

ARS-PT7 spec

Content

1. Product Photos and Configuration
2. Specification
3. Reliability Characteristics
4. S Parameter Test
 - 4.1 Test Cable Setup
 - 4.2 S.W.R. Test Data
 - 4.3 Return Loss Test Data
5. Antenna Gain Test
 - 5.1 Chamber Setup and Angle Definition
 - 5.2 Antenna Radiation Pattern
 - 5.3 Gain and Efficiency Test Data
6. Mechanical / Drawing / Dimension / Layout
7. Packaging

2. Specification

- . Product Number : ARS-PT7W
- . Version : 1.0

Electrical Characteristics

- . Frequency (MHz) : 2400-2500 & 5150-7125 MHz
- . S.W.R. : < 2.0
- . Return Loss : < -10 dB
- * S.W.R. & Return Loss test at free space *
- . Peak Gain : 3.0 ~ 4.0 dBi
- . Efficiency : 50 ~ 70 %
- * Peak Gain and Efficiency data depended on installation environments*
- . Radiation Pattern : Omni-Directional
- . Impedance : 50 ohm

Mechanical Characteristics

- . Antenna Material : FR4 / PCB
- . Connector : RPSMA Male
- . Material : RoHS 2011/65/EU
with IEC 62321:2008 Method

Environmental Condition

- . Operation Temperature : -40 ~ +80 °C
- . Storage Temperature : -40 ~ +80 °C

3. Reliability Characteristics

R1. Soldering Ability

Condition: the dipped surface of the terminal should be over 95% covered with solder after dipped in soldering material of $260 \pm 5^{\circ}\text{C}$ for 3 ± 1 seconds.

Requirement: no apparent damage

R2. Soldering Heat

Condition: solder bath temperature : $260 \pm 5^{\circ}\text{C}$
.bathing time : 10 ± 1 seconds

Requirement: no apparent damage

R3. Thermal Shock

Condition: 30 minutes @ $-40 \pm 5^{\circ}\text{C}$ and 5 minutes to 90°C ;
30 minutes @ $90 \pm 5^{\circ}\text{C}$ and 5 minutes to -40°C ;
96 continuous cycles

