

A31G226

Starter Kit

STK-A31G226-ML2N-A

Starter Kit H/W Manual

Version 1.04

Contents

1	Introduction of starter kit board	4
2	A-link part	5
2.1	A-link section	5
2.1.1	USB connector (micro USB type B)	5
2.1.2	J103 (Box Header): SWD Connector on MCU Board	5
2.1.3	J2 (box Header): SWD Connector on A-Link Board	5
2.2	Power, USB to UART section	6
2.2.1	P2: MCU Power Selector	6
2.2.2	J3: USB to UART connection	6
3	Device part	7
3.1	Power, Boot mode selector and switch	7
3.1.1	J205: external power (not used)	7
3.1.2	J202: mode select (boot/normal) pins	7
3.1.3	SW201, SW202: switch	7
3.2	LED display (D101 – D106)	8
3.2.1	LED schematic	8
3.2.2	LED pin assignment	8
3.3	Pin assignment	9
	Revision history	10

List of figures

Figure 1. Starter Kit Board	4
Figure 2. A-Link Section	5
Figure 3. Power, USB to UART Section	6
Figure 4. Power, Boot mode and Switch	7
Figure 5. LED Display	8
Figure 6. LED Schematic	8
Figure 7. Pin Assignment	9

List of tables

Table 1. Main Features of Starter Kit Board	4
Table 2. SWD Pin Description on MCU Board	5
Table 3. A-Link SWD Pin Description	5
Table 4. P2 MCU Power Selector	6
Table 5. USB to UART Description	6
Table 6. J205 Description and Connection	7
Table 7. J202 Boot Mode Selector	7
Table 8. SW201, SW202 Description and Function	7
Table 9. LED Pin Description	8

1 Introduction of starter kit board

Figure 1 shows a starter kit board of A31G226-ML2N-A. In Table 1, you can see main features of the starter kit board.

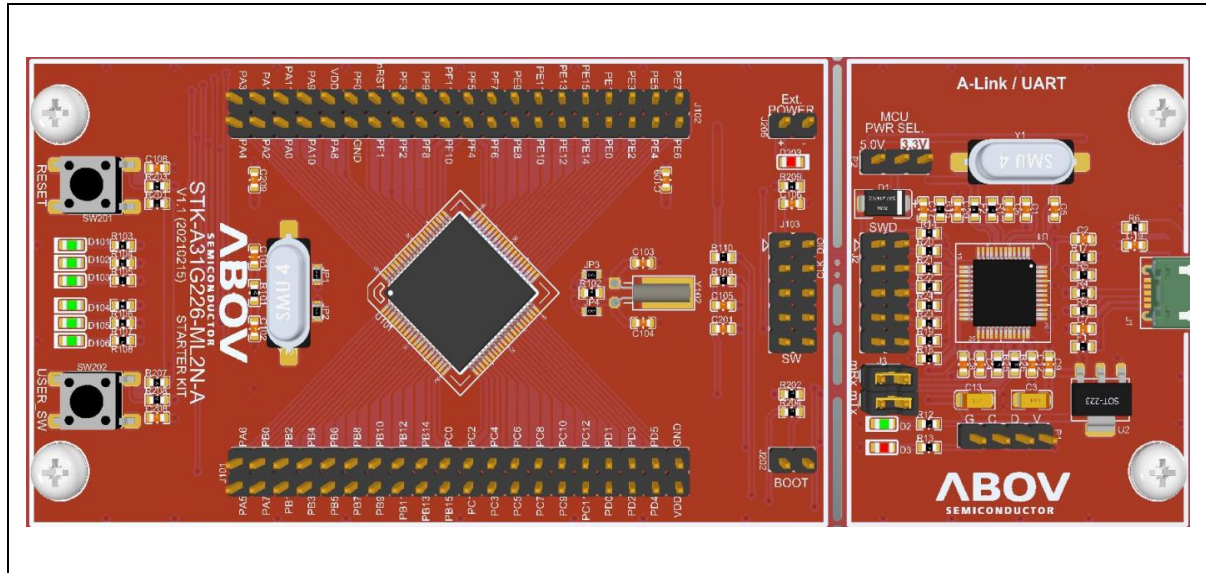


Figure 1. Starter Kit Board

Table 1. Main Features of Starter Kit Board

Main feature	Specifications	Remark
MCU	A31G226ML2N	ARM CORTEX-M0+
Operating clock	8 MHz	Crystal Main
Code (ROM) Flash	256 KB	Code
Data Flash	32 KB	Data
RAM	20 KB	Data
Communication Port	USB 2.0	Micro USB Type B 5-pin
Debugging Port	SWD	10-pin Connector
Input Buttons	1 reset & 1 event input	TACT switch

2 A-link part

In this chapter, A-link part of the starter kit board is introduced.

