

# Type1VY-934 Antenna Under Test Report





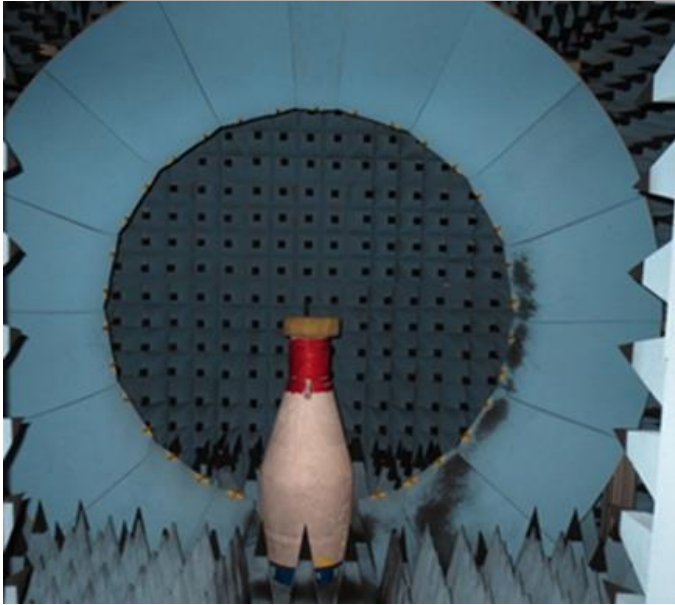
- 1. Test method for antenna gain measurement**
- 2. Test Equipment (Details of SG32)**
- 3. DUT placement status**
- 4. DUT Appearance**
- 5. Measurement direction**
- 6. Measurement result**

# 1. Test method for antenna gain measurement



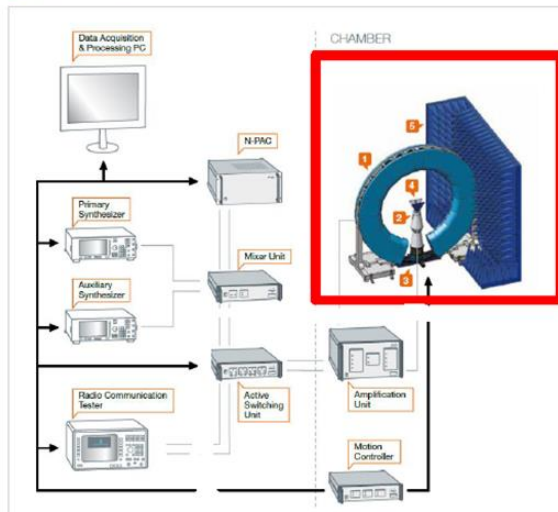
- Test method for antenna gain measurement:  
Standard antenna method (comparative method)
  - \* Comparing a measured antenna to a standard antenna with a known gain factor
- Equipment used for antenna gain measurement (model name, serial number, calibration date, etc.);
  - Measurement system  
Microwave Vision Group (former SATIMO) SG32 (details next page)
  - Equipment  
PAC (MW 000021H-0068)  
E4438C (MY45090139)  
E4428C (MY45280466)
  - Calibration date  
October 25, 2022
  - Antenna gain measurement date / Measurement person  
November 25, 2022 / Harumi Matsuoka