Requirement: no apparent damage / electrical test pass

R4. Humidity

Condition: R.H. 85% ; $85 \pm 5^{\circ}\text{C}$; 96 Hours

Requirement: no apparent damage / electrical test pass

R5. High Temperature

Condition: $90 \pm 5^{\circ}\text{C}$; 96 Hours

Requirement: no apparent damage / electrical test pass

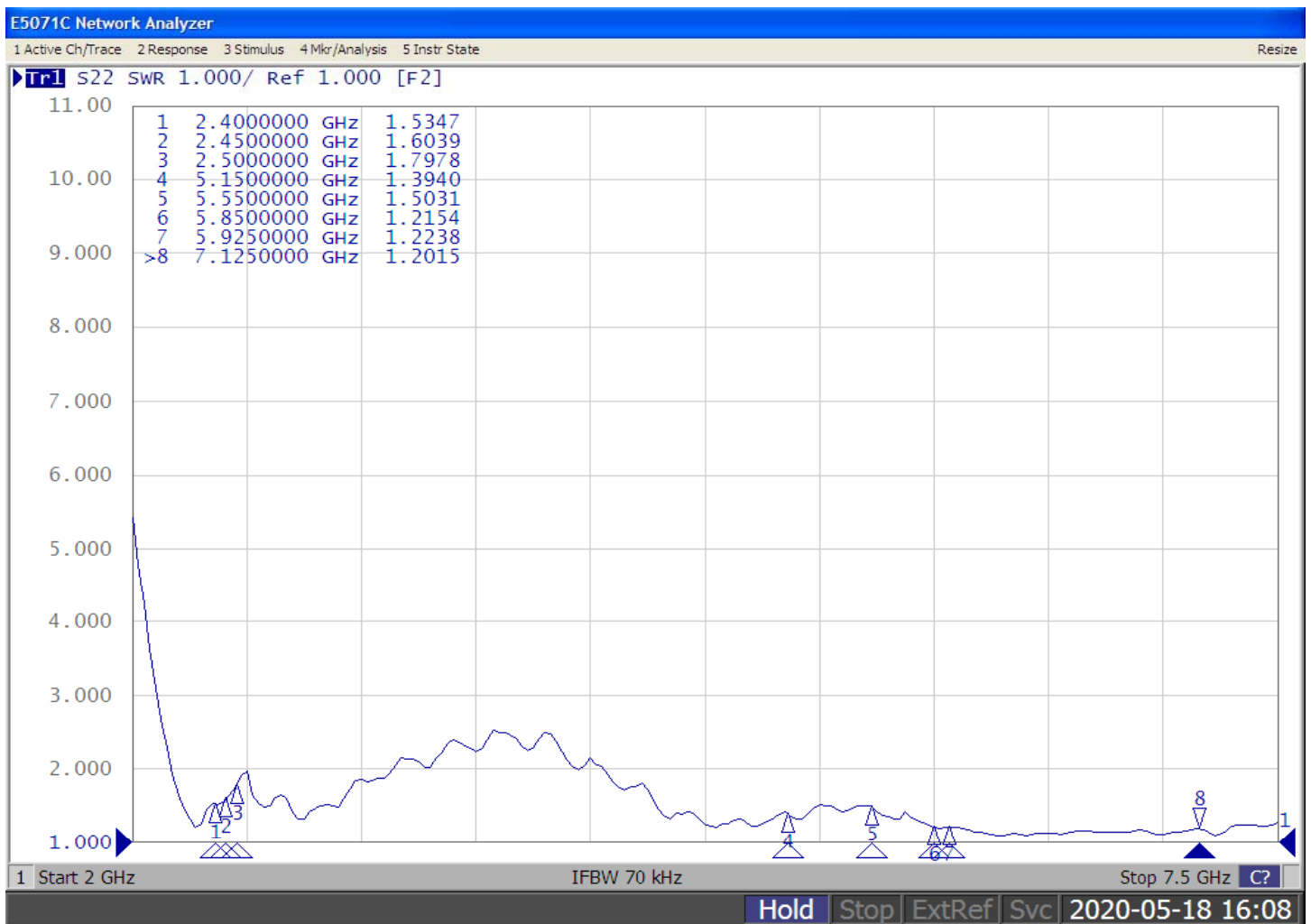
R6. Low Temperature

Condition: $-40 \pm 5^{\circ}\text{C}$; 96 Hours

Requirement: no apparent damage / electrical test pass

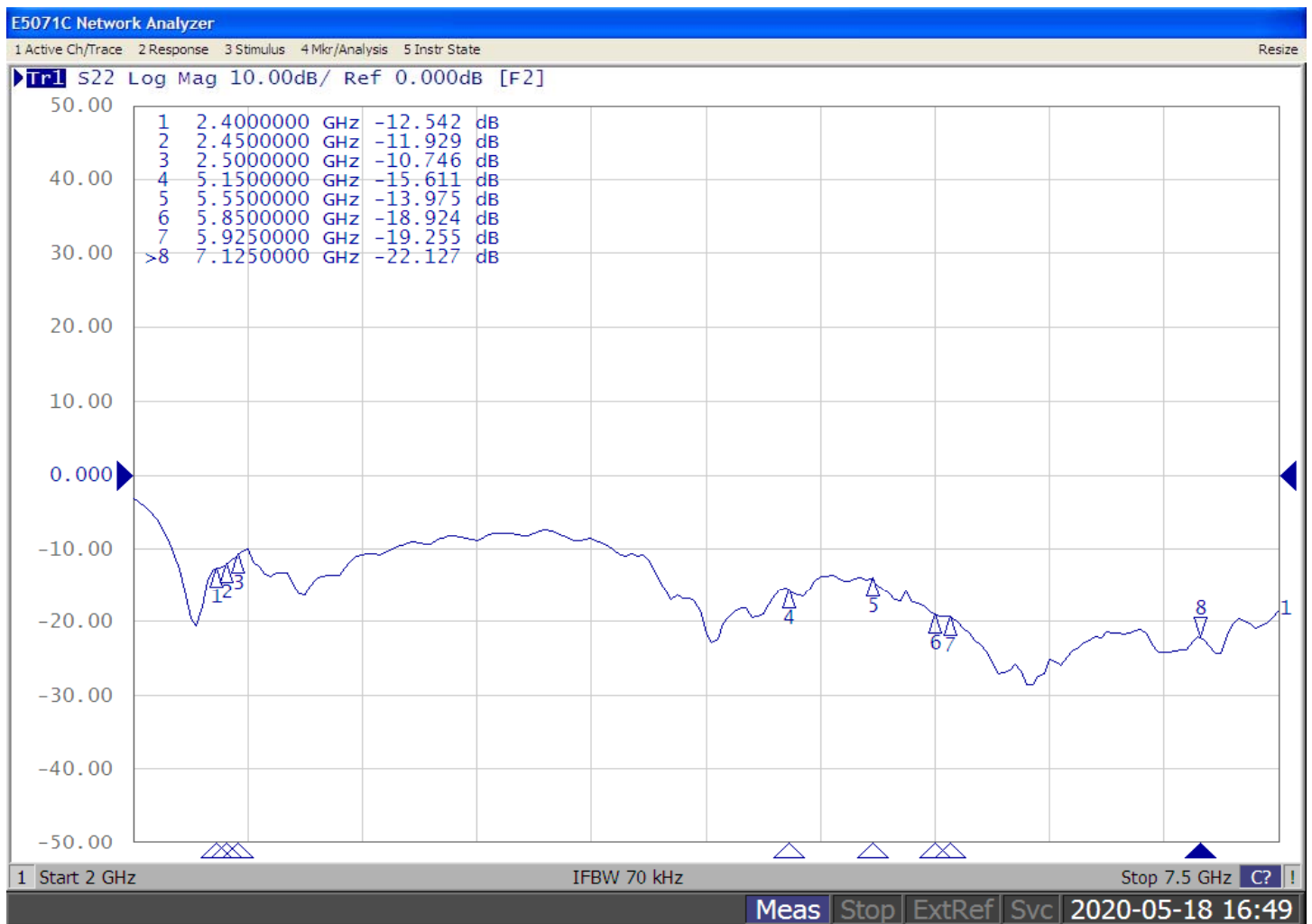
4.2 S Parameter Test

S.W.R. Test Data



