Wireless for the next generation

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About Antenova

Founded in 1999 Antenova is a leading supplier of high performing antennas and GPS/GNSS modules for wireless, M2M and IoT applications.

- **Market-leading products** for a broad range of wireless connectivity requirements
- **Unrivalled expertise** to support our customers through the wireless integration process
- **ISO9001:2015** Certified with production facilities in Asia
- **Proven track record** in providing off-the-shelf and custom antenna solutions
- **Worldwide** sales with global offices in US, Canada, Europe, Taiwan and China

With our broad range of products, engineering expertise and operational excellence we take the complexity out of antenna integration for wireless applications.

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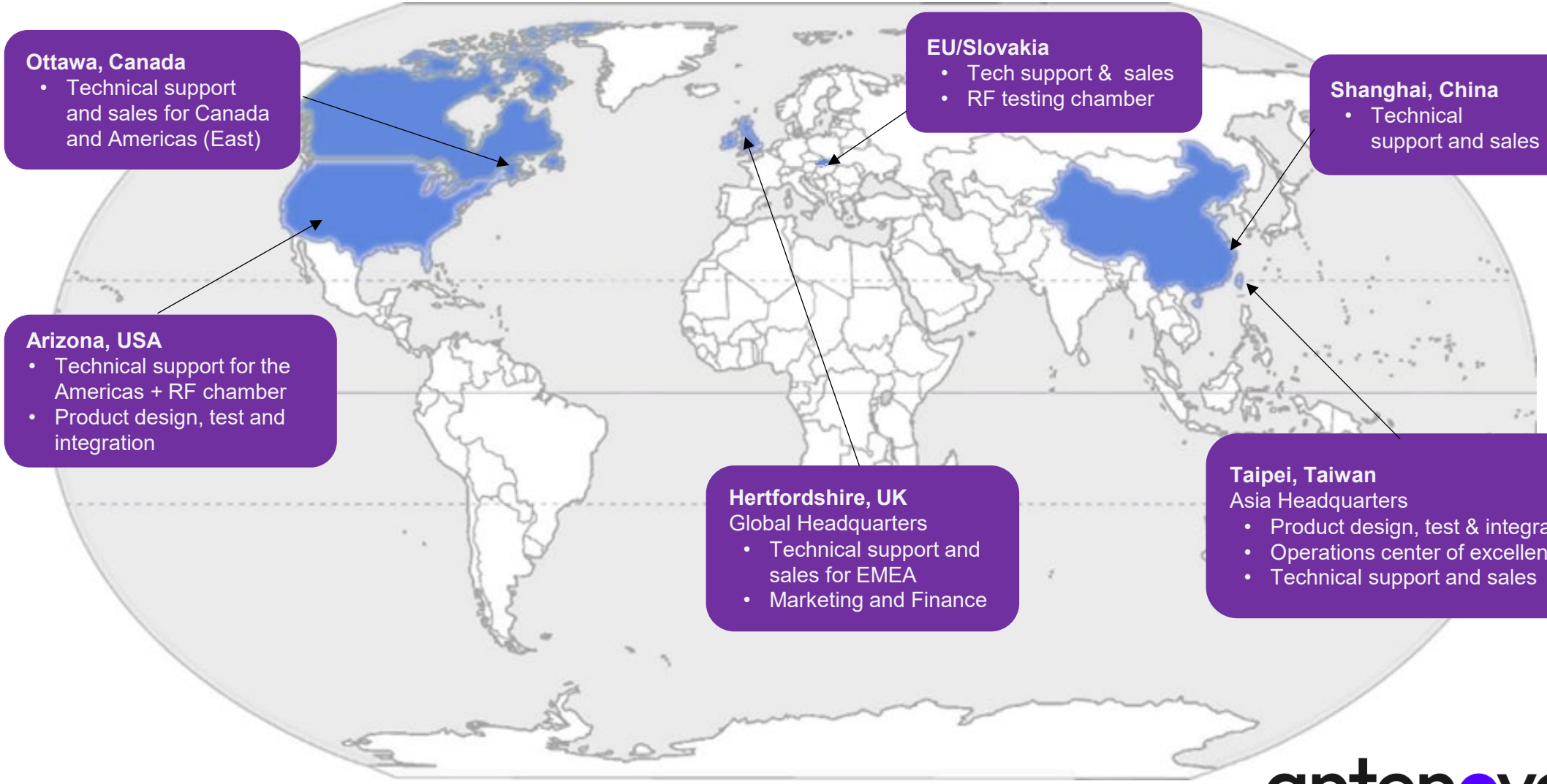
Antenova Worldwide Locations



Ottawa, Canada
- Technical support and sales for Canada and Americas (East)

Arizona, USA
- Technical support for the Americas + RF chamber
- Product design, test and integration

EU/Slovakia
- Tech support & sales
- RF testing chamber

Shanghai, China
- Technical support and sales

Hertfordshire, UK
Global Headquarters
- Technical support and sales for EMEA
- Marketing and Finance

Taipei, Taiwan
Asia Headquarters
- Product design, test & integration
- Operations center of excellence
- Technical support and sales

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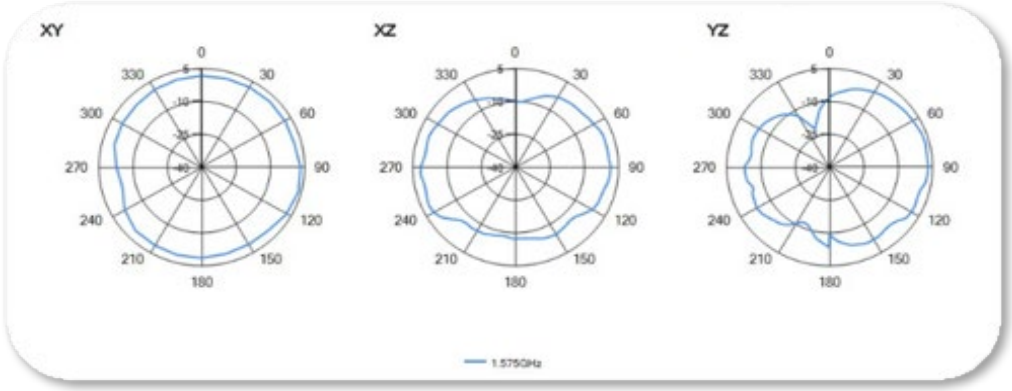
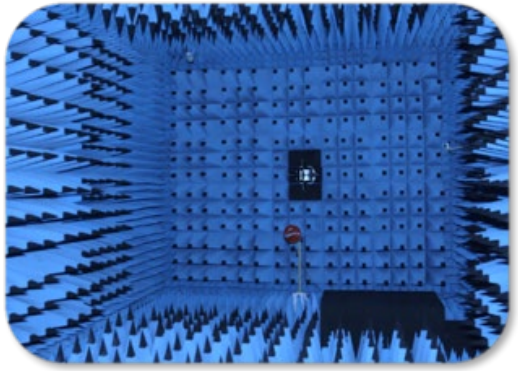
Technical Capability

- CAD suite for RF design and simulation (Ansys HFSS)
- PCB layout & circuit design (Altium Designer)
- Transmission line design
- Mechanical / Electrical lab for PCB and FPC prototyping
- Product housing and PCB dimensional mock-ups
- Vector Network Analyzer (VNA, 20GHz)
- RF Anechoic Chamber (8-meter)
- Phantom body parts ensure real use case performance data





