

Type2TF_Antenna

FCC/ISED Radio Act Application Antenna Information



Type2TF_Antenna Antenna Application information

Target model part number: LBAC0ZZ2TF

Variant model part number: LBAC0ZZ2TG

LBAC0ZZ2TH-EK229

LBAC0ZZ2TJ

Application Antenna Name: Type2TF_Antenna

Application Antenna Type : Monopole antenna(Wire Antenna)

Application Antenna Gain : -10.3 dBi @ 860MHz band

-8.9 dBi @ 920MHz band

Type2TF_Antenna

Antenna Under Test Report





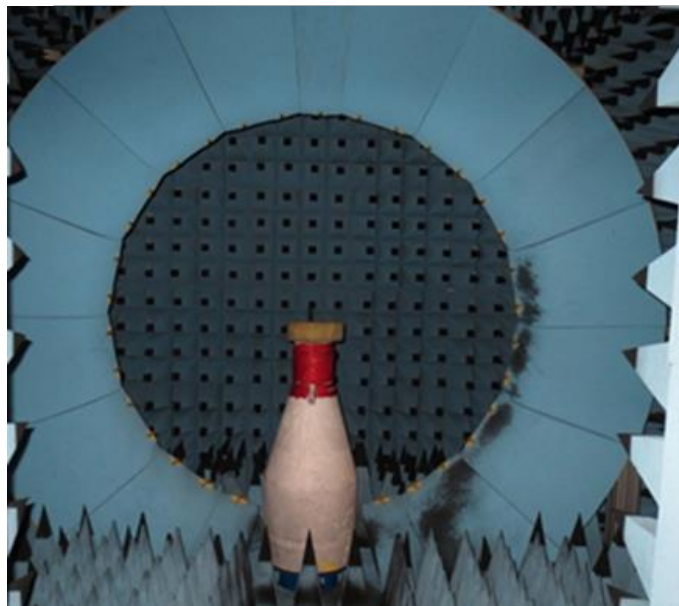
- 1. Test method for antenna gain measurement**
- 2. Test Equipment (Details of SG32)**
- 3. DUT placement status**
- 4. DUT Appearance**
- 5. Measurement direction**
- 6. Measurement result**

1. Test method for antenna gain measurement



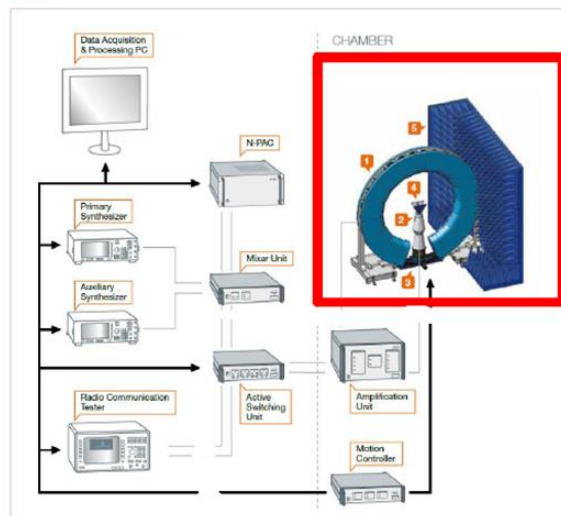
- Test method for antenna gain measurement:
Standard antenna method (comparative method)
 - * Comparing a measured antenna to a standard antenna with a known gain factor
- Equipment used for antenna gain measurement (model name, serial number, calibration date, etc.);
 - Measurement system
Microwave Vision Group (former SATIMO) SG32 (details next page)
 - Equipment
PAC (MW 000021H-0068)
E4428C (MY45280451, MY45280466)
 - Calibration date
September 12, 2018
 - Antenna gain measurement date / Measurement person
March 28, 2022 / Harumi Matsuoka

