


FEATURES	APPLICATIONS	
<ul style="list-style-type: none"> - ISM - Chip Type - Stable And Reliable Performance - 433.05-434.79MHz - SMT Process Compatible 	<ul style="list-style-type: none"> - ISM Band System - Wireless Alarm And Security System - Smart Meters - IOT Applications - Machine To Machine Communication 	

PART NUMBERING GUIDE

SUNTSU → **S** **AT** **CA** - **12A5A1G** - **IS** **B2** ←

ANTENNA → **AT**

CHIP ANTENNA → **CA**

FREQUENCY BAND (MHz)
B2: 433.05-434.79MHz

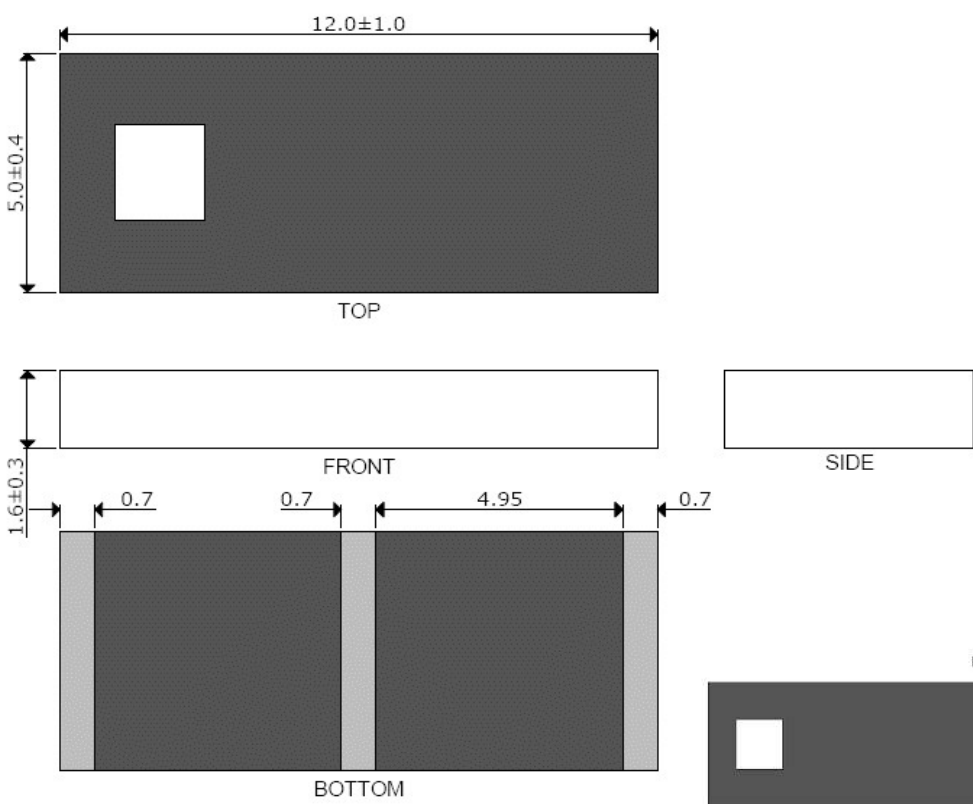
APPLICATION
IS: ISM

*** PACKAGE SIZE**
12A5A1G: 12.0mm x 5.0mm x 1.6mm


* 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	433.05		434.79	
Impedance	Ω		50		
Polarization			Linear		
Peak Gain	dBi		-4.9		At 433MHz
Efficiency	%		16		At 433MHz
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.)




