![AzureWave Technologies, Inc. logo]

AW-AM510-uSD

<u>User Guide</u>

Rev. A

(For Standard)

Revision History

Version	Revision Date	Description	Initials	Approved
A	2021/1/26	● Initial Version	Roger Liu	N.C. Chen

Table of Content

1. Introduction

AzureWave provides uSD-1212 adapter board with Wi-Fi/BT module solutions for NXP i.MX RT and i.MX6/7/8 Evaluation Kits. The uSD-1212 adapter board supports AW-AM510 (with NXP IW416UK) Wi-Fi combo BT module solutions.

- WiFi through uSD interface
- BT through UART interface

Main chip	AzureWave Module	uSD Adaptor Board
NXP IW416UK	AW-AM510	AW-AM510-uSD

1.1 Supported I/O to host

- Micro SD (uSD) interface for Wi-Fi.
- Arduino headers for Bluetooth through UART interface.
- FFC connector for UART and other control signal.
- Embedded UART-to-USB IC as an option for UART.
- Other debug and power interface.

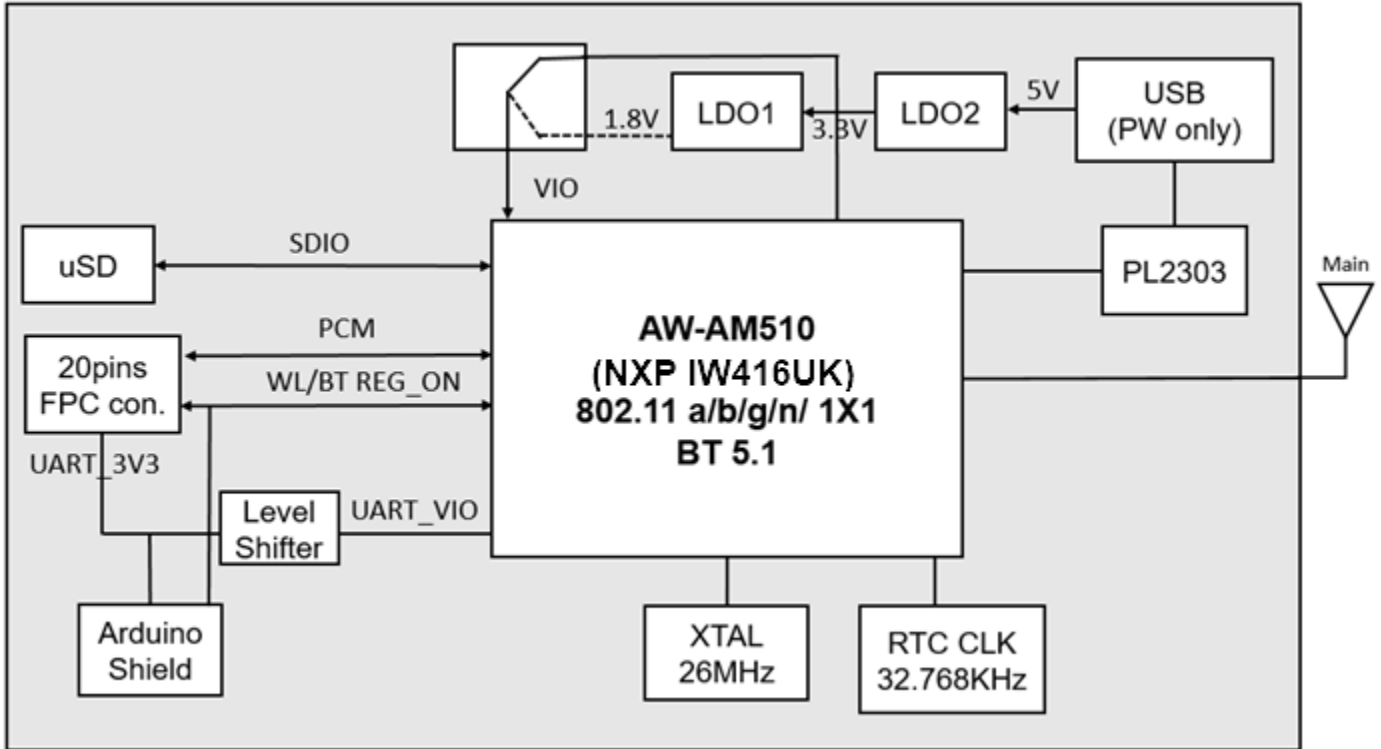## 1.2 Supported I/O signal level

I/O\voltage level	1.8V	3.3V
SDIO(3.0/2.0)	V	V
UART	N/A	V

1.3 Supported RF standards

Model \ Standards	Wi-Fi*	BT*
AW-AM510	1x1 Wi-Fi 4 (2.4/5GHz)	5.1

*Connecting with i-pex gen 4 RF connector
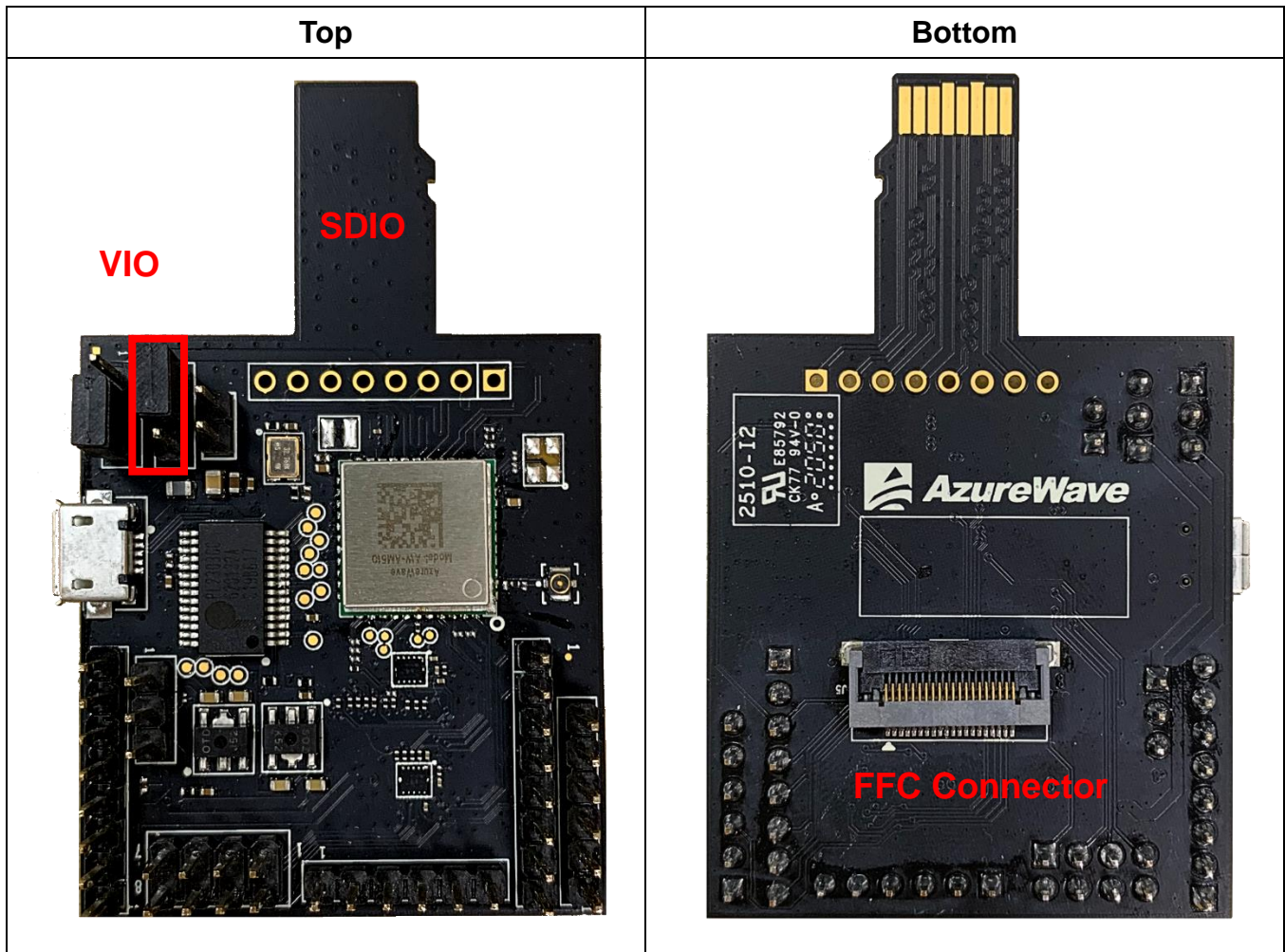
2. AW-AM510-uSD

