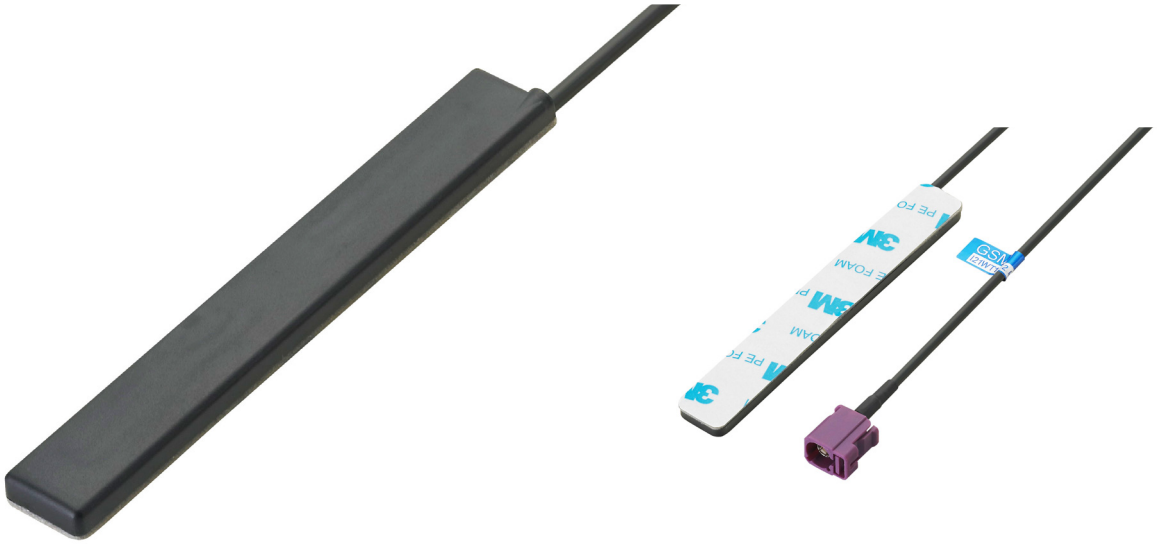


I-Bar

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.

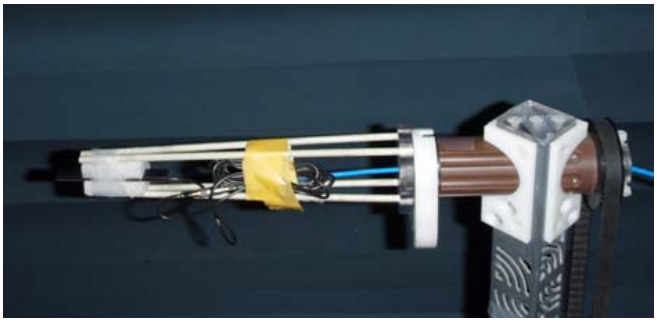
2. Specification

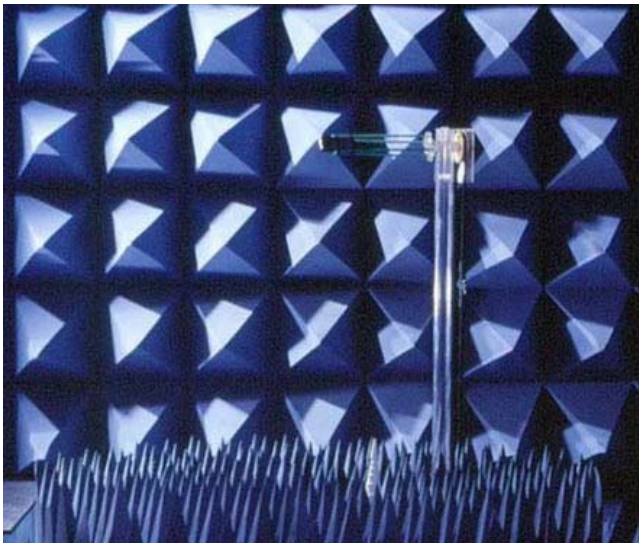
Communication System	Penta-band Cellular				
	AMPS	**GSM**	**DCS**	**PCS**	**UMTS**
Frequency (MHz)	824~896	880~960	1710~1880	1850~1990	1710~2170
Average Efficiency	47%	67%	59%	54%	57%
Average Gain (dBi)	2.1	3.9	4.1	3.2	3.2
Impedance	50 Ohm				
Radiation Pattern	Omni-Directional				
Polarization	Linear (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.

