

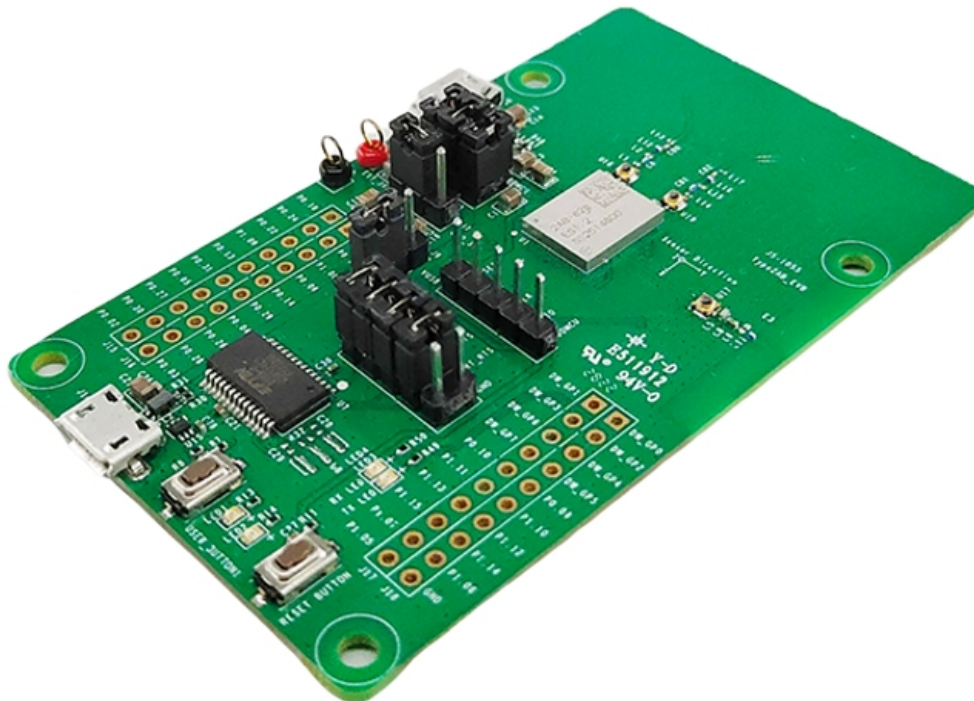
muRata JS-0989 Type2AB UWB Module EVB User Manual

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INNOVATOR IN ELECTRONICS

Type2AB UWB Module
EVB User Manual
(Rev5.1)



7th March 2024
UWB Section, muRata/SyChip

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JS-0989 Type2AB UWB Module EVB



Introduction

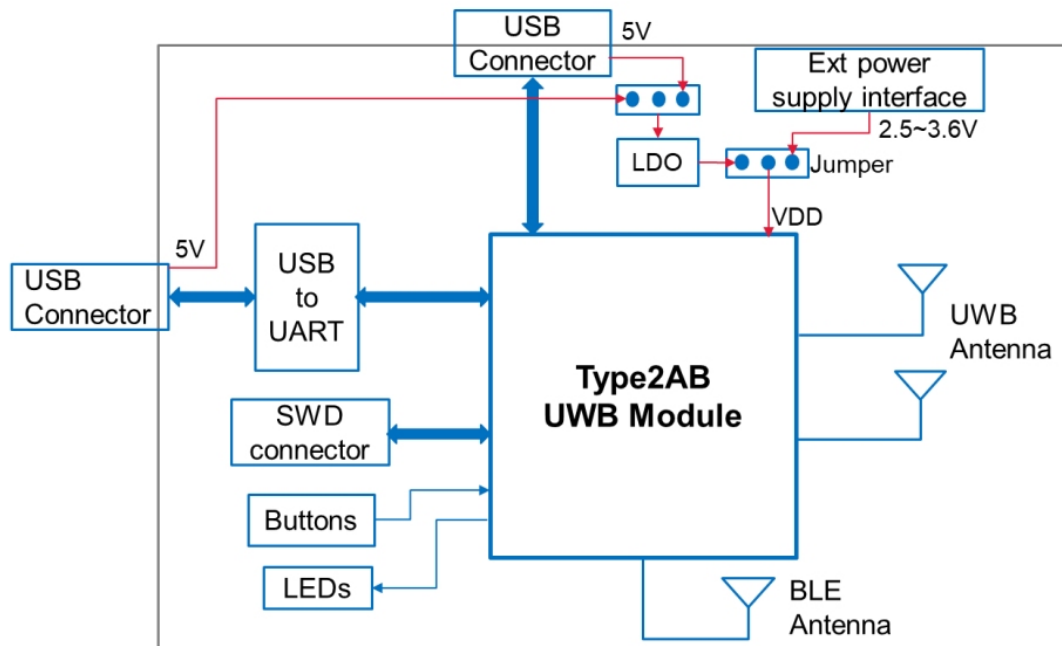
This document provides basic information about Murata Type2AB EVB, mainly including hardware setting and related documents list.

