

Features

- ISM
- Chip Type
- Stable And Reliable Performance
- 433.05-434.79MHz
- SMT Process Compatible

Applications

- ISM Band System
- Wireless Alarm And Security System
- Smart Meters
- IOT Applications
- Machine To Machine Communication



Part Numbering Guide

S AT CA 12A5A1G 1S B2

SUNTSU

ANTENNA

CHIP ANTENNA

PACKAGE SIZE*

APPLICATION

FREQUENCY

12A4A1G = 12.0mm x 5.0mm x 1.6mm

IS - ISM

B2 = 433.05-434.79MHz

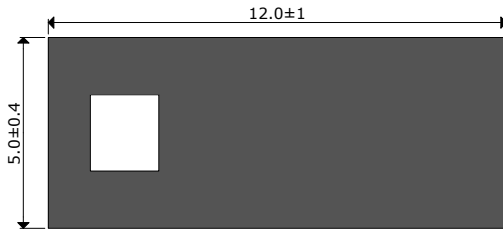


* Where letters denote decimal location (A=0, B=1, C=2, etc.); e.g. B5=0.15, 3A5=3.05, 9A=9.0

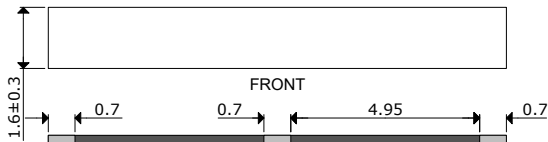
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Band	MHz	433.05		434.79	
Impedance	Ω		50		
Polarization			Linear		
Peak Gain	dBi		-4.9		At 433MHz
Efficiency	%		16		At 433MHz
VSWR				2	At Center Frequency
Operating Temperature	C	-40		85	

Outline Drawing

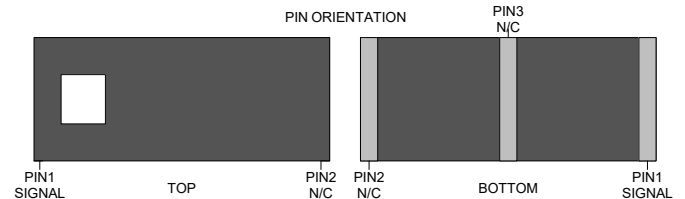
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



