

# **AW-AM510MA**

**IEEE 802.11 1X1 a/b/g/n Wireless LAN  
+ Bluetooth 5.2 Combo Module (M.2 2230)**

## **Datasheet**

**Rev. D**

**DF**

**(For Standard)**

## Features

### WLAN

- PCIe M.2 TYPE 2230: 30mm(L) x 22mm(W) x 2.98 mm(H)(Max)
- SDIO interface support for WLAN
- Sub-meter accuracy WiFi indoor locationing(802.11mc)
- Multiple power saving modes for low power consumption
- IEEE 802.11i for advanced security
- Quality of Service (QoS) support for multimedia applications
- Support China WAPI
- Lead-free design

### Bluetooth

- UART interface support for Bluetooth
- High speed PCM interfaces
- Audio Codec interface support
- Bluetooth 5.2 complaint with Bluetooth 2.1 + Enhanced Data Rate (EDR)



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## 1. Introduction

### 1.1 Product Overview

**AzureWave Technologies, Inc.** introduces the IEEE 802.11a/b/g/n WLAN, BT, combo module – **AW-AM510MA**. With four advanced radio technologies integrated into a module, AW-AM510MA provides the best and most convenient SMT process. The module is targeted to mobile devices including, Tablet PC, Portable Media Players (PMPs), Portable Navigation Devices (PNDs), Personal Digital Assistants (PDAs), Tracking Devices, Gaming Devices which need convenient SMT process, low power consumption.

By using **AW-AM510MA**, the customers can easily integrate the Wi-Fi, BT, by a combo module with the benefits of high design flexibility, high success rate on SMT process, short development cycle, and quick time-to-market.

Compliance with the IEEE 802.11a/b/g/n standard, the **AW-AM510MA** uses DSSS, OFDM, DBPSK, DQPSK, CCK and QAM baseband modulation technologies. A high level of integration and full implementation of the power management functions specified in the IEEE 802.11 standard minimize the system power requirements by using AW-AM510MA.

For the video, voice and multimedia applications the AW-AM510MA support 802.11e Quality of Service (QoS). The device also supports 802.11h Dynamic Frequency Selection (DFS) for detecting radar pulses when operating in the 5GHz range.

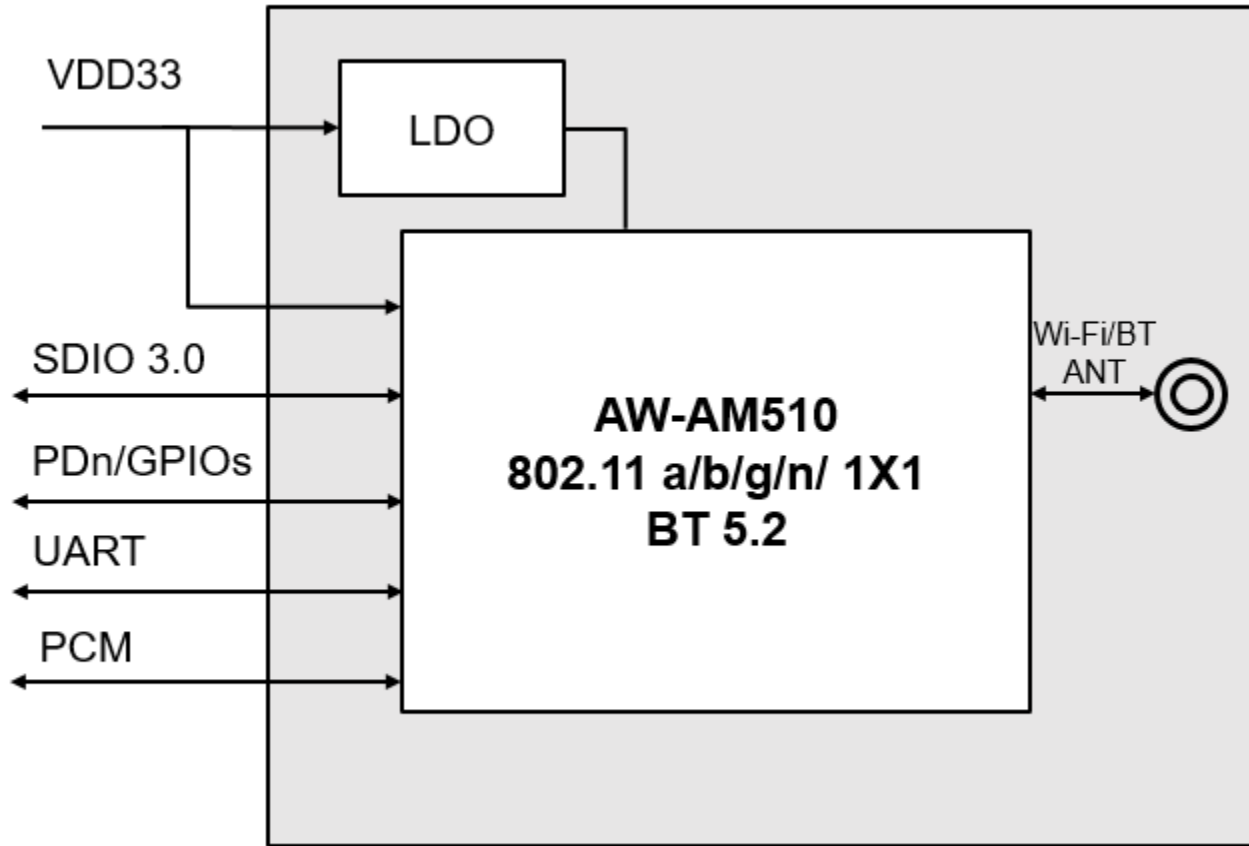
For Bluetooth operation, **AW-AM510MA** is Bluetooth 5.2 (supports Low Energy).

**AW-AM510MA** supports SDIO interface for WLAN and UART interface for Bluetooth to the host processor.

**AW-AM510MA** is suitable for multiple mobile processors for different applications with the support cellular phone co-existence.

**AW-AM510MA** module adopts NXP's latest highly-integrated dual-band WLAN & Bluetooth SoC--- **IW416**. All the other components are implemented by all means to reach the mechanical specification required.

## 1.2 Block Diagram



**AW-AM510MA Block Diagram**

## 1.3 Specifications Table

### 1.3.1 General

Features	Description
<b>Product Description</b>	IEEE 802.11a/b/g/n Wireless LAN 1T1R and Bluetooth 5.2 Combo Module (M.2 2230)
<b>Major Chipset</b>	NXP IW416
<b>Host Interface</b>	WiFi + BT <ul style="list-style-type: none"> <li>● SDIO + UART</li> </ul>
<b>Dimension</b>	22mm(W) x 30mm(L) x 2.7mm(H) (Tolerance remarked in mechanical drawing)
<b>Form factor</b>	M.2 2230
<b>Antenna</b>	I-PEX MHF4 Connector Receptacle (20449) ANT : WiFi / Bluetooth → TX/RX
<b>Weight</b>	2 g

### 1.3.2 WLAN

Features	Description
<b>WLAN Standard</b>	IEEE 802.11 a/b/g/n 1T1R
<b>WLAN VID/PID</b>	NA
<b>WLAN SVID/SPID</b>	NA
<b>Frequency Range</b>	2.4 GHz : 2.412 ~ 2.484 GHz 5 GHz : 4.915 ~5.925GHz
<b>Modulation</b>	DSSS, OFDM, DBPSK, DQPSK, CCK, 16-QAM, 64-QAM
<b>Number of Channels</b>	<b>2.4GHz</b> <ul style="list-style-type: none"> <li>■ USA, NORTH AMERICA, Canada and Taiwan – 1 ~ 11</li> <li>■ China, Australia, Most European Countries, Japan – 1 ~ 13</li> </ul> <b>5GHz</b> <ul style="list-style-type: none"> <li>■ USA,</li> <li>■ EUROPE –36,40,44,48,52,56,60,64,100,104,108,112,116,120,124,128,132,136,140,149,153,157,161,165</li> </ul>

