
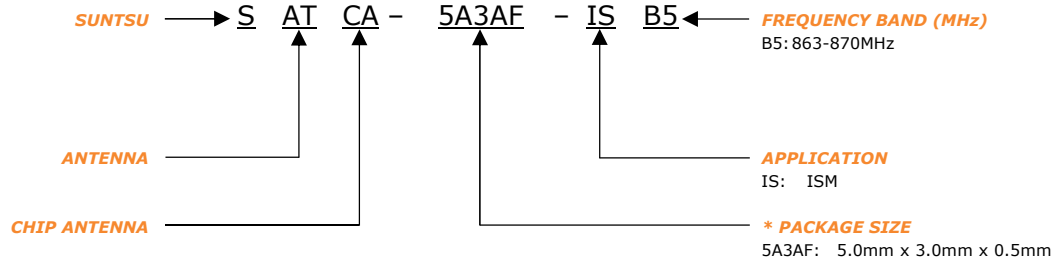


FEATURES	APPLICATIONS	
<ul style="list-style-type: none"> - ISM - Chip Type - Stable And Reliable Performance - 863-870MHz - SMT Process Compatible 	<ul style="list-style-type: none"> - ISM Band system - IOT Applications - Short Range Devices - Wireless Alarm And Security Systems - Smart Meters 	