PIN ORIENTATION



PIN1
SIGNAL

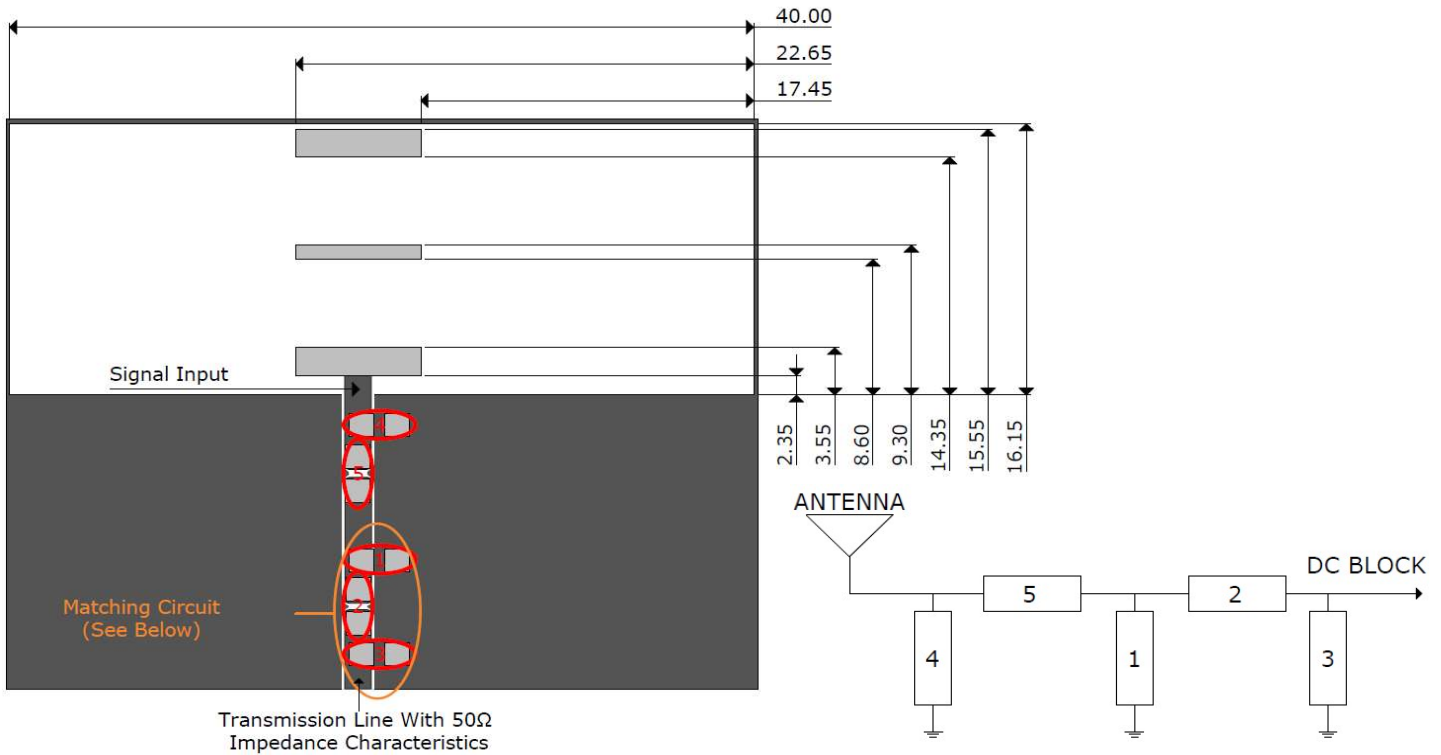


PIN2
N/C



PIN3
N/C

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	0Ω, (0402)	-	-
3	N/A	-	-
4 (Fine Tuning)	N/A	-	-
5 (Fine Tuning)	47nH, (0402)	MURATA	±0.1nH

