



Underside View  
(this side faces the passenger)



Top View  
(this side faces the sky)

## Stingray

MA203w.AB.009

## Specification

<b>Part No.</b>	MA.203w.AB.009
<b>Product Name</b>	<b>Stingray</b> GPS/Penta-band Cellular Adhesive Antenna
<b>Feature</b>	High gain LNA up to 32dB (GSM/CDMA/PCS/DCS/UMTS/GPRS/EDGE/ HSPA) Height 10.8mm Diameter 55.1mm Waterproof IP67 Version ROHS Compliant

## 1. Introduction

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.

### 1.1 Features

#### GPS

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High LNA Gain up to 32 dB

Antenna Gain  $30 \pm 2$  dB

Miniaturized to 55.15x12mm

Low Noise 1.5 dB max

#### Cellular

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Advanced Penta-Band Cellular Antenna  
(GSM/CDMA/PCS/DCS/UMTS/GPRS/EDGE/HSPA)

#### Other

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Water Resistant IP 67

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

## 2. Specification

### 2.1 Performance Specifications

Items	GPS Patch Antenna	Cellular Antenna
<b>Features</b>	High performance GPS ceramic patch antenna with cutting edge low noise amplifier	CDMA: 824~896MHz DCS: 1710~1880MHz PCS: 1850~1990MHz GSM: 880~960MHz
<b>Centre Frequency</b>	1593MHz ± 2MHz(Free Space)	As above
<b>Gain</b>	-3.0dB typ. Axial Ratio :2.0 dB max	As patterns
<b>Polarization</b>	RHCP	
<b>Bandwidth</b>	10 MHz min	
<b>VSWR</b>	1.92 Max.	
<b>Impedance</b>	50Ω	50Ω
<b>Cable / Connector</b>	Standard 1/2/3/5/10mRG-174 Cables and Connectors Fully Customizable	Standard 1/2/3/5/10mRG-174 Cables and Connectors Fully Customizable
<b>Return Loss</b>		10dB Typ
<b>Size</b>	59.8mm * 16mm	
<b>Housing</b>	UV resistant ABS	

\*Note: Specifications may be subject to change

### 2.2 LNA GPS Antenna

Parameter	Specification
<b>Frequency (MHz)</b>	1575.42 ± 1.023MHz
<b>Gain</b>	28dB Typical
<b>Output Impedance</b>	50Ω
<b>Output VSWR</b>	1.92 Max
<b>DC Power Input</b>	2.7-3.3V
<b>Noise Figure</b>	1.5dB Typ.
<b>Power Consumption</b>	6mA

### 3. GPS Ceramic Patch Antenna

#### 3.1 Free Space



### 3. GPS Ceramic Patch Antenna

#### 3.2 With Housing, Glass Mount

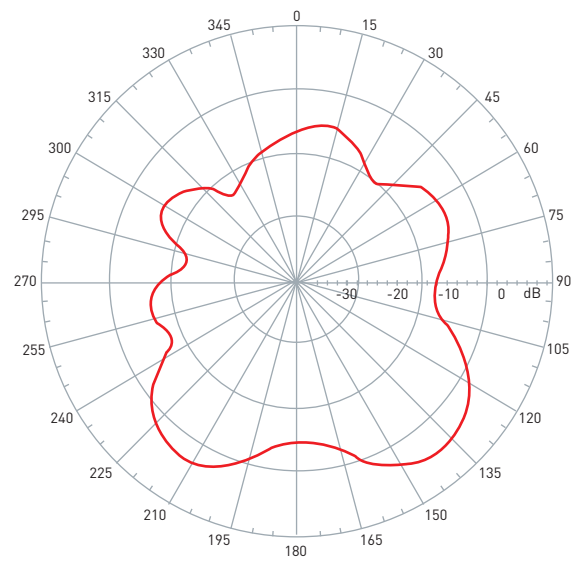
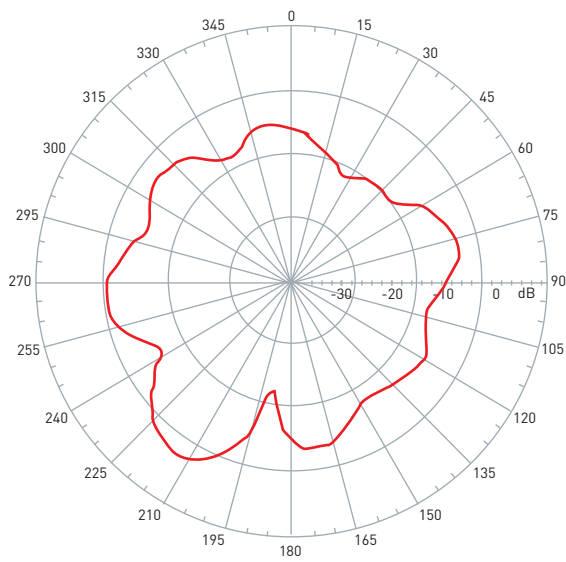


