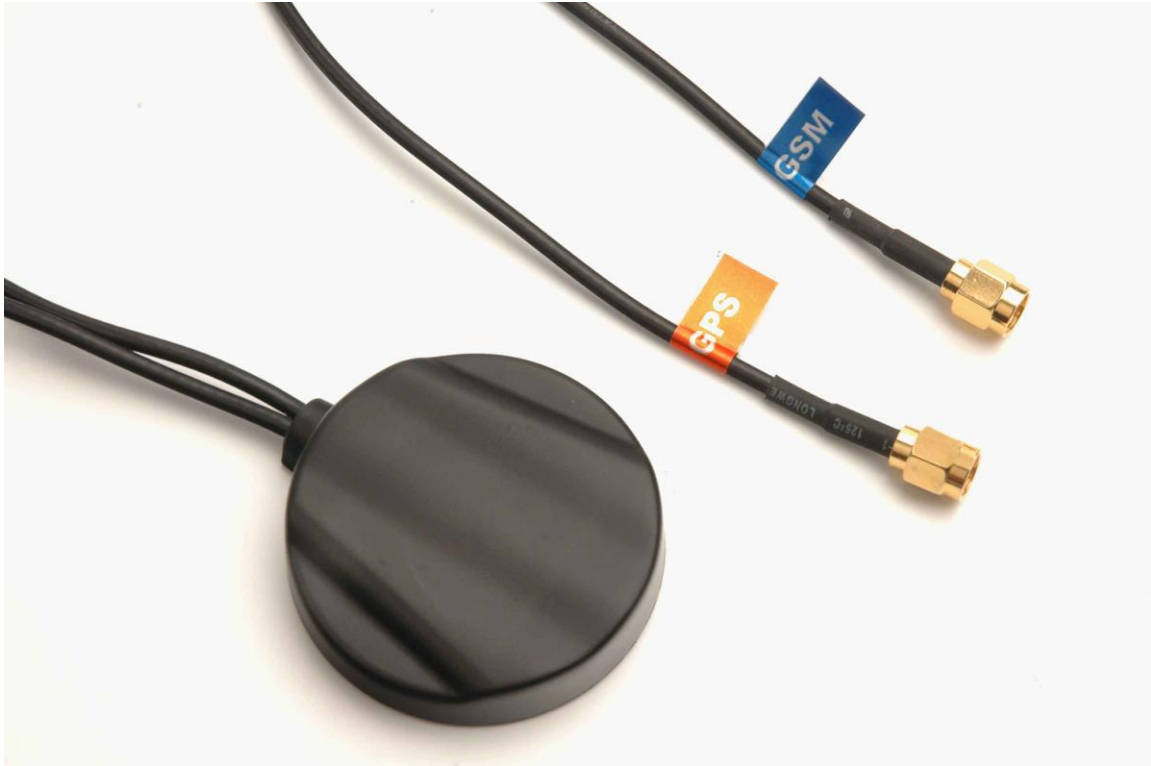




Specification

**MA.203 Stingray**  
**GPS/Penta-band Cellular**  
(GSM / CDMA / PCS / DCS / UMTS / GPRS / EDGE/ HSPA)  
Adhesive Covert Antenna



3D view



**top view**  
(this side faces the sky)



**underside view**  
(this side faces the passenger)

This is a combination high performance GPS and Penta-band Cellular (GSM/CDMA/PCS/DCS / UMTS / GPRS / EDGE/ HSPA) antenna to simplify AVL or Fleet management antenna systems worldwide. Its high quality low profile covert housing can be attached onto the glass or even out of sight under the dashboard. This combination of a high gain GPS antenna and a leading edge penta band cellular antenna is ideal for those applications that require durability, small size and covert installation, and reliable reception and transmission crossing through different mobile networks.