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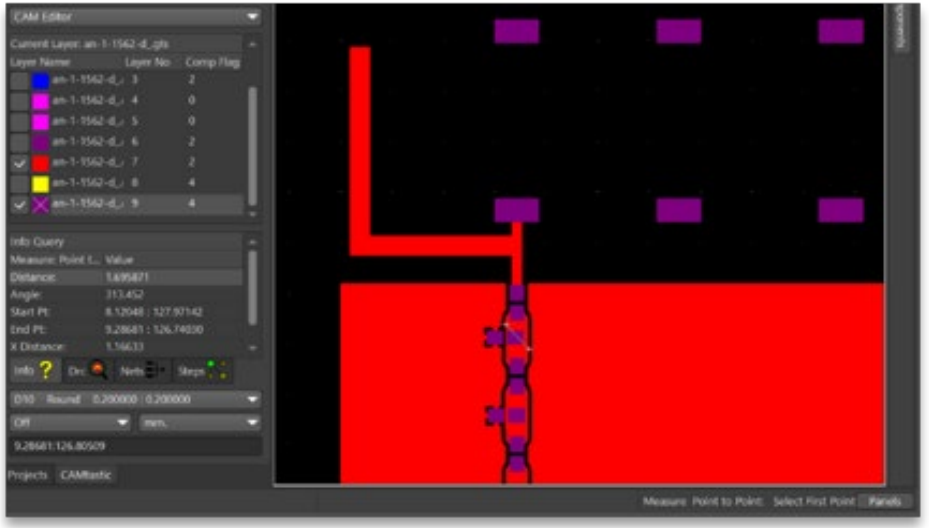
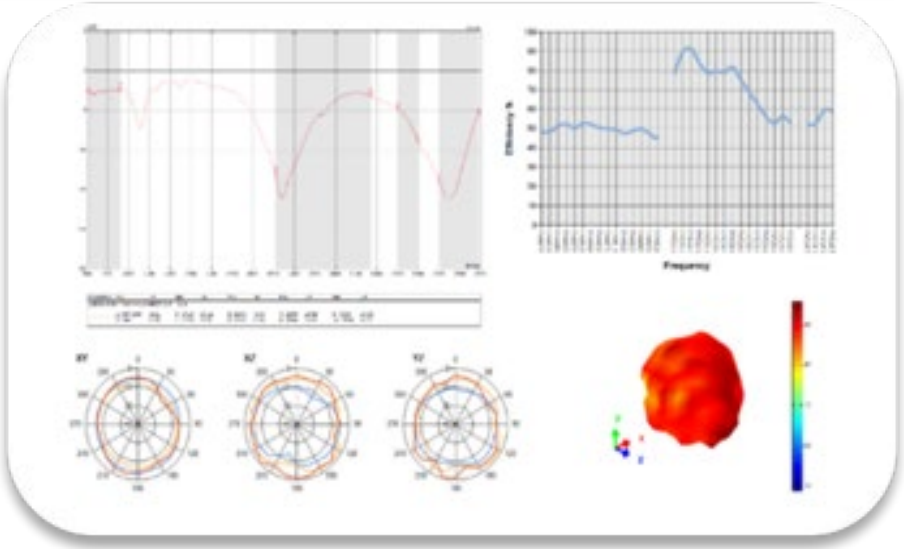
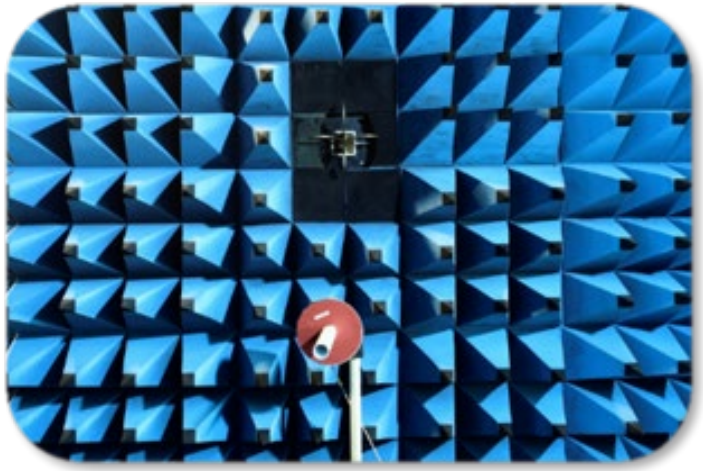
Support Services

- Architecture and 3D review (SolidWorks)
- Gerber file review (Altium Designer)
- LamiiANT family on-PCBA simulation (HFSS)
- Antenna integration advice
- Comprehensive passive testing
  - (Return Loss, Efficiency, 3D radiation patterns)
- Pre-certification testing in RF chambers in US/UK/EU
- Active testing (TRP / TIS, RF OTA)







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New & Emerging Technologies

- Antenova is constantly investing in people and capital equipment to keep up to date with changing and emerging technologies.

- Having already added band 71 (600MHz) capability, we have just upgraded our anechoic chamber to cover up to 12GHz. As well as being a requirement for our product development process, this capability is also available to our customers for in-device testing and optimisation of Antenova products.

UWB

Wi Fi 6E

5G

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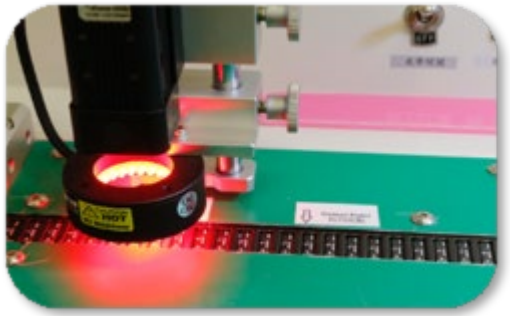
Manufacturing

- **Multiple production sites** in China, Taiwan and Korea all products with second source location.
- **Excellence in Operation and Supply Chain Management**
  In-house processes for control and monitoring of suppliers with rigorous management of transfer to production PCB layout design
- **Approved Supplier Management**
  ISO certification, RoHS, REACH, Prop65 and ISO16750 reliability test



RoHS compliant

Prop 65

REACH COMPLIANT

ISO 16750

ISO

ISOQAR REGISTERED

UKAS MANAGEMENT SYSTEMS 0026

Certificate No. 11070
ISO 9001

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Distribution Hub

Temperature and humidity control warehouse in free trade zone

In-House Quality Assurance

- 2.5D Optical projector
- VNA test S11 using designed jig
- Pull and Push gauge
- Bow & Twist gauge

- We are fabless, but we deliver products every day
- Strong Operations and Supply Chain Management
- Approved Suppliers Management
- Supplier audit and continue quality monitoring

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Market Focus/Antenova Inside

Healthcare/Wearable

Home Appliance

Smart City/Smart Grind

Industry/Retail

4G/5G LTE, GPS/GNSS, Wi-Fi®, Bluetooth®, ZigBee®, ISM, LoRa®

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Market Focus – Healthcare & Wearable

- Wellness
- Tele-health
- Indoor locate
- Offender tag

- Fitness monitors
- Watches
- Lifestyle devices
- Entertainment

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Market Focus – Home Appliances

- Thermostats
- Door entry
- Security
- Lighting
- Routers

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Market Focus – Smart City/Smart Grid

- Metering (AMR)
- Street lighting
- Parking
- Smart bikes
- Information boards

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Market Focus – Industry/Retail

- Lone worker tag
- POS
- Security / Surveillance
- Sensors / Alarms

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Product Lines
&
Featured Product

See our complete product line at www.antenova.com/products

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Cellular/LTE

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Cellular / LTE Antennas

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Cellular and LTE

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FPC + cable + connector

Antenna illustration (Not To Scale)			
Product name	**Lutosa (5G)**	**Affini (5G)**	**Atta (LTE 450)**
Part no	**SRFL061**	**SRFL064**	**SRFI079**
Frequency	617—698 MHz / 699—824 MHz 824—960 MHz / 1420—1520 MHz 1710—2200 MHz / 2300—2400 MHz 2500—2690 MHz / 3300—3800 MHz	617–698 MHz / 698-924 MHz 824–960 MHz / 1710—2170 MHz 2300—2400 MHz / 2500—2690 MHz	410–432MHz 432–434 MHz 434 - 470 MHz
Dimensions LWH (mm)	95.0 x 15.0 X 0.15	78.0 x 17.0 x 0.15	101.0 x 20.0 x 0.15
VSWR	2.9:1 / 3.1:1 / 1.6:1 / 1.7:1 / 2.1:1 / 1.5:1 / 2.0:1 / 2.4:1	3.1:1 / 2.7:1 / 2.2:1 / 3.1:1 / 1.6:1 / 1.7:1	2.2:1 / 2.2:1 / 3.0:1
Efficiency	40% / 45% / 55% / 60% / 60% / 65% / 65% / 60%	45% / 45% / 50% / 60% / 70% / 65%	60% / 55% / 45%
Component & Ground plane			