<b>Output Power (Board Level Limit)*</b>	<b>2.4G</b>				
		Min	Typ	Max	Unit
	11b (11Mbps) @EVM<35%	15.5	17	18.5	dBm
	11g (54Mbps) @EVM ≤ -27 dB	14.5	16	17.5	dBm
	11n (HT20 MCS7) @EVM ≤ -28 dB	12.5	14	15.5	dBm
	<b>5GHz</b>				
		Min	Typ	Max	Unit
11a (54Mbps) @EVM ≤ -25 dB	14	16	18	dBm	
11n (HT20 MCS7) @EVM ≤ -27 dB	13	15	17	dBm	
11n (HT40 MCS7) @EVM ≤ -27 dB	12	14	16	dBm	
<b>Receiver Sensitivity</b>	<b>2.4GHz</b>				
		Min	Typ	Max	Unit
	11b (11Mbps)	-	-86	-83	dBm
	11g (54Mbps)	-	-73	-70	dBm
	11n (HT20 MCS7)	-	-69	-66	dBm
	<b>5GHz</b>				
		Min	Typ	Max	Unit
11a (54Mbps)	-	-71	-68	dBm	
11n (HT20 MCS7)	-	-68	-65	dBm	
11n (HT40 MCS7)	-	-66	-63	dBm	
<b>Data Rate</b>	<ul style="list-style-type: none"> <li>■ 802.11b: 1, 2, 5.5, 11Mbps</li> <li>■ 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54Mbps</li> <li>■ 802.11n: up to 150Mbps-single</li> </ul>				
<b>Security</b>	<ul style="list-style-type: none"> <li>■ WAPI</li> <li>■ WEP 64-bit and 128-bit encryption with H/W TKIP processing</li> <li>■ WPA/WPA2 (Wi-Fi Protected Access)</li> <li>■ AES-CCMP hardware implementation as part of 802.11i security standard</li> </ul>				

\* If you have any certification questions about output power please contact FAE directly.



### 1.3.3 Bluetooth

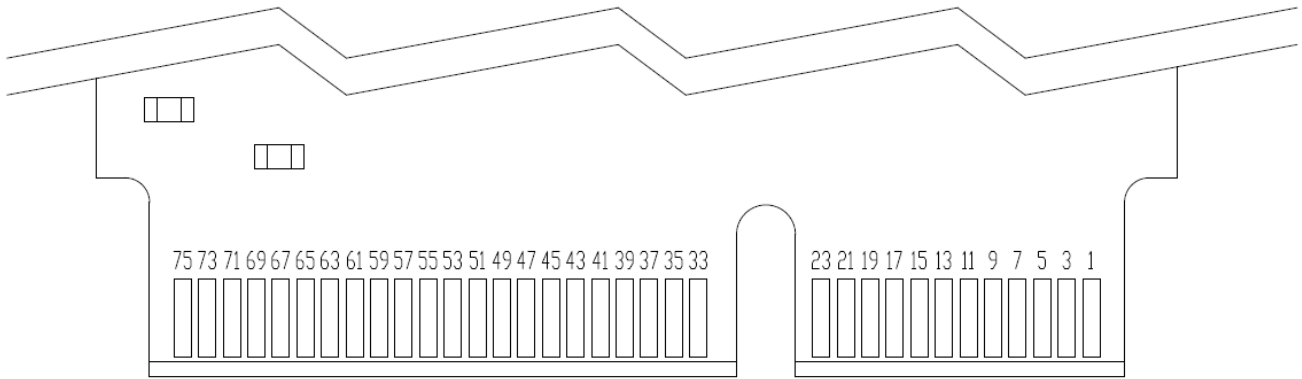
Features	Description				
<b>Bluetooth Standard</b>	Bluetooth 2.1 and 3.0+Enhanced Data Rate (EDR) + BT 5.2				
<b>Bluetooth VID/PID</b>	NA				
<b>Frequency Range</b>	2402~2480MHz				
<b>Modulation</b>	GFSK (1Mbps), $\pi/4$ DQPSK (2Mbps) and 8DPSK (3Mbps)				
<b>Output Power</b>		Min	Typ	Max	Unit
	BDR	0	2	4	dBm
	EDR	0	2	4	dBm
	BLE	0	2	4	dBm
<b>Receiver Sensitivity</b>		Min	Typ	Max	Unit
	BDR(DH1)	-	-83	-80	dBm
	EDR(2DH5)	-	-88	-85	dBm
	EDR(3DH5)	-	-83	-80	dBm
	Low Energy BER < 0.1%	-	-96	-93	dBm

### 1.3.4 Operating Conditions

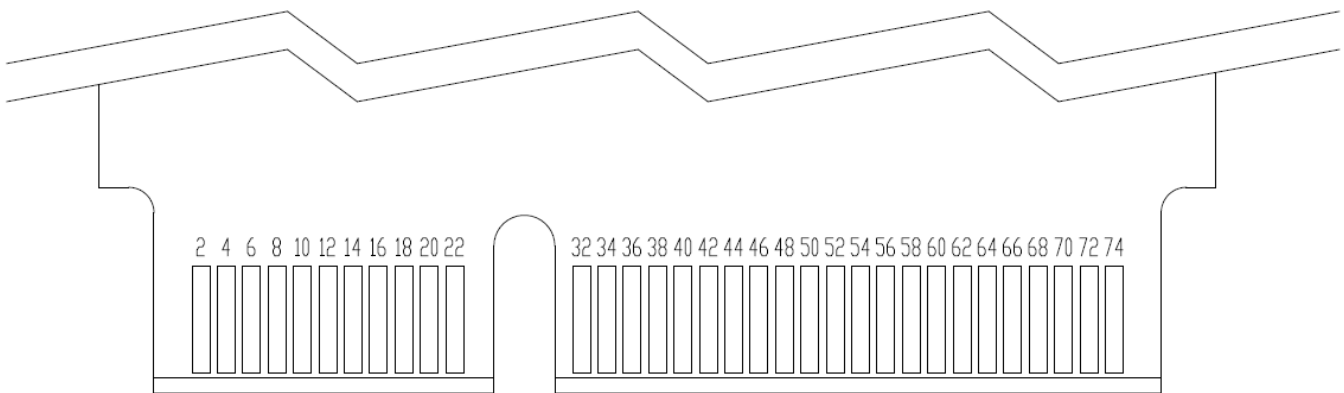
Features	Description
<b>Operating Conditions</b>	
<b>Voltage</b>	Power supply for host:3.3V
<b>Operating Temperature</b>	0°C to 70 °C
<b>Operating Humidity</b>	less than 85% R.H.
<b>Storage Temperature</b>	-40°C to 125 °C
<b>Storage Humidity</b>	less than 60% R.H.
<b>ESD Protection</b>	
<b>Human Body Model</b>	NA
<b>Changed Device Model</b>	NA

## 2. Pin Definition

### 2.1 Pin Map



PIN DEFINED (TOP VIEW)



PIN DEFINED (BOTTOM VIEW)