**Specification**

**Features**

**GPS**

- High LNA Gain up to 32 dB
- Antenna Gain 30 ± 2 dB
- Miniaturized to 55.15x12mm
- Low Noise 1.5 dB max

**Cellular**

- Advanced penta-band cellular antenna (GSM/CDMA/PCS/DCS/UMTS/GPRS/EDGE/ HSPA)

**Other**

- Water Resistant IP 65 (IP 67 MA.203w version also available)
- Quality textured covert design. Low profile
- UV resistant ABS housing
- Comes with high grade 3M double sided tape for quick and easy mounting
- Optional cables and connectors

<b>Performance Specifications</b>		
<b>Items</b>	<b>GPS Antenna</b>	<b>Cellular Antenna</b>
Features	High performance GPS ceramic patch antenna with cutting edge low noise amplifier	800MHz to 2200MHz
Frequency	1575.42 MHz ± 2MHz	As above
Gain	30 dB typ.	As patterns
	Gain at Zenith : 2.0 dBi min	-
	Gain at 10 <sup>0</sup> elevation : -4.0 dBi min	-
	Axial Ratio : 2.0 dB max	
Noise Figure	1.5 dB max.	-
Polarization	RHCP	-
Outband Attenuation (LNA)	30dB min fo ± 50MHz (fo=1575.42MHz)	-
Bandwidth	10 MHz min	-
VSWR	<=2.0	<=2.5
Impedance	50Ω	50Ω
Cable / Connector	Standard 1/2/3/5/10m RG-174 Cables and Connectors Fully Customisable	Standard 1/2/3/5/10m RG-174 Cables and Connectors fully Customisable
Operating Temperature	-40°C ~ +85°C	-40°C ~ +85°C
Storage Temperature	-40°C ~ +95°C	-40°C ~ +95°C
Size	59.8mm * 16mm	
Housing	UV resistant ABS	