Implementation support

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SMD

Antenna illustration (Not To Scale)					
Product name	**Pharaoh**	**Lucida**	**Curta**	**Allani (5G)**	**Minima (5G)**
Part no	**SR4L073**	**SR4L002**	**SR4L096**	**SR4L069**	**SR4L075**
Frequency	698-824MHz 824-960MHz 1710-2200MHz 2300-2400MHz 2500-2690MHz	698—824 MHz 824—960 MHz 1710—2170 MHz 2300—2400 MHz 2500—2690 MHz	698—960 MHz 1710—2170 MHz 2300—2400 MHz 2500—2700 MHz	617–824 MHz / 824–960 MHz 1710–2200 MHz / 2300–2400 MHz 2500–2690 MHz / 3300–3800 MHz	617–698MHz / 698–824MHz 824–960MHz / 1710–2170MHz 2300–2400MHz / 2500–2690MHz 3300–3800MHz
Dimensions LWH (mm)	37.0 x 13.0 x 3.3	35.0 x 8.5 x 3.2	40 x 10 x 1.7	45.0 x 10.0 x 3.3	40.0 x 10.0 x 3.3
VSWR	3.8:1 / 2.8:1 / 1.7:1 / 2.2:1 / 2.2:1	3.2:1 / 2.8:1 / 3.1:1 / 1.7:1 / 3.4:1	3.5:1 / 3.3:1 / 1.9:1 / 3.5:1	3.6:1 / 3.3:1 / 2.3:1 / 2.2:1 / 2.4:1 / 2.3:1	3.8:1 / 4.3:1 / 3.8:1 / 1.8:1 / 1.8:1 / 2.0:1/ 2.4:1
Efficiency	25% / 35% / 80% / 65% / 60%	45% / 60% / 65% / 50% / 50%	56% / 66% / 52% / 53%	45% / 55% /66% / 57% / 63% / 55%	35% / 45% / 60% / 55% / 55% / 60% / 50%
Component & Ground plane	Measurements made on a 60x40mm EVK	 Measurements made on a 130x50mm EVK			

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FPC + cable + connector

Antenna illustration (Not To Scale)					
Product name	**Armata**	**Avia**	**Zhengi**	**Mitis**	**Moseni**
Part no	**SRFC011**	**SRFC025**	**SRFC015**	**SRFL026**	**SRFL029**
Frequency	824—960 MHz 1710—1990 MHz 2110—2170 MHz	824—960 MHz 1710—1990 MHz 2110—2170 MHz	824—960 MHz 1710—1990 MHz 2110—2170 MHz 2300—2400 MHz 2500—2690 MHz	698—824 MHz 824—960 MHz 1710—2170 MHz 2300—2400 MHz 2500—2690 MHz	698—824 MHz 824—960 MHz 1710—2170 MHz 2300—2400 MHz 2500—2690 MHz
Dimensions LWH (mm)	30.0 x 28.5 x 0.15	71.0 x 12.5 x 0.15	80.0 x 20.0 x 0.15	110.0 x 20.0 x 0.15	110.0 x 20.0 x 0.15
VSWR	2.9:1 / 2.2:1 / 1.6:1	2.8:1 / 2.2:1 / 1.3:1	3.3:1 / 2.9:1 / 2.1:1 / 3.2:1 / 2.9:1	3.2:1 / 1.95:1 / 1.9:1 / 2.1:1 / 3.1:1	3.5:1 / 2.4:1 / 3.3:1 / 1.4:1 / 1.7:1
Efficiency	40% / 55% / 60%	45% / 70% / 65%	50% / 65% / 50% / 50% / 65%	55% /65% / 65% / 55% / 70%	60% / 60% / 65% / 80% / 80%
Component & Ground plane					

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	SMD				
Antenna illustration (Not To Scale)					
Product name	**Similis**	**Inversa**	**Integra**	**Latona**	**Calvus**
Part no	**SR4C005**	**SR4L034-L / SR4L034-R**	**SR4L049-L / SR4L049-R**	**SR4C033-L / SR4C033-R**	**A10340H**
Frequency	824—960 MHz 1710—1990 MHz 2110—2170MHz 2300—2400 MHz 2500—2690 MHz	698—824 MHz 824—960 MHz 1710—2170 MHz 2300—2400 MHz 2500—2690 MHz	791—960 MHz 1710—2170 MHz 2300—2400 MHz 2500—2690 MHz	791—862 MHz 824—960 MHz	824—960 MHz 1710—2170 MHz
Dimensions LWH (mm)	40.0 x 10.0 x 1.6	28.0 x 8.0 x 3.3	23.0 x 8.0 x 3.3	20.0 x 11.0 x 1.6	28.0 x 8.8 x 3.2
VSWR	3.8:1 / 2.8:1 / 3.2:1 / 2.8:1 / 3.9:1	2.8:1 / 2.8:1 / 3.5:1 / 2.5:1 / 3.7:1	2.3:1 / 3.6:1 / 1.9:1 / 4.1:1	2.1:1 / 2.6:1	3.2:1 / 3.0:1
Efficiency	45% / 60% / 55% / 60% / 65%	50% / 50% / 75% / 55% / 42%	45% / 50% / 45% / 35%	45% / 40%	65% / 65%
Component & Ground plane					

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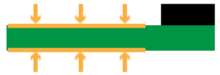
	SMD				
Antenna illustration (Not To Scale)					
Product Name	**Mica**	**Comata**	**Mixtus**	**Rufa**	**Fusca**
Part no	A5645H	A6111H	A10194H	Left A5839H /Right A5887H	A10192H
Frequency	2.4—2.5 GHz	2.4—2.5 GHz	2.4—2.5 GHz /4.9—5.9 GHz	2.4—2.5 GHz	2.4—2.5 GHz
Dimensions LWH (mm)	20.5 x 3.6 x 3.3	12.8 x 3.6 x 3.3	10.0 x 10.0 x 0.9	12.8 x 3.9 x 1.1	4.0 x 3.0 x 1.1
VSWR	1.8:1	2.3:1	1.4:1 / 1.8:1	1.8:1	2:1
Efficiency	65%	45%	75% / 60%	75%	65%
Component & Ground plane					
Comments	Wi-Fi 802.11a/b/g/j/n/				

Implementation support

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	SMD			
Antenna illustration (Not To Scale)				
Product Name	**Weii**	**Sharpi**	**Minuta**	**Abdita**
Part no	SRCW004	SRC5G027	SRC2W006	SRCW090
Frequency	2.4—2.5 GHz	4.9—5.9 GHz	2.4—2.5 GHz / 4.9—5.9 GHz	2.4-2.5 GHz
Dimensions LWH (mm)	1.0 x 0.5 x 0.5	1.0 x 0.5 x 0.5	1.0 x 0.5 x 0.5	1.0 x 0.5 x 0.5
VSWR	1.6:1	3.0:1	2.2:1 / 1.97:1	1.6:1
Efficiency	70%	60%	55% / 50%	60.5%
Component & Ground plane				
Comments	Wi-Fi 802.11a/b/g/j/n/ac			

