

FCC Radio Test Report

FCC ID : XPYMAW4A

Equipment : Host-based multi-radio modules with Wi-Fi 6,
Bluetooth Low Energy 5.4 and 802.15.4

Brand Name : u-blox

Model Name : MAYA-W476-00B, MAYA-W466-00B, MAYA-W446-00B,
MAYA-W436-00B, MAYA-W473-00B, MAYA-W463-00B,
MAYA-W443-00B, MAYA-W433-00B, MAYA-W476-10B,
MAYA-W466-10B, MAYA-W446-10B, MAYA-W436-10B,
MAYA-W473-10B, MAYA-W463-10B, MAYA-W443-10B,
MAYA-W433-10B

Applicant : u-Blox AG
Zürcherstrasse 68, 8800 Thalwil Switzerland

Manufacturer : u-Blox AG
Zürcherstrasse 68, 8800 Thalwil Switzerland

Standard : 47 CFR FCC Part 15.407

The product was received on Nov. 28, 2024, and testing was started from Dec. 19, 2024 and completed on Jan. 09, 2025. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 and shown compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.


Approved by: Jackson Tsai

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History of this test report

[illegible]



Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
-	15.207	AC Power-line Conducted Emissions	Not Required	Refer as 1.1.5
-	15.407(a)	Emission Bandwidth	Not Required	Refer as 1.1.5
-	15.407(a)	Maximum Conducted Output Power	Not Required	Refer as 1.1.5
-	15.407(a)	Peak Power Spectral Density	Not Required	Refer as 1.1.5
-	15.407(b)	Unwanted Emissions	Not Required	Refer as 1.1.5

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and explanations:

None

Reviewed by: Ben Tseng

Report Producer: Amber Chiu

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	a, n (HT20), ac (VHT20), ax (HEW20)	5180-5240	36-48 [4]
5250-5350		5260-5320	52-64 [4]
5470-5725		5500-5700	100-140 [11]
Straddle 5720		5720	144 [1]
5725-5850		5745-5825	149-165 [5]
5850-5895		5845-5885	169-177 [3]

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a	20	1TX
5.25-5.35GHz	802.11a	20	1TX
5.47-5.725GHz	802.11a	20	1TX
5.85-5.895GHz	802.11a	20	1TX
5.725-5.85GHz	802.11a	20	1TX
5.15-5.25GHz	802.11ax HEW20	20	1TX
5.25-5.35GHz	802.11ax HEW20	20	1TX
5.47-5.725GHz	802.11ax HEW20	20	1TX
5.85-5.895GHz	802.11ax HEW20	20	1TX
5.725-5.85GHz	802.11ax HEW20	20	1TX

Note:

- ♦ 11a, HT20 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ HEW20 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ BWch is the nominal channel bandwidth.
- ♦ Evaluated HEW20 mode only due to the similar modulation. The power setting of HT20/VHT20 mode are the same or lower than HEW20.

1.1.2 Antenna Information

Model Name : MAYA-W476-00B,MAYA-W466-00B,MAYA-W446-00B,MAYA-W436-00B, MAYA-W476-10B, MAYA-W466-10B, MAYA-W446-10B, MAYA-W436-10B				
Integrated PCB Antenna				
Ant.	Brand	Model Name	Antenna Type	Support
1	U-Blox	MAYA-W4 PCB	PCB Antenna	2.4G+5G+BLE+802.15.4

Ant.	Gain (dBi)							
	2.4G	UNII-1	UNII-2A	UNII-2C	UNII-3	UNII-4	BT	802.15.4
1	1.56	-1.74	1.56	1.56	-2.23	-0.95	1.56	1.56

For 2.4GHz function:

For IEEE 802.11 b/g/n/ax mode (1TX/1RX)

Ant. 1 could transmit/receive.

For 5GHz function:

For IEEE 802.11 a/n/ac/ax mode (1TX/1RX)

Ant. 1 could transmit/receive.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Ant. 1 could transmit/receive.

For Zigbee function:

For IEEE 802.15.4 mode (1TX/1RX)

Ant. 1 could transmit/receive.



Model Name : MAYA-W473-00B,MAYA-W463-00B, MAYA-W443-00B,MAYA-W433-00B MAYA-W473-10B, MAYA-W463-10B, MAYA-W443-10B, MAYA-W433-10B				
External Antenna				
Ant.	Brand	Model Name	Antenna Type	Support
1	Linx	ANT-DB1-RAF-RPS	Dual-band dipole antenna	2.4G+5G+BLE+802.15.4
2	Chang Hong	DA-2458-02-SMR	Dual-band dipole antenna	2.4G+5G+BLE+802.15.4
3	Laird	001-0012	Dual-band dipole antenna	2.4G+5G+BLE+802.15.4
4	Taoglas	GW.59.3153	Dual-band dipole antenna	2.4G+5G+BLE+802.15.4
5	Laird	MAF94051	Dual-band dipole antenna	2.4G+5G+BLE+802.15.4
6	Unictron	H2B1PD1A1C385L	PCB antenna	2.4G+5G+BLE+802.15.4
7	Molex	1461530050	PCB antenna	2.4G+5G+BLE+802.15.4
8	Molex	2042810100	PCB antenna	2.4G+5G+BLE+802.15.4

