Type2EL_Antenna

FCC/ISED Radio Act Application Antenna Information

Type2EL_Antenna Antenna Application information

Target module part number:
LBES5PL2EL / LBEE5PL2DL

Application Antenna Name: Type2EL_Antenna
Application Antenna Type : Monopole antenna(Trace Antenna)
Application Antenna Gain : 3.6dBi @ 2.4GHz band
4.6dBi @ 5GHz band

Type2EL_Antenna
Antenna Under Test Report

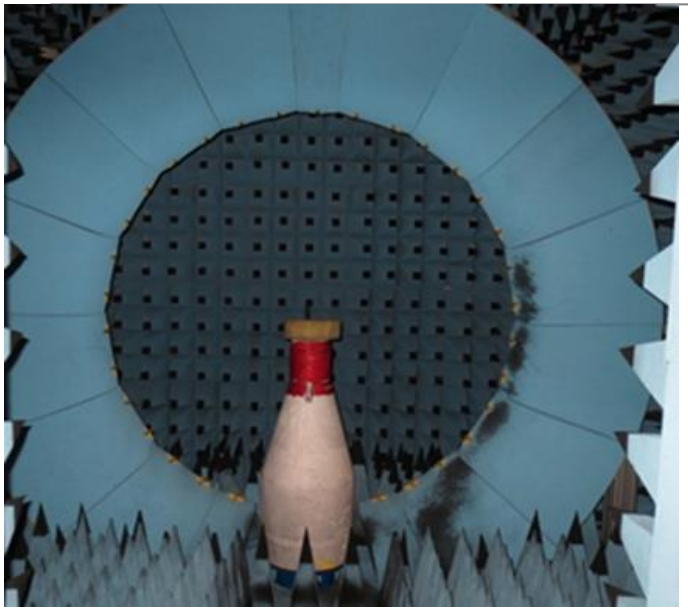
Index

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

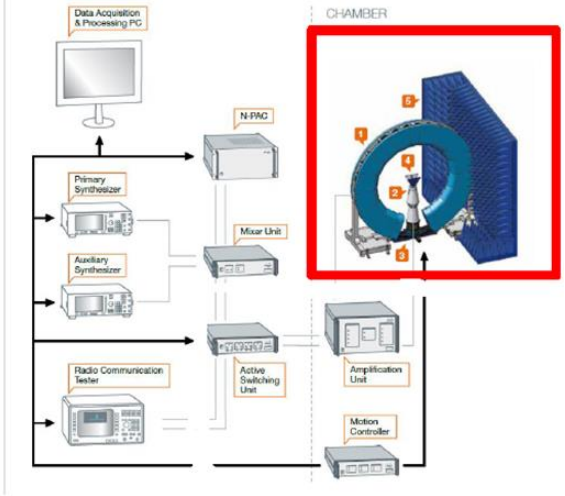
- Equipment used for antenna gain measurement (model name, serial number, calibration date, etc.);
  - Measurement system
    Microwave Vision Group (former SATIMO) SG32 (details next page)
  - Equipment
    PAC (MW 000021H-0068)
    E4428C (MY45280451, MY45280466)
  - Calibration date
    September 12, 2018
  - Antenna gain measurement date / Measurement person
    July 31, 2020 / Rie Ichimura

2. Test Equipment (Details of SG32)



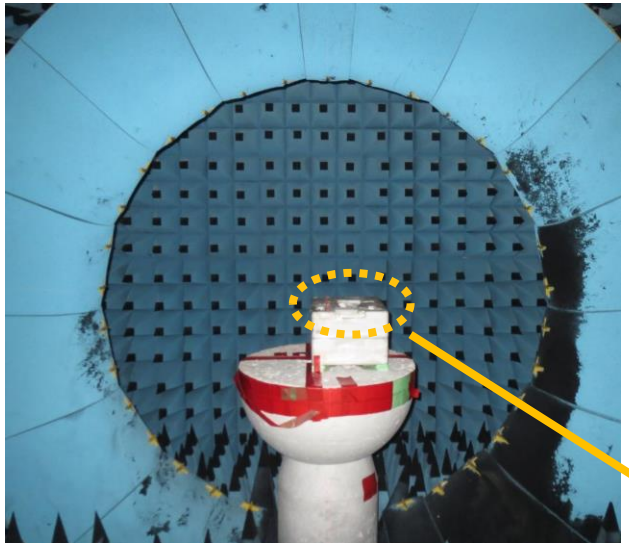
Anechoic chamber size		Approximately 3.5m x 3.5m x 3m (H)		
Frequency band		800~6000MHz (18~40GHz compatible with Option)		
Measurement time	Elevation 1 cut	Real time		
	Global surface measurement	< Approx. 20 seconds (when measuring 10 frequencies)		
Measurement uncertainty	Peak gain	< +/-0.75dB (1.0~6.0GHz)		
		< +/-1.0dB (0.8~1.0GHz)		
	Low gain	< +/-2dB (@-20dB from peak)		
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