## 4. GSM Radiation Patterns

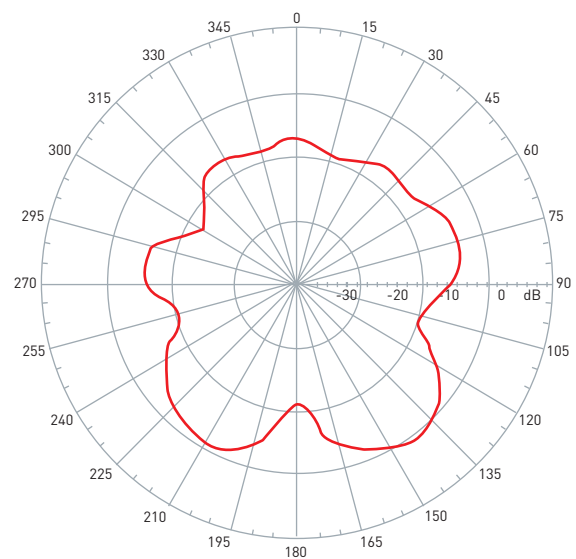
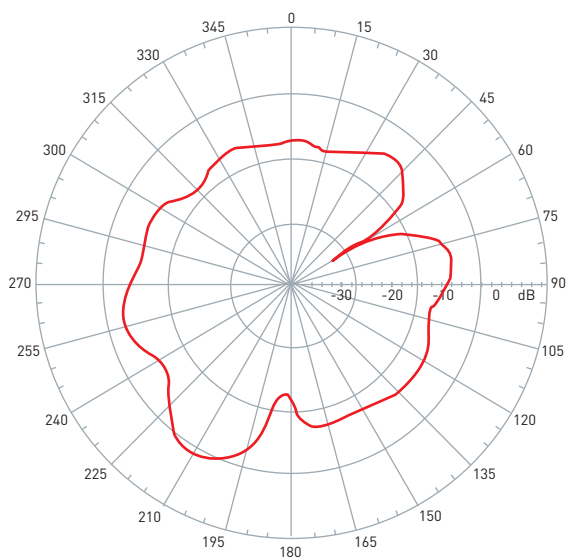
XZ Plane

YZ Plane

880 MHz



960 MHz

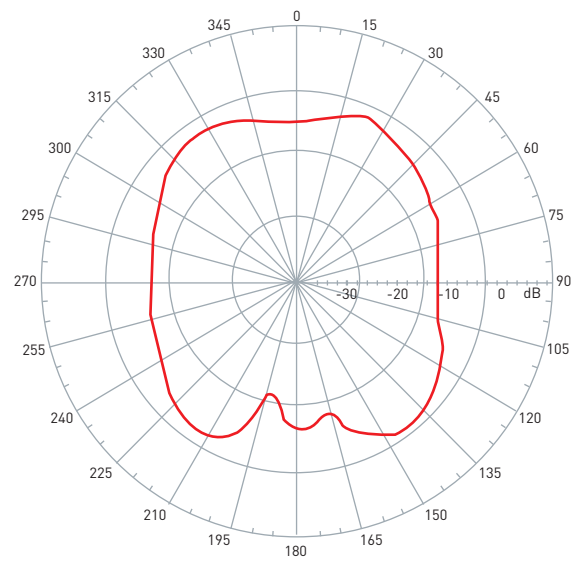
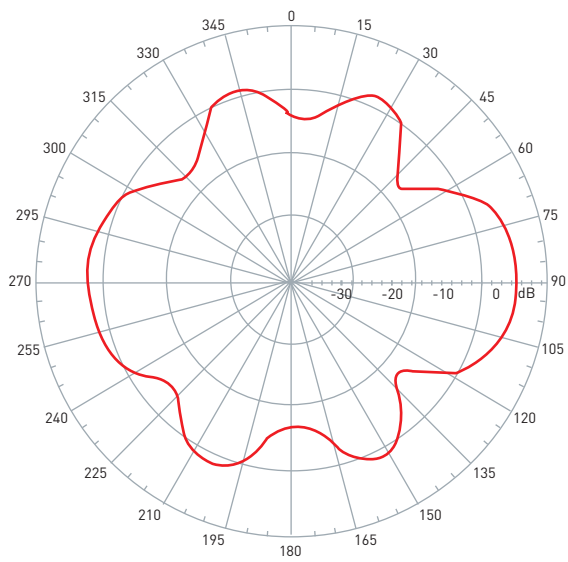