## 2. Test Equipment (Details of SG32)



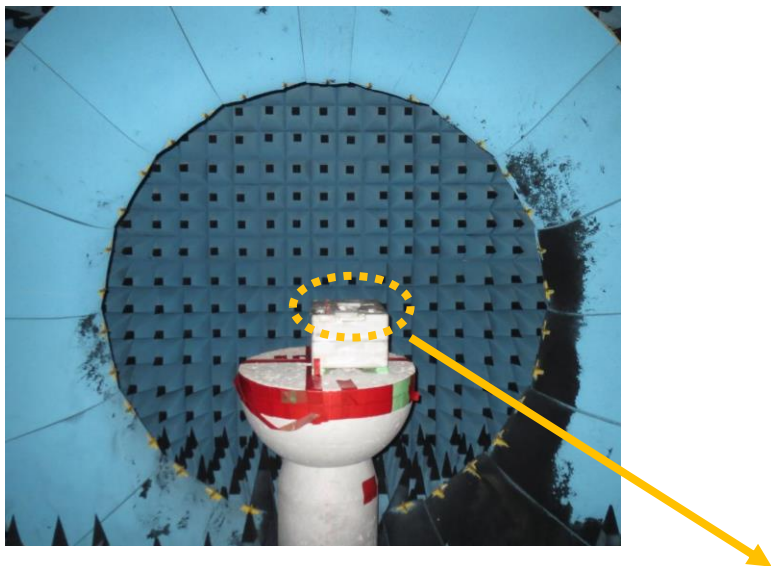
Anechoic chamber size		Approximately 3.5m x 3.5m x 3m (H)			
Frequency band		800~6000MHz (18~40GHz compatible with Option)			
Measurement time	Elevation 1 cut	Real time			
	Global surface measurement	< Approx. 20 seconds (when measuring 10 frequencies)			
Measurement uncertainty	Peak gain	< +/-0.75dB (1.0~6.0GHz)			
	Low gain	< +/-1.0dB (0.8~1.0GHz)			
Dynamic range		70dB			
Cross Polar Isolation		> 45dB			
DUT size	0.8 GHz	1.8 GHz	2.5 GHz	6 GHz	
	75 cm	75 cm	65 cm	30 cm	

### System overview



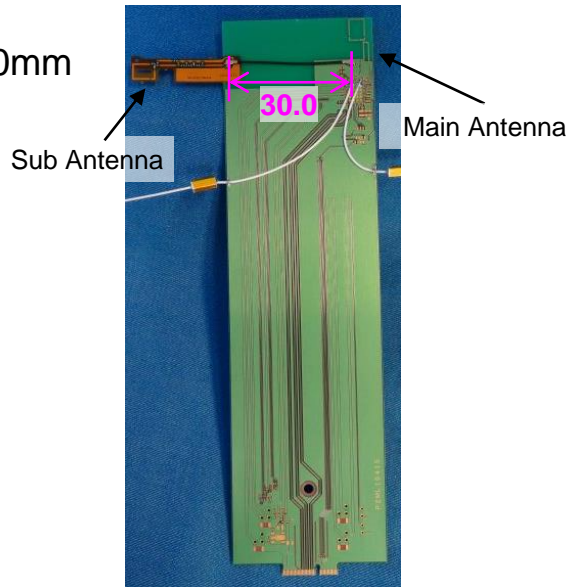
Peak gain variation is secured within  $\pm 0.75$  dB by system calibration.

### 3. DUT placement status



# 4. DUT Appearance

<Condition 1>  
Cable length=30mm



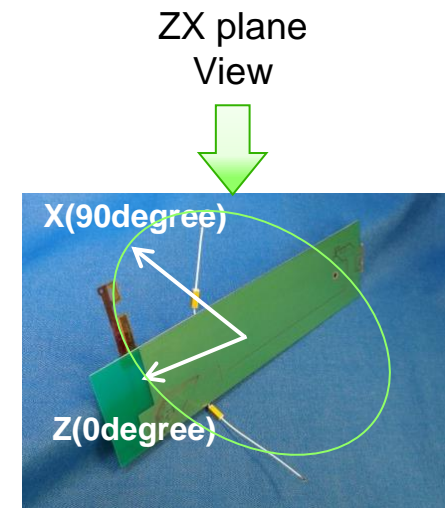
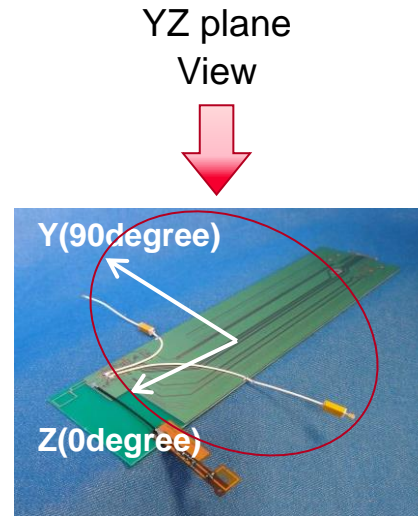
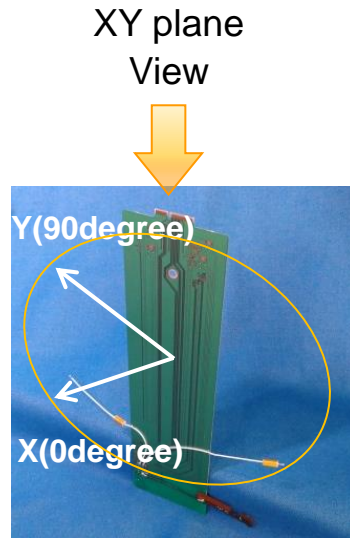
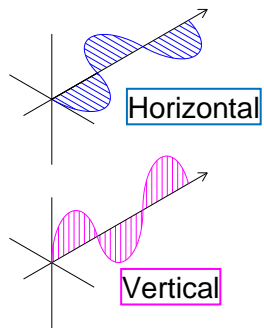
UNIT : mm