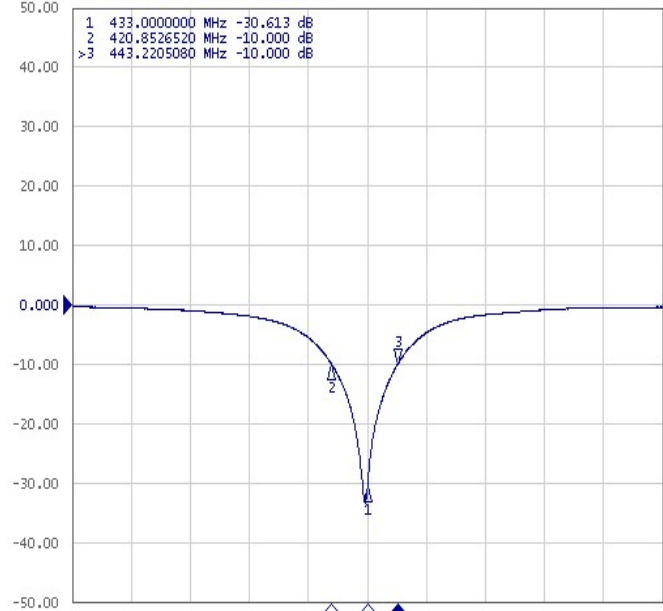
For these suggested values for the matching and tuning of components, the average frequency will be 433MHz on a standard 80 x 40mm² Evaluation board.

Please note, these are average reference values which may need to be changed when different circuit boards or manufactures are used.

ELECTRICAL TEST

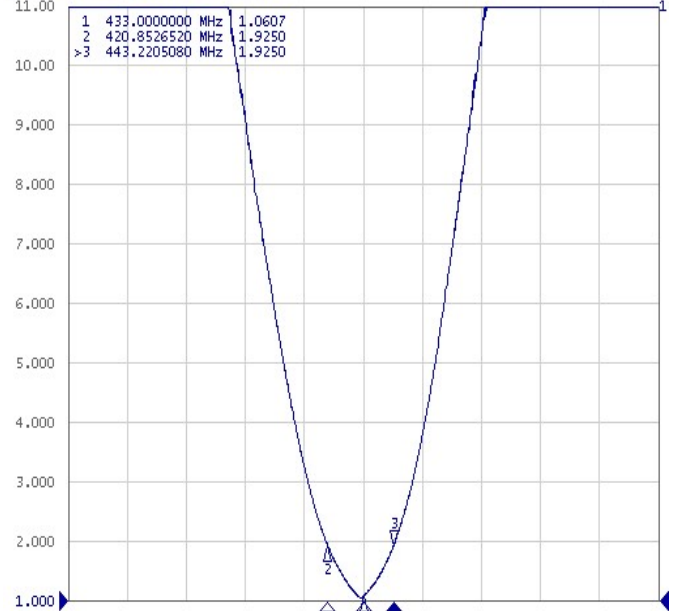
Return Loss

[F1] S22 Log Mag 10.00dB/ Ref 0.000dB [F1]



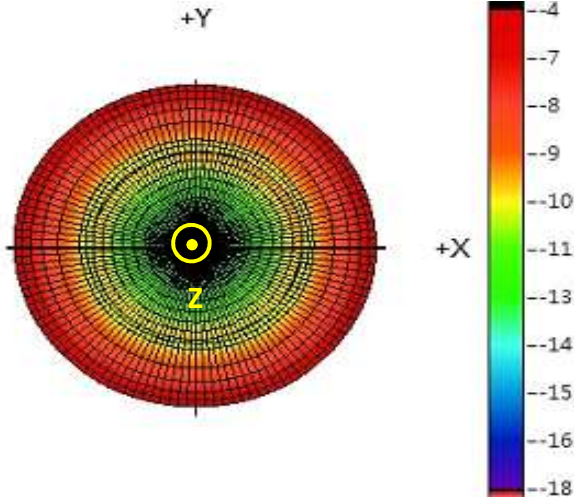
VSWR

[F1] S22 SWR 1.000/ Ref 1.000 [F1]

