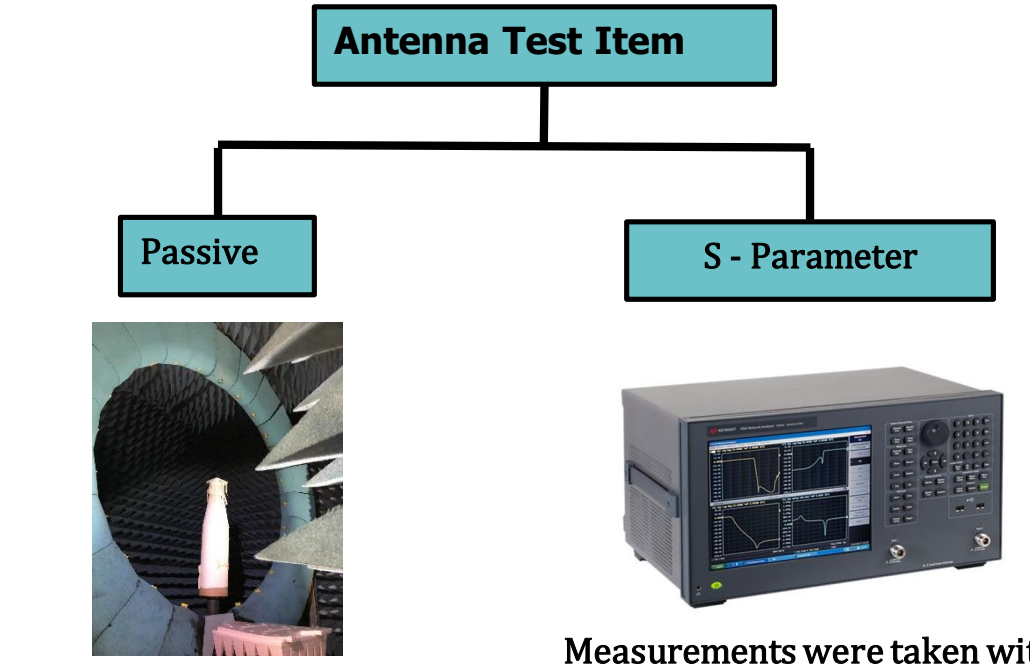
SU01 Antenna Report

Introduction

This report Passive/Active Measurement results .(return loss, Isolation , Gain, Radiation Pattern)

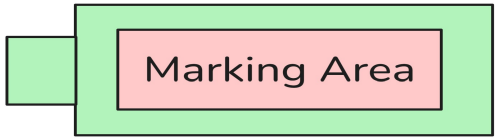
- The return loss and Isolation are measured by Agilent E063A.
- The radiation pattern, antenna gain and efficiency are measured by IAC's SATIMO SG24 chamber.



IAC SATIMO SG24 chamber

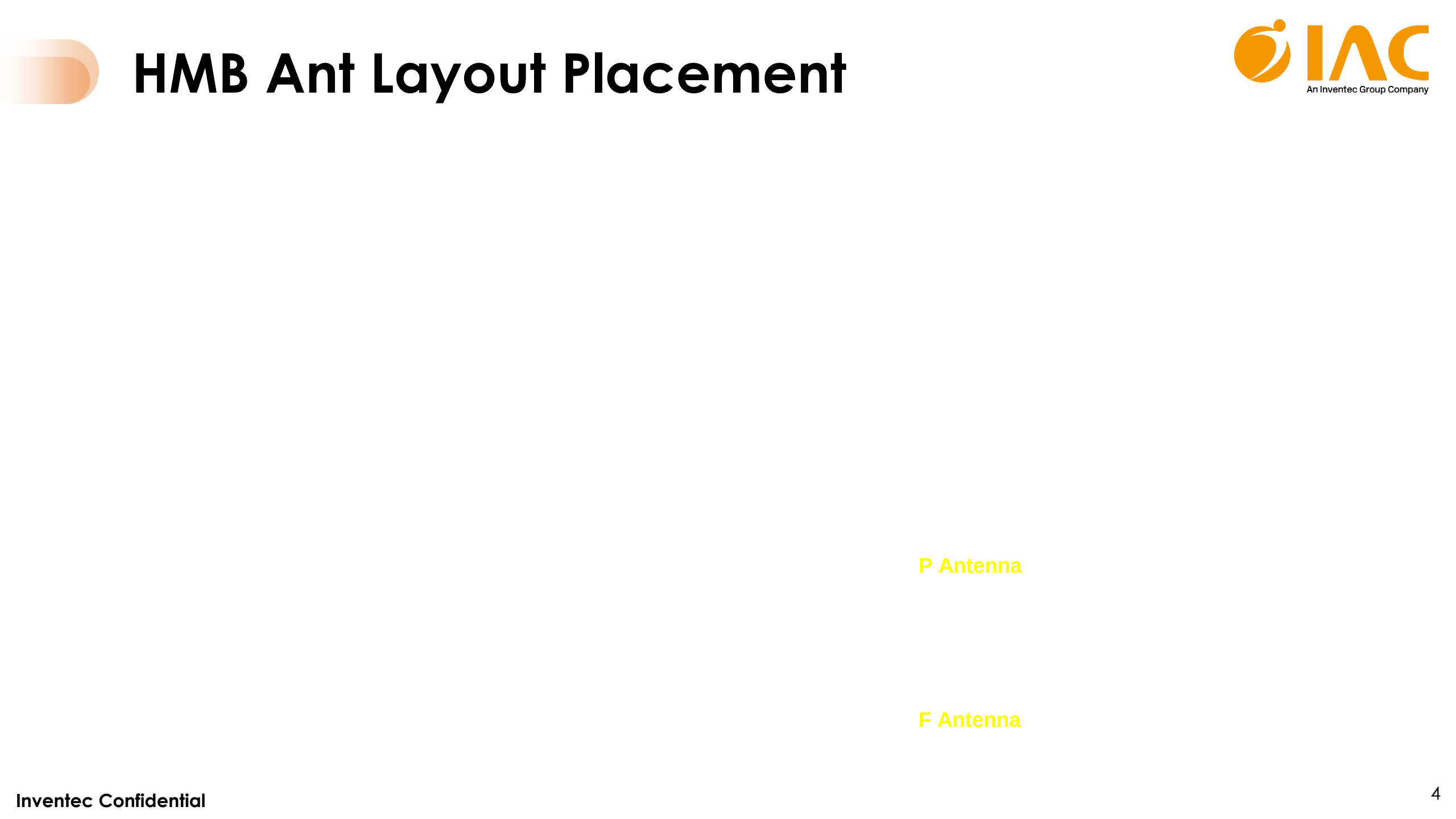
Measurements were taken with
Agilent E5063A ENA, 100kHz- 18GHz