TOP

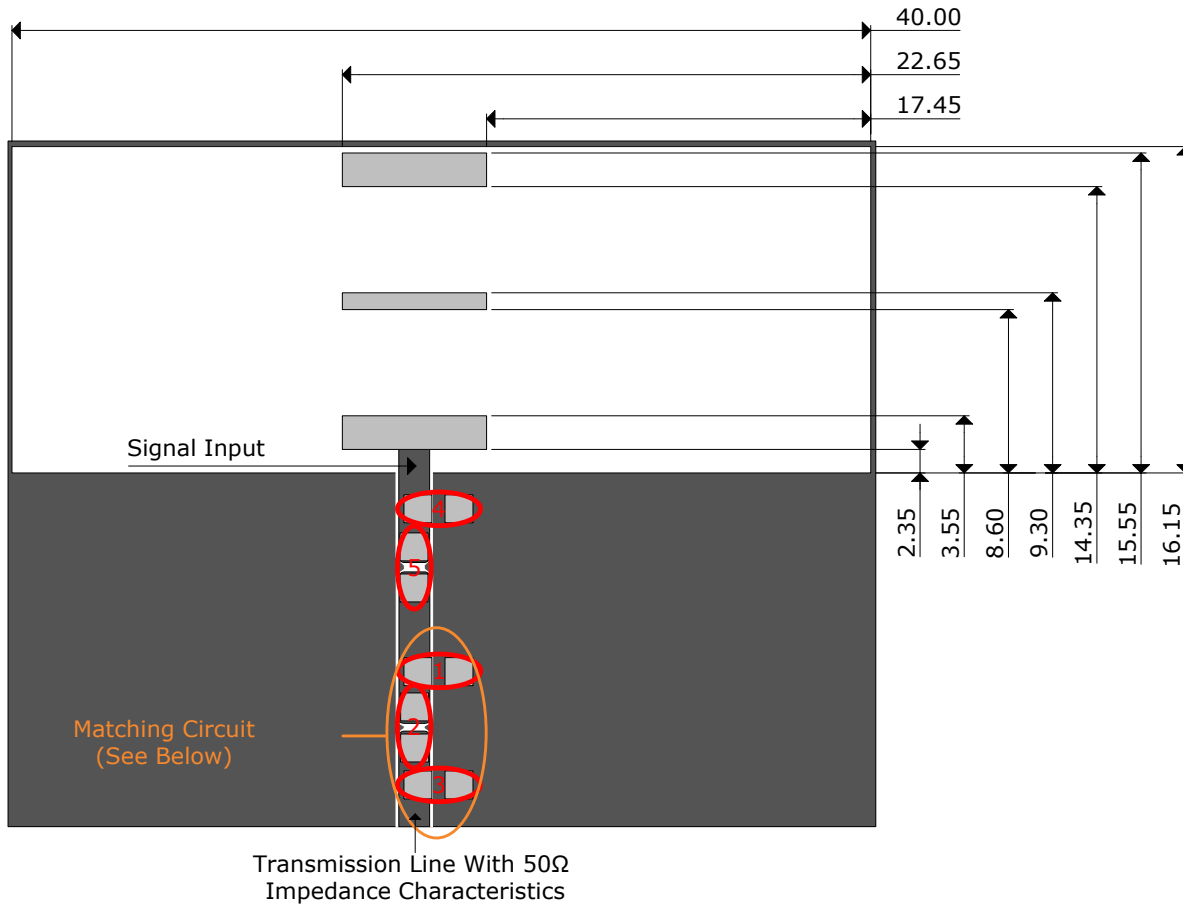


BOTTOM



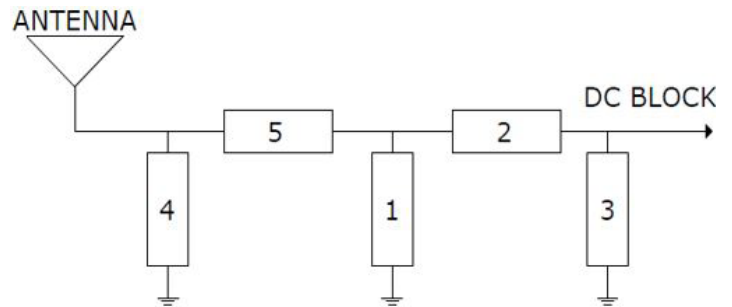
Recommended Land Pattern & Frequency Tuning Scenario Circuit