- About this document

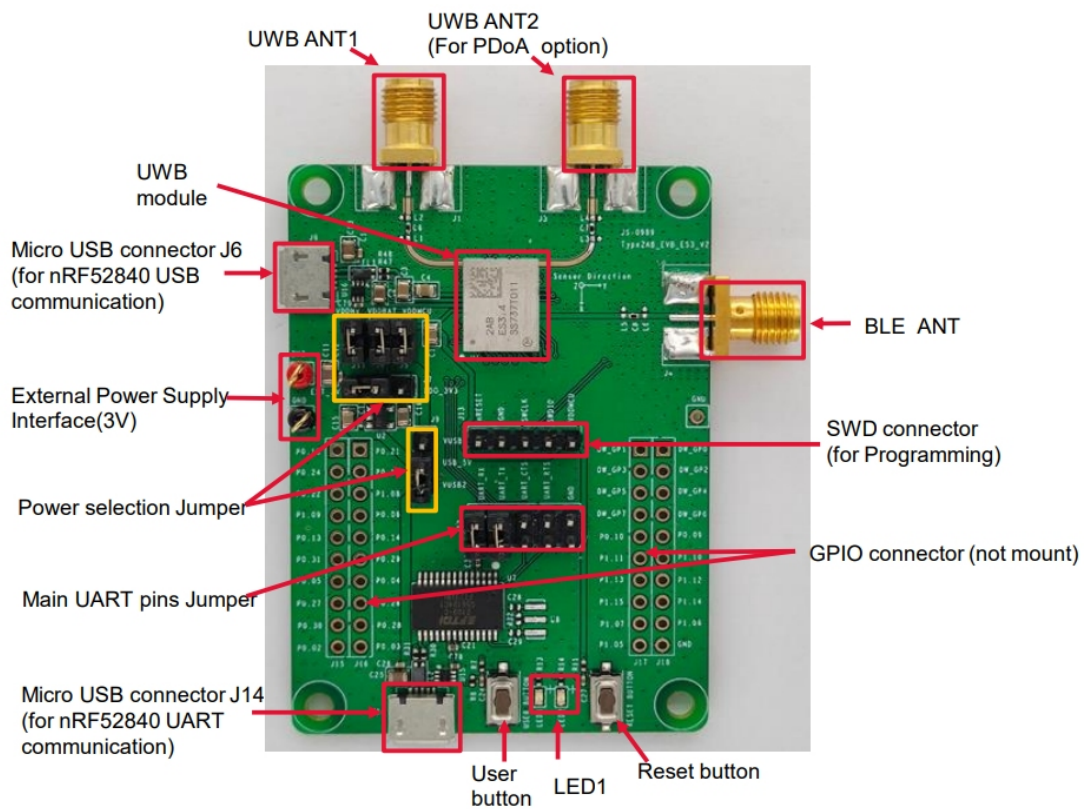
There are two main versions of Type2AB EVB, the latest one is Rev4.0 (PCB version: JS-1055), old one is Rev3.0 (PCB version: JS-0989), the main difference of two EVB versions is antenna design.

The legacy Rev3.0 JS-0989 EVB is EOL and will no longer be provided to customers. However, considering that some users may still be using them, we retain the description of the old EVB in this document.