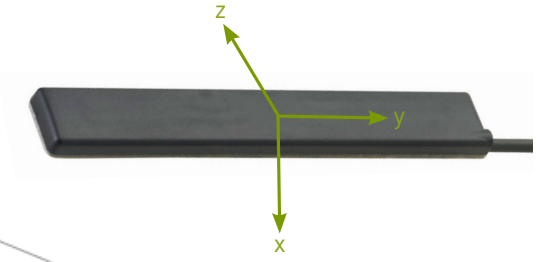


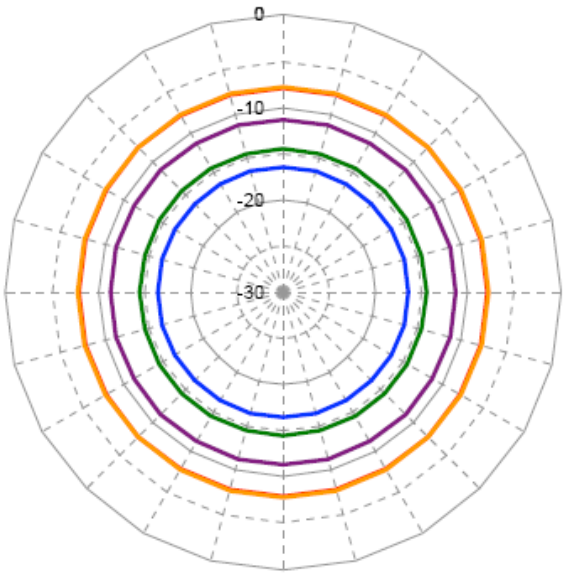


Antenna Setup in CTIA 3D Chamber

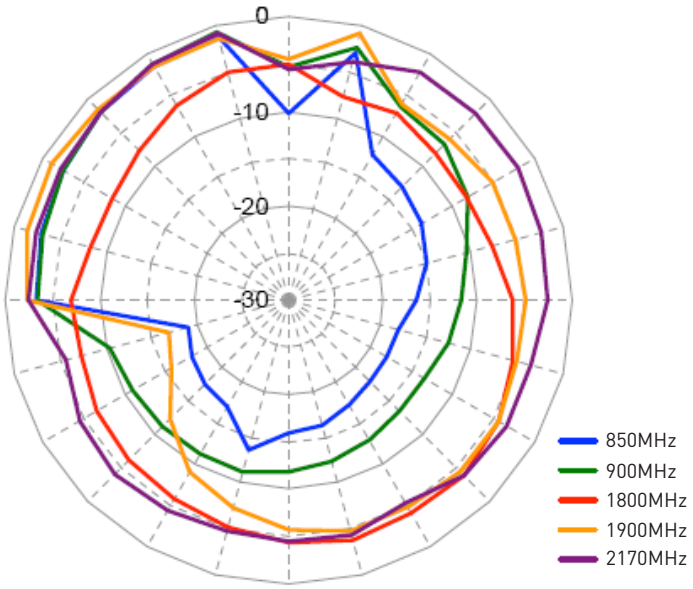
3. Antenna Electrical Characteristics

3.2 Radiation Pattern





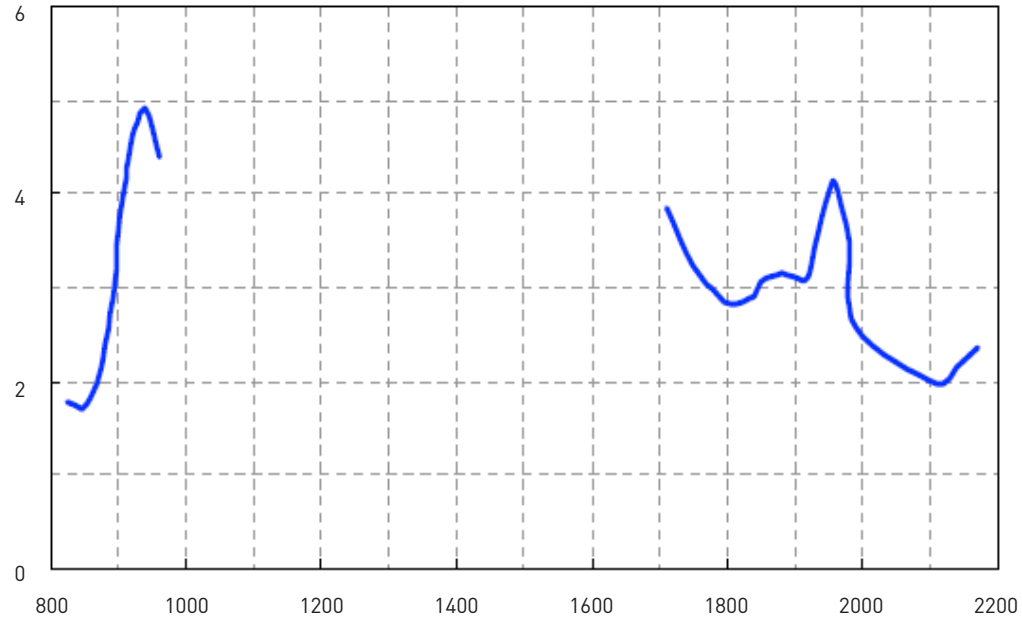
