



**SUNNYWAY**

# **SWP006**

**PN: SW19009IB66**



**Sunnyway Technology**

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## 1. Electrical Specifications

Standards	4G&3G&2G	
Frequency range (MHz )	698~960MHz	1710~2690MHz
Peak Gain (dBi )	-3.0~1.5	0.4~4.1
Average Gain (dB )	-6.0~-1.1	-2.8~-1.1
VSWR	<3.7	<2.1
Return Loss	<-4.7	<-9.0
Efficiency (%)	25~77	53~77
Polarization mode	Linear	Linear
Radiation pattern	Omni-Directional	Omni-Directional
Output impedance ( $\Omega$ )	50	50
Max. Input Power(W)	5	5

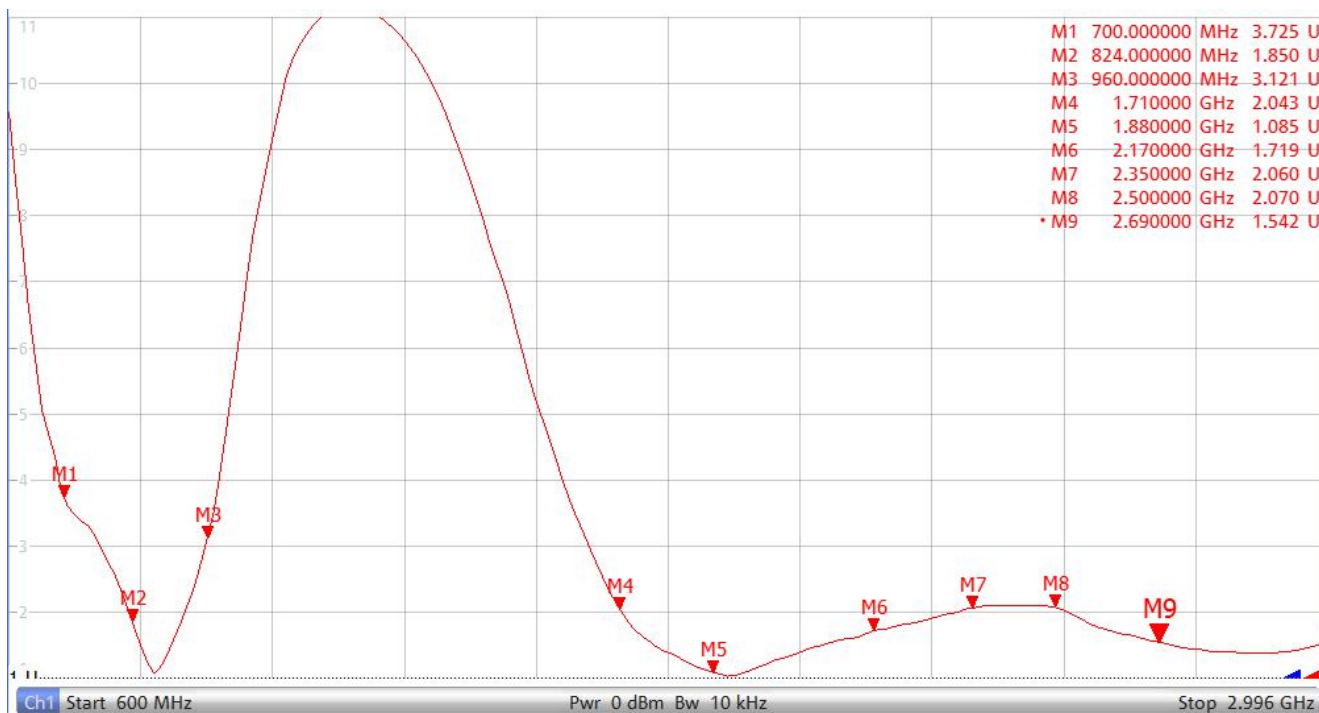
## 2. Mechanical and Environmental Specification

Mounting Type	SMT
Antenna size(mm)	30.0 (L) x 3.0 (W) x 1.0 (H)
Material	Rigid Fiberglass
Operating Temperature (°C)	- 40 °C ~ + 85 °C
Storage Temperature(°C)	- 40 °C ~ + 85 °C

