

SK302

USB2.0 contactless connectivity

1. Overview

SK302 is a pair of RF modules with integrated antenna to achieve 480Mb/s data rate USB2.0 to 60GHz millimeter Wave RF signal conversion. The input of SK302 is a USB Type-c connector, with the output of centimeters distance RF transmission. SK302 module is based on leading edge ST60A3 mmW RF transceiver.

2. Features

- 60GHz V-Band transceiver with ST60A3
- For USB2.0 short range contactless connectivity up to 480 Mb/s, preferred 1cm
- Half duplex, full RF transceiver and integrated antenna
- USB Type-C interface input
- Used in pairs

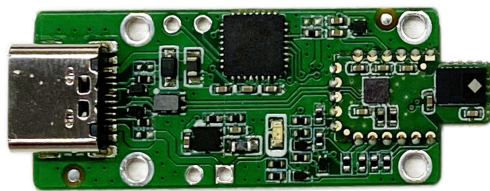
3. Application

- Contactless accessories
- Contactless personal equipment docking hub & data transfer
- Industrial Contactless Connectors
- Contactless test factory automation and after sales services

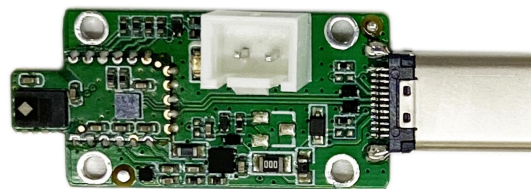
4. Block diagram



Board outlook:



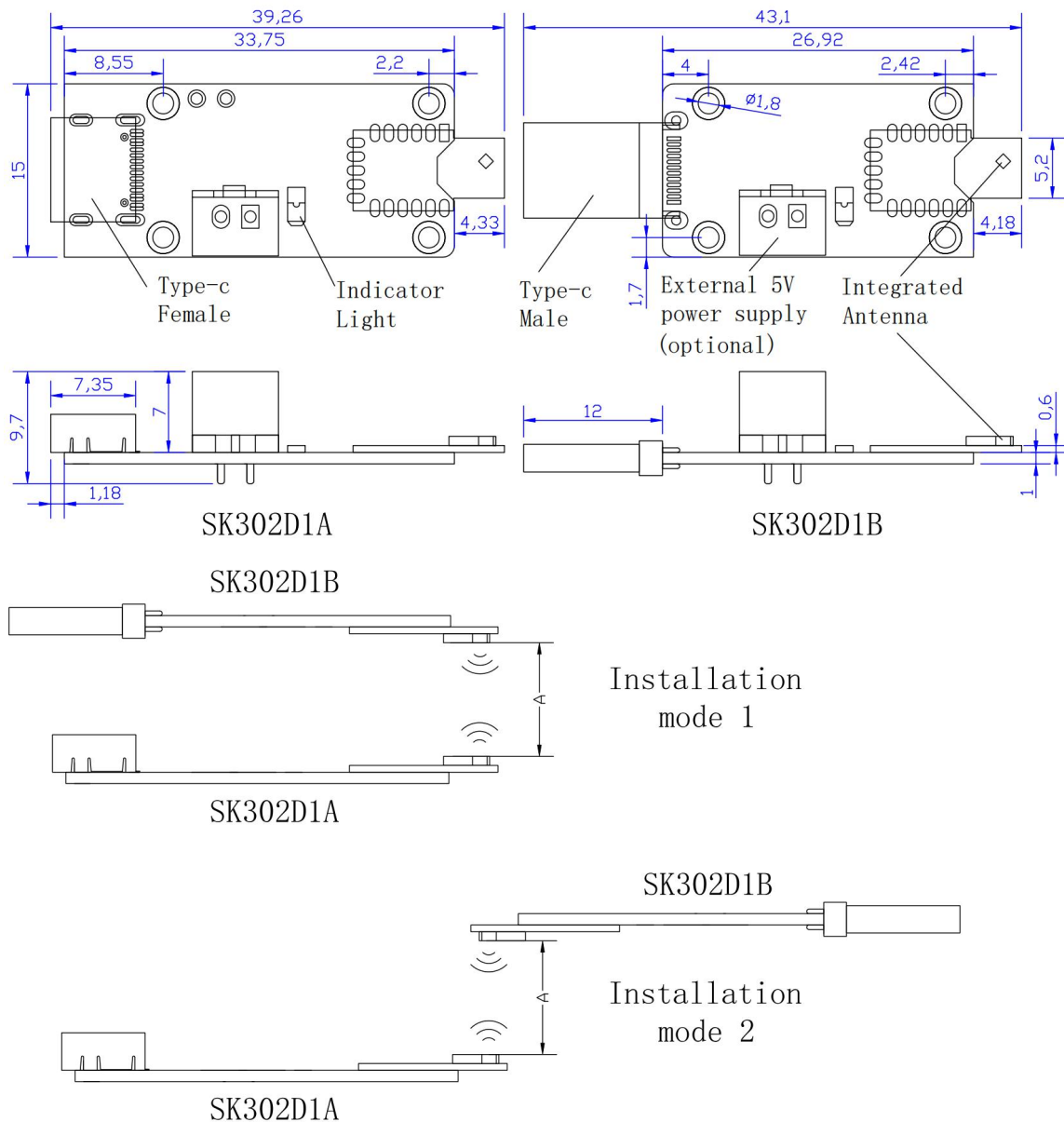
SK302D1A



SK302D1B

5. Assembly

PCB installation:



Unit: mm

Note:

- (1) If a metal cover is used, a window should be added for microwave signal. Plastic or other microwave insensitive materials can be used to fill the window.
- (2) The SK302D1A module is in host mode, powered by USB type-c interface. The SK302D1B module is in device mode, which can be powered by the device from the USB type-c interface or externally supplied with 5V from the XH 2P interface. Please do not connect them both at the same time.
- (3) Both 0° and 180° relative orientations are supported as shown in figure.
- (4) It is recommended that the installation distance ('A') is typically 1 cm and the maximum is 3 cm.

6. Power supply

Symbol	Description	Min	TYP	Max	Unit
V _{IN}	Power supply	3.5	5	5.5	V
C _{IN}	Input current(*)	-	90	-	mA
P	Total Power consumption	-	0.45	-	W

7. Temperature

Symbol	Description	Min	TYP	Max	Unit
T _A	Ambient Operating Temperature, for SK302D1A/B	0	-	70	°C

8. Part number

Part number	Description
SK302D1A	USB2.0 contactless connectivity, integrated antenna, Port A
SK302D1B	USB2.0 contactless connectivity, integrated antenna, Port B

NOTE:

- Port A: USB Type-C female connector with MCU, host mode
- Port B: USB Type-C male connector without MCU, device mode

Revision History

Date	Version	Changes
APR 25 2022	1.2	Update power supply
Mar 17 2022	1.1	Update product pictures
AUG 31 2021	1.0	add PCB dimension (PCB length), Removed the minimum installation distance('A')
AUG 23 2021	0.9	First Draft