SPECIFICATION

Part No.	:	**MA203.A.AB.035**
Product Name	:	MA203 Stingray GPS/GALILEO/Cellular Adhesive Antenna
Features	:	GPS/GALILEO - High gain LNA up to 32dB Penta-band Cellular – 800MHz to 2200MHz GSM/CDMA/PCS/DCS/UMTS/GPRS/EDGE/HSPA Height 10.8mm Diameter 55.1mm RoHS Compliant







Top View

(this side faces the sky)



Underside View

(this side faces the passenger)

1. Introduction

This is a combination high performance GPS/GALILEO 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/GALILEO 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.

The standard version has 3 metres RG174 cable and SMA(M) connector on both GPS/GALILEO and Cellular. The cables and connectors are completely customizable according to customer requrest.

1.1. Features

GPS/GALILEO

- 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
- Customizable cables and connectors

2. Specification

CELLULAR ANTENNA				
Frequency Range	800MHz to 2200MHz			
Centre Frequency	850 MHz	900MHz	1800Mhz	1900MHz
Peak Gain				
Horizontal (dBi) Peak	-16.30	-15.51	-9	-14.38
Vertical (dBi) Peak	-11.10	-7.85	-14.04	-16.99
Horiz. + Vert. (dBi) Peak	-10.99	-7.61	-8.76	-14.38
Average Gain				
Horizontal (dB) Average	-20.60	-20.63	-13.95	-18.49
Vertical (dB) Average	-13.68	-11.23	-18.04	-20.86
Horiz. + Vert. (dB) Average	-12.88	-10.75	-12.52	-16.51
VSWR	<=2.5			
Impedance	50Ω			

GPS/GALILEO ANTENNA	
Frequency	1575.42 MHz ± 2MHz
Gain	30 dB typ.
	Gain at Zenith: 2.0 dBi min
	Gain at 10°elevation: -4.0dBi min
Axial Ratio	2.0 dB max
Noise Figure	1.5 dB max.
Polarization	RHCP
Out band Attenuation (LNA)	30dB min fo ± 50MHz (fo=1575.42MHz)
Bandwidth	10 MHz min
VSWR	<=2.0
Impedance	50Ω