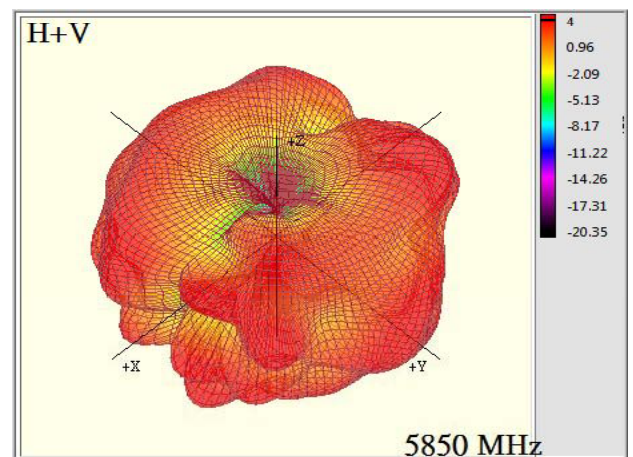
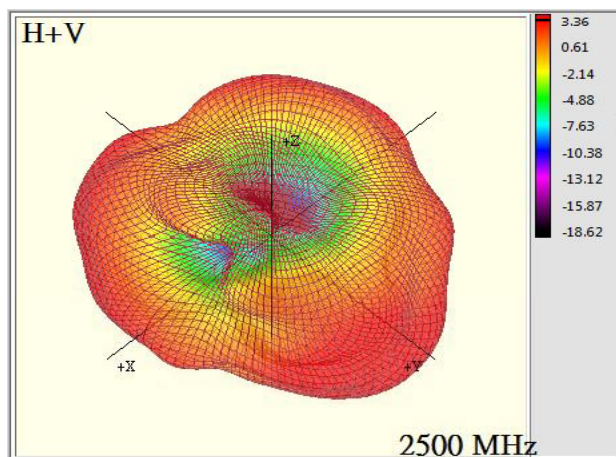
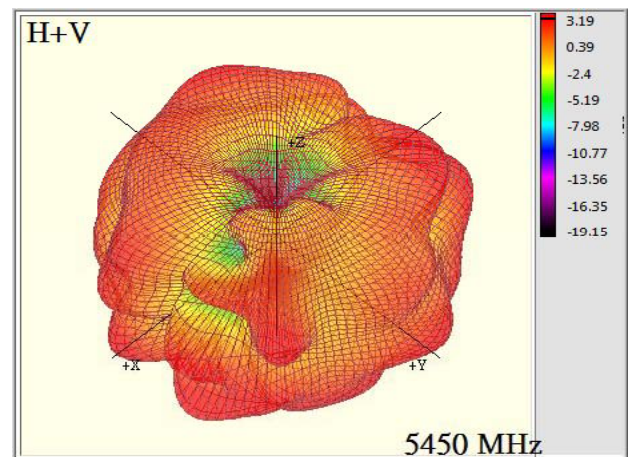
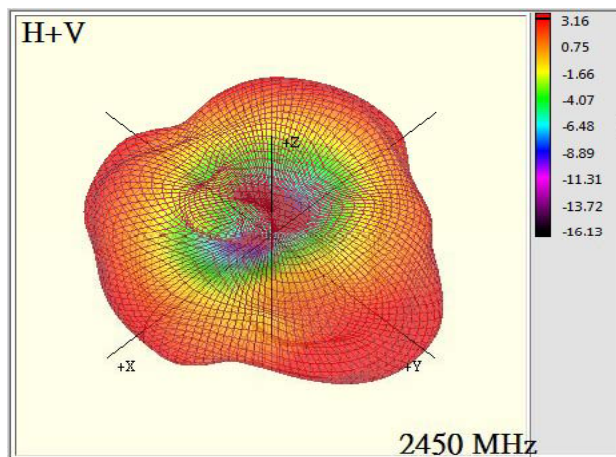
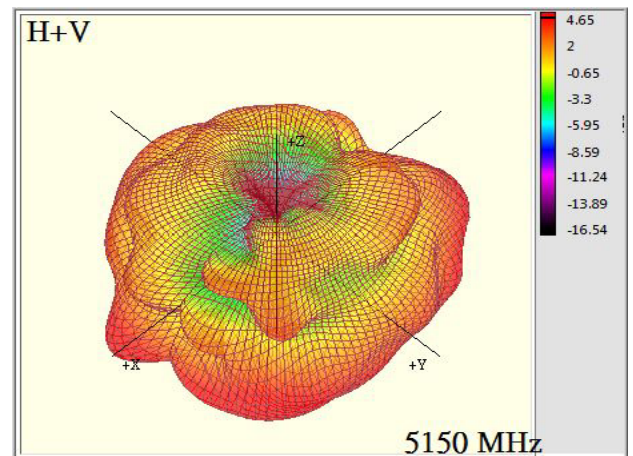
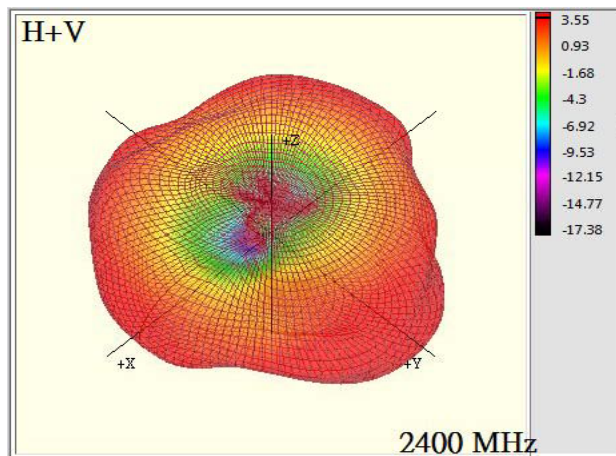
4.3 S Parameter Test

