

I-Bar

GSA.8821.A.301721

Specification

Part No.	GSA.8821.A.301721
Product Name	I-Bar Penta-band GSM Antenna Works with GSM / CDMA / PCS / DCS / UMTS/ WCDMA
Feature	Low profile for easy installation 3M RG-174 Fakra Code D Violet Connector RoHS Compliant



1. Introduction

The GSA.8821 I-Bar Penta-band GSM Antenna is flexible and robust. Its slim-line design allows for covert and convenient installation in automotive vehicles, its omni-directional gain across all bands ensures constant reception and transmission. It is a high gain, high efficiency solution which

complies with AT&T standards for high efficiency antennas.

Cables and connectors are fully customizable. It comes with strong 3M double-sided adhesive for a permanent and secure fix to your vehicle interior.

The GSA.8821 is first tier automotive approved and the part GSA.8821.A301721 (with Fakra Code D connectors) is listed in the global automotive IMDS databases, it has gone through full PPAP design, reliability and quality audits, including audits at the production facility.

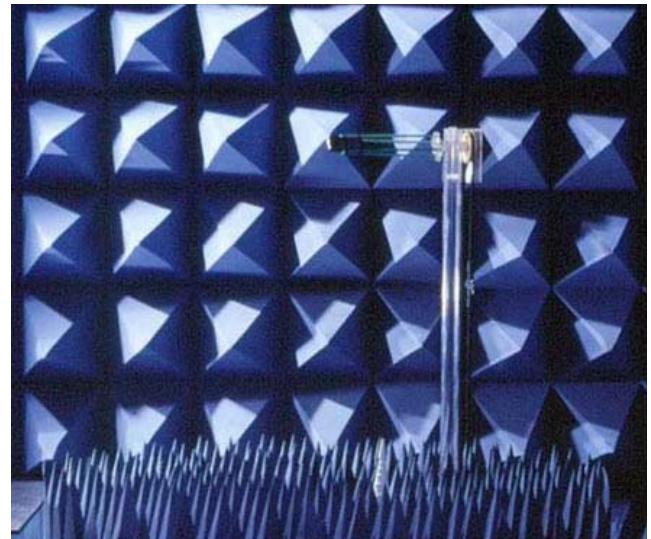
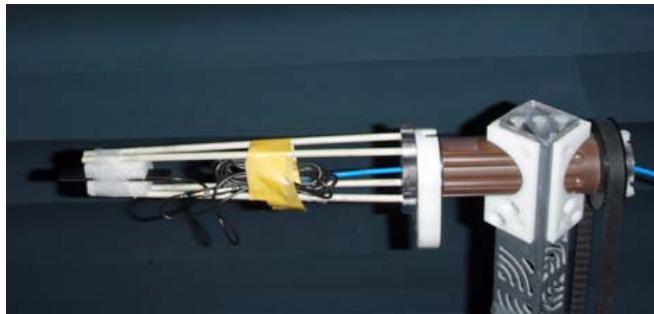
2. Specification

Communication System	Penta-band Cellular				
Frequency (MHz)	AMPS	GSM	DCS	PCS	UMTS
Frequency (MHz)	824~896	880~960	1710~1880	1850~1990	1710~2170
Average Efficiency	47%	67%	59%	54%	57%
Average Gain (dBi)	2.1	3.9	4.1	3.2	3.2
Impedance	50 Ohm				
Radiation Pattern	Omni-Directional				
Polarization	Linear (Vertical)				
Input Power	10 watts				
Input Connection	Coaxial Cable - RG174 Standard, Fully customizable				
VSWR	<3.0 : 1				
Dimensions (mm)	106.7 x 14.7 x 5.8mm				
Weight	40g				
Casing	ABS POLYLAC PA-757				
Waterproofing	Sealing Film				
Waterproof	IP-65				
Temperature Range	-40°C to +85°C				
Thermal Shock	100 cycles -40°C to +80°C				
Humidity	Non-condensing 65°C 95% RH				
Shock (Drop Test)	1m drop on concrete 6 axes				
Cable Pull	8 KGf				