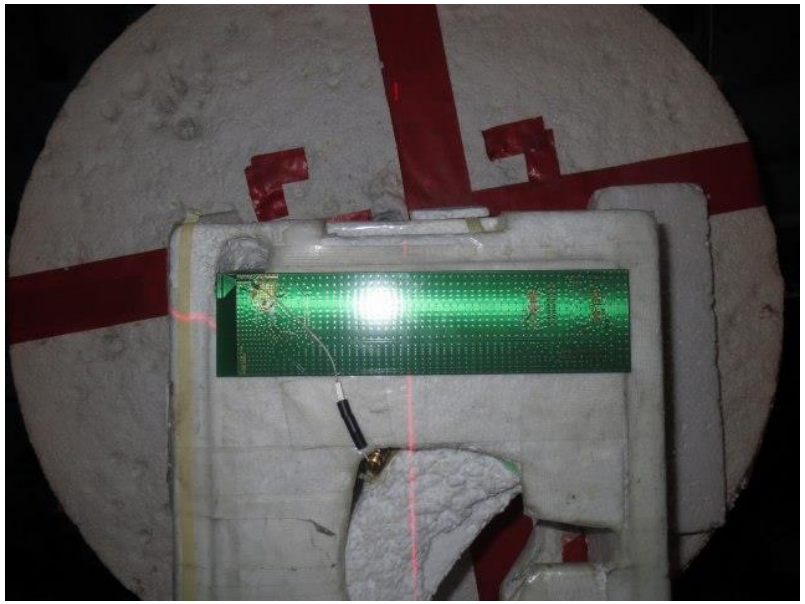
System overview



Peak gain variation is secured within ±0.75 dB by system calibration.