Return Loss Test Data



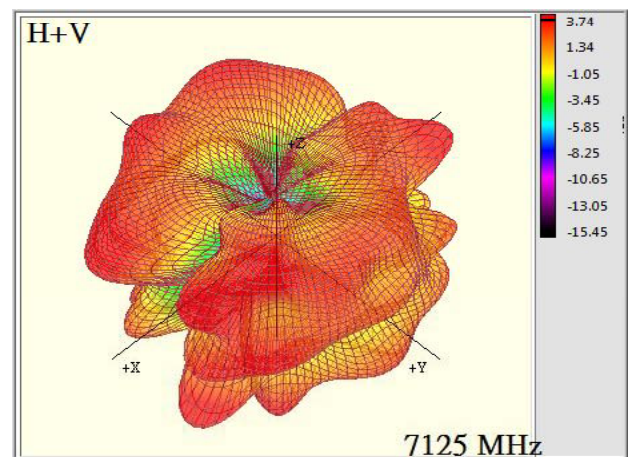
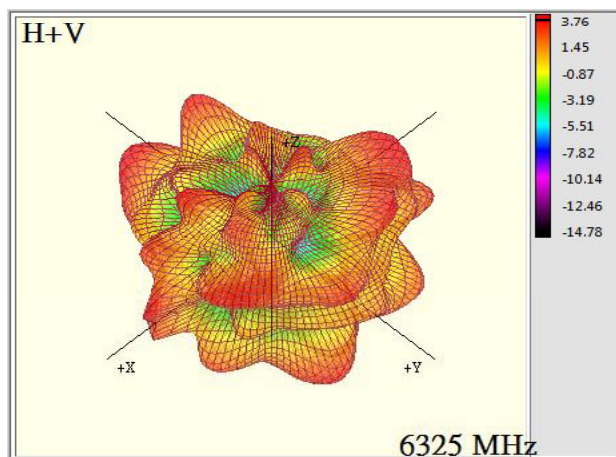
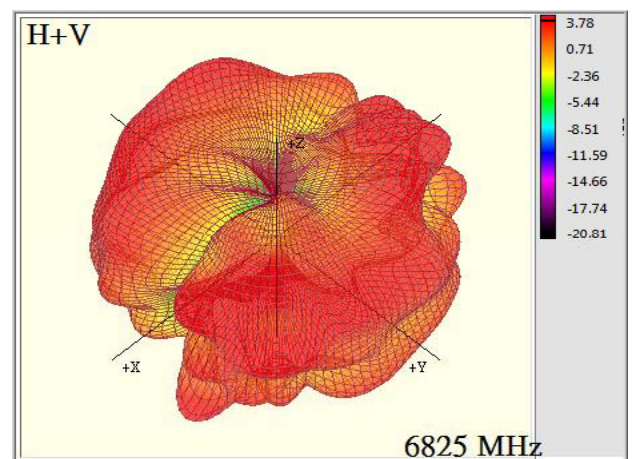
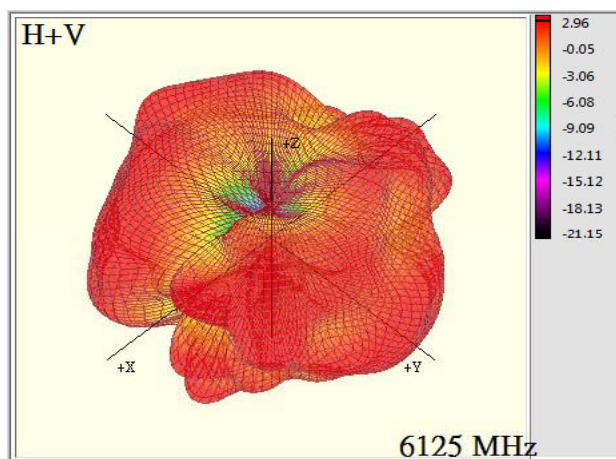
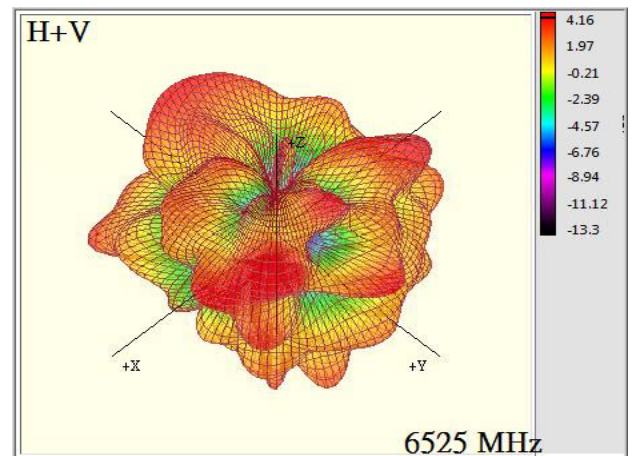
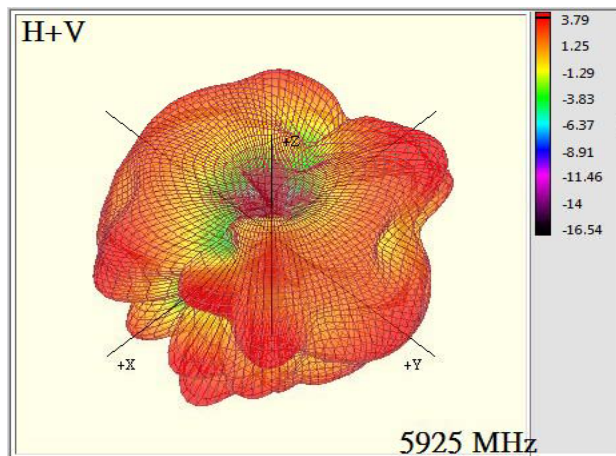
5. Antenna Gain Test

