenna with Cable | 5G / Wi-Fi 7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	SERPENTIS1 SZK-C-0M05 Click for Datasheet	88.0 x 15.0 x 0.2	410-427 430-435 450-467	>30 >45 >30	-3.00 -2.90 -3.00

SERPENTIS 2 | Flexible Self-Adhesive Antenna with Cable | 5G / Wi-Fi 7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	SERPENTIS2 SZK-C-0M05 Click for Datasheet	88.0 x 15.0 x 0.2	410-427 430-435	>30 >40	-3.50 -3.00

PROTEUS | Terminal Antenna | 5G / Wi-Fi 7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	PROTEUS SZW-N-1M07 Click for Datasheet	202.0 x $\varnothing$ =13 SMA (M) Plug Connector	863-870	>70	2.00

TRITON | Terminal Antenna | 4G LTE / ISM433/868/915 / LTE 450 / Nb-IoT

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	TRITON SZW-N-1M08 Click for Datasheet	202.0 x $\varnothing$ =13 SMA (M) Plug Connector	902-928	>70	2.00

Antenna Overview – GNSS

GNSS	PART NUMBER / NAME	DESCRIPTION	FREQUENCY RANGE
	SZP-C-0G02 (LODESTAR)	Surface Mount Laminate	1559-1609MHz
	SZP-C-1G12 (ZENDE)	Surface Mount Laminate	1164-1300; 1559-1609MHz
	SZP-C-1G16 (MERGA)	Surface Mount Laminate	1559-1609MHz
	SZP-C-1G05/15 (HYDRA1/2)	Surface Mount Laminate	1559-1609MHz
	SZC-N-0G06 (ARIETIS a)	Ceramic Patch Surface Mount 12mm	1575.42 ±3
	SZC-N-0G07 (ARIETIS b)	Ceramic Patch Surface Mount 15mm	1575.42 ±3; 1605.0 ±3
	SZC-N-0G08 (ARIETIS c)	Ceramic Patch Surface Mount 18mm	1575.42 ±3; 1605.0 ±3
	SZC-N-0G09 (ARIETIS d)	Ceramic Patch Surface Mount 25mm	1575.42 ±3; 1605.0 ±3
	SZC-N-0G13 (POLARIS)	Low Profile Ceramic Patch Surface Mount 25mm	1575.42 ±3; 1605.0 ±3
	SZC-C-1G18 (SIRIUSb)	Ceramic Ship SMD	1559-1609MHz
	SZC-N-0G11 (ARCADY a)	Ceramic Patch Through hole 15mm	1575.42 ±3
	SZC-N-0G10 (ARCADY b)	Ceramic Patch Through hole 18mm	1575.42 ±3
	SZC-N-2G20 (REGULUS)	Low Profile Ceramic Patch Surface Mount 12mm	1575.42 ±3
	SZC-C-3G21 (LEONIS)	Ceramic Ship SMD	1559-1609MHz
	SZK-C-0G04 (ZETA)	FPC + Cable (Flex)	1559-1609MHz
	SZK-C-2G19 (MIMOSA)	FPC + Cable (Flex)	1559-1609MHz
	SZC-C-0G01 (CENTAURI)	Active Antenna SMD	1559-1609MHz
	SZA-C-0G03 (PROXIMA)	Active Antenna SMD	1559-1609MHz

Synzen offers a variety of GNSS antenna solutions including flexible FPC self-adhesive type, FR4 laminate, ceramic chip, ceramic patch, and active antennas. The flexible FPC self-adhesive type antenna is ideal for compact designs and easy installation, while the FR4 laminate antenna is cost-effective with high performance and reliability. The ceramic chip antenna is lightweight and offers high accuracy and low power consumption. The ceramic patch antenna is a low-profile solution suitable for space-constrained environments. The active antenna includes an integrated amplifier and SAW filter for improved signal strength and accuracy, making it suitable for high-precision applications. With a commitment to quality and performance, Synzen's GNSS antenna solutions provide a range of options to suit various applications.



