



SPECIFICATION

- Part No. : **FXP07.09.0100A**
- Product Name : Flexible PCB Penta Band GSM Antenna,
100mm 1.13cable, right angle MMCX connector
- Feature : Very low profile penta-band GSM
Adhesive tape for easy mounting
RoHS compliant



Version	Date	Page	Revision Description	Prepared	Approved
A	Jun 16 th 2008	All	New product	TW Product Centre	Zita Lin
B	Jul 1st 2008	All	Test result update	TW Product Centre	Zita Lin



I. Introduction

FXP.07 is a general version of stick-on flexible PCB GSM penta-band antenna. It is designed with a cellphone size ground plane so works the best with devices of similar size or bigger. This low profile and conformable antenna can be easily fitted into any housing for plug-and-play application.

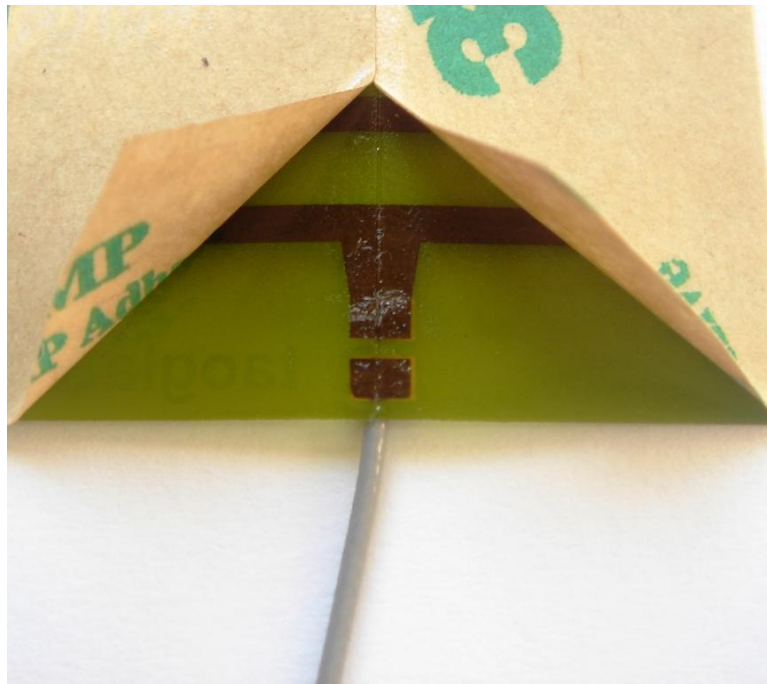
II. Specification

Communication System	Penta-band Cellular				
	AMPS	GSM	DCS	PCS	UMTS
Frequency (MHz)	824 ~ 896	880~960	1710~1880	1850~1990	1710~2170
Efficiency (ground plane)	91%	83%	39%	21%	18%
Efficiency (free space)	13%	14%	49%	40%	29%
VSWR	1.06~7.3				
Impedance	50 Ohm				
Radiation Pattern	Omni-directional				
Polarization	Linear				
FPCB	41.0 x 24.0 mm				
Connector	MMCX(M)RA				
Cable	Ø1.13				
Cable Length	100 mm				
Adhesive Tape	3M 467				
Operation Temperature	-40°C ~ +85°C				
Storage Temperature	-40°C ~ +85°C				

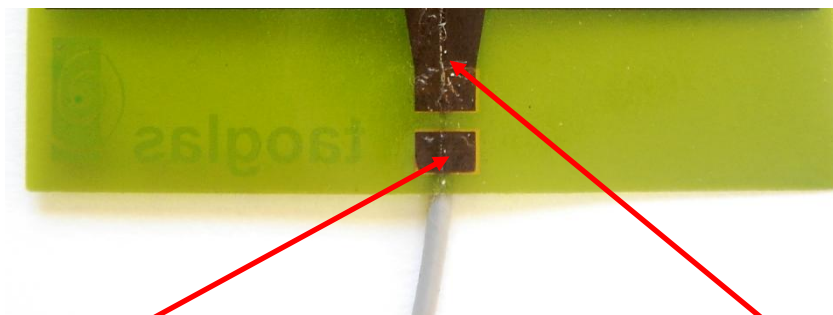


Specification

Mounting instructions and ground-plane connection



Peel back 3m paper. On the underside of the antenna is automotive grade 3m adhesive (glue) for sticking the FXP.07 directly to plastic (e.g. housing). The antenna can be curved around housing but should not be folded sharply