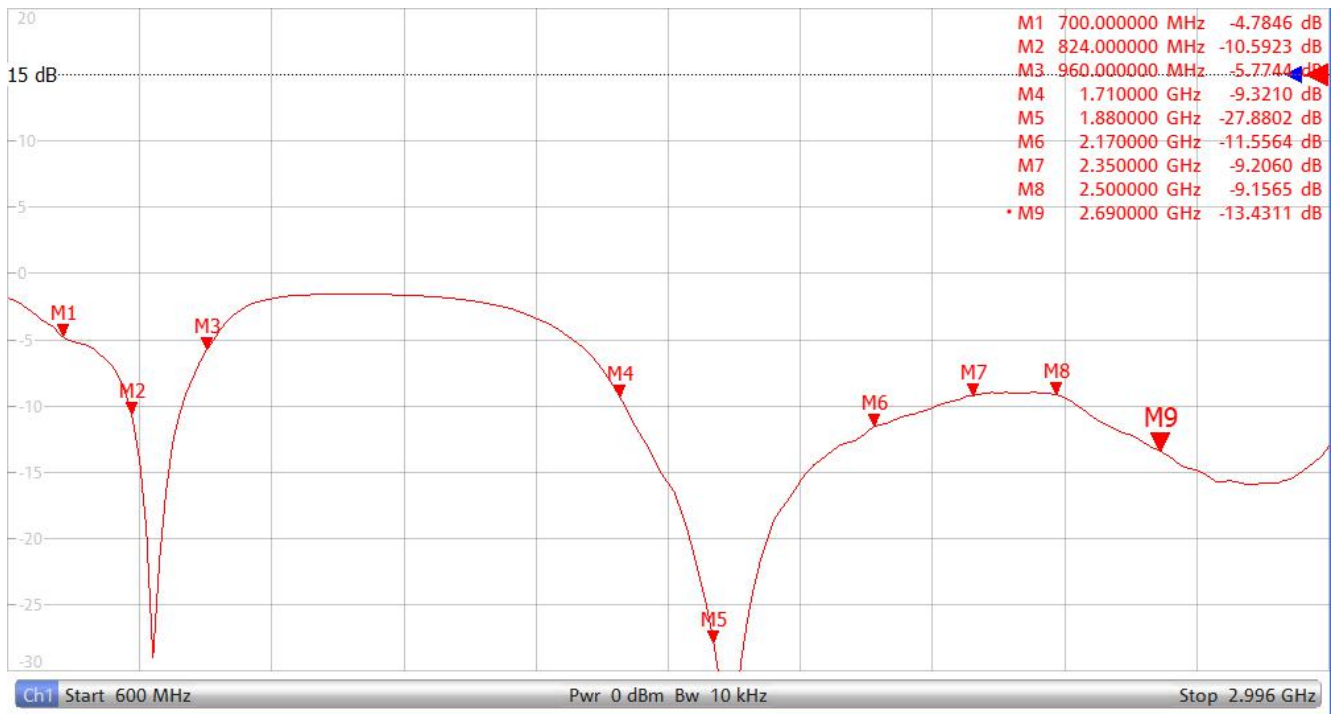


### 3. Antenna parameters

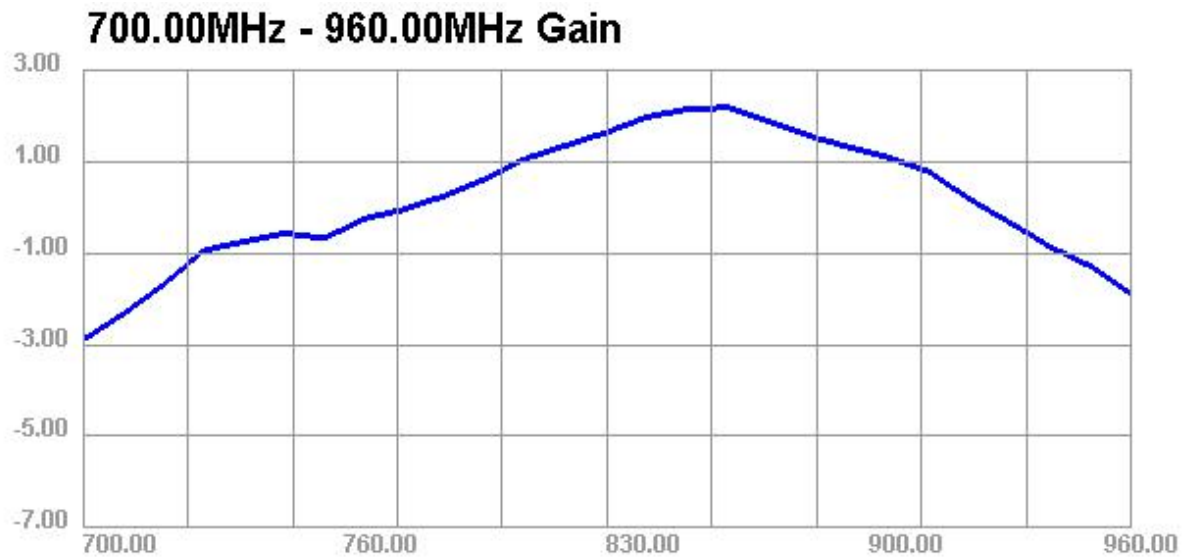
FRE (MHz)	700	824	960	1710	1880	2170	2350	2500	2690
<b>VSWR</b>	3.7	1.8	3.1	2.0	1.0	1.7	2.0	2.0	1.5
<b>Return Loss</b>	-4.7	-10.5	-5.7	-9.3	-27.8	-11.5	-9.2	-9.1	-13.4
<b>Eff (%)</b>	25.1	68.1	27.8	53.7	76.9	52.8	54.9	64.1	75.3
<b>Average Gain(dB)</b>	-5.9	-1.6	-5.5	-2.6	-1.1	-2.7	-2.6	-1.9	-1.2



