AIM24-SB

(Radar Sensor)

Manual

TheUVIS

1. Product Introduction

This product 2BB56AIM24-SB is a module for object(motion) detection sensor using a frequency band of 24GHz.

2. Electrical Characteristics

[Table 2] Electrical characteristics

Electrical Characteristics: Unless otherwise noted, All parameters apply at VDD = 5.0V, VSS = GND, TA = +25℃						
Parameter	**Sym.**	**Min**	**Typ**	**Max**	**units**	**Condition**
Operating Frequency	O_{Frq}	24.05	24.15	24.25	GHz	
Supply Voltage	V_{DD}	3.6	5.0	5.5	V	
Supply current	Icc	13	45	50	mA	
Operating Temperature	T_O	-40	25	85	℃	
S_OUT Voltage	O_{VGPIO_ABS}	-0.5	3.3	3.3	V	
S_Out Current	O_{IGPIO_ABS}	-25		25	mA	
Detection distance						
	Dd		7	10	m	AIM24-SB
Detection field (Beam Width)						
Detection field (Beam Width)	E		109		°	AIM24-SB
	H		40		°	
Start-up Time			1		Sec	Wake up time from power-on
Response Time		-	20		mSec	Continuous Sensing

3. RF Characteristics

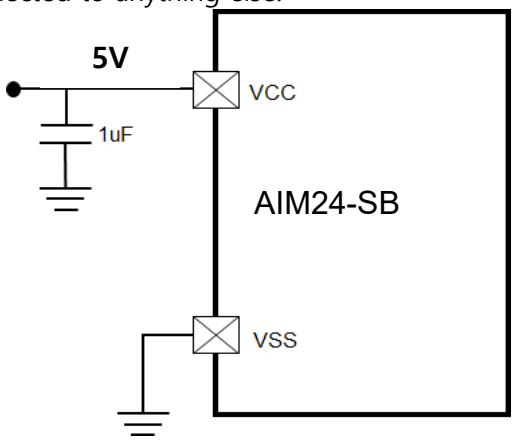
Electrical Specification		
Band	24GHz	
Frequency	24.05GHz	24.25GHz
S11	-12dB Under	
Peak GAIN (E2 Plane)	6.5dB	
Average GAIN (H Plane)	-4.0dB	
Impedance	50 ohms	
Polarization	Vertical	
Radiation Pattern	Omni-Directional	

Supplier	JBLUE co.,
Model Name	AIM24-SB
Product Name	Sensor Array PCB antenna
Frequency Band	24.05GHz~24.25GHz

4. Electrical Characteristics

The following power system diagram shows the set of power supply pins as implemented for the AIM24-SB.

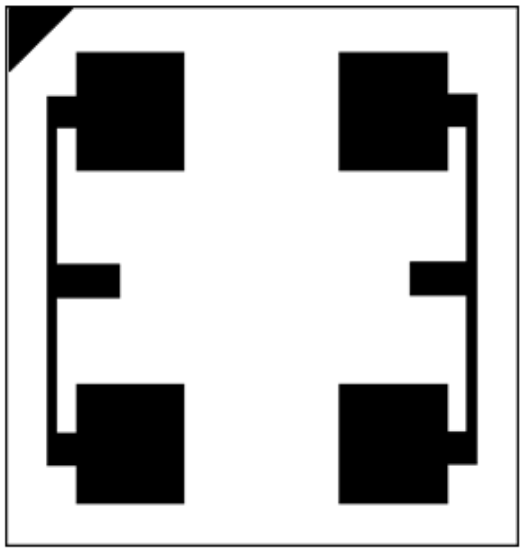
The VCC pin must be bypassed to ground via an external capacitor (1μF; X5R ceramic or better) and must not be connected to anything else.

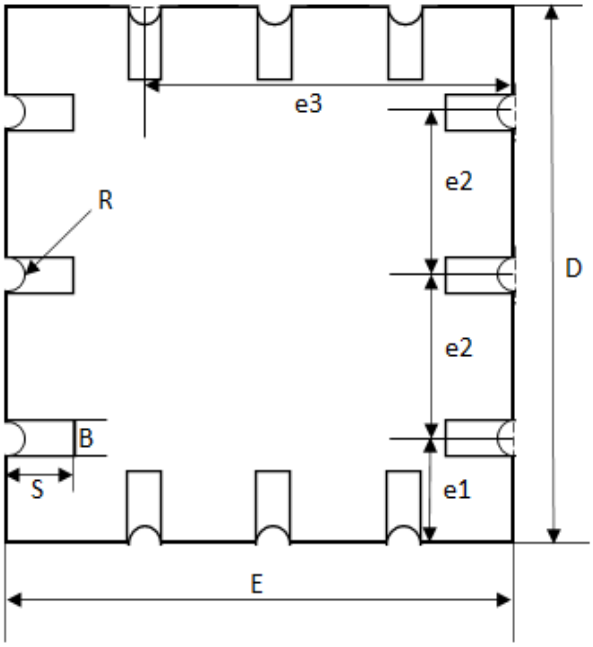


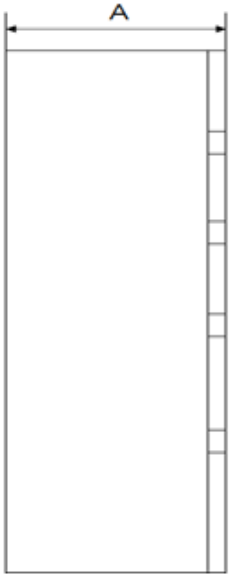
[Figure3] Power Supply Connection

5. Package Dimensions

[Figure 4] AIM-12QUAD type







COMMON DIMENSIONS (Unit of Measure =mm)				
	Min	Mon	Max	Note
D		15		
E		15		
A		4.3		
e1		3.2		
e2		4.3		
e3		11.8		
B		1		
S		2		
R		Ø1		

TheUMS	Title C-20-09:AIM-12QUAD (TheUMS Package)	Drawing No. D-TY-21-02	Date 21.05.26	Rev. E

List of applicable FCC rules
This module has been granted modular approval as below listed FCC rule parts.
FCC Rule parts 15C (15.249)

6. FCC Statement

FCC Compliance Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution Statement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Radiation Exposure Statement

This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

7. RF exposure considertions

RF exposure statements

This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body or nearby persons.

8. Label and compliance information

The module is labeled with its own FCC ID Certification Number.
If the FCC ID Certification Number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module.
Contains FCC ID: 2BB56AIM24-SB

9. Information on test modes and additional testing requirements

Operation Frequency: 24.05 GHz ~ 24.25 GHz
FCC - Max tune-up Power : 7 dBm
CE - Max tune-up Power : 4.97 dBm

CE RED_EU declaration
This product can be used in which EU members, in accordance with Article 10(10) / or this product can be used in at least one EU country, in accordance with Article 10(2)

The module is only modular FCC certified, guiding manufacturers of the host product to comply with Part 15 Subpart B when applying the module. Therefore, it is important to know that additional tests in compliance with Part 15 Subpart B are required.