GNSS ANTENNAS | L1/L5/L2

LODESTAR | Surface Mount Antenna | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	LODESTAR SZP-C-0G02 Click for Datasheet	6.0 x 5.0 x 0.9	1559-1609	>60	0.5

ZENDE | Surface Mount Antenna | GNSS L1/L2/L5

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ZENDE SZP-C-1G12 Click for Datasheet	25.0 x 10.0 x 1.0	1164-1300 1559-1609	>85 >80	2.88 2.49

SIRIUSb | SMD Ceramic Chip Antenna | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	SIRIUSb SZC-C-1G18 Click for Datasheet	1.6 x 0.8 x 0.8	1559-1609	>75	3.10

MERGA | Surface Mount Antenna | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	MERGA SZP-C-1G16	14.0 x 16.0 x 0.9	1559-1609	>75	2.00

LEONIS | SMD Ceramic Chip Antenna | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	LEONIS SZC-C-3G21 Click for Datasheet	1.6 x 0.8 x 0.8	1559-1609	>70	1.60

HYDRA | Surface Mount Antenna | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	HYDRA1/2 SZC-C-1L05/15 Click for Datasheet	7.5 x 5.0 x 0.9	1559-1609	>55	0.50

GNSS ANTENNAS | L1/L5/L2

REGULUS | Low Profile Ceramic Patch SMD | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	REGULUS SZC-N-2G20	12.0 x 12.0 x 2.0	1575.42 ±3	>55	0.5

ARIETISa | Ceramic Patch SMD | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ARIETISa SZC-N-0G06 Click for Datasheet	12.0 x 12.0 x 4.0	1575.42 ±3	>60	0.5

ARIETISb | Ceramic Patch SMD | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ARIETISb SZC-N-0G07 Click for Datasheet	15.0 x 15.0 x 4.0	1575.42 ±3 1605.0 ±3	>65	2.60

ARIETISc | Ceramic Patch SMD | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ARIETISc SZC-N-0G08 Click for Datasheet	18.0 x 18.0 x 4.0	1575.42 ±3 1605.0 ±3	>70	3.00

ARIETISd | Ceramic Patch SMD | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ARIETISd SZC-N-0G09 Click for Datasheet	25.0 x 25.0 x 4.0	1575.42 ±3 1605.0 ±3	>80	3.30

POLARIS | Low Profile Ceramic Patch SMD | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	POLARIS SZC-N-0G13 Click for Datasheet	25.0 x 25.0 x 2.0	1575.42 ±3 1605.0 ±3	>75	3.00

GNSS ANTENNAS | L1/L5/L2

ARCADYa | Ceramic Patch Through Hole | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ARCADYa SZC-N-0G11 Click for Datasheet	15.0 x 15.0 x 2.0	1575.42 ±3	>55	2.50

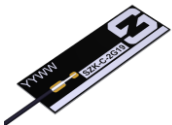
ARCADYb | Ceramic Patch Through Hole | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ARCADYb SZC-N-0G10 Click for Datasheet	18.0 x 18.0 x 4.0	1575.42 ±3	>60	2.80

ZETA | Flexible Self-Adhesive Antenna with Cable | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ZETA SZK-C-0G04 Click for Datasheet	40.0 x 10.0 x 0.2	1559-1609	>70	2.00

MIMOSA | Flexible Self-Adhesive Antenna with Cable | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	MIMOSA SZK-C-2G19 Click for Datasheet	30.0 x 12.0 x 0.2	1559-1609	>70	2.79

CENTAURI | Active Surface Mount Antenna | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	CENTAURI SZA-C-0G01 Click for Datasheet	9.0 x 7.0 x 1.5	1559-1609	>60	18.5
		Configuration	Power Avg (mA)	Supply (V)	Noise figure
		ANT → SAW → LNA	4.4	1.5-3.1	1.9