Type2AB Module EVB Block Diagram

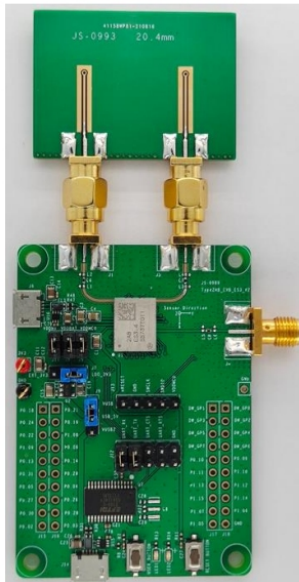


Type2AB JS-0989 EVB Description

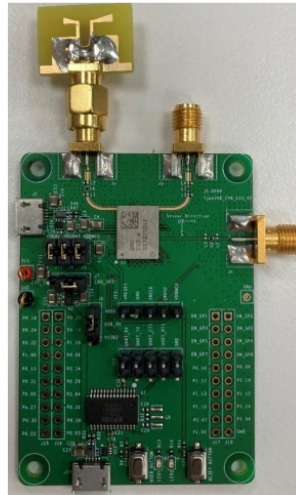


- Antenna assembly for JS-0989

UWB PDoA antenna assembly picture

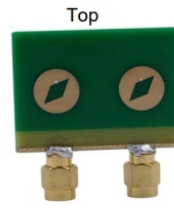


UWB single antenna assembly picture



Note: PDoA antenna for CH5 and CH9 is different.

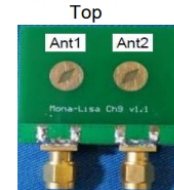
- CH5 PDoA antenna



Bottom



- CH9 PDoA antenna



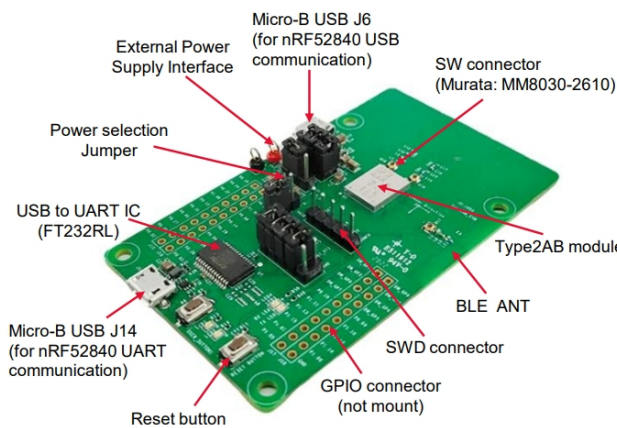
Bottom



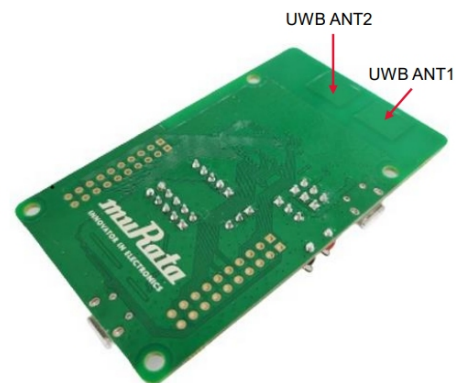
Type2AB JS-1055 EVB Description

- PCB antenna is used for JS-1055

<Component Side>

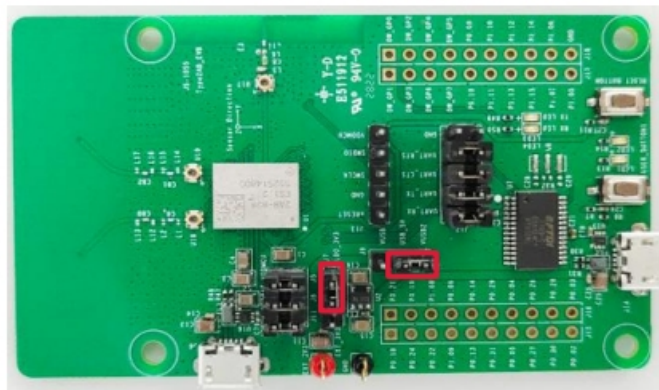


<UWB Antenna Side>



Getting Started With Type2AB Module EVB

- Make sure the power supply jumper setting is the same as the picture below.



If you plan to choose a different power supply method, please refer to page 10 ~13 for the power supply options.

- Connect EVB to PC via USB interface J14 and check if the COM port appeared on Device Manager correctly.



The COM port number, e.g. COM19, may vary depending on the actual environment.

If the COM port doesn't appear correctly, please download the virtual COM port driver from the link below and reinstall it properly.

FTDI VCP driver link: <https://ftdichip.com/drivers/vcp-drivers/>

3. Open Serial port tool on PC. Set the serial parameter as below.

Baud rate = 115200

Data = 8

Parity = None

Stop = 1

Flow control = None

Press reset button, if +EVENT=0,0,0 appear on serial tool, it will be indicated the EVB work correctly.