2.1 Block Diagram

2.2 HW Description

VIO for SDIO voltage level options

- For 3.3V supply, please connect J4 (2-3).
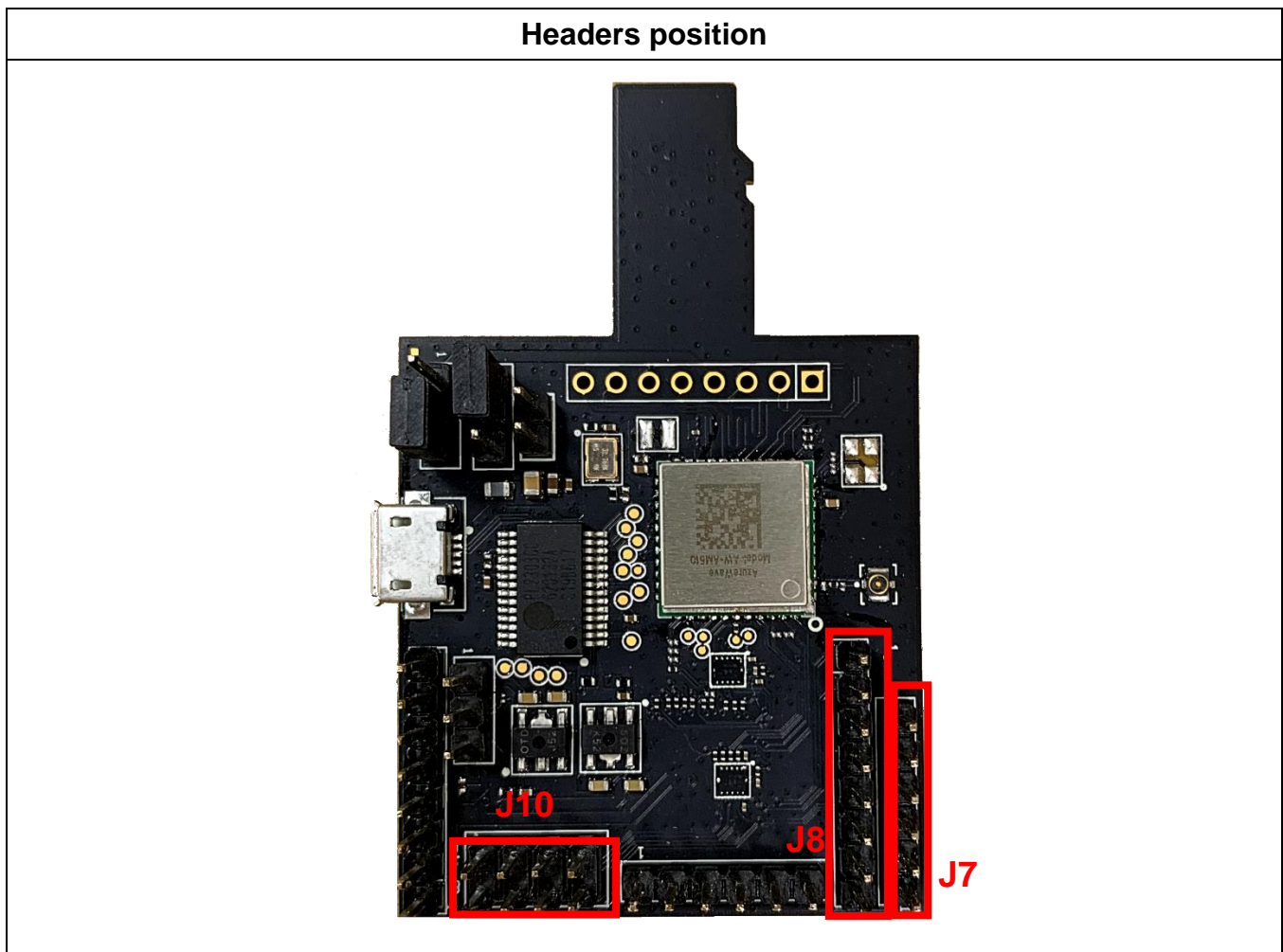- For 1.8V supply, please connect J4 (1-2).

3.3V power source is configured from SDIO connector as default.

Top	Bottom

UART signal is configured from FFC connector at BOT side as default.

By using headers for Bluetooth through UART interface

- UART_RTS: J7 (pin 3) or J10 (pin 6)
- UART_TXD: J8 (pin 1) or J10 (pin 4)
- UART_CTS: J7 (pin 4) or J10 (pin 8)
- UART_RXD: J8 (pin 2) or J10 (pin 2)