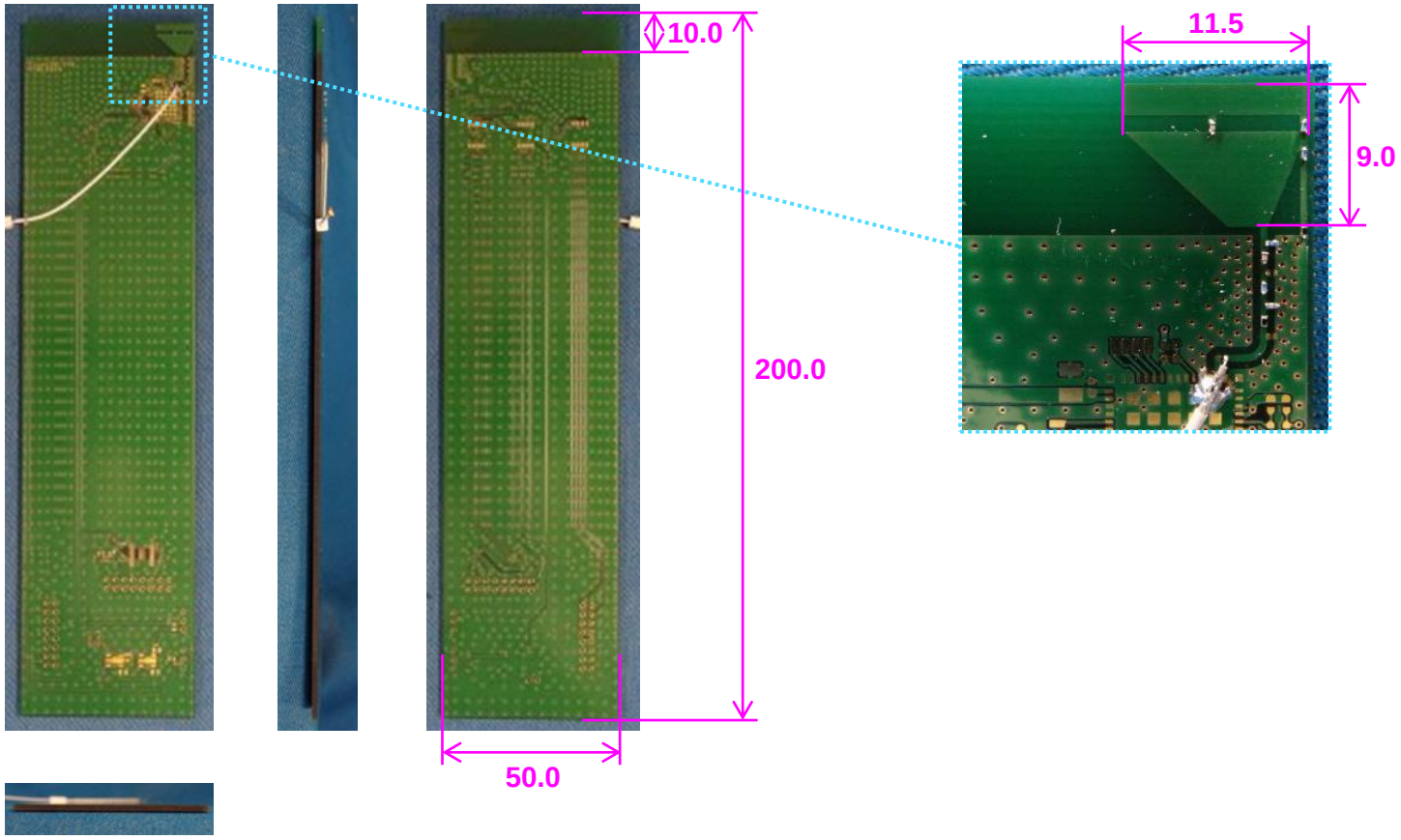
3. DUT placement status



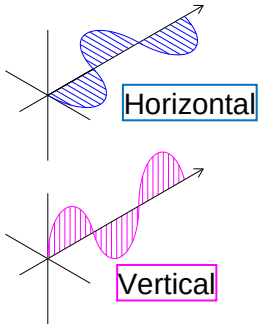


4. DUT Appearance

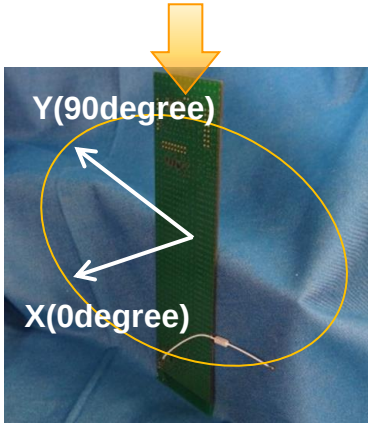
UNIT : mm



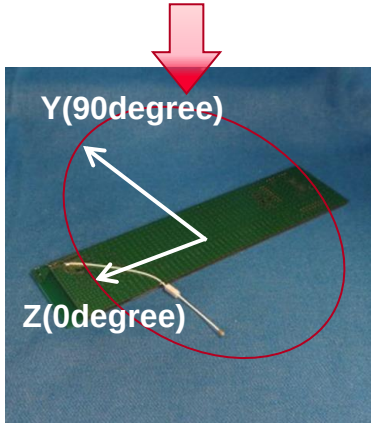
5. Measurement direction



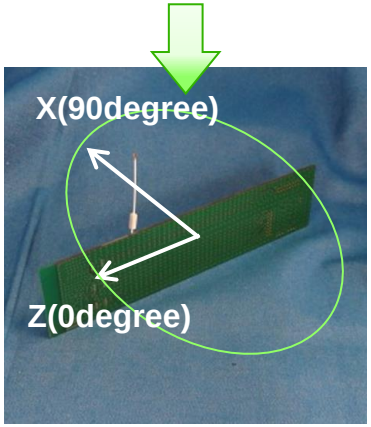
XY plane View



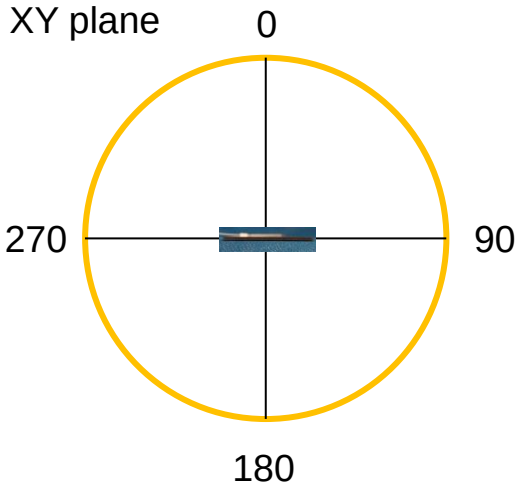
YZ plane View

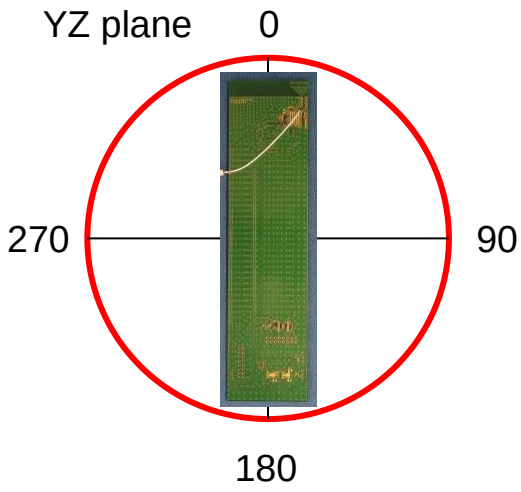


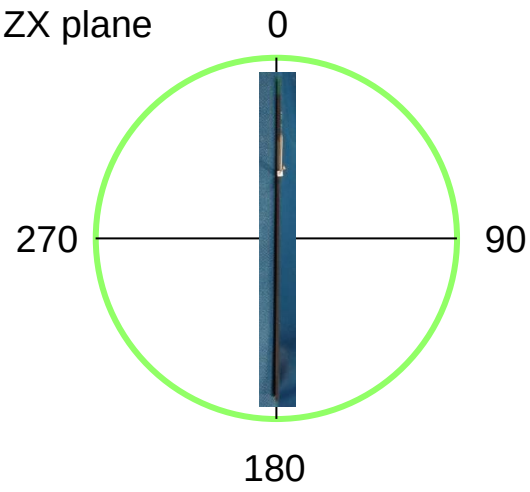
ZX plane View



2D Directional indication



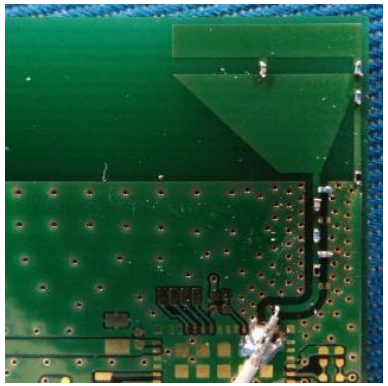




6. Measurement result

Chain1 : Pattern Antenna

Part number: Type2EL_Antenna



<Efficiency>

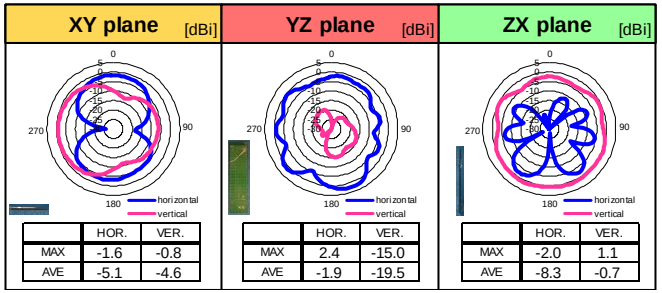
[dBi] [dB]

LINEAR POLARIZATION		XY-plane hor.	XY-plane ver.	YZ-plane hor.	YZ-plane ver.	ZX-plane hor.	ZX-plane ver.	Total Efficiency