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	SMD			WiFi6E & WiFi7	PCB + cable + connector	WiFi6E & WiFi7
Antenna illustration (Not To Scale)						
Product Name	**Mutica**	**Serica**	**Dolo**	**Billi**	**Zenon**	**Nitida**
Part no	SR42W001	SR4W035	SR4W089	SR43W078	SR4W030	SRE3W084
Frequency	2.4—2.5 GHz 4.9—5.9 GHz	2.4—2.5 GHz	2.4 - 2.5 GHz	2.4 ~ 2.5 GHz 4.9 ~ 5.9 GHz 5.925 ~ 7.125 GHz	2.4—2.5 GHz	2.4 - 7.125GHz
Dimensions LWH (mm)	11.3 x 5.0 x 0.8	6.0 x 4.0 x 0.4	7.5 x 4.0 x 0.9	15.0 x 6.0 x 1.0	23.0x16.0x1.6	123.7 x12.7 x 12.1
VSWR	1.5:1 / 2.7:1	1.85:1	1.8:1	2:1 / 2.45:1 / 2.45:1	2.30:1 / 2.00:1 / 2.30:1	1.6:1 / 1.8:1 / 2.3:1
Efficiency	75% / 65%	65%	76%	70% / 60% / 65%	70% / 60% / 65%	70% / 60% / 55%
Component & Ground plane						
Comments	Wi-Fi 802.11a/b/g/j/n/ac					

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	FPC + cable + connector				WIFi6E & WiFi7
Antenna illustration (Not To Scale)					
Product Name	**Dromus**	**Amoris**	**Asper**	**Invicta**	**Lotti**
Part no	SRF2W012	SRF2W021	SRFWG018	SRFW082	SRF3W077
Frequency	2.4—2.5 GHz / 4.9—5.9 GHz	2.4—2.5 GHz / 4.9—5.9 GHz	2.4-2.5 GHz / 1559-1609 MHz	2.4-2.5 GHz	2.4 ~ 2.5 GHz 4.9 ~ 5.9 GHz 5.925 ~ 7.125 GHzz
Dimensions LWH (mm)	30.0 x 6.0 x 0.15	27.0 x 14.0 x 0.15	81.0 x 14.0 x 0.15	30.0 x 6.0 x 0.15	30.0 x 8.9 x 0.15
VSWR	1.5:1 / 1.8:1	1.7:1 / 1.7:1	1.3:1 / 1.4:1	1.4:1	1.3:1 / 1.6:1 / 1.5:1
Efficiency	60% /60%	67% / 70%	75% / 85%	70%	70% / 65% / 70%
Component & Ground plane					
Comments	Wi-Fi 802.11a/b/g/j/n/ac				

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GNSS Antennas

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GNSS Antennas

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GNSS: GPS, GLONASS

	lamiiANT				ceriiANT
	SMD				SMD
Antenna Illustration (Not To Scale)					
Product Name	**Agosti**	**Sinica**	**Beltii**	**Raptor**	**Admotus**
Part no	SR4G080	SR4G008	SR4G013	SR4G053	SRCW091
GNSS	GPS / GLONASS / BeiDou / Galileo	GPS / GLONASS / BeiDou / Galileo	GPS / GLONASS / BeiDou / Galileo	GPS / GLONASS / BeiDou / Galileo	GPS / GLONASS / BeiDou / Galileo
Band	L1	L1	L1	L1 - L2 - L5	L1
Frequency	1559—1609 MHz	1559—1609 MHz	1559—1609 MHz	1164—1249 MHz / 1559—1609 MHz	1559 - 1610 MHz
Dimensions LWH (mm)	9.0 x 5.8 x 1.7	7.0 x 5.8 x 0.4	15.6 x 3.3 x 4.4	16.0 x 8.0 x 1.6	1.0 x 0.5 x 0.5
VSWR	2.8:1	1.4:1	2.2:1	2.1:1 / 1.9:1	1.8:1
Efficiency	50%	75%	60%	75% / 65%	53%
Component & Ground plane					

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GNSS Antennas

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GNSS: GPS, GLONASS

		FPC + cable + connector		SMD + cable + connector	SMD	
Antenna Illustration (Not To Scale)						
Product Name	**Bentoni**	**Asper**	**Robusta**	**Active GNSS Antenna**	**Active GNSS Antenna**	
Part no	SRFG017	SRFWG018	SR4G031	M20047-1	M20057-1	
GNSS	GPS / GLONASS / BeiDou / Galileo	GPS / GLONASS / BeiDou / Galileo / Wi-Fi / Bluetooth / Zigbee	GPS / GLONASS / BeiDou / Galileo	GPS / GLONASS / BeiDou / Galileo	GPS / GLONASS / BeiDou / Galileo	
Frequency	1559—1609 MHz	1559—1609 MHz / 2.4—2.5 GHz	1559—1609 MHz	1559-1609 MHz	1559-1609 MHz	
Dimensions LWH (mm)	40.0 x 14.0 x 0.15	81.0 x 14.0 x 0.15	23.0 x 16.0 x 1.6	7.0 x 7.0 x 1.1	7.0 x 7.0 x 1.1	
VSWR	1.45:1	1.3:1 / 1.4:1	1.60:1	N/A	N/A	
Efficiency	75%	75% / 85%	50%	65%	65%	
Component & Ground plane						

Implementation support

Antenova offers a full range of development support and RF testing to help reduce customization, design costs and accelerate your time to market. Antenova recommends customers to use our know-how when it comes to implementing the antenna. We offer advanced measuring equipment, custom tuning and technical support to obtain a secure and reliable implementation. Make Antenova your partner of choice for new product development.

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Updated Mar 2024 QG GNSS 5.2

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GNSSNOVA Antenna Modules

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GNSSNOVA Antennas Modules

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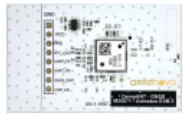
GPS and GNSS Antenna Modules

	SMD			
Antenna illustration (Not To Scale)				
Part number	M20071	M20072	Agosti M20071-EVK	Admotus M20071-EVK
Architecture	Ant + RF + BB	Ant + RF + BB	Ant + RF + BB	Ant + RF + BB
GPS Chipset	Mediatek AG3335MN	Mediatek AG3335MN	Mediatek AG3335MN	Mediatek AG3335MN
Frequency	1559 - 1609 MHz	1559—1609 MHz	1559—1609 MHz	1559—1609 MHz
Dimensions (L x W x H in mm)	9.0 x 9.0 x 1.8	13.8 x 9.5 x 1.8	50 x 25mm	50 x 30mm
Omni-directional antenna	N/A	√	√	√
External antenna support	√	√		
Av. antenna gain, eq. to ceramic antenna	N/A	17 x 17 x 4 mm		
Power consumption: acquisition, tracking, sleep mode	31mA, 24mA,<200uA	38mA, 28mA, 350uA		
Host Interface	UART	UART	UART	UART
Baud rate (bps)	115200	115200	115200	115200
Data output protocol	NMEA 0183	NMEA 0183	NMEA 0183	NMEA 0183
Sensitivity: acquisition / tracking	-148dBm / -165 dBm	-148dBm / -165 dBm	-148dBm / -165 dBm	-148dBm / -165 dBm
Typical applications	Tracking devices, PNDs, OBD2, mHealth	Tracking devices, PNDs, OBD2, mHealth		

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GNSSNOVA Antennas Modules

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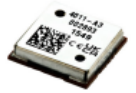
GPS and GNSS Antenna Modules