## 2.2 Pin Table

Pin No	Definition	Basic Description	Voltage	Type
1	GND	Ground		GND
2	3.3V	3.3V power supply.	3.3V	Power
3	NC	No connect to anything		Floating
4	3.3V	3.3V power supply	3.3V	Power
5	NC	No connect to anything		Floating
6	NC	No connect to anything		Floating
7	GND	Ground		GND
8	PCM_CLK	PCM clock	1.8V	I/O
9	SDIO_CLK	SDIO_CLK	1.8V	I
10	PCM_SYNC	PCM Synchronization control	1.8V	O
11	SDIO_CMD	SDIO_CMD	1.8V	I/O
12	PCM_OUT	PCM data Out	1.8V	O
13	SDIO_DAT[0]	SDIO Data [0]	1.8V	I/O
14	PCM_IN	PCM data Input	1.8V	I
15	SDIO_DAT[1]	SDIO Data [1]	1.8V	I/O
16	NC	No connect to anything		Floating
17	SDIO_DAT[2]	SDIO Data [2]	1.8V	I/O
18	GND	Ground.		GND
19	SDIO_DAT[3]	SDIO Data [3]	1.8V	I/O
20	UART_WAKE#	BT Host Wake	3.3V	O
21	SDIO_WAKE#	Wlan Host Wake	1.8V	I/O
22	UART_TXD	UART_SOUT	1.8V	O
23	SDIO_RESET#	Independent software reset for Wi-Fi ※This pin used the same module GPIO with JTAG_TCK	1.8V	I
32	UART_RXD	UART_SIN	1.8V	I
33	GND	Ground.		GND
34	UART_RTS	UART_RTSn (active low)	1.8V	O
35	NC	No connect to anything		Floating
36	UART_CTS	UART_CTSn(active low)	1.8V	I
37	NC	No connect to anything		Floating
38	JTAG_TDO	JTAG_TDO	1.8V	I/O
39	GND	Ground		GND
40	WL_DEV_WAKE	Host-to-WLAN wake-up	1.8V	I/O
41	NC	No connect to anything		Floating
42	BT_DEV_WAKE	BT Device Wake	1.8V	I/O
43	NC	No connect to anything		Floating
44	JTAG_TDI	JTAG_TDI	1.8V	I/O
45	GND	Ground		GND
46	JTAG_TCK	JTAG_TCK ※This pin used the same module GPIO with SDIO_RESET#	1.8V	I/O
47	NC	No connect to anything		Floating
48	JTAG_TMS	JTAG_TMS ※This pin used the same module GPIO with	1.8V	I

		W_DISABLE#2		
49	NC	No connect to anything		Floating
50	SUSCLK_32KHz	External sleep clock input (32.768 kHz).	3.3V	I
51	GND	Ground		GND
52	NC	No connect to anything		Floating
53	NC	No connect to anything		Floating
54	W_DISABLE#2	Host-to-Bluetooth reset ※This pin used the same module GPIO with JTAG_TMS	3.3V	I
55	NC	No connect to anything		Floating
56	W_DISABLE#1	PDn Full Power-Down (input) (active low) The module internal pull-up 100kΩ on this pin.	3.3V	I
57	GND	Ground		GND
58	NC	No connect to anything		Floating
59	NC	No connect to anything		Floating
60	NC	No connect to anything		Floating
61	NC	No connect to anything		Floating
62	NC	No connect to anything		Floating
63	GND	Ground		GND
64	NC	No connect to anything		Floating
65	NC	No connect to anything		Floating
66	NC	No connect to anything		Floating
67	NC	No connect to anything		Floating
68	NC	No connect to anything		Floating
69	GND	Ground		GND
70	NC	No connect to anything		Floating
71	NC	No connect to anything		Floating
72	3.3V	3.3V power supply	3.3V	Power
73	NC	No connect to anything		Floating
74	3.3V	3.3V power supply	3.3V	Power
75	GND	Ground		GND

### 3. Electrical Characteristics

#### 3.1 Absolute Maximum Ratings

Symbol	Parameter	Minimum	Typical	Maximum	Unit
3.3V	DC supply for the 3.3V input	-	3.3	3.96	V

#### 3.2 Recommended Operating Conditions

Symbol	Parameter	Minimum	Typical	Maximum	Unit
1.8V	1.8V digital I/O power supply	--	1.62	1.8	1.98
3.3V	3.3V VBAT input	--	2.97	3.3	3.63
TA	Ambient operating temperature	--	-30		85

#### 3.3 Digital IO Pin DC Characteristics

##### 3.3.1 DC Electricals-1.8V Operation(VIO)

Symbol	Parameter	Minimum	Typical	Maximum	Unit
VIL	Input low voltage	-0.4	-	0.3*V18	V
VIH	Input high voltage	0.7*V18	-	V18+0.4	V
V <sub>HYS</sub>	Input hysteresis	100	-	-	mV
VOL	Output low voltage	-	-	0.4	V
VOH	Output high voltage	V18-0.4	-	-	V
VOH	Output high voltage	V33-0.4	-	-	V

## 3.4 Host Interface

### 3.4.1 SDIO Interface

The AW-AM510MA supports a SDIO device interface that conforms to the industry standard SDIO Full-Speed card specification and allows a host controller using the SDIO bus protocol to access the Wireless module device.

The AW-AM510MA acts as the device on the SDIO bus. The host unit can access registers of the SDIO interface directly and can access shared memory in the device through the use of BARs and a DMA engine.

The SDIO device interface main features include:

Supports SDIO 3.0 Standard

On-chip memory used for CIS

Supports SPI, 1-bit SDIO, and 4-bit SDIO transfer modes

Special interrupt register for information exchange

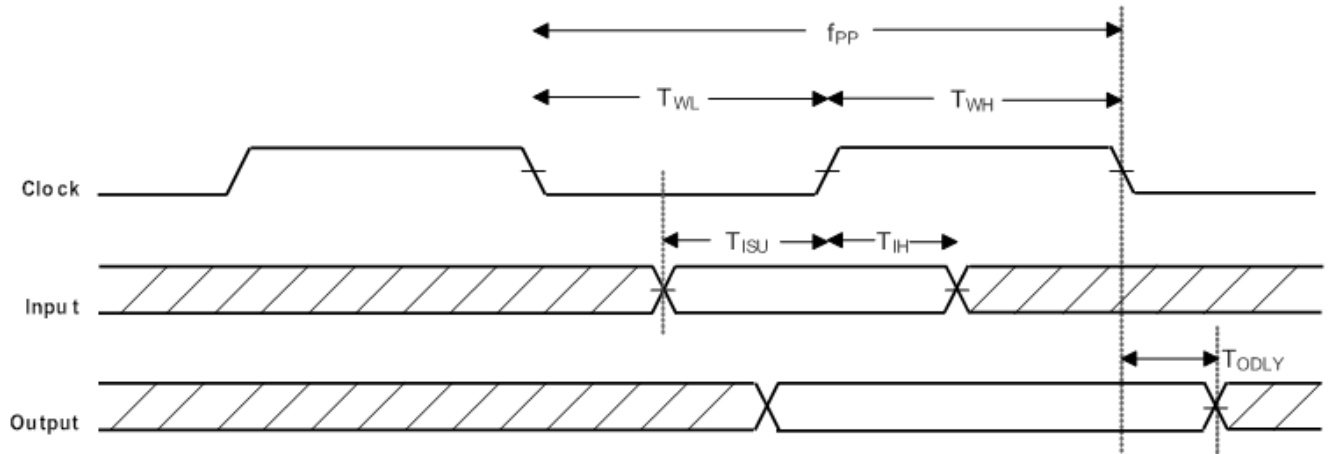
Allows card to interrupt host

#### 3.4.1.1. SDIO Interface Signal Description

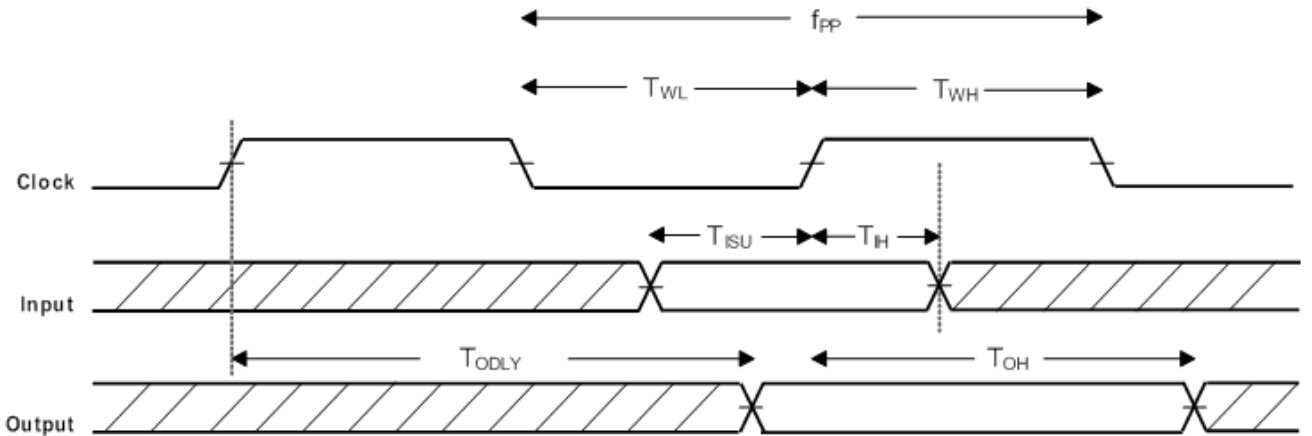
Pin Name	Signal Name	Type	Description
SD_CLK	CLK	I/O	SDIO 1-bit mode: Clock SDIO SPI mode: Clock
SD_CMD	CMD	I/O	SDIO 1-bit mode: Command line SDIO SPI mode: Data input
SD_DAT[3]	DAT3	I/O	SDIO 4-bit mode: Data line bit [3] SDIO 1-bit mode: Not used SDIO SPI mode: Chip select (active low)
SD_DAT[2]	DAT2	I/O	SDIO 4-bit mode: Data line bit [2] or Read Wait (optional) SDIO 1-bit mode: Read Wait (optional) SDIO SPI mode: Reserved
SD_DAT[1]	DAT1	I/O	SDIO 4-bit mode: Data line bit [1] SDIO 1-bit mode: Interrupt SDIO SPI mode: Interrupt
SD_DAT[0]	DAT0	I/O	SDIO 4-bit mode: Data line bit [0] SDIO 1-bit mode: Data line SDIO SPI mode: Data output

### 3.4.1.2. Default Speed, High Speed Modes

#### SDIO Protocol Timing Diagram – Default Speed Mode



#### SDIO Protocol Timing Diagram – HighSpeed Mode



#### Table shows SDIO Timing Data—Default Speed, High Speed Modes

NOTE: Over full range of values specified in the Recommended Operating Conditions unless otherwise specified.

Symbol	Parameter	Condition	Min	Typ	Max	Units
f <sub>PP</sub>	Clock Frequency	Default Speed	0	--	25	MHz
		High Speed	0	--	50	MHz
T <sub>WL</sub>	Clock Low Time	Default Speed	10	--	--	ns
		High Speed	7	--	--	ns
T <sub>WH</sub>	Clock High Time	Default Speed	10	--	--	ns
		High Speed	7	--	--	ns
T <sub>ISU</sub>	Input Setup Time	Default Speed	5	--	--	ns
		High Speed	6	--	--	ns
T <sub>IH</sub>	Input Hold Time	Default Speed	5	--	--	ns
		High Speed	2	--	--	ns
T <sub>ODLY</sub>	Output Delay Time CL ≤ 40 pF (1 card)	Default Speed	--	--	14	ns
		High Speed	---	-1	4	ns
T <sub>OH</sub>	Output Hold Time	High Speed	2.5	--	--	ns



### 3.4.1.3. SDR12, SDR25, SDR50 Modes (up to 100MHz)

SDIO Protocol Timing Diagram – SDR12,SDR25,SDR50 Modes (up to 100MHz)

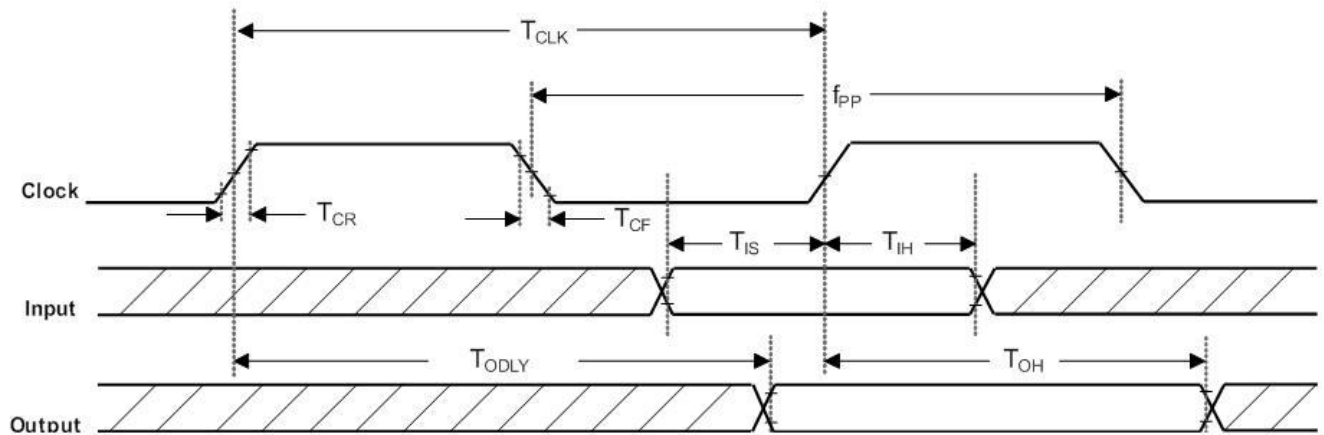
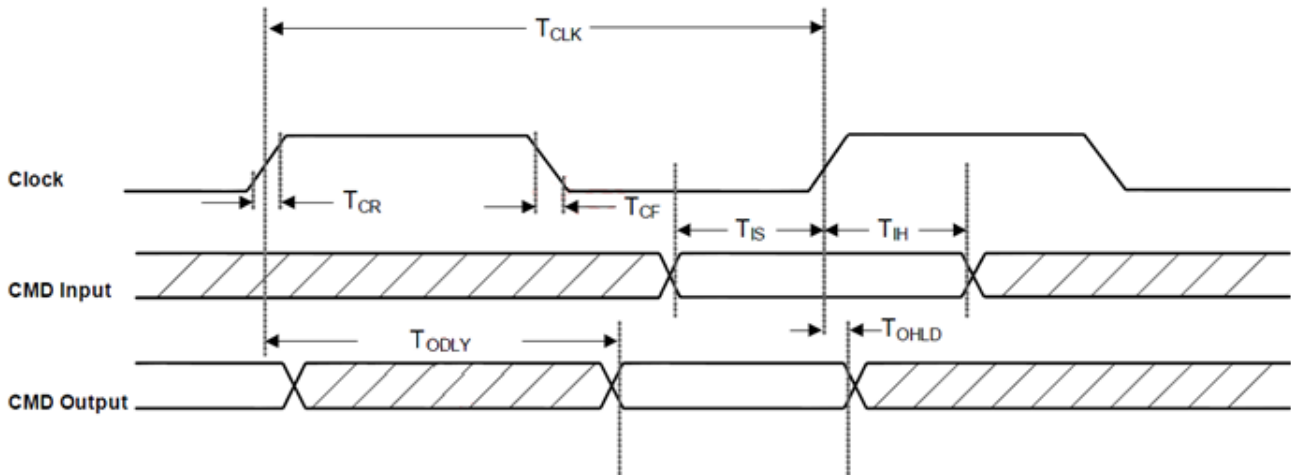


