

DRAFT SPECIFICATION

- Part No. : **PCS.07.A**
- Product Name : Low Profile Cellular SMD Dielectric Antenna
GSM / CDMA / DCS / PCS / WCDMA /
UMTS /HSDPA / GPRS / EDGE
824~960MHz/1710~2170MHz
- Features : High Efficiency Multi-Band SMD antenna
Low profile 35mm * 7mm * 3mm

RoHS Compliant



1. Introduction

The PCS.07.A is a low profile SMT cellular antenna designed for direct SMT mount on the device PCB. It provides highest efficiency in very small factor 35*7*3mm. It is more resistant to detuning compared to other antenna integrations. If tuning is required it can be tuned for the device environment, while there is no need for new tooling. Its rectangular shape and very small size makes it very easy to integrate – can be mounted directly on the edge of the PCB board.

Antenna is suitable for lower cost cellular applications and is especially suitable for telematics and automotive sector.

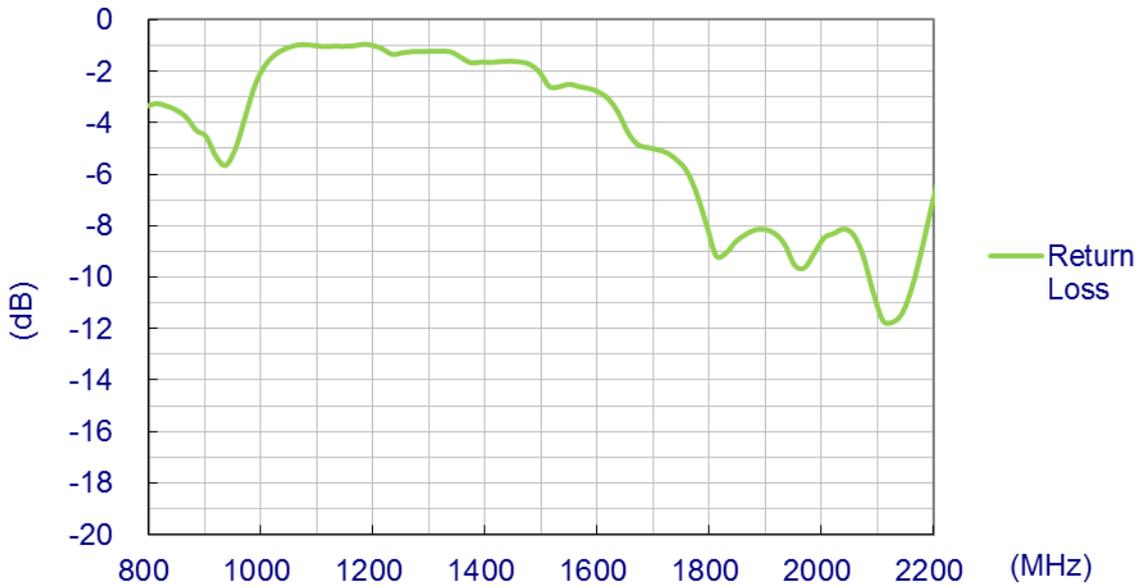
2. Specification Table

GSM Band					
	GSM 850	GSM 900	DCS	PCS	WCDMA I
Frequency (MHz)	824~896	880~960	1710~1880	1850~1990	1920~2170
Peak Gain (dBi)*	-1.96	-1.77	2.90	2.83	2.57
Average Gain (dBi)*	-4.68	-4.44	-2.50	-2.68	-2.42
Efficiency (%)*	32.02	31.06	45.14	52.82	50.11
Return Loss (dB)*	< -3	< -4	< -5	< -7	< -6
Polarization	Linear				
Impedance	50 Ω				
MECHANICAL					
Antenna Dimensions	35mm x 7mm x 3mm				
Material	Polymer				
Soldering Type	SMT through Reflow				
ENVIRONMENTAL					
Operation Temperature	-40°C ~ +85°C				
Storage Temperature	-40°C ~ +85°C				

* all measurements were SMT on 100mm length ground plane EVB board.