Introduction

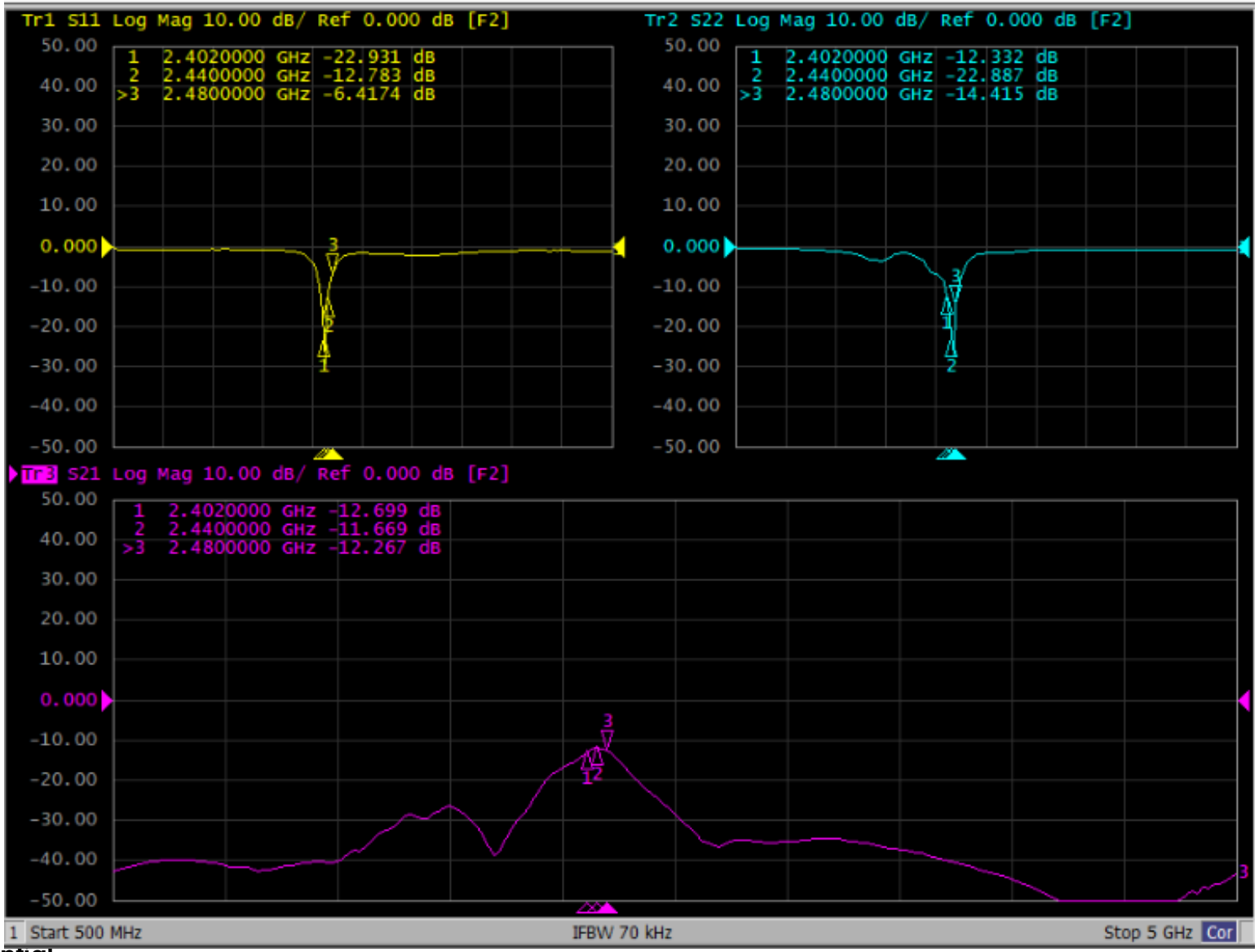


Antenna Information	
Wireless Function	■2.4G antenna 2x2
Antenna type and solution	■On-board antenna - Signal band 2.4G antenna*2
Specification and measurement data	
Return loss	<-6.417 dB
Isolation	■2.4G antenna <-11.669dB
Peak Gain	■2.4G:>-3.31dBi
Antenna efficiency	■2.4G Antenna >18%