2.1 A-link section

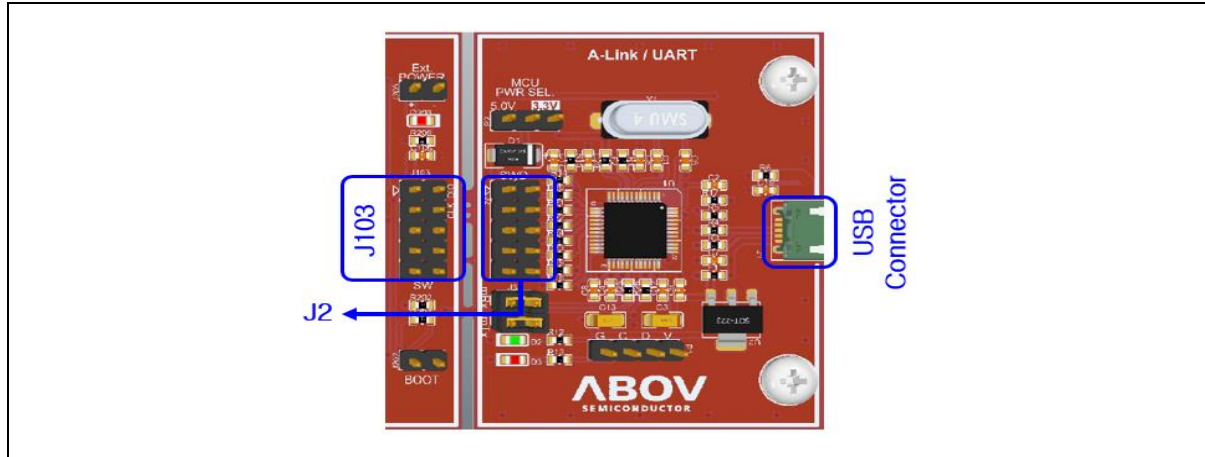


Figure 2. A-Link Section

2.1.1 USB connector (micro USB type B)

- PC USB interface (Debug Keil, IAR ..)
- CMSIS-DAP (Debug)
- COM Port

2.1.2 J103 (Box Header): SWD Connector on MCU Board

Table 2. SWD Pin Description on MCU Board

V-Sense	1	2	SWDIO
GND	3	4	SWCLK
GND	5	6	NC
NC	7	8	NC
GND	9	10	nRESET

2.1.3 J2 (box Header): SWD Connector on A-Link Board

Table 3. A-Link SWD Pin Description

V-Sense	1	2	SWDIO
GND	3	4	SWCLK
GND	5	6	NC
NC	7	8	NC
GND	9	10	nRESET

2.2 Power, USB to UART section

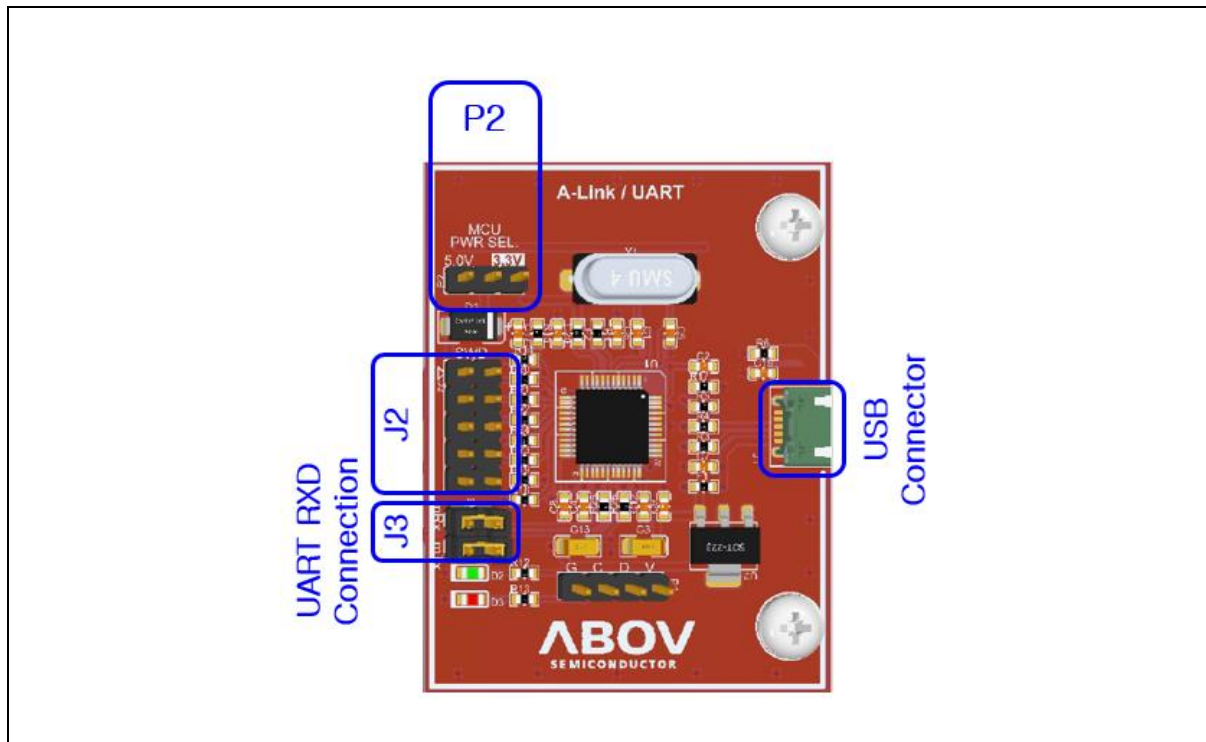