3. Antenna Characteristics

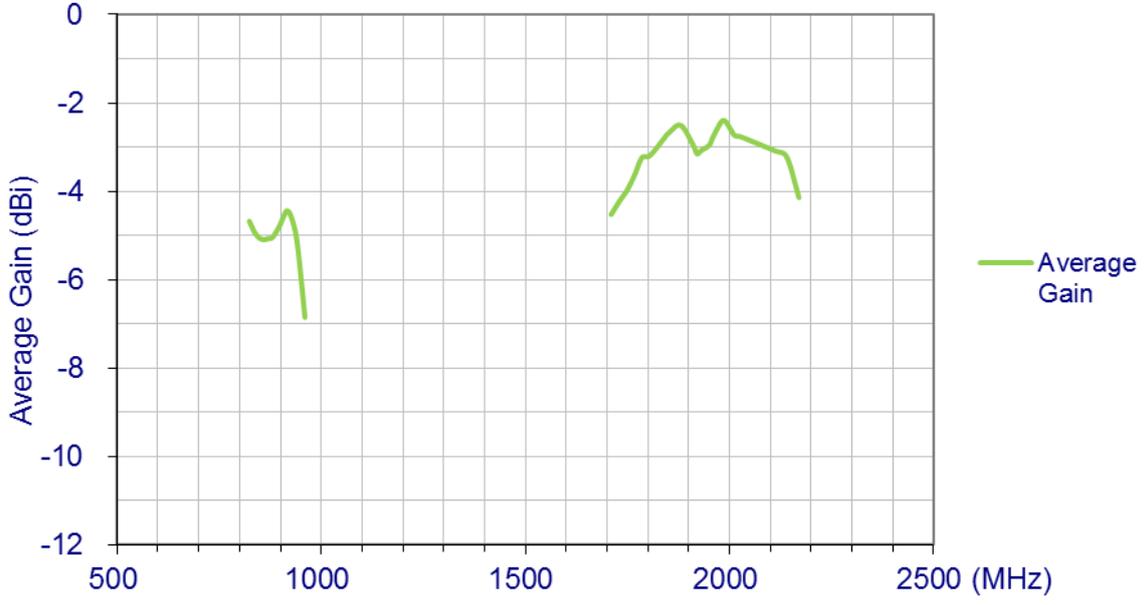
3.1. Return Loss