2. Test Equipment (Details of SG32)



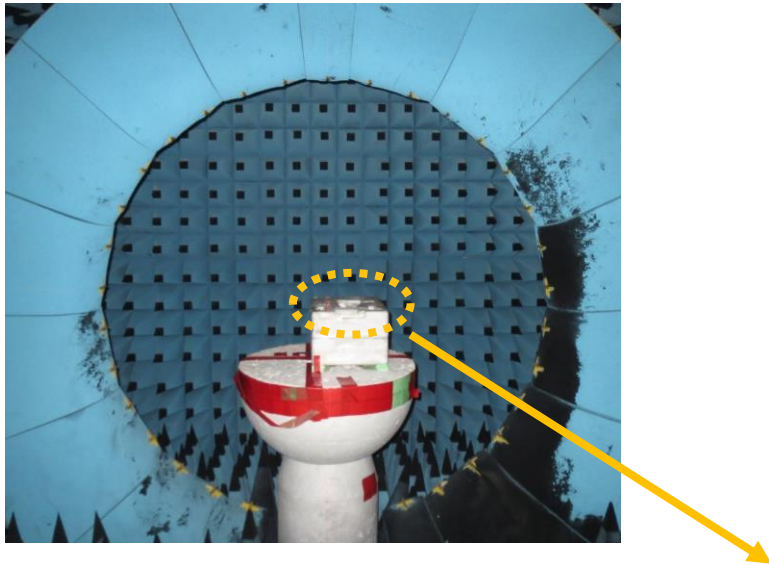
Anechoic chamber size		Approximately 3.5m x 3.5m x 3m (H)			
Frequency band		800~6000MHz (18~40GHz compatible with Option)			
Measurement time	Elevation 1 cut	Real time			
	Global surface measurement	< Approx. 20 seconds (when measuring 10 frequencies)			
Measurement uncertainty	Peak gain	< +/-0.75dB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

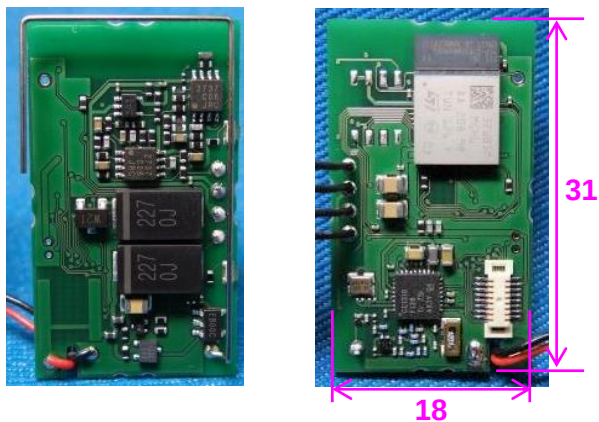
3. DUT placement status



4. DUT Appearance



<PCB>

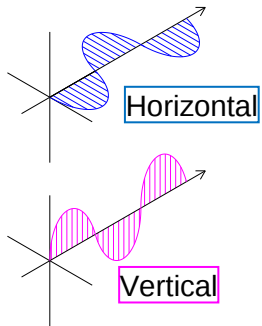


UNIT : mm

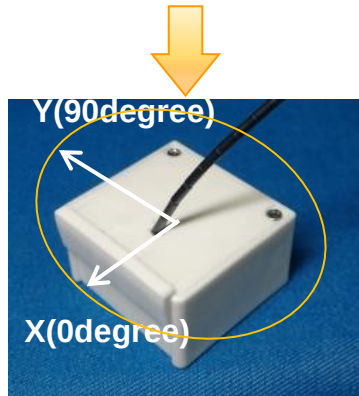
5. Measurement direction



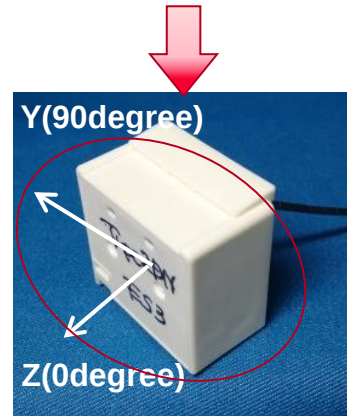
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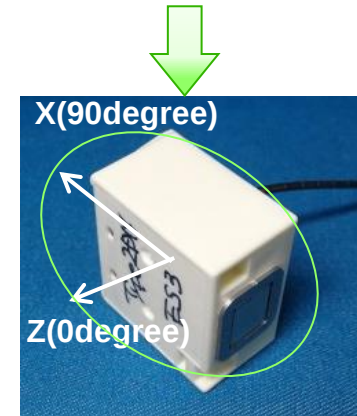
XY plane
View



