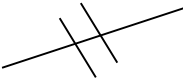




RFID Quadrifilar Helix Antenna Specification

Unit Name.	QUBE PLUS
Parts Name	KSA-935A6015B80E
Date	27-Feb-24

Written by	Checked by	Approved by
SM Yun		

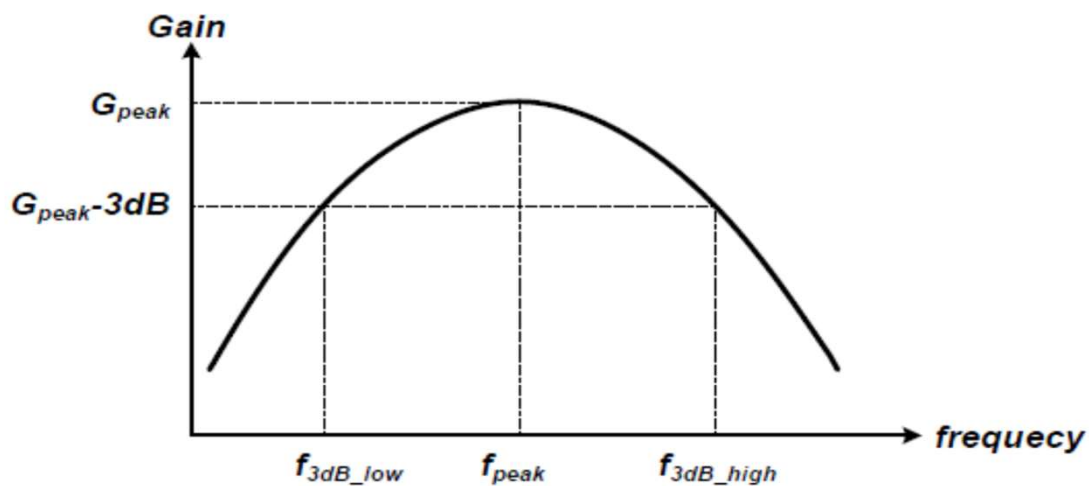
Head Office & Factory
507 DANGSANRO YUNSUHMYON SEJONGSI
THE REPUBLIC OF KOREA
TEL : (044) 865-9008
FAX : (044) 865-9229