<Condition 2>  
Cable length=315mm

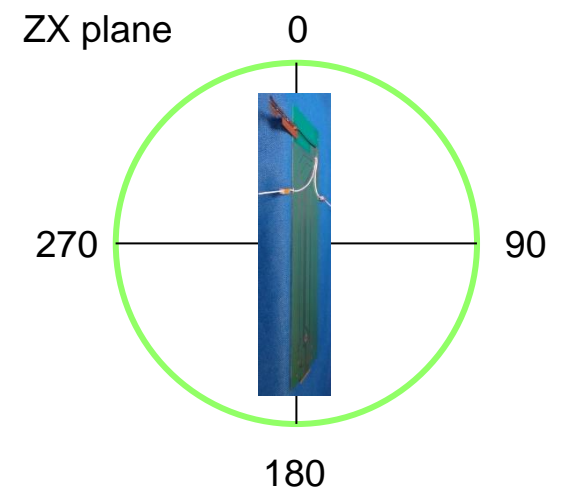
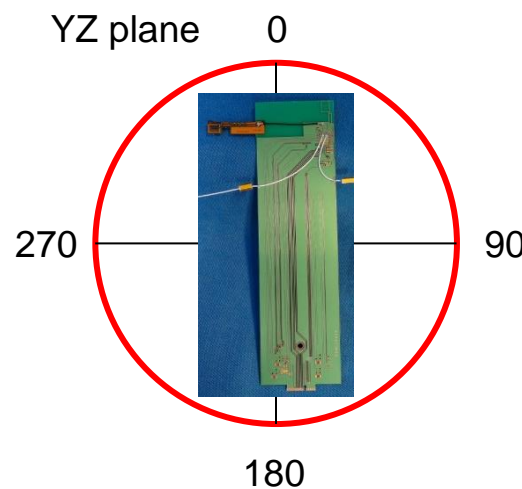
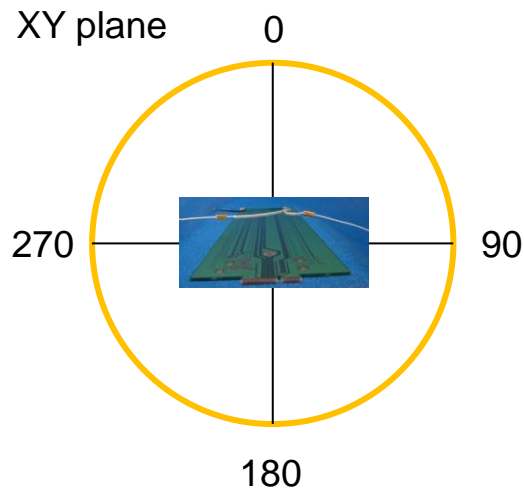




# 5. Measurement direction



## 2D Directional indication



# 6. Measurement result

## Chain0 : Pattern Antenna

Part number: Antenna0 1VY DC1231



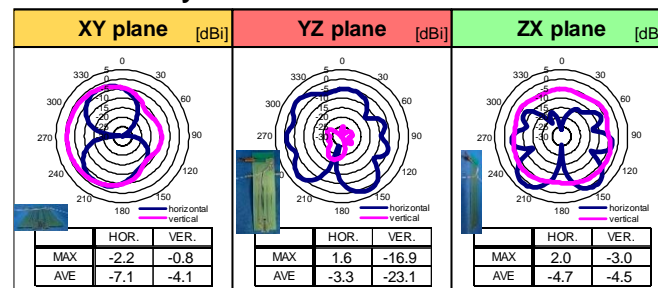
### <Efficiency>

\*Red color shows peak gain  
[dBi] [dB]