YZ plane
View



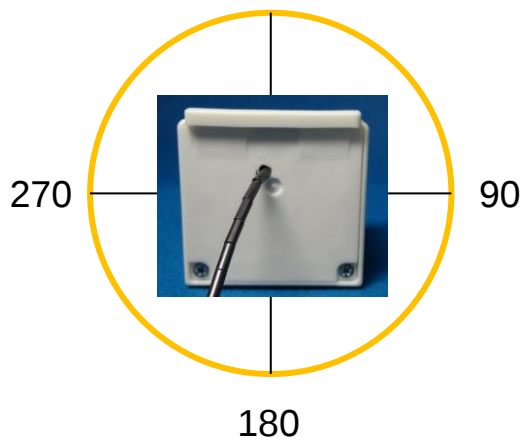
ZX plane
View



2D Directional indication

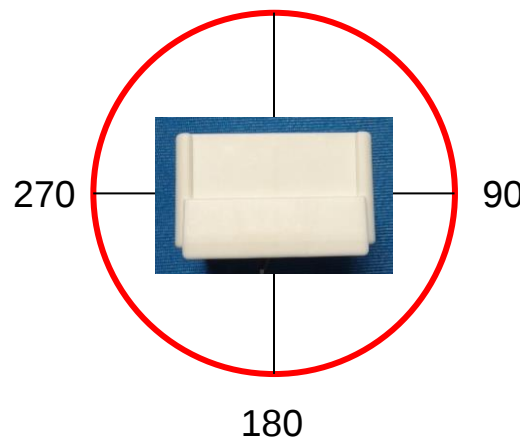
XY plane

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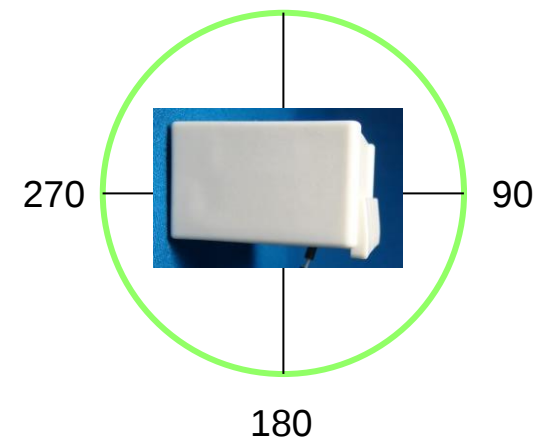
YZ plane

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ZX plane

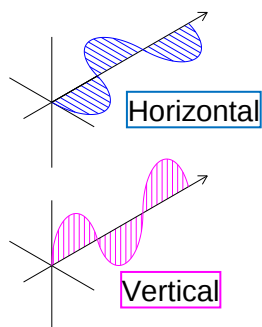
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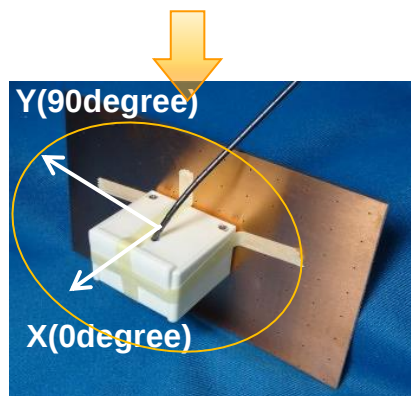
5. Measurement direction