VSWR

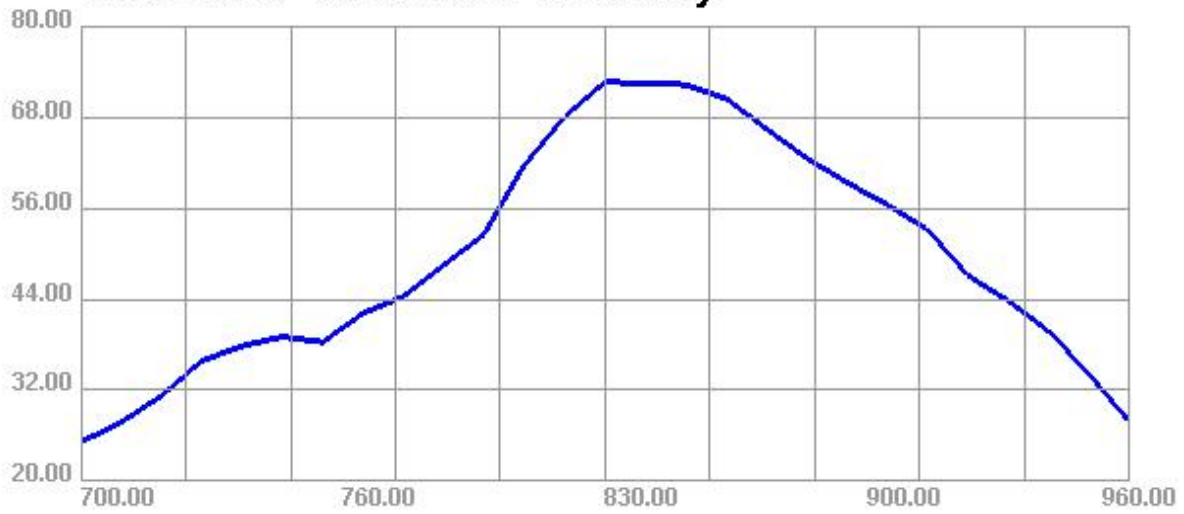


## Return Loss





### 700.00MHz - 960.00MHz Efficiency



### 1710.00MHz - 2690.00MHz Gain



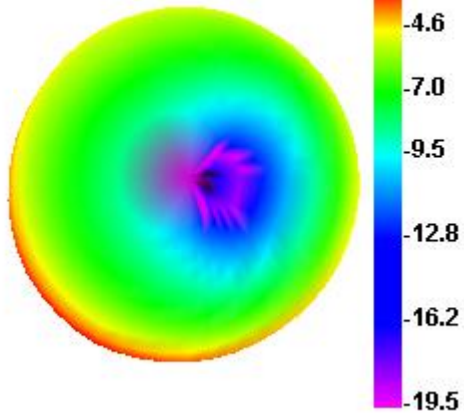


### 1710.00MHz - 2690.00MHz Efficiency

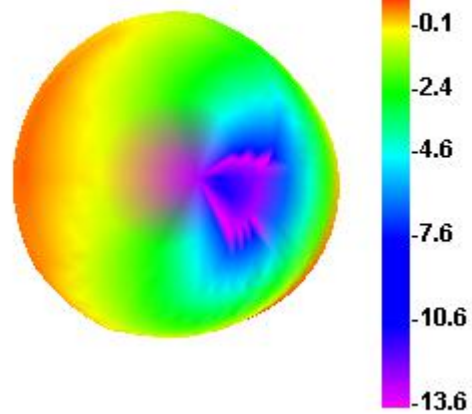


## Directional pattern

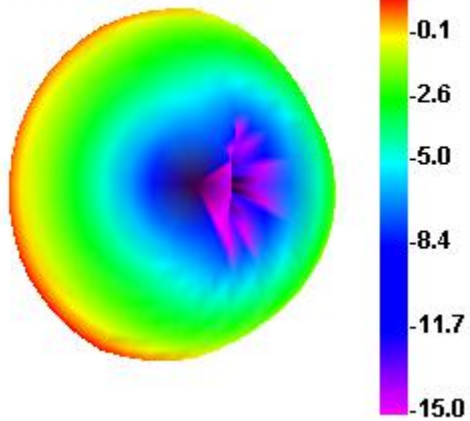
**700.000MHz**



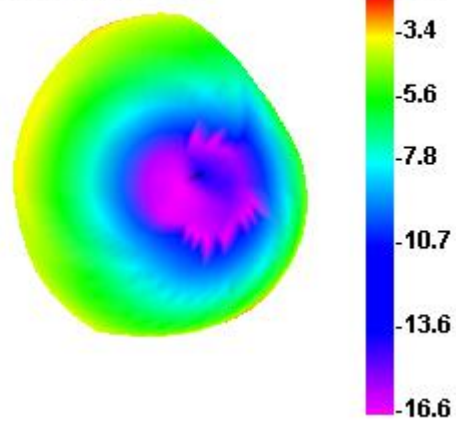