## 4. GSM Radiation Patterns

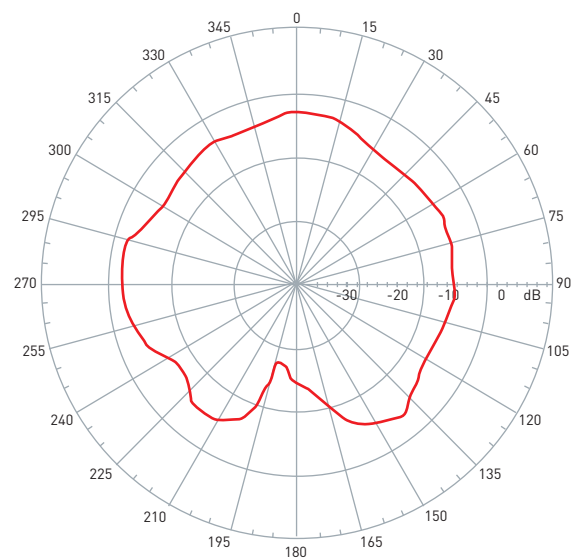
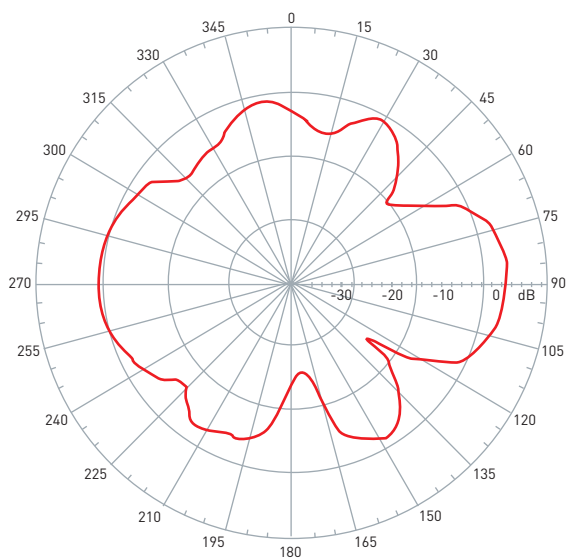
XZ Plane