1. Part Name
KSA-935A6015B80E

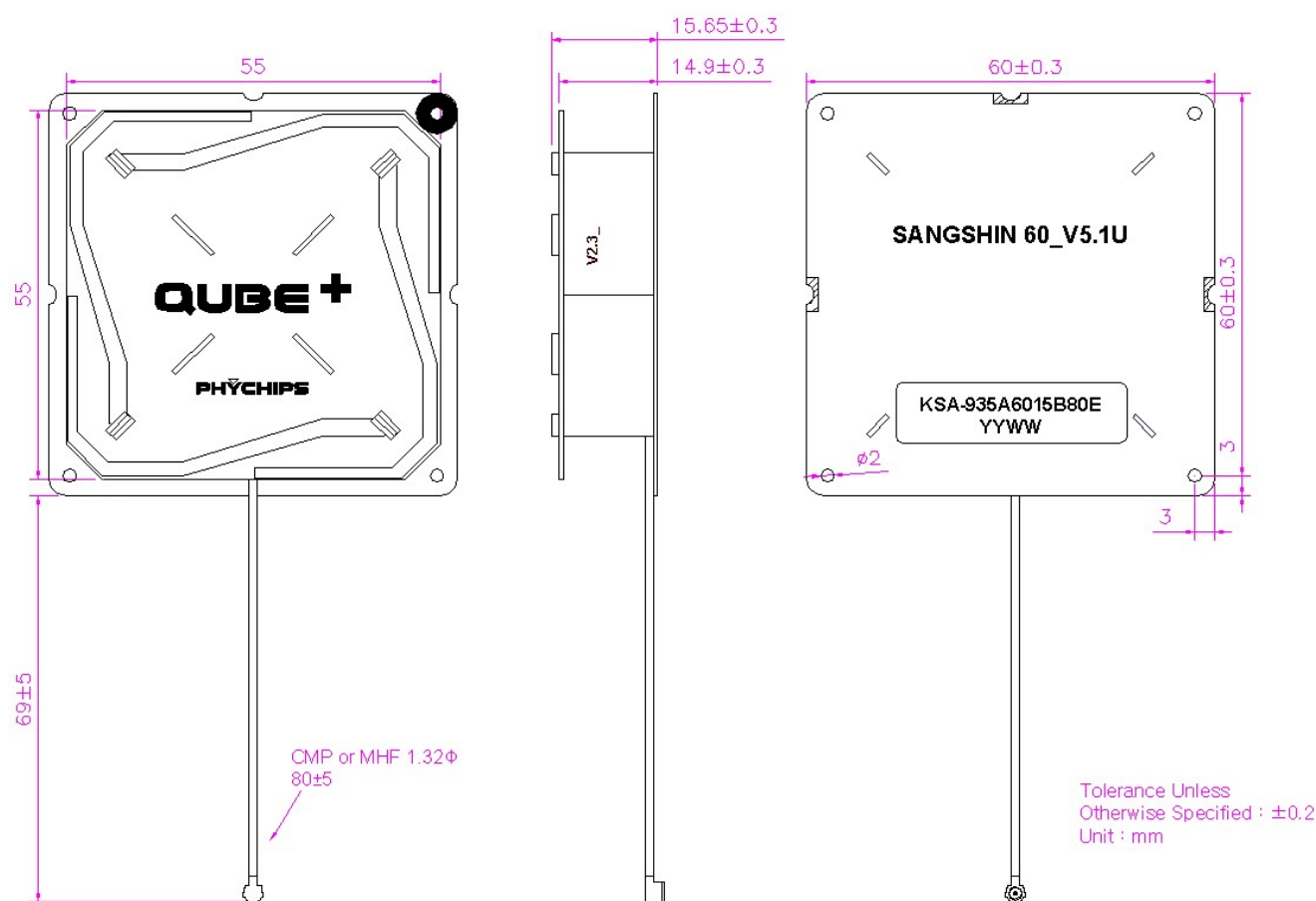
2. Electrical Specifications

Item	Specifications			
	Min.	Typical	Max.	Unit
Center Frequency (= Fc)	931	935	939	MHz
3dB Bandwidth	26	30		MHz
Return Loss @ Fc			-15	dB
Polarization	R.H.C.P			
Peak Gain @ Fc (RHCP)		4		dBic
Gain @ Reference Antenna	-14	-11		dB

Note 1. 3dB Bandwidth is defined as frequency range between f_{3dB_low} and f_{3dB_high} .



3. Dimensions



* Both CMP(Gigalane) and MHF(I-PEX) can be used interchangeably.
However, only one type, either CMP or MHF, must be used in the same LOT production.

