


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** - **16A5BI** - **IS** **B2** ←

ANTENNA → **AT**

CHIP ANTENNA → **CA**

FREQUENCY BAND (MHz)

B2: 433.05-434.79MHz

APPLICATION

IS: ISM


*** PACKAGE SIZE**

16A5BI: 16.0mm x 5.1mm x 0.8mm

* 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		-5.1		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.)



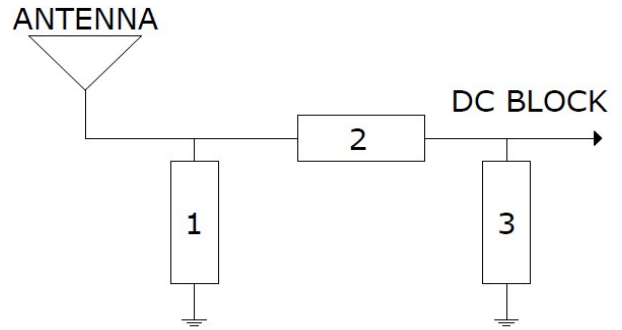
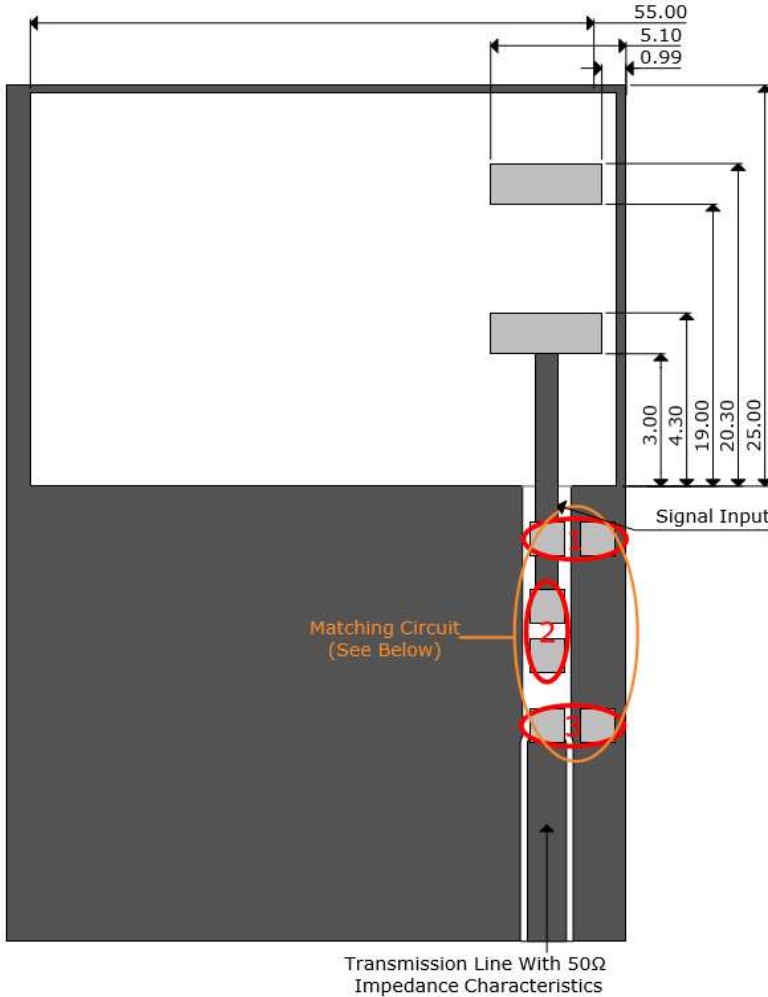
TOP

FRONT

SIDE

BOTTOM

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

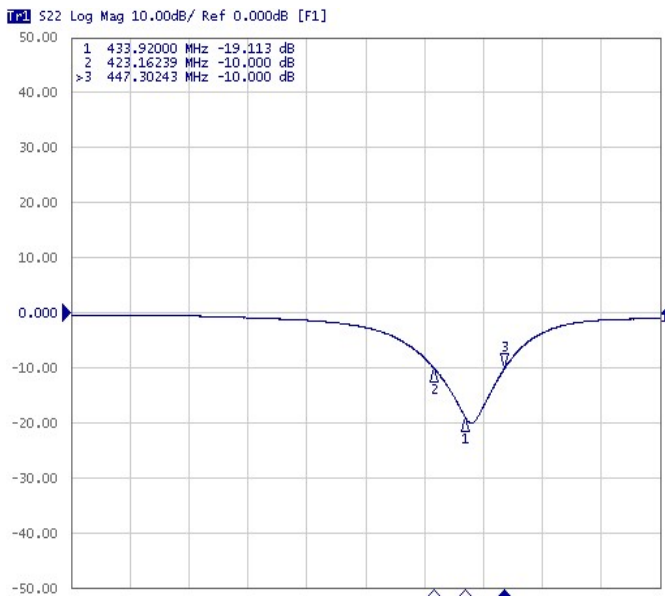


System Matching Circuit Components			
Location	Description	Vendor	Tolerance
1	N/A	-	-
2	56nH, (0402)	TDK (0402)	±5%
3	N/A	-	-

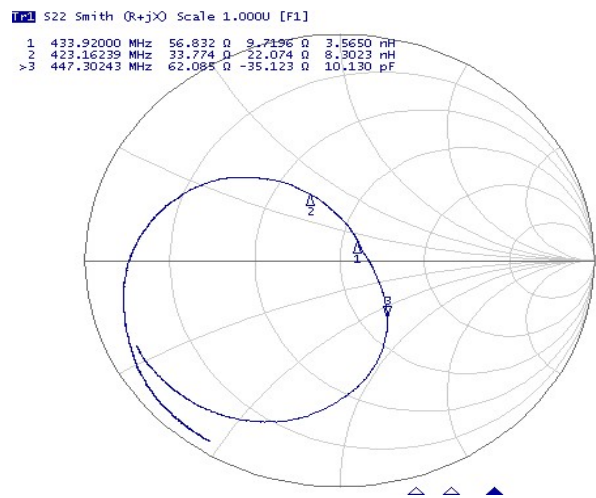
For these suggested values for the matching and tuning of components, the average frequency will be 433MHz on a standard 100 x 55mm² Evaluation board. Please note, these are average reference values which may need to be changed when different circuit boards or manufactures are used.

ELECTRICAL TEST

Return Loss

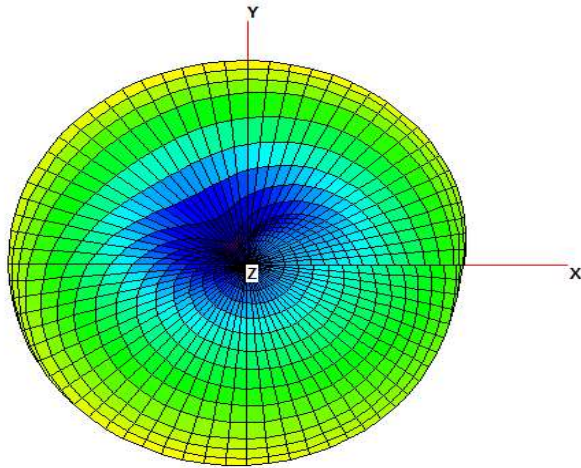


SMITH CHART

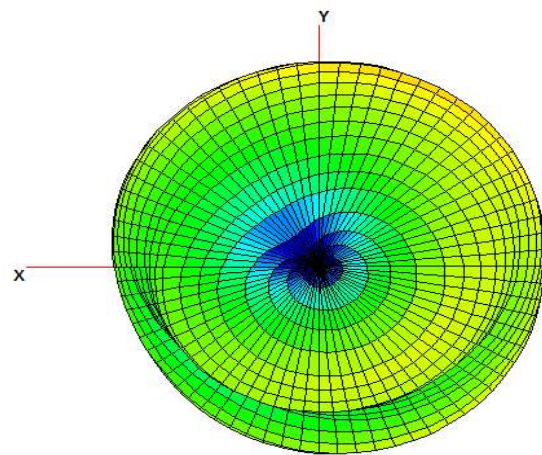


3D RADIATION PATTERN (UNIT: dBi) AND EFFICIENCY vs FREQUENCY

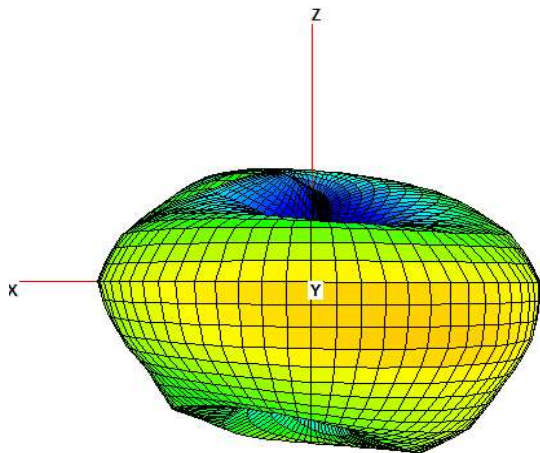
433MHz



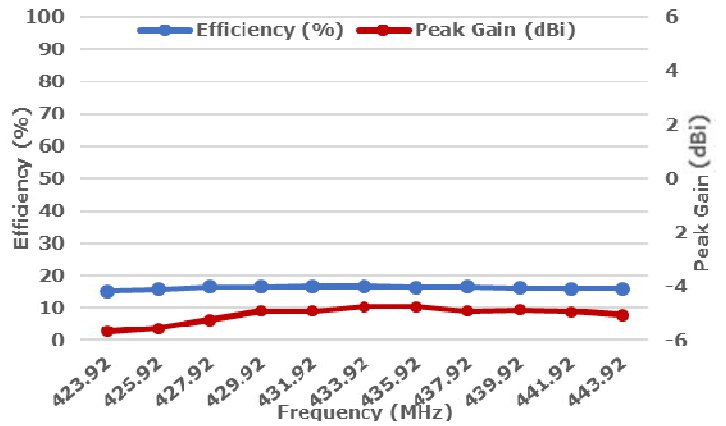
433MHz



433MHz



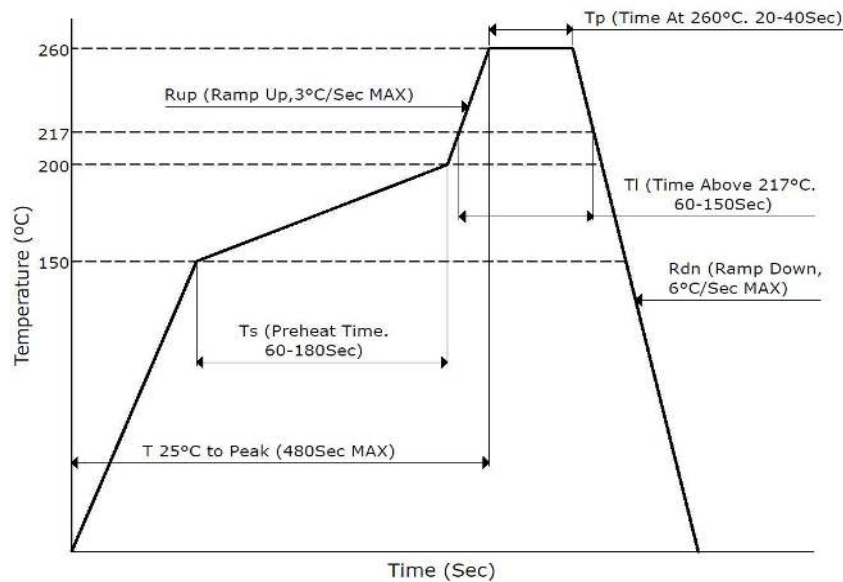
433MHz



Freq.	424	426	428	430	432	434	436	438	440	442	444
Eff. (%)	15.1	15.7	16.3	16.3	16.6	16.6	16.2	16.3	16.1	15.8	15.8
P.G.	-5.68	-5.57	-5.25	-4.93	-4.93	-4.77	-4.77	-4.92	-4.87	-4.94	-5.08

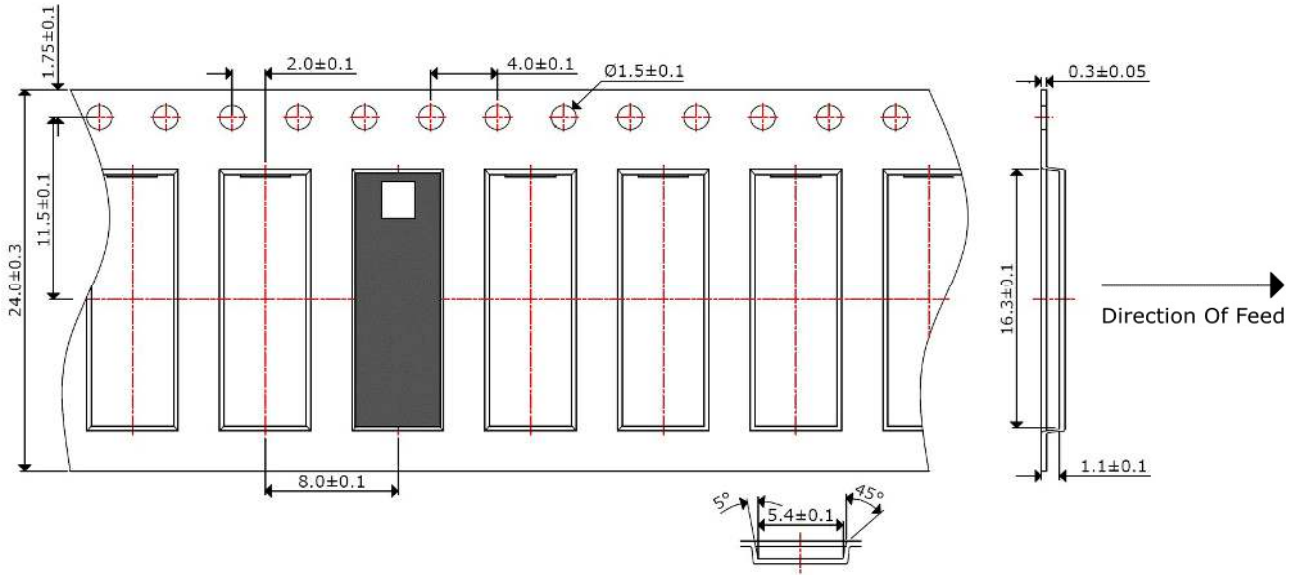
SOLDERING CONDITIONS

Typical Soldering Profile For Lead-Free Process



PACKAGING - TAPE AND REEL (NOTE: All dimensions are in millimeters [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.