



FLA.01.07.0045A

Specification

Part No.	FLA.01.07.0045A
Product Name	Flexible PCB Penta-Band GSM Loop Antenna 850/900/1800/1900/2100MHz 45mm 1.13cable, IPEX MHFII
Feature	Very low profile Penta-Band GSM Adhesive tape for easy mounting RoHS compliant

1. Introduction

The FLA.01 antenna is a penta-band cellular antenna that is embedded inside medical devices and can achieve high performance, particularly with customization.

The technology can be applied to any frequency including licence free bands such as 433MHz, 868MHz, 915MHz,

2.4GHz and higher. With the FLA antenna, medical device designers can ensure their devices now achieve reliable, consistent wireless connections for transmitting patient data and also meet healthcare industry tests.

The FLA flexible circuit antenna is particularly suited to the healthcare

market because it can conform to anyshape or size, a mechanical advantage for medical devices, which come in different shapes, and sizes.

To achieve the best possible performance for an individual healthcare product, antenna customization can improve device efficiency even further.

2. Specifications

	AMPS	GSM	DCS	PCS	3G
Band (MHz)	824-894MHz	880-960MHz	1710-1880MHz	1850-1990MHz	1920-2170MHz
Avg. Efficiency %	23.91%	22.62%	21.12%	27.02%	27.14%
Impedance	50 Ohm				
VSWR	≤2.5				
Radiation Pattern	Omni-Directional				
Polarization	Linear				
FPCB	H: 65.7mm * 37mm (at widest) * 0.8mm				
Connector	IPEX MHFII				
Cable	Ø1.13				
Cable Length	45 mm				
Adhesive Tape	3M 467				
Operation Temperature	-40°C ~ +85°C				
Storage Temperature	-30°C ~ +95°C				

