SPECIFICATIONS

	Humidity Sensor		
Frequency Range (MHz)	863 to 870 MHz	902 to 928 MHz	2400 to 2480 MHz
Efficiency	73.5 %	49.7 %	29.7 %
Average Gain	-1.34dBi	-3.07dBi	-5.29dBi
Peak Gain[dBi]	+1.08dBi	+0.02dBi	-1.29dBi
Target Frequency	868 MHz	915 MHz	2450 MHz
Target Frequency Gain	-1.21dBi	-3.26dBi	-5.42dBi
Feed Point Impedance	50 ohms unbalanced		
Polarization	Linear		
Size	Dia. 29.54 mm x 21.50 mm Height		
Weight	< 20.5 g		
Operating Temperature	-40 to +85°C		
Storage Temperature	-40 to +85°C		
Packaging Specification	Box		
Hazardous Materials	A certificate of conformance is available from the product page on TE website.		
Data measured Free Space condition			

Revision updated :

- Rev 1_Oct. 29th. 2021 : Old PCB version of the vibration sensor
- Rev 2_Mar. 22nd .2023 : Modified PCB and Antenna design for the vibration & the pressure sensor
- Rev 3_Jun. 14th .2023 : Additional data of the Humidity sensor

Measurement Specialties (China), Ltd.

No.26 LangShan Road, Nanshan District, Shenzhen City, 518057 Guangdong, P. R China

RF DATA – Humidity Sensor condition

3D Chamber : Efficiency Measurement

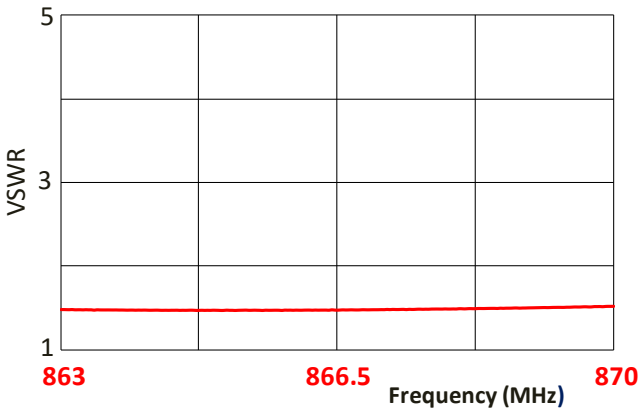
	1	2	3	4	5	6	7	8
Frequency [MHz]	863	864	865	866	867	868	869	870
Efficiency [dB]	-1.61	-1.60	-1.58	-1.23	-1.21	-1.21	-1.22	-1.21
Efficiency [%]	69.0	69.2	69.5	75.3	75.7	75.7	75.6	75.6
Peak Gain [dB]	0.65	0.65	0.69	1.04	1.07	1.07	1.07	1.08

	1	2	3	4	5	6	7	8	9
Frequency [MHz]	902	905	909	912	915	918	922	925	928
Efficiency [dB]	-2.15	-2.26	-2.66	-3.16	-3.26	-3.38	-3.47	-3.60	-3.69
Efficiency [%]	60.9	59.4	54.2	48.3	47.2	45.9	45.0	43.7	42.8
Peak Gain [dB]	0.02	-0.12	-0.53	-1.03	-1.15	-1.29	-1.37	-1.51	-1.59

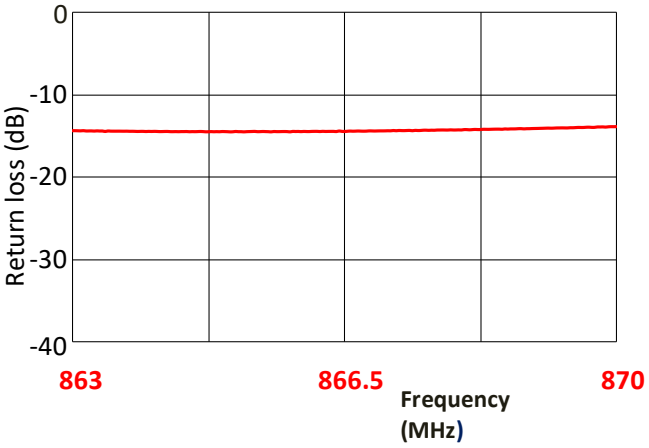
	1	2	3	4	5	6	7	8	9
Frequency [MHz]	2400	2410	2420	2430	2440	2450	2460	2470	2480
Efficiency [dB]	-4.82	-5.04	-5.03	-5.14	-5.39	-5.42	-5.45	-5.67	-5.61
Efficiency [%]	33.0	31.3	31.4	30.6	28.9	28.7	28.5	27.1	27.5
Peak Gain [dB]	-1.51	-1.66	-1.54	-1.61	-1.74	-1.66	-1.52	-1.57	-1.29