Figure 3. Power, USB to UART Section

2.2.1 P2: MCU Power Selector

Table 4. P2 MCU Power Selector

P2	VDD
	5.0V
	3.3V
	External Power

2.2.2 J3: USB to UART connection

Table 5. USB to UART Description

J3	Pin	Connection
	Short	(mRX) MCU RXD ← PC TXD (mTX) MCU TXD → PC RXD
	Open	(mRx) MCU RXD Open (mTx) MCU TXD Open

3 Device part

In this chapter, power, a boot mode selector and switches of the starter kit board are introduced.

3.1 Power, Boot mode selector and switch

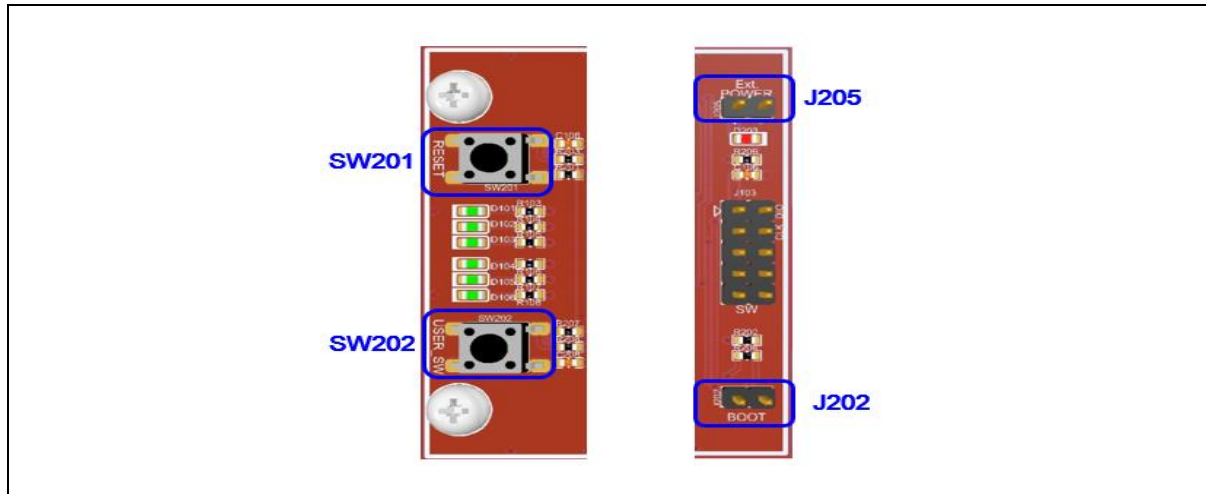
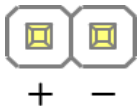