**\*note: specifications may be subject to change**



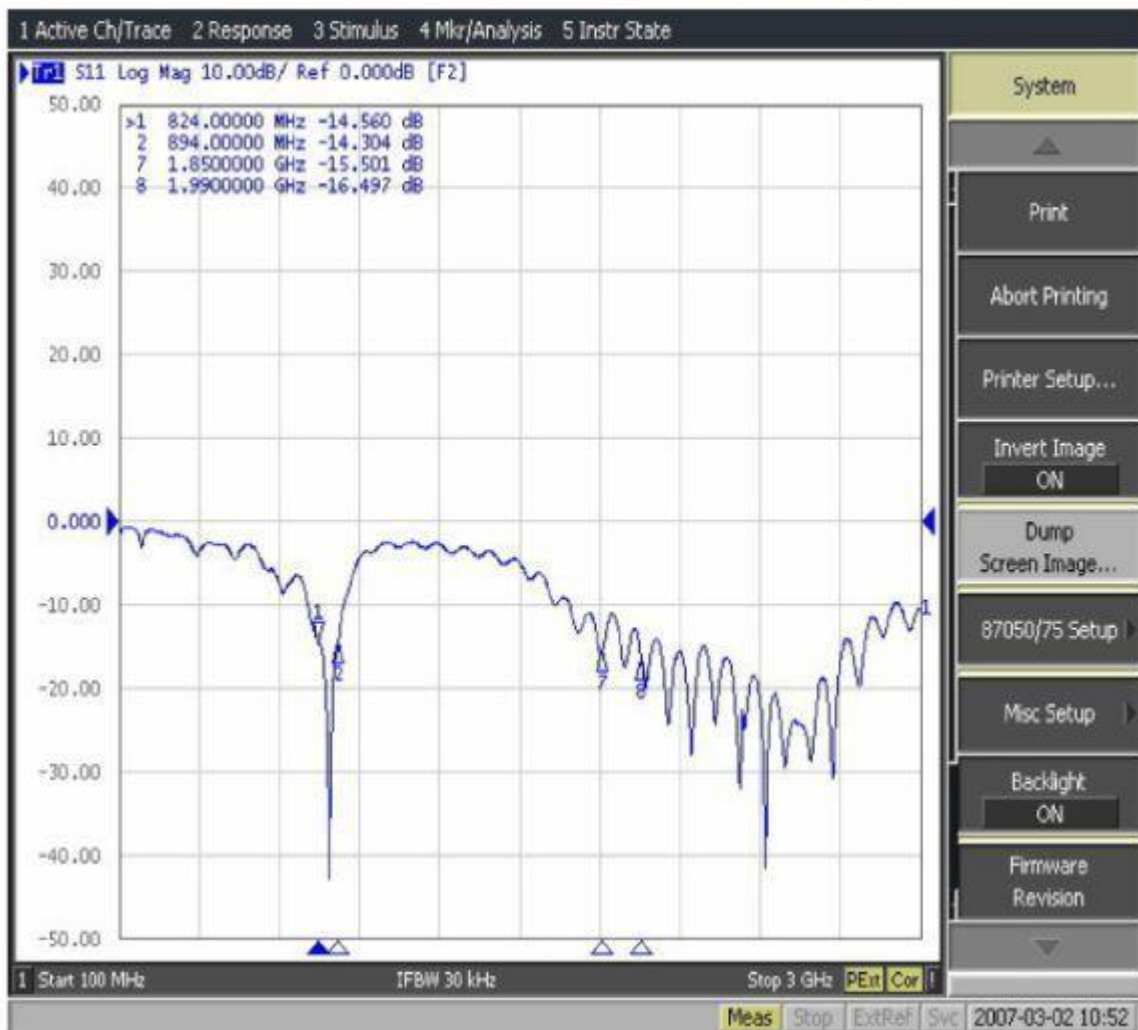
Specification

High Performance LNA (saw filter)

		2V	2.5V	3V	5V	6.5V
Saw Filter	Power Consumption	8mA	9mA	10mA	19mA	31mA
	Gain	30dB	31dB	32dB	35dB	36dB

Return Loss

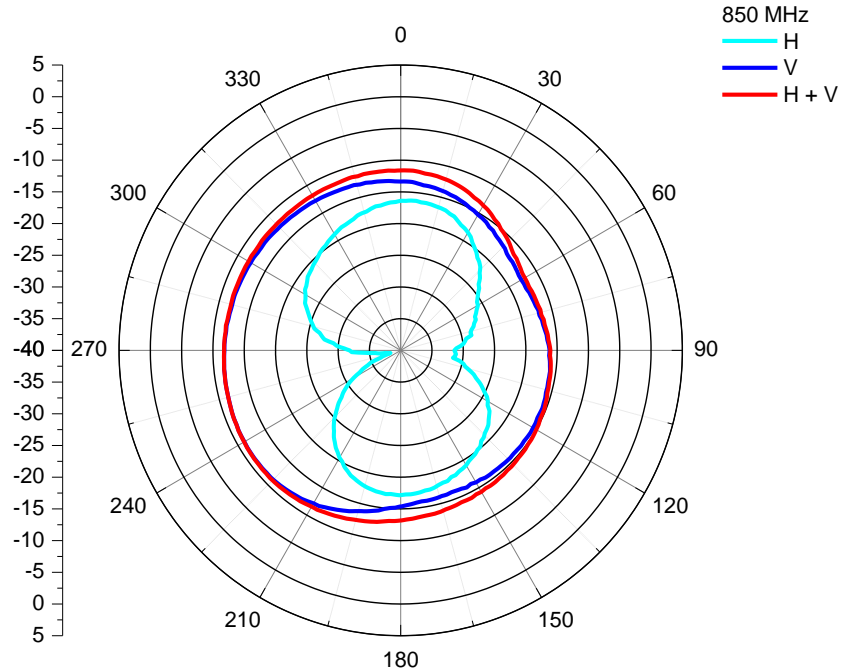
With Housing, Glass Mount (RG-174, length=1M)