RF DATA – Humidity Sensor condition

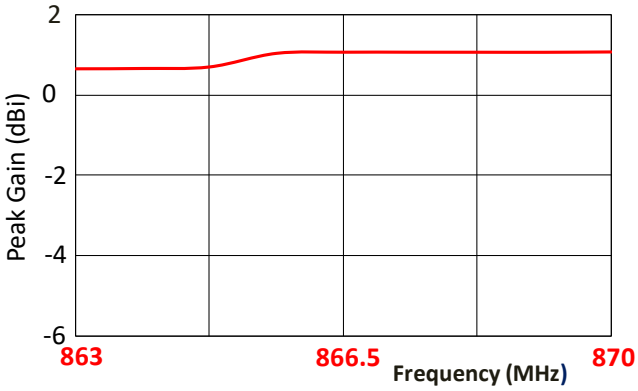
VSWR



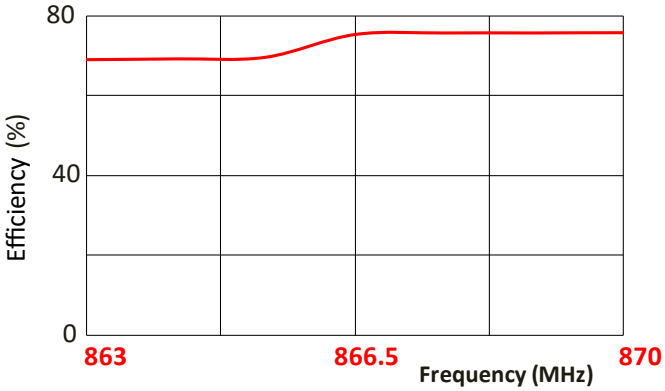
Return Loss



Peak Gain

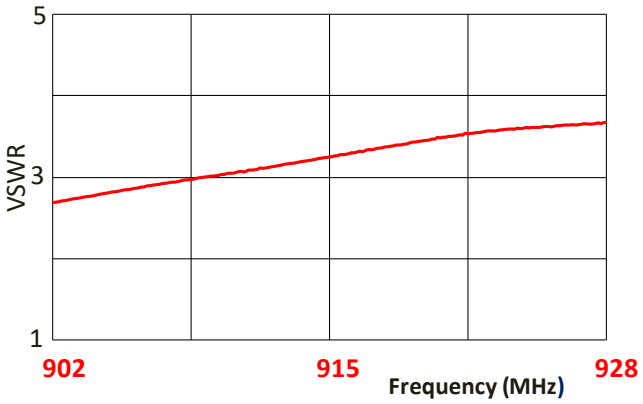


Efficiency

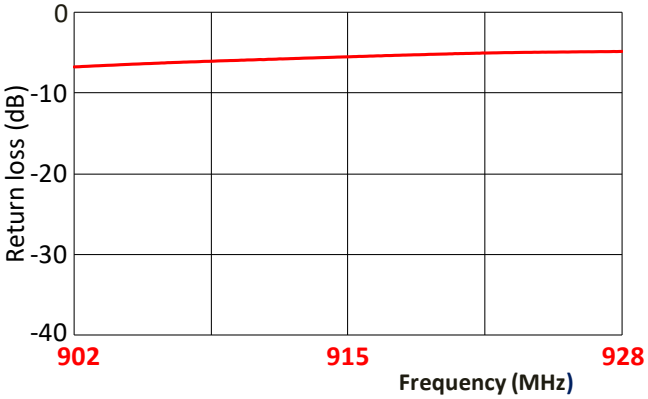


RF DATA – Humidity Sensor condition

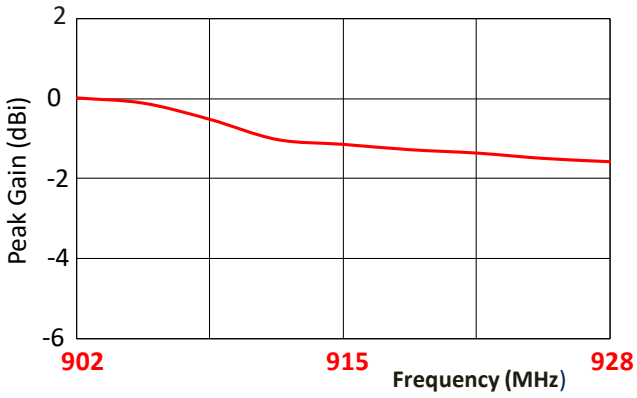
VSWR



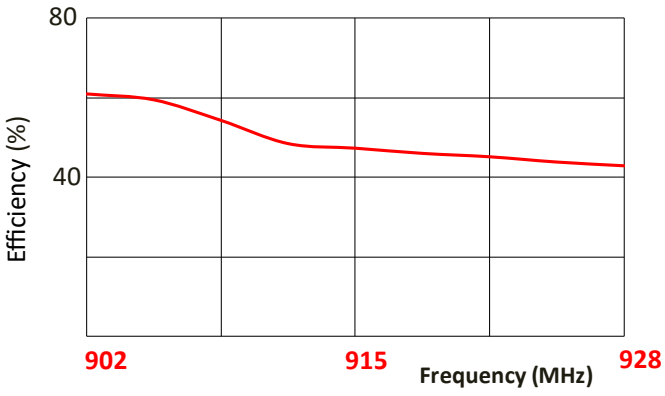
Return Loss



Peak Gain

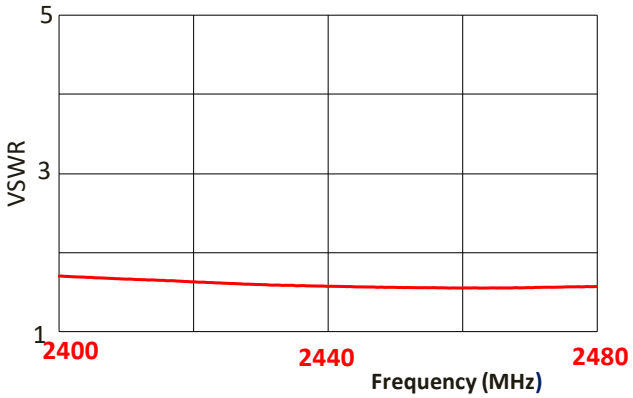


Efficiency

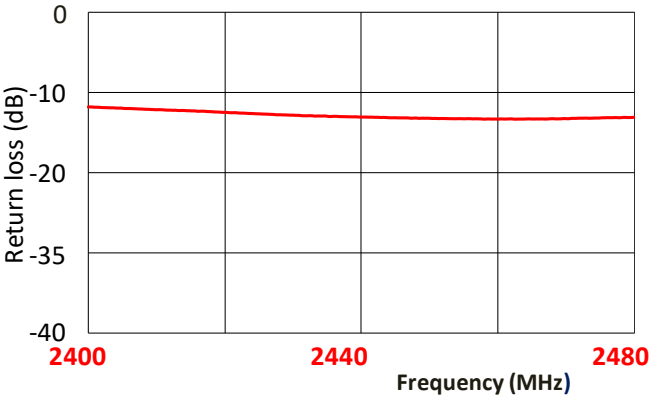


RF DATA – Vibration Sensor condition