HMB Ant Layout Placement

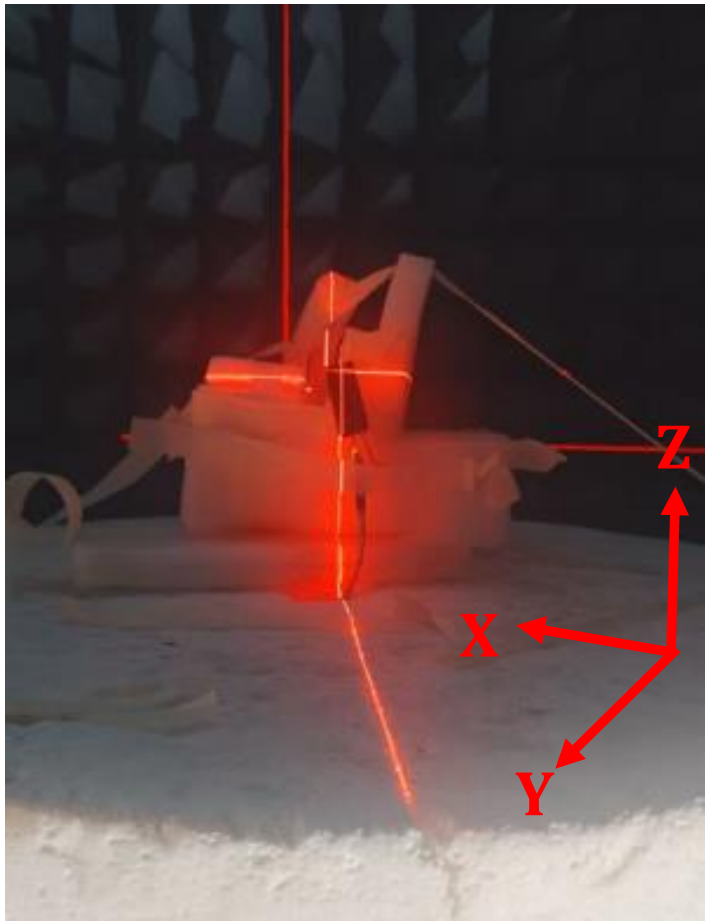


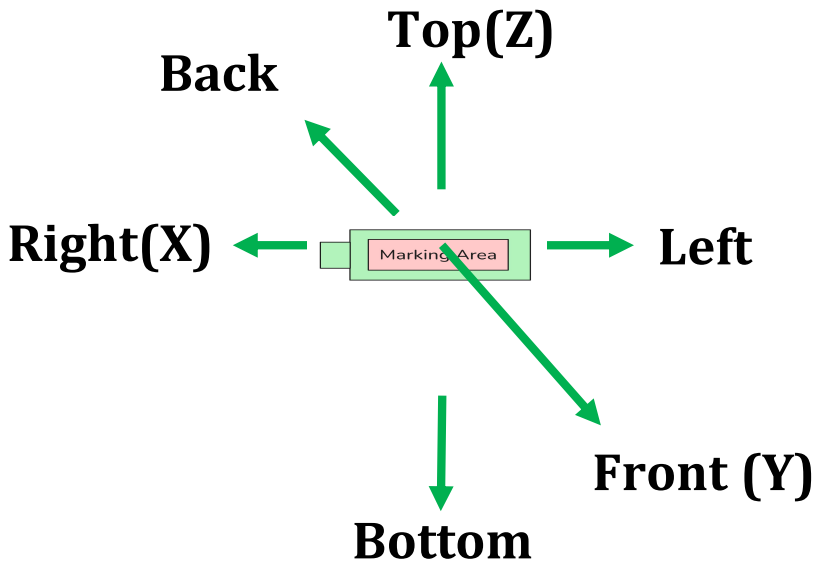
S-parameter (Return Loss & Isolation)



- P Antenna Return Loss
- F Antenna Return Loss
- P Ant to F Ant Isolation

Test Environment & Equipment





	XZ Phi 0	YZ phi90	XY theta90
0	Top	Top	Front
90	Right	Front	Left
180	Bottom	Bottom	Back
270	Left	Back	Right