Ground connection - this small square pad at the bottom of the FXP.07 can be seen when paper is removed. This should be connected to extra ground or metal to increase efficiency (e.g. allow pad to touch the side of a PCB like the picture above

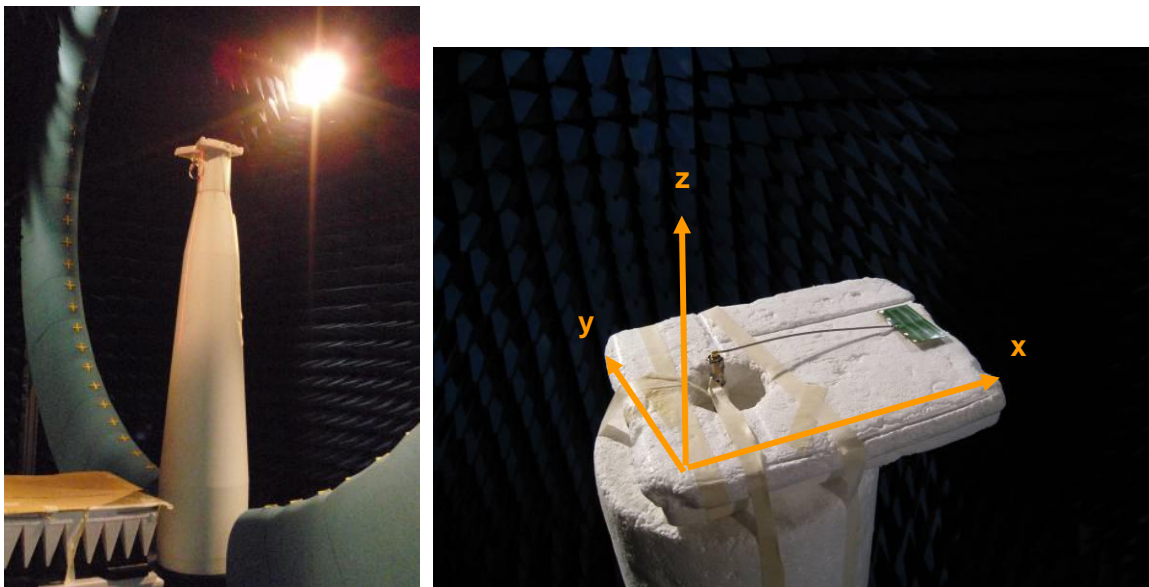
This is the antenna trace or signal feed and should be allowed to be free from the PCB and allowed to exist in free area on non metal area (plastic housing)_



III. Electrical Property

Test Setup

FXP.07 was designed with a cell-phone size ground plane (110 x 45 mm). Tests were setup to demonstrate its RF properties with this ground plane, in free space and adhered to a plastic box to simulate a typical application device. Satimo SG64 3D-chamber is used for radiation and efficiency test with 5% tolerance.