Specification

850 MHz

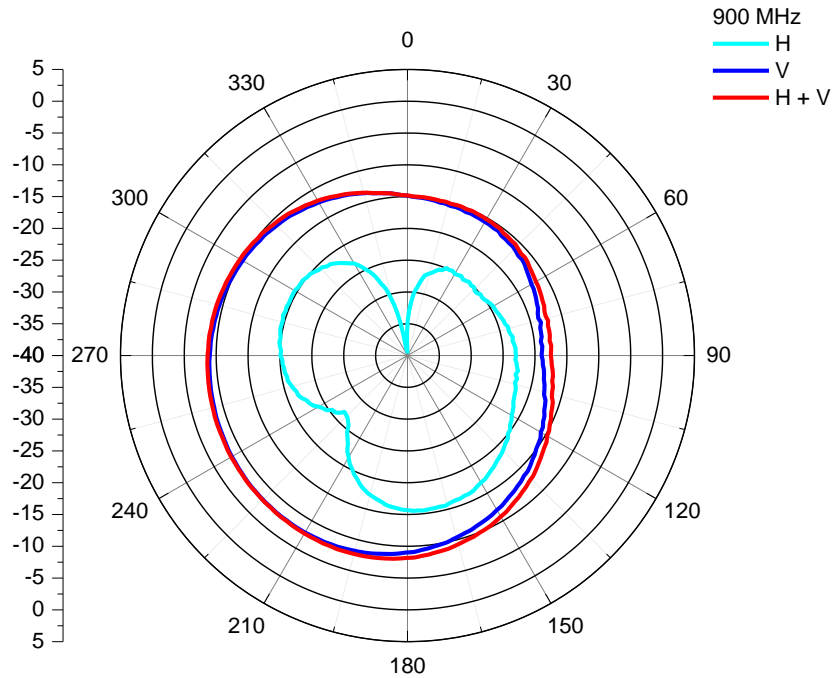


Center Frequency	<b>850 MHz</b>	Center Frequency	<b>850 MHz</b>
Horizontal (dBi) peak	<b>-16.30</b>	Horizontal (dBi)	<b>-20.60</b>
Vertical (dBi) peak	<b>-11.10</b>	Vertical (dBi) average	<b>-13.68</b>
Horiz.+Vert. (dBi) peak	<b>-10.99</b>	Horiz.+Vert. (dBi)	<b>-12.88</b>



Specification

900 MHz



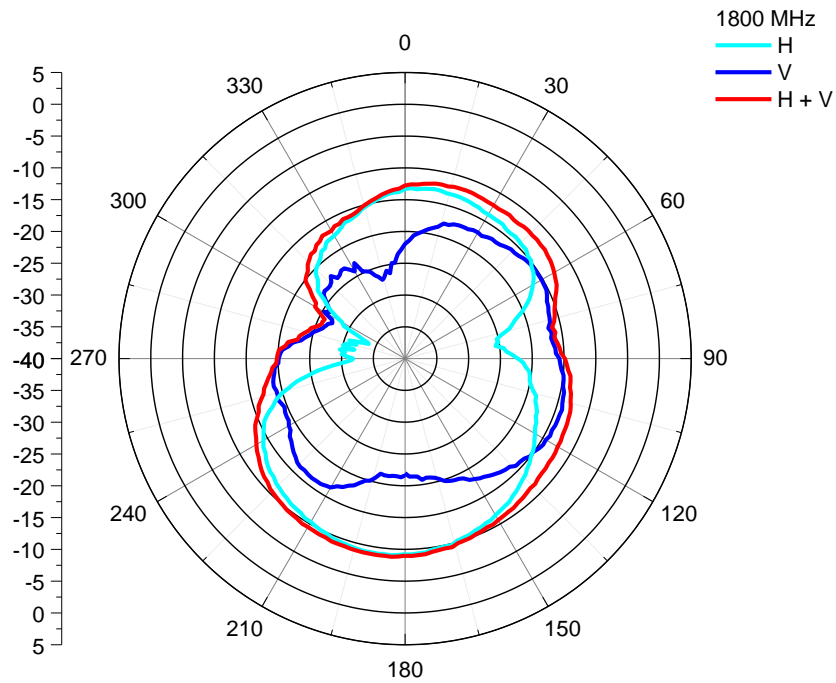
Center Frequency	<b>900 MHz</b>
Horizontal (dBi) peak	<b>-15.51</b>
Vertical (dBi) peak	<b>-7.85</b>
Horiz.+Vert. (dBi) peak	<b>-7.61</b>