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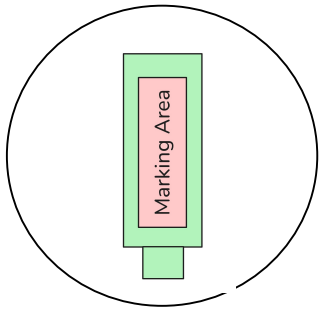
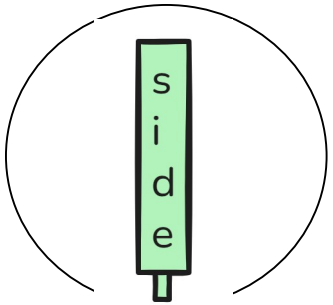
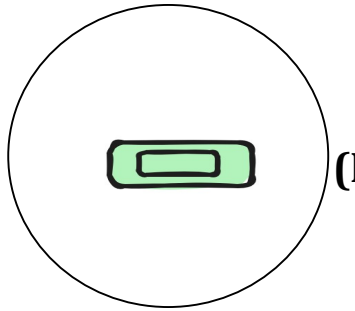
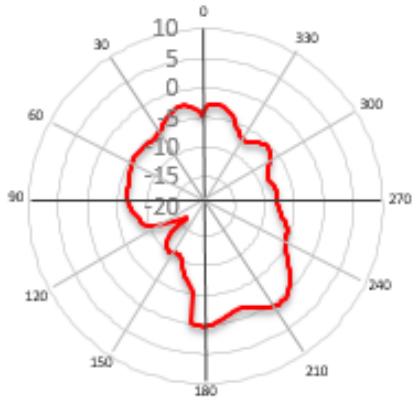
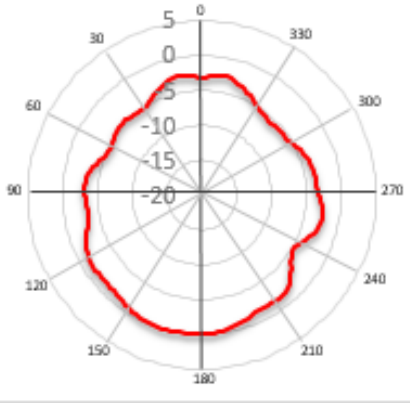
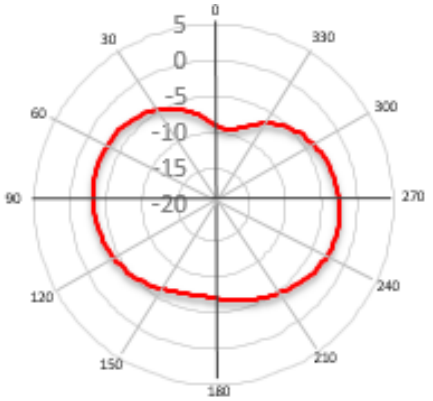
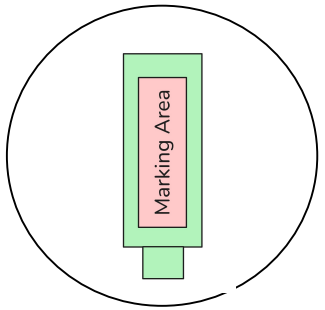
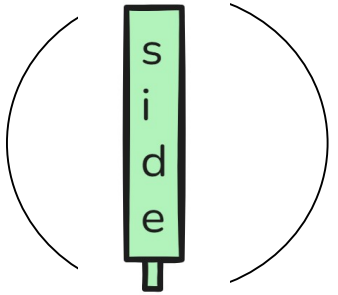
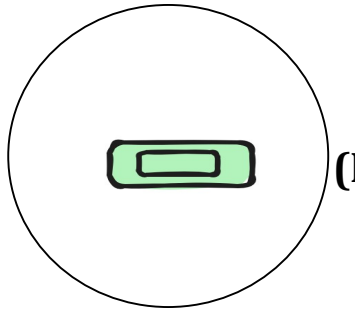