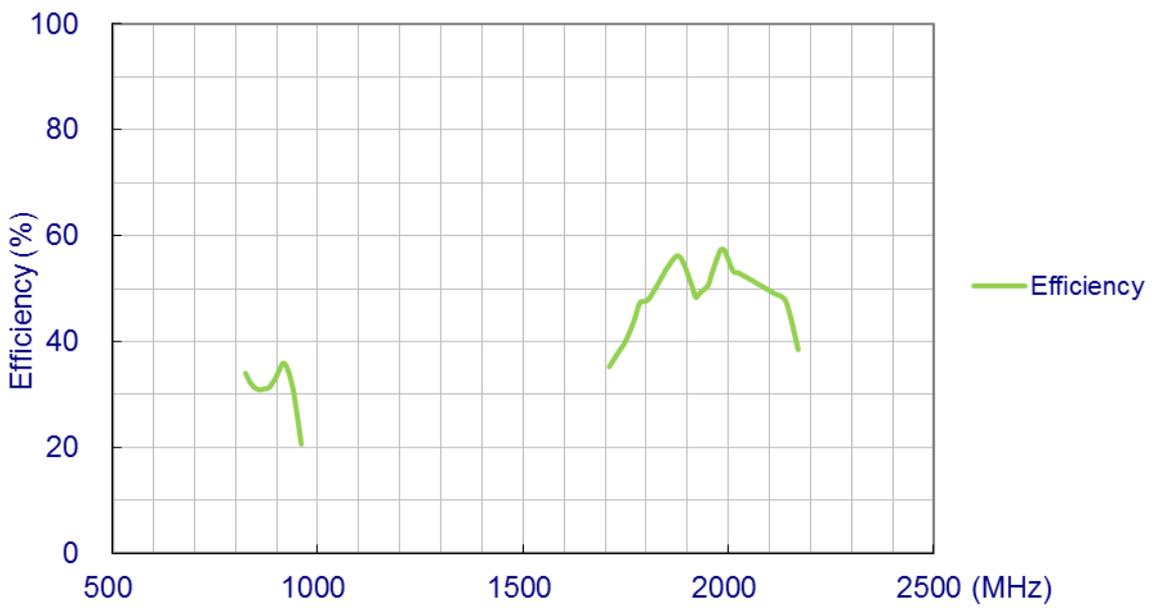
3.2. Maximum Gain



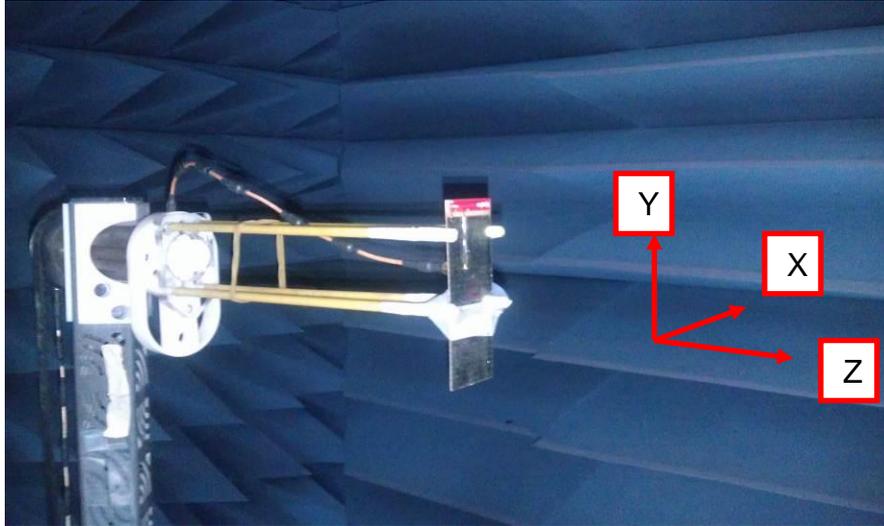
3.3. Average Gain



