

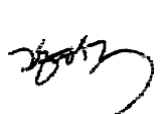


# Specifications of Patch Ant.

## Apulsetech

**ITEM :** Patch Antenna  
**PART NAME :** a103  
**MODEL NAME**  
**FEATURES :** 900 MHz ISM Band  
 Provide highly stabilized performance  
 Rectangular microstrip patch antenna  
  
**QUANTITY :** pcs

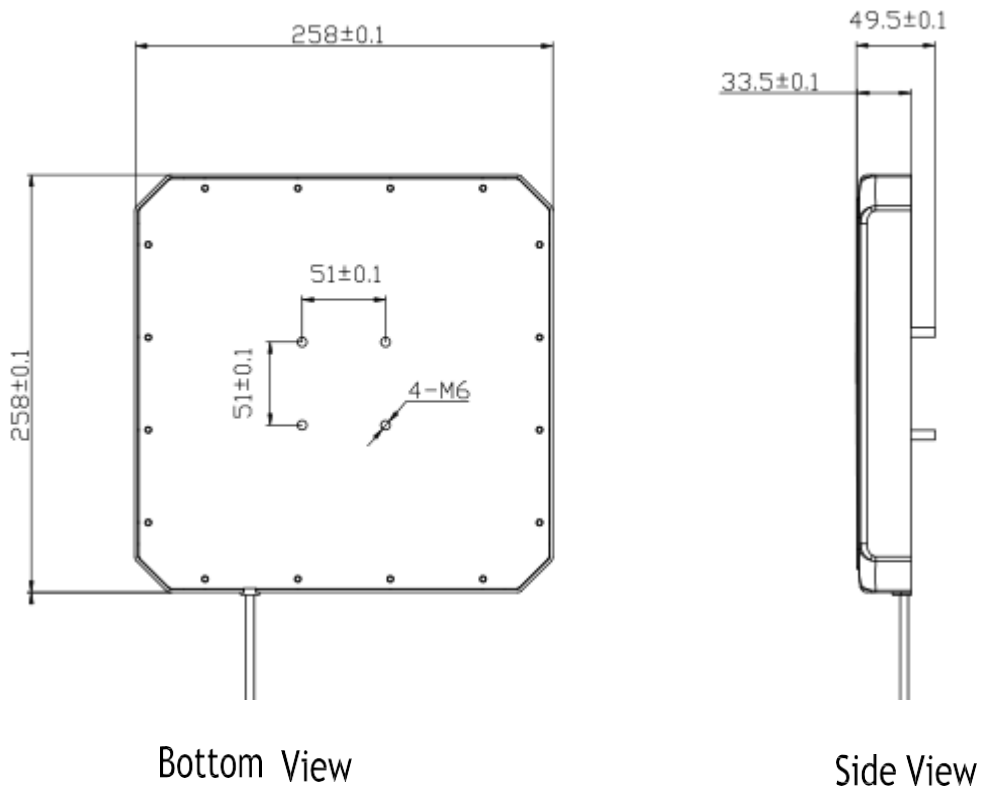
SUPPLIER : MAC technologies Inc.		
DRAWN	CHECKED	APPROVED
		