5.2 Antenna Radiation Pattern



5. Antenna Gain Test

5.2 Antenna Radiation Pattern



5. Antenna Gain Test

5.3 Gain and Efficiency Test Data

Total Polarization

Frequency (MHz)	2400	2450	2500	5150	5450	5850
Tot. Rad. Pwr. (dBi)	-0.961	-1.583	-1.722	-1.163	-1.593	-1.168
Peak EIRP (dBi)	3.55	3.16	3.36	4.65	3.19	4.00
Directivity (dBi)	4.42	4.601	4.809	5.36	4.115	5.17
Efficiency (dB)	-0.961	-1.583	-1.722	-1.163	-1.593	-1.168
Efficiency (%)	80.148	69.455	67.273	76.498	69.294	76.426
Gain (dBi)	3.459	3.018	3.088	4.197	2.522	4.002

Frequency (MHz)	5925	6125	6325	6525	6825	7125
Tot. Rad. Pwr. (dBi)	-1.636	-2.335	-2.804	-2.47	-2.103	-1.979
Peak EIRP (dBi)	3.79	2.96	3.76	4.16	3.78	3.74
Directivity (dBi)	5.388	5.202	6.52	6.59	5.06	4.919
Efficiency (dB)	-1.636	-2.335	-2.804	-2.47	-2.103	-1.979
Efficiency (%)	68.608	58.41	52.433	56.624	61.613	63.405
Gain (dBi)	3.751	2.867	3.716	4.12	2.957	2.94

5		4		3		2		1						
Electrical Characteristics . Frequency (MHz) : 2400-2500 & 5150-7125 MHz . S.W.R. : < 2.0 . Return Loss : < -10 dB * S.W.R. & Return Loss test at free space * . Peak Gain : 3.0 ~ 4.0 dBi . Efficiency : 50 ~ 70 % * Peak Gain and Efficiency data depended on installation environments* . Radiation Pattern : Omni-Directional . Impedance : 50 ohm Mechanical Characteristics . Antenna Material : FR4 / PCB . Connector : SMA Male Reverse . Material : RoHS 2011/65/EU with IEC 62321:2008 Method Environmental Condition . Operation Temperature : -40 ~ +80 °C . Storage Temperature : -40 ~ +80 °C					REV		DATE		DESCRIPTION					
					X1		2020.02.17		NEW Release					
19.0 115.0 18.5±0.5 45° 90° 10.0 公頭母針 SMA Male Reverse					UNLESS OTHERWISE SPECIFIED Tolerance ON: X.X ±0.5 X° ±1.0 X.XX ±0.2 APP BY CHK BY DES BY PART NO.: Sheet 1 of 1 UNITS mm SCALE - REV X1									
5		4		3		2		1						