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



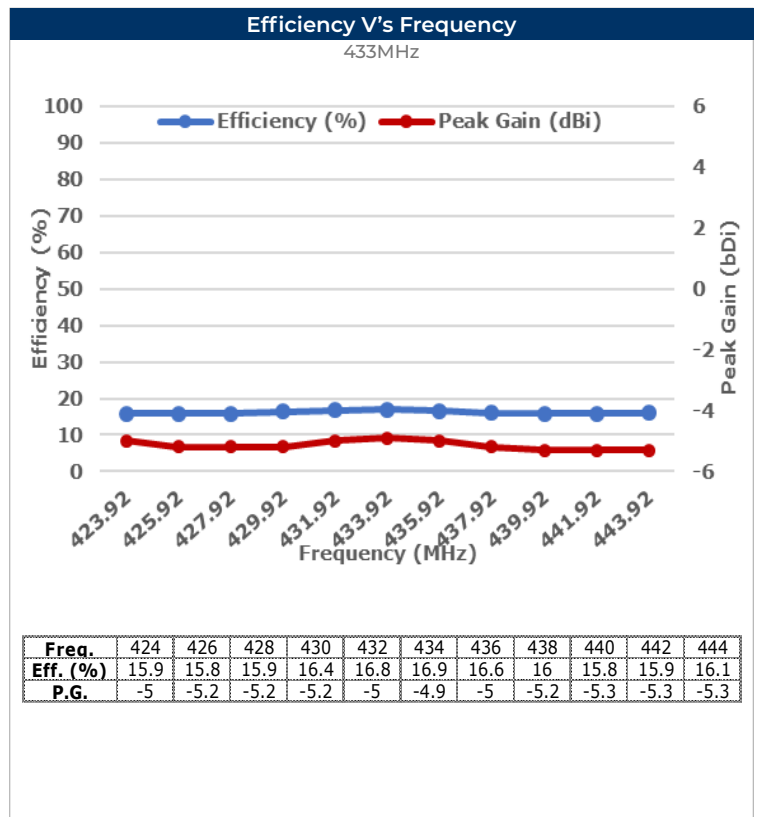
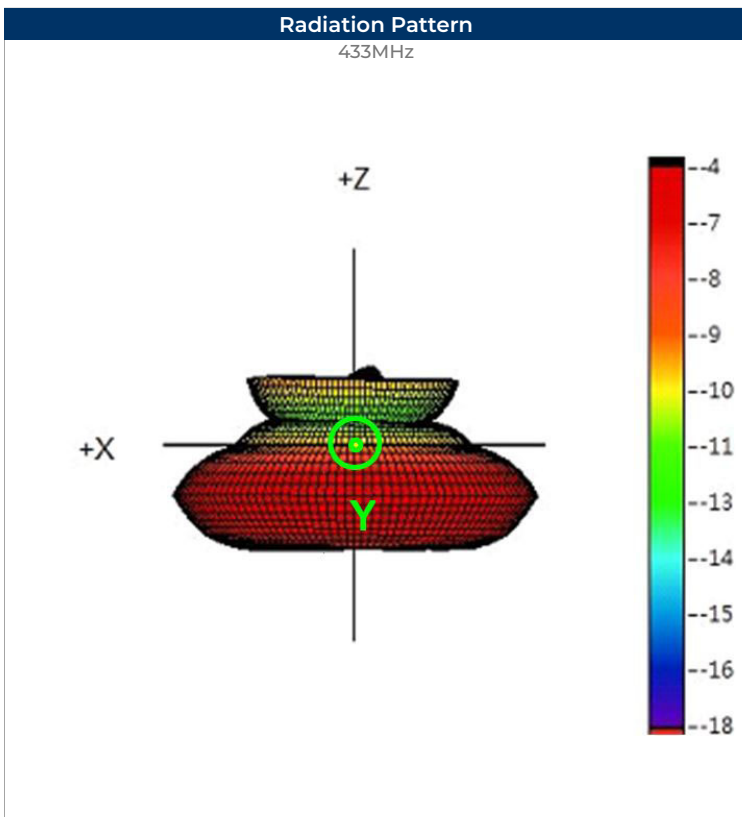
