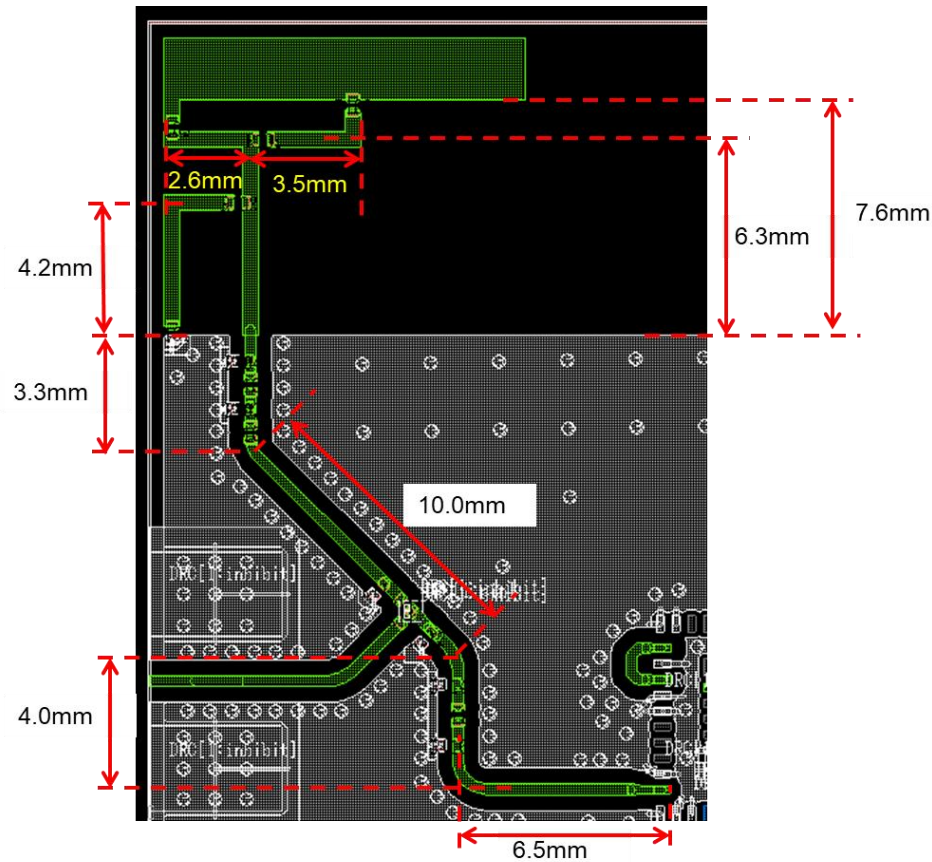


# Type1LV\_Antenna Antenna Specification

Antenna Model Name	Type1LV_Antenna	
Antenna type	Monopole	
Antenna Manufacturer	Murata	
Manufacturer Address	Chi-18, Sodanimachi, Hakusan-shi, Ishikawa 920-2101 Japan	
Antenna Gain	2.4GHz band	0.9dBi@2400-2483.5MHz
	5GHz band	2.0dBi@5150-5850MHz

# 1. Appearance

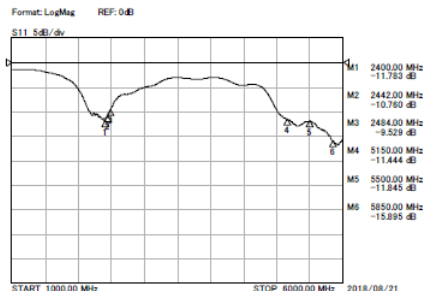
Enlarged view of the antenna



# 3. Measurement Result

## 2GHz / 5GHz

### <Return Loss>

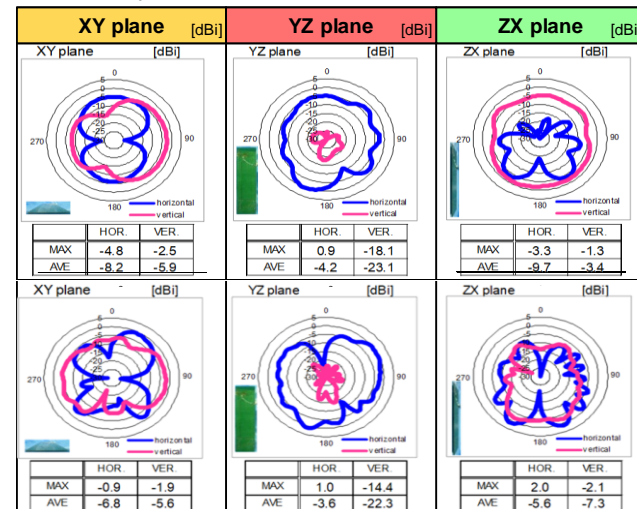


### <Efficiency>

LINEAR POLARIZATION		[dBi]						[dB]
		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
2400 MHz	MAX.	-5.0	-3.3	0.5	-18.7	-3.4	-1.5	-3.5
	AVE.	-8.3	-6.4	-4.4	-24.1	-9.6	-3.6	
2442 MHz	MAX.	-4.8	-2.5	0.9	-18.1	-3.3	-1.3	-3.4
	AVE.	-8.2	-5.9	-4.2	-23.1	-9.7	-3.4	
2484 MHz	MAX.	-4.5	-2.7	0.1	-18.9	-3.2	-1.1	-3.4
	AVE.	-8.0	-6.0	-4.2	-23.6	-9.7	-3.3	