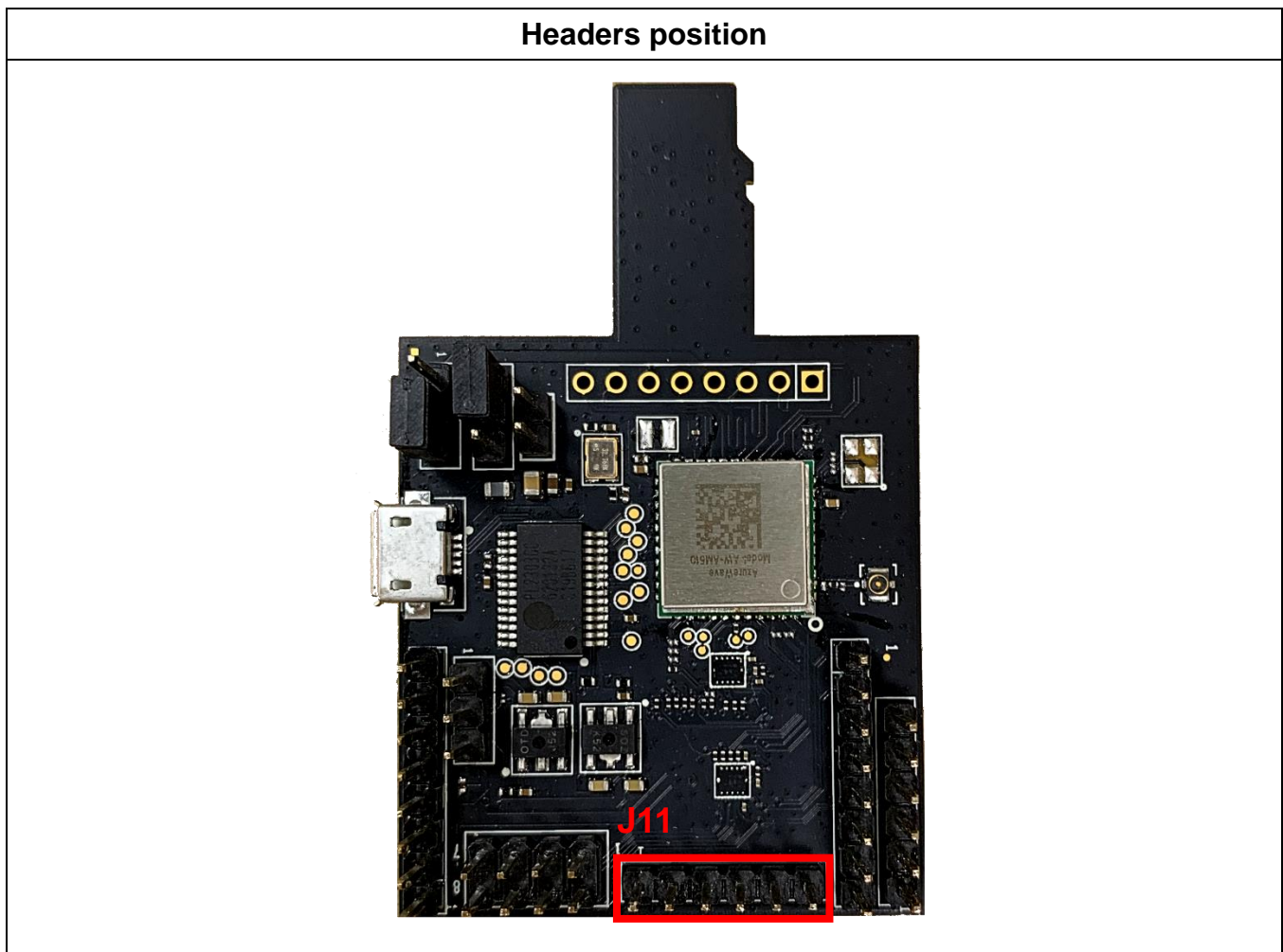| Headers position |
| :---: |
| |

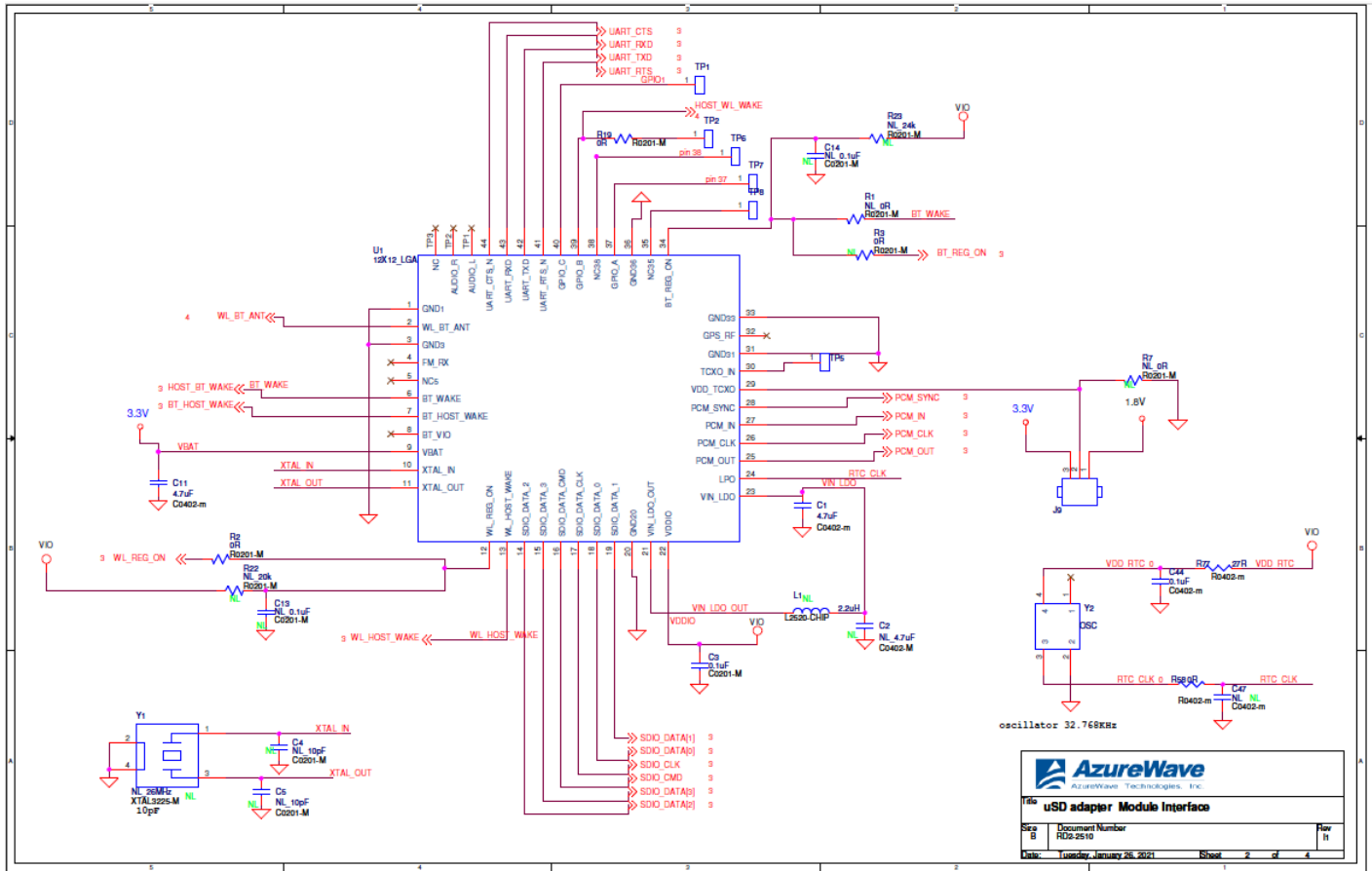