**820.000MHz**



**880.000MHz**

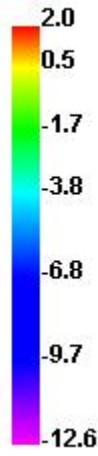
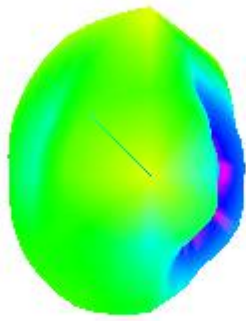


**960.000MHz**

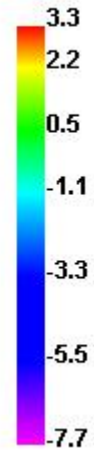
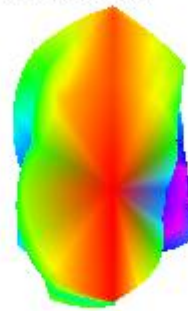




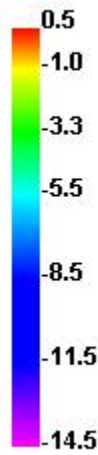
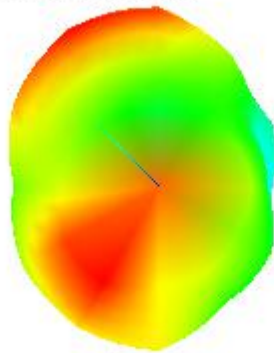
**1710.000MHz**



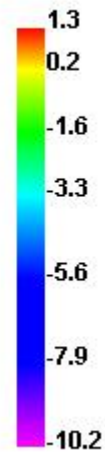
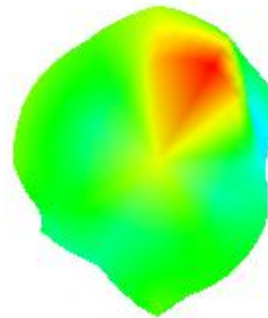
**1880.000MHz**