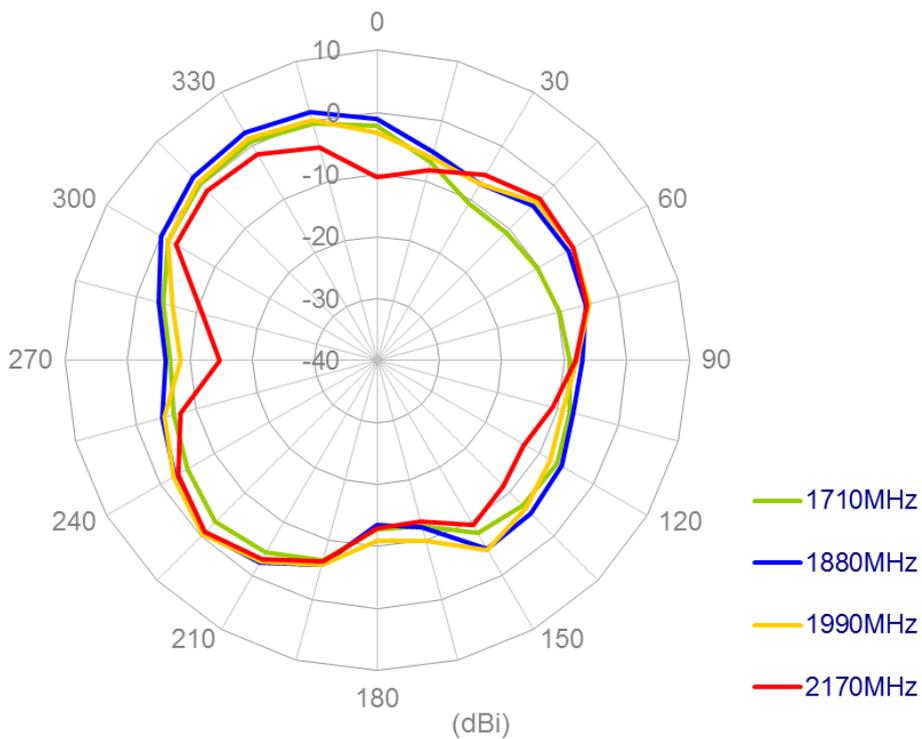
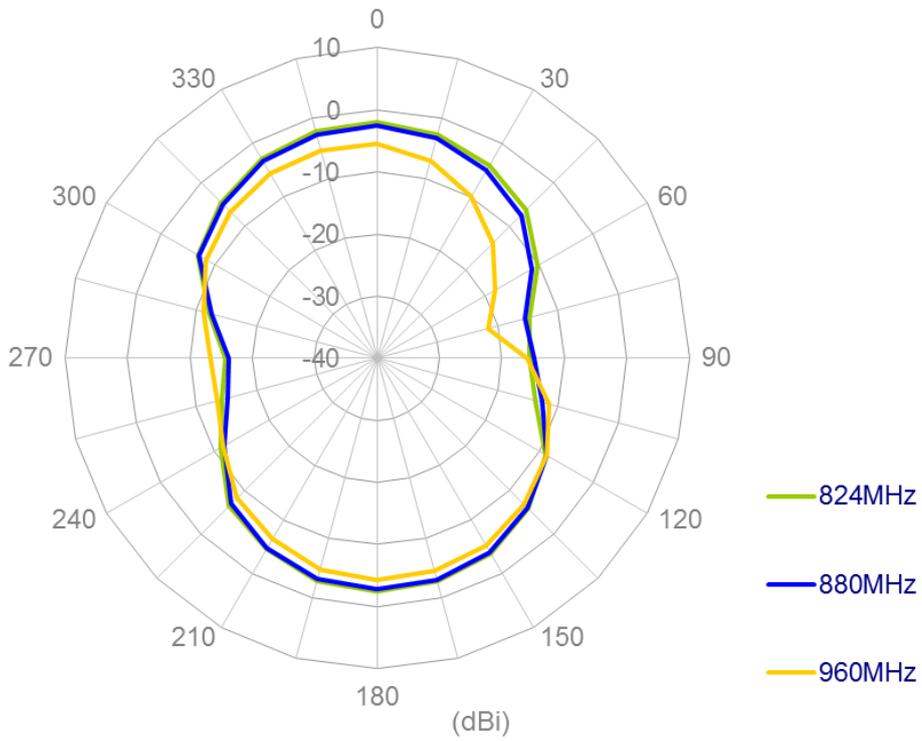
3.4. Efficiency