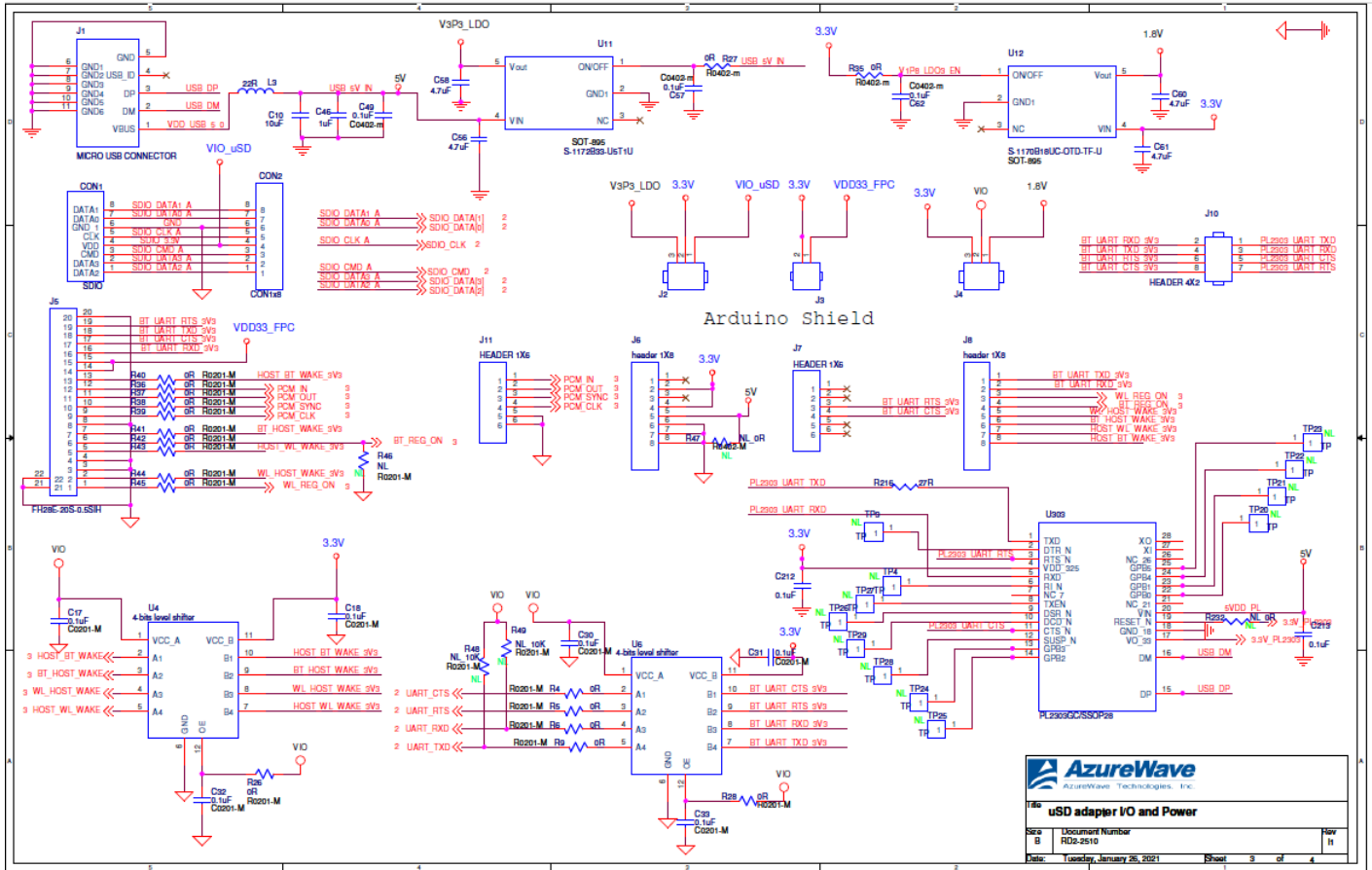PCM signal is configured from FFC connector at BOT side as default.

