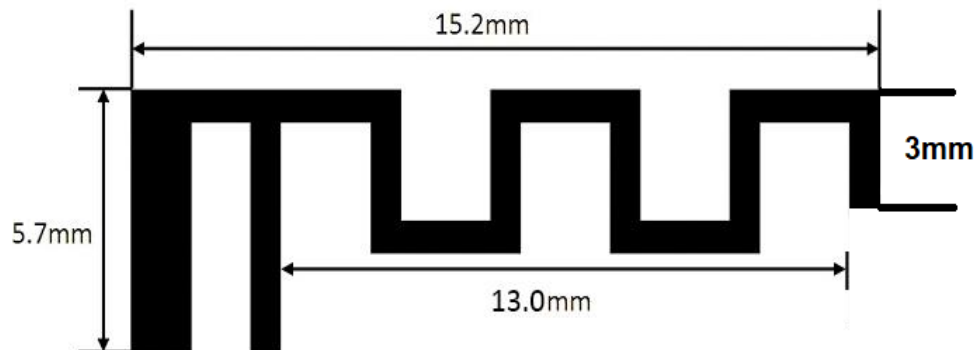


Antenna test report

Summary

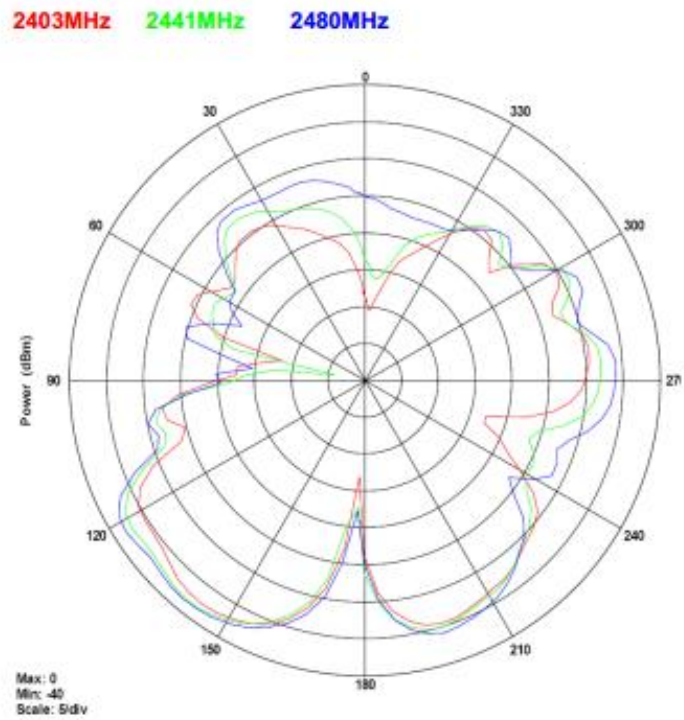
ITEM	PCB Antenna					
Model Name	X9RBBLLMKEYSG/TK52S					
Center Frequency dBi	Horizontal			Vertical		
	2400MHz	2441MHz	2480MHz	2400MHz	2441MHz	2480MHz
	-3.47	-3.20	-2.65	-7.3	-4.9	-3.5
MAX. Gain	-2.65dBi					
Polarization	Horizontal and Vertical					
Azimuth Beam Pattern	Omni-directional					
Impedance	50 Ohm					
Antenna Length	15.2mm					
Manufacture	DONGGUAN TOGRAN ELECTRONICS TECHNOLOGY CO.,LTD.					
Address	No. 110, Shidan Mid Rd, Shijie Town, Dongguan city, China					

Antenna Photo & Length (mm)



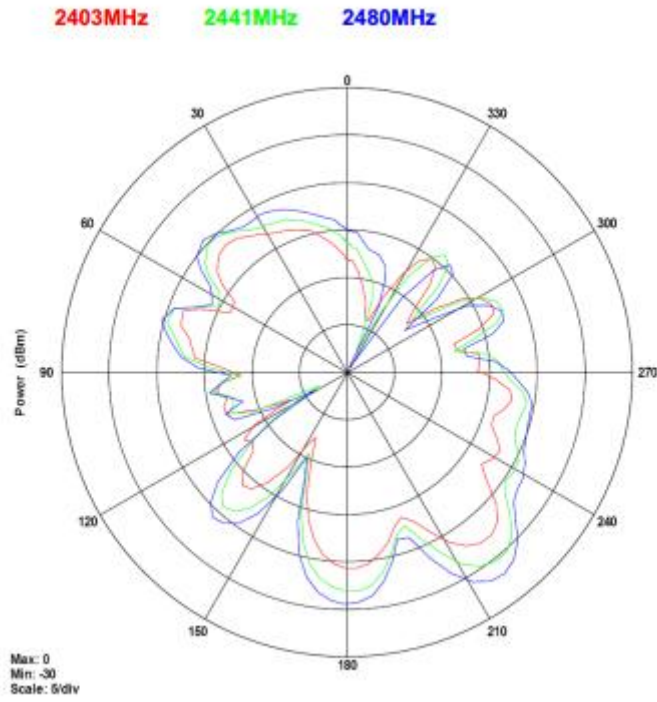
Horizontal: 2400MHz 2441 MHz 2480 MHz

Power (dBm)



Frequency (MHz)	Gain(dBi)		
	Max	Min	Avg
2400	-3.47	-28.52	-9.85
2441	-3.20	-36.42	-8.68
2480	-2.65	-24.45	-7.35

Vertical: 2400MHz 2441 MHz 2480 MHz
Power (dBm)



Frequency (MHz)	Gain(dBi)		
	Max	Min	Avg
2400	-7.3	-24.6	-13.4
2441	-4.9	-27.6	-11.8
2480	-3.5	-29.4	-12.5