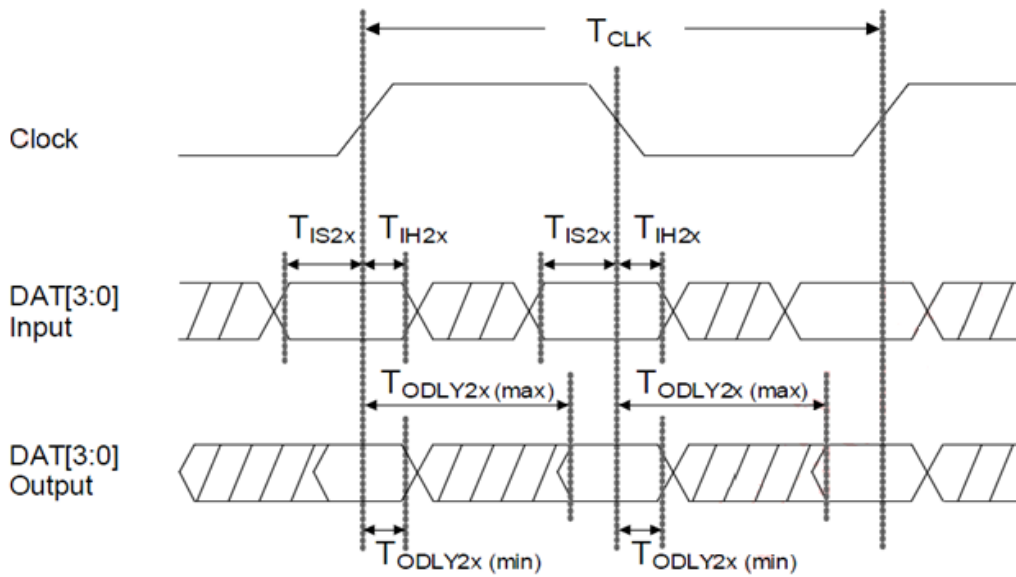
Table shows SDIO Timing Data—SDR12,SDR25,SDR50 Modes (up to 100MHz)

Symbol	Parameter	Condition	Min	Typ	Max	Units
$f_{PP}$	Clock frequency	SDR12/25/50	25	--	100	MHz
$T_{IS}$	Input setup time	SDR12/25/50	3	--	--	ns
$T_{IH}$	Input hold time	SDR12/25/50	0.8	--	--	ns
$T_{CLK}$	Clock time	SDR12/25/50	10	--	40	ns
$T_{CR}, T_{CF}$	Rise time, fall time $T_{CR}, T_{CF} < 2$ ns (max) at 100 MHz $C_{CARD} = 10$ pF	SDR12/25/50	--	--	$0.2 * T_{CLK}$	ns
$T_{ODLY}$	Output delay time $C_L \leq 30$ pF	SDR12/25/50	--	--	7.5	ns
$T_{OH}$	Output hold time $C_L = 15$ pF	SDR12/25/50	1.5	--	--	ns

### 3.4.1.4 DDR50 Mode (50MHz) (1.8V)



SDIO CMD Timing Diagram - DDR50 Mode (50 MHz)



SDIO DAT[3:0] Timing Diagram - DDR50 Mode<sup>1</sup> (50 MHz)

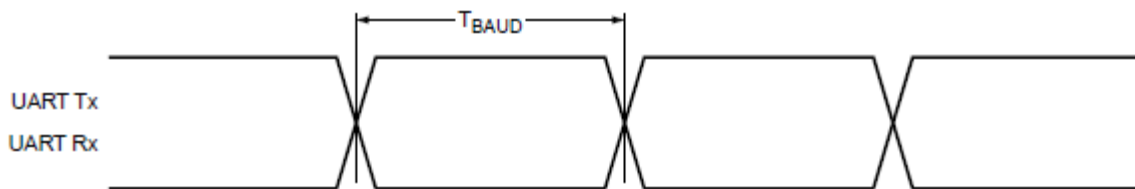
<sup>1</sup> In DDR50 mode, DAT[3:0] lines are sampled on both edges of the clock (not applicable for CMD line).

Symbol	Parameter	Condition	Min	Typ	Max	Units
<b>Clock</b>						
T <sub>CLK</sub>	Clock time	DDR50	20	-	-	ns
T <sub>CR</sub> , T <sub>CF</sub>	Rise time, fall time	DDR50	-	-	0.2*T <sub>CLK</sub>	Ns
Clock Duty		DDR50	45	-	55	%
<b>CMD Input</b>						
T <sub>IS</sub>	Input setup time	DDR50	6	-	-	ns
T <sub>IH</sub>	Input hold time	DDR50	0.8	-	-	ns
<b>CMD Output</b>						
T <sub>ODLY</sub>	Output delay time during data transfer mode	DDR50	-	-	13.7	ns
T <sub>OHLd</sub>	Output hold time	DDR50	1.5	-	-	ns
<b>DAT [3:0] Input</b>						
T <sub>IS2X</sub>	Input setup time	DDR50	3	-	-	ns
T <sub>IH2X</sub>	Input hold time	DDR50	0.8	-	-	ns
<b>DAT [3:0] Output</b>						
T <sub>ODLY2X(max)</sub>	Output delay time during data transfer mode	DDR50	-	-	7	ns
T <sub>ODLY2X(min)</sub>	Output hold time	DDR50	1.5	-	-	ns