Figure 4. Power, Boot mode and Switch

3.1.1 J205: external power (not used)

Table 6. J205 Description and Connection

J205	Pin name	Connection
	VDD	+1.8 ~ 5.0V
	GND	0V

3.1.2 J202: mode select (boot/normal) pins

Table 7. J202 Boot Mode Selector

J202	Pin name	Connection
	Short	Boot mode
	Open	Normal mode

3.1.3 SW201, SW202: switch

Table 8. SW201, SW202 Description and Function

Switch	Function
SW201	nRESET
SW202	PC1

3.2 LED display (D101 – D106)

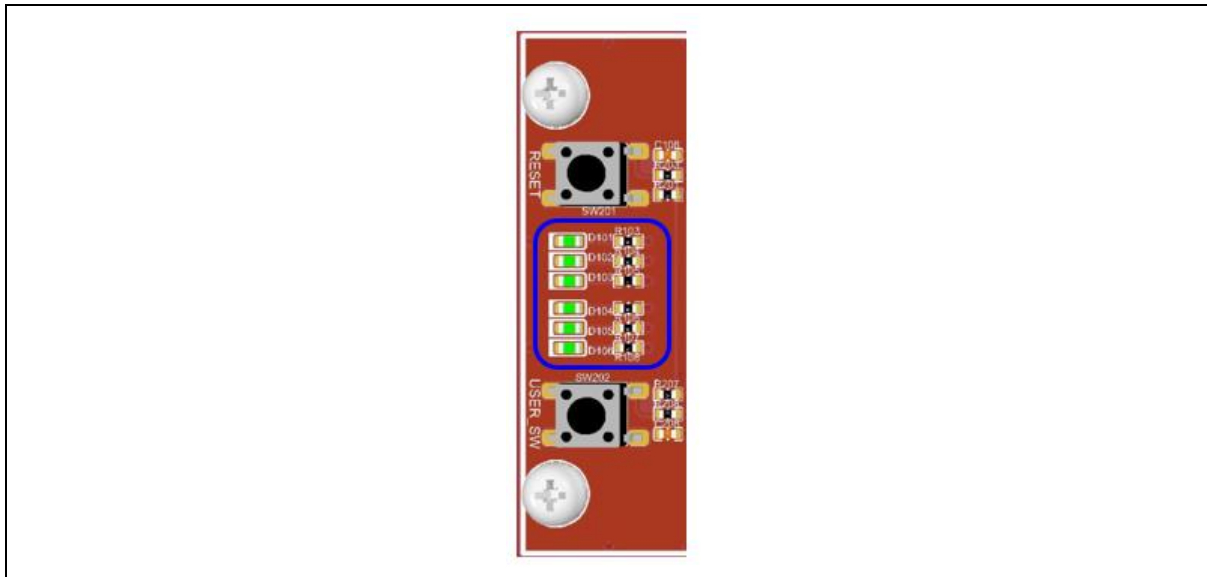


Figure 5. LED Display

3.2.1 LED schematic

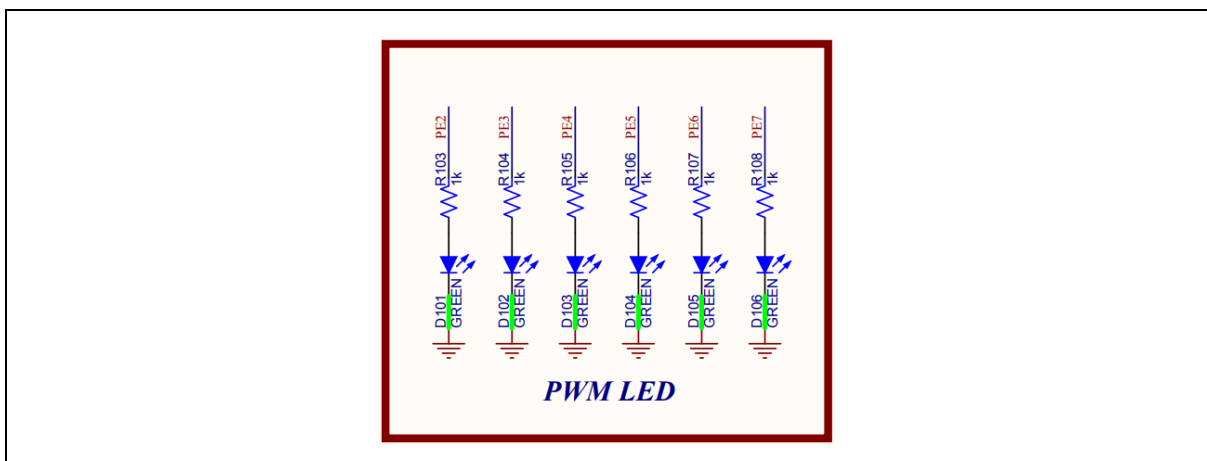


Figure 6. LED Schematic

3.2.2 LED pin assignment

Table 9. LED Pin Description

LED name	PORT
D101	PE2
D102	PE3
D103	PE4
D104	PE5
D105	PE6
D106	PE7

3.3 Pin assignment

Pin color legend			
 VDD	 PC		
 GND	 PD		
 PA	 PE		
 PB	 PF		

CN1			
1	PA5/T120/T12C/AN5/CPA	PA6/SEG43/AN6/DAO/CREF1/T11CA/T110A	2
3	PA7/SEG42/AN7/CREF0	PB0/SEG41/TXD10/MOSI10/AN8/MOSI20	4
5	PB1/SEG40/RXD10/MISO10/AN9/MISO20	PB2/SEG39/SCK10/AN10/SCK20	6
7	PB3/SEG38/SS10/NBOOT/SS20	PB4/SEG37/TXD0/SWCLK	8
9	PB5/SEG36/RXD0/SWDIO	PB6/SEG35/TXD1/EC11A/AN15	10
11	PB7/SEG34/RXD1/AN16	PB8/SEG33/EC16/T150/T15C	12
13	PB9/SEG32/EC15/T160/T16C	PB10/SEG31/T160/T16C/EC15	14
15	PB11/SEG30/T150/T15C/EC16	PB12/SEG29	16
17	PB13/SEG28	PB14/SEG279	18
19	PB15/SEG26	PC0/SEG25/T200/T20C/AN17	20
21	PC1/SEG24/T2IO/T21C	PC2/SEG23/EC20/MOSI20	22
23	PC3/SEG22/EC21/MISO20	PC4/SEG21/SCK20	24
25	PC5/SEG20/SDA2	PC6/SEG19/SCL2	26
27	PC7/SEG18	PC8/SEG17	28
29	PC9/SEG16	PC10/SEG15	30