4. The default preprogrammed firmware in Type2AB EVB is TestFW (v0.6.0).

It's mainly used for UWB RF testing and BLE function testing. Please refer to [1] for more details about TestFW.

Please visit myMurata* Type2AB [Document site](#) and [Software site](#) for more references and firmware.

Refer to [2] for details on how to upgrade the firmware.

Refer to [3] for how to evaluate UWB ranging functions using the demo firmware.

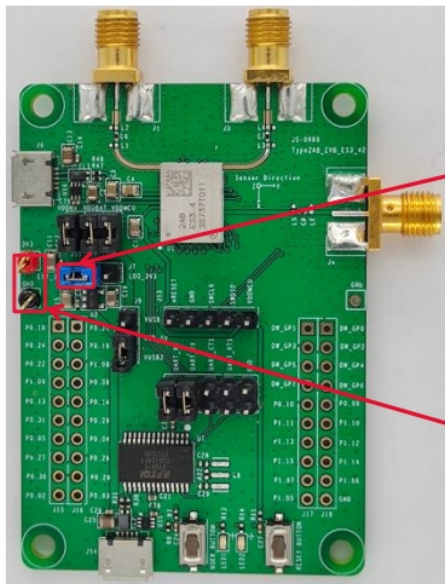
Refer to [4] for how to build the demo firmware with SDK and patch file.

***Note** registration is required to access myMurata Type2AB Document site and Software site.
Please refer to myMurata Access Guide for details.

Appendixes

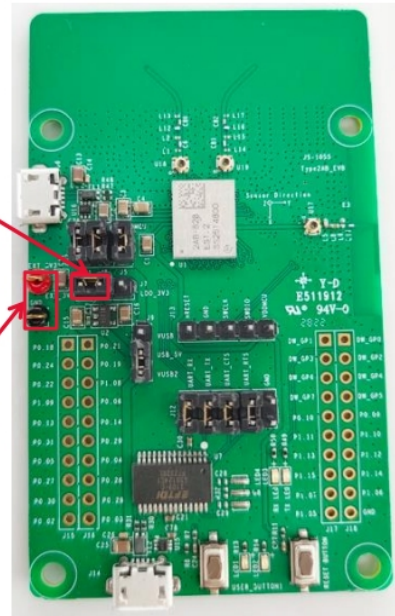
Power supply option1 – 3.0V DC

- Same configuration for JS-0989 and JS-1055



Short this jumper

External Power
Supply Interface :
2.5~3.6V, typ3.0V

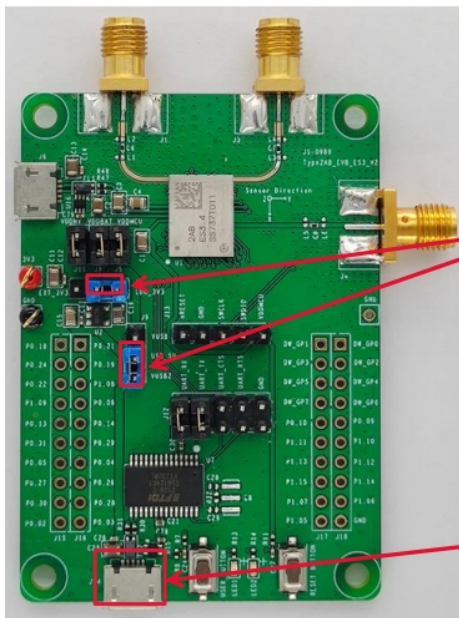


Short the
two jumpers

USB Power interface

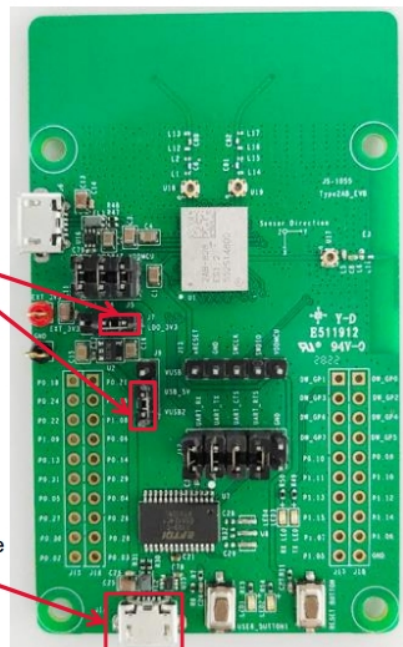
Power supply option2 –5V via USB interface J14