LINEAR POLARIZATION		[dBi]						[dB]
		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
5150 MHz	MAX.	-0.6	-2.6	1.3	-14.9	0.9	-0.1	-3.0
	AVE.	-6.4	-6.6	-3.6	-21.7	-6.6	-5.8	
5500 MHz	MAX.	-0.9	-1.9	1.0	-14.4	2.0	-2.1	-3.0
	AVE.	-6.8	-5.6	-3.6	-22.3	-5.6	-7.3	
5850 MHz	MAX.	-1.0	-2.7	0.6	-13.3	0.8	-2.6	-3.1
	AVE.	-6.8	-6.1	-3.8	-21.1	-6.3	-7.4	

### <Directivity>



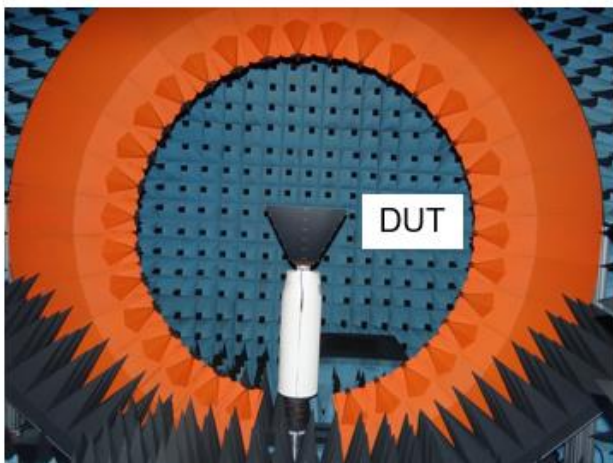
@2442MHz

@5500MHz

## 4. Measurement Method

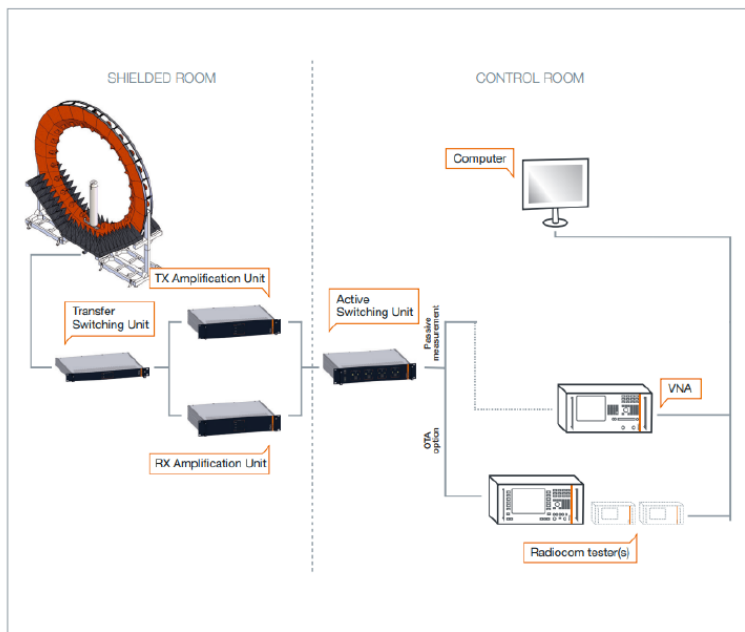
- Test method for antenna gain measurement:  
Standard antenna method (comparative method)
  - \* Comparing a measured antenna to a standard antenna with a known gain factor
- Equipment used for antenna gain measurement (model name, serial number, calibration date, etc.);
  - Measurement system  
Microwave Vision Group (former SATIMO)  
SG32 (details next page)
  - Equipment  
P9374A (MY57213280)
  - Calibration date  
November, 2023
  - Antenna gain measurement date / Measurement person  
Mar. 12, 2024 / Rie Ichimura

# Details of SG32



Anechoic chamber size	Approximately 3.5m x 3.5m x 3m (H)	
Frequency band	650~18000MHz	
Measurement time	Elevation 1 cut	Real time
	Global surface measurement	< Approx. 120 seconds (when measuring 40 frequencies)
Measurement uncertainty	Peak gain	< +/-0.9dB (0.65~1.0GHz)
		< +/-0.8dB (1.0~18.0GHz)
	Low gain	< +/-3.0dB (0.65~1.0GHz)
		< +/-2.4dB (1.0~6.0GHz)
Dynamic range	>70dB(0.65~6.0GHz)	
	>68-42dB(6.0~18.0GHz)	
Cross Polar Isolation	> 45dB	

DUT size	Sampling cycle	0.65 GHz	1.0 GHz	2.5 GHz	6 GHz	10 GHz	18 GHz
	x1		75 cm	84 cm	65 cm	27 cm	18 cm
X3		75 cm	84 cm	84 cm	82 cm	50 cm	28 cm
X5		75 cm	84 cm	84 cm	84 cm	82 cm	45 cm
x10		75 cm	84 cm	84 cm	84 cm	84 cm	84 cm



Peak gain variation is secured within  $\pm 0.90$  dB by system calibration.