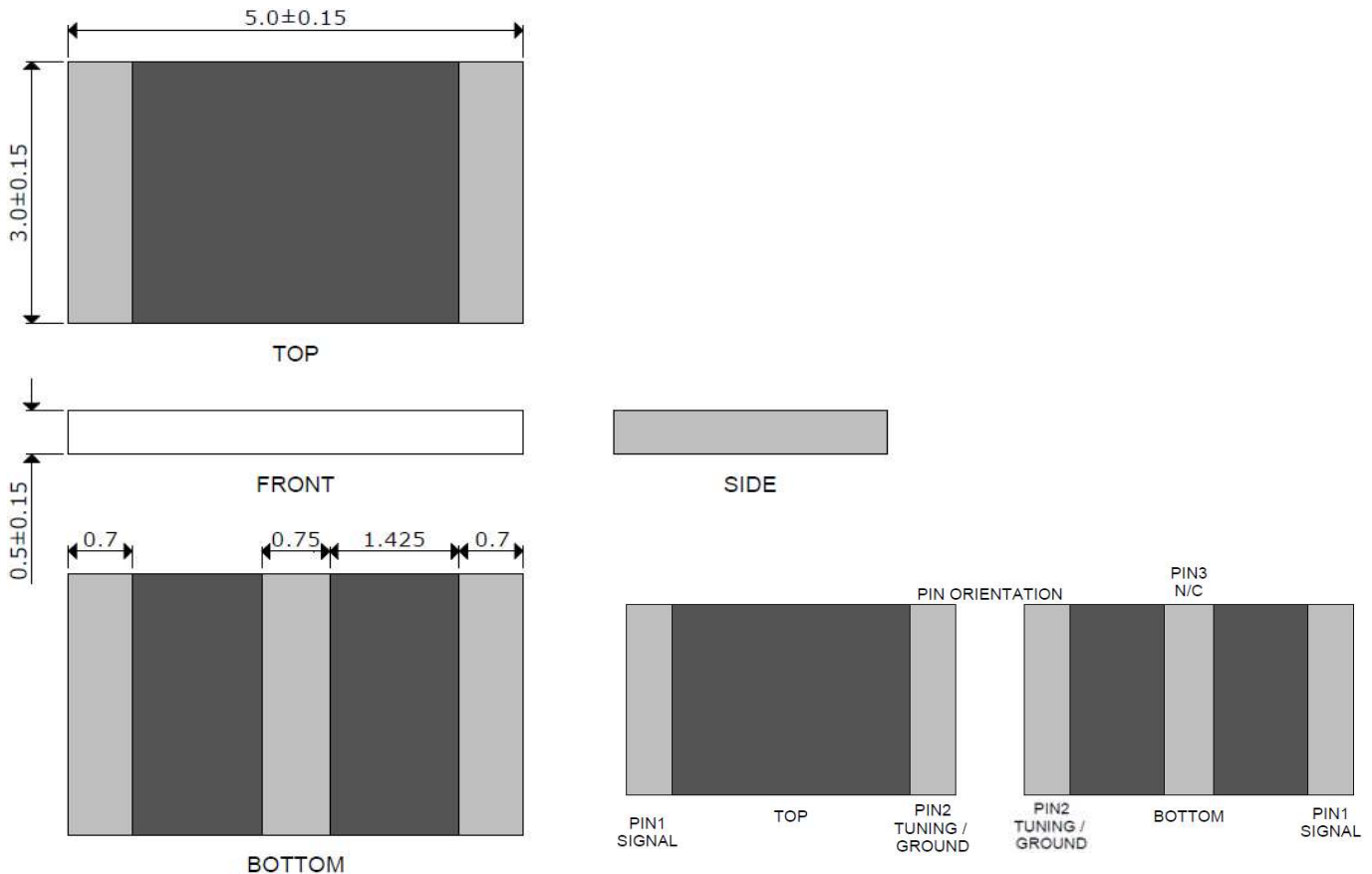
PART NUMBERING GUIDE



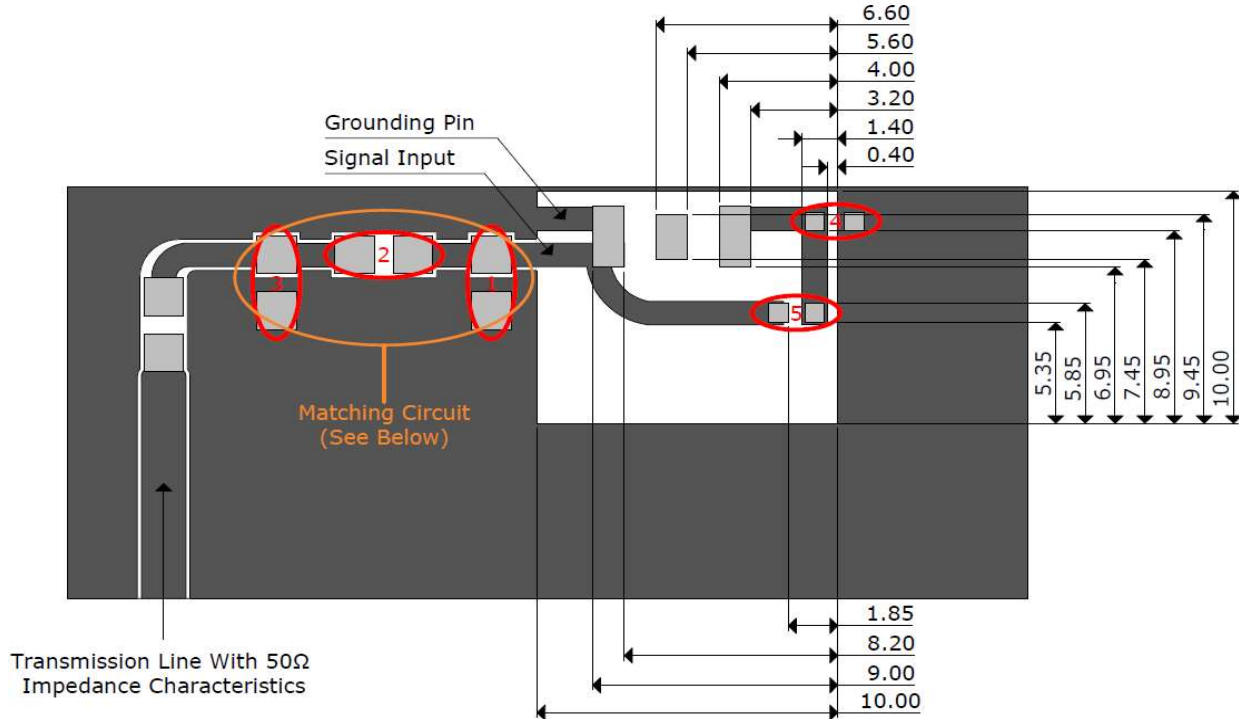
* Where letters denote decimal location A=.0, B=.1, C=.2, etc. Ex: B5=0.15, 3A5=3.05, 9A=9.0
 To customize your parameters, contact a Suntsu representative.

