



Specification

# SPECIFICATION

- Part No. : FXP-07
- Product Name : Flexible PCB Penta Band GSM Antenna,  
100mm 1.13cable, Ipex connector
- Feature : Very low profile penta band GSM  
Adhesive tape for easy mounting  
RoHS compliant



Version	Date	Page	Revision Description	Prepared	Approved
A	May 14 <sup>th</sup> 2008	All	New Product	TW Product Centre	Zita Lin



## Specification

### I. Introduction

FXP-07 is a general version of stick-on flexible PCB. It is designed with 10mm 1.13 coaxial cable and the ipex connector for easy installation. FXP-07 is ideal for initial test of FPCB type antenna.

### 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)	82%	82%	29%	60%	49%
Efficiency (free space)	11%	12%	41%	32%	33%
Impedance	50 Ohm				
Radiation Pattern	Omni-directional				
Polarization	Linear				
FPCB	41.0 x 24.0 mm				
Connector	ipex				
Cable	$\phi$ 1.13				
Cable Length	100 mm				
Adhesive Tape	3M 467				
Operation Temperature	-40°C ~ +85°C				
Storage Temperature	-40°C ~ +85°C				



### III. Electrical Property

#### Test Setup

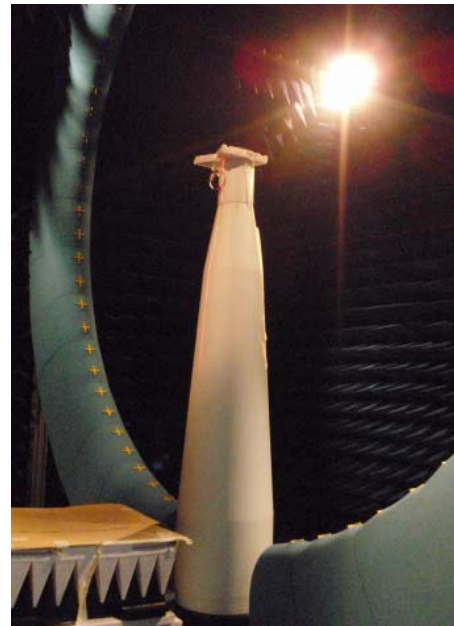
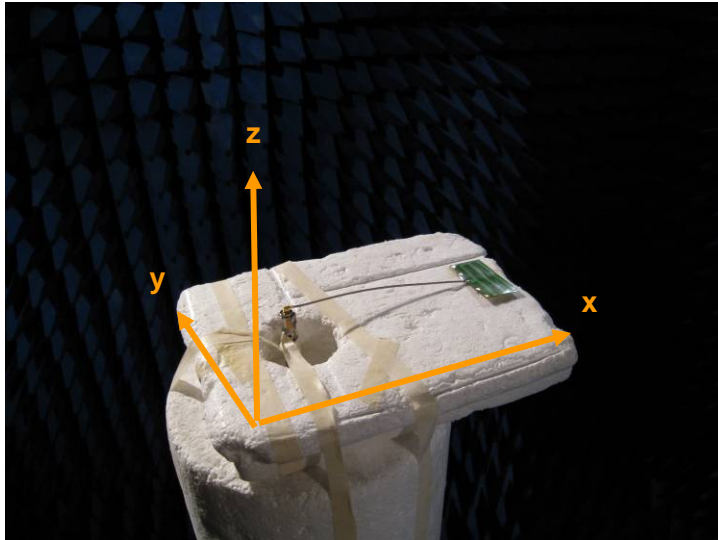
FXP-07 was design with a cellphone size ground plane (110 x 45 mm) so works the best with this ground plane. Tests were setup to demonstrate its RF properties with this ground plane, in free space and adhere to a plastic. Satimo SG64 3D-chamber is used for radiation and efficiency test with 5% tolerance.



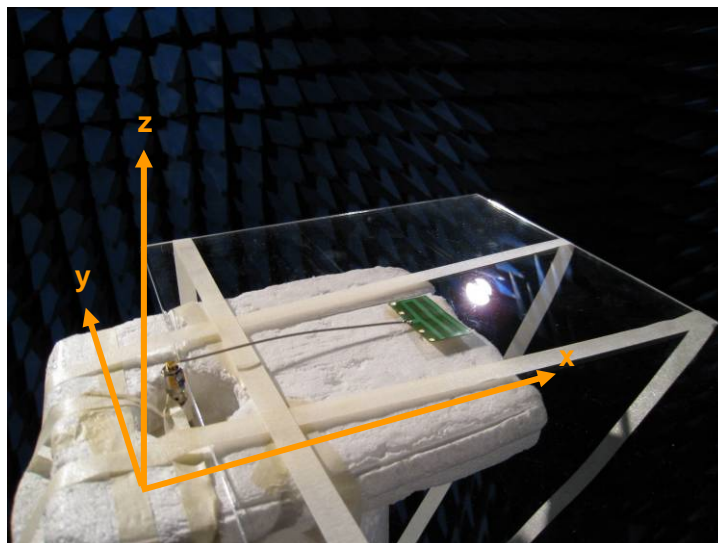
FXP-07 with original ground plane.