* YYWW : Date Code

* Dimensions of Connector

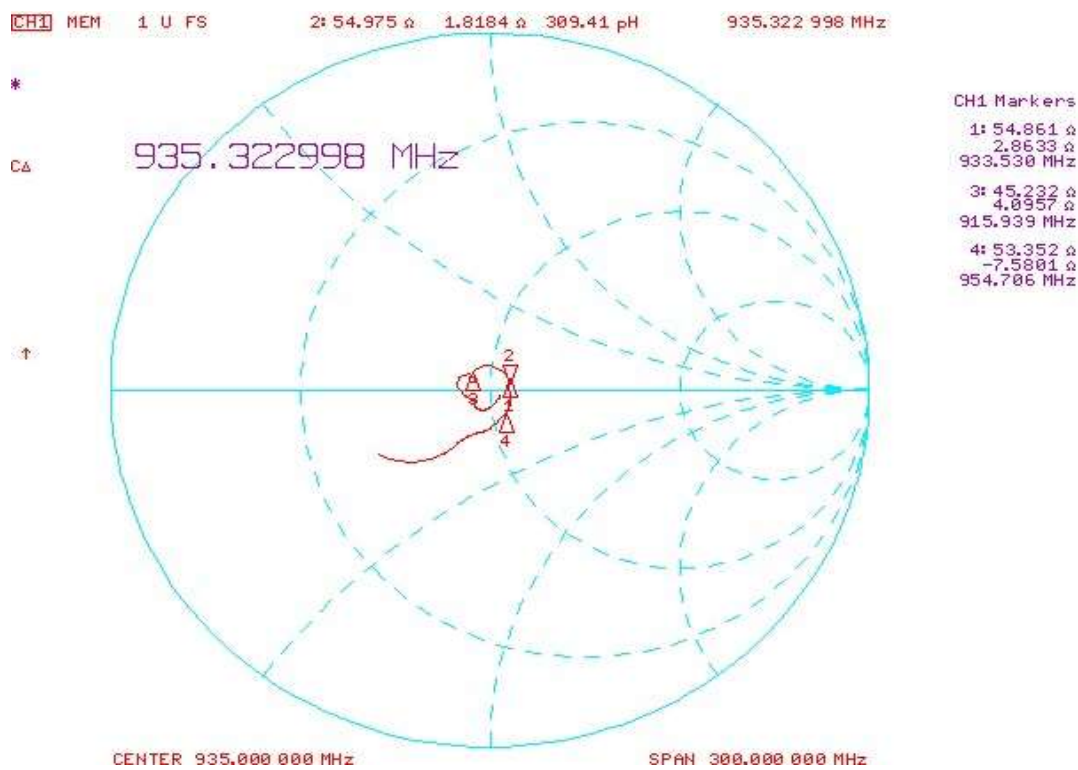
CMP	MHF

4. S-parameter Data

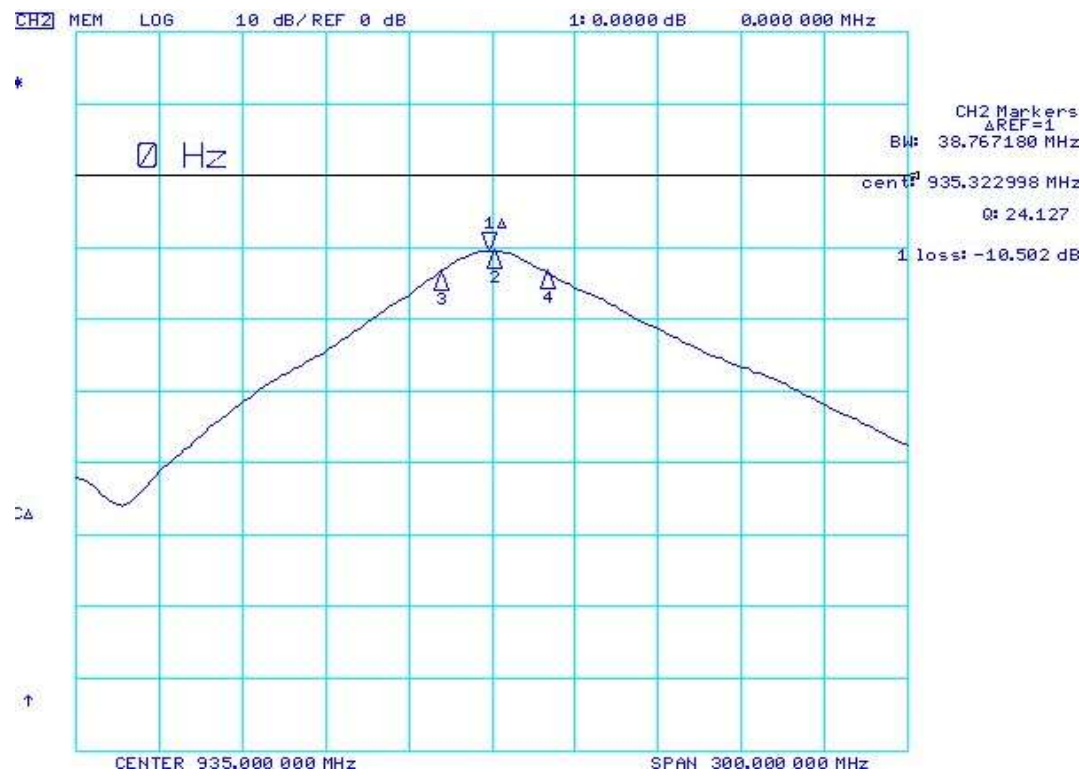
4.1 Return Loss (S11)