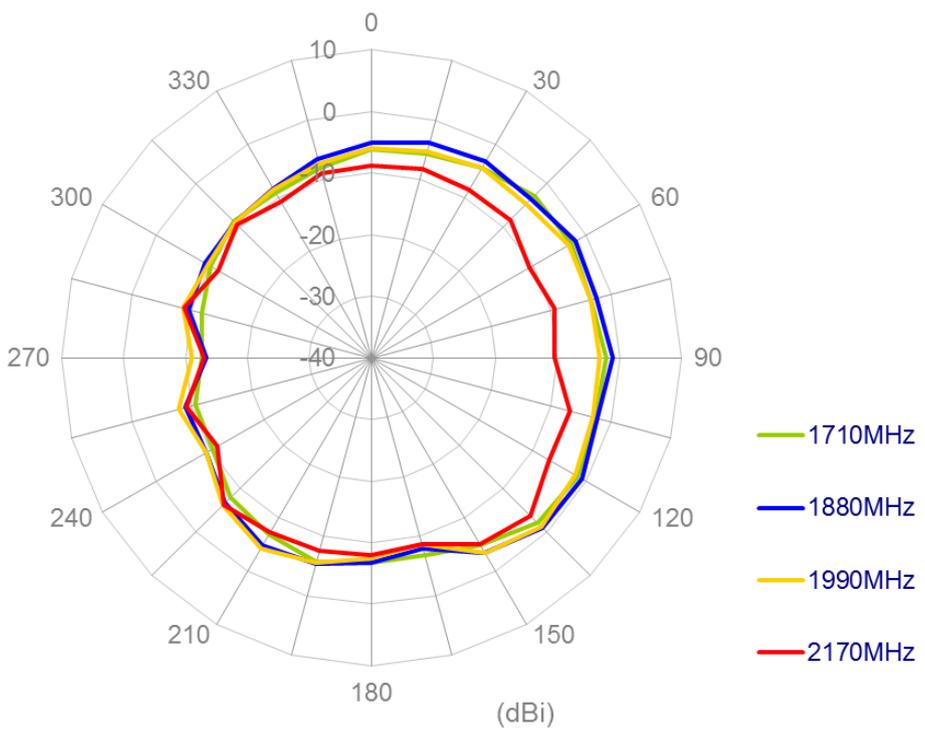
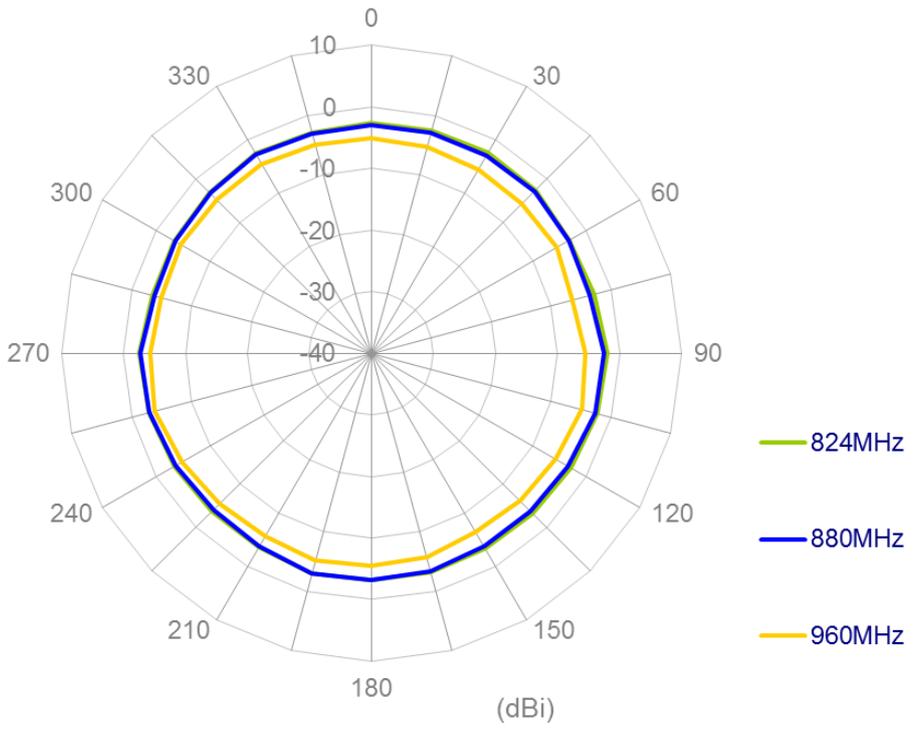
4. Radiation Patterns