### SDIO Timing Data - DDR50 Mode (50MHz)

### 3.4.2.High-Speed UART Interface

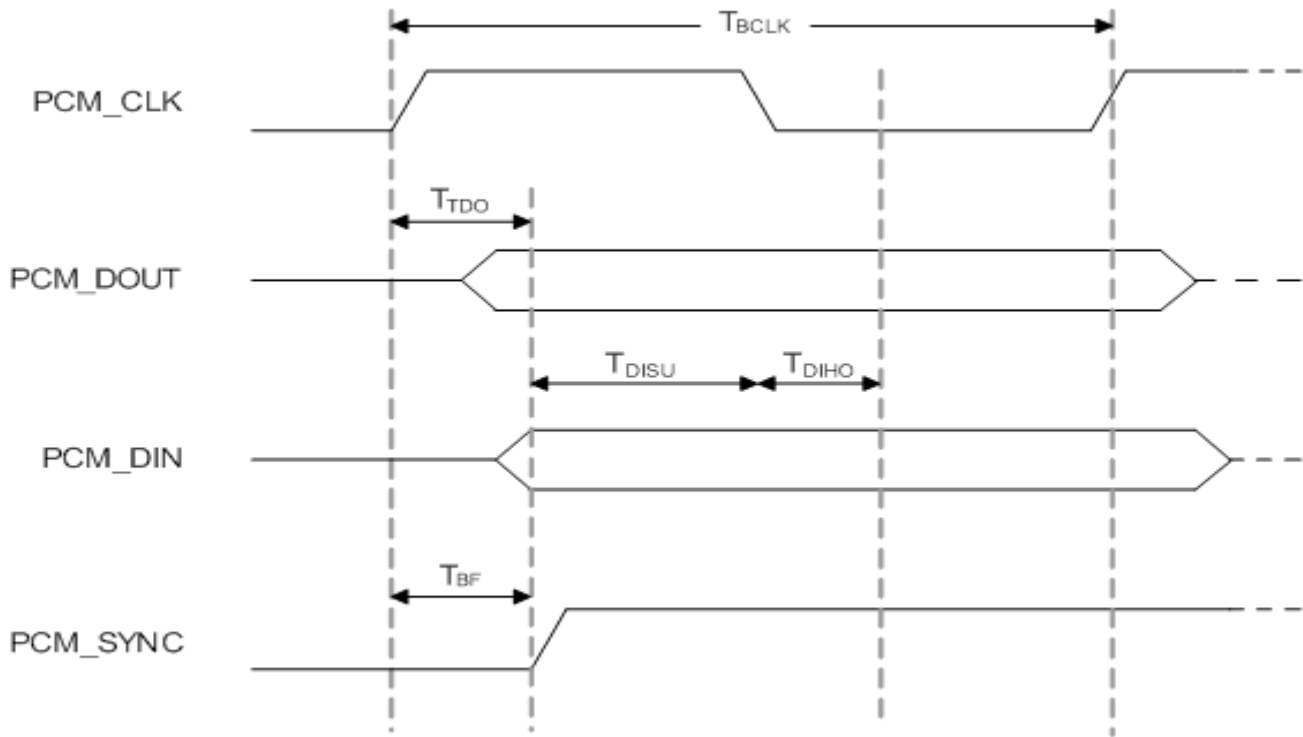
The AW-AM510MA supports a high-speed Universal Asynchronous Receiver/Transmitter (UART) interface, compliant to the industry standard 16550 specification. High-speed baud rates are supported to provide the physical transport between the device and the host for exchanging Bluetooth data.



Symbol	Parameter	Condition	Min	Typ	Max	Units
T <sub>BAUD</sub>	Baud rate	26MHz input clock	250	-	-	ns

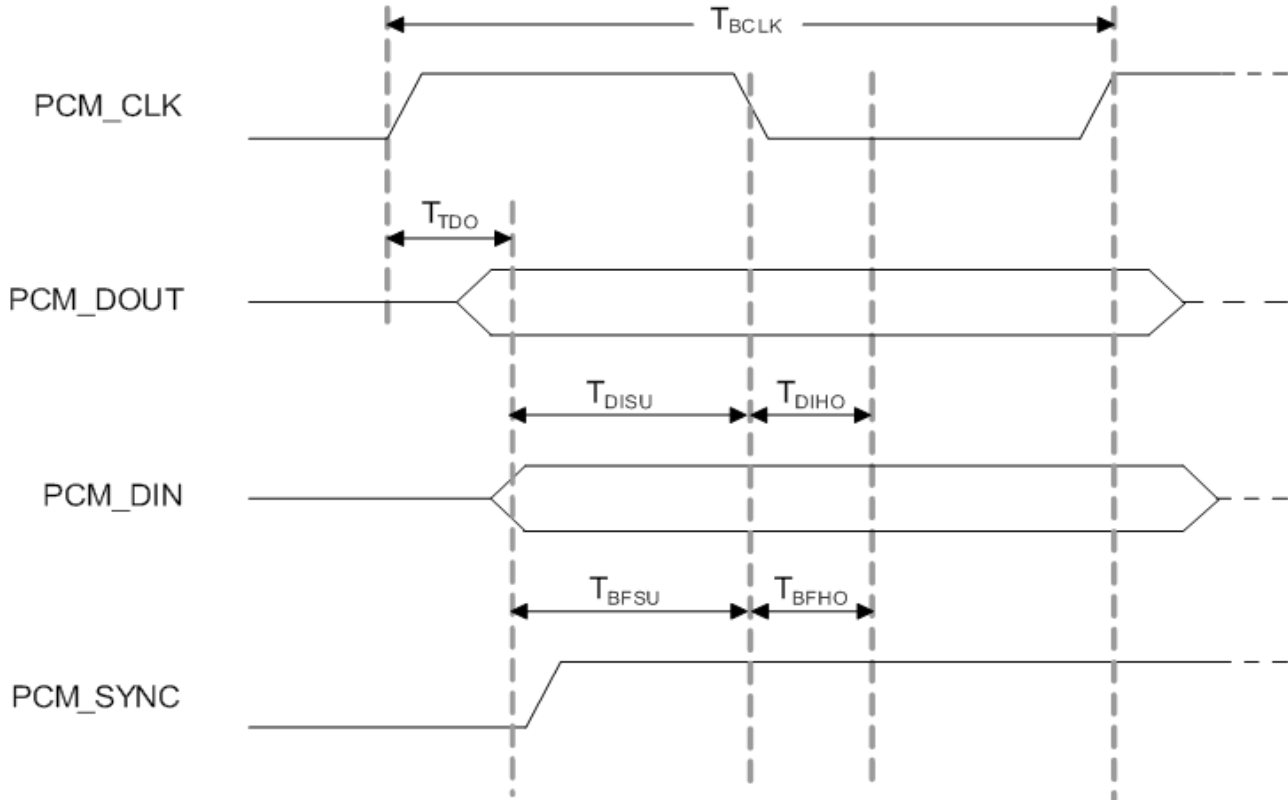
### 3.4.3. PCM Interface

#### 3.4.3.1 PCM Timing Specification – Master Mode



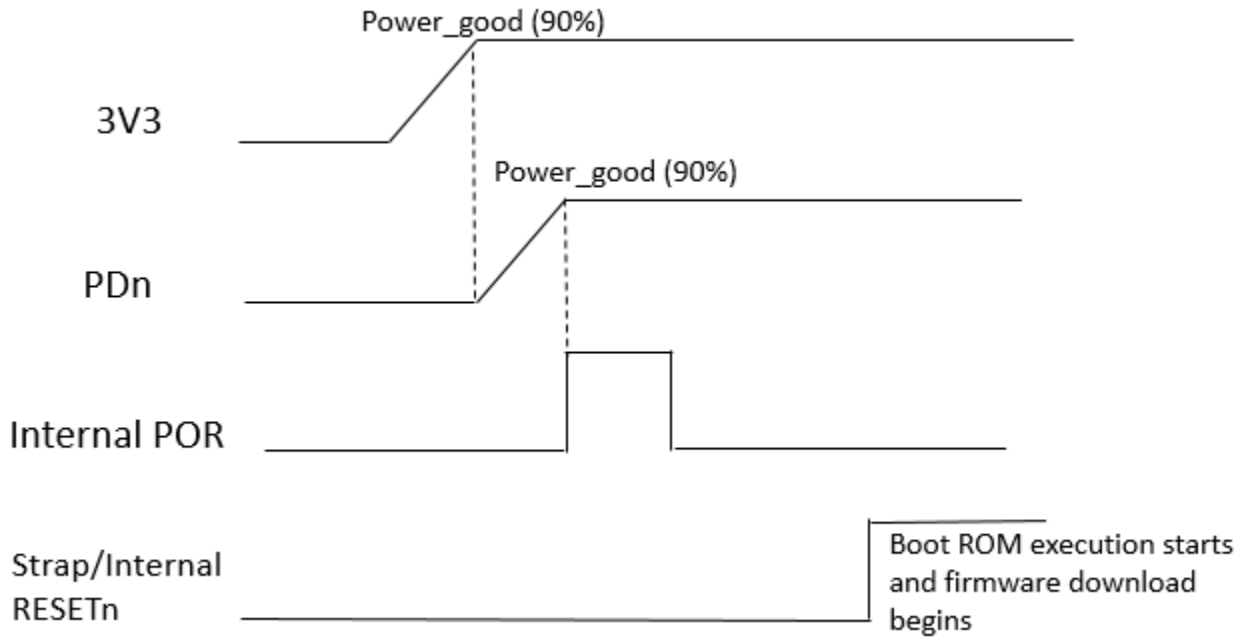
Symbol	Parameter	Condition	Min	Typ	Max	Units
$F_{BCLK}$	--	--	--	2/2.048	--	MHz
Duty Cycle $_{BCLK}$	--	--	0.4	0.5	0.6	--
$T_{BCLK}$ rise/fall	--	--	--	3	--	ns
$T_{DO}$	--	--	--	--	15	ns
$T_{DISU}$	--	--	20	--	--	ns
$T_{DIHO}$	--	--	15	--	--	ns
$T_{BF}$	--	--	--	--	15	ns

