

**KSA-875MS1008A**

**(Peak gain : -8.68 dBi)**



# Antenna Sample Specification

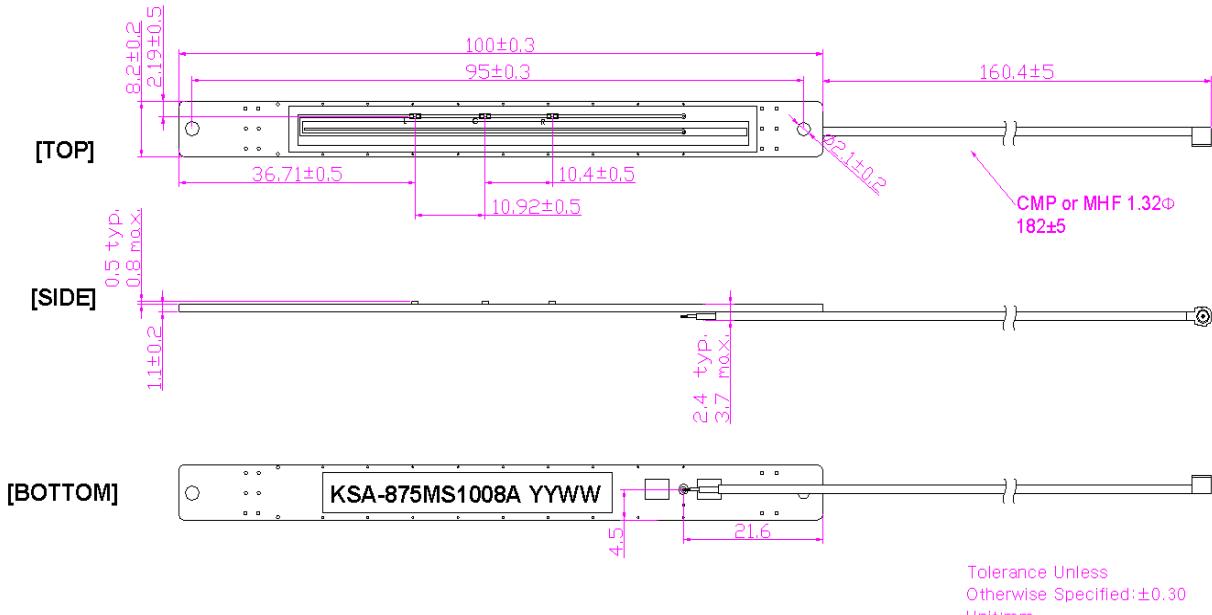


Customer	PHYCHIPS	Written	Checked	Approved
Part No.	KSA-875MS1008A			
Date	10-Apr-25	Li.R		

## 1. Electrical Specifications.

ITEM	Specifications
Center Frequency(=Fc)	875 ± 15 MHz
Return Loss @ Fc	-10 dB max.
Impedance	50 Ω
Polarization	Linear
Typical Peak Gain @ Fc	-8.0 dBi

## 2. 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.

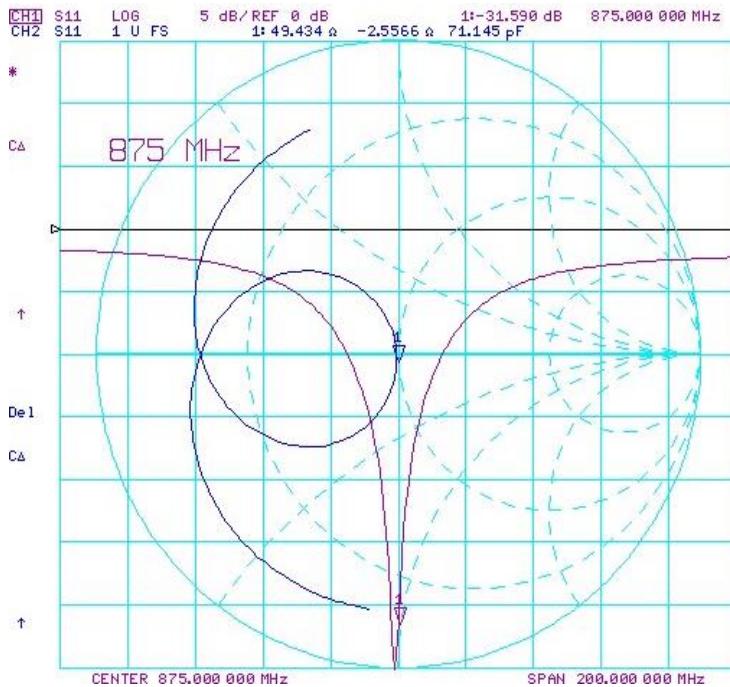
\* YYWW : Date Code

\* Dimensions of Connector :