4.2 Smith Chart (S11)



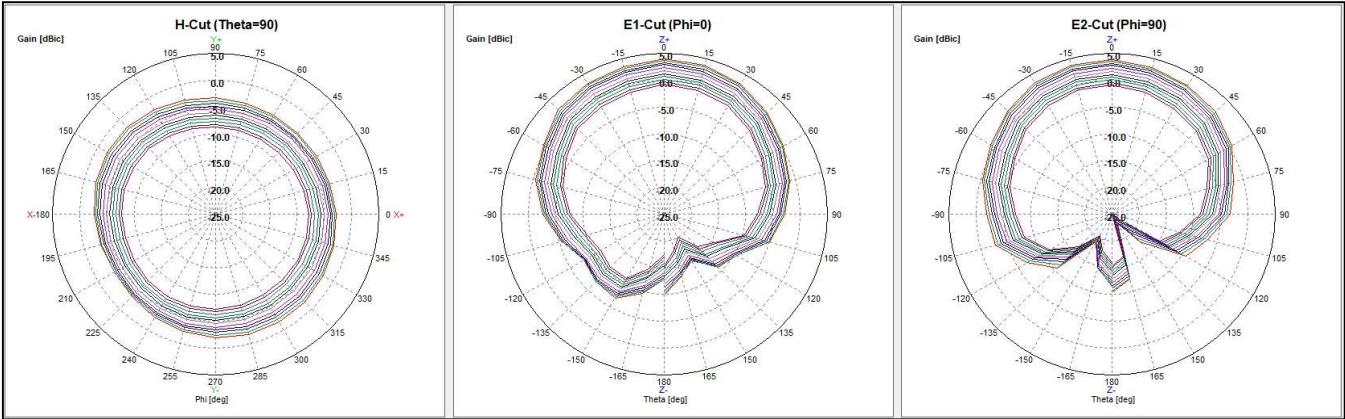
4.3 Gain (S21)