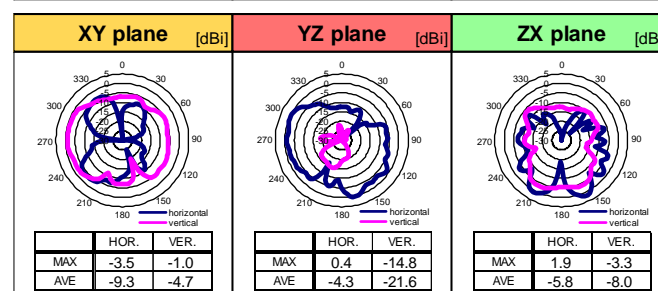
LINEAR POLAMIZATION		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
2400 MHz	MAX.	-2.4	-1.5	1.3	-18.1	1.5	-3.3	-2.3
	AVE.	-7.0	-4.0	-3.9	-24.1	-4.8	-4.5	
2442 MHz	MAX.	-2.5	-1.2	1.3	-17.2	1.8	-3.1	-2.3
	AVE.	-7.1	-4.2	-3.7	-23.4	-4.8	-4.5	
2484 MHz	MAX.	-2.2	-0.8	1.6	-16.9	2.0	-3.0	-2.0
	AVE.	-7.1	-4.1	-3.3	-23.1	-4.7	-4.4	

LINEAR POLAMIZATION		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
5150 MHz	MAX.	-3.8	-2.5	0.8	-13.5	1.4	-2.4	-3.2
	AVE.	-9.8	-6.3	-4.6	-21.1	-6.0	-7.7	
5500 MHz	MAX.	-3.5	-1.0	0.4	-14.8	1.9	-3.3	-2.7
	AVE.	-9.3	-4.7	-4.3	-21.6	-5.8	-8.0	
5850 MHz	MAX.	-3.1	-2.7	0.6	-14.2	0.2	-0.6	-3.0
	AVE.	-8.1	-4.9	-4.1	-20.6	-6.5	-6.5	

### <Directivity>



@2484MHz



@5500MHz



# 6. Measurement result

## Chain1 (condition 1) : Sub Antenna (Cable length = 30mm)

Part number: Antenna1 1VY DC1231 (30mm)



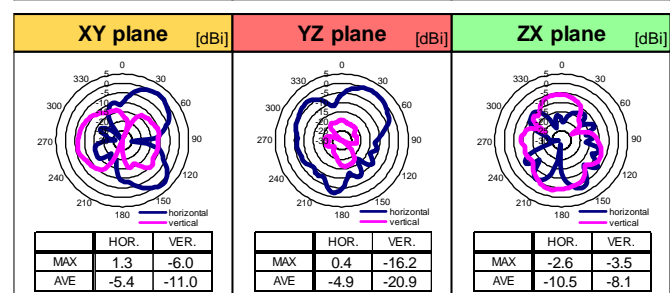
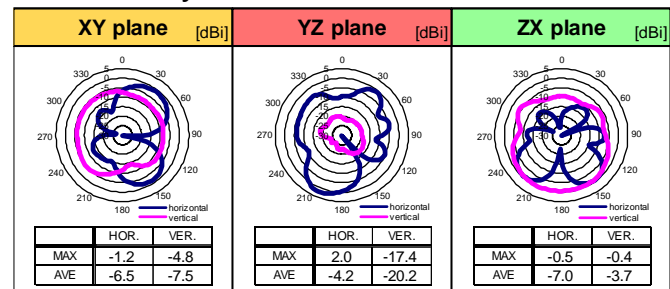
### <Efficiency>

\*Red color shows peak gain  
[dBi] [dB]

LINEAR POLAMIZATION		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
2400 MHz	MAX.	-1.2	-4.8	<b>2.0</b>	-17.4	-0.5	-0.4	-2.7
	AVE.	-6.5	-7.5	-4.2	-20.2	-6.9	-3.7	
2442 MHz	MAX.	-1.5	-5.4	<b>1.9</b>	-17.1	-0.7	-0.4	-2.9
	AVE.	-6.8	-7.6	-4.2	-20.3	-7.2	-4.0	
2484 MHz	MAX.	-1.8	-6.1	1.7	-16.0	-0.8	-0.2	-2.9
	AVE.	-7.0	-7.6	-4.2	-19.6	-7.4	-3.9	