CMP	MHF

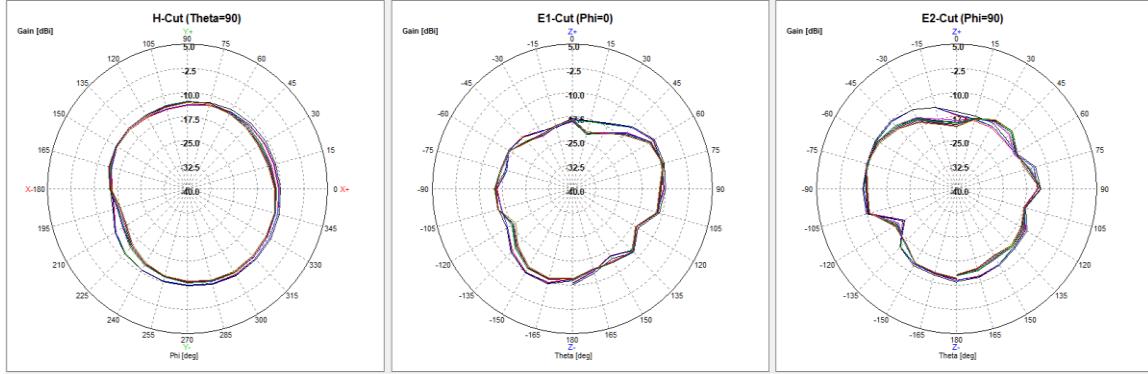
### 3. Data

#### 3.1) Return Loss



#### 3.2) Antenna Chamber Data

No.	Freq.	Pwr Sum	Eff. [%]	Avg.[dBi]	Peak[dBi]	Theta[deg]	Phi[deg]	H(Theta=0)	Avg.[dBi]	Peak[dBi]	Phi[deg]	BW[deg]	E1(Phi=0)	Avg.[dBi]	Peak[dBi]	Theta[deg]	BW[deg]	E2(Phi=90)	Avg.[dBi]	Peak[dBi]	Theta[deg]	BW[deg]
1	865,000	4.77	-13.22	-8.77	75.00	315.00	-11.71	-9.20	300.00	271.73	-13.60	-9.85	-165.00	57.28	-13.23	-10.05	-90.00	88.74				
2	867,000	4.91	-13.09	-8.65	75.00	315.00	-11.59	-9.14	300.00	219.57	-13.47	-9.71	-165.00	57.36	-13.12	-10.02	-90.00	88.85				
3	868,000	4.95	-13.06	-8.60	75.00	315.00	-11.58	-9.15	300.00	208.41	-13.45	-9.73	-165.00	58.00	-13.08	-10.02	-90.00	88.74				
4	875,000	5.42	-12.66	-8.20	75.00	315.00	-11.21	-8.88	315.00	214.94	-13.03	-9.44	-165.00	58.62	-12.73	-9.83	-90.00	87.67				
5	902,000	4.35	-13.61	-8.77	75.00	315.00	-12.20	-9.91	300.00	229.92	-14.00	-9.88	75.00	56.51	-13.78	-10.09	-75.00	71.41				
6	904,000	4.37	-13.60	-8.74	75.00	315.00	-12.20	-9.86	315.00	228.60	-13.96	-9.77	75.00	55.76	-13.76	-10.00	-75.00	70.00				
7	906,000	4.38	-13.58	-8.66	75.00	315.00	-12.19	-9.84	300.00	228.31	-13.94	-9.71	75.00	55.13	-13.75	-9.90	-75.00	68.43				
8	908,000	4.39	-13.58	-8.68	75.00	315.00	-12.22	-9.88	300.00	227.98	-13.91	-9.67	75.00	54.88	-13.73	-9.85	-75.00	67.42				
9	910,000	4.34	-13.63	-8.73	75.00	315.00	-12.29	-9.91	315.00	228.42	-13.96	-9.66	75.00	54.23	-13.79	-9.85	-75.00	66.54				
10	912,000	4.23	-13.74	-8.86	75.00	315.00	-12.43	-10.01	300.00	150.19	-14.05	-9.70	75.00	53.55	-13.91	-9.93	-75.00	65.14				
11	914,000	4.06	-13.92	-9.03	75.00	315.00	-12.63	-10.18	300.00	149.92	-14.22	-9.86	75.00	53.34	-14.09	-10.05	-75.00	63.42				
12	916,000	3.89	-14.10	-9.26	75.00	315.00	-12.81	-10.37	300.00	149.20	-14.38	-9.96	75.00	52.67	-14.27	-10.22	-75.00	63.08				
13	918,000	3.75	-14.25	-9.40	75.00	315.00	-13.00	-10.52	300.00	148.86	-14.50	-10.06	75.00	52.18	-14.43	-10.32	-75.00	60.87				
14	920,000	3.63	-14.40	-9.53	75.00	330.00	-13.16	-10.69	300.00	149.01	-14.64	-10.16	75.00	51.77	-14.58	-10.51	-75.00	60.96				
15	922,000	3.50	-14.57	-9.71	75.00	330.00	-13.34	-10.80	300.00	135.78	-14.79	-10.28	75.00	51.47	-14.76	-10.66	-75.00	60.40				
16	924,000	3.33	-14.77	-9.90	75.00	330.00	-13.57	-11.04	315.00	136.23	-15.00	-10.42	75.00	50.88	-14.95	-10.79	-75.00	59.08				
17	926,000	3.17	-14.99	-10.16	75.00	330.00	-13.79	-11.22	315.00	136.66	-15.20	-10.54	75.00	49.57	-15.19	-11.09	-75.00	59.11				
18	928,000	3.04	-15.18	-10.35	75.00	345.00	-13.97	-11.39	300.00	147.57	-15.38	-10.73	75.00	49.56	-15.38	-11.29	-75.00	58.63				