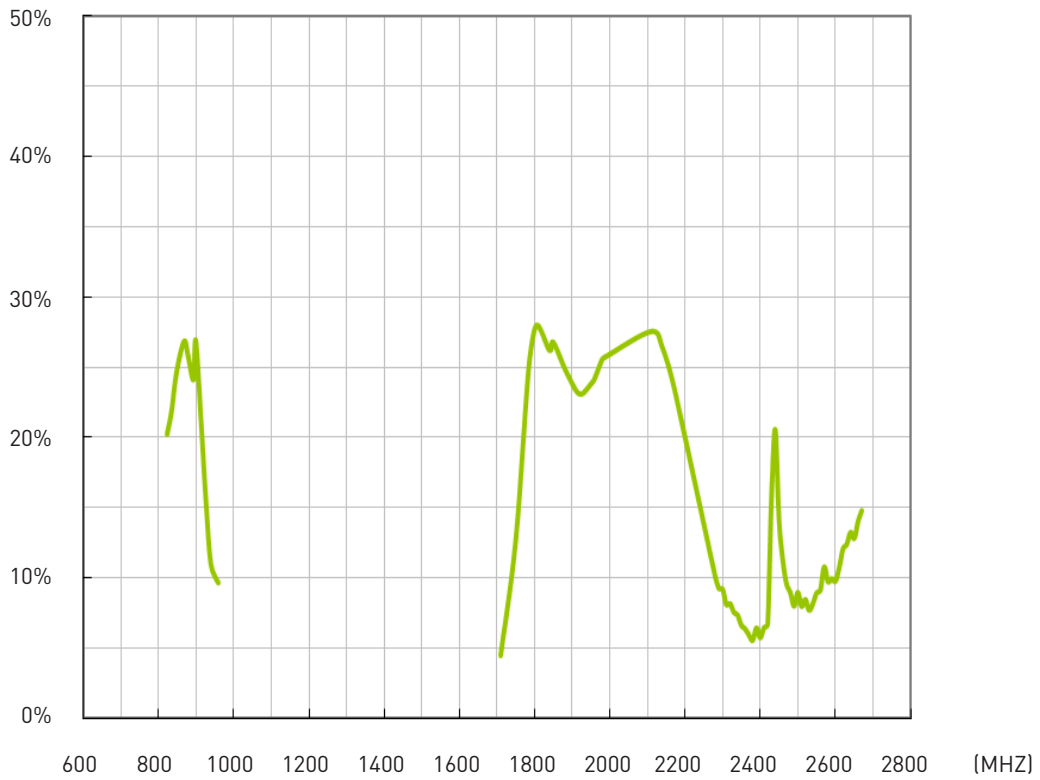
* Tested in reference device

* Results will vary dependant on the environment / ground plane size

3. Electrical Property

Antenna Efficiency

FLA.01 with 45mm cable in Reference Device



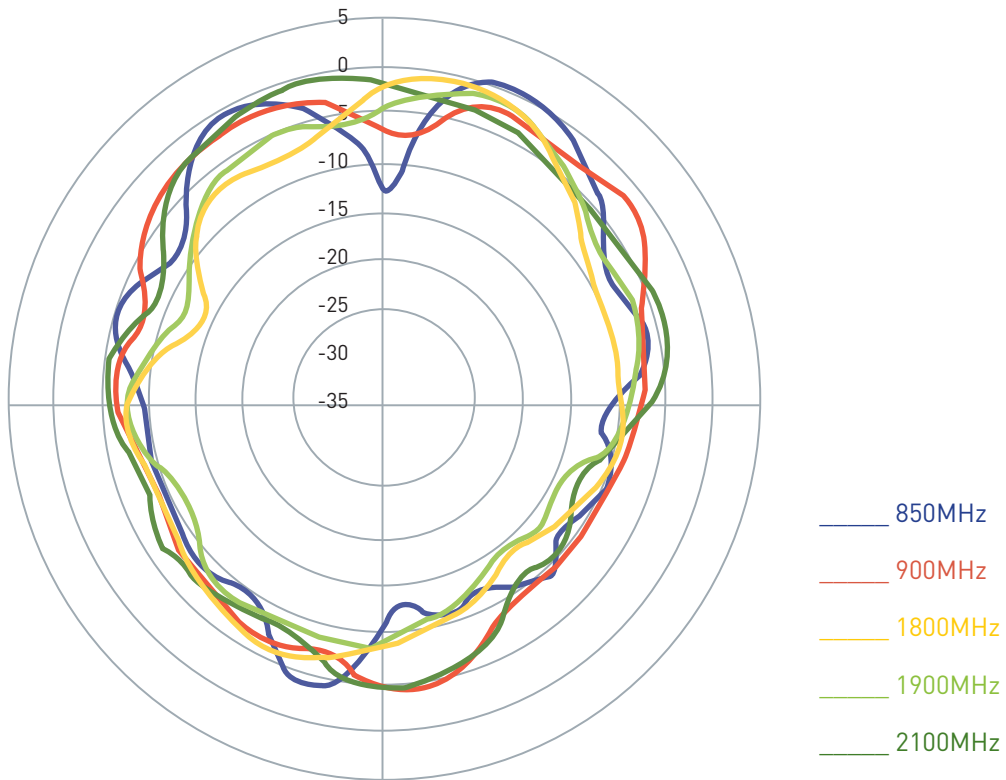
Frequency	E Total. dB	Efficiency	Efficiency. dB
824000000	1.78	20.22%	-6.94
836000000	2.26	21.92%	-6.59
849000000	2.9	24.64%	-6.08
869000000	3.19	26.84%	-5.71
880000000	2.69	25.76%	-5.89
894000000	1.96	24.10%	-6.18
900000000	2.17	26.88%	-5.7
915000000	0.08	20.76%	-6.83
925000000	-2.07	16.29%	-7.88
940000000	-6.13	10.98%	-9.59
960000000	-6.46	9.63%	-10.16

1710000000	-7.41	4.45%	-13.51
1750000000	-2.91	12.59%	-9
1785000000	0.54	24.95%	-6.03
1805000000	0.82	27.97%	-5.53
1840000000	1.12	26.20%	-5.82
1850000000	1.28	26.77%	-5.72
1880000000	1	24.92%	-6.03
1910000000	0.95	23.34%	-6.32
1920000000	0.88	23.08%	-6.37
1930000000	0.85	23.15%	-6.35
1950000000	0.78	23.79%	-6.24
1960000000	0.77	24.18%	-6.16
1980000000	0.96	25.56%	-5.92
1990000000	1.03	25.75%	-5.89
2110000000	0.68	27.53%	-5.6
2140000000	0.89	26.39%	-5.79
2170000000	1	23.67%	-6.26