ELECTRICAL PARAMETERS (At 25°C)	UNITS	MIN.	TYP.	MAX	REMARKS
Frequency Band	MHz	863		870	
Impedance	Ω		50		
Polarization			Linear		
Peak Gain	dBi		-0.9		At 868MHz
Efficiency	%		52		At 868MHz
VSWR				2	At Center Frequency
Operating Temperature	°C	-40		85	

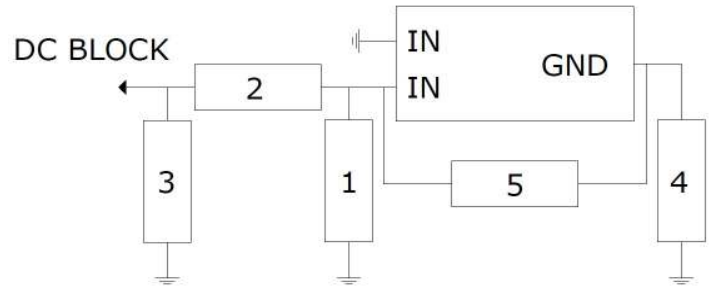
OUTLINE DRAWING (NOTE: All dimensions are in millimeters [mm], unless otherwise noted. Drawings are not to scale.)



RECOMMENDED LAND PATTERN & FREQUENCY TUNING SCENARIO CIRCUIT (NOTE: All dimensions are in mm, unless otherwise noted. Drawings are not to scale.)



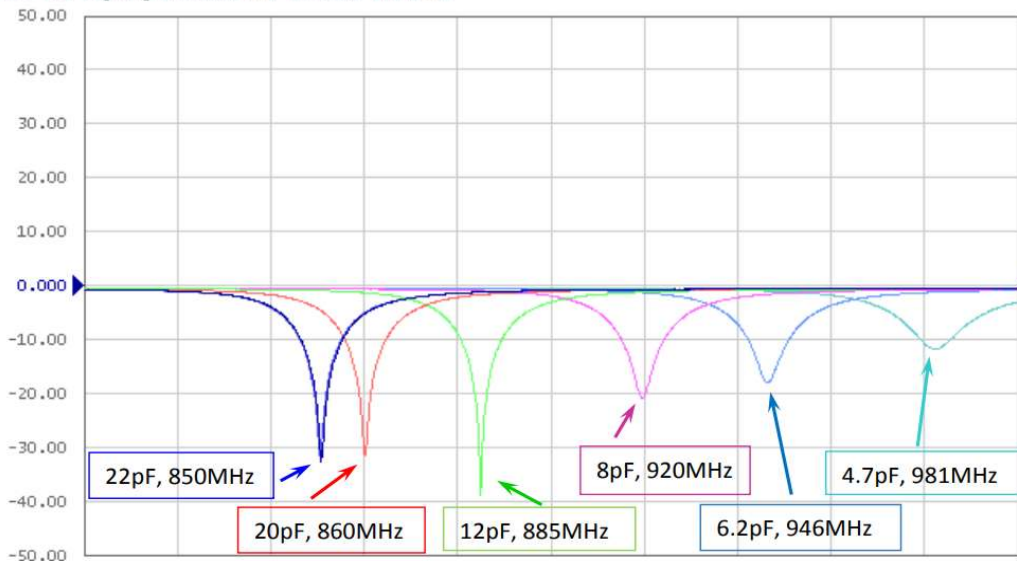
System Matching Circuit Components			
Location	Description	Vendor	Tolerance
1	N/A	-	-
2	2.7nH, (0402)	DARFON	±0.1nH
3	0.2 pF, (0402)	DARFON	±0.1pF
4 Fine Tuning	18 pF, (0402)	DARFON	±2%
5 Fine Tuning	1.5 pF, (0402)	DARFON	±0.1pF



For these suggested values for the matching and tuning of components, the average frequency will be 868MHz on a standard 80 X 40mm² Evaluation board.
Please note, these are average reference values which may need to be changed when different circuit boards or manufactures are used.

```
Tr1 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
Tr2 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
Tr3 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
Tr4 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
Tr5 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
Tr6 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
```