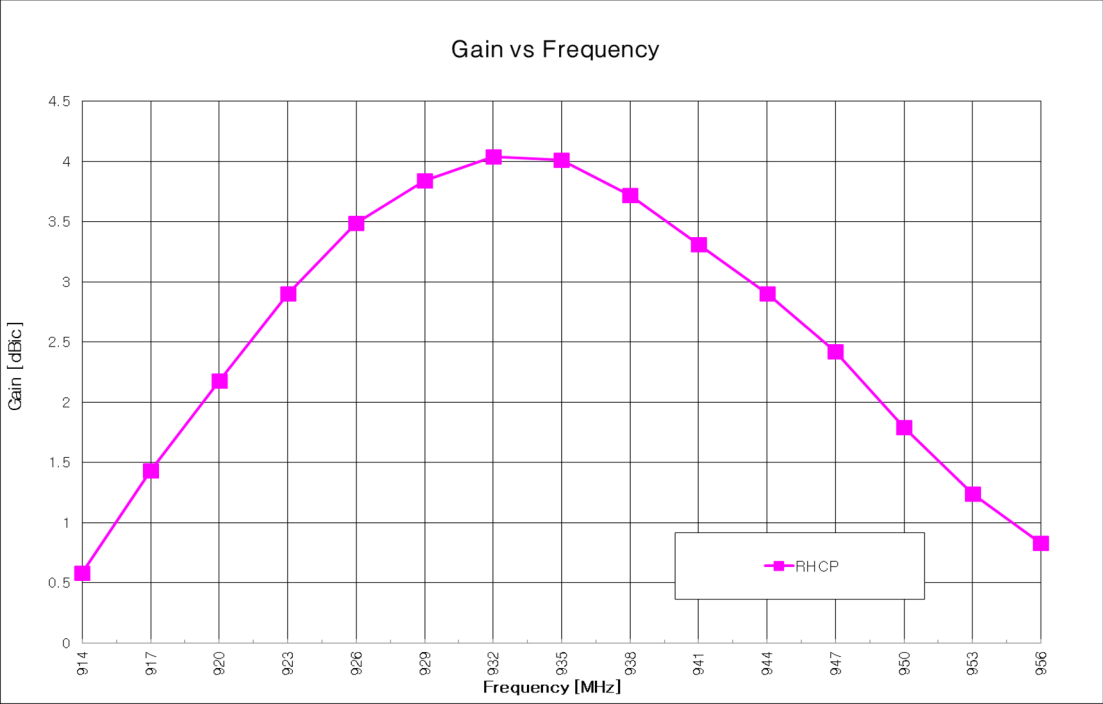
5. Antenna Chamber Data

5.1 RHCP Gain

		RHCP				H(Theta=0)				E1(Phi=0)				E2(Phi=90)				
No.	Freq.	Eff.[%]	Avg.[dBic]	Peak[dBic]	Theta[°]	Phi[deg]	Avg.[dBic]	Peak[dBic]	[deg]	BW[deg]	Avg.[dBic]	Peak[dBic]	Theta[°]	BW[deg]	Avg.[dBic]	Peak[dBic]	Theta[°]	BW[deg]
4	914.000	35.26	-4.53	0.58	0.00	270.00	-5.60	-3.94	285.00	327.49	-4.18	0.43	0.00	110.83	-3.78	0.48	-15.00	127.06
5	917.000	42.17	-3.75	1.43	0.00	270.00	-4.83	-3.26	285.00	344.00	-3.37	1.30	0.00	108.75	-2.99	1.31	-15.00	124.57
6	920.000	49.52	-3.05	2.18	0.00	270.00	-4.16	-2.67	285.00	353.01	-2.62	2.09	0.00	107.38	-2.29	2.07	-15.00	121.47
7	923.000	57.74	-2.39	2.90	0.00	270.00	-3.53	-2.17	285.00	999.00	-1.90	2.82	0.00	106.68	-1.64	2.75	-15.00	119.93
8	926.000	65.44	-1.84	3.49	0.00	270.00	-3.02	-1.78	285.00	999.00	-1.28	3.42	0.00	106.72	-1.11	3.30	-15.00	118.01
9	929.000	70.88	-1.49	3.84	0.00	270.00	-2.72	-1.59	285.00	999.00	-0.86	3.81	0.00	107.48	-0.79	3.65	-15.00	116.83
10	932.000	73.85	-1.32	4.04	0.00	270.00	-2.60	-1.57	300.00	999.00	-0.62	4.01	0.00	108.36	-0.65	3.82	-15.00	116.18
11	935.000	73.47	-1.34	4.01	0.00	270.00	-2.67	-1.79	300.00	999.00	-0.58	3.99	0.00	109.69	-0.70	3.79	-15.00	115.99
12	938.000	68.66	-1.63	3.72	0.00	285.00	-3.01	-2.22	300.00	999.00	-0.84	3.70	0.00	110.69	-1.02	3.51	0.00	115.35
13	941.000	62.33	-2.05	3.31	0.00	285.00	-3.46	-2.77	300.00	999.00	-1.23	3.29	0.00	111.24	-1.46	3.13	0.00	113.93
14	944.000	56.75	-2.46	2.90	0.00	285.00	-3.90	-3.29	300.00	999.00	-1.63	2.87	0.00	111.88	-1.87	2.71	0.00	113.72
15	947.000	50.56	-2.96	2.42	0.00	285.00	-4.42	-3.89	300.00	999.00	-2.12	2.38	0.00	112.00	-2.38	2.23	0.00	113.19
16	950.000	43.50	-3.62	1.79	0.00	285.00	-5.11	-4.58	270.00	999.00	-2.76	1.75	0.00	111.78	-3.03	1.60	0.00	112.56
17	953.000	38.12	-4.19	1.24	0.00	285.00	-5.70	-5.17	255.00	999.00	-3.33	1.19	0.00	111.67	-3.59	1.05	0.00	111.78
18	956.000	34.29	-4.65	0.83	0.00	285.00	-6.18	-5.62	255.00	999.00	-3.79	0.75	0.00	111.52	-4.05	0.61	0.00	111.14