PROXIMA | Active Surface Mount Antenna | GNSS L1

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	PROXIMA SZA-C-0G03 Click for Datasheet	9.0 x 7.0 x 1.5	1559-1609	>60	18.2
		Configuration	Power Avg (mA)	Supply (V)	Noise figure
		ANT → SAW → LNA	1.05	1.1 – 3.6	2.1

Antenna Overview – Wi-Fi / Bluetooth

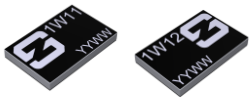
Wi-Fi / Bluetooth	PART NUMBER / NAME	DESCRIPTION	FREQUENCY RANGE
	<u>SZP-C-0W01 (AULIN)</u>	Surface Mount Laminate	2400-2500 MHz
	<u>SZP-C-1W11/12 (ADARA1/2)</u>	Surface Mount Laminate	2400-2500; 4900-7125 MHz
	<u>SZP-N-2W05 (ERIDANI)</u>	Surface Mount Laminate PIFA	2400-2500 MHz
	<u>SZP-C-0W02 (SIRIUS a)</u>	Ceramic Ship SMD	2400-2500 MHz
	<u>SZC-C-2W14 (EPSILON)</u>	Ceramic Ship SMD	2400-2500; 4900-7125 MHz
	<u>SZC-C-3W17 (RISHA)</u>	Ceramic Ship SMD	2400-2500 MHz
	<u>SZK-C-0W03 (AQUARIU)</u>	FPC + Cable (Flex)	2400-2500; 4900-6000 MHz
	<u>SZK-C-0W07 (WOLF)</u>	FPC + Cable (Flex)	2400-2500; 4900-7125 MHz
	<u>SZK-C-0W08 (MIRA)</u>	FPC + Cable (Flex)	2400-2500; 4900-7125 MHz
	<u>SZK-C-1W09 (AGENA)</u>	FPC + Cable (Flex) MIMO	2400-2500; 4900-7125 MHz
	<u>SZK-C-1W10 (HYDRUS)</u>	FR4 + Cable (Rigid)	2400-2500; 4900-6000 MHz
	<u>SZW-N-1W13 (LARISSA)</u>	Terminal	2400-2500; 5150-7125 MHz



Synzen offers Wi-Fi antenna solutions for Wi-Fi5, Wi-Fi6, and Wi-Fi7, as well as Bluetooth antennas, with options of flexible FPC self-adhesive type, FR4 laminate, and ceramic chip antennas. The flexible FPC self-adhesive type Wi-Fi antenna is thin and lightweight, while the FR4 laminate Wi-Fi antenna provides high performance and reliability at a cost-effective price point. The ceramic chip Wi-Fi antenna is small and lightweight, suitable for wearable devices and smart home applications. Synzen's Wi-Fi antenna solutions also include options for Bluetooth, offering reliable wireless connectivity for IoT devices. Overall, Synzen's Wi-Fi antenna solutions provide a range of options to suit various applications, with a commitment to quality and performance that ensures their customers receive the best possible solution for their needs.

Wi-Fi / BLUETOOTH ANTENNAS | Wi-Fi5/6/7/BLE

ADARA | Surface Mount Antenna | Wi-Fi 5,6,7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ADARA				
	SZP-C-1W11	9.0 x 5.8 x 1.1	2400-2500	>48	0.80
	SZP-C-1W12		5150-5850	>50	2.48
	Click for Datasheet		5925-7125	>55	2.82

EPSILON | SMD Ceramic Chip Antenna | Wi-Fi 5,6,7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	EPSILON				
	SZC-C-2W14	1.6 x 1.6 x 0.8	2400-2500	>50	0.90
	Click for Datasheet		5150-5850	>65	2.26
			5925-7125	>60	2.52

AULIN | Surface Mount Antenna | Wi-Fi/Bluetooth

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	AULIN				
	SZP-C-0W01	5.0 x 4.0 x 0.9	2400-2500	>60	1.65
	Click for Datasheet				