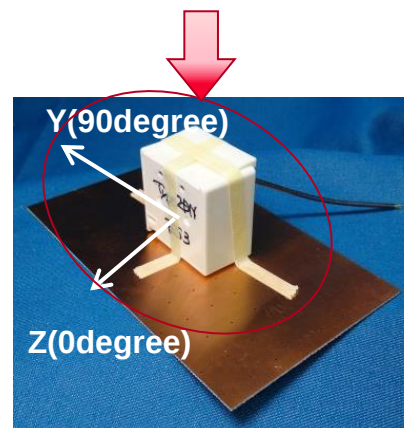
<Condition 2>



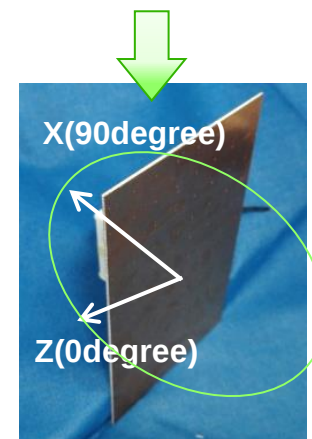
XY plane
View



YZ plane
View



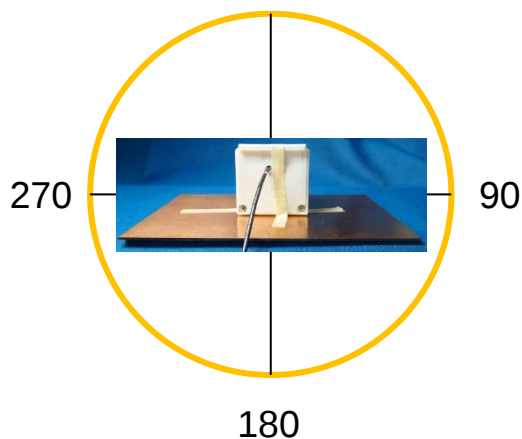
ZX plane
View



2D Directional indication

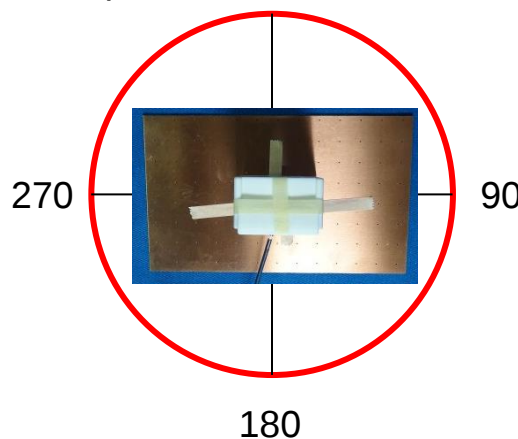
XY plane

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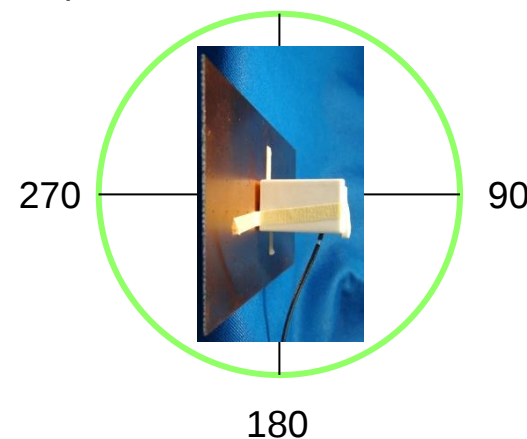
YZ plane

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ZX plane

0



6. Measurement result

Chain1 : Monopole Antenna

Part number: Type2TF_Antenna

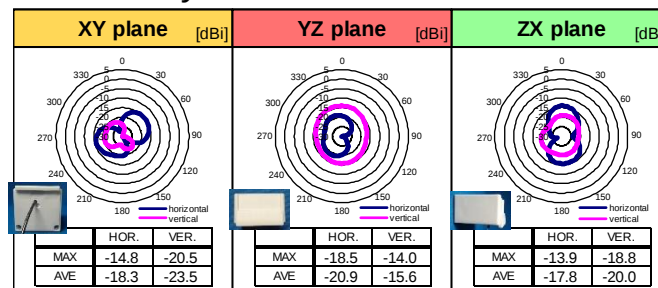


<Efficiency>

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

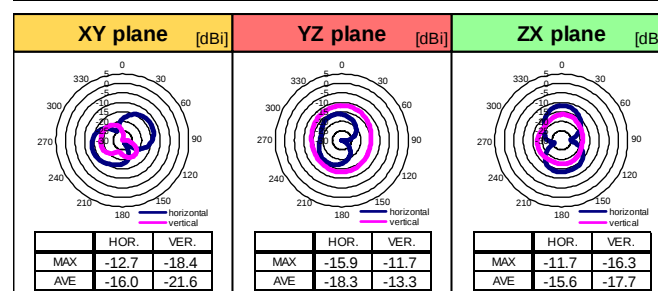
LINEAR POLAMIZATION		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
865 MHz	MAX.	-15.1	-21.0	-18.9	-14.3	-14.3	-19.2	-16.1
	AVE.	-18.6	-24.0	-21.4	-15.9	-18.2	-20.4	
866.5 MHz	MAX.	-14.8	-20.5	-18.5	-14.0	-13.9	-18.8	-15.7
	AVE.	-18.3	-23.5	-20.9	-15.6	-17.8	-20.0	
868 MHz	MAX.	-14.5	-20.3	-18.2	-13.7	-13.7	-18.5	-15.5
	AVE.	-18.1	-23.2	-20.6	-15.4	-17.6	-19.8	