## 4. Test Process

### 4.1. Test Process (S-parameter Measurement)

#### 4.1.1. Purpose

Confirm that the 1. electrical characteristics of the antenna are correct.

#### 4.1.2. Configuration

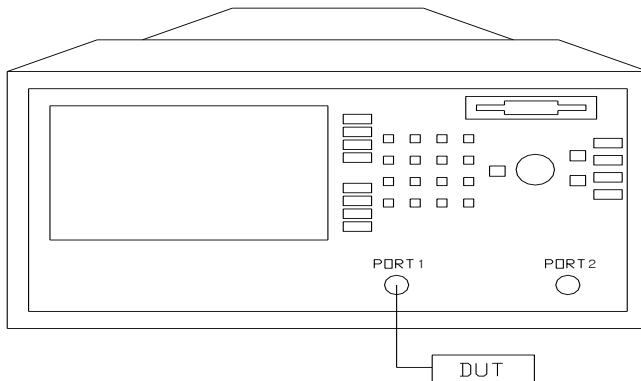


Fig 1. Network Analyzer Block Diagram

#### 4.1.3. Test Equipment

Network Analyzer – HP 8753ES, HP 8753E...

#### 4.1.4. Test Method

- ①. Set up the Network Analyzer as follows.  
Center Frequency – 920MHz  
Frequency Span – 200MHz  
Number of Point – 401
- ②. Calibration the Port 1 of Network Analyzer
- ③. Connect the measurement antenna to the Port 1 cable  
Check that this is meet the specifications with measuring the S11 value.  
Record them in the characteristics section of the report.