	SMD			
Antenna illustration (Not To Scale)				
Part number	M10578-A2	M10578-A3	M20048-1	M20050-1
Architecture	RF + BB	RF + BB	Ant + RF + BB	Ant + RF + BB
GPS Chipset	Mediatek MT3337-E	Mediatek MT3333	Mediatek MT3337-E	Mediatek MT3333
Frequency	1575 MHz	1559—1609 MHz	1575 MHz	1559 - 1609 MHz
Dimensions (L x W x H in mm)	9.0 x 9.0 x 1.8	9.0 x 9.0 x 1.8	13.8 x 9.5 x 1.8	13.8 x 9.5 x 1.8
Antenna Bandwidth	30 MHz	50 MHz	30 MHz	50 MHz
Antenna Bandwidth	30 MHz	50 MHz	30 MHz	50 MHz
Omni-directional antenna	N/A	N/A	√	√
External antenna support	√	√	√	√
Av. antenna gain, eq. to ceramic antenna	N/A	N/A	17 x 17 x 4 mm	17 x 17 x 4 mm
Power consumption: acquisition, tracking, sleep mode	31mA, 24mA, <200uA	38mA, 28mA, 350uA	31mA, 24mA,<200uA	38mA, 28mA, 350uA
Host Interface	UART CMOS 3.3v	UART CMOS 3.3v	UART CMOS 3.3v	UART CMOS 3.3v
Baud rate (bps)	4800 / 9600 / 38400 / 115200	9600	4800 / 9600 / 38400 / 115200	9600++
Data output protocol	NMEA 0183	NMEA 0183	NMEA 0183	NMEA 0183
Sensitivity: acquisition / tracking	-148dBM / -165 dBm	-148dBM / -165 dBm	-148dBM / -165 dBm	-148dBM / -165 dBm
Typical applications	Tracking devices, PNDs, OBD2, mHealth		Tracking devices, PNDs, OBD2, mHealth	

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ISM Antennas

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ISM Antennas

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NB-IoT, LP-WAN, ISM

	lamiiANT®			ceriiANT®	flexiiANT®		
	SMD				FPC + cable + connector		
Antenna illustration (Not To Scale)							
Product Name	**Latona**	**Grandis**	**Velox**	**Silvai**	**Lama**	**Fera**	**Inca**
Part no	SR4C033-L / SR4C033-R	SR42I010-L / SR42I010-R	SR4I052	SRCI024	SRFI065	SRFI068H / SRFI068V	SRFI028
Frequency	791—960 MHz	863—928 MHz	863—928 MHz	868 - 915MHz	863-870MHz / 902-928 MHz	902-928 MHz	432—434 MHz
Dimensions LWH (mm)	20.0 x 11.0 x 1.6	12.0 x 11.0 x 1.6	35.0 x 8.0 x 0.9	1.0 x 0.5 x 0.5 mm	35.0 x 10.0 x 0.15	33.0 x 13.0 x 0.15	101.0 x 20.0 x 0.15
VSWR	2.1:1 / 2.6:1	1.2:1 / 1.8:1	2.4:1	1.7:1 / 2.4:1	1.5:1 / 1.5:1	1.4:1	1.6:1
Efficiency	60% / 65%	60% / 65%	70%	55% / 70%	52% / 52%	36%	45%
Components & Ground plane							

Implementation support

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Terminal Antennas

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Terminal Antennas

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Terminal/External Antennas

	Pacifica SREI038			WiFi6E & WiFi7
Antenna illustration (Not To Scale)				
Product Name	**Pacifica Fixed (IP67)**	**Pacifica Swivel**	**Pacifica Cable (IP67)**	**Nitida**
Part no	SREI038-IPP*	SREI038-S9P*	SREI038-xxP**	SRE3W084
Frequency	432-434 MHz	432-434 MHz	432-434 MHz	2.4 - 7.125GHz
Dimensions LWH (mm)	143.7 x 22.5 max.	152.56 x 22.5 max.	138.5 x 22.49 max. excluding cable	123.7 x 12.7 x 12.1 (mm3)
VSWR	1.60:1	1.65:1	1.80:1	1.6:1 / 1.8:1 / 2.3:1
Efficiency	50%	50%	50%	70% / 58% / 55%
Comments	*Additional part numbers for antennas with non standard connectors: SMA Plug Reverse: SREI038-xxR, SMA Jack: SREI038-xxJ, SMA Jack Reverse: SREI038-xxK **Four cable lengths available, part numbers are: 1.0m cable: SREI038-10P, 1.5m cable: SREI038-15P, 1.7m cable: SREI038-17P, 2.0m cable: SREI038-20P			

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Terminal Antennas

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Terminal/External Antennas

	Draco SREI036 / Rabo SREL062				
Antenna illustration (Not To Scale)					
Product Name	**Draco Fixed (IP67)**	**Draco Swivel**	**Draco Cable (IP67)**	**Rabo Fixed (IP67)**	**Rabo Swivel**
Part no	SREI036-IPP*	SREI036-S9P*	SREI036-xxP**	SREL062-IPP	SREL062-S9P
Frequency	698-960 MHz 1427-1660 MHz 1720-2170 MHz 2300-2400 MHz 2500-2690 MHz	698-960 MHz 1427-1660 MHz 1720-2170 MHz 2300-2400 MHz 2500-2690 MHz	698-960 MHz 1427-1660 MHz 1720-2170 MHz 2300-2400 MHz 2500-2690 MHz	617-960MHz 1426-1660MHz 1710-2170MHz 2300-2400MHz 2500-2690MHz 3200-3800MHz	617-960MHz 1426-1660MHz 1710-2170MHz 2300-2400MHz 2500-2690MHz 3200-3800MHz
Dimensions LWH (mm)	143.7 x 22.5 max.	152.56 x 22.5 max.	138.5 x 22.49 max. excluding cable	143.7 x 22.5 x 13.5	132.61 x 30.75 x 13.5
VSWR	3.30:1	3.25:1	2.60:1	1.301 -2.60:1	1.55:1—2.30:1
Efficiency	55%	%6%	45%	75%	75%
Comments	* Additional part numbers for antennas with non standard connectors: SMA Plug Reverse: SREI036-xxR, SMA Jack: SREI036-xxJ, SMA Jack Reverse: SREI036-xxK ** Four cable lengths available, part numbers are: 1.0m cable: SREI036-10P, 1.5m cable: SREI036-15P, 1.7m cable: SREI036-17P, 2.0m ca-ble: SREI036-20P				

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Technical Support

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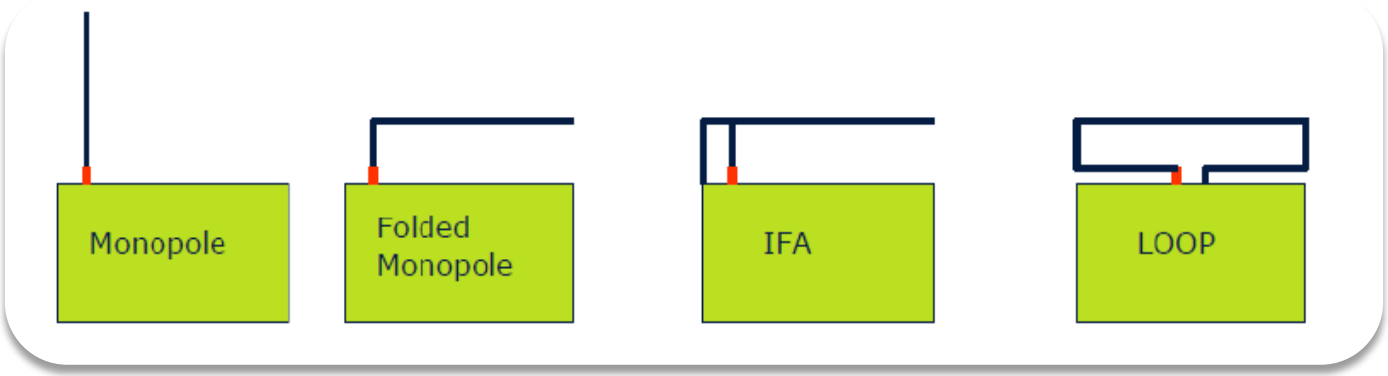
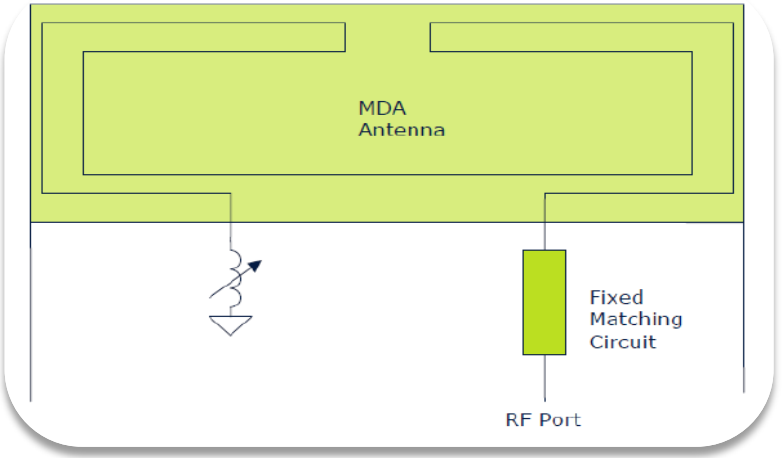
Technical Advantage