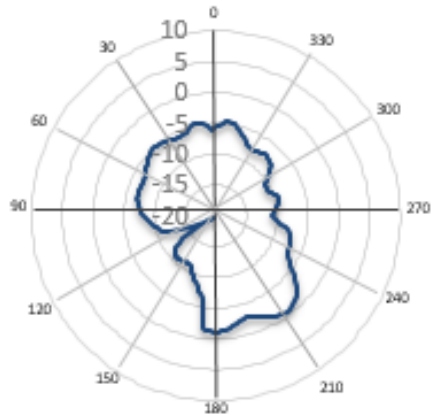
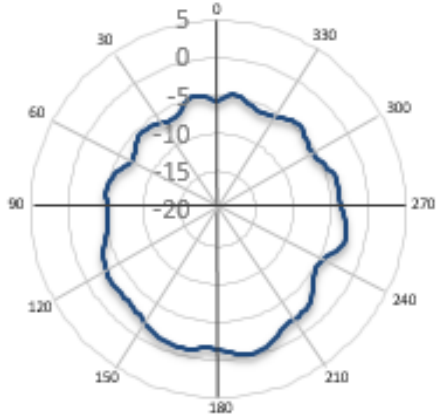
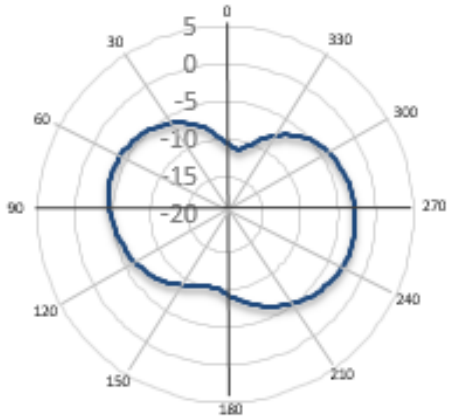
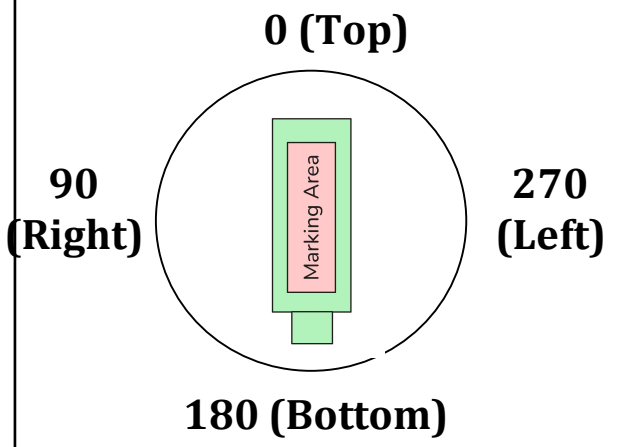
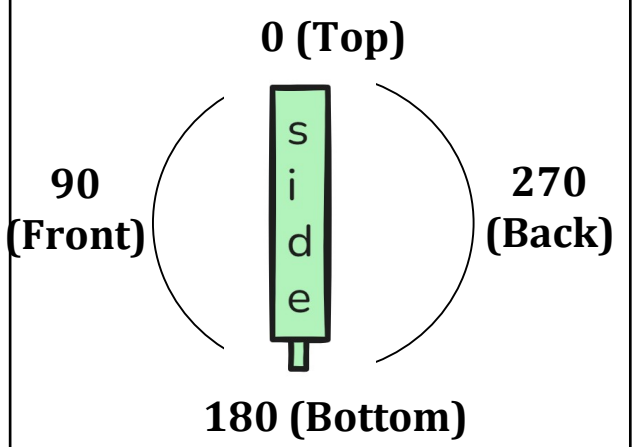
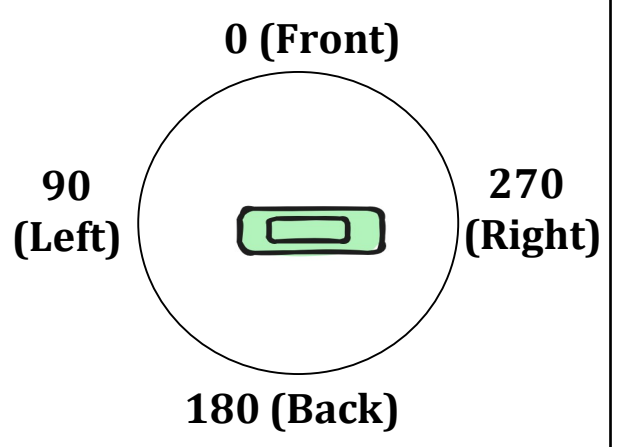
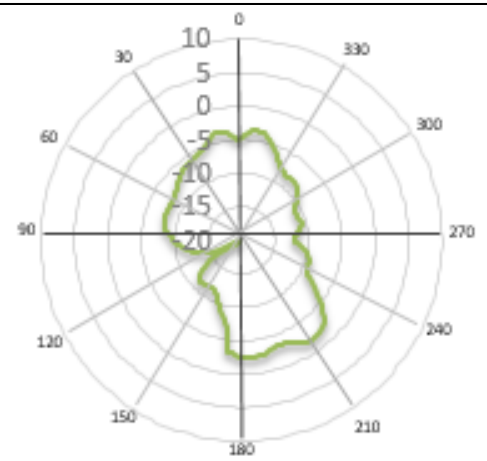
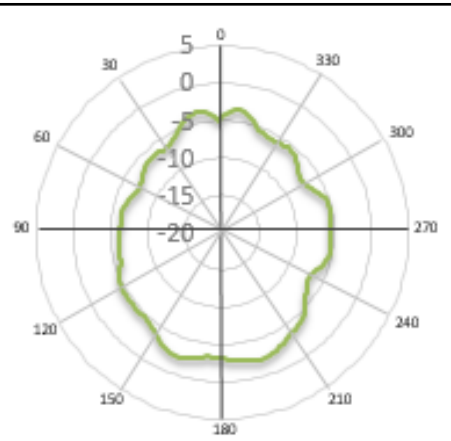
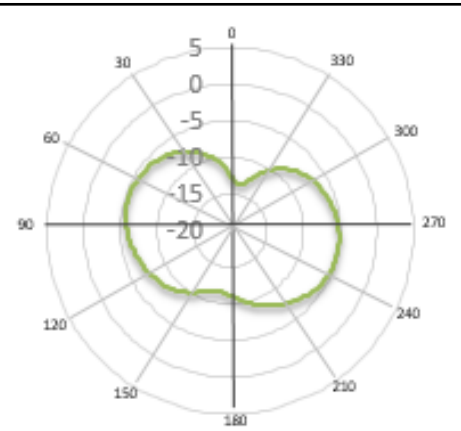
HMB P ant Radiation pattern-2402GHz