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Date	March 06, 2020

## 1. Electrical Specifications.

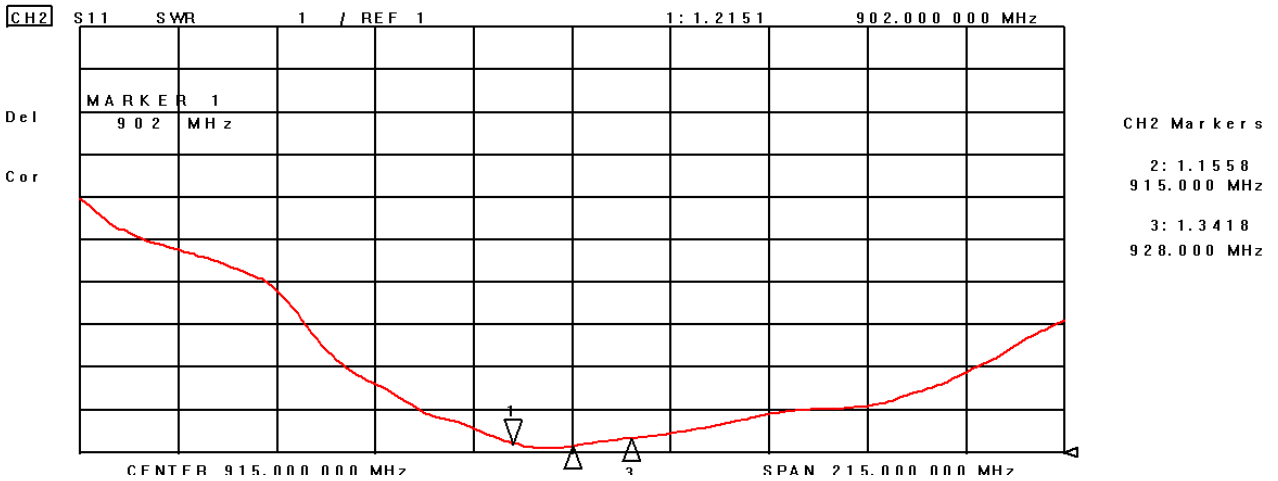
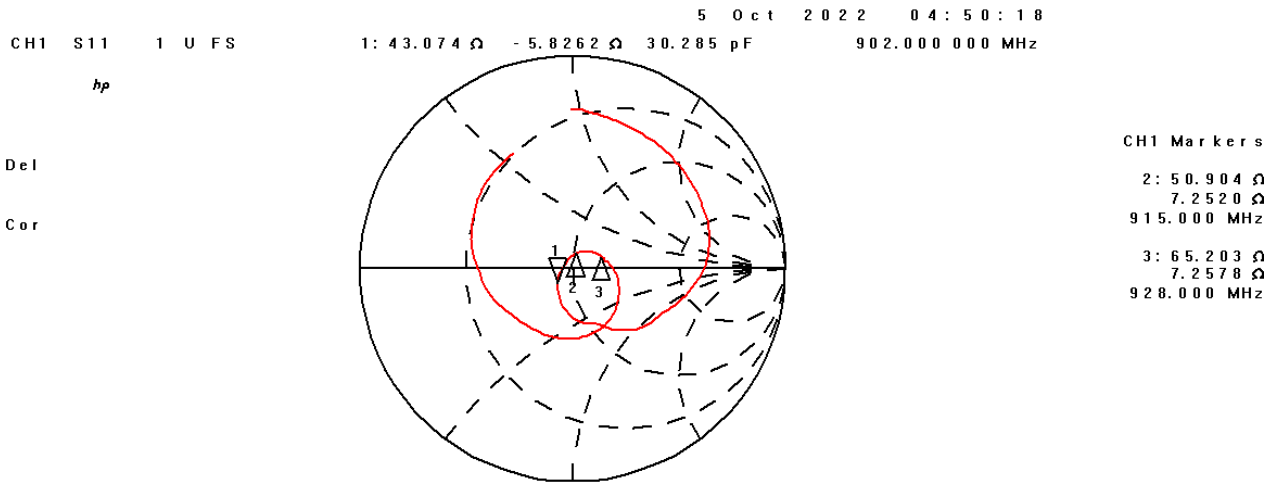
NO.	Parameter	Spec.	Unit	Remark
1	Center Frequency	915.0	MHz	
2	Band Width	26	MHz	
3	VSWR	1.5 : 1 max.	Ratio	
4	Impedance	50	Ohms	
5	Peak Gain	5.3	dBiL	
6	Polarization	RHCP		
7	Beam Width	Hor 60 Ver 60	Deg.	

## 2. Mechanical Dimensions. (unit : mm)



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### 3. S11 Measurement Data.