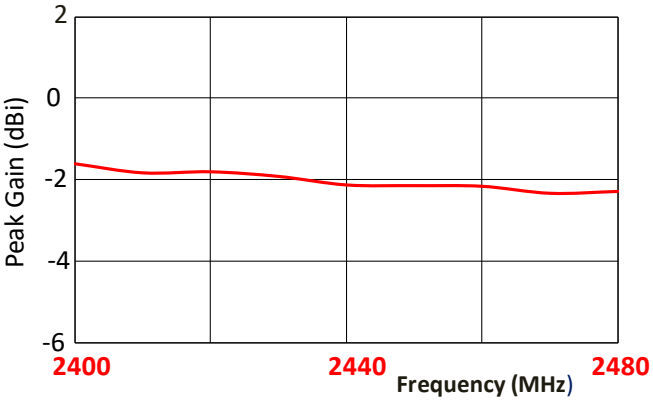
VSWR



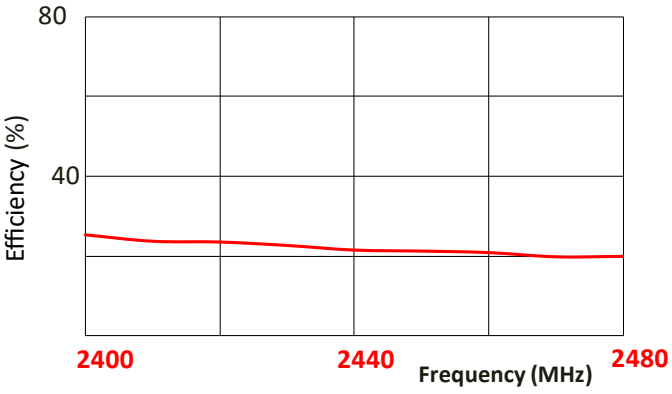
Return Loss



Peak Gain

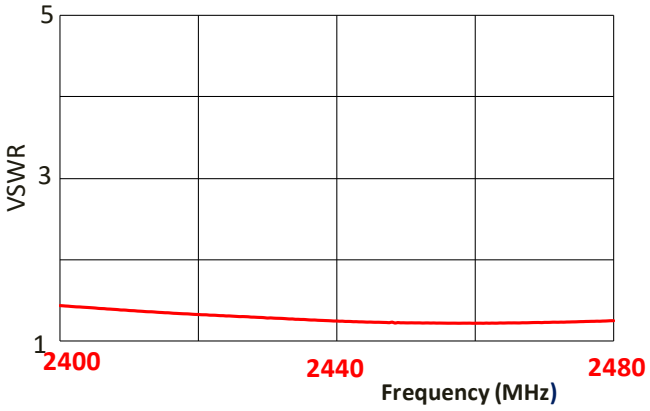


Efficiency

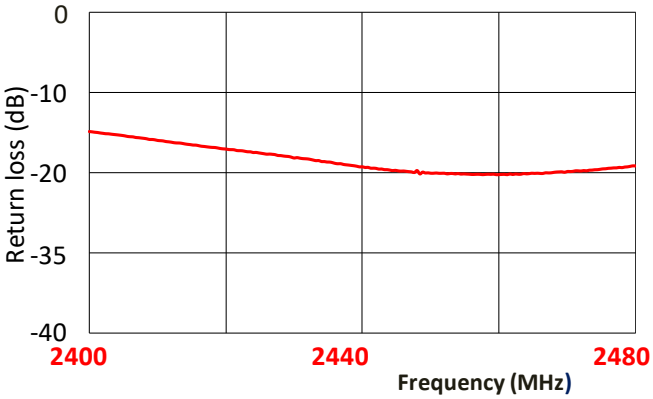


RF DATA – Humidity Sensor condition

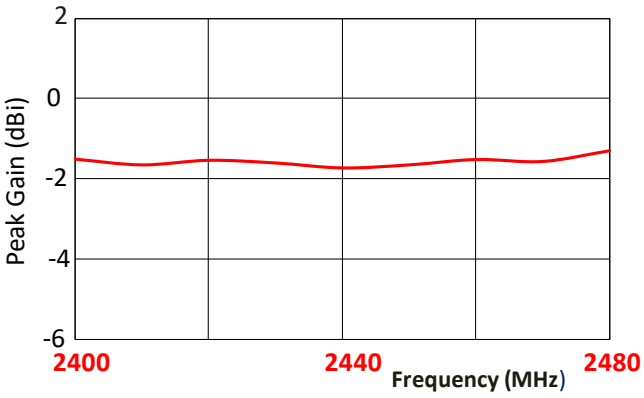
VSWR



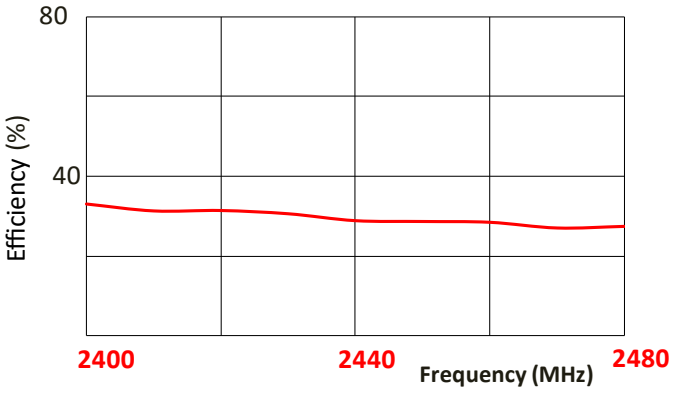
Return Loss



Peak Gain

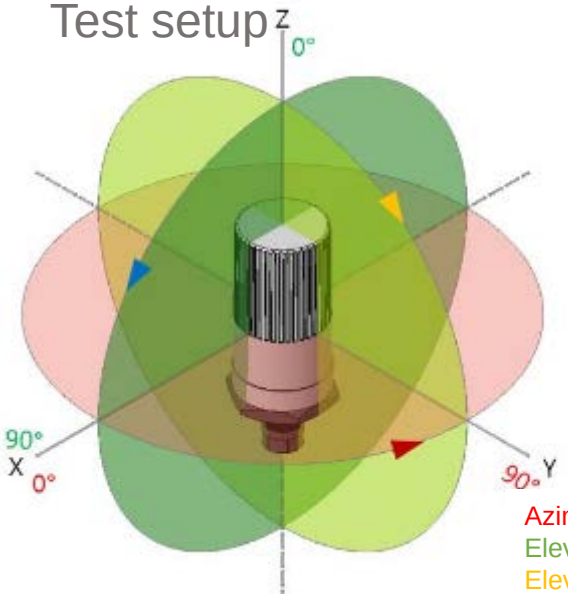


Efficiency



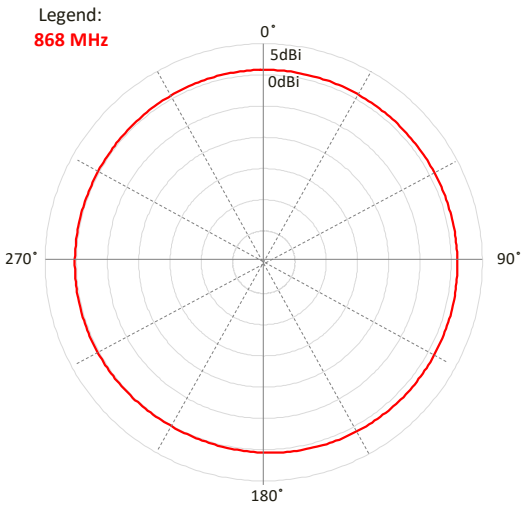
RADIATION PATTERN – Humidity Sensor condition