LINEAR POLAMIZATION		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
5150 MHz	MAX.	<b>1.3</b>	-6.0	0.4	-16.2	-2.6	-3.5	-4.2
	AVE.	-5.4	-11.0	-4.9	-20.9	-10.5	-8.1	
5500 MHz	MAX.	-3.0	-4.1	<b>0.1</b>	-15.9	-5.9	-4.2	-4.1
	AVE.	-8.5	-9.0	-4.2	-21.4	-12.8	-7.4	
5850 MHz	MAX.	-1.7	-4.7	-1.4	-15.7	-6.8	-1.7	-5.5
	AVE.	-7.5	-9.0	-6.5	-22.6	-13.8	-6.6	

### <Directivity>



# 6. Measurement result

Chain1 (condition 2) : Sub Antenna (Cable length = 315mm)

Part number: Antenna1 1VY DC1231 (315mm)



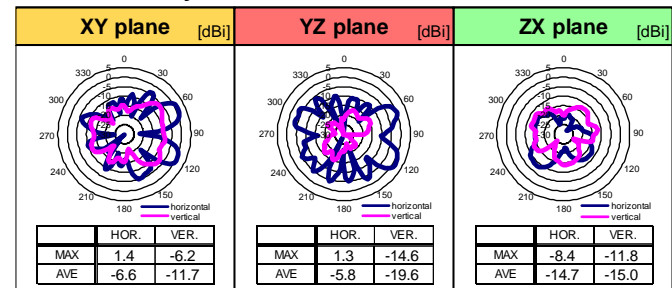
### <Efficiency>

\*Red color shows peak gain  
[dBi] [dB]

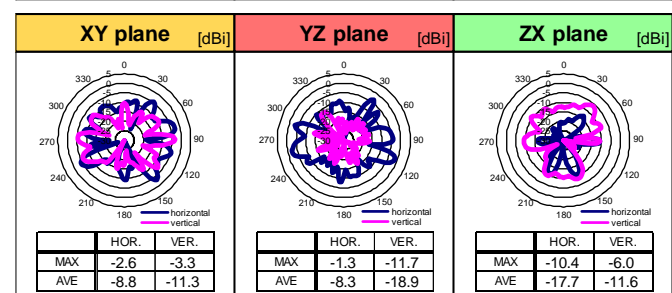
LINEAR POLAMIZATION		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
2400 MHz	MAX.	-0.3	-8.4	-0.2	-16.4	-8.6	-7.6	-6.8
	AVE.	-7.4	-13.1	-6.7	-21.1	-15.5	-12.9	
2442 MHz	MAX.	<b>0.5</b>	<b>-7.6</b>	<b>0.0</b>	<b>-16.1</b>	<b>-8.9</b>	<b>-10.3</b>	<b>-7.0</b>
	AVE.	<b>-7.5</b>	<b>-12.5</b>	<b>-6.9</b>	<b>-21.0</b>	<b>-15.5</b>	<b>-15.6</b>	
2484 MHz	MAX.	<b>1.4</b>	-6.2	1.3	-14.6	-8.4	-11.8	-6.0
	AVE.	-6.6	-11.6	-5.8	-19.6	-14.7	-14.9	

LINEAR POLAMIZATION		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
5150 MHz	MAX.	-2.6	-3.3	<b>-1.3</b>	-11.7	-10.4	-6.0	-8.2
	AVE.	-8.8	-11.3	-8.3	-18.9	-17.7	-11.6	
5500 MHz	MAX.	<b>-2.5</b>	<b>-3.2</b>	<b>-1.9</b>	<b>-13.2</b>	<b>-10.6</b>	<b>-9.8</b>	<b>-8.8</b>
	AVE.	<b>-9.6</b>	<b>-11.2</b>	<b>-7.9</b>	<b>-18.7</b>	<b>-18.0</b>	<b>-15.0</b>	
5850 MHz	MAX.	-2.8	-4.9	-3.5	-14.0	-10.2	-5.9	-9.3
	AVE.	-10.3	-11.0	-8.8	-20.9	-17.6	-10.1	

### <Directivity>



@2484MHz



@5150MHz



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end