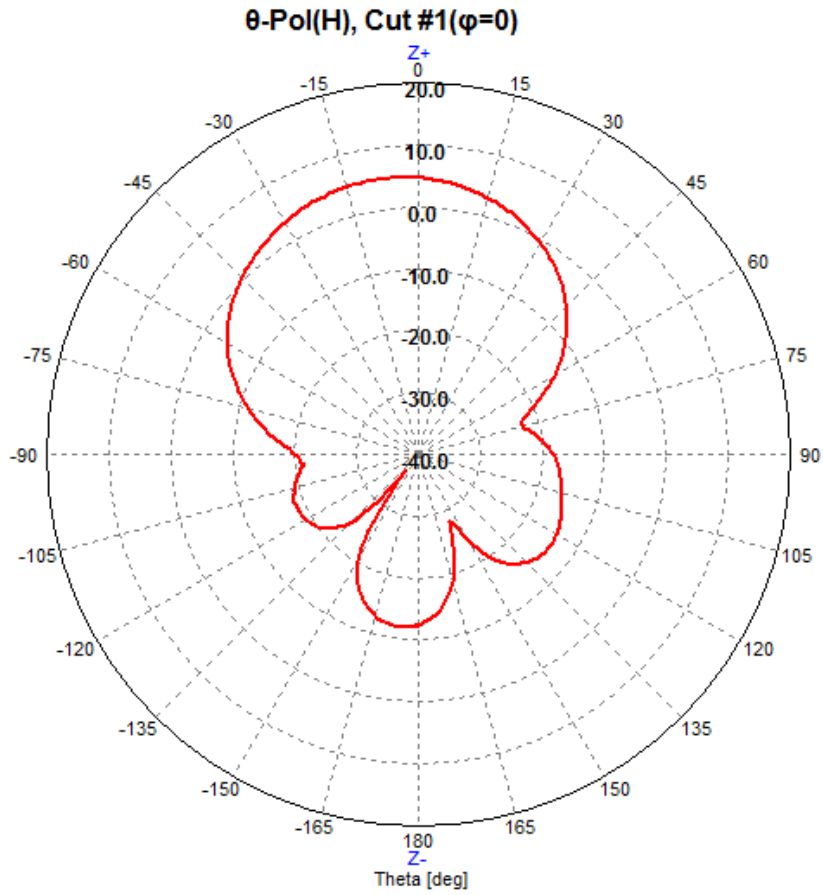


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#### 4. Radiation Pattern

		$\theta$ -Pol(H)					$\phi$ -Pol(V)				
No	Freq.[GHz]	Avg.[dBi]	Peak[dBi]	$\theta$ [deg]	Null[dBi]	$\theta$ [deg]	Avg.[dBi]	Peak[dBi]	$\theta$ [deg]	Null[dBi]	$\theta$ [deg]
1	0.864	-3.13	4.18	-7.00	-47.21	-143.00	-1.22	5.27	-3.00	-17.48	-150.00
2	0.865	-3.09	4.24	-6.00	-46.40	-143.00	-1.24	5.24	-4.00	-17.36	-150.00
3	0.866	-3.05	4.29	-6.00	-43.76	-142.00	-1.25	5.24	-3.00	-17.18	-149.00
4	0.867	-3.01	4.33	-6.00	-45.27	-142.00	-1.27	5.22	-2.00	-17.10	-148.00
5	0.902	-2.92	4.62	-9.00	-37.15	-140.00	-1.33	5.13	-3.00	-18.19	120.00
6	0.904	-2.88	4.68	-10.00	-37.50	-141.00	-1.29	5.18	-3.00	-18.31	119.00
7	0.906	-2.84	4.73	-8.00	-36.46	-141.00	-1.26	5.21	-4.00	-18.35	117.00
8	0.908	-2.77	4.79	-10.00	-37.30	-141.00	-1.21	5.27	-2.00	-18.52	121.00
		$\theta$ -Pol(H)					$\phi$ -Pol(V)				
No	Freq.[GHz]	Avg.[dBi]	Peak[dBi]	$\theta$ [deg]	Null[dBi]	$\theta$ [deg]	Avg.[dBi]	Peak[dBi]	$\theta$ [deg]	Null[dBi]	$\theta$ [deg]
10	0.912	-2.72	4.86	-9.00	-36.16	-143.00	-1.18	5.27	-4.00	-18.76	121.00
11	0.914	-2.69	4.89	-8.00	-35.59	-143.00	-1.19	5.25	-2.00	-18.82	120.00
12	0.916	-2.61	4.98	-9.00	-35.08	-144.00	-1.15	5.28	-3.00	-18.77	122.00
13	0.918	-2.49	5.11	-8.00	-34.06	-144.00	-1.08	5.34	-3.00	-19.09	-145.00
14	0.920	-2.42	5.19	-8.00	-33.79	156.00	-1.09	5.32	-3.00	-19.36	-145.00
15	0.922	-2.45	5.15	-8.00	-34.65	156.00	-1.22	5.17	-3.00	-19.77	-147.00
16	0.924	-2.58	5.03	-8.00	-36.04	157.00	-1.46	4.91	-5.00	-20.31	-146.00
17	0.926	-2.70	4.90	-8.00	-36.83	157.00	-1.72	4.64	-3.00	-20.70	-146.00
18	0.928	-2.79	4.81	-6.00	-38.70	156.00	-1.95	4.40	-1.00	-21.05	-148.00

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#### 4-3. List of utilized test equipment (MAC technologies Inc.)

NO	Kind of Equipment and Precision	Manufacturer	Model No.	Serial Number	Calibration Date	Specification	Note
1	Anechoic Chamber	MTG	Mobile Chamber	-	N/A	4.0 m X 2.5 m X 2.5 m (0.4 - 3 GHz)	
2	Network Analyzer	Agilent	8753ES	US39173213	09/12/24	30 KHz - 6 GHz	
3	Dual-Polarization Horn Antenna with RF Switch	MTG	QRH-004060/ RSW-001060		-	0.4 MHz - 6 GHz	Source
4	Calibration Antenna	Schwarzbeck Mess - Elektronik	BBHA 9120 A	1201	10/04/30	0.7 MHz - 3 GHz	Reference
5	Absorber Installation	EMERSON & CUMING	SABS-003 18"			Reflectivity : -25 dB @ 0.8 GHz -30 dB @ 1.0 GHz	