Test setup

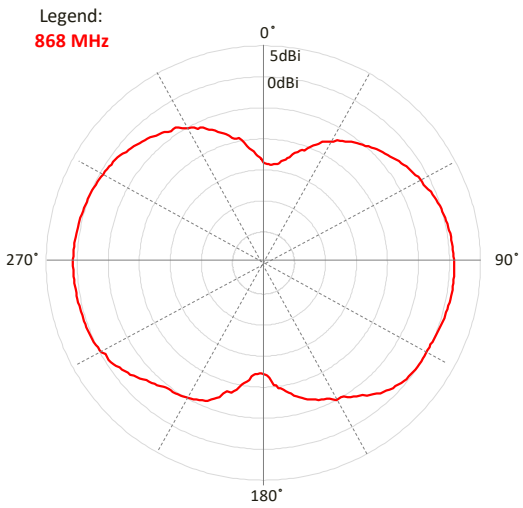


Azimuth Plane
Elevation 1 Plane
Elevation 2 Plane

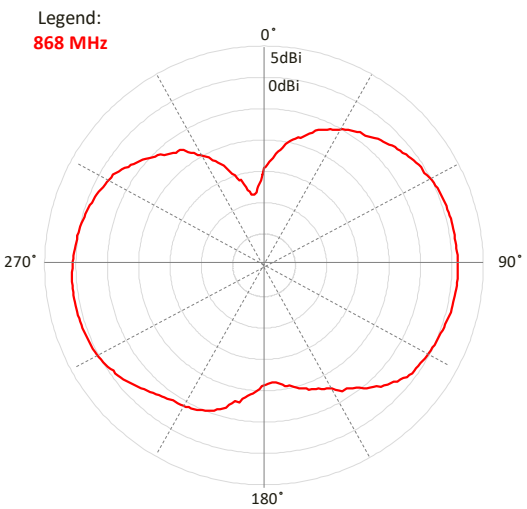
Azimuth



Elevation 1

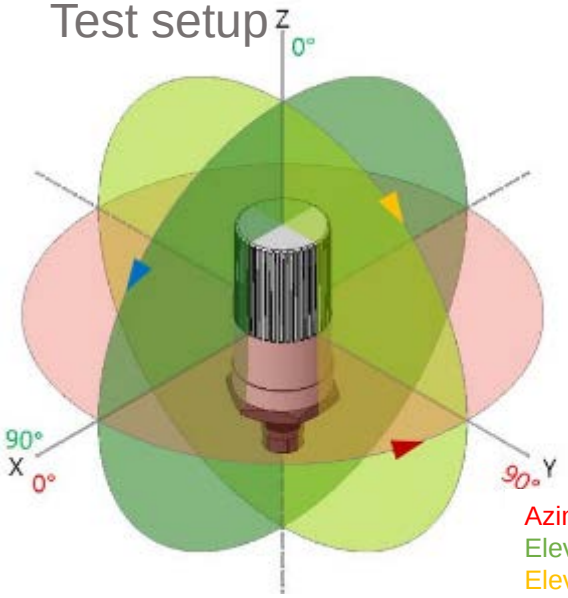


Elevation 2



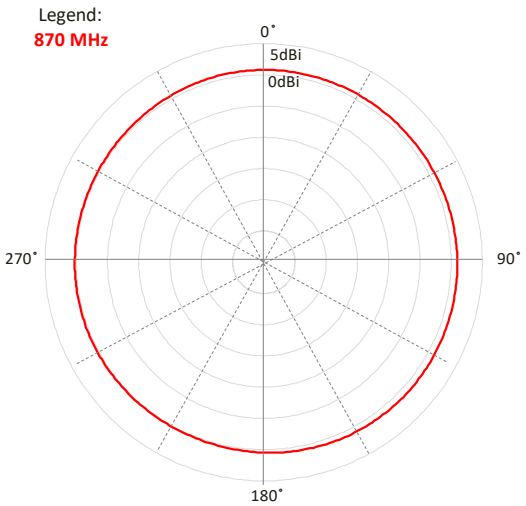
RADIATION PATTERN – Humidity Sensor condition

Test setup

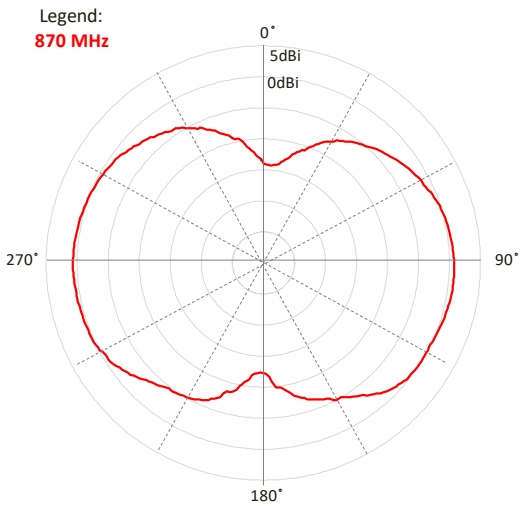


Azimuth Plane
Elevation 1 Plane
Elevation 2 Plane

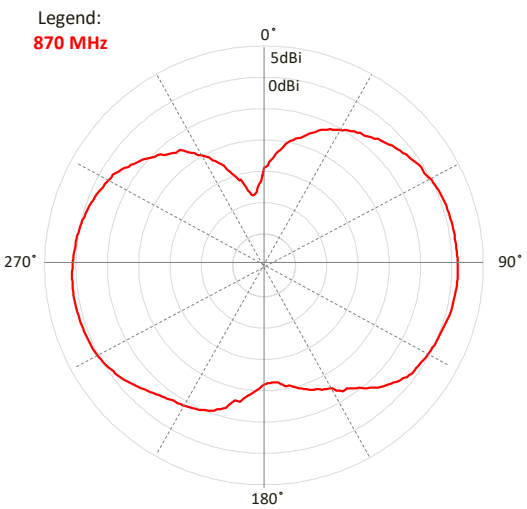
Azimuth



Elevation 1

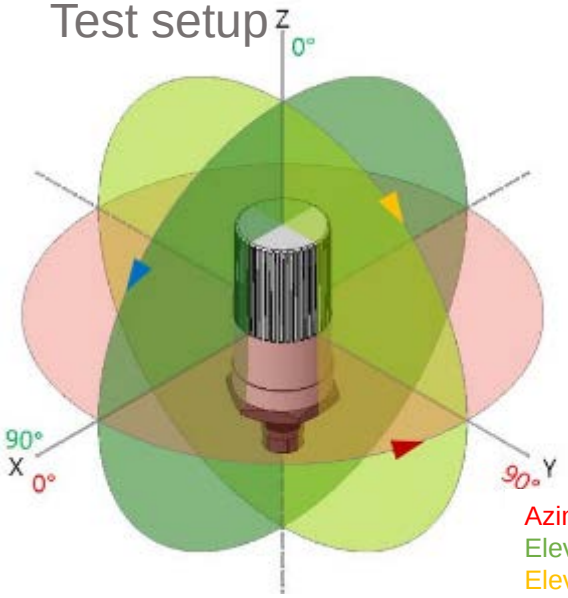


Elevation 2



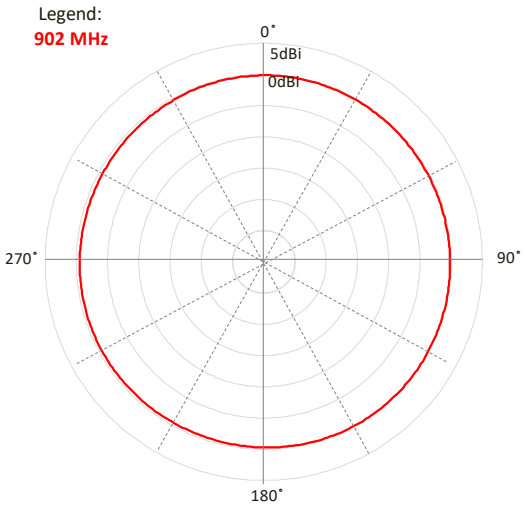
RADIATION PATTERN – Humidity Sensor condition