X-Z Plane	Y-Z Plane	X-Y Plane
0 (Top) 90 (Right)  270 (Left) 180 (Bottom)	0 (Top) 90 (Front)  270 (Back) 180 (Bottom)	0 (Front) 90 (Left)  270 (Right) 180 (Back)
		

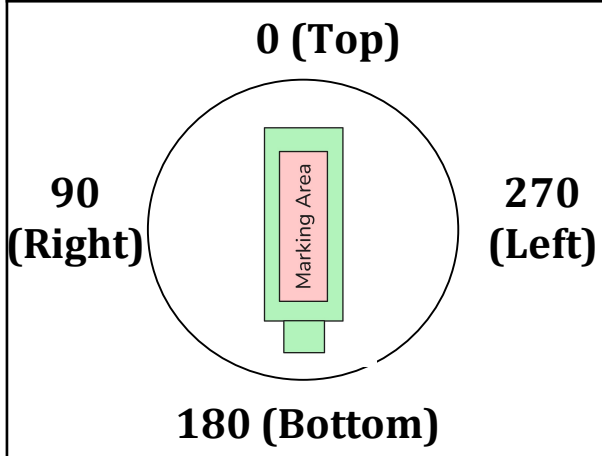
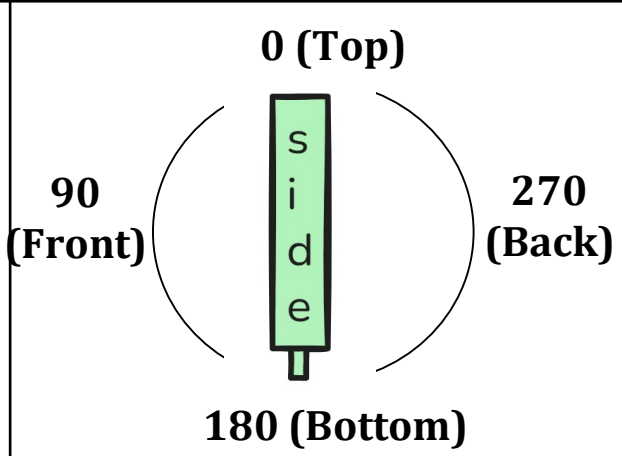
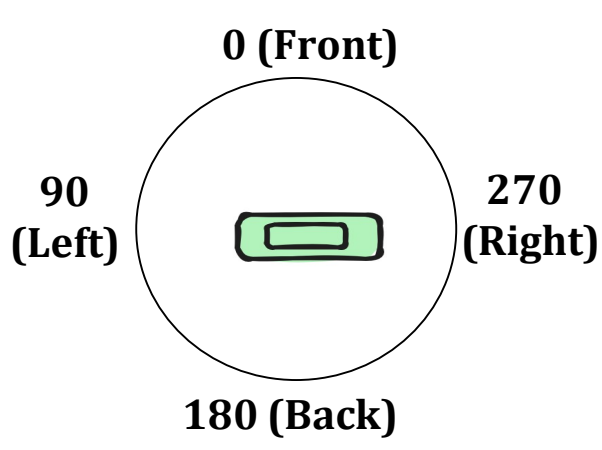
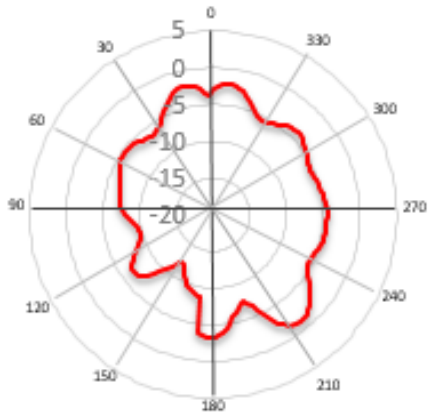
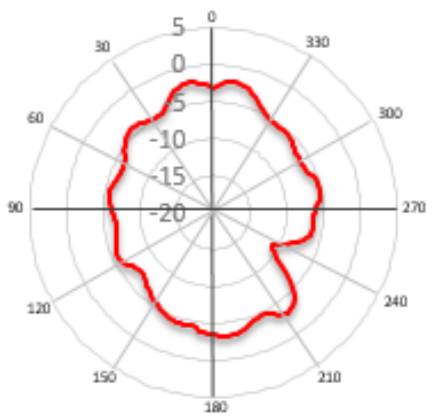
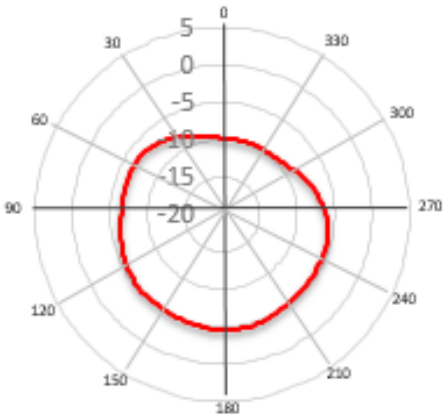
HMB P ant Radiation pattern-2440GHz

X-Z Plane	Y-Z Plane	X-Y Plane
0 (Top) 90 (Right)  270 (Left) 180 (Bottom)	0 (Top) 90 (Front)  270 (Back) 180 (Bottom)	0 (Front) 90 (Left)  270 (Right) 180 (Back)
		