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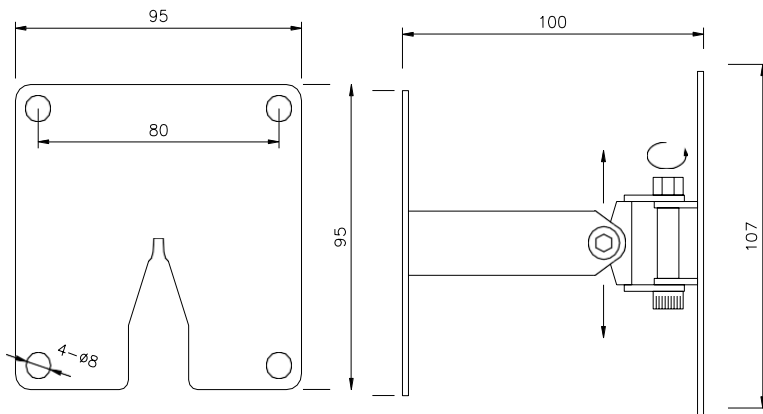
## 5. Option : Antenna Attachment Bracket

### 5-1. A-Type BRACKET

ANTENNA ATTACHMENT PART

SIDE VIEW

WALL MOUNTING PART



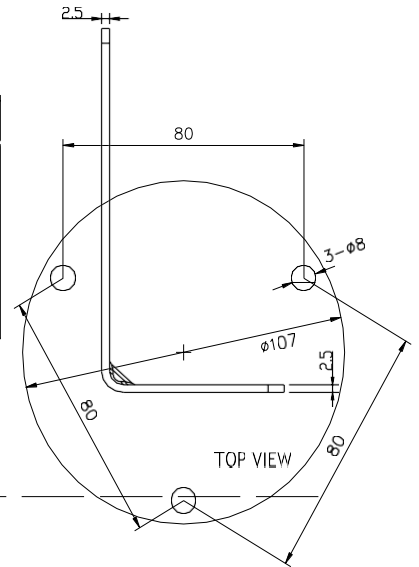
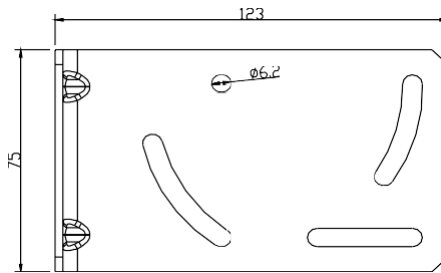
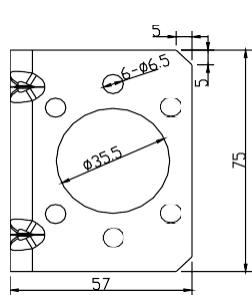
ANTENNA ATTACHMENT BRACKET

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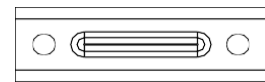
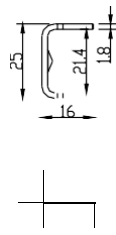
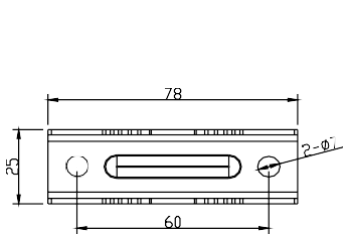
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## 5-2. B-Type BRACKET

### A : L BRACKET



### B : SAW BRACKET ANTENNA ATTACHMENT PART



unit : mm

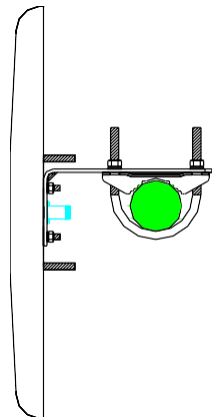
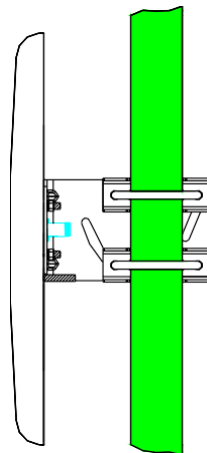
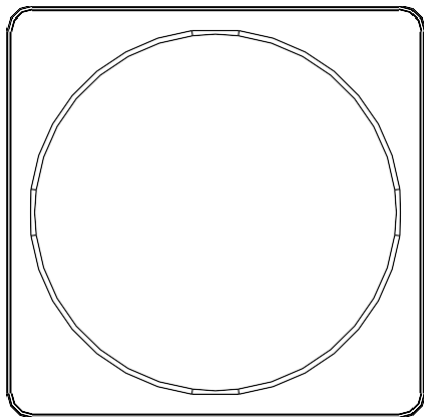
FRONT VIEW

SIDE VIEW

TOP VIEW

BOTTOM VIEW

### C : ANTENNA & BRACKET Ass'y





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FRONT VIEW

SIDE VIEW

TOP VIEW