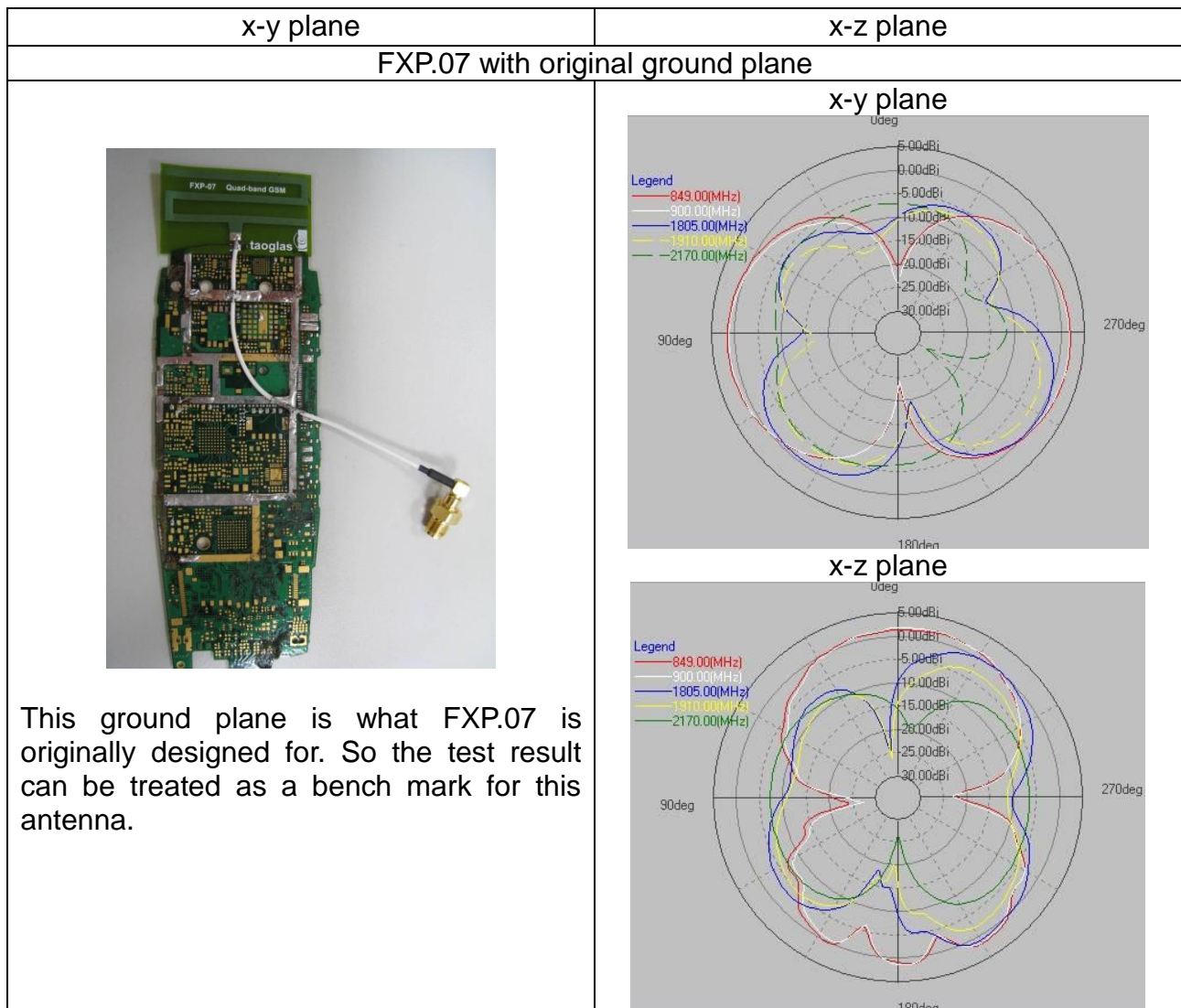


Satimo SG64 3D-chamber and antenna setup reference.



Specification

Radiation Pattern





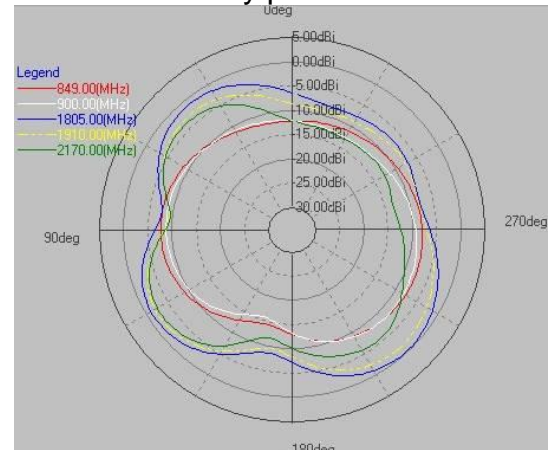
Specification

FXP.07 in free space

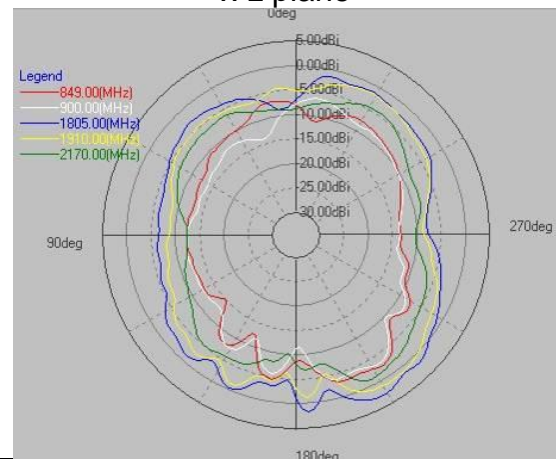


Miniature antenna needs a ground plane for radiation. FXP.07 tested with no ground plane present the extreme cases of the antenna performance.