x-y plane radiation pattern



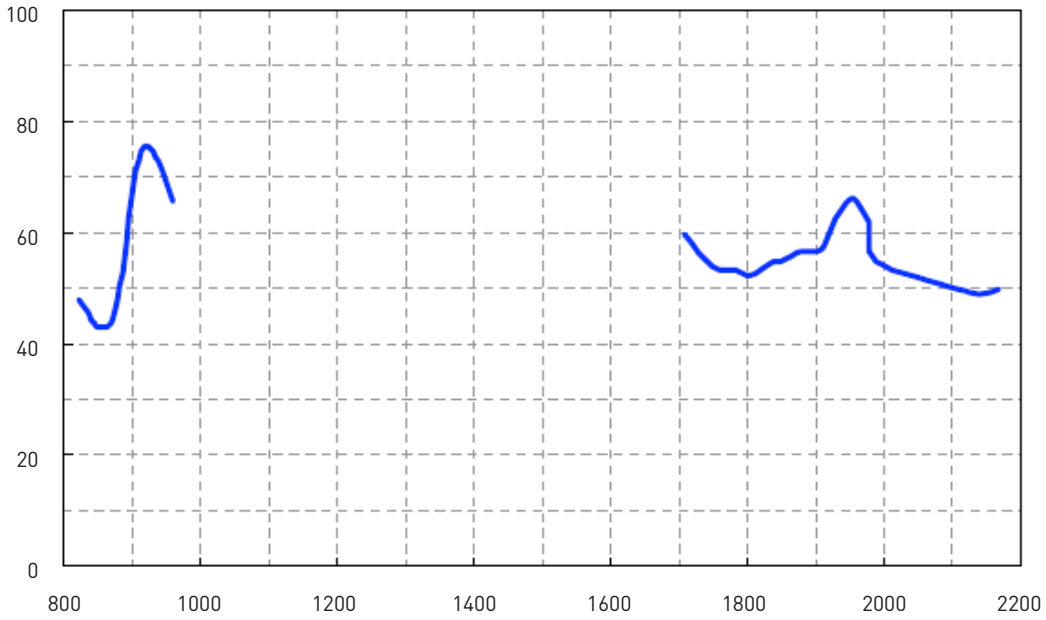
x-z plane radiation pattern

3.3 Gain & Efficiency Plot vs Frequency

3.3.1 Gain



3.3.2 Efficiency



3. Antenna Characteristics

3.4 Return Loss

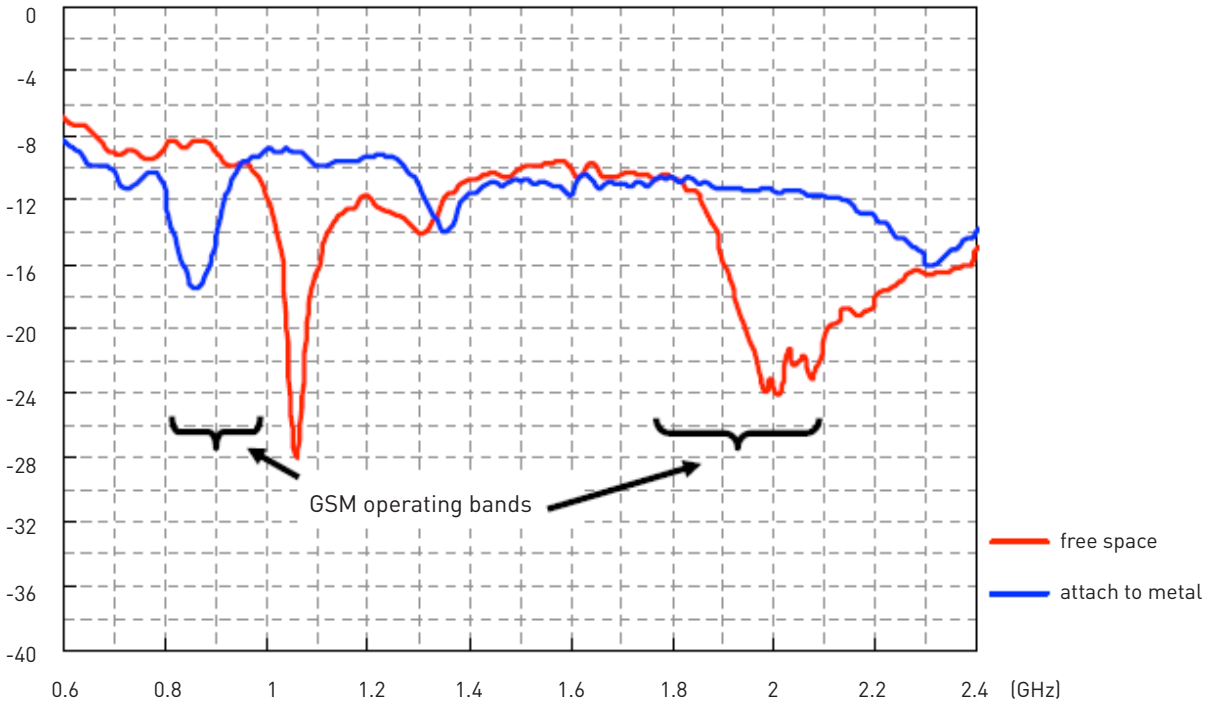
GSA.8821 is placed on a piece of Styrofoam on an empty carton for measuring free space return loss. Since GSA.8821 is designed to mount in a car, it also adheres directly on the test instrument metal box to simulate the application environment. Agilent 8753SE Network Analyzer is used for the S11 measurement.