Test setup

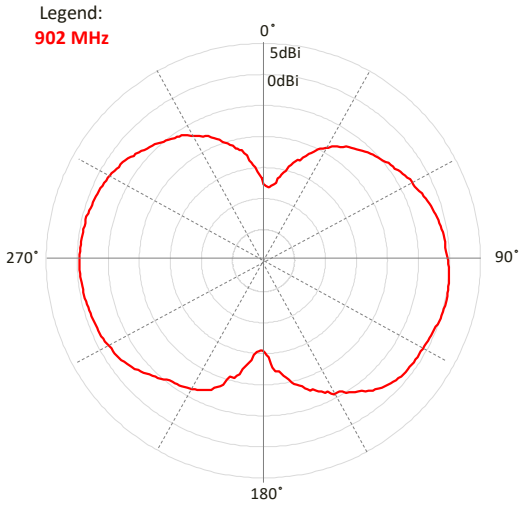


Azimuth Plane
Elevation 1 Plane
Elevation 2 Plane

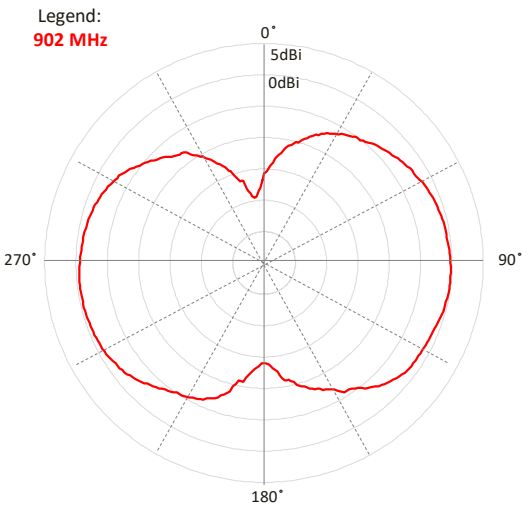
Azimuth



Elevation 1

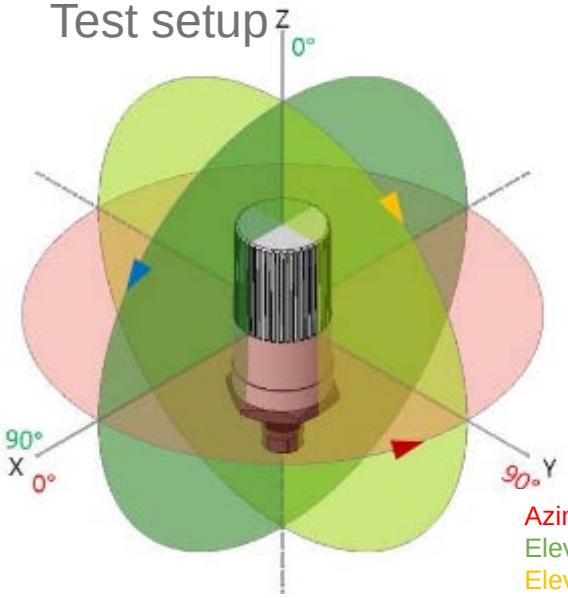


Elevation 2



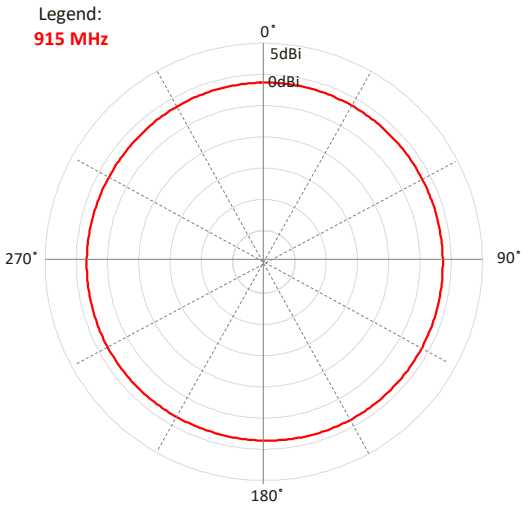
RADIATION PATTERN – Humidity Sensor condition