Specification



Free space antenna setup and Satimo SG64 3D-chamber.

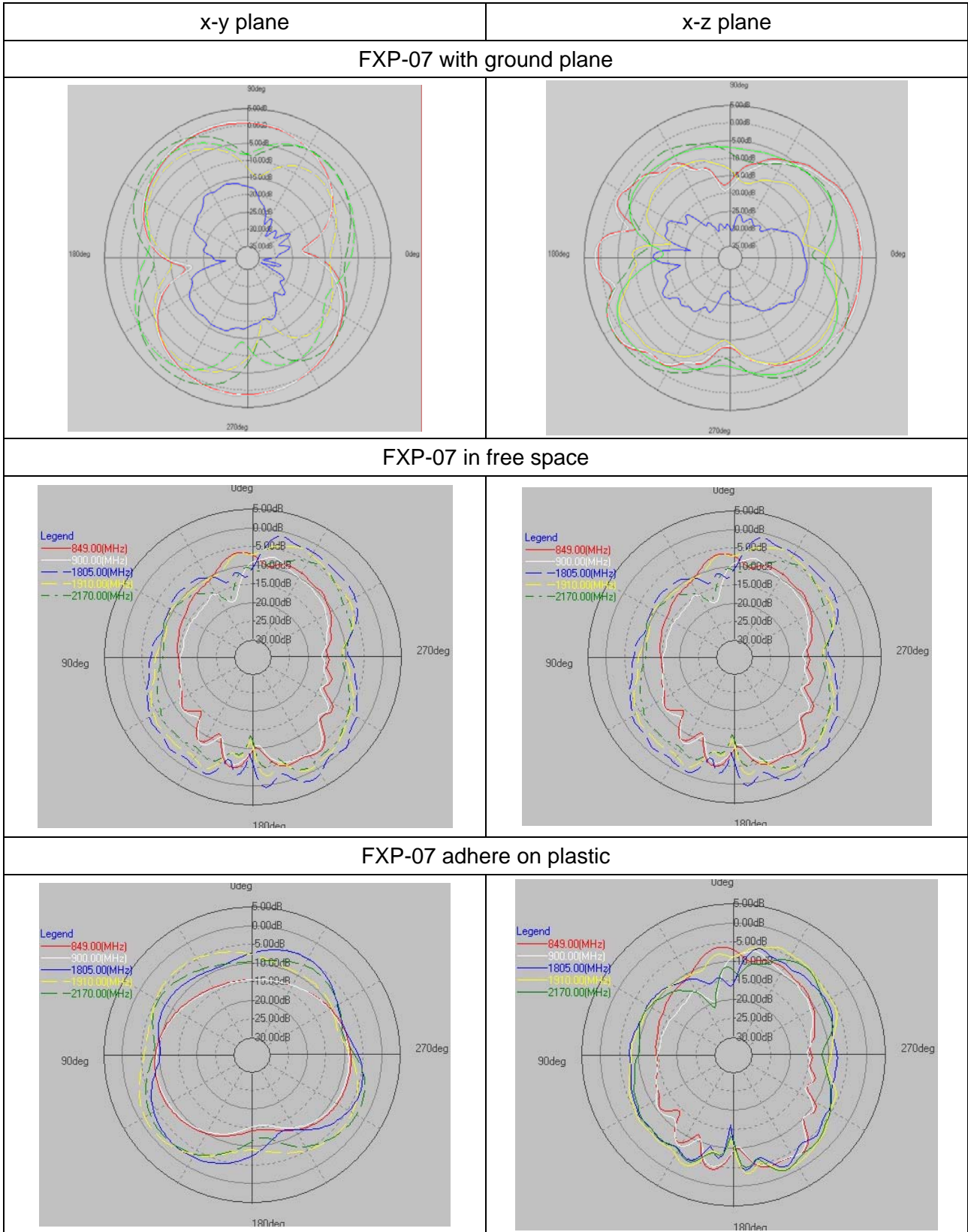


FXP-07 places on a plastic in the chamber.