Center Frequency	<b>900 MHz</b>
Horizontal (dBi) average	<b>-20.63</b>
Vertical (dBi) average	<b>-11.23</b>
Horiz.+Vert. (dBi) average	<b>-10.75</b>



Specification

1800 MHz

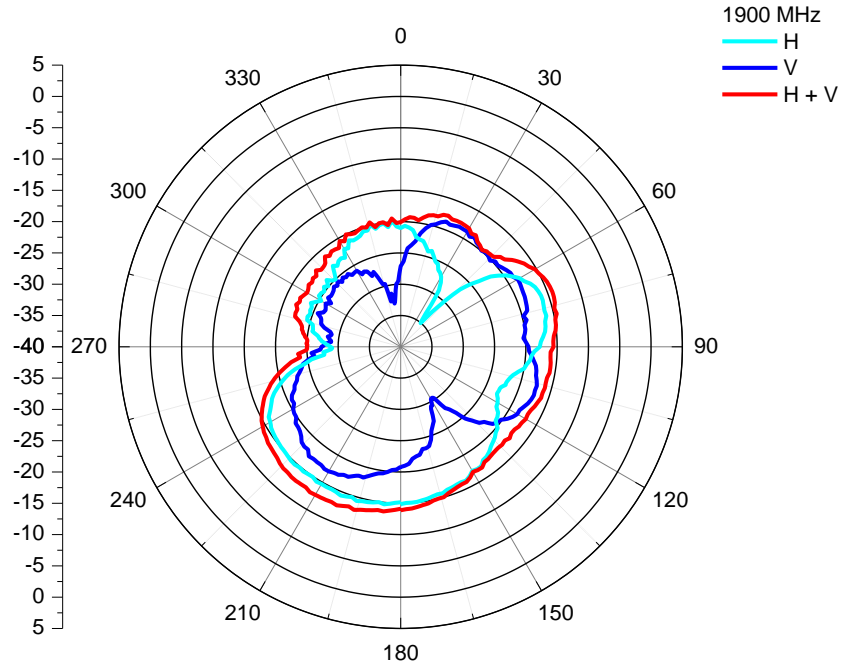


Center Frequency	<b>1800 MHz</b>	Center Frequency	<b>1800 MHz</b>
Horizontal (dBi) peak	<b>-9.00</b>	Horizontal (dBi) average	<b>-13.95</b>
Vertical (dBi) peak	<b>-14.04</b>	Vertical (dBi) average	<b>-18.04</b>
Horiz.+Vert. (dBi) peak	<b>-8.76</b>	Horiz.+Vert. (dBi)	<b>-12.52</b>



Specification

1900 MHz



Center Frequency	1900 MHz	Center Frequency	1900 MHz
Horizontal (dBi) peak	<b>-14.38</b>	Horizontal (dBi) average	<b>-18.49</b>
Vertical (dBi) peak	<b>-16.99</b>	Vertical (dBi) average	<b>-20.86</b>
Horiz.+Vert. (dBi) peak	<b>-14.38</b>	Horiz.+Vert. (dBi)	<b>-16.51</b>