Test setup

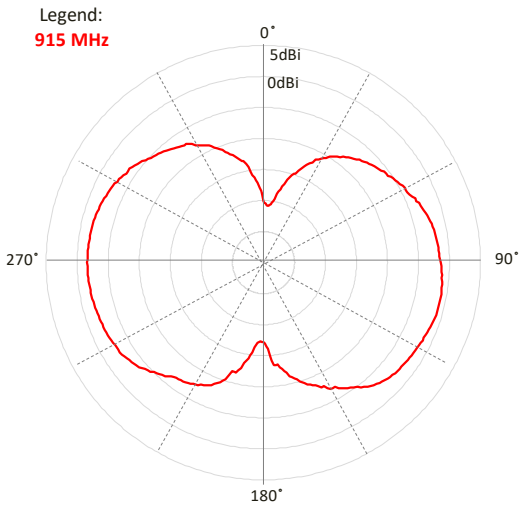


Azimuth Plane
Elevation 1 Plane
Elevation 2 Plane

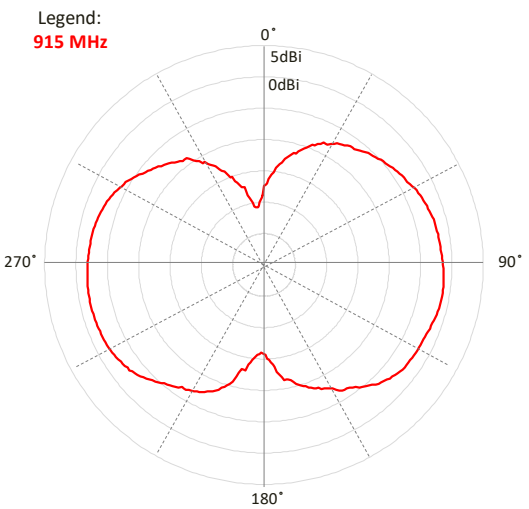
Azimuth



Elevation 1

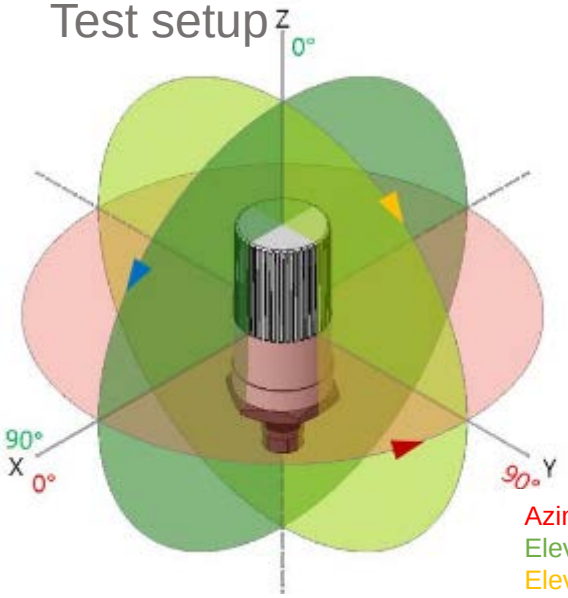


Elevation 2



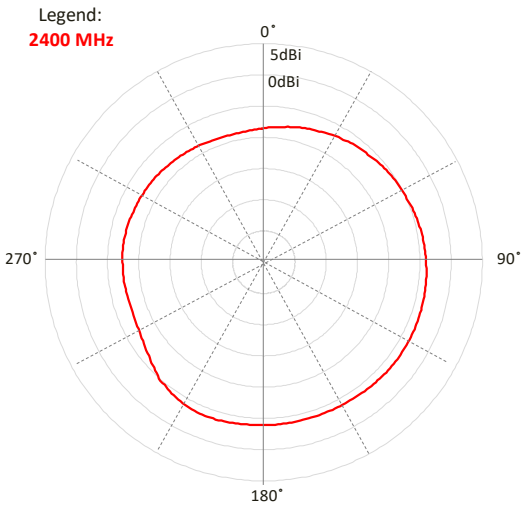
RADIATION PATTERN – Humidity Sensor condition

Test setup

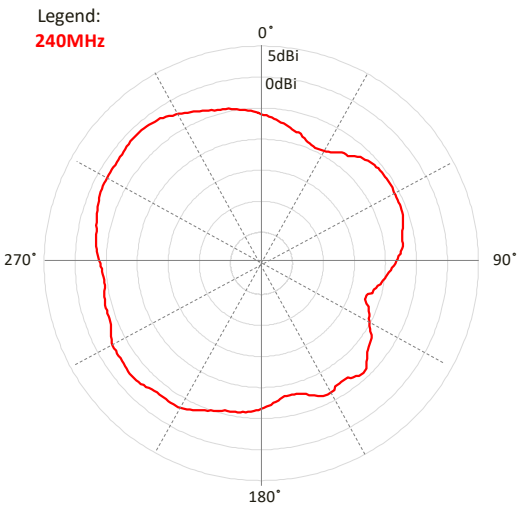


Azimuth Plane
Elevation 1 Plane
Elevation 2 Plane

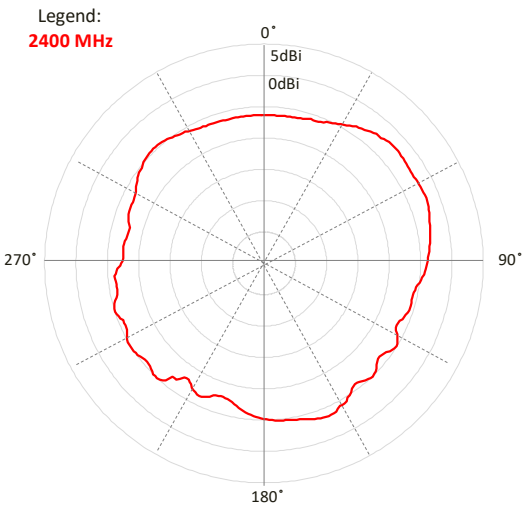
Azimuth



Elevation 1

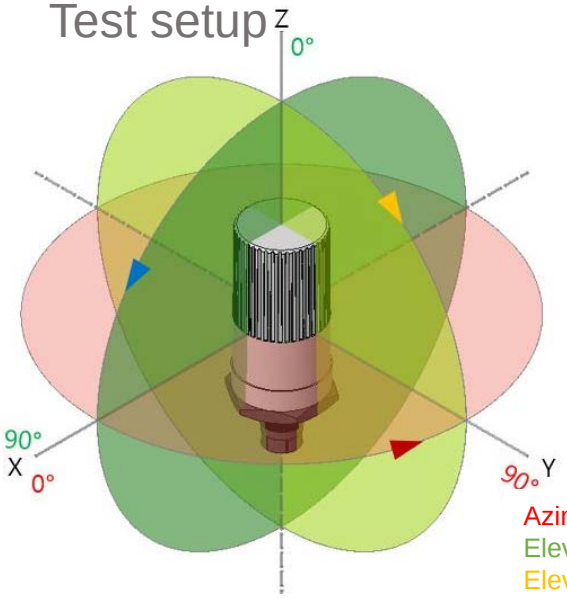


Elevation 2



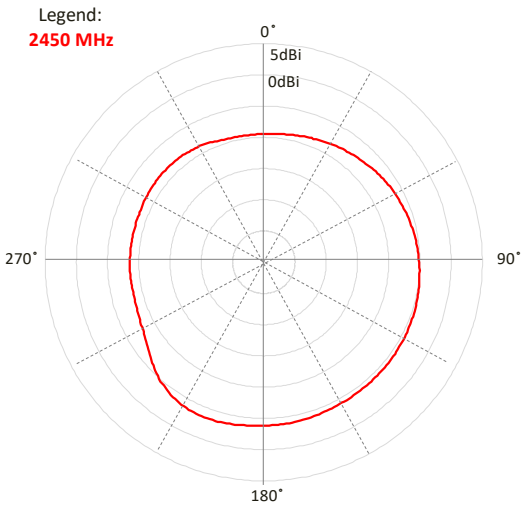
RADIATION PATTERN – Humidity Sensor condition