SIRIUSa | SMD Ceramic Chip Antenna | Wi-Fi/Bluetooth

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	SIRIUSa				
	SZC-C-0W02	1.6 x 0.8 x 0.8	2400-2500	>75	3.00
	Click for Datasheet				

ERIDANI | Surface Mount Antenna PIFA | Wi-Fi/Bluetooth

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ERIDANI				
	SZP-N-2W05	12.5 x 5.4 x 3.3	2400-2500	>45	0.50
	Click for Datasheet				

RISHA | SMD Ceramic Chip Antenna | Wi-Fi/Bluetooth

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	RISHA				
	SZC-C-3W17	1.6 x 1.6 x 0.8	2400-2500	>60	0.90
	Click for Datasheet				

Wi-Fi / BLUETOOTH ANTENNAS | Wi-Fi5/6/7/BLE

AQUARII Flexible Self-Adhesive Antenna with Cable | Wi-Fi 5,6

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	AQUARII SZK-C-0W03 Click for Datasheet	25.0 x 11.0 x 0.2 Cable = 100mm* IPEX MHF1 connector**	2400-2500 4900-6000	>65 >65	1.85 5.50

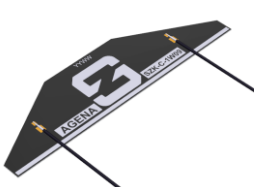
WOLF | Flexible Self-Adhesive Antenna with Cable | Wi-Fi 5,6,7 7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	WOLF SZK-C-0W07 Click for Datasheet	25.0 x 11.0 x 0.2 Cable = 100mm* IPEX MHF1 connector**	2400-2500 4900-5850 5925-7125	>65 >65 >60	1.85 5.50 3.40

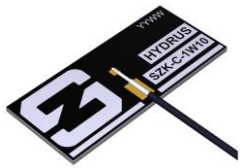
MIRA | Flexible Self-Adhesive Antenna with Cable | Wi-Fi 5,6,7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	MIRA SZK-C-0W08 Click for Datasheet	30.0 x 6.0 x 0.2 Cable = 100mm* IPEX MHF1 connector**	2400-2500 4900-5850 5925-7125	>70 >60 >70	3.40 4.20 4.85

AGENA| Flexible Self-Adhesive Antenna with Cable MIMO | Wi-Fi 5,6,7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	AGENA SZK-C-1W09 Click for Datasheet	75.0 x 20.0 x 0.2 Cable = 100mm* IPEX MHF1 connector**	2400-2500 4900-5850 5925-7125	>60 >65 >70	1.50 3.50 4.20

HYDRUS | Rigid FR4 Self-Adhesive Antenna with Cable | Wi-Fi 5,6

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	HYDRUS SZK-C-1W10 Click for Datasheet	25.0 x 11.0 x 0.2 Cable = 100mm* IPEX MHF1 connector**	2400-2500 4900-6000	>65 >65	1.85 5.50

LARISSA | Terminal Antenna | Wi-Fi 5,6,7

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	LARISSA SZW-C-1W13 Click for Datasheet	202.0 x Ø=13 SMA-Reverse (M) Plug connector	2400-2483 5150-7125	>50 >60	4.00 5.00

Antenna Overview – Ultra wide Band

UWB	PART NUMBER / NAME	DESCRIPTION	FREQUENCY RANGE
	SZP-C-0U01 (RIGEL)	Surface Mount Laminate	3200-7000MHz
	SZC-C-2U02 (ORIONIS)	Ceramic Chip	3200-7500MHz
	SZC-C-2U03 (CHARA)	Ceramic Chip	6000-9500MHz
	SZK-C-2U04 (VELORUM)	FPC + Cable (Flex)	3200-7000MHz
	SZK-C-2U05 (LUPI)	FPC + Cable (Flex)	3200-7500MHz



Synzen's Ultra-Wide Band (UWB) antenna solutions include flexible FPC self-adhesive type, FR4 laminate, and ceramic chip antennas. The flexible FPC self-adhesive type antenna is thin and lightweight, ideal for easy installation and compact designs. The FR4 laminate antenna is cost-effective and reliable, suitable for asset tracking and indoor positioning. The ceramic chip antenna is small and lightweight, with high performance making it ideal for wearable devices and smart homes. With a commitment to quality and performance, Synzen's UWB antenna solutions provide a range of options to suit various applications.