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

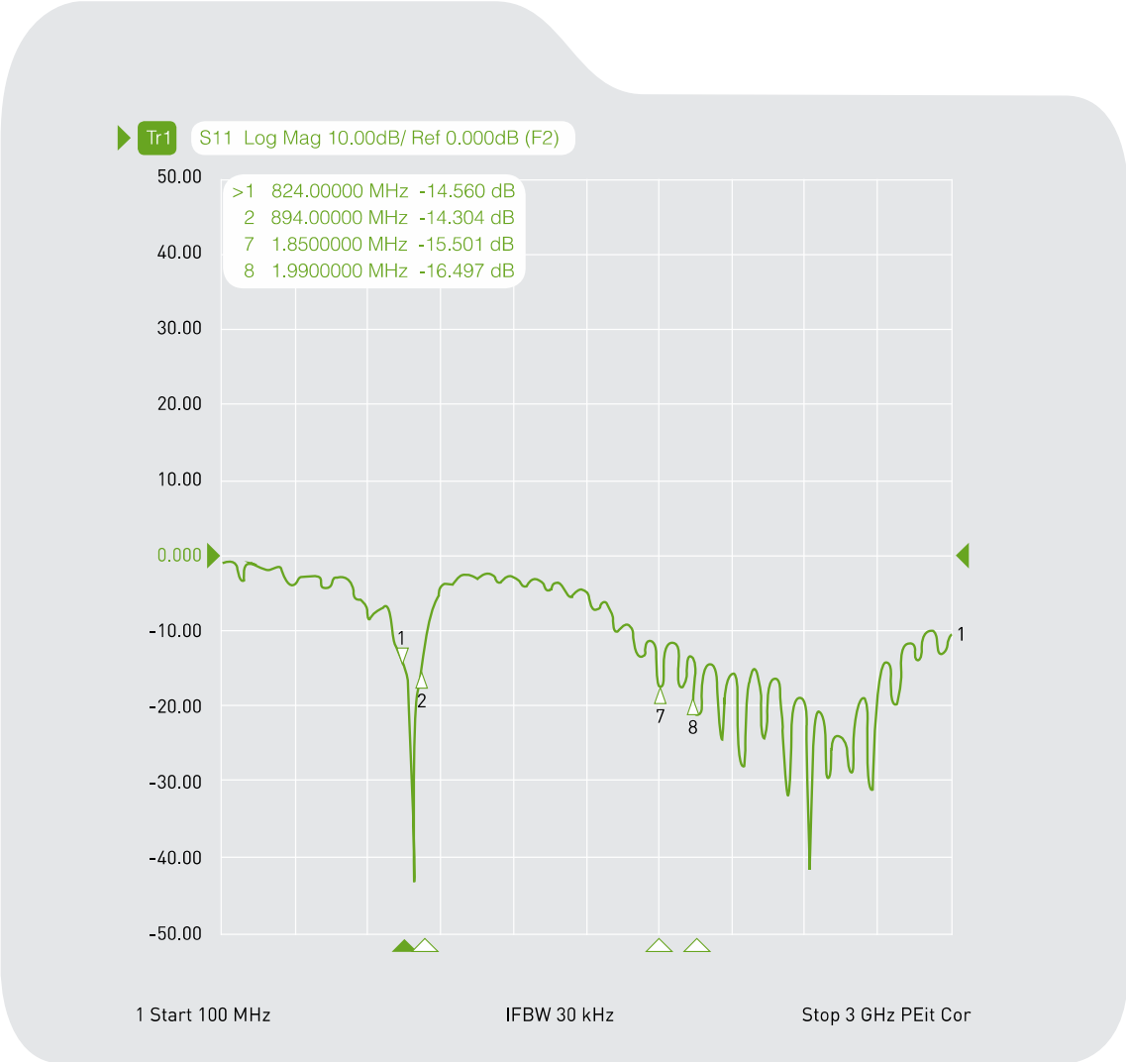
MECHANICAL	
Cable and Connector	GPS: Standard 1/2/3/5/10m RG-174 Cables and Connectors Fully Customizable
	Cellular: Standard 1/2/3/5/10m RG-174 Cables and Connectors Fully Customizable
Size	55mm * 10.8mm
Housing	UV resistant ABS
ENVIRONMENTAL	
Operating Temperature	-40ºC ~ +85ºC
Storage Temperature	-40ºC ~ +95ºC