- Same configuration for JS-0989 and JS-1055



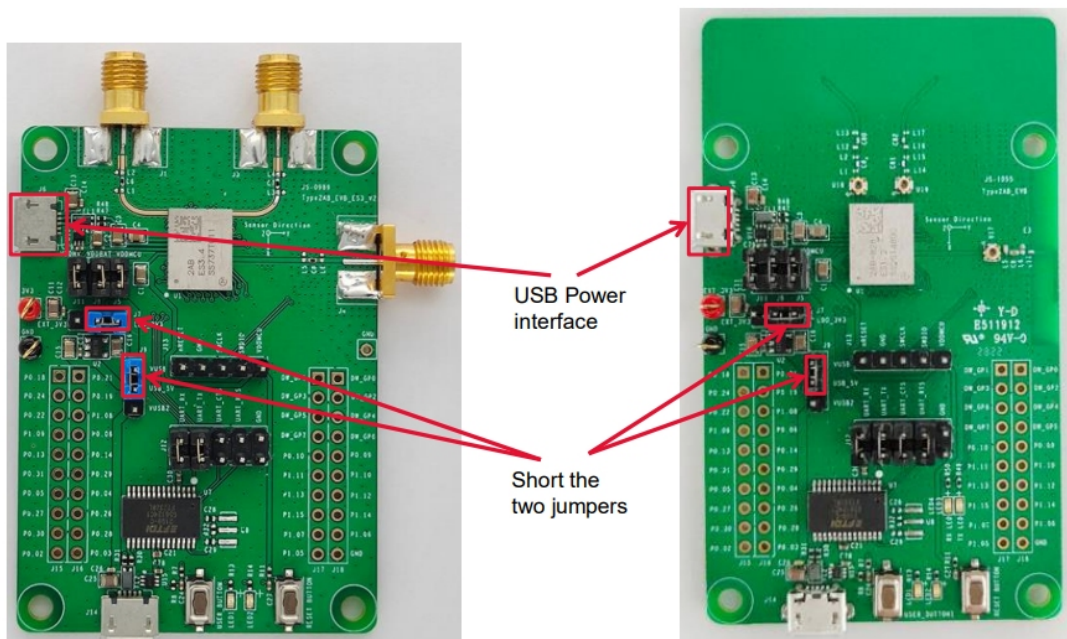
Short the
two jumpers

USB Power interface



Power supply option3 –5V via USB interface J6

- Same configuration for JS-0989 and JS-1055



nRF52840 pin configuration

- EVB used PINs

nRF52840 Pin	Function	Connection	Note
P0.07	2AB UART TX	UART to USB IC FT232RL	main UART for communication
P0.08	2AB UART RX		
P0.11	2AB UART CTS		
P0.12	2AB UART RTS		
P0.18	nRESET	reset button	
P0.30	button	button	
P0.28	LED1	LED1	
P0.21	LED2	LED2	
USB D+	USB D+	USB connector	Depend on FW
USB D-	USB D-		