<Directivity>



@866.5MHz

LINEAR POLAMIZATION		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
902 MHz	MAX.	-12.9	-18.6	-15.9	-12.1	-12.1	-16.2	-13.8
	AVE.	-16.4	-21.7	-18.5	-13.7	-16.0	-17.9	
916 MHz	MAX.	-12.7	-18.4	-15.9	-11.7	-11.7	-16.3	-13.5
	AVE.	-16.0	-21.6	-18.3	-13.3	-15.6	-17.7	
928 MHz	MAX.	-12.5	-18.2	-15.6	-11.6	-11.5	-16.1	-13.2
	AVE.	-15.9	-21.2	-18.1	-13.1	-15.5	-17.2	



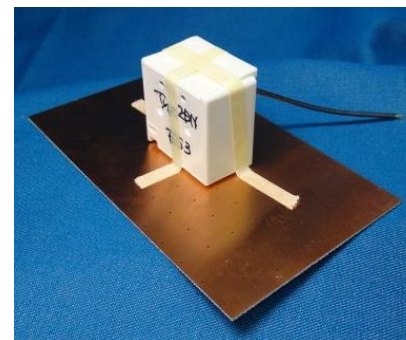
@916MHz

6. Measurement result

Chain1 : Monopole Antenna

Part number: Type2TF_Antenna

Attached DUT on metal plate

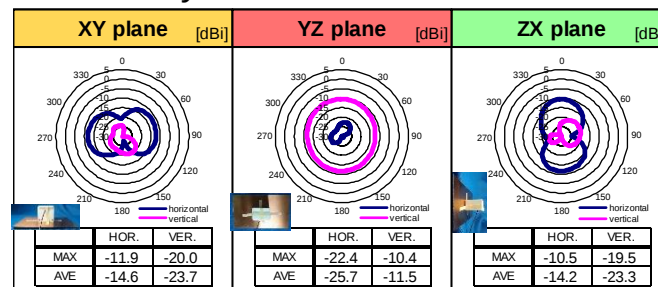


<Efficiency>

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

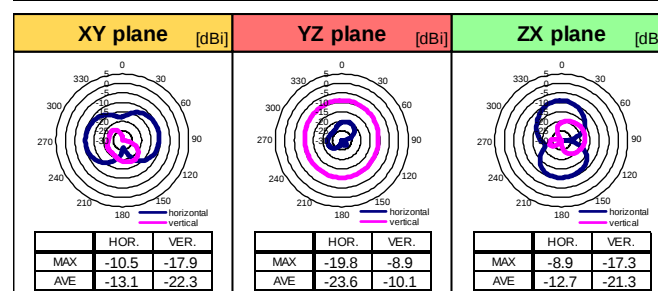
LINEAR POLAMIZATION		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
865 MHz	MAX.	-12.1	-20.5	-22.8	-10.8	-10.9	-19.9	-13.3
	AVE.	-15.0	-24.2	-26.3	-11.9	-14.5	-23.6	
866.5 MHz	MAX.	-11.9	-20.0	-22.4	-10.4	-10.5	-19.5	-12.9
	AVE.	-14.6	-23.7	-25.7	-11.5	-14.2	-23.3	
868 MHz	MAX.	-11.7	-19.8	-22.0	-10.3	-10.3	-19.2	-12.7
	AVE.	-14.4	-23.5	-25.5	-11.4	-14.0	-23.0	

<Directivity>



@866.5MHz

LINEAR POLAMIZATION		XY-plane		YZ-plane		ZX-plane		Total Efficiency
		hor.	ver.	hor.	ver.	hor.	ver.	
902 MHz	MAX.	-10.6	-18.0	-19.7	-9.1	-9.1	-17.7	-11.6
	AVE.	-13.3	-22.4	-23.8	-10.3	-12.8	-21.4	
916 MHz	MAX.	-10.5	-17.9	-19.8	-8.9	-8.9	-17.3	-11.4
	AVE.	-13.1	-22.3	-23.6	-10.1	-12.7	-21.3	
928 MHz	MAX.	-10.3	-17.9	-19.3	-8.9	-8.9	-16.5	-11.2
	AVE.	-12.9	-21.9	-23.1	-9.9	-12.5	-20.7	



@916MHz



end