### 3.4.3.2 PCM Timing Specification – Slave Mode



Symbol	Parameter	Condition	Min	Typ	Max	Unit
$F_{BCLK}$	--	--	--	2/2.048	--	MHz
Duty Cycle <sub>BCLK</sub>	--	--	0.4	0.5	0.6	--
$T_{BCLK \text{ rise/fall}}$	--	--	--	3	--	ns
$T_{DO}$	--	--	--	--	30	ns
$T_{DISU}$	--	--	15	--	--	ns
$T_{DIHO}$	--	--	10	--	--	ns
$T_{BFSU}$	--	--	15	--	--	ns
$T_{BFHO}$	--	--	10	--	--	ns

### 3.5 Power up Timing Sequence



### 3.6 Power consumption

#### 3.6.1 WLAN result

\* The power consumption is based on Azurewave test environment, these data for reference only.

No.	Item			VBAT_IN=3.3V(mA)		
				Max.	Avg.	
1	Power Down			3mA		
2	DeepSleep (Not associated with AP)			6.6mA	6.3mA	
3	Power Save (2.4GHz)			37mA	7.4mA	
4	Power Save (5GHz)			64mA	7.1mA	
Band (GHz)	Mode	BW (MHz)	RF Power (dBm)	Transmit		
				Max.	Avg.	Duty Mean (%)
2.4	11b@1Mbps	20	17	521	496	53
	11b@11Mbps	20	17	555	523	53
	11g@6Mbps	20	16	515	433	42
	11g@54Mbps	20	16	479	418	22
	11n@MCS0	20	14	402	388	39
	11n@MCS7	20	14	371	361	4.7
5	11a@6Mbps	20	16	381	345	42
	11a@54Mbps	20	16	119	116	24
	11n@MCS0	20	15	334	328	39
	11n@MCS7	20	15	314	310	4.7
	11n@MCS0	40	14	308	303	19
	11n@MCS7	40	14	279	276	2.6
Band (GHz)	Mode	BW(MHz)	Receive			
			Max.	Avg.		
2.4	11b@1Mbps	20	42	40		
	11n@MCS7	20	43	41		
5	11a@6Mbps	20	58	57		
	11n@MCS7	40	66	65		

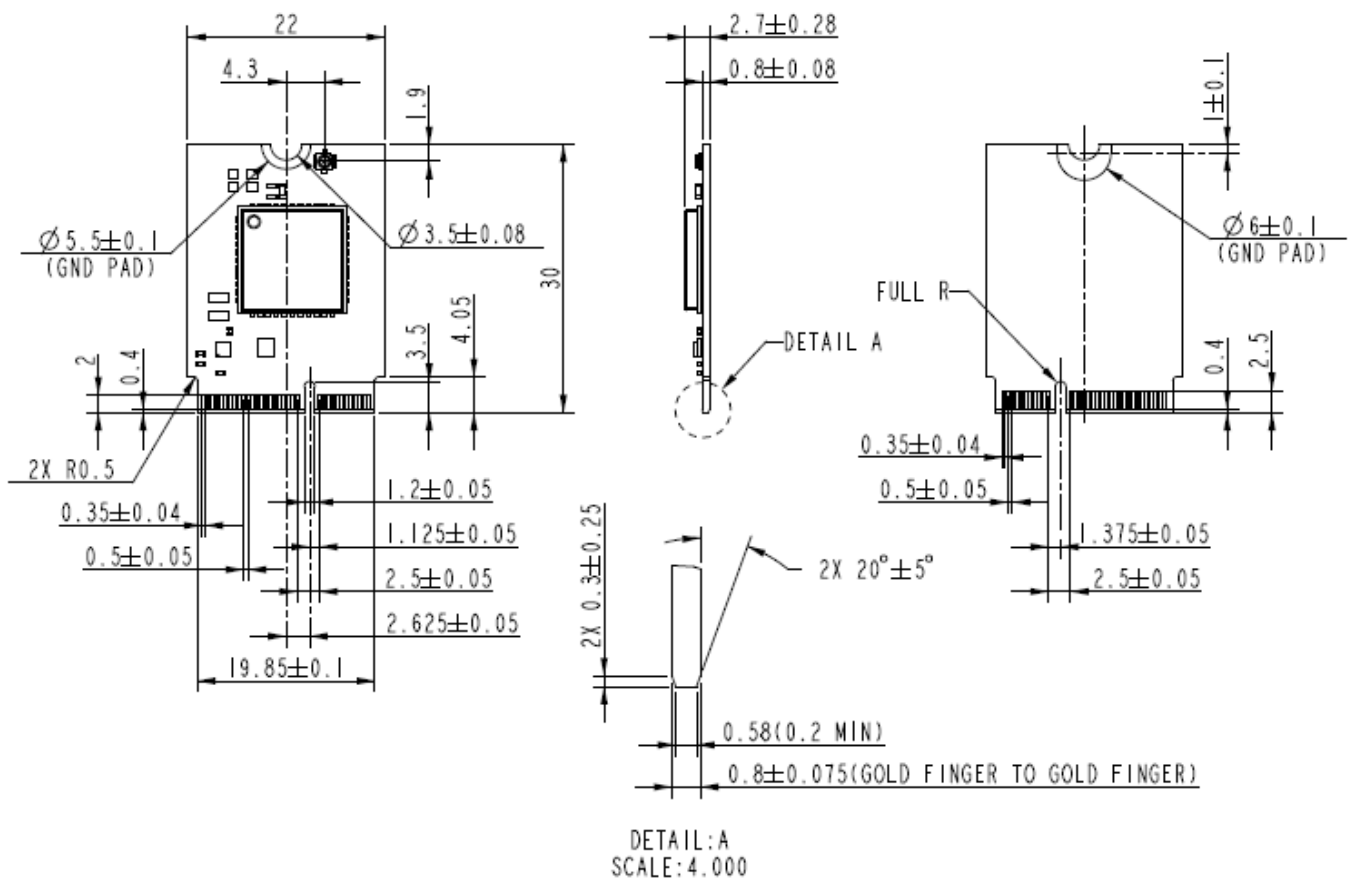
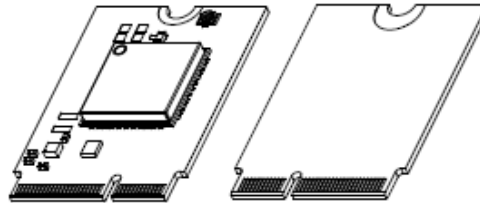
#### 3.6.2 Bluetooth

No.	Mode	VBAT=3.3V(mA)			
		Transmit		Receive	
		Max.	Avg.	Max.	Avg.
1	Sleep	n/a	n/a	6.2mA	6.0mA
2	Transmit	DH5	0.62	27mA	21mA
3	Receive	3DH5	n/a	32mA	22mA

\* The power consumption is based on Azurewave test environment, these data for reference only.