Ant.	Gain (dBi)							
	2.4G	UNII-1	UNII-2A	UNII-2C	UNII-3	UNII-4	BT	802.15.4
1	4.1	5.1	5.1	5.1	5.1	5.1	4.1	4.1
2	2.85	1.52	0.36	1.35	2.17	1.49	2.85	2.85
3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
4	3.8	5.3	5.3	5.3	5.3	5.3	3.8	3.8
5	2.1	2.6	2.6	2.6	2.6	3.4	2.1	2.1
6	2.7	3.5	3.5	3.5	3.5	3.5	2.7	2.7
7	3.2	4.25	4.25	4.25	4.25	4.25	3.2	3.2
8	2.0	3.3	3.3	3.3	3.3	3.3	2.0	2.0

For 2.4GHz function:

For IEEE 802.11 b/g/n/ax mode (1TX/1RX)

Ant. 1 ~ Ant. 8 could transmit/receive.

For 5GHz function:

For IEEE 802.11 a/n/ac/ax mode (1TX/1RX)

Ant. 1 ~ Ant. 8 could transmit/receive.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Ant. 1 ~ Ant. 8 could transmit/receive.

For Zigbee function:

For IEEE 802.15.4 mode (1TX/1RX)

Ant. 1 ~ Ant. 8 could transmit/receive.

**1.1.3 EUT Information**

Operational Condition			
EUT Power Type	From Host system		
EUT Function	☐ Outdoor AP	☐ Indoor AP	
	☐ Fixed P2P AP	☒ Client	
Beamforming Function	☐ With beamforming	☒ Without beamforming	
TPC Function	☒ With TPC Function	☐ Without TPC Function	
Weather Band	☒ With 5600~5650MHz	☐ Without 5600~5650MHz	
Resource Unit	☒ Full RU	☐ Partial RU	
	☐ Multi-RU		
Type of EUT			
☒	Stand-alone		
☐	Combined (EUT where the radio part is fully integrated within another device)		
	Combined Equipment - Brand Name / Model No.: ...		
☐	Plug-in radio (EUT intended for a variety of host systems)		
	Host System - Brand Name / Model No.:		
☐	Other:		

1.1.4 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Model Name	Description	Chipset used	Radio Technologies	Antenna Type	Antenna item
MAYA-W476-00B	Product with integrated antenna	NXP IW610G	2.4G+5G Wi-Fi, BLE, 802.15.4	PCB Antenna	W9
MAYA-W466-00B	Product with integrated antenna	NXP IW610F	2.4G+5G Wi-Fi, BLE	PCB Antenna	W9
MAYA-W446-00B	Product with integrated antenna	NXP IW610C	2.4G Wi-Fi, BLE, 802.15.4	PCB Antenna	W9
MAYA-W436-00B	Product with integrated antenna	NXP IW610B	2.4G Wi-Fi, BLE	PCB Antenna	W9
MAYA-W473-00B	Product with antenna pin	NXP IW610G	2.4G+5G Wi-Fi, BLE, 802.15.4	External Antenna Dual-Band dipole Antenna or External PCB Antenna	W1~8
MAYA-W463-00B	Product with antenna pin	NXP IW610F	2.4G+5G Wi-Fi, BLE	External Antenna Dual-Band dipole Antenna or External PCB Antenna	W1~8
MAYA-W443-00B	Product with antenna pin	NXP IW610C	2.4G Wi-Fi, BLE, 802.15.4	External Antenna Dual-Band dipole Antenna or External PCB Antenna	W1~8
MAYA-W433-00B	Product with antenna pin	NXP IW610B	2.4G Wi-Fi, BLE	External Antenna Dual-Band dipole Antenna or External PCB Antenna	W1~8
MAYA-W476-10B	Product with integrated antenna	NXP IW610G	2.4G+5G Wi-Fi, BLE, 802.15.4	PCB Antenna	W9
MAYA-W466-10B	Product with integrated antenna	NXP IW610F	2.4G+5G Wi-Fi, BLE	PCB Antenna	W9
MAYA-W446-10B	Product with integrated antenna	NXP IW610C	2.4G Wi-Fi, BLE, 802.15.4	PCB Antenna	W9
MAYA-W436-10B	Product with integrated antenna	NXP IW610B	2.4G Wi-Fi, BLE	PCB Antenna	W9
MAYA-W473-10B	Product with one antenna pin	NXP IW610G	2.4G+5G Wi-Fi, BLE, 802.15.4	External Antenna	W1~8
MAYA-W463-10B	Product with one antenna pin	NXP IW610F	2.4G+5G Wi-Fi, BLE	External Antenna	W1~8
MAYA-W443-10B	Product with one antenna pin	NXP IW610C	2.4G Wi-Fi, BLE, 802.15.4	External Antenna	W1~8
MAYA-W433-10B	Product with one antenna pin	NXP IW