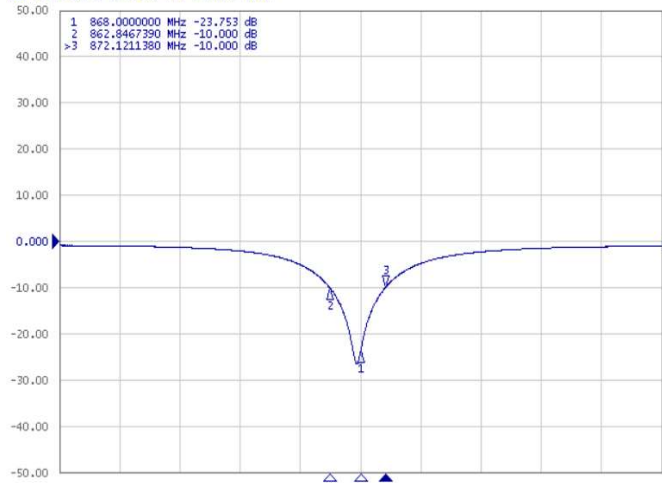
The below chart is for reference of Frequency Tuning then the element in location 5 is kept at 1pF.



ELECTRICAL TEST

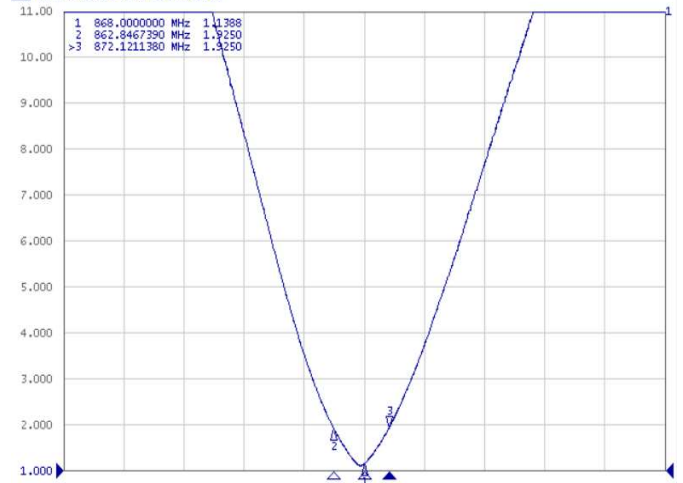
Return Loss

S22 Log Mag 10.00dB/ Ref 0.000dB [F1]
 1 868.000000 MHz -23.753 dB
 2 862.8467350 MHz -10.000 dB
 >3 872.1211380 MHz -10.000 dB



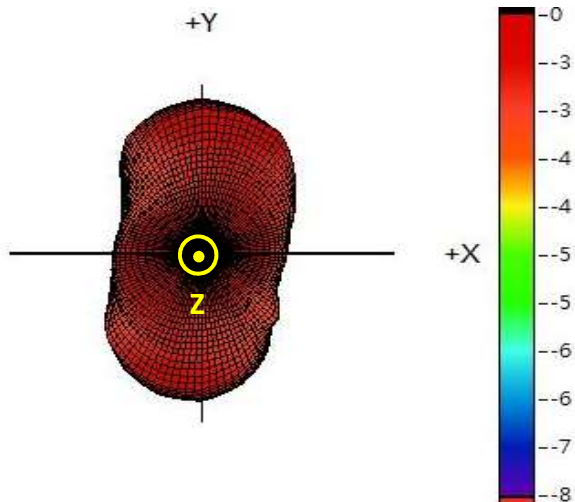
VSWR

S22 SWR 1.000/ Ref 1.000 [F1]
 1 868.000000 MHz 1.11388
 2 862.8467350 MHz 1.9250
 >3 872.1211380 MHz 1.3250