* Tested in reference device

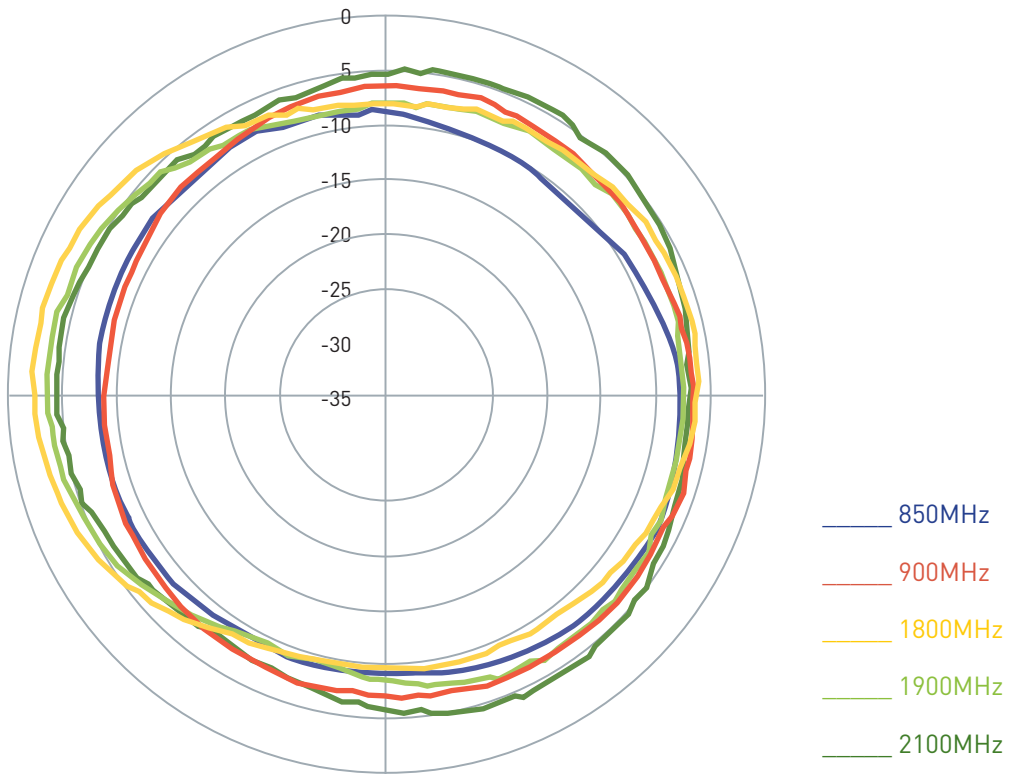
4. Radiation Patterns

H - Plane Radiation



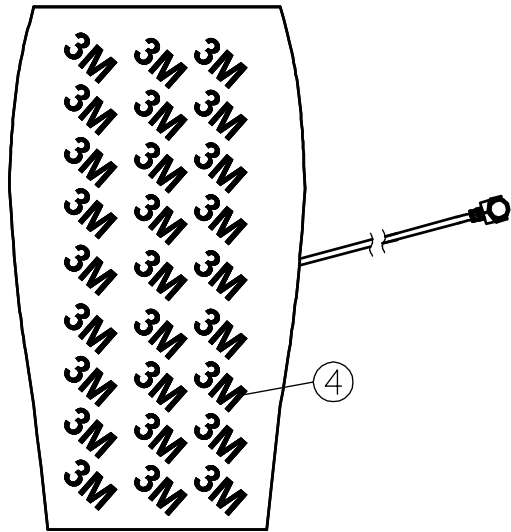
4. Radiation Patterns

E - Plane Radiation

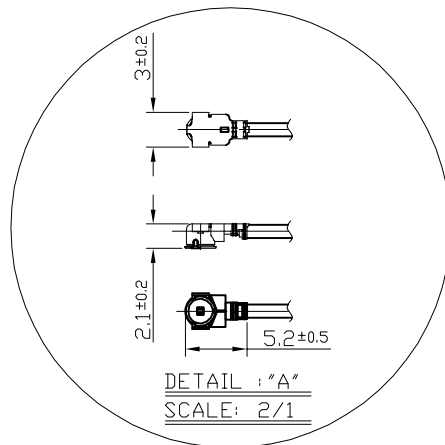
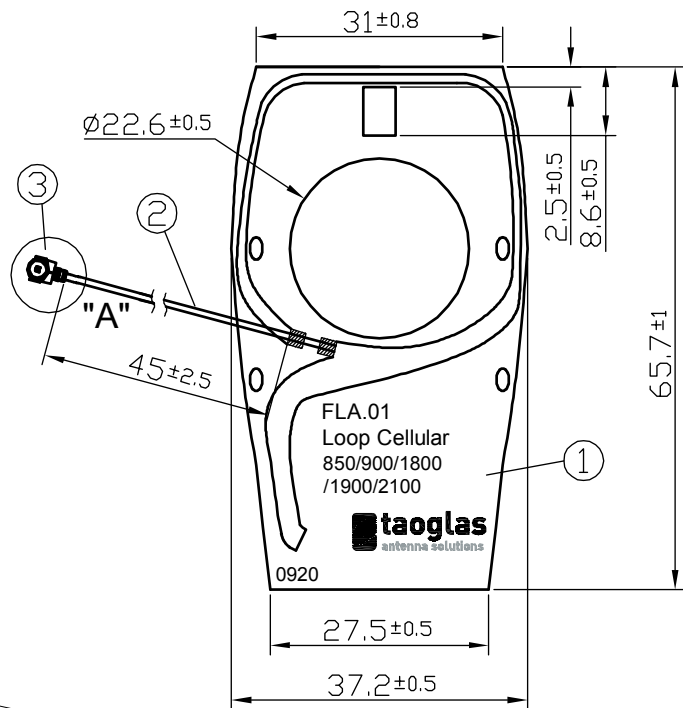



5. Drawing and Dimensions

BOTTOM VIEW



TOP VIEW



NOTES:
1. Soldered area. 

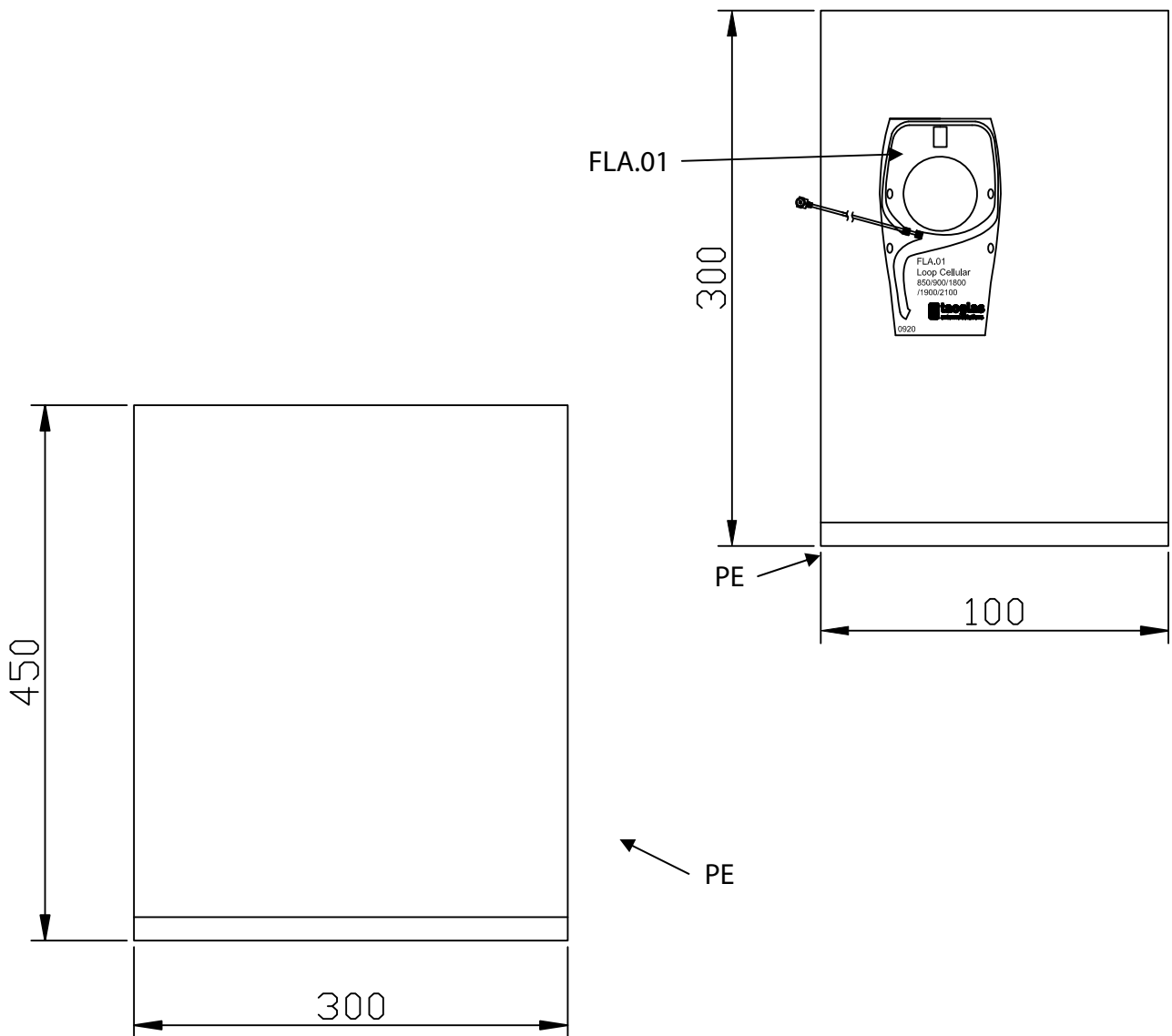
	Name	Material	Finish	QTY
1	FLA.01 PCB	FPCB 0.1t	White	1
2	1.13 Coaxial Cable	FEP	White	1
3	IPEX MHF1	Brass	Gold	1
4	Double-Sided Adhesive	3M 467	Brown Liner	1

6. Packaging

100pcs antenna per small PE bag

10 small PE bag per big PE bag

1000pcs antennas per big PE bag



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