#### 4.1.5. Test Site

Research Institute of SANGSHIN

## 4.2. Test Process (Gain Measurement)

### 4.2.1. Purpose

Check the radiation gain of the antenna

### 4.2.2. Chamber System Diagram

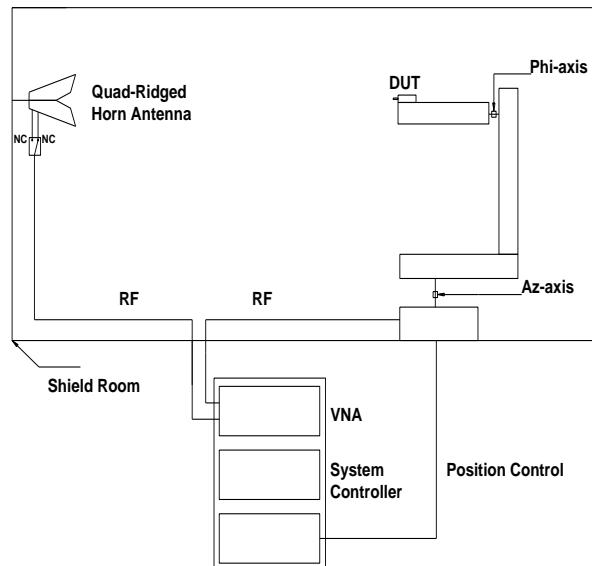


Fig 2. Chamber Test Block Diagram

### 4.2.3. Test Site

Research Institute of SANGSHIN

**KSA-920MS4510A**  
**(Peak gain : -35.44 dBi)**



# Antenna Sample Specification

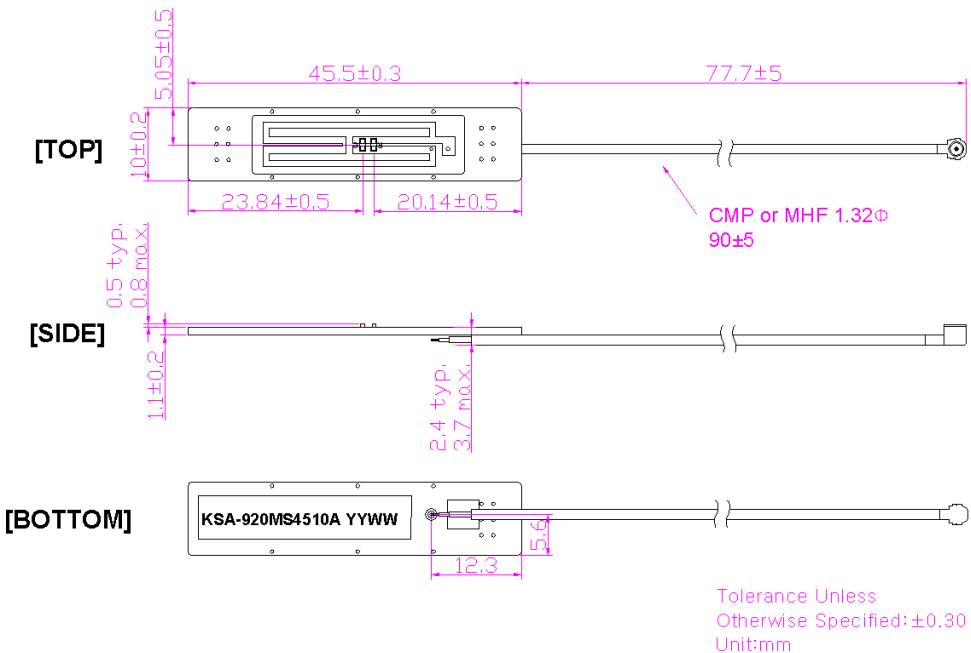


Customer	PHYCHIPS	Written	Checked	Approved
Part No.	KSA-920MS4510A			
Date	18-Jun-25	Li.R		

## 1. Electrical Specifications.

ITEM	Specifications
Operating Frequency	865-928 MHz
Return Loss	10 dB min.
Impedance	50 Ω
Polarization	Linear
Peak Gain @ 920MHz	-35.0 dBi

## 2. 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.

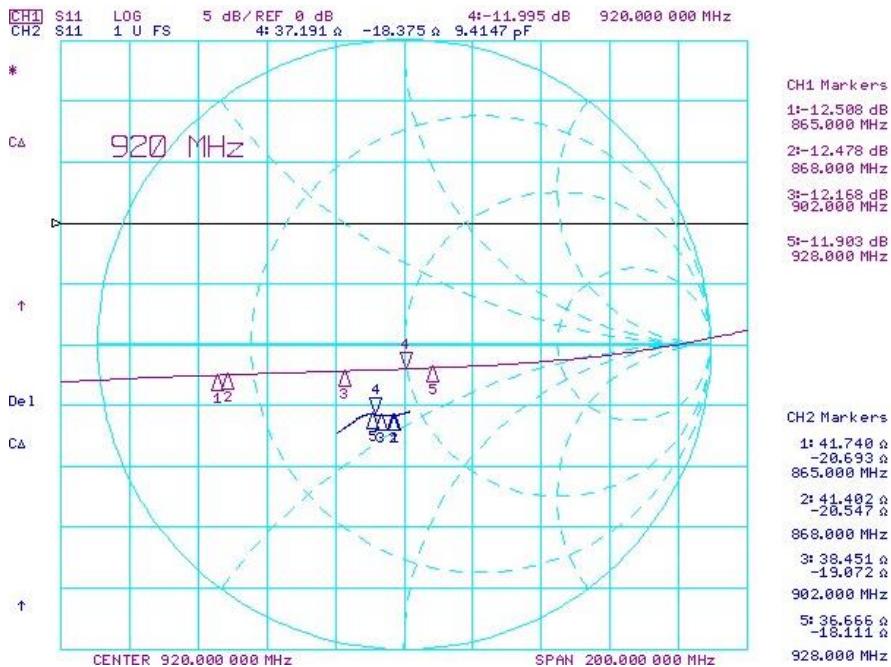
\* YYWW : Date Code

\* Dimensions of Connector :