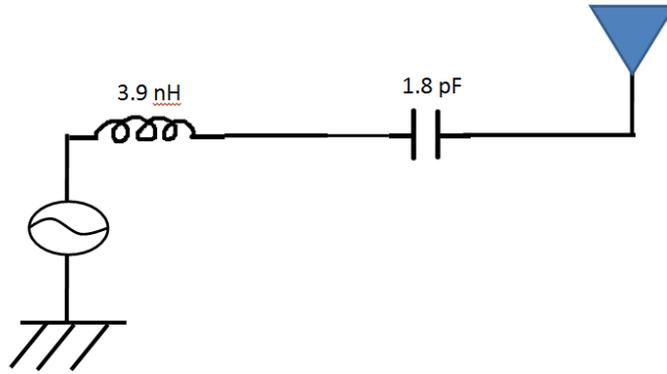
XY plane



XZ plane



5. Matching Circuits

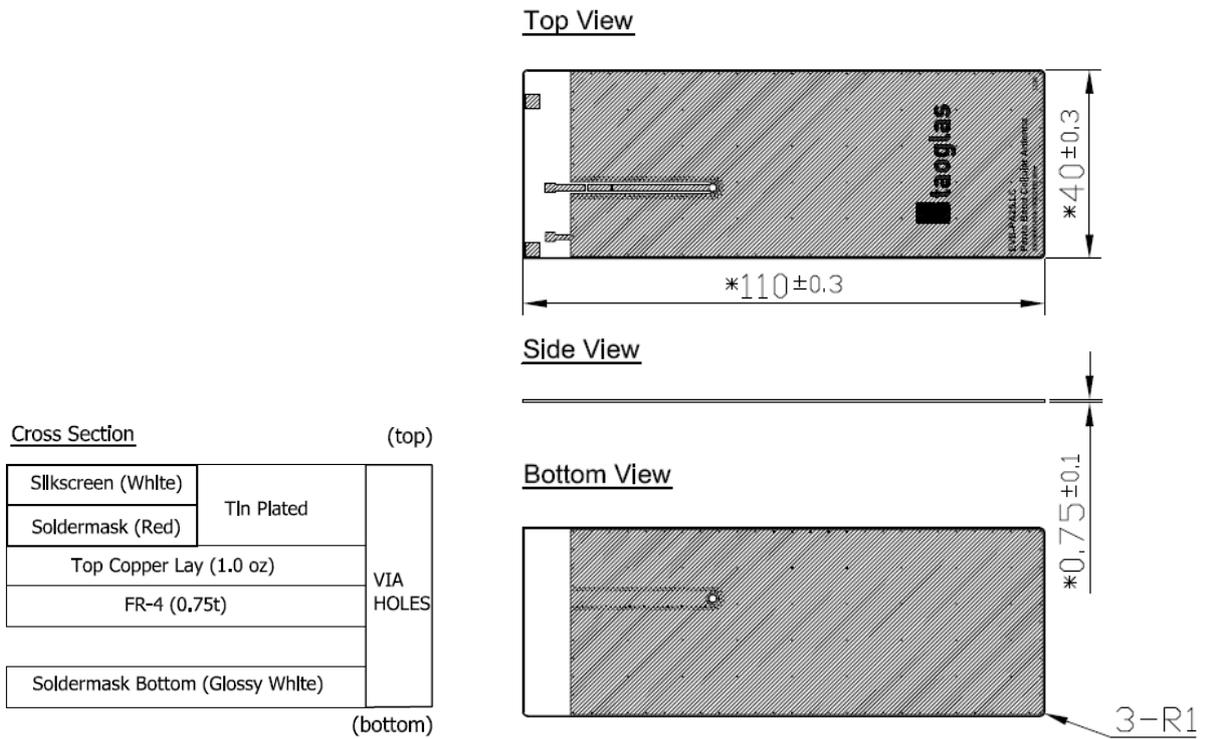


6. Drawing

PCS.07.A Antenna

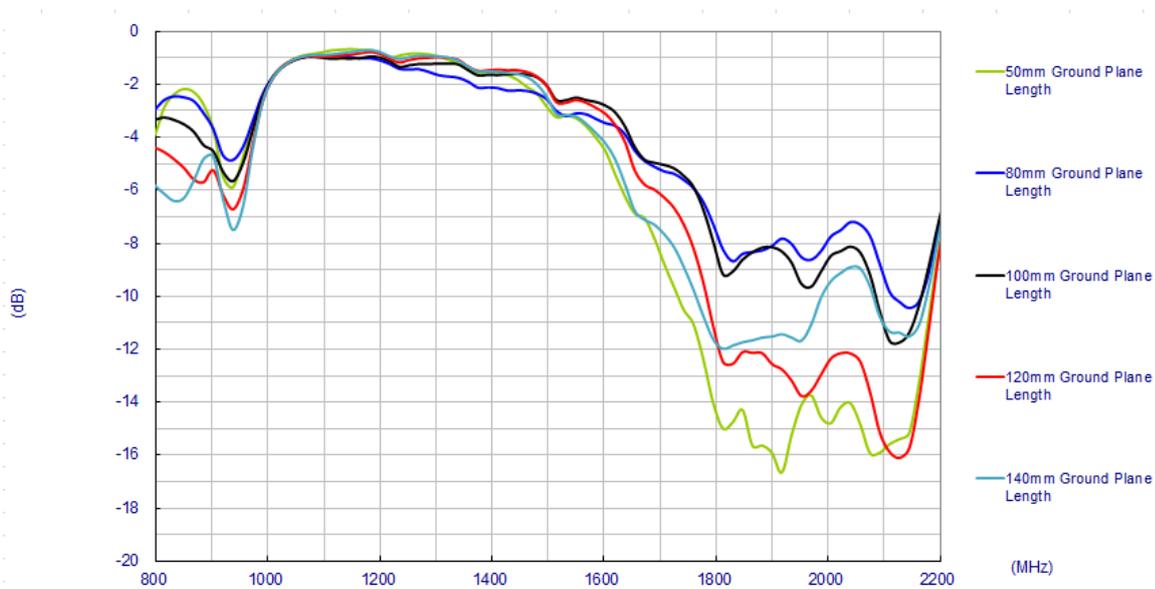