By using headers for PCM interface

- PCM_IN: J11 (pin 1)
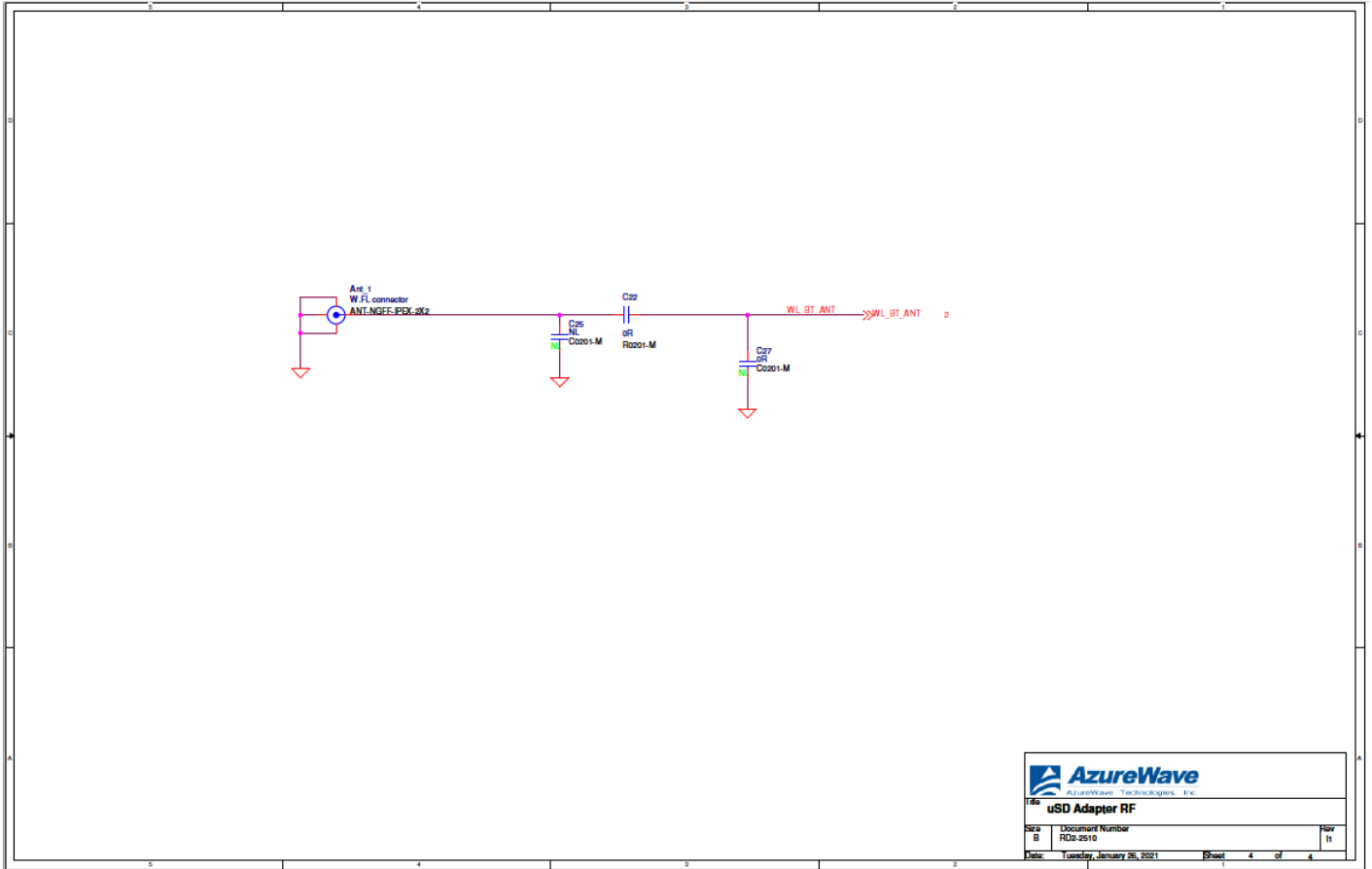