3. Antenna Electrical Characteristics

3.1 Test Setup

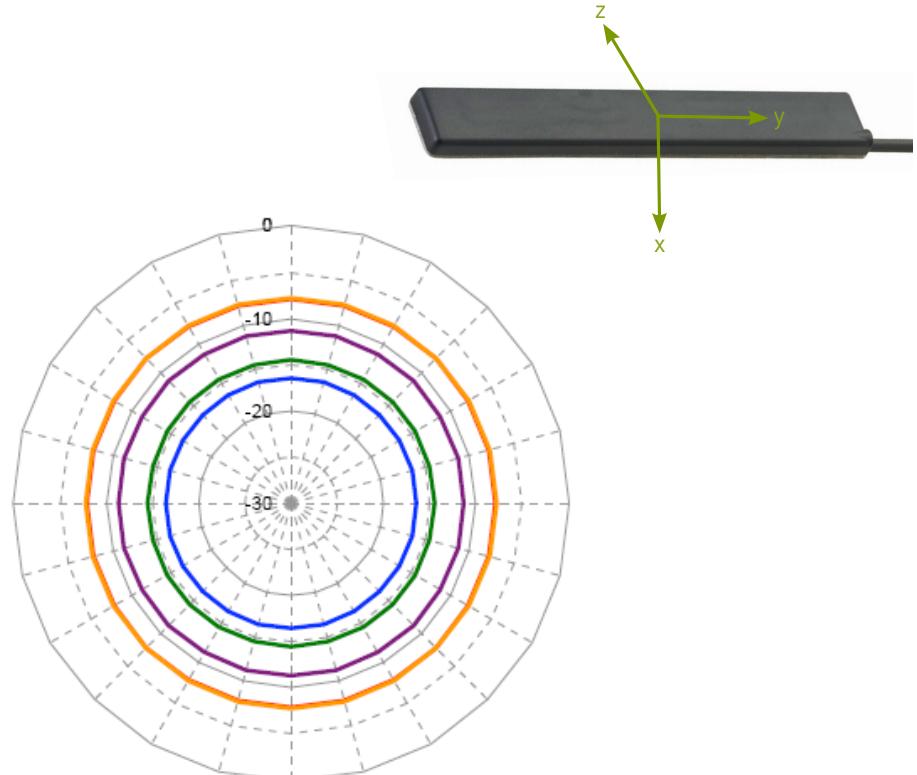
GSA.8821 is tested in the CTIA 3D chamber for the free space radiation in a certification laboratory in Taiwan.