- Conventional antennas are normally variations of shorted monopoles (IFA, PIFA,..)
- MDA (Magnetic Dipole Antenna) takes a different approach and uses a **loop**



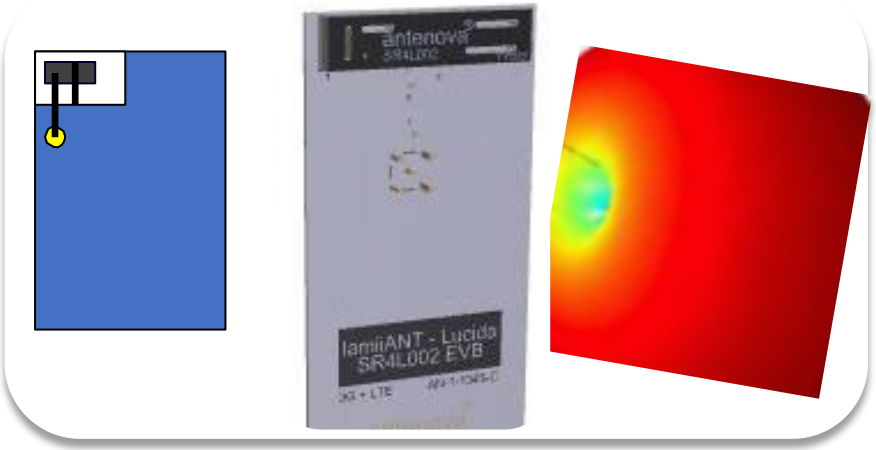


- MDAs: Highly efficient loop antennas - providing good performance in a compact size
- Smaller Clearance: The coupling between the MDA antenna and host PCB ground plane is
- much smaller than that of a conventional monopole and PIFA antenna
- This in turn creates stability against de-tuning

Antenna Types, Polarization, Radiation Patterns

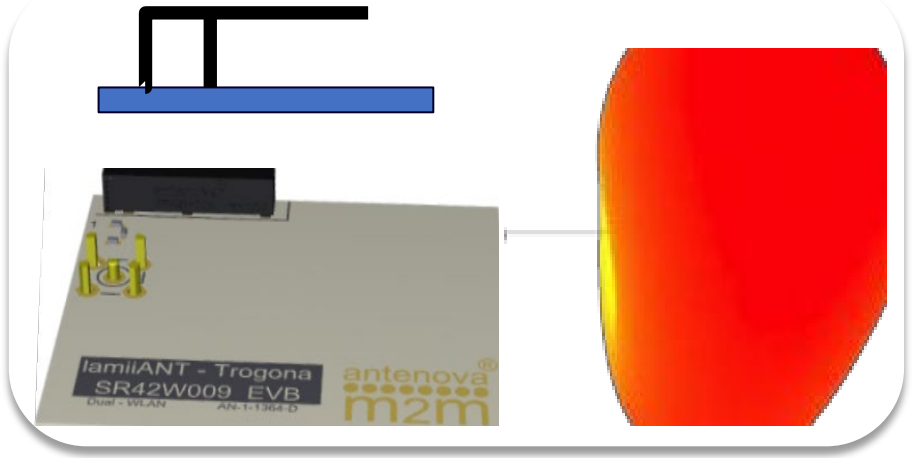
SMD Type Antennas
(Monopole derivatives, Dipoles and Magnetic dipoles)

- Linear Polarization
- Antenna is installed adjacent to the PCB ground plane
- Radiation pattern is omni-directional around the antenna and the PCB ground plane.
- Again, antenna placement is key to consider in the real-
- world application.



Planar Inverted F Antennas (PIFA)

- Linear Polarization
- Antenna is installed over PCB ground plane
- Radiation pattern is omni-directional above ground plane and perpendicular to it.



Matching Circuits On Customers' PCB

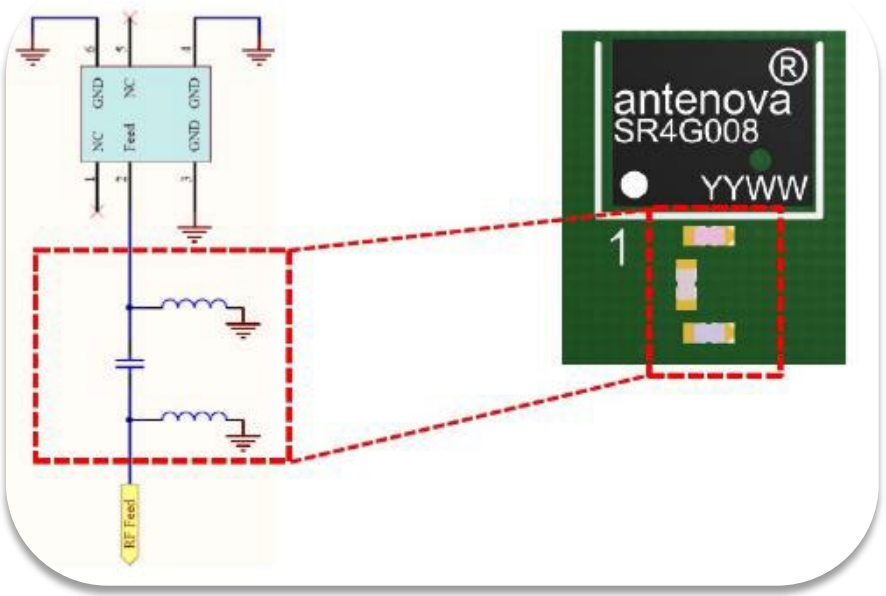
All embedded antennas are subject to detuning, factors include:

- Environment, e.g., conductive surfaces, human/animal body (wearables, tracking devices)
- Dielectric of enclosure
- Surrounding components, electrolytic caps, metal
- parts…