UWB ANTENNAS | Ultra-Wide-Band

RIGEL | Surface Mount Antenna | UWB

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	RIGEL SZP-C-0U01 Click for Datasheet	10.0 x 9.0 x 1.7	3200-4800 5900-7000	>80 >70	3.60 1.50

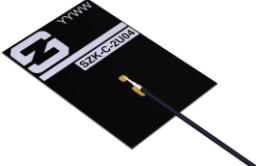
ORIONIS | SMD Ceramic Chip Antenna | UWB

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	ORIONIS SZC-C-2U02 Click for Datasheet	1.6 x 0.8 x 0.8	3200-4800 4900-7500	>75 >70	3.40 4.89

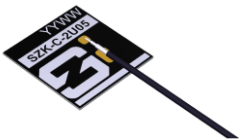
CHARA | SMD Ceramic Chip Antenna | UWB

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	CHARA SZC-C-2U03 Click for Datasheet	1.6 x 0.8 x 0.8	6000-9500	>75	5.99

VELORUM | Flexible Self-Adhesive Antenna with Cable | UWB

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	VELORUM SZK-C-2U04 Click for Datasheet	10.0 x 9.0 x 1.7	3200-4800 5900-7000	>80 >70	3.60 1.50

LUPI | Flexible Self-Adhesive Antenna with Cable | UWB

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	LUPI SZK-C-2U05 Click for Datasheet	1.6 x 0.8 x 0.8	3200-4800 4900-7500	>75 >70	3.40 4.89

Connectors and Cable Assemblies

Board Connectors	PART NUMBER / NAME	DESCRIPTION	TYPE
	SZT-01	MHF1 Receptacle	SMD
	SZT-04	MHF4 Receptacle	SMD

Coming soon

Synzen's connectors and cables, including MHF1, MHF4, MMCX, MCX, and SMA connectors, offer reliable and high-performance connections for wireless communication, IoT devices, and RF applications. These connectors come in various sizes and are designed for use in different applications, with SMA known for its rugged design and excellent electrical performance.

To complement their antenna range, Synzen offers RF cables in various lengths and types, such as coaxial, RG, and low-loss cables. Together, these connectors and cables provide customers with a complete and reliable solution for high-performance wireless connectivity.

By choosing Synzen's connectors and cables, customers can ensure optimal performance and signal quality in their wireless communication systems. With a range of options available, Synzen's connectors and cables are a reliable choice for customers seeking high-performance and dependable connections.