5.2 Gain vs Frequency



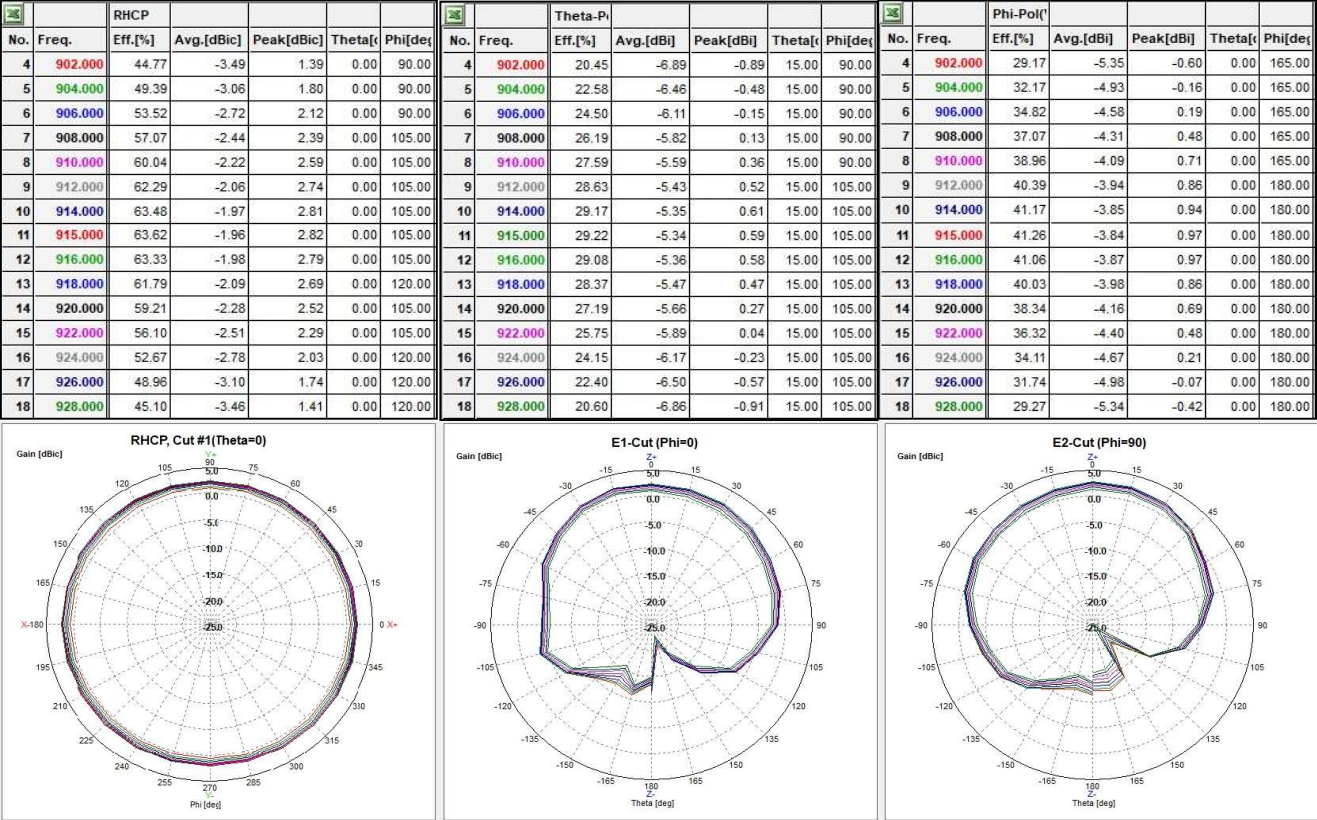
6. Measurement within enclosure

6.1 Reader or Model Name
CAEN RFID fIDo - R1307IBU - RAIN RFID sled reader - FCC

6.2 Electrical Specifications

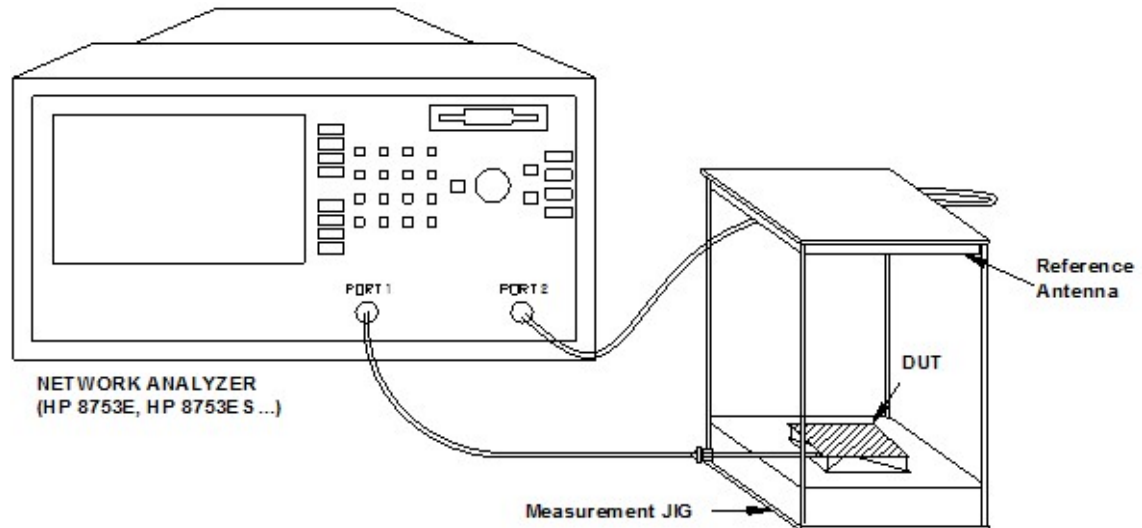
Item		Specifications			
		Min.	Typical	Max.	Unit
Center Frequency (= Fc)		911	915	919	MHz
3dB Bandwidth		26	30		MHz
Return Loss @ Fc				-15	dB
Polarization		R.H.C.P			
Peak Gain	RHCP		2.82		dBic
	H (Theta-Pol)		0.59		dB
	V (Phi-Pol)		0.97		dB
Axial Ratio @ Fc			1.25		