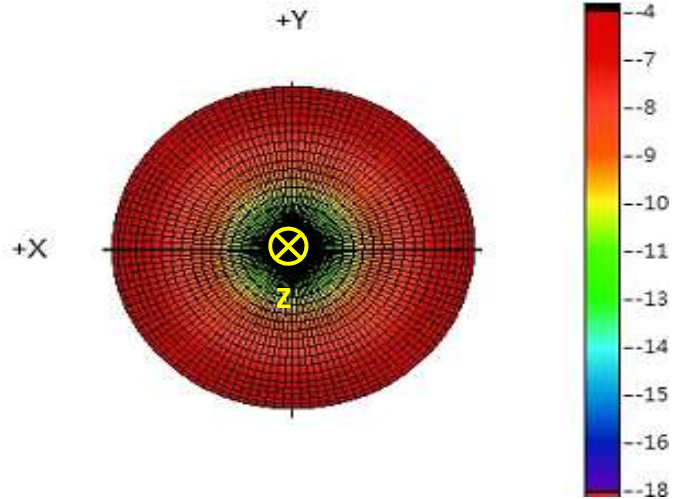


3D RADIATION PATTERN (UNIT: dBi) AND EFFICIENCY vs FREQUENCY

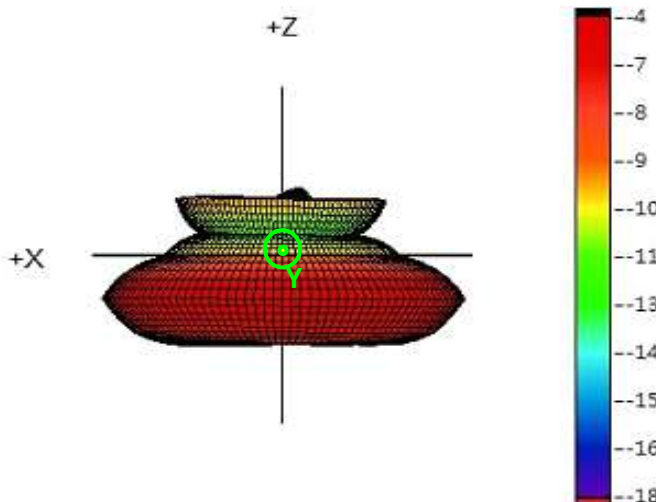
433MHz



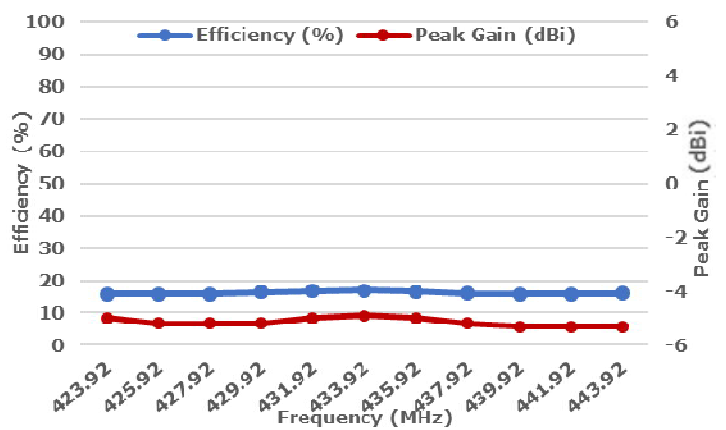
433MHz



433MHz



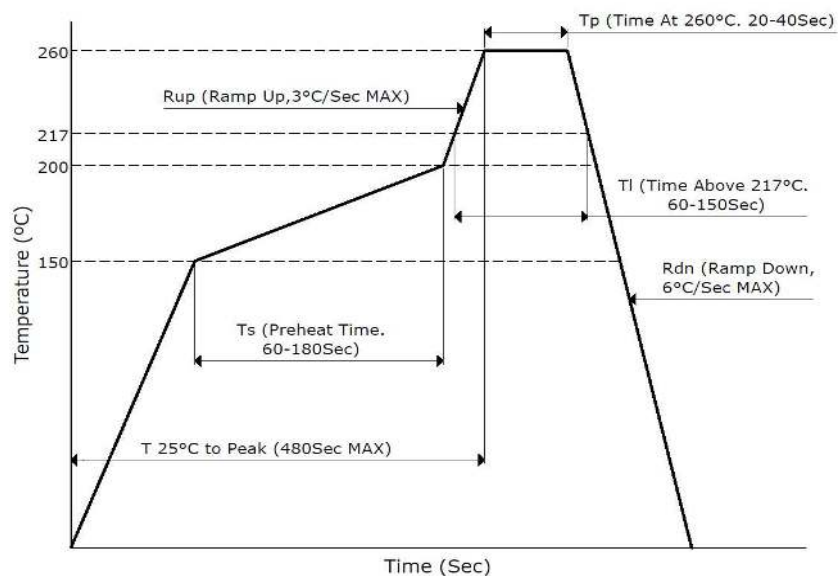
433MHz



Freq.	424	426	428	430	432	434	436	438	440	442	444
Eff. (%)	15.9	15.8	15.9	16.4	16.8	16.9	16.6	16	15.8	15.9	16.1
P.G.	-5	-5.2	-5.2	-5.2	-5	-4.9	-5	-5.2	-5.3	-5.3	-5.3

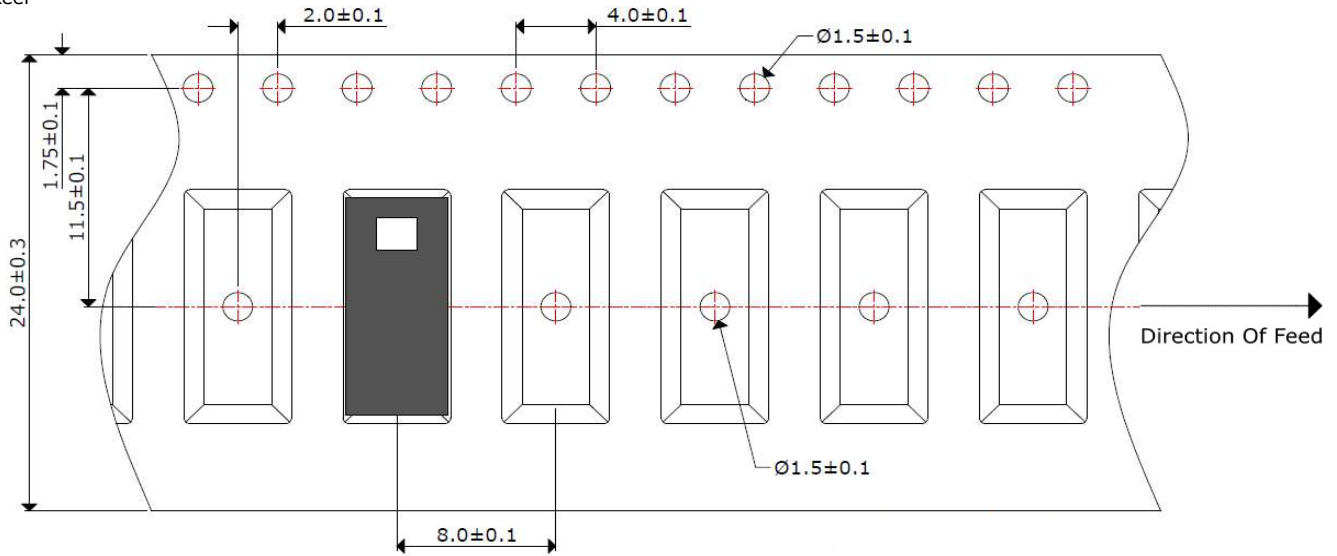
SOLDERING CONDITIONS

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.)

3,500Pcs / 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.