*note: specifications may be subject to change

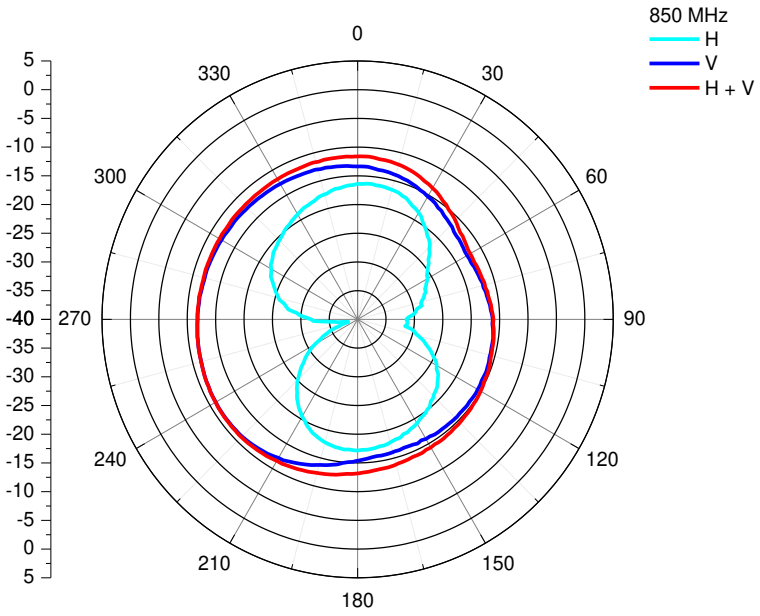
3. Cellular Antenna Characteristics

3.1. Return Loss

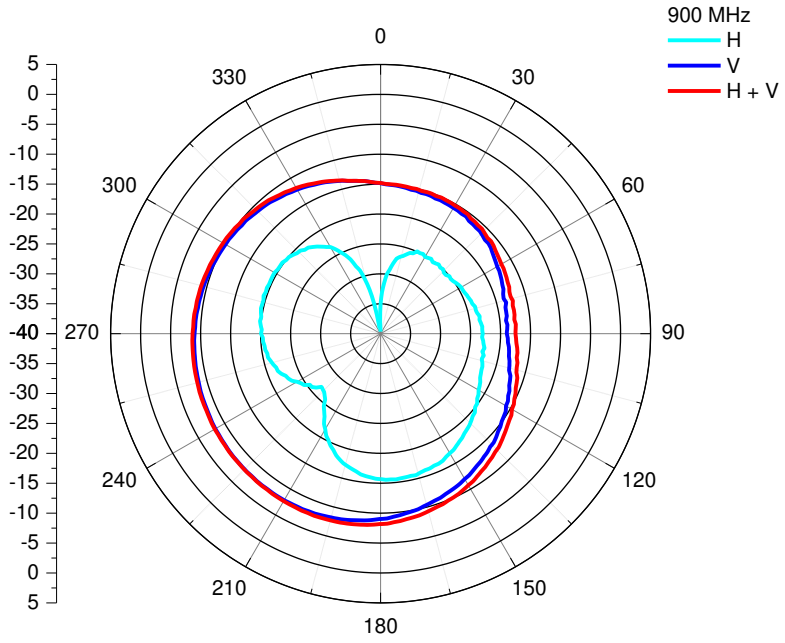
With Housing, Glass Mount (RG-174, length = 1M)