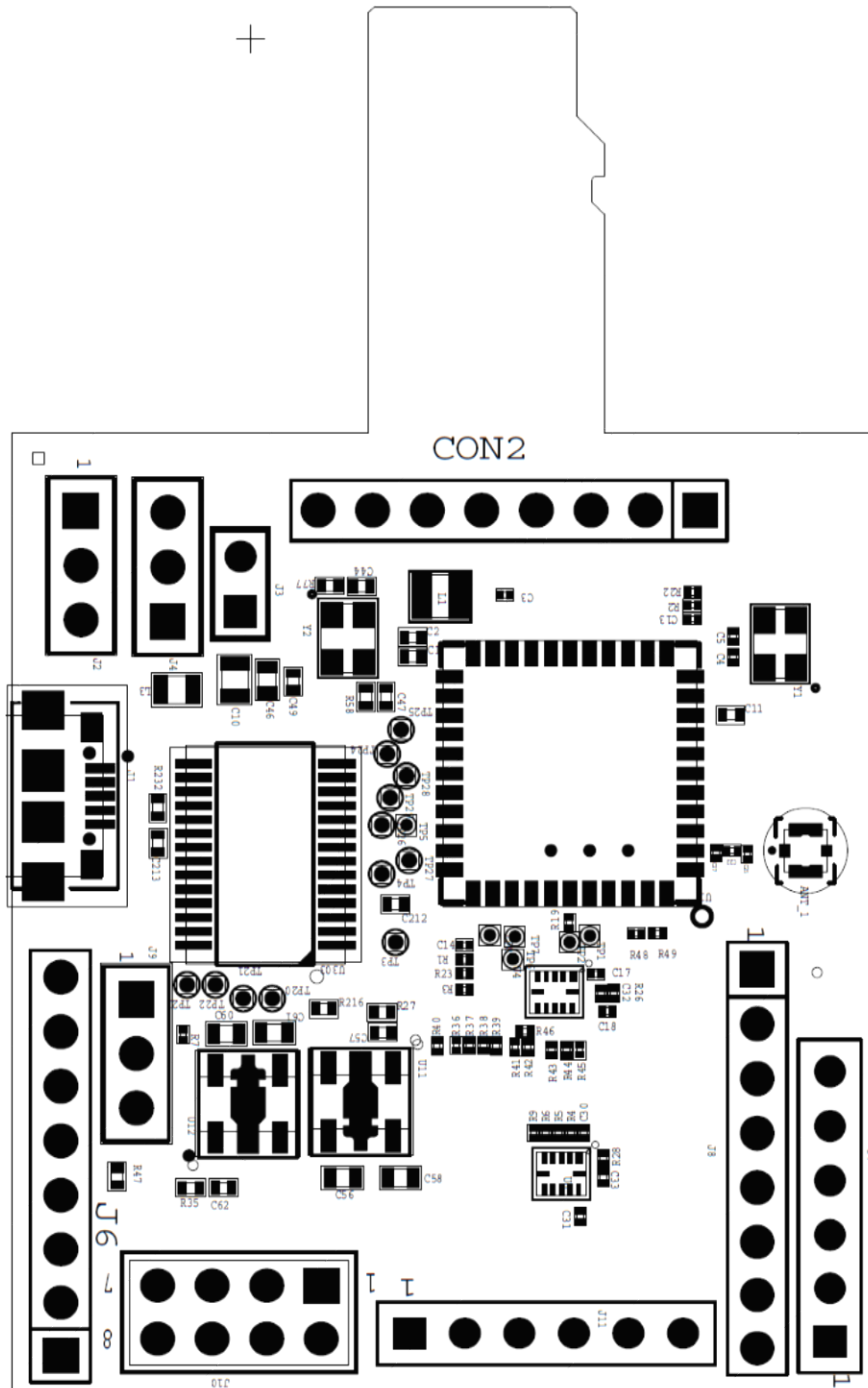- PCM_OUT: J11 (pin 2)
- PCM_SYNC: J11 (pin 3)
- PCM_CLK: J11 (pin 4)