Connectors | PCB Mounted

MHF1 | SMD Mount Receptacle

	Part No.	Type	Contact	Impedance	Mounting type
	SZT-01	MHF1	PCB	50R	PCB Mount

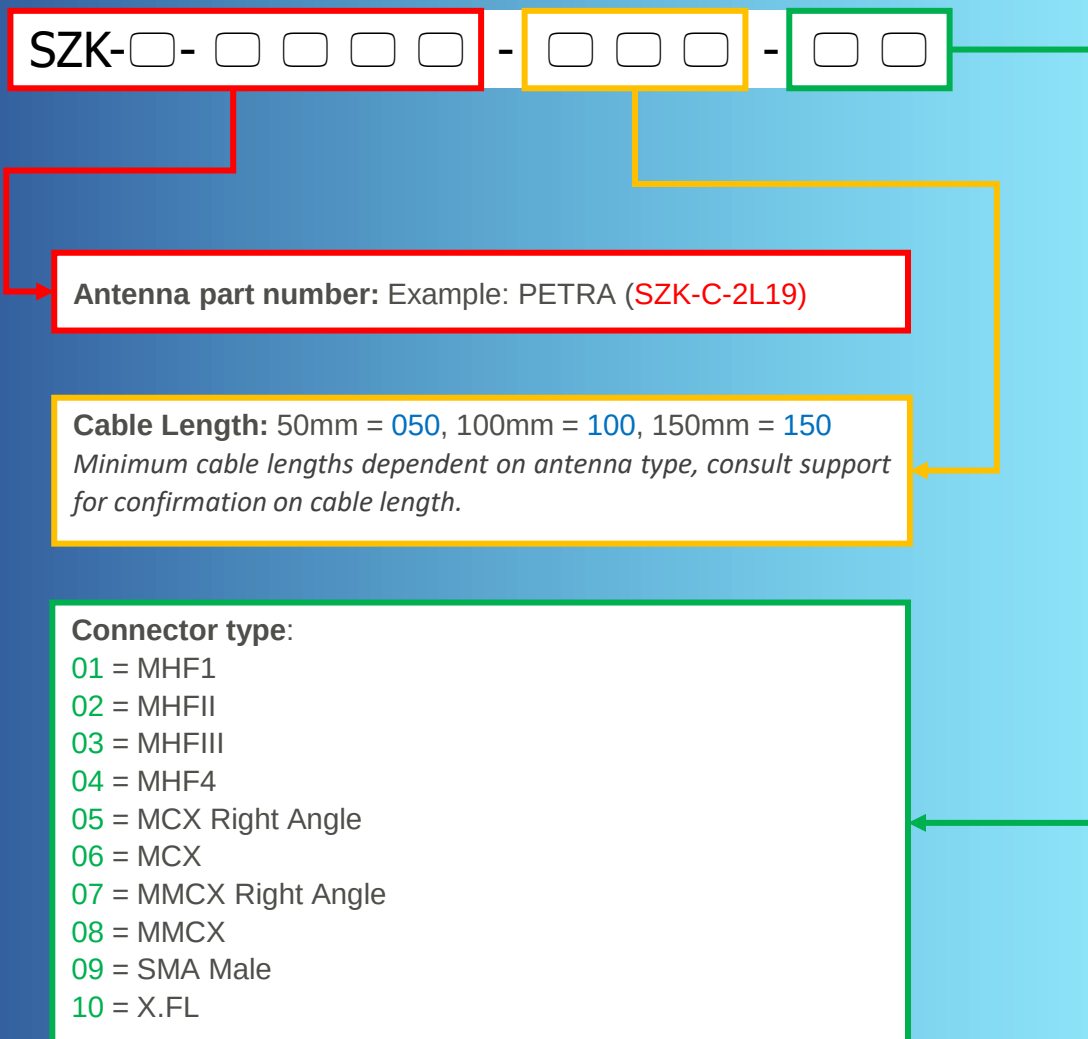
MHF4 | SMD Mount Receptacle

	Part No. / Name	Size (mm)	Frequency (MHz)	Efficiency Avg (%)	Peak Gain (dBi)
	SZT-04	MHF4	PCB	50R	PCB Mount

Flexible Antenna Cable + Connector Part Number Selection

For FPC antennas custom cable length and connectors are available.

Ask synzen for details or use our guide to know the part number for the product you need.



FPC (Flexible Printed Circuit) antennas require the right cable length and connectors to ensure optimal performance. We understand this and offers custom cable lengths and different RF connectors to meet the specific needs of their customers. This service allows customers to get the exact cable length and connector type they need for their FPC antenna.

Having the right cable length and connector type is crucial for ensuring optimal performance of an FPC antenna. Synzen's ability to provide custom cable lengths and different RF connectors is a valuable service that helps meet the unique needs of their customers. This service can help ensure the best possible performance of FPC antennas in a variety of applications.

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5G



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