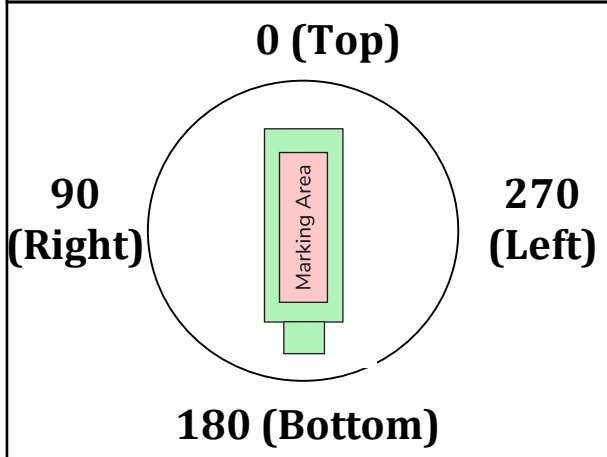
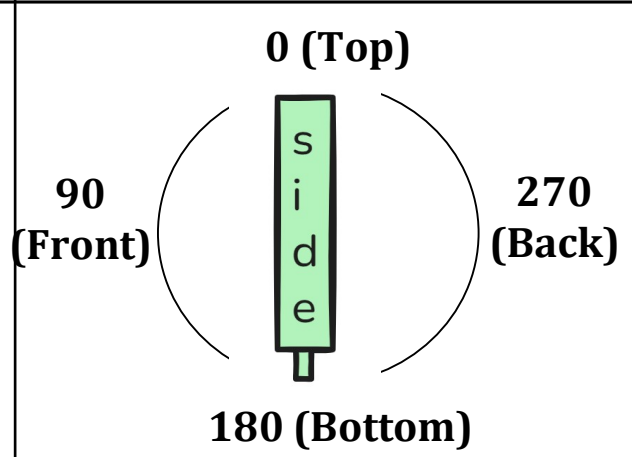
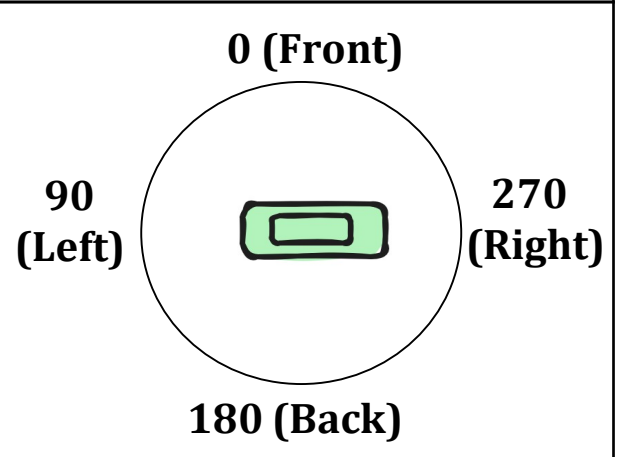
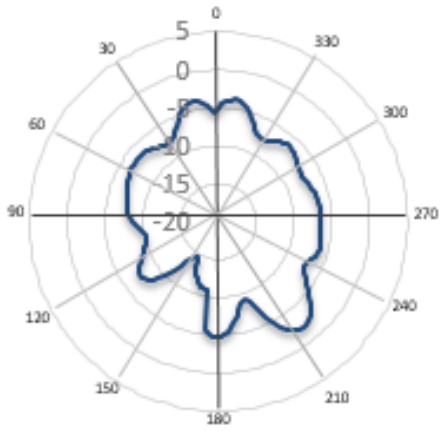
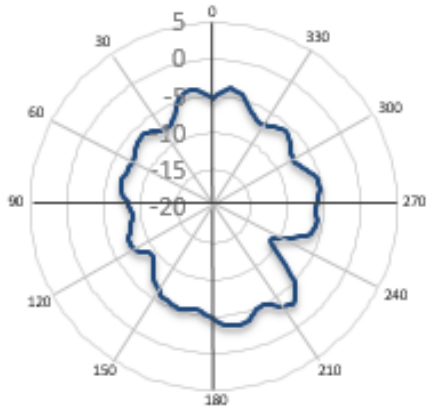
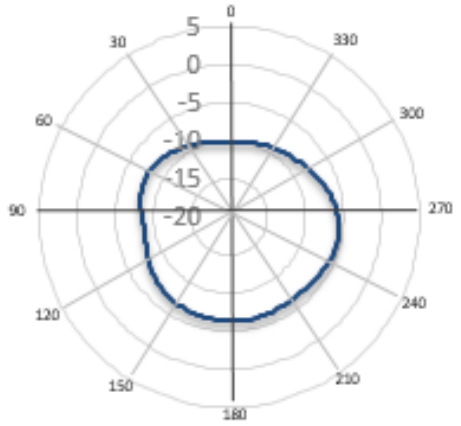
HMB P ant Radiation pattern-2480GHz

X-Z Plane	Y-Z Plane	X-Y Plane
		
		