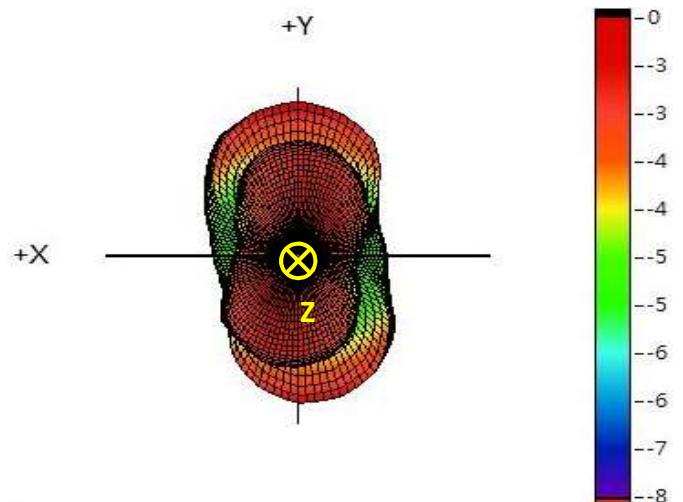


3D RADIATION PATTERN (UNIT: dBi) AND EFFICIENCY vs FREQUENCY

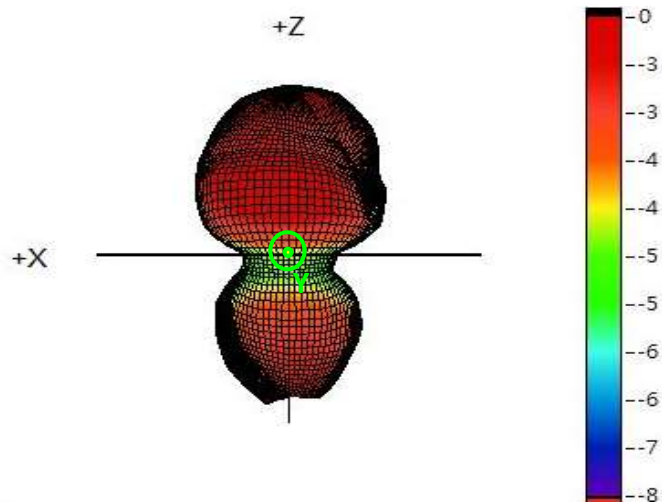
433MHz



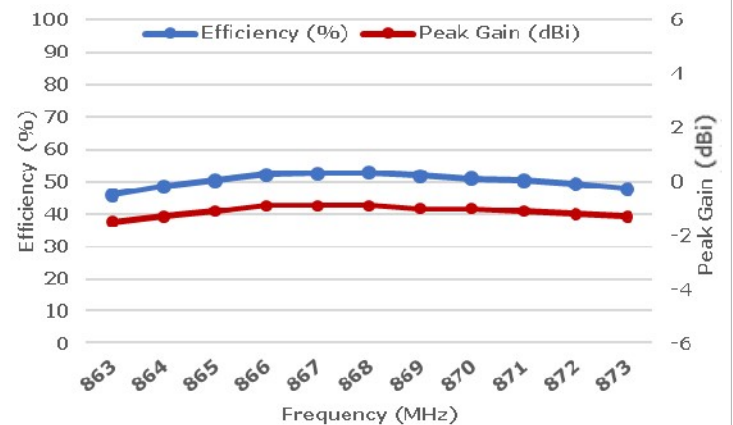
433MHz



433MHz



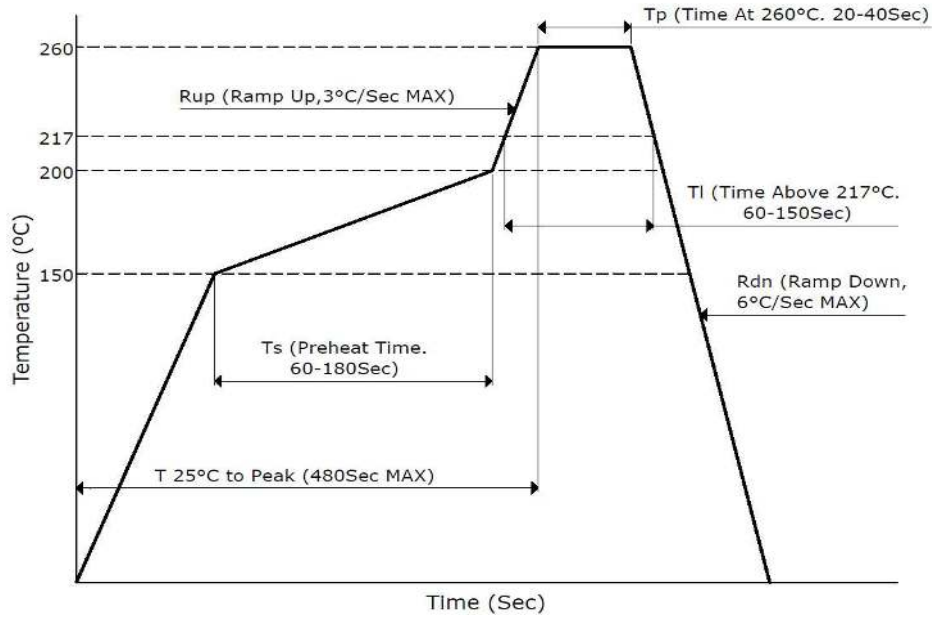
433MHz



Freq.	863	864	865	866	867	868	869	870	871	872	873
Eff. (%)	45.9	48.4	50.3	52.2	52.5	52.8	51.8	50.8	50.3	49.2	47.7
P.G.	-1.5	-1.3	-1.1	-0.9	-0.9	-0.9	-1	-1	-1.1	-1.2	-1.3

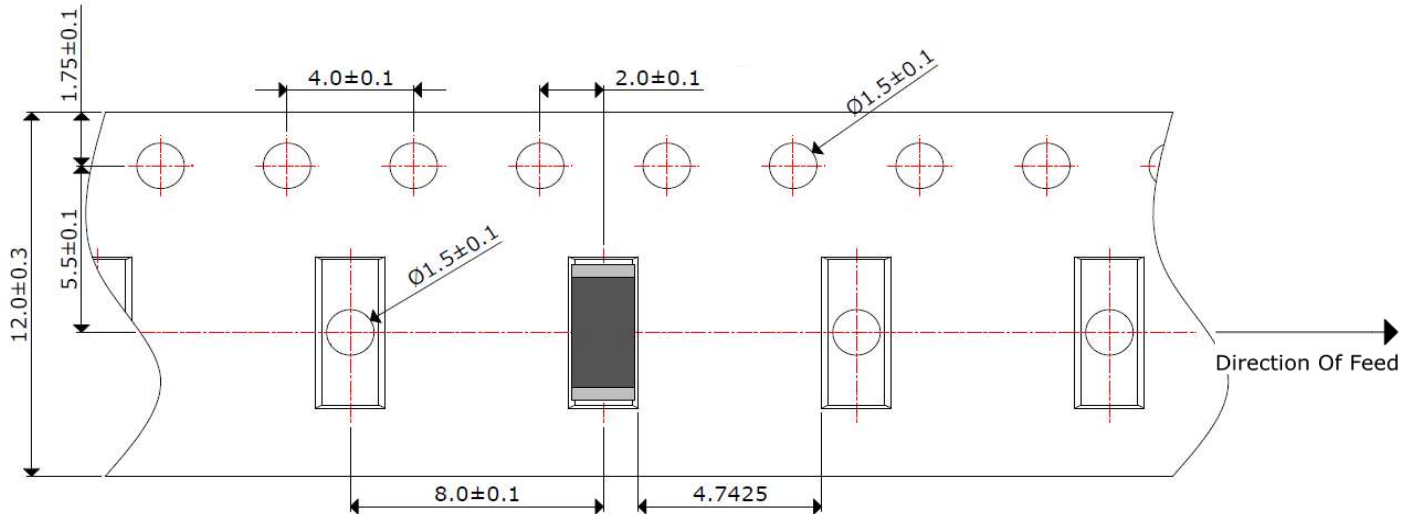
SOLDERING CONDITIONS

Typical Soldering Profile For Lead-Free Process



PACKAGING - TAPE AND REEL (NOTE: All dimensions are in mm, unless otherwise noted. Drawings are not to scale.)

6,000pcs / Reel



ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

High Temperature Test	85°C for 500 hours, and then to normal temperature/humidity for 24hours.
Low Temperature Test	-30°C for 500 hours, and then to normal temperature/humidity for 24hours.
Humidity Test	85°C / 90-95% for 96 hours, and then to normal temperature/humidity for 24hours.
Thermal Shock Test	-30°C for 30 min and +85°C for 30 min. 5 cycles, then expose to normal temperature/humidity for 24 hours or more.
Vibration Test	5 to 200 to 5Hz, swept in 10min, 4.5G at max(2mm amplitude), in X and Y directions for 2 hours each and in Z direction for 4 hours.