CMP	MHF

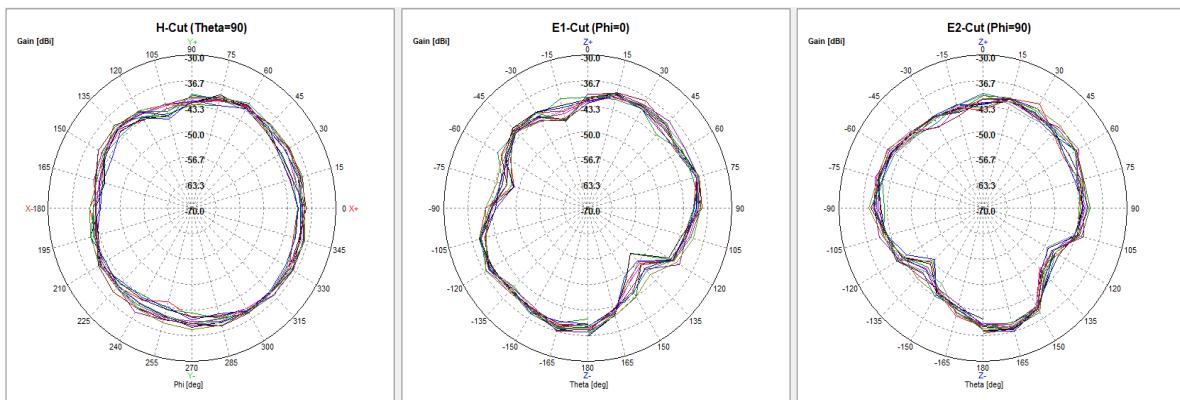
### 3. Data

#### 3.1) Return Loss



#### 3.2) Antenna Chamber Data

No.	Freq.	Pwr Sum	Avg.[dB]	Peak[dB]	Theta[deg]	Phi[deg]	H(Theta=90)	Avg.[dB]	Peak[dB]	Phi[deg]	BW[deg]	E1(Phi=0)	Avg.[dB]	Peak[dB]	Theta[deg]	BW[deg]	E2(Phi=90)	Avg.[dB]	Peak[dB]	Theta[deg]	BW[deg]
1	865.000	0.01	-41.09	-35.46	150.00	135.00	-41.20	-38.68	315.00	119.61	-41.04	-38.22	180.00	99.66	-41.75	-37.32	180.00	39.95			
2	867.000	0.01	-41.11	-36.28	150.00	120.00	-41.40	-38.47	300.00	113.23	-41.05	-37.35	180.00	48.88	-41.82	-37.52	165.00	23.45			
3	868.000	0.01	-41.11	-36.42	150.00	135.00	-41.52	-39.00	300.00	170.68	-40.97	-36.88	180.00	88.67	-41.72	-36.84	165.00	30.75			
4	902.000	0.01	-41.19	-36.38	150.00	135.00	-40.50	-38.38	345.00	239.94	-40.84	-38.12	180.00	92.20	-41.72	-38.65	165.00	47.47			
5	904.000	0.01	-41.14	-36.06	150.00	135.00	-40.41	-37.73	315.00	178.36	-40.77	-37.62	-165.00	54.20	-41.59	-37.95	165.00	45.36			
6	906.000	0.01	-41.09	-36.07	150.00	120.00	-40.42	-38.47	330.00	222.54	-40.86	-36.87	-165.00	45.40	-41.87	-38.92	-90.00	53.27			
7	908.000	0.01	-40.88	-35.54	150.00	120.00	-40.01	-37.84	345.00	232.82	-40.49	-37.50	-165.00	94.90	-41.44	-38.43	-180.00	34.16			
8	910.000	0.01	-40.85	-35.83	150.00	135.00	-39.75	-37.55	345.00	215.49	-40.46	-37.35	-165.00	85.94	-41.43	-37.60	165.00	38.75			
9	912.000	0.01	-40.74	-36.22	150.00	150.00	-39.64	-37.74	330.00	237.10	-40.39	-36.93	-165.00	49.15	-41.25	-37.15	165.00	39.05			
10	914.000	0.01	-40.74	-35.86	150.00	135.00	-39.85	-37.53	330.00	208.18	-40.24	-36.70	-165.00	33.38	-41.33	-37.87	165.00	40.55			
11	916.000	0.01	-40.57	-35.59	150.00	120.00	-39.71	-37.47	345.00	225.26	-40.31	-37.35	-120.00	85.53	-41.17	-38.10	165.00	40.53			
12	918.000	0.01	-40.45	-36.04	150.00	120.00	-39.30	-37.53	315.00	236.81	-40.40	-37.66	-120.00	29.84	-41.10	-37.84	165.00	39.47			
13	920.000	0.01	-40.45	-35.44	150.00	135.00	-39.25	-37.42	360.00	229.23	-40.24	-37.42	90.00	100.31	-40.91	-37.87	-180.00	224.78			
14	922.000	0.01	-40.35	-35.89	165.00	135.00	-39.26	-36.97	330.00	183.74	-40.10	-37.48	-120.00	100.10	-40.70	-37.35	165.00	40.16			
15	924.000	0.01	-40.31	-35.75	150.00	135.00	-39.18	-37.20	270.00	229.38	-39.95	-37.03	-120.00	82.06	-40.48	-37.20	-90.00	34.24			
16	926.000	0.01	-40.26	-35.77	150.00	120.00	-39.09	-37.04	330.00	221.20	-39.88	-36.57	45.00	85.98	-40.72	-37.97	150.00	58.01			
17	928.000	0.01	-40.21	-35.87	150.00	120.00	-38.71	-36.45	330.00	220.83	-39.96	-37.09	90.00	84.75	-40.65	-37.88	-90.00	66.67			