YZ Plane

1710 MHz



1880 MHz



## 5. GSM Antenna Return Loss

### 5.1 Free Space





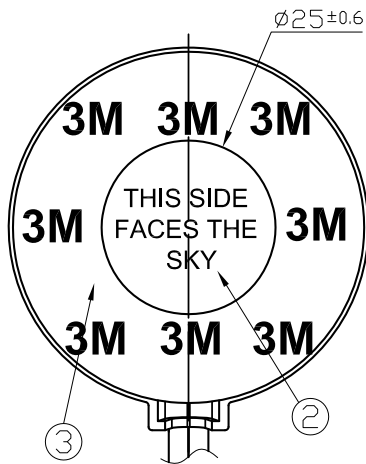
## 5. GSM Antenna Return Loss

### 5.2 With Housing, Glass Mount

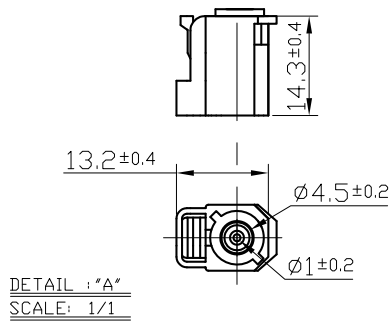


## 6. Drawings

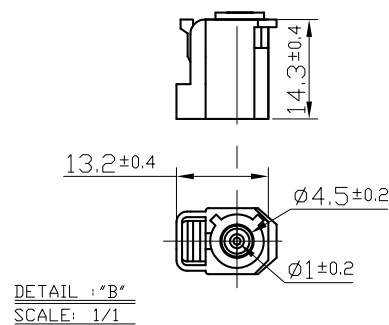
Bottom view



FAKRA .G2.SMB.F.ST.C.B.AM



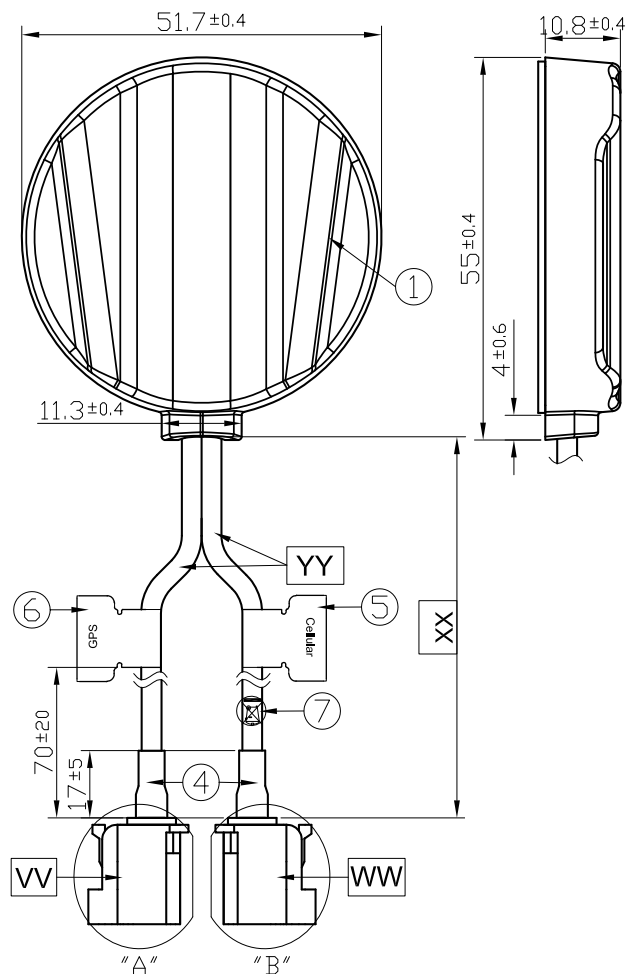
FAKRA.G2.SMB.F.ST.D.V.AM



	Name	Material	Finish	QTY
1	Housing	ABS	Black	1
2	Round Label	Art Paper	White	1
3	Scotch Brand Acrylic Foam Tape	3M 4612	White Liner	1
4	Heat Shrink Tube	PE	Black	2
5	Cellular Label	Coated Paper	Blue	1
6	GPS Label	Coated Paper	Orange	1

	Name	Spec	Finish	QTY
VV	Connector Type	FAKRA Code C GEN2	Blue	1
WW	Connector Type	FAKRA Code D GEN2	Violet	1
XX	Cable Length	3000mm ± 30mm	Black	1
YY	Cable Type	RG174	Black	2

Top view

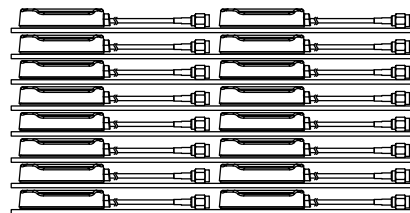
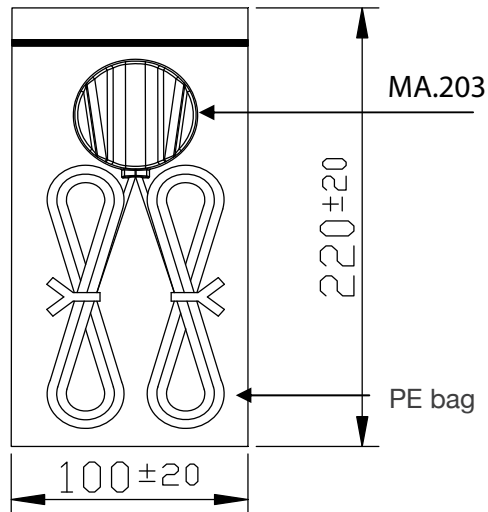


Side view

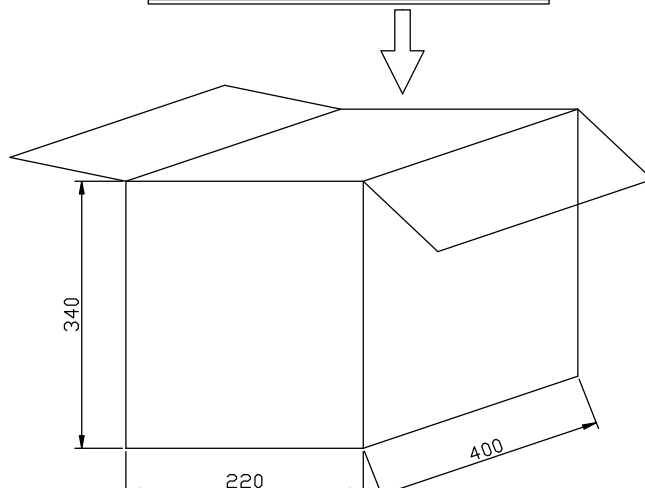
## 7. Packaging

1 pcs antenna per small PE bag

80 small PE bag per box



← 10 pcs/pad



← 80 pcs per carton

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