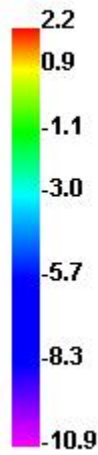
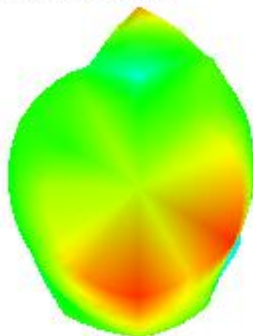
**2170.000MHz**



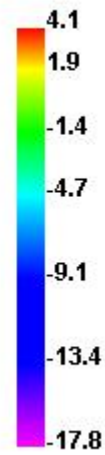
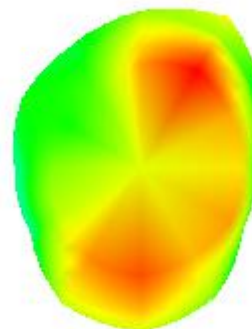
**2350.000MHz**



**2500.000MHz**



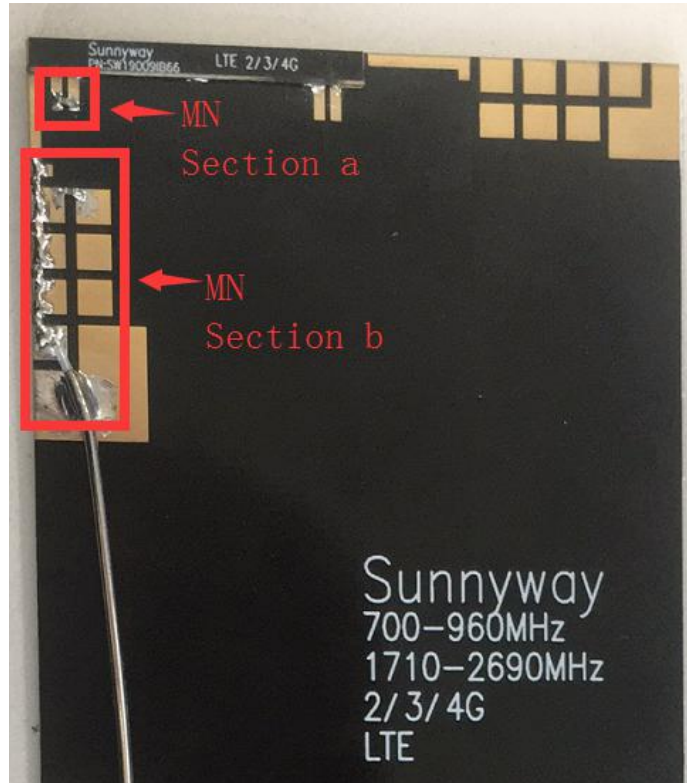
**2690.000MHz**







## 4. Matching circuit

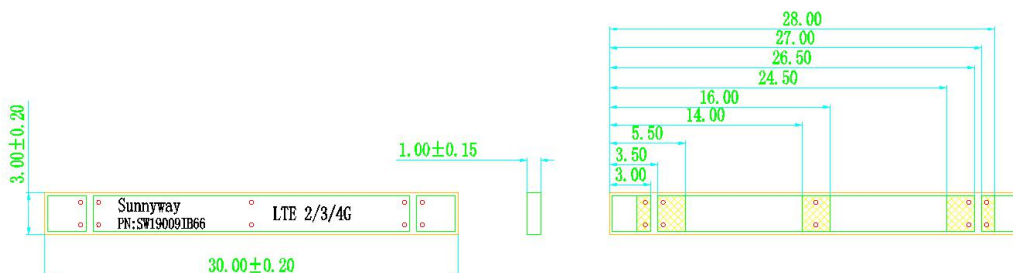
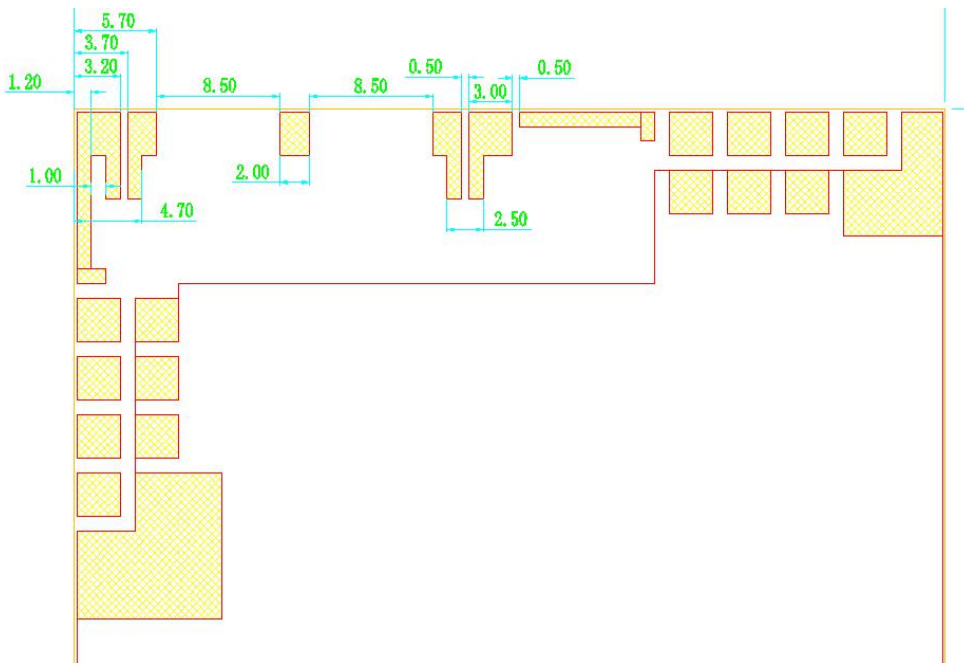
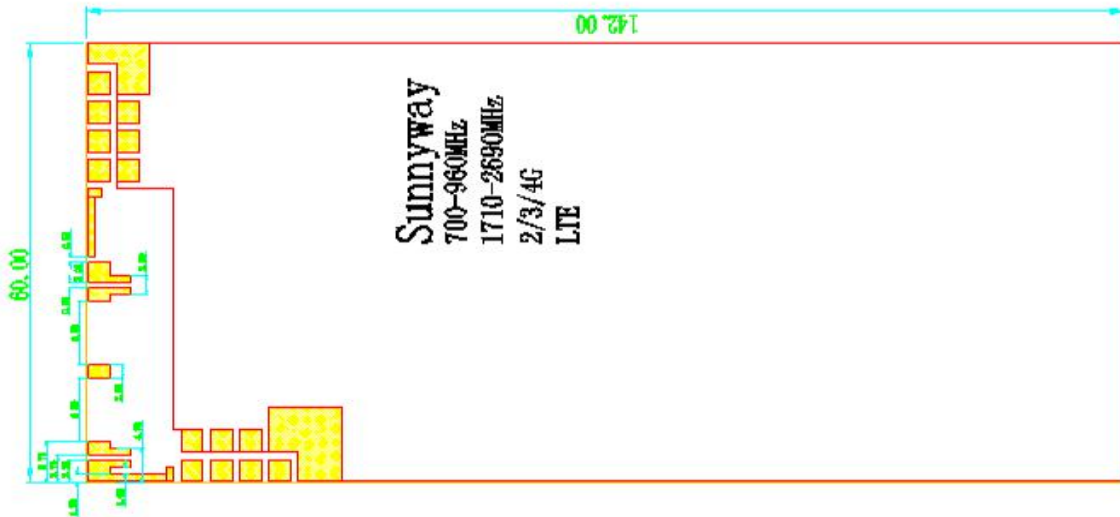


698 MHz – 960 MHz and 1710 MHz – 2690 MHz				
Section b		Element	Value	Part Number
		E1	22nH	
		E2	0Ω	
		E3	N/A	
		E4	0Ω	
		E5	N/A	
Section a		Element	Value	Part Number
		E1	15nH	



# 5. Antenna Drawings

All dimensions are in mm





## 6. Soldering Temperature

PHASE	PROFILE FEATURES	PB-Free Assembly(max.)
RAMP-UP	Avg.Ramp-up Rate(Tsmax to Tp)	3°C/second(max.)
PREHEAT	Temperature Min(Tsmin)	150°C
	Temperature Max(Tsmax)	180°C
	Time(tsmin to tsmax)	120seconds max
REFLOW	Temperature(TL)	210°C
	Total Time above TL(tl)	50seconds max
PEAK	Temperature(Tp)	260°C
	Time(tp)	10seconds max
RAMP-DOWN	Rate	5°C/second max

## 7. Reflow Profile