- PIN assignment for GPIO connectors

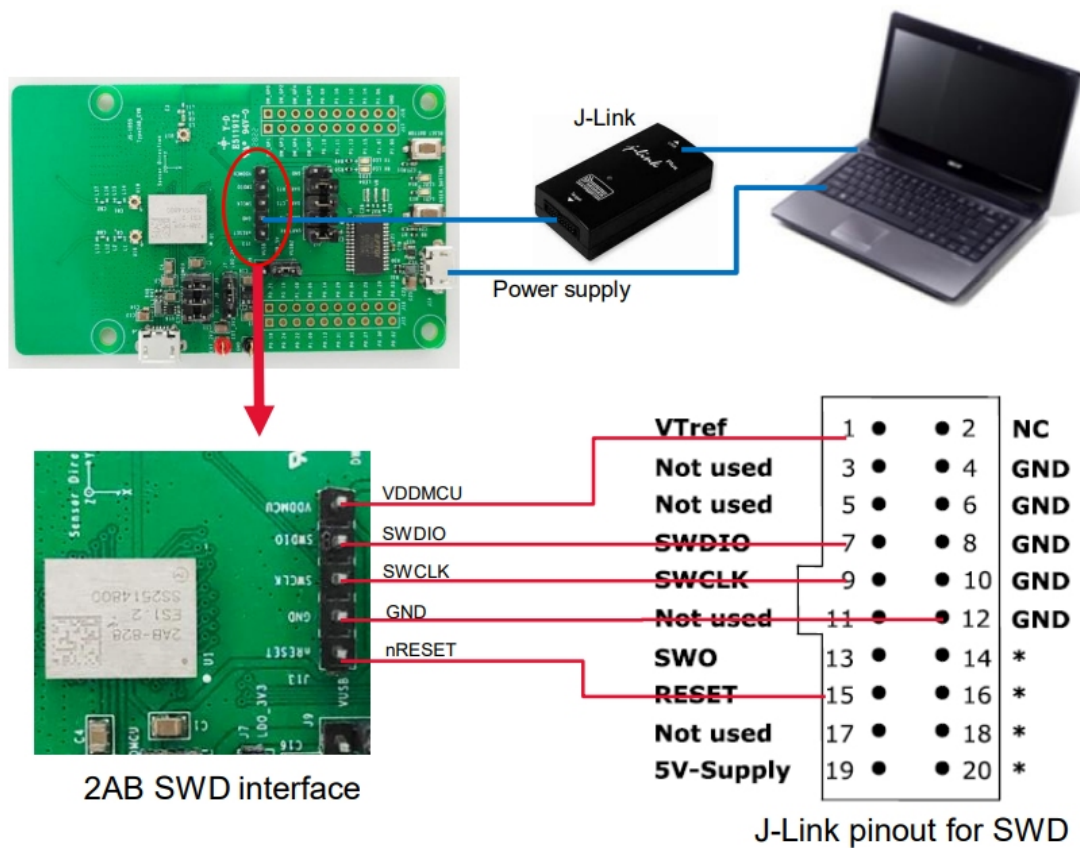
J15 J16					J17 J18				
P0.18/nRESET	1		1	P0.21	DW_GPIO1	1		1	DW_GPIO0
P0.24	2		2	P0.19	DW_GPIO3	2		2	DW_GPIO2
P0.22	3		3	P1.08	DW_GPIO6	3		3	DW_GPIO4
P1.09	4		4	P0.06	DW_GPIO7	4		4	DW_GPIO5
P0.13	5		5	P0.14	P0.10/NFC2	5		5	P0.09/NFC1
P0.31/AIN7	6		6	P0.29/AIN5	P1.11	6		6	P1.10
P0.05/AIN3	7		7	P0.04/AIN2	P1.13	7		7	P1.12
P0.27	8		8	P0.26	P1.15	8		8	P1.14
P0.30/User_Button	9		9	P0.28/READY	P1.07	9		9	P1.06
P0.02	10		10	P0.03	P1.05	10		10	

Note: please refer to [5] and [6] for more details.

J-Link connections for flashing firmware

Note:

1. Please make sure the module is powered on during FW programming . Refer to page 10-12 for the power supply options.
2. Please refer to [1] for details on how to upgrade firmware using J-link



References

References:

1. S10210-SP-Type2AB_Test_Firmware_Specification_v0.6.0.pdf
2. Type2AB_Firmware_Upgrade_Guide_V0.2.1.pdf
3. S10286-Murata-QSG-Type2AB_UCI_CLI_FW_Quick_Start_Guide_Rev1.3-20240202.pdf
4. S10285-QSG-Type2AB_DW3-QM33_SDK_Patch_Quick_Start_Guide-V0.1.2-20240202.pdf
5. JS-1055_2AB_EVB_Schematic
6. Application Note_Type2AB_Hardware Design Guide RevE

Revision History

Revision	Date	Description
V1.0	9/4/2020	Initial release
V2.0	6/9/2021	Update EVB picture for PCB JS-0969
V3.0	10/9/2021	Update EVB picture for PCB JS-0989
V4.0	2/14/2022	Update single antenna assembly direction
V5.0	9/23/2022	Update EVB picture for PCB JS-1055 (with PCB antenna)
V5.1	3/7/2024	<ul style="list-style-type: none"> • Update some information on page 8 and page9. • Add references on page15. • Add J-Link connections for flashing FW on page14 • Adjust the order of sections.

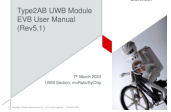
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07 March 2024



Documents / Resources

	<p>muRata JS-0989 Type2AB UWB Module EVB [pdf] User Manual JS-0989 Type2AB UWB Module EVB, JS-0989, Type2AB UWB Module EVB, UWB Module EVB , Module EVB</p>
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References

- [User Manual](#)

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