## 4. Test Process

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#### 4.1.1. Purpose

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#### 4.1.2. Configuration

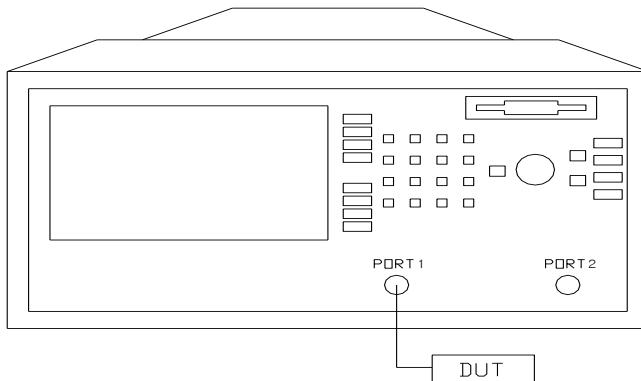


Fig 1. Network Analyzer Block Diagram

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#### 4.1.5. Test Site

Research Institute of SANGSHIN

## 4.2. Test Process (Gain Measurement)

### 4.2.1. Purpose

Check the radiation gain of the antenna

### 4.2.2. Chamber System Diagram

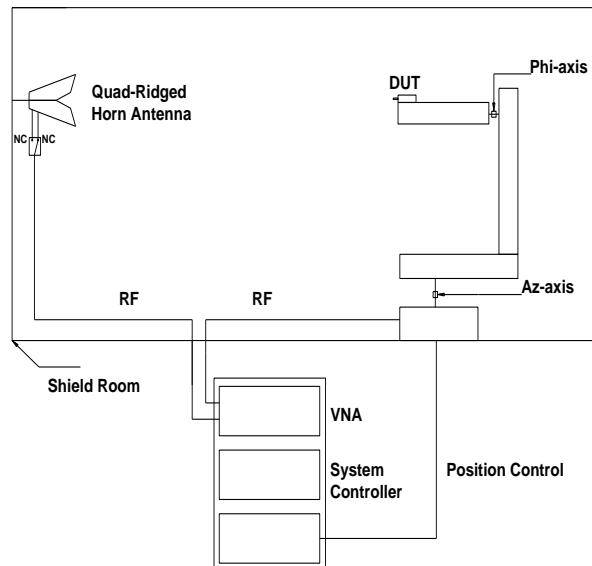


Fig 2. Chamber Test Block Diagram

### 4.2.3. Test Site

Research Institute of SANGSHIN