PCS.07.A antenna with Evaluation Board

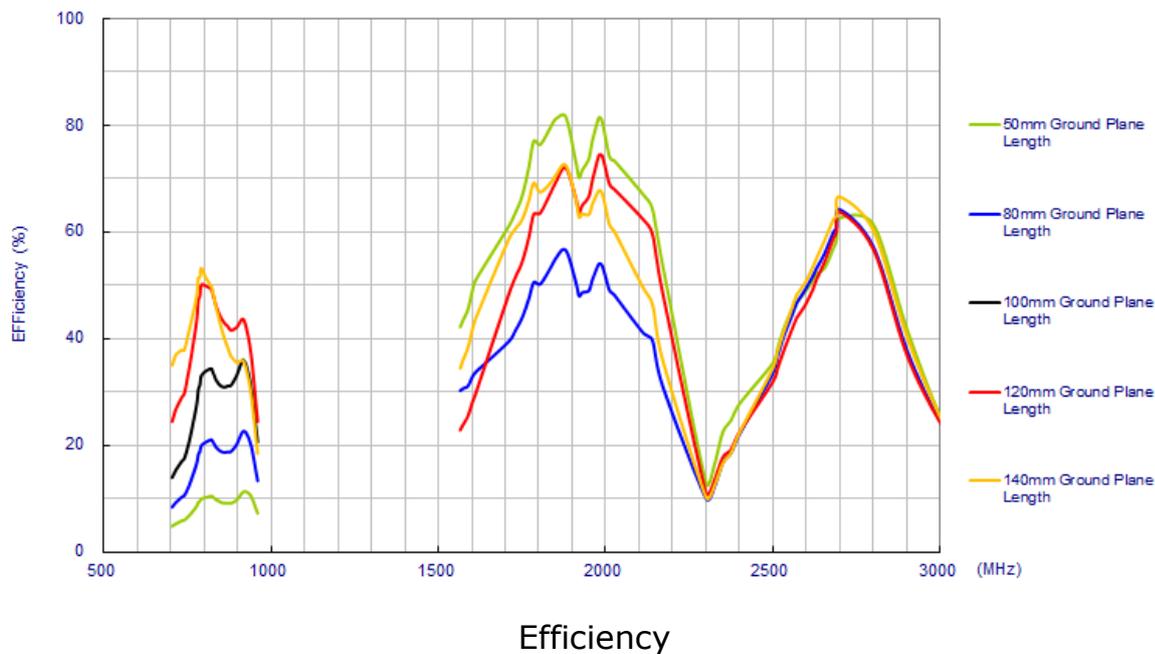


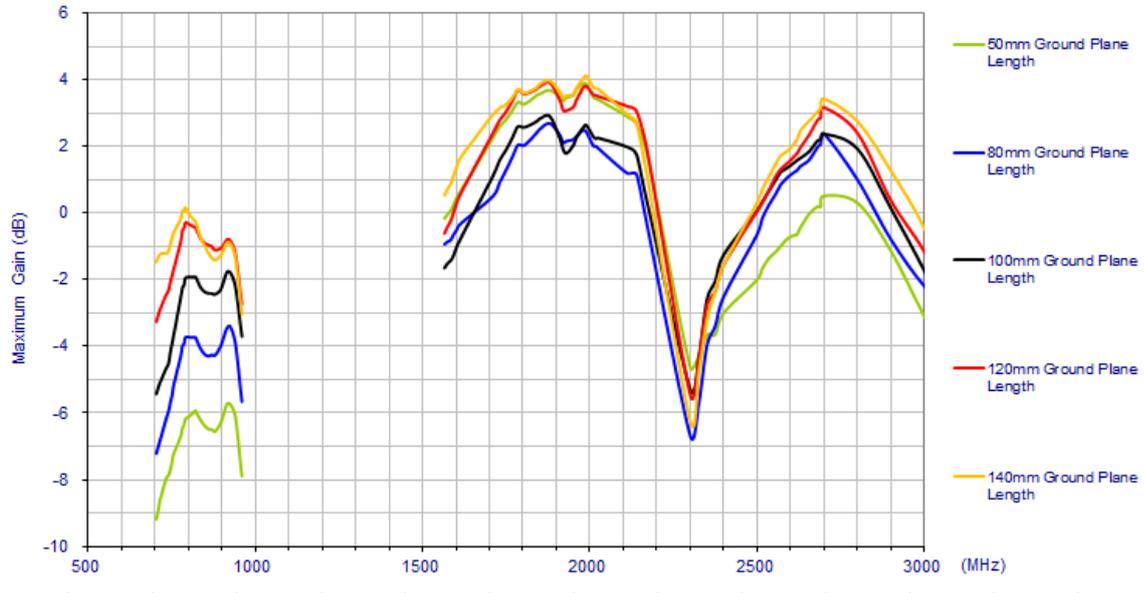
7. Application Note

Investigations of PCS.07.A antenna performance on