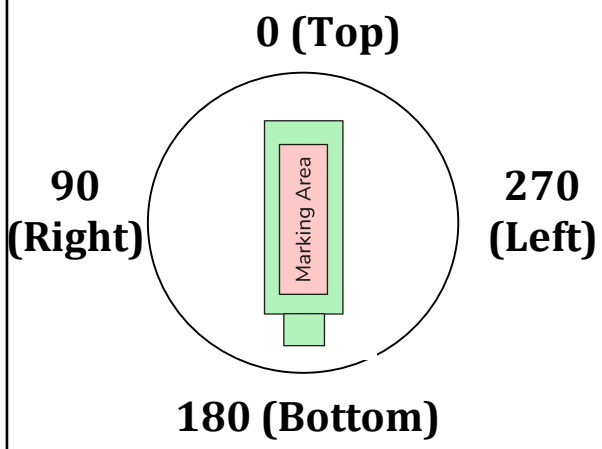
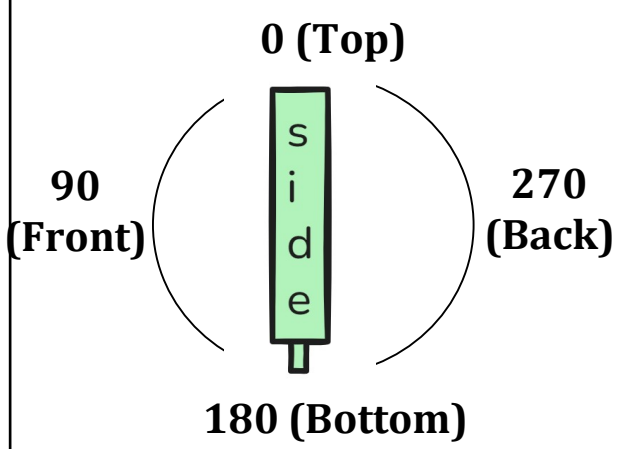
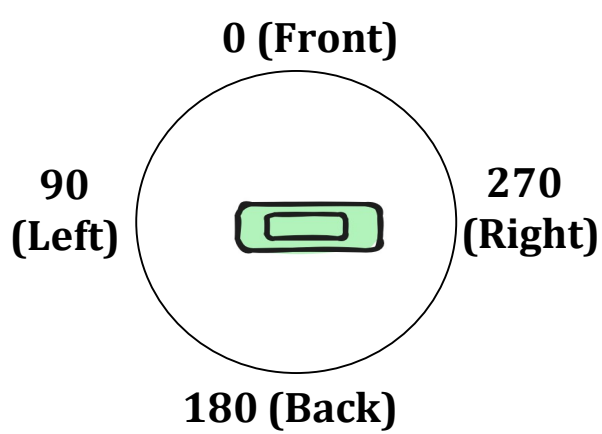
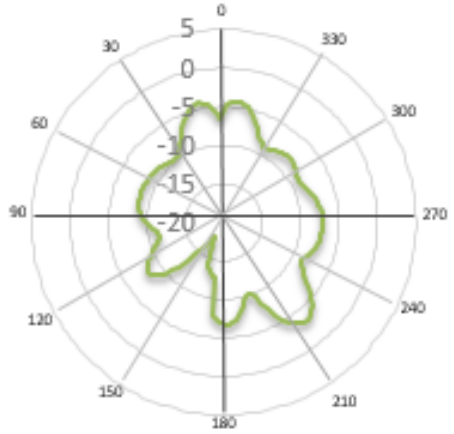
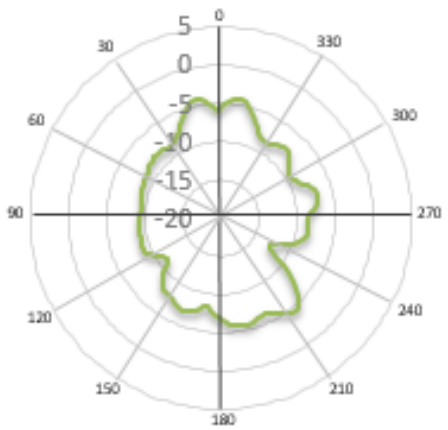
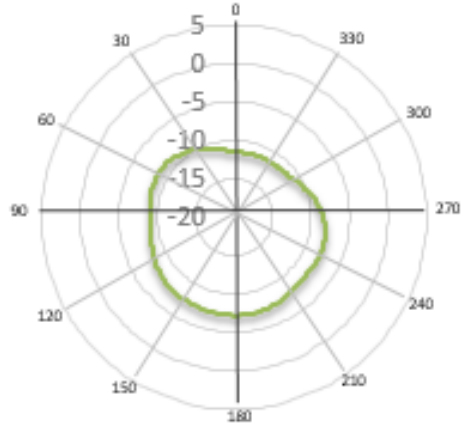
HMB F ant Radiation pattern-2402GHz

X-Z Plane	Y-Z Plane	X-Y Plane
		
		

HMB F ant Radiation pattern-2440GHz

X-Z Plane	Y-Z Plane	X-Y Plane
		
		

HMB F ant Radiation pattern-2480GHz

X-Z Plane	Y-Z Plane	X-Y Plane
		
		

HMB F Antenna Gain Table

Frequency (MHz)	XZ plane		YZ plane		XY plane		E-total (dBi)	Efficiency (%)
	Peak Gain (dBi)	Average Gain (dBi)	Peak Gain (dBi)	Average Gain (dBi)	Peak Gain (dBi)	Average Gain (dBi)		
2402	-3.02	-7.55	-4.34	-7.4	-6.51	-8.52	-2.88	21%
2440	-2.74	-6.9	-3.9	-6.41	-5.04	-7.51	-2.69	21%
2480	-2.61	-6.79	-3.16	-6.64	-5.4	-7.57	-2.56	20%

HMB P Antenna Gain Table

Frequency (MHz)	XZ plane		YZ plane		XY plane		E-total (dBi)	Efficiency (%)
	Peak Gain (dBi)	Average Gain (dBi)	Peak Gain (dBi)	Average Gain (dBi)	Peak Gain (dBi)	Average Gain (dBi)		
2402	-1.16	-5.52	-2.01	-5.14	-4.52	-6.55	-1.15	27%
2440	-2.06	-7.07	-3.03	-6.25	-5.41	-7.52	-2.05	21%
2480	-3.31	-8.45	-4.19	-7.88	-7.21	-8.88	-3.31	18%

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Thank You