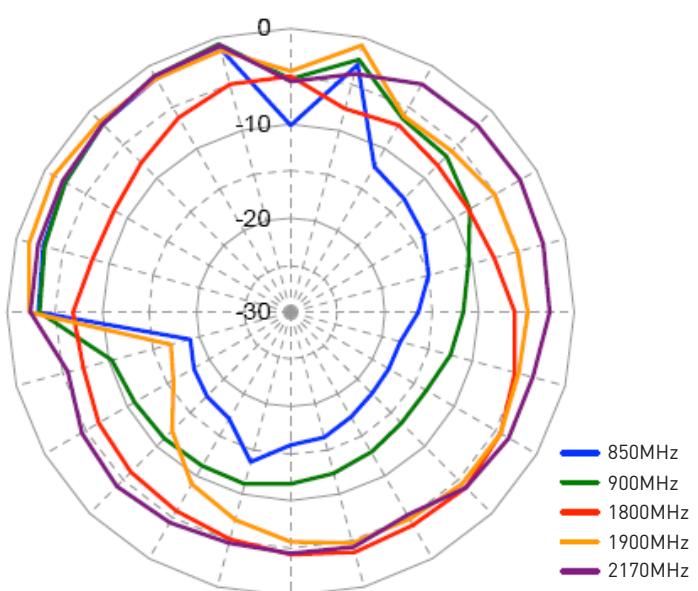
Antenna Setup in CTIA 3D Chamber

3. Antenna Electrical Characteristics

3.2 Radiation Pattern



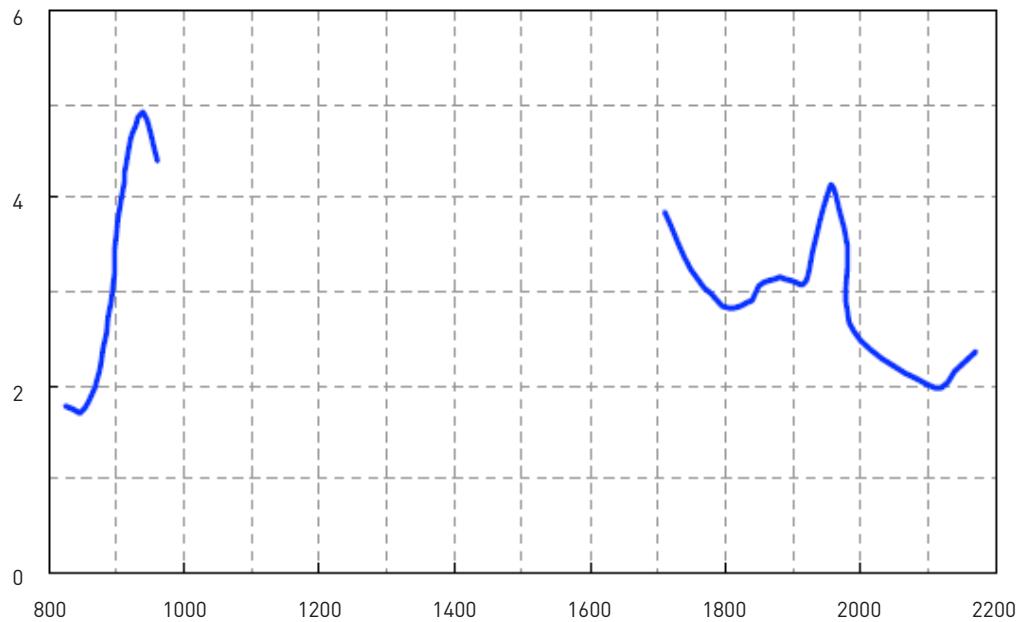
x-y plane radiation pattern



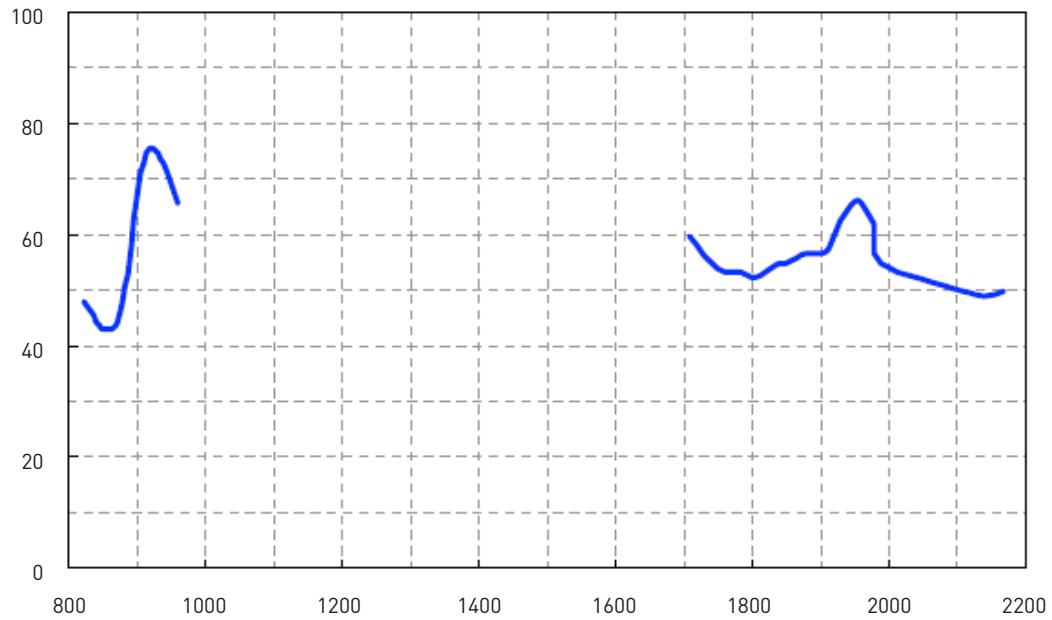
x-z plane radiation pattern

3.3 Gain & Efficiency Plot vs Frequency

3.3.1 Gain



3.3.2 Efficiency



3. Antenna Characteristics

3.4 Return Loss

GSA.8821 is placed on a piece of Styrofoam on an empty carton for measuring free space return loss.

Since GSA.8821 is designed to mount in a car, it also adheres directly on the test instrument metal box to

simulate the application environment. Agilent 8753SE Network Analyzer is used for the S11 measurement.