## 4. Mechanical Information

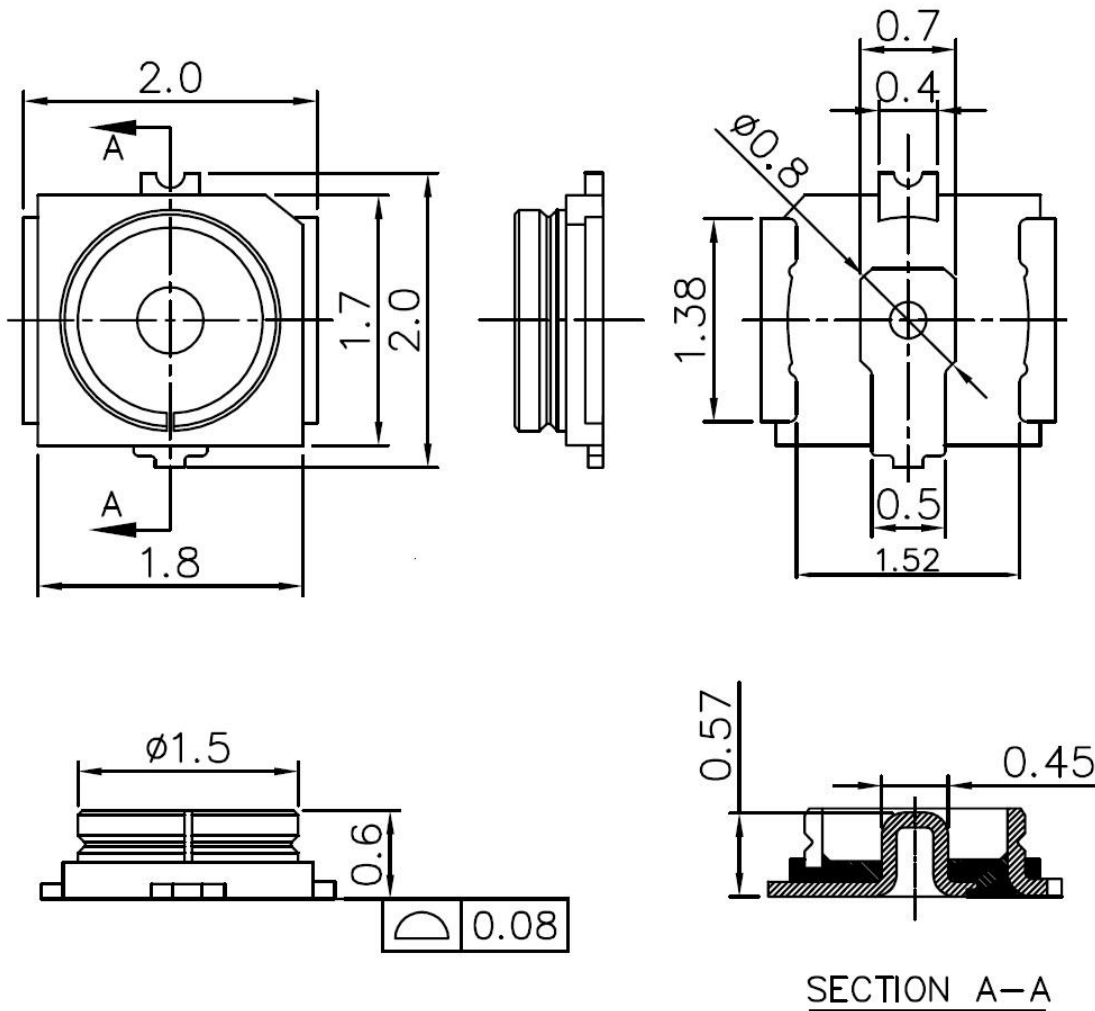
### 4.1 Mechanical Drawing



TOLERANCE UNLESS OTHERWISE SPECIFIED:  $\pm 0.15\text{mm}$



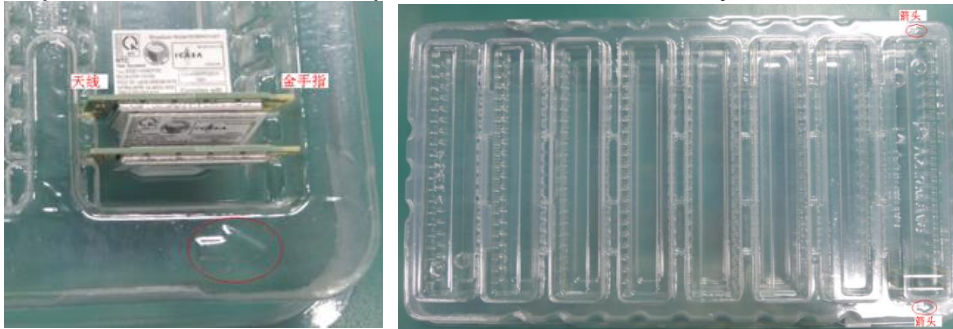
## 4.2 Antenna connector drawing



UNITS: mm

## 5. Packaging Information

1. 160pcs M.2 2230 modules put in the one bottom tray



2. One cover tray put on bottom tray



3. 5pcs tray (cover + bottom) stacked together



4. Use P.P Strap to pack 5 trays



5. Put packed trays into inner box



6. Seal the inner box by AzureWave tape



7. One package label pasted in side of inner box



Example:



8. Two inner boxes put into one carton; If only one inner box has modules, "Empty" label pasted on the other one inner box
















Example:

9. Seal the carton by AzureWave tape



10. One carton label and box label pasted on the carton. If the carton is not full, one balance label pasted on the carton



<p>Example of carton label</p>	 <table border="1"> <tr> <td colspan="2" style="text-align: center;"></td> </tr> <tr> <td>AzureWave P/N</td> <td></td> </tr> <tr> <td>Customer</td> <td>由業務提供</td> </tr> <tr> <td>Customer P/N</td> <td>由業務提供</td> </tr> <tr> <td>Customer PO</td> <td>由業務提供</td> </tr> <tr> <td>Description</td> <td>AW-XXXXXX</td> </tr> <tr> <td>QTY</td> <td>1200 pcs</td> </tr> <tr> <td>C/N</td> <td></td> </tr> <tr> <td>N.W.</td> <td>G.W.</td> </tr> <tr> <td colspan="2" style="text-align: center;"></td> </tr> </table>			AzureWave P/N		Customer	由業務提供	Customer P/N	由業務提供	Customer PO	由業務提供	Description	AW-XXXXXX	QTY	1200 pcs	C/N		N.W.	G.W.		
																					
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QTY	1200 pcs																				
C/N																					
N.W.	G.W.																				
																					
<p>Example of box label</p>																					
<p>Example of production label</p>	 <p>P/N: </p> <p>D/C: 1309 </p> <p>PCK NO.: PCKNO0069097 </p> <p>QTY: 294 </p> <p>BAG SEAL DATE: _____</p>																				
<p>Example of balance label</p>	