Headers position

2.3 Schematics

Arduino Shield

uSD adapter I/O and Power

Ant_1
W.FL connector
ANT-NGFF-IPEX-2X2

C22
0R
R0201-M

C25
NL
C0201-M

WL_BT_ANT

WL_BT_ANT   2

C27
0R
C0201-M

Title
uSD Adapter RF

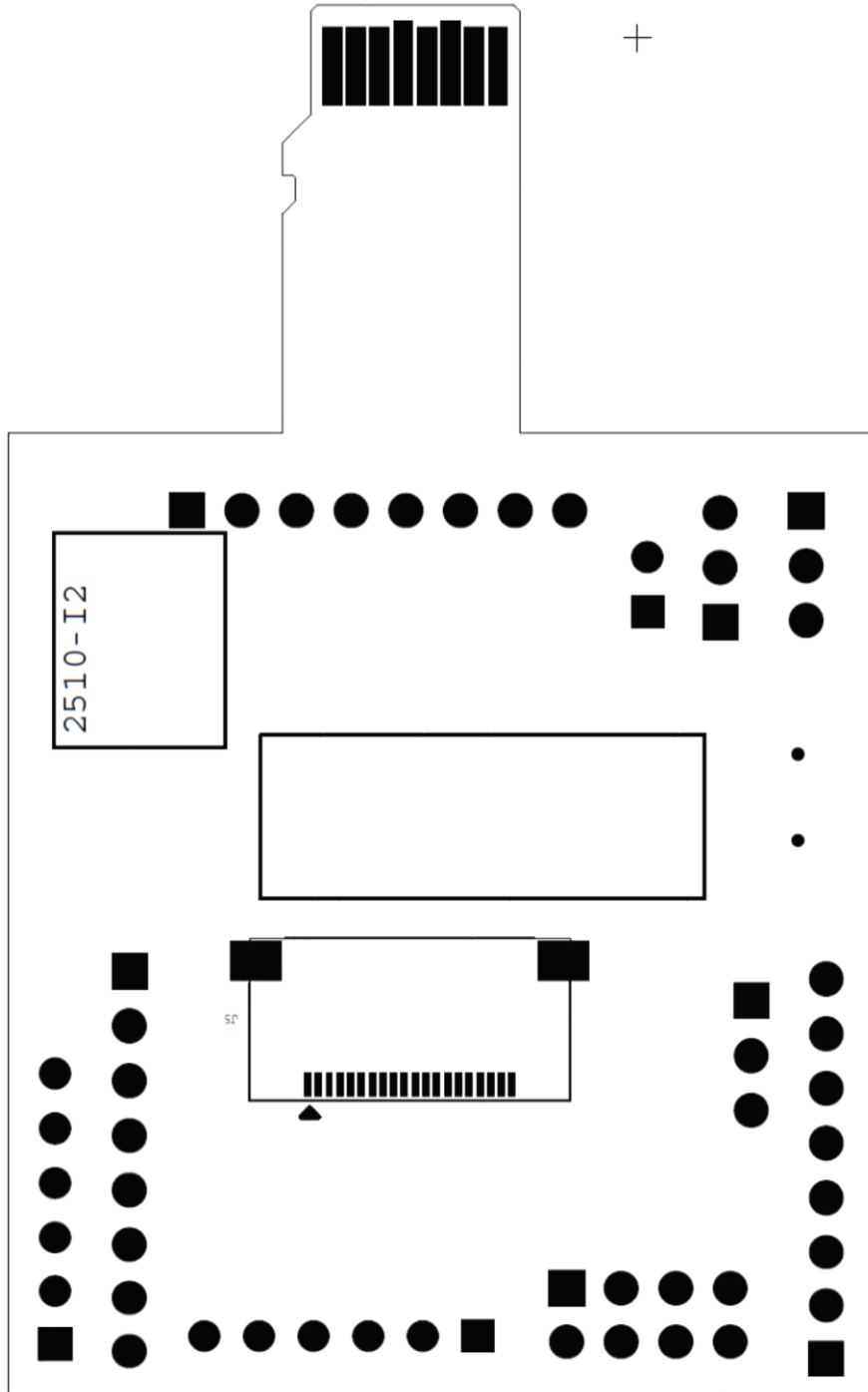| Size	Document Number	Rev
B	RD2-2510	I1

| Date: | Tuesday, January 26, 2021 | Sheet | 4 | of | 4 |

2.4 Placement
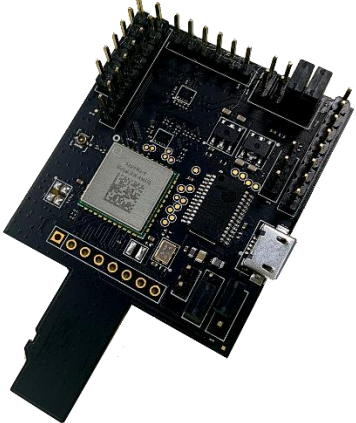
TOP View

BOT View

3. EVB Kits Contents

Content	Description
	AW-AM510-uSD
	75mm, 20 contacts, 0.5mm pitch FFC Cable
	PIFA Antenna ● Radiation: Directional ● 3D Peak Gain: ■ 2.98dBi (2.4~2.5GHz) ■ 5.16dBi (4.9~5.9GHz) ● Polarization: Linear Vertical ● Connector: IPEX-4 Compatible ● Operating Temp: -20℃ ~ +65℃ ● Storage Temp: -30℃ ~ +75℃