Free space Return Loss measurement setup

GSA.8821 Adhered to Metal

3. Antenna Characteristics

3.4 Return Loss

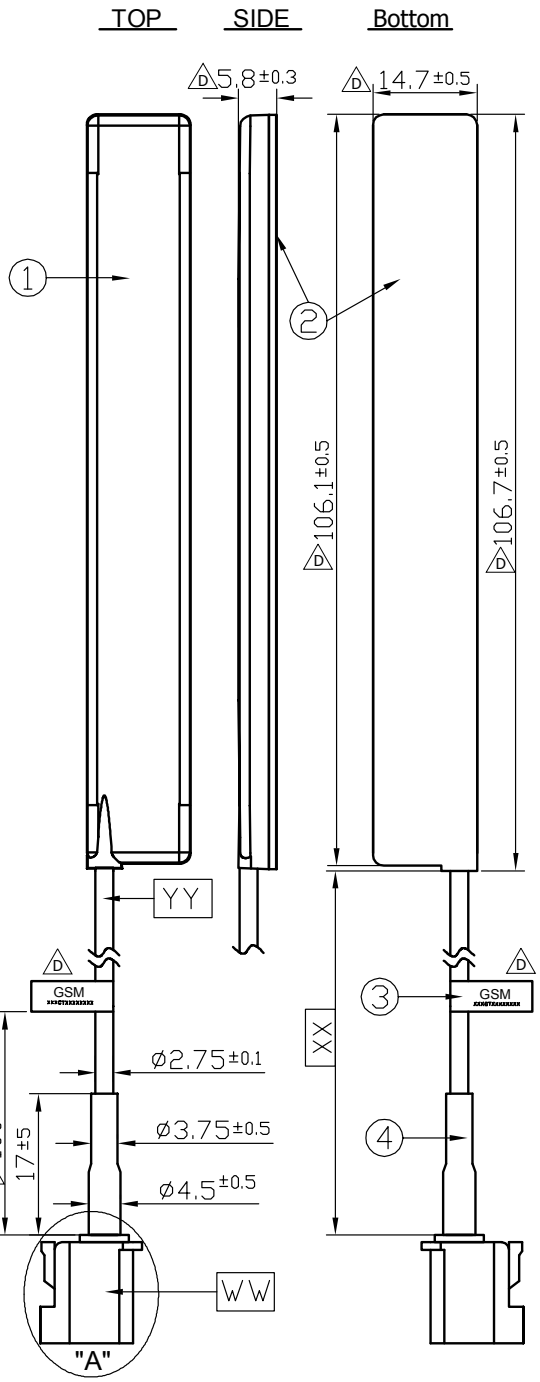


GSA.8821 Return Loss in Free Space and adhered to metal.
The oscillation introduced by the 3m cable is smoothed with a factor of 1%.

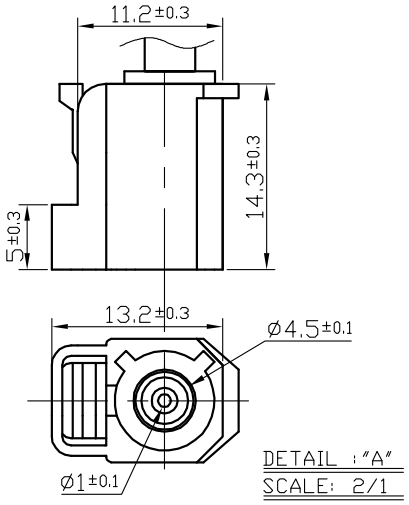
4. Mechanical Drawing (unit : mm)

	Name	Material	Finish	QTY
1	Housing	ABS PA757	Black	1
2	Double Sided Adhesive	3M 1600T	Gray	1
3	GSM Label	Coated Paper	Blue	1
4	Heat Shrink Tube	PE	Black	1

	Name	Material	Finish	QTY
WW	Connector Type	FAKRA Code D GEN2	Violet	1
XX	Cable Length	3000±30mm	Black	1
YY	Cable Type	RG174	Black	1



FAKRA Code D Violet GEN2



5. Packaging

1pcs antenna per small PE bag

5 small PE bags per big PE bag