6.3 Antenna Chamber Data within enclosure

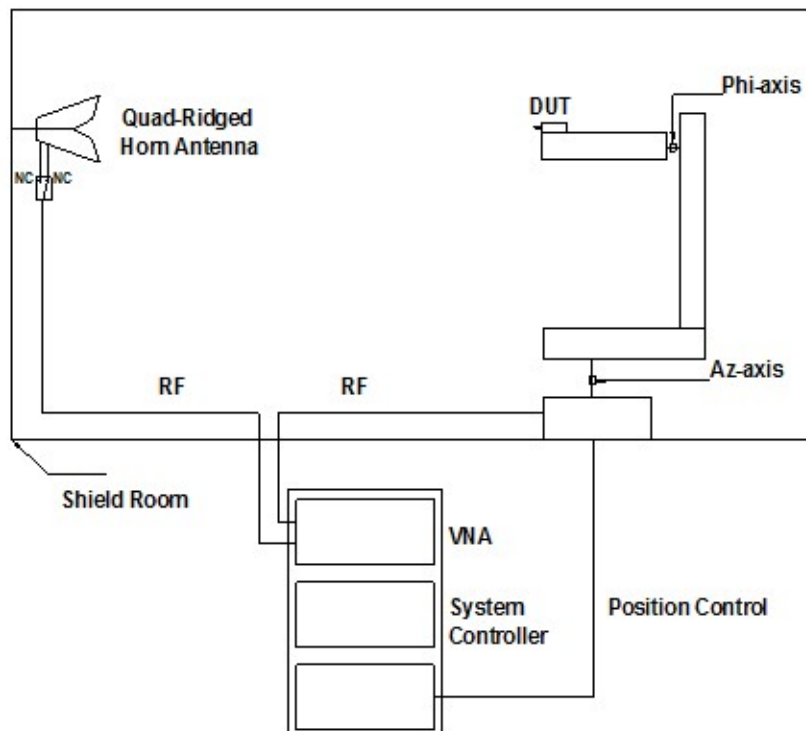


7. Measurement Condition

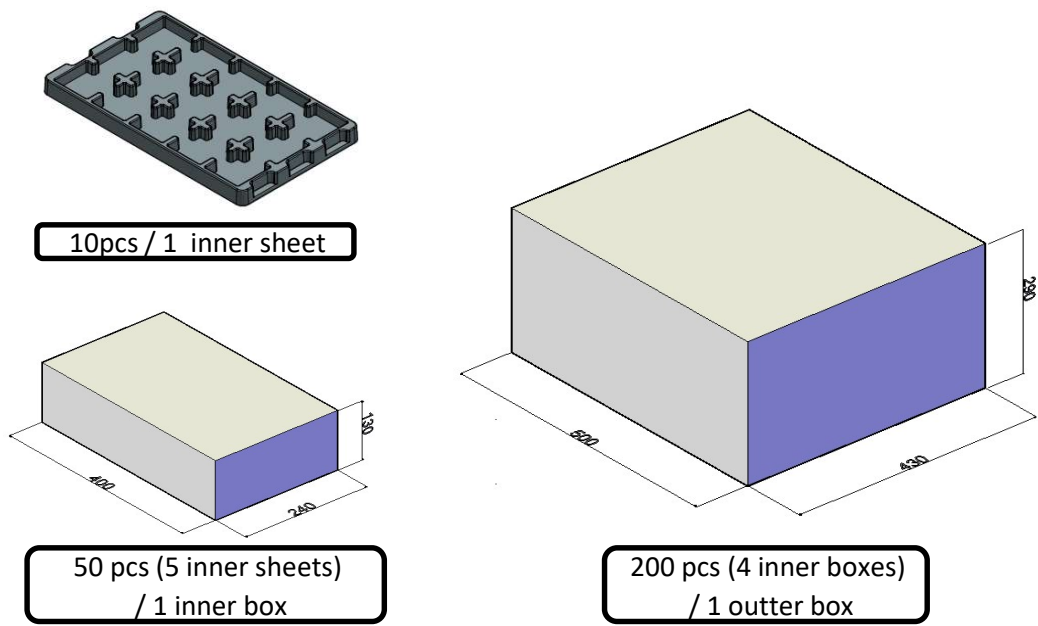
7.1 S-parameter Measurement



7.2 Gain Measurement



8. Package



9. Revision

Revision No.	Originator	Description of Change	Date of Changes
Ver-00	SM Yun	Sample Specificaton	27-Feb-24