Test setup

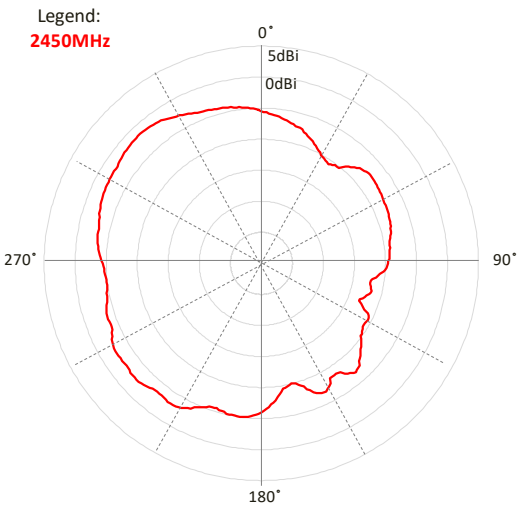


Azimuth Plane
Elevation 1 Plane
Elevation 2 Plane

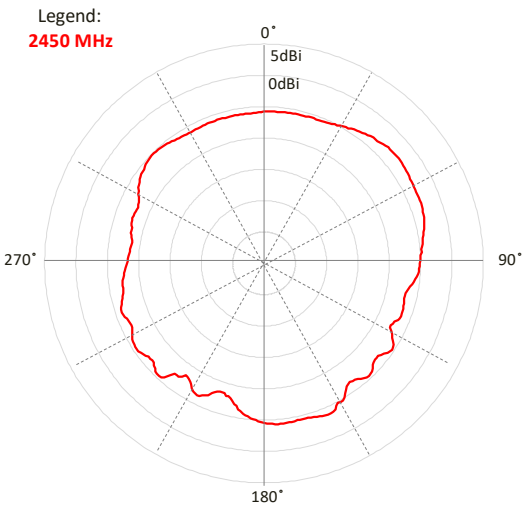
Azimuth



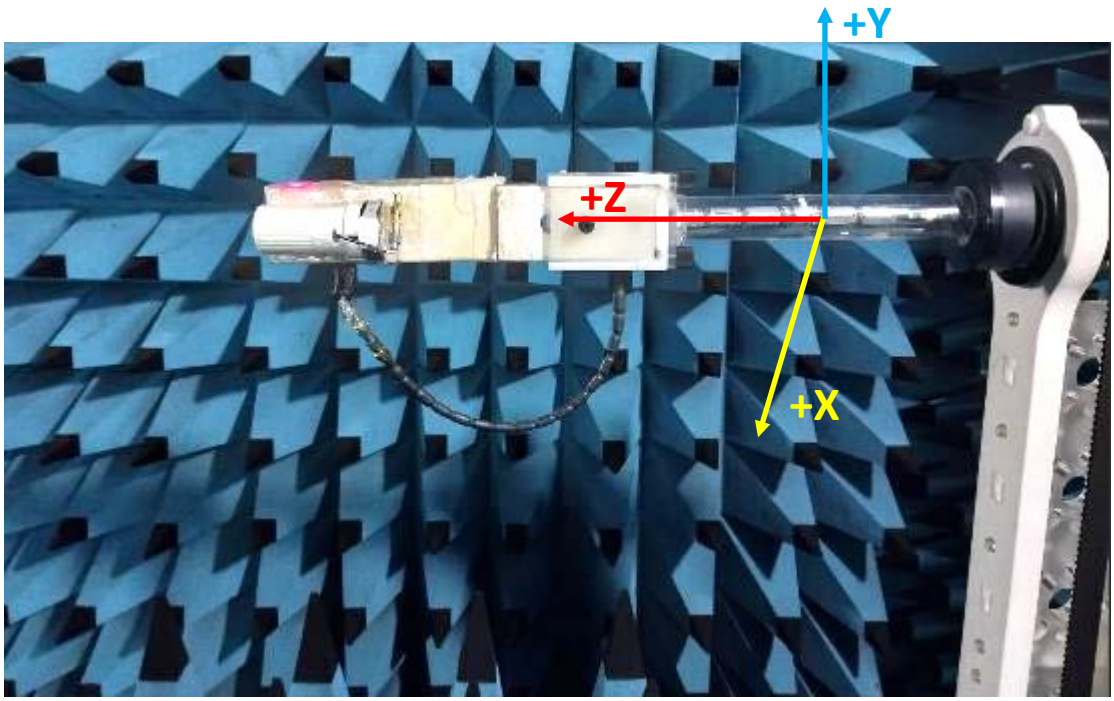
Elevation 1



Elevation 2

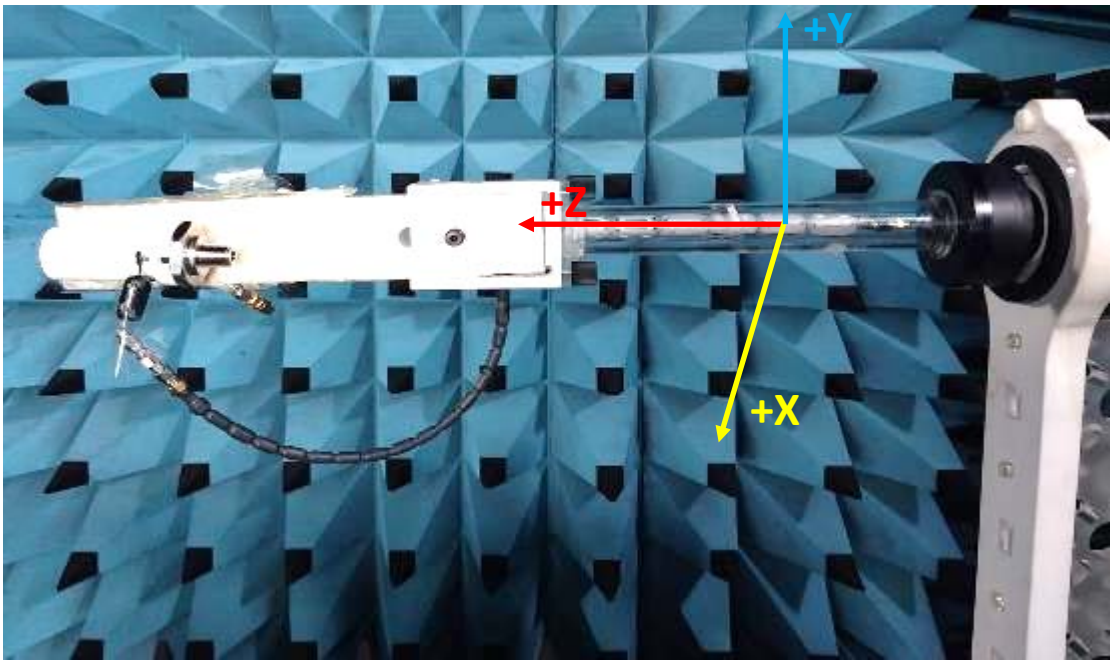


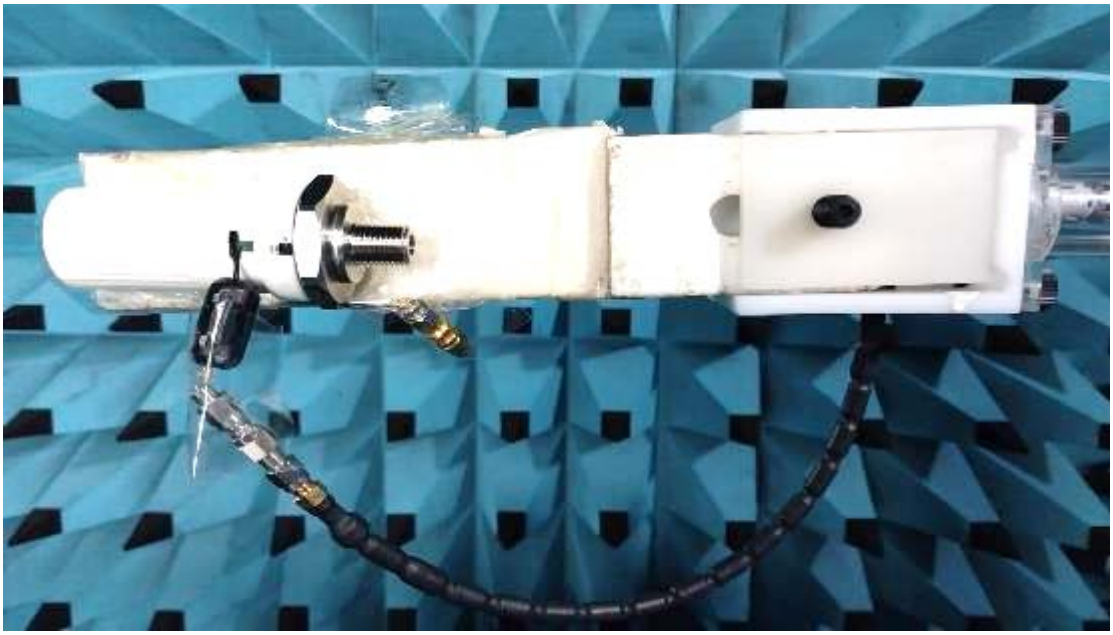
Test condition of Vibration Sensor – Free space / Orientation



- Antenna measurement cables : Ferrite ring / 50 Ω Termination