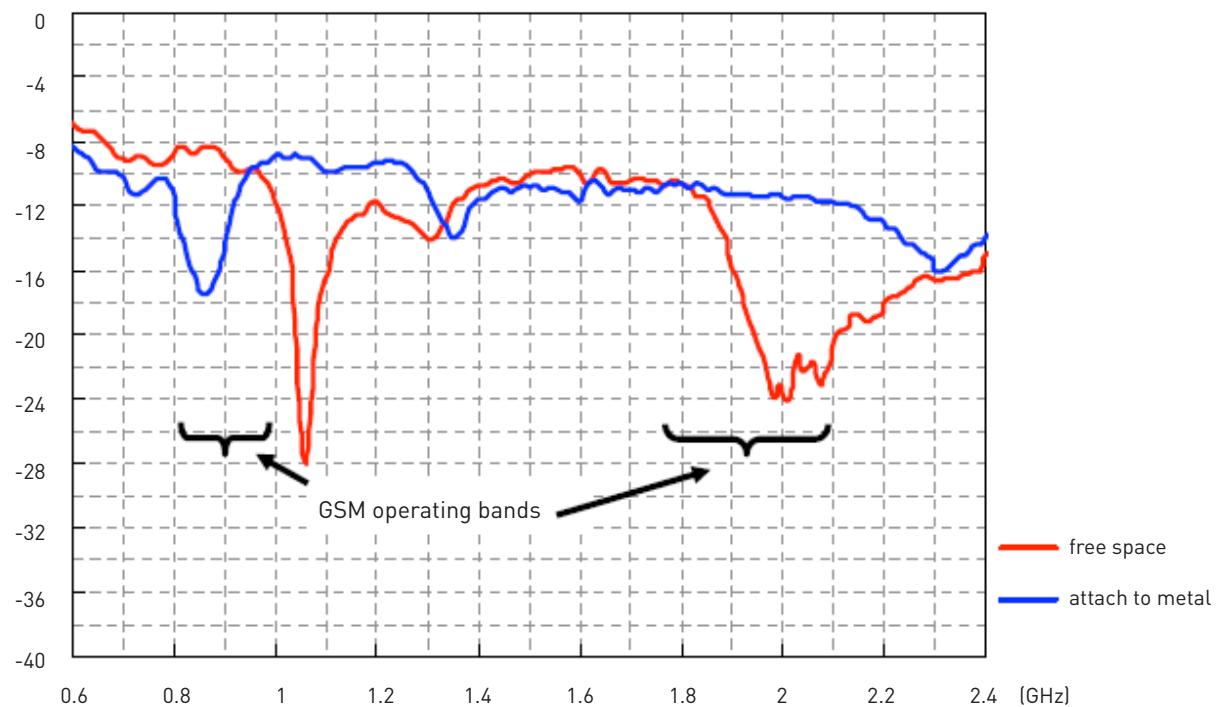


Free space Return Loss measurement setup



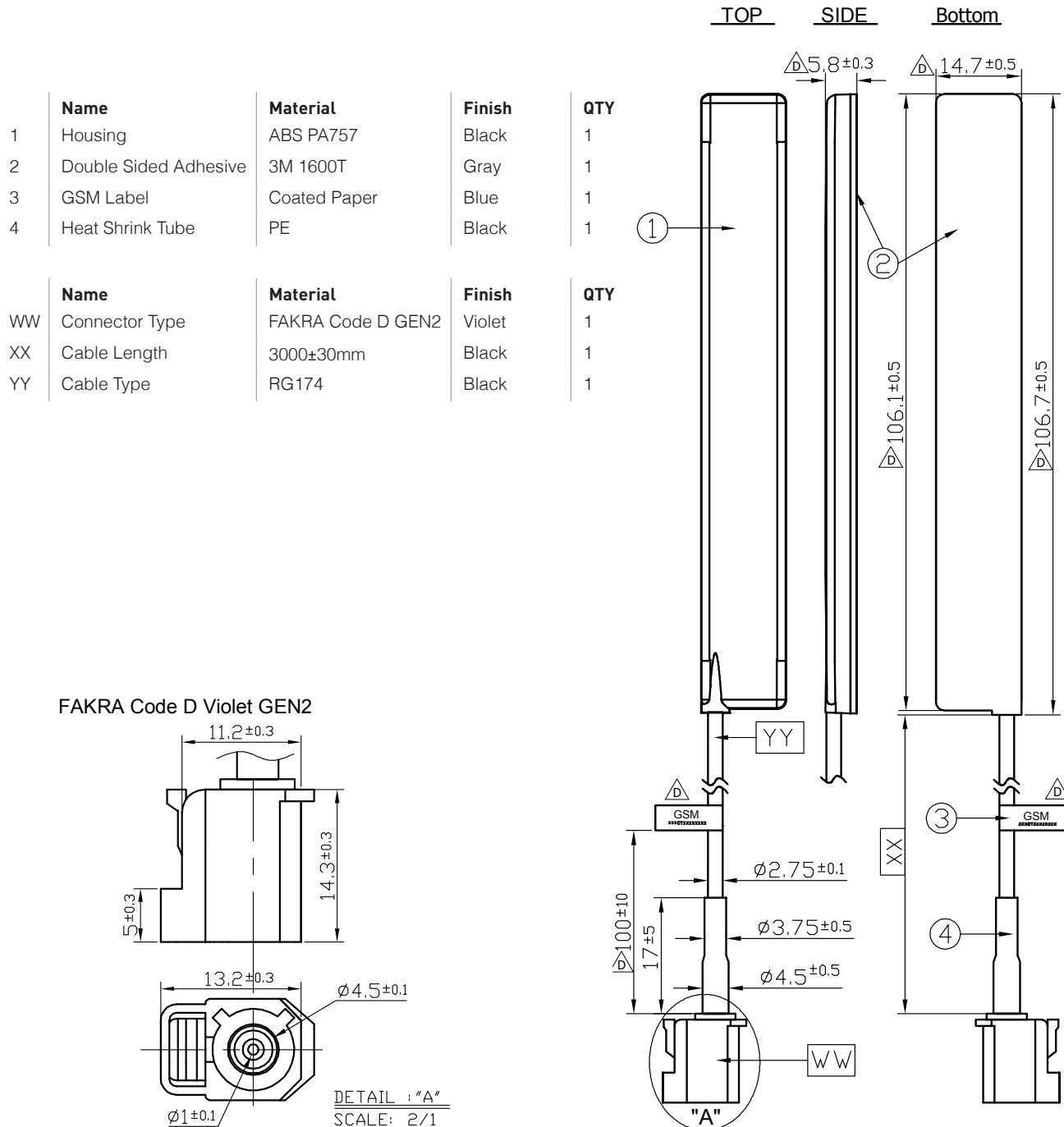
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3.4 Return Loss



GSA.8821 Return Loss in Free Space and adhered to metal.
The oscillation introduced by the 3m cable is smoothed with a factor of 1%.