different lengths of ground plane were conducted, the return loss is shown as below.

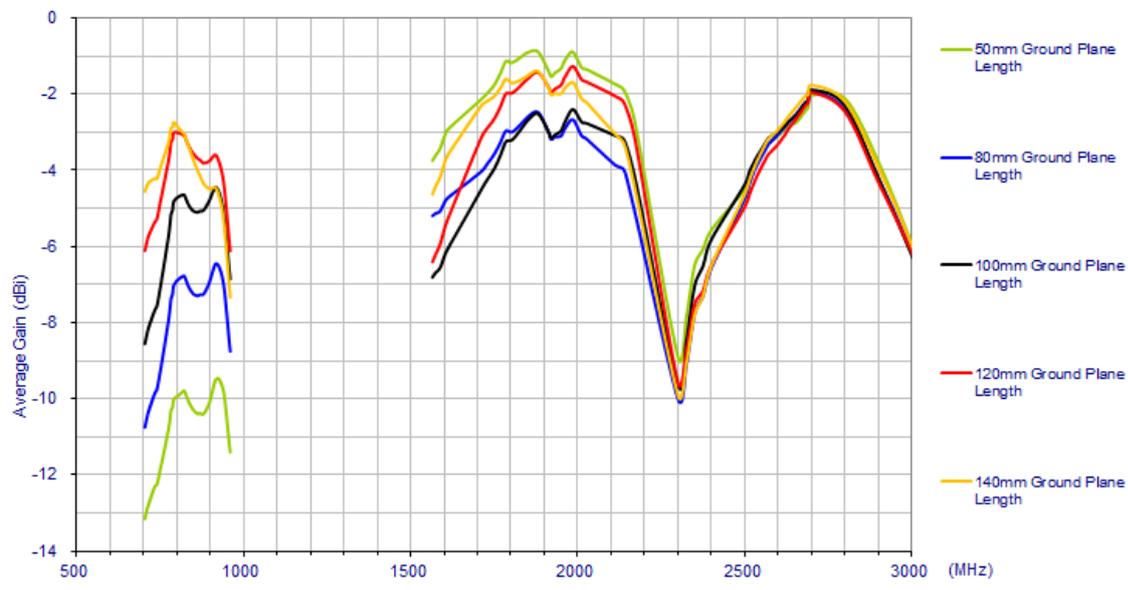


The antenna performance are shown on below,





Maximum Gain



Average Gain