- Chamber Measurement cable : With Ferrite rings

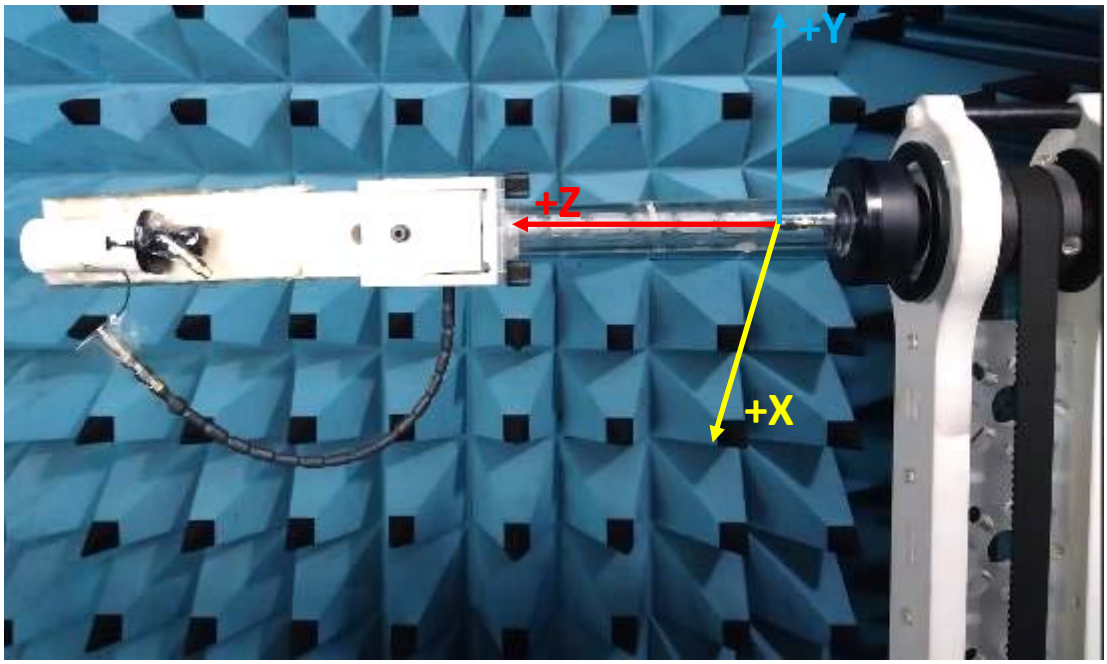
Test condition of Pressure Sensor – Free space / Orientation

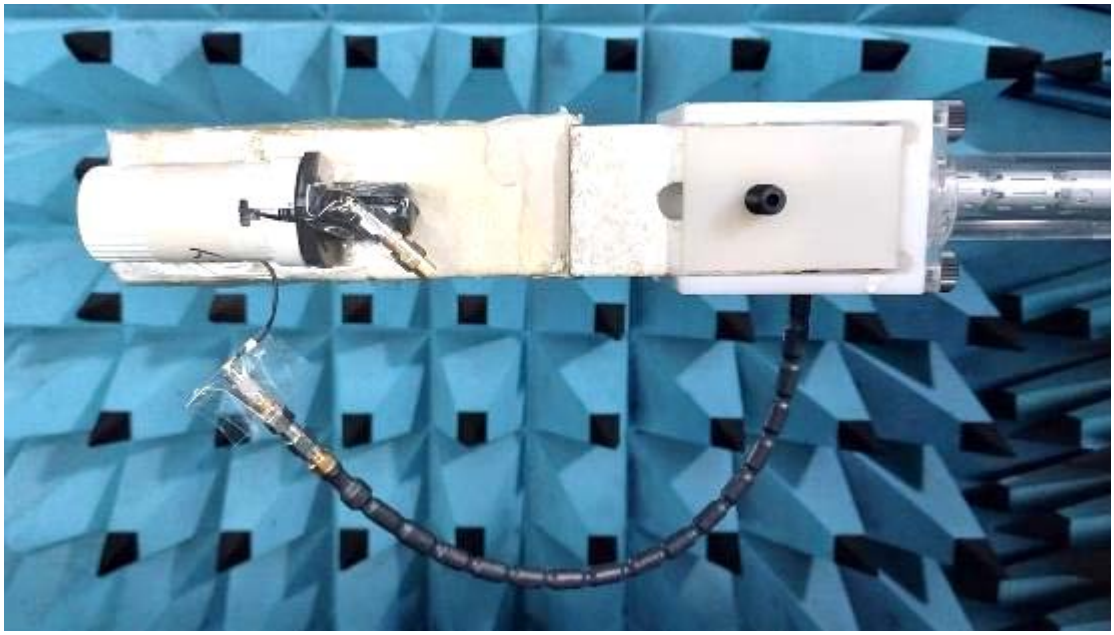




- Antenna measurement cables : Ferrite ring / 50 Ω Termination
- Chamber Measurement cable : With Ferrite rings

Test condition of Humidity Sensor – Free space / Orientation





- Antenna measurement cables : Ferrite ring / 50 Ω Termination
- Chamber Measurement cable : With Ferrite rings