4. Mechanical Drawing (unit : mm)

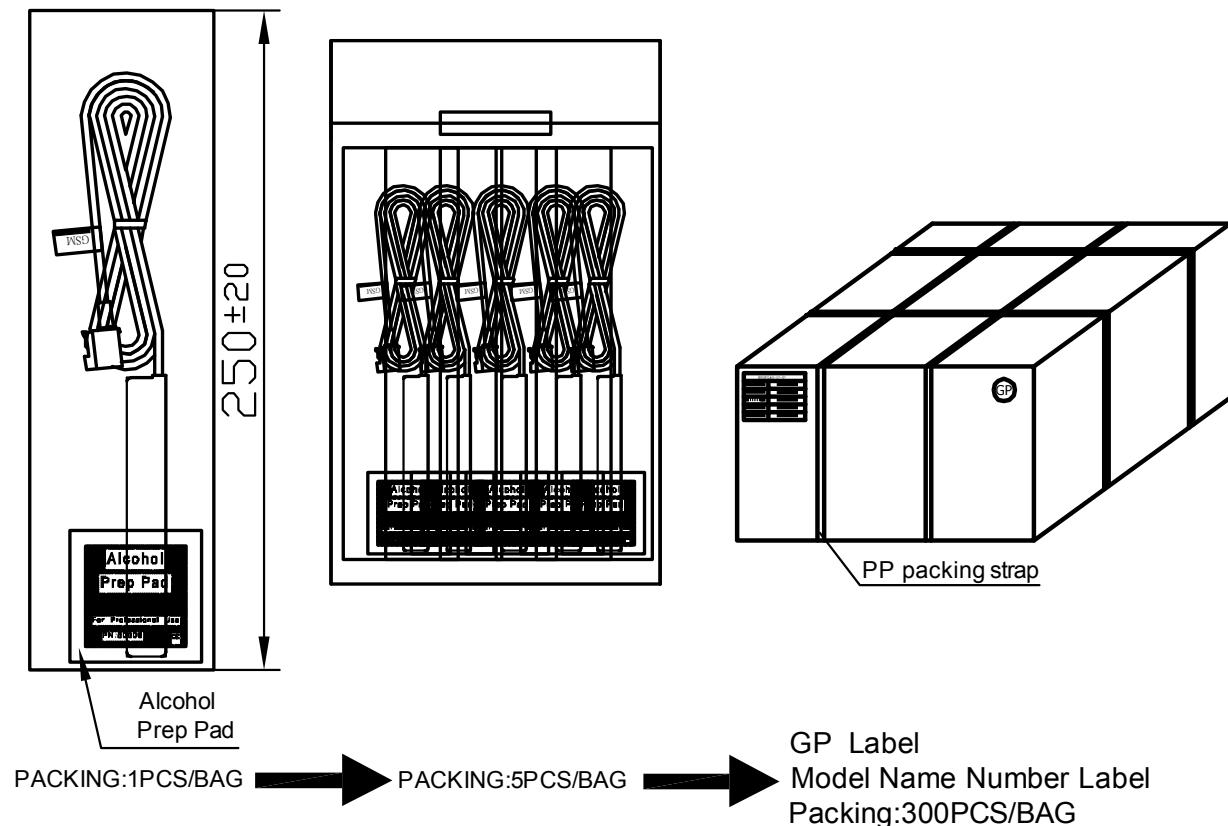




5. Packaging

1pcs antenna per small PE bag

5 small PE bags per big PE bag



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