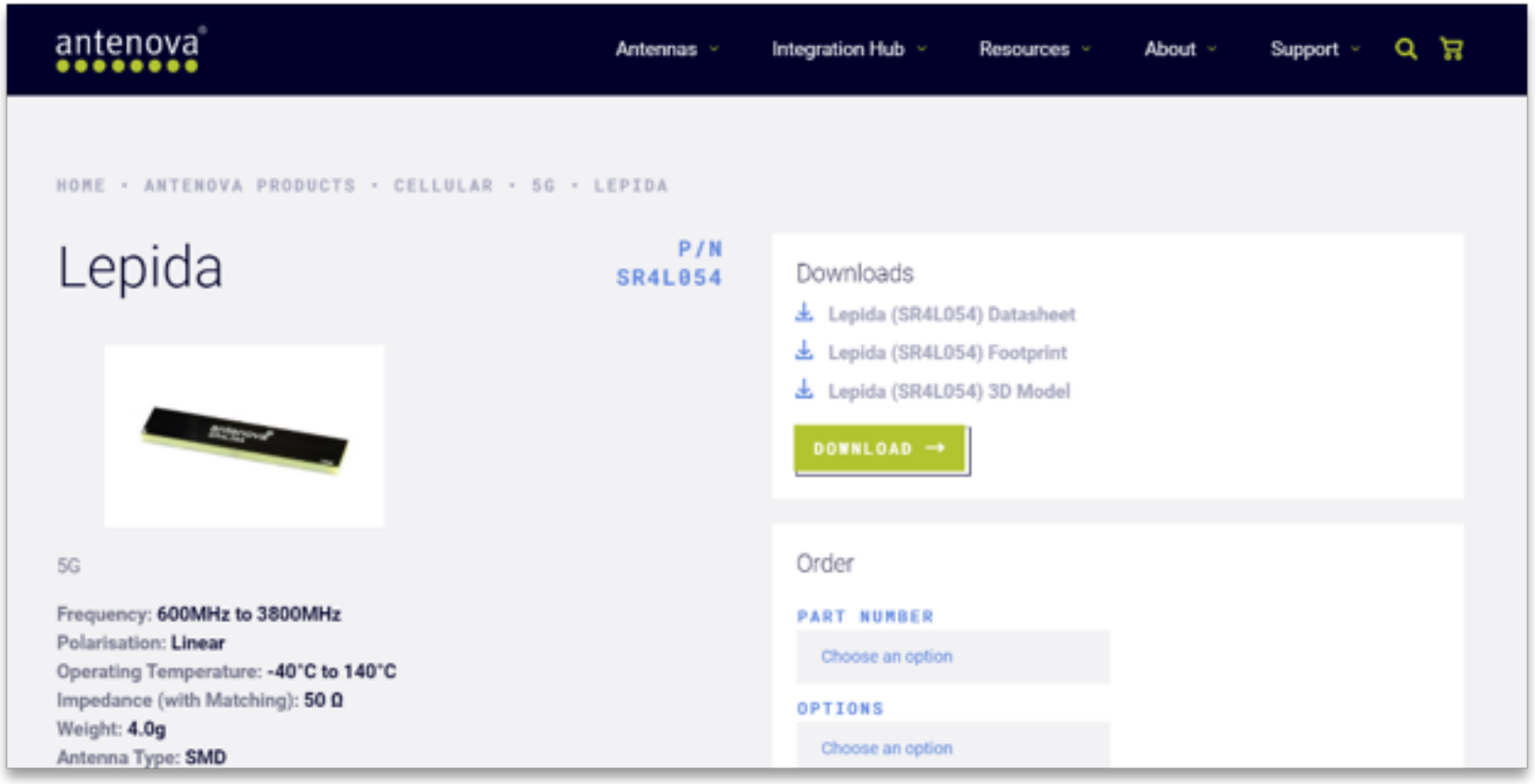
We compensate for the detuning with a matching circuit (Pi Network).

- Every applicable antenna has a recommended matching circuit topology described in the datasheet.

Antenova's Engineers are available to help with any tuning via our support services.



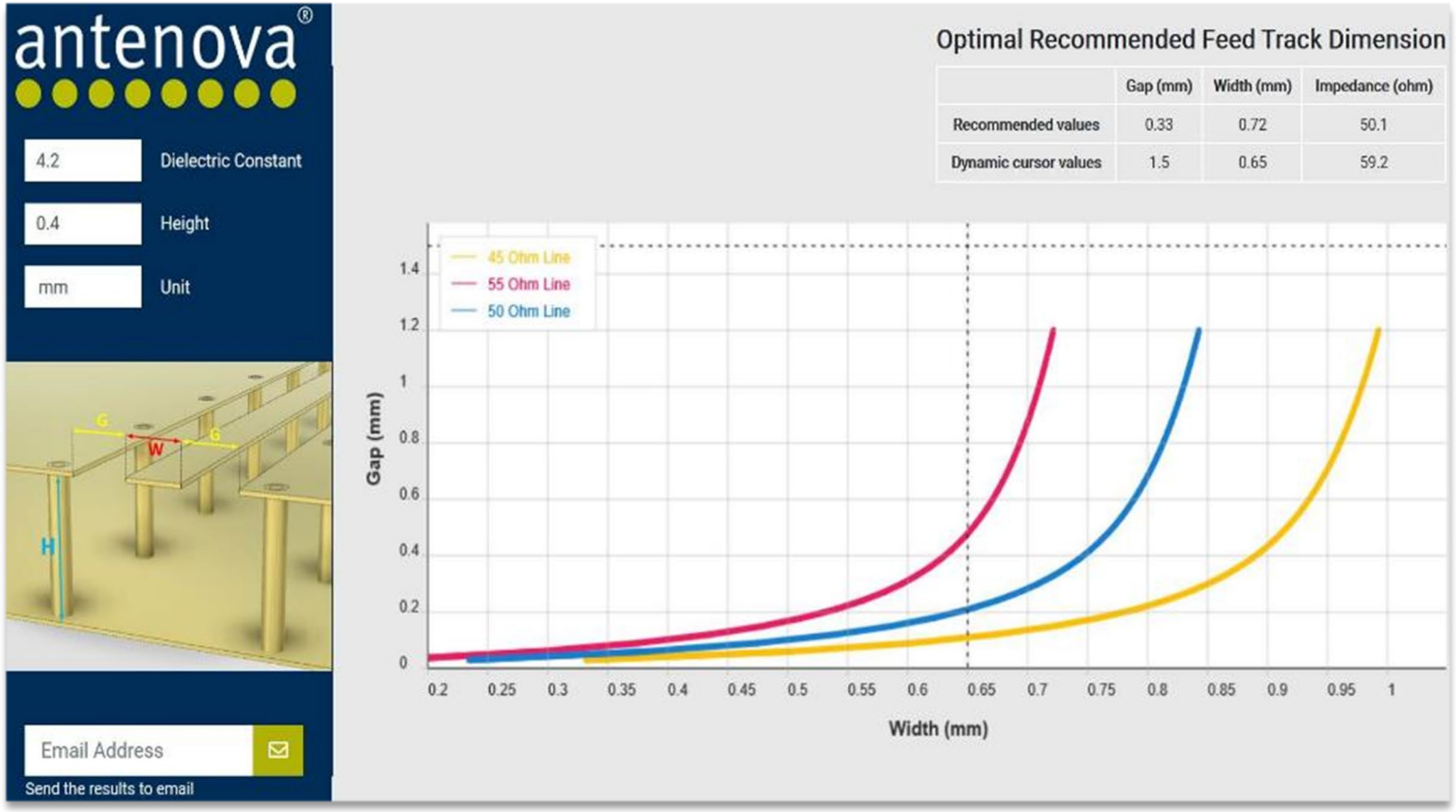
PCB footprints and 3D models



Where applicable the PCB footprint and 3D model is available for your selected antenna, along with the datasheet.