31	PC11/SEG14/EC10	PC12/SEG13/EC11	32
33	PD0/SEG12/SCL0/SS20	PD1/SEG11/SDA0	34
35	PD2/SEG10/TXD11/MOSI11/MISO21A/ISEG9	PD3/SEG9/RXD11/MISO11/MISO21A/ISEG8	36
37	PD4/SEG8/SCK11/BLNKA/SCK21A/ISEG7	PD5/SEG7/SS11/SS21A/ISEG6	38
39	VDD	GND	40

CN2			
80	PA4/AN4/CP1B	PA3/AN3/CP1C	79
78	PA2/EC12/AN2/CP0A	PA1/SCL1/AN1	77
76	PA0/SDA1/AN0	PA11/AN14	75
74	PA10/AN13	PA9/AN12	73
72	PA8/AN11	VDD	71
70	GND	PF0/XOUT/SCL1A	69
68	PF1/XIN/SDA1A	nRESET	67
66	PF2/SXIN/TXD1A	PF3/SXOUT/RXD1A	65
64	PF8/EC13	PF9/EC14	63
62	PF10/T130/T13C	PF11/T140/T14C	61
60	PF4/CLK0	PF5/BLNK	59
58	PF6/EC30/SCL0	PF7/T30C/SDA0	57
56	PE8/TXD13/MOSI13/VLC0	PE9/RXD13/MISO13/VLC1	55
54	PE10/SCK13/VLC2	PE11/SS13/VLC3	53
52	PE12/TXD12/MOSI12	PE13/RXD12/MISO12	51
50	PE14/SEG5/SCK12	PE15/SEG6/SS12	49
48	PE0/COM0/PWM30AA/SS11A	PE1/COM1/PWM30AB	47
46	PE2/COM2/PWM30BA/SS21/SEG0	PE3/COM3/SEG0/PWM30BB/SCK21/SEG1	45
44	PE4/COM4/SEG1/PWM30CA/MISO21/ISEG2	PE5/COM5/SEG2/PWM30CB/MISO21/ISEG3	43
42	PE6/COM6/SEG3/T100/T10C/SEG4	PE7/COM7/SEG4/T110/T11C/SEG5	41

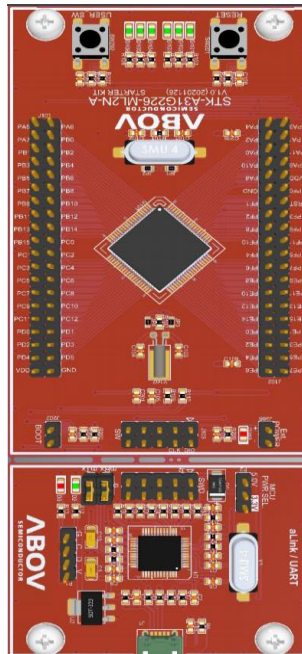


Figure 7. Pin Assignment

Revision history

Date	Version	Description
20.03.31	1.00	Document created
21.01.28	1.01	Changed Starter Kit name and figures. - Referred STK- A31G226-ML2N-A, v1.0 Modified item name to match STK with a PCB silk.
22.02.09	1.02	Revised Document Updated Figure 1, Figure 2, Figure 3, Figure 4
22.11.01	1.03	Revision the font of this document
24.12.02	1.04	Updated the disclaimer.

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