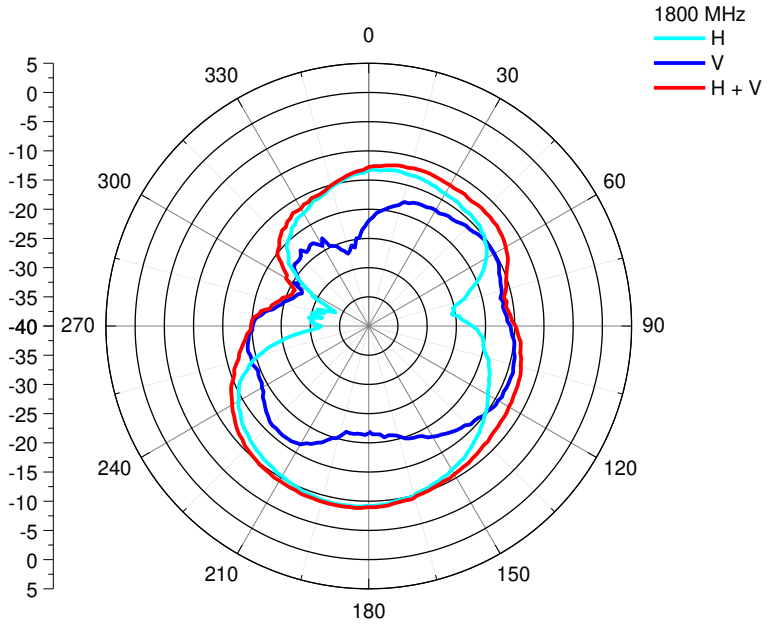
3.2. 850MHz



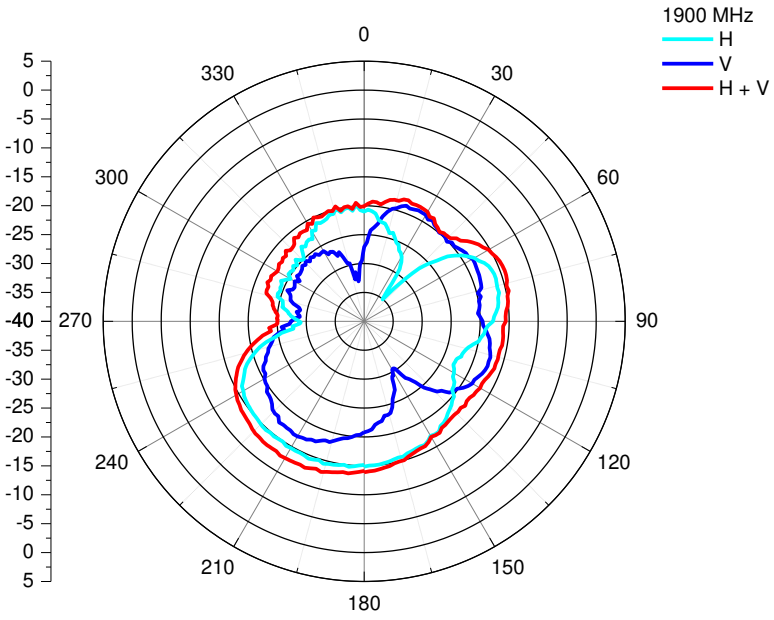
3.3. 900MHz



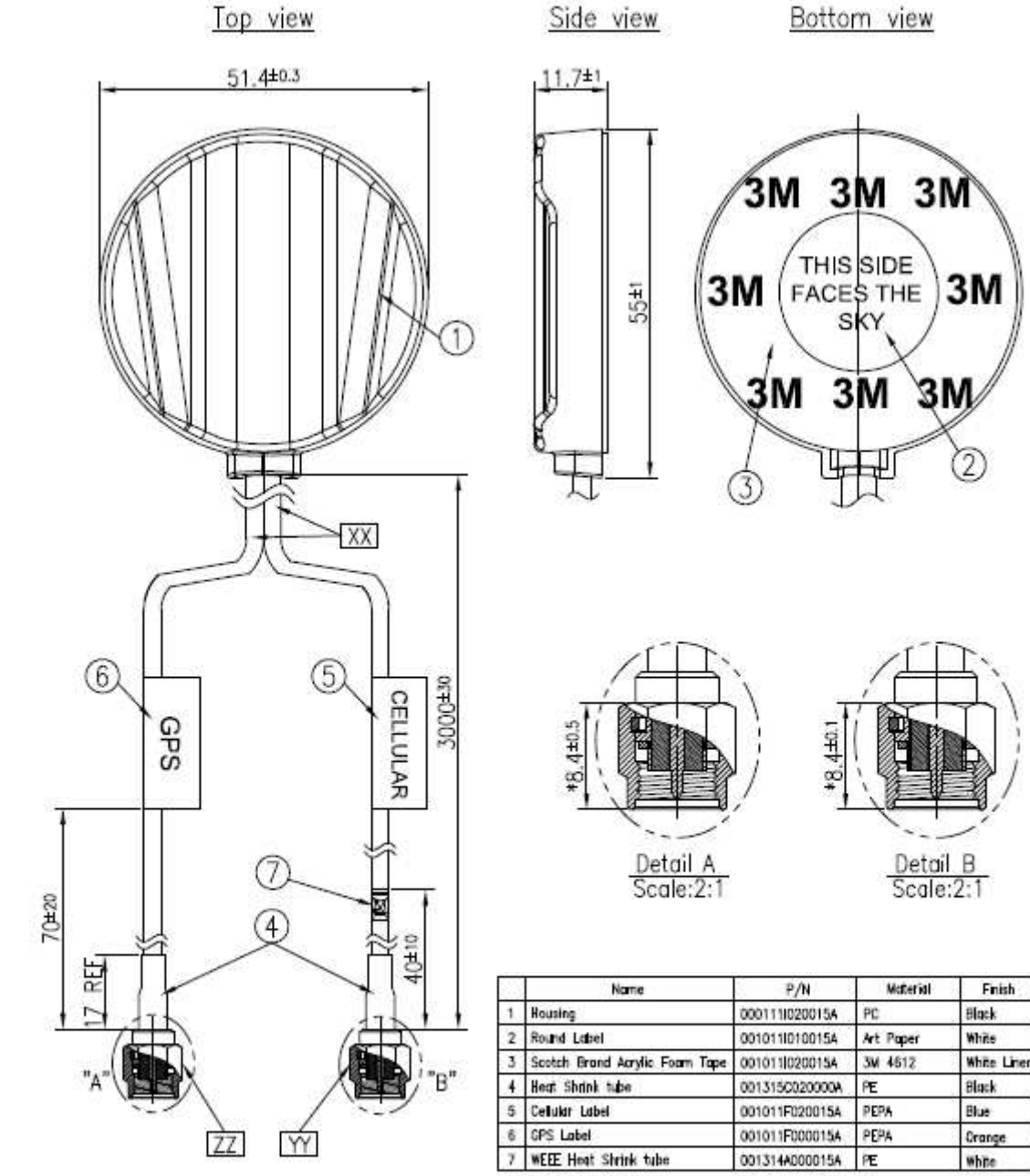
3.4. 1800MHz



3.5. 1900MHz



4. Mechanical Drawings (Unit: mm)



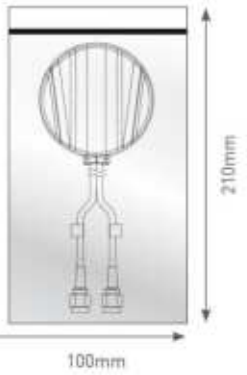
NOTE:
1. Part Number: MA.203.A.A301111.B301131

	Name	P/N	Material	Finish	QTY
1	Housing	000111I020015A	PC	Black	1
2	Round Label	001011I010015A	Art Paper	White	1
3	Scotch Brand Acrylic Foam Tape	001011I020015A	3M 4612	White Liner	1
4	Heat Shrink tube	001315C020000A	PE	Black	2
5	Cellular Label	001011F020015A	PEPA	Blue	1
6	GPS Label	001011F000015A	PEPA	Orange	1