Specification

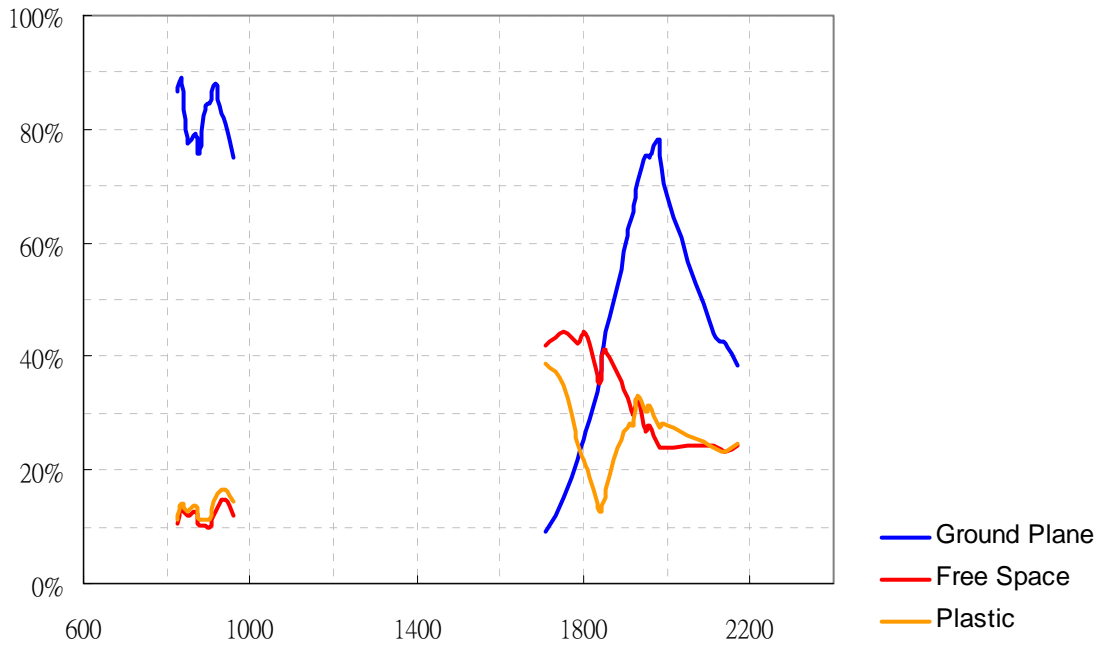
Radiation Pattern





Specification

Efficiency

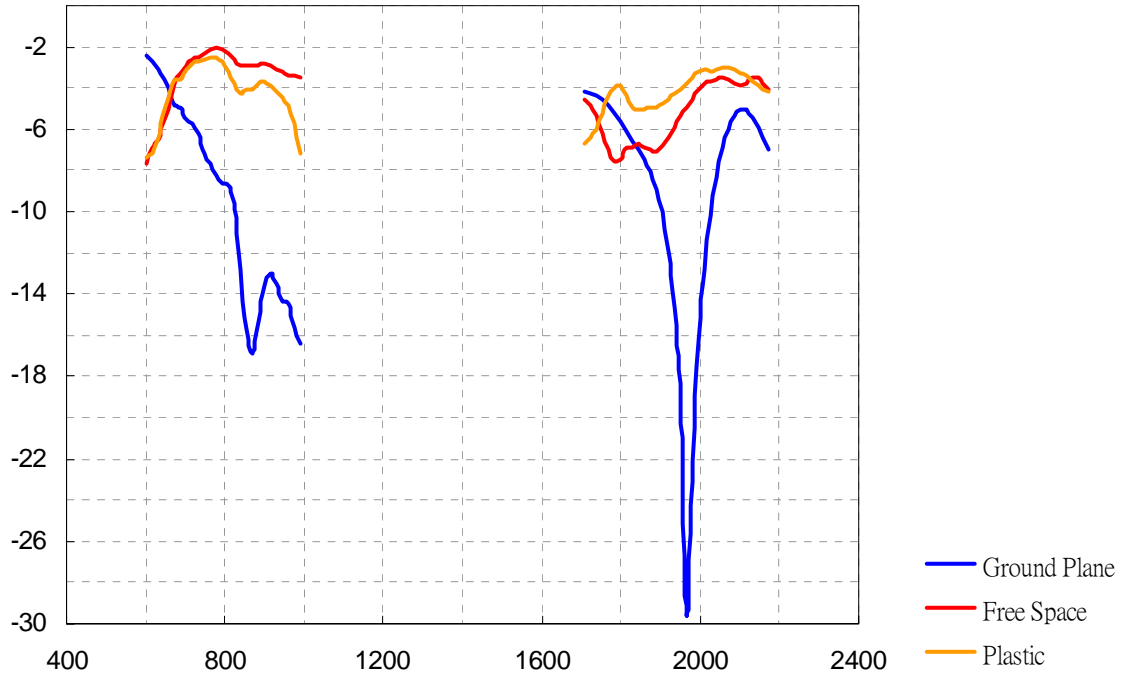


Miniature antennas couple to the ground plane for radiation so the efficiency of the antenna without a ground plane is largely degraded. These tests demonstrate the best performance (with the designed ground) and the worst performance (with no ground) possible of FXP-07. Adhere the antenna to a plastic changes the result, particularly in higher frequency bands.



Specification

Return Loss



Return loss result also indicates that FXP-07 needs to connect to a ground plane for proper operation.