2400 MHz	MAX.	-1.6	-0.9	2.6	-16.3	-2.2	1.0	
	AVE.	-4.9	-4.6	-2.0	-20.4	-8.3	-0.9	-1.0
2442 MHz	**MAX.**	**-1.6**	**-0.8**	**2.4**	**-15.0**	**-2.0**	**1.1**	
	AVE.	**-5.1**	**-4.6**	**-1.9**	**-19.5**	**-8.3**	**-0.7**	**-1.0**
2484 MHz	MAX.	-1.7	-0.7	2.5	-13.6	-1.7	1.6	
	AVE.	-5.2	-4.5	-1.6	-18.7	-8.2	-0.5	-0.9

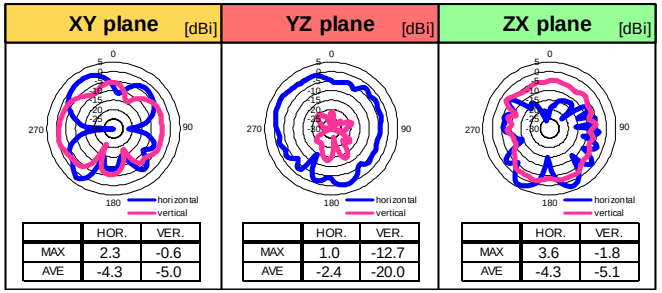
[dBi] [dB]

LINEAR POLARIZATION		XY-plane hor.	XY-plane ver.	YZ-plane hor.	YZ-plane ver.	ZX-plane hor.	ZX-plane ver.	Total Efficiency
5150 MHz	MAX.	2.3	0.1	2.2	-11.4	3.5	-0.2	
	AVE.	-4.1	-4.5	-2.0	-19.2	-3.9	-3.9	-1.3
5500 MHz	**MAX.**	**2.3**	**-0.6**	**1.0**	**-12.7**	**3.6**	**-1.8**	
	AVE.	**-4.3**	**-5.0**	**-2.4**	**-20.0**	**-4.3**	**-5.1**	**-1.6**
5850 MHz	MAX.	2.3	-0.7	1.0	-12.9	3.5	-1.6	
	AVE.	-4.1	-5.4	-2.4	-19.8	-4.2	-5.5	-1.5

<Directivity>



@2442MHz



@5500MHz

end