7	WEEE Heat Shrink tube	001314A000015A	PE	White	1

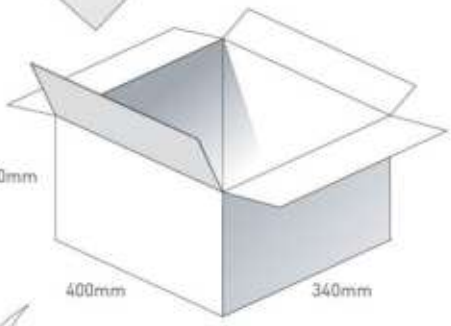
	Name	P/N	Material	Finish	QTY
XX	Cable Type	301315C000000A	RG174	Black	2
YY	Connector Type	200211K000015A	SMA(M) ST	Ni Plated	1
ZZ	Connector Type	200212G000015A	SMA(M) ST	Au Plated	1

5. Packaging

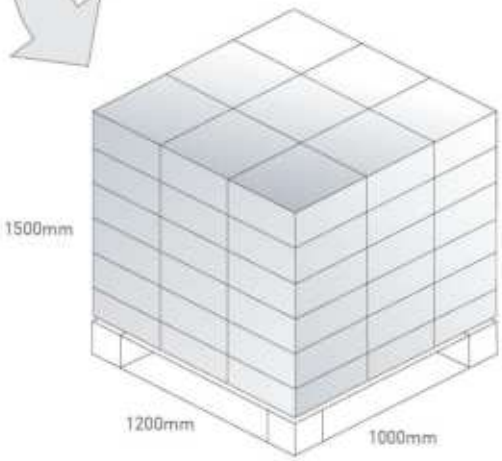
1 pc MA203.A.AB.035 per PE bag
Dimensions - 210*100mm
Total Weight - 121g



10 pcs MA203.A.AB.035 per carton
Carton Dimensions - 400*340*220mm
Weight - 10.73kg



Pallet Dimensions 1200*1000*1500mm
54 Cartons per pallet
9 Cartons per layer
6 Layers



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