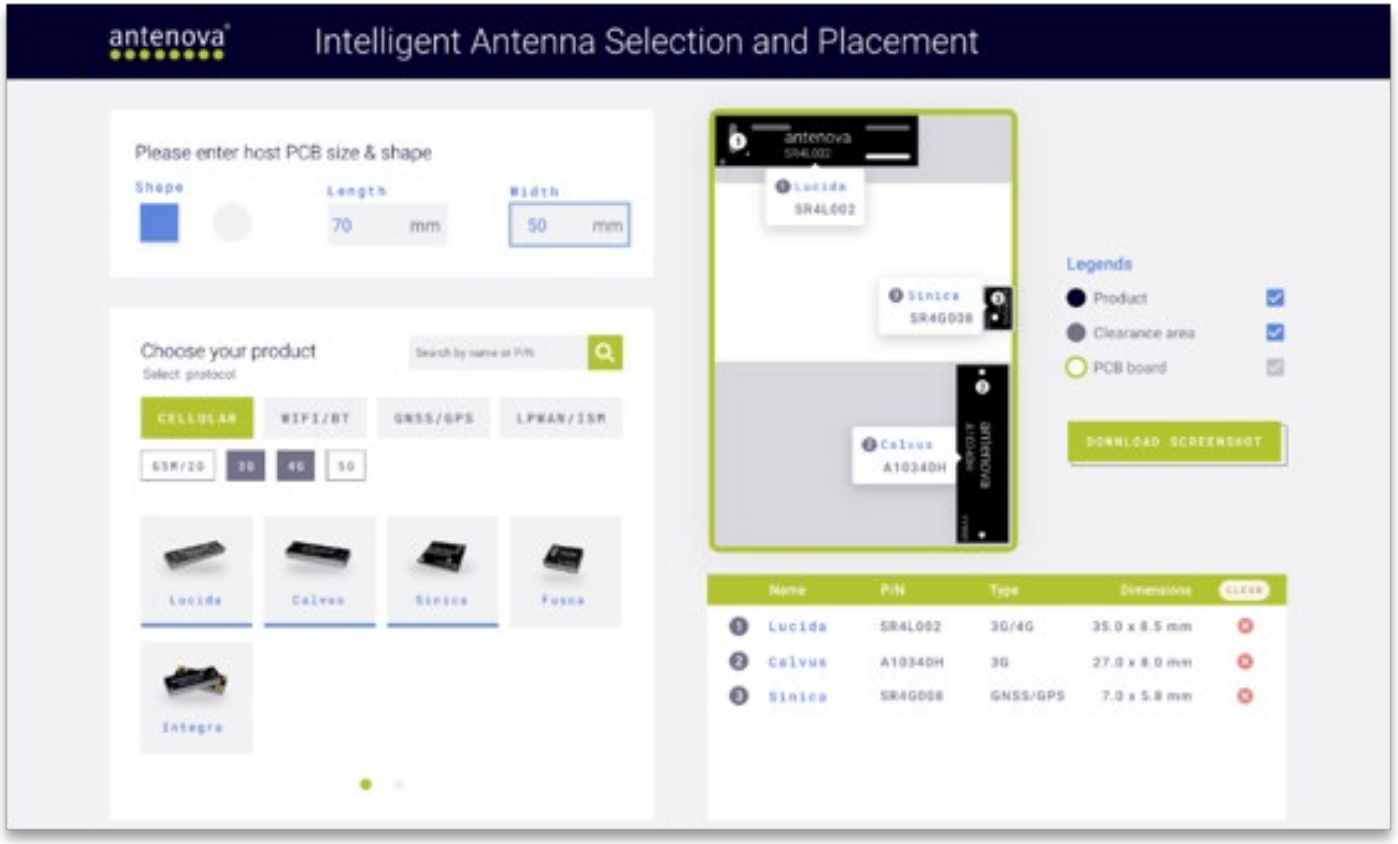
PCB footprints: Gerber files & 3D models available at www.antenova.com

Transmission Line Calculator



Design Layout Tools: Transmission Line Calculator available at www.antenova.com

Antenna Selection and Placement Tool



Design Layout Tools: Intelligent Antenna Selection & Placement Tool available at www.antenova.com

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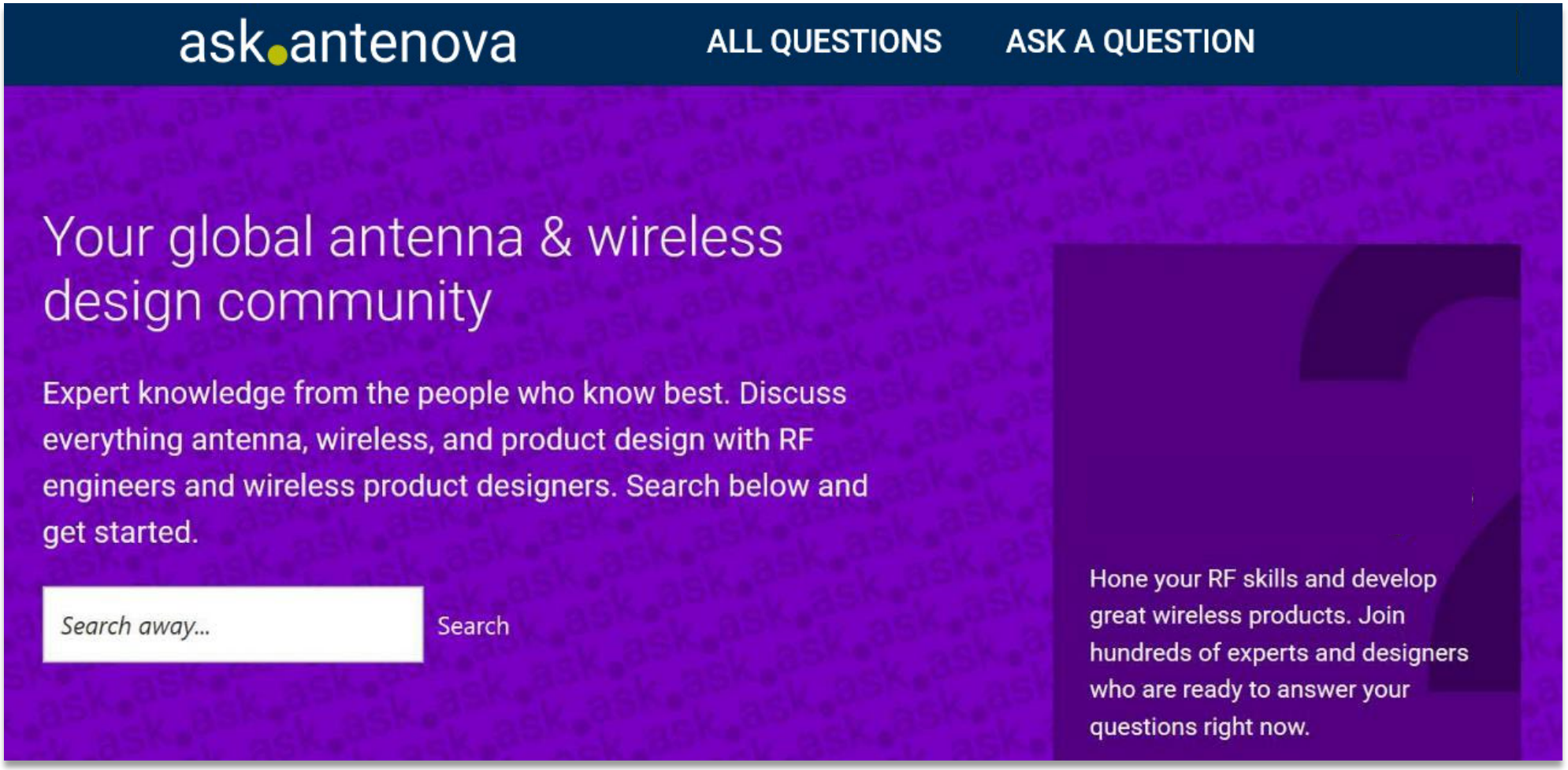

Antenova's Value Proposition

- Antenova is a leading ANTENNA and GPS/GNSS RECEIVER SOLUTIONS company focused on the IoT, M2M and the Wireless consumer electronics markets.
- We offer a broad range of high-performance standard antennas and GPS/GNSS receiver module solutions for a wide range of wireless applications.
- Pre-optimized Antenna and GPS/GNSS Receiver solutions.
- True Antenna, GPS/GNSS, and RF Technical Support by our Engineering team.

End Solution: Low-cost antennas and GPS/GNSS functionalities, **optimally integrated** in the end-product design.

THANK YOU

www.antenova.com