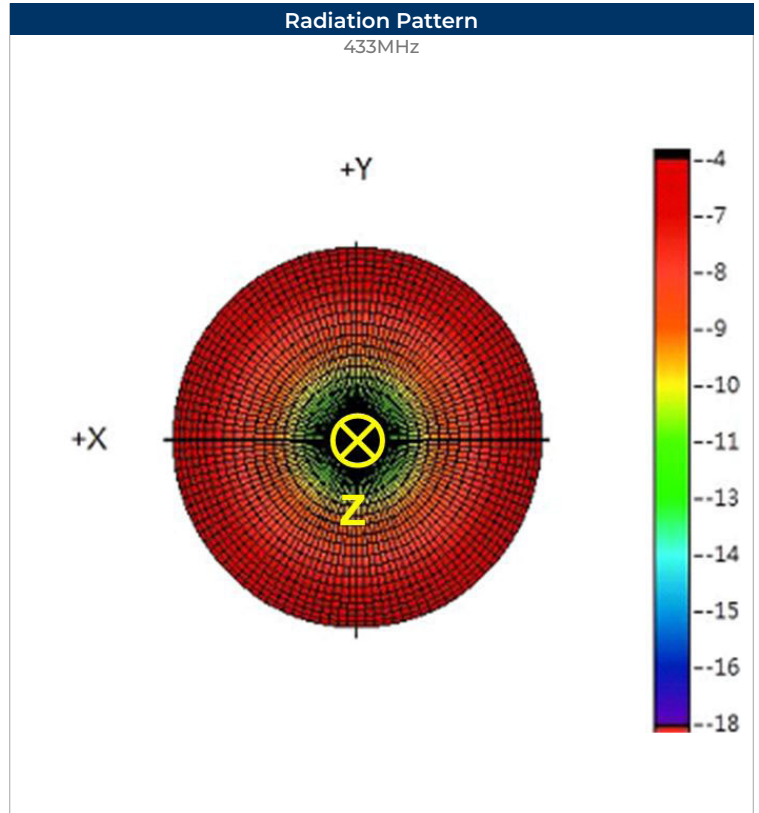
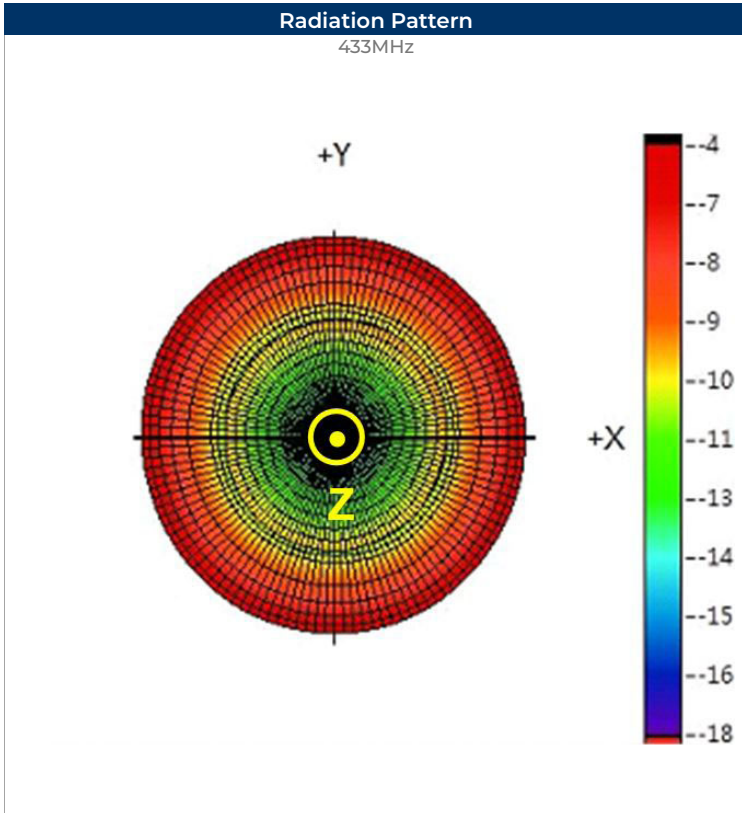
System Matching Circuit Components