x-y plane



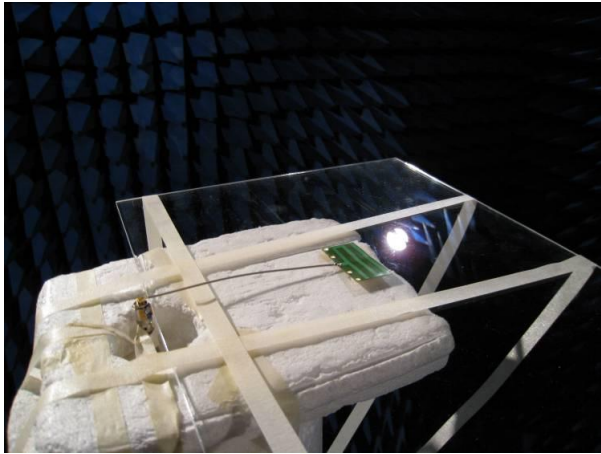
x-z plane





Specification

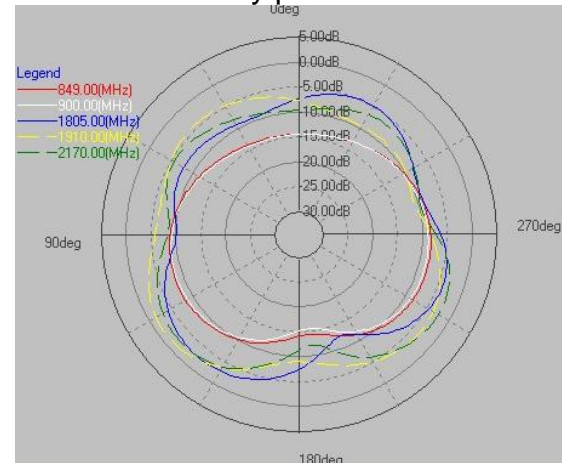
FXP.07 adhere on plastic



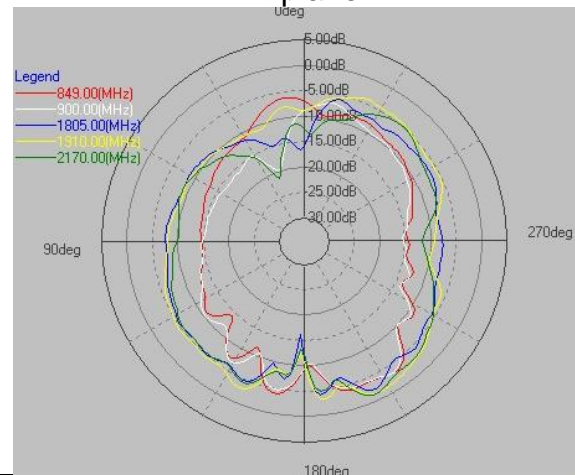
Majority of the GSM devices is made with plastic housing. This test demonstrate the effects of FXP.07 adhere on a piece of plastic.

Compare the result of FXP.07 in free space with and without adhering on a piece of plastic, the plastic mainly degrade the performance of GSM1850MHz band.

x-y plane



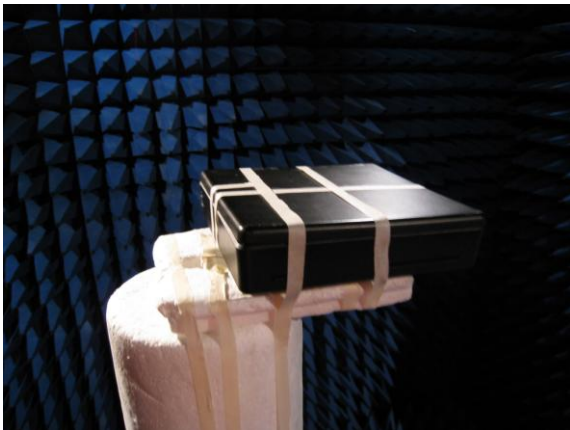
x-z plane





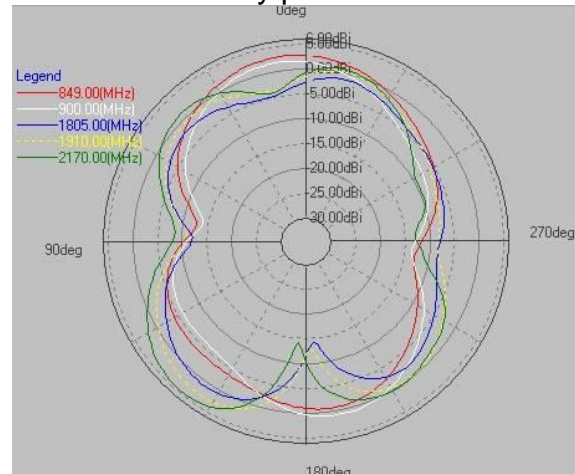
Specification

FXP.07 with the ground plane adhere on plastic box

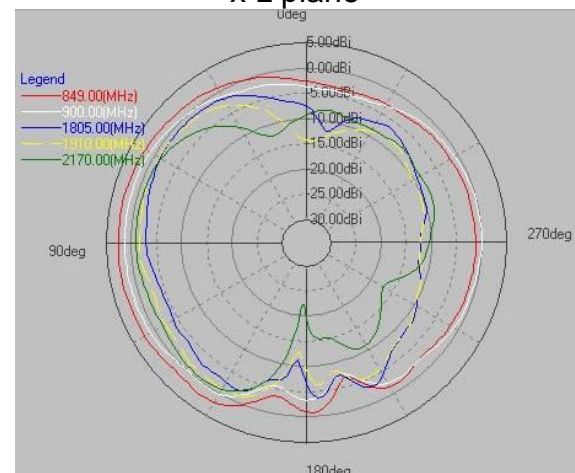


More often, FXP.07 is attached to a piece of ground plane and packed in a plastic box. This test try to simulate a typical situation when FXP.07 is attached to a piece of PCB, with other piece in a device.

x-y plane

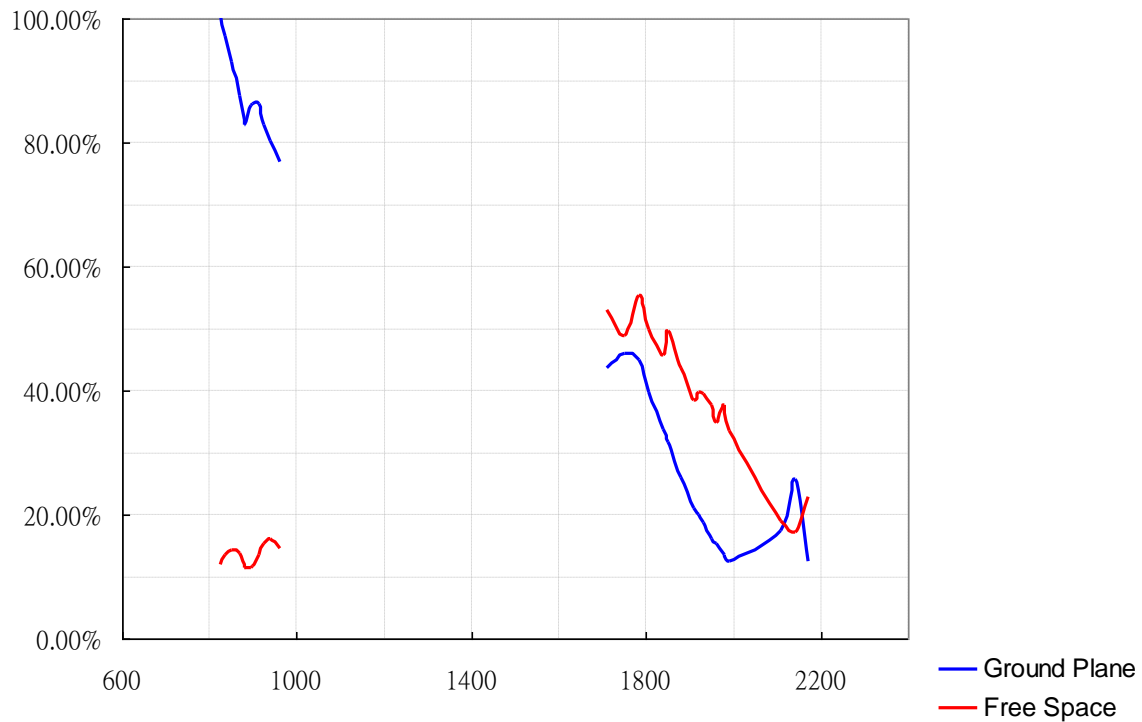


x-z plane





Efficiency



Miniature antennas couple to the ground plane for radiation so the efficiency of the antenna without a ground plane is largely degraded in lower frequencies. These tests demonstrate the best performance (with the designed ground) and the worst performance (with no ground) possible of FXP.07.

AMEYA360

Components Supply Platform

Authorized Distribution Brand :



Website :

Welcome to visit www.ameya360.com

Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
Minhang District, Shanghai , China

➤ Sales :

Direct +86 (21) 6401-6692

Email amall@ameya360.com

QQ 800077892

Skype ameyasales1 ameyasales2

➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333

Email mkt@ameya360.com