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



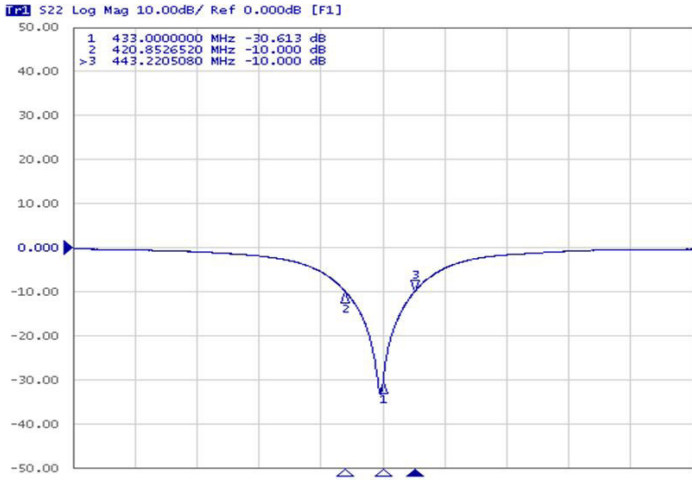
For these suggested values for the matching and tuning of components, the average frequency will be 433MHz on a standard 80 x 40mm² Evaluation board.

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



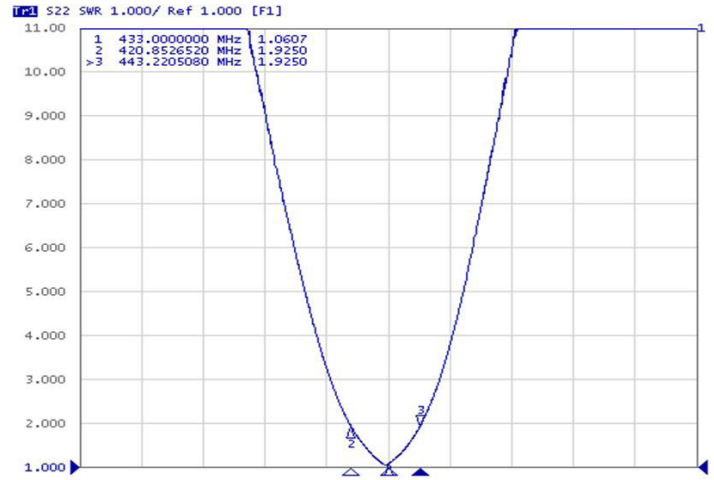
Electrical Test

Return Loss



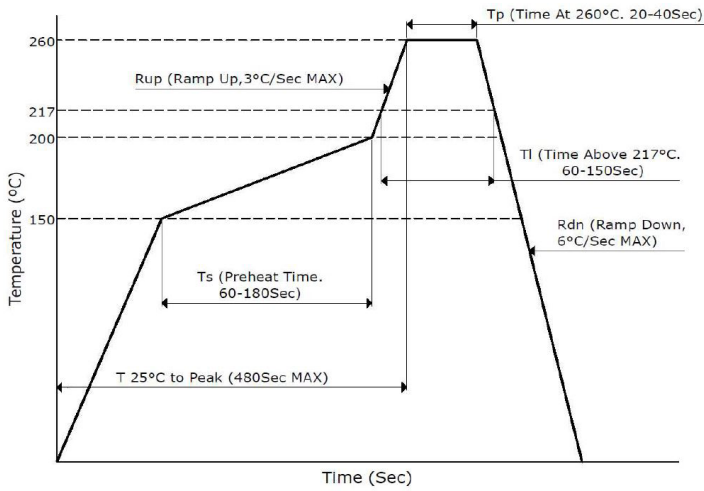
Electrical Test

VSWR



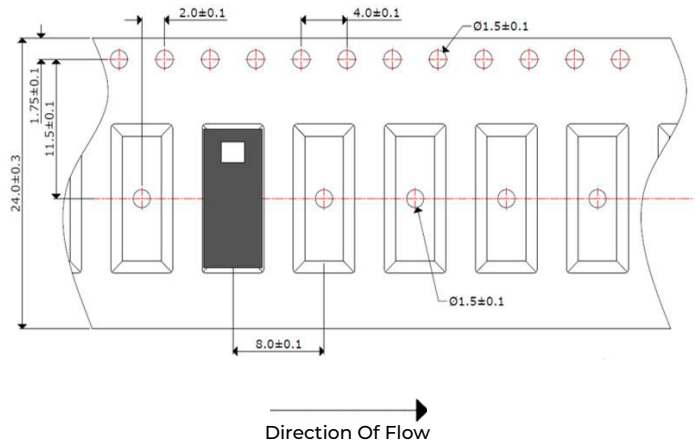
Soldering Conditions

Typical Soldering Profile For Lead-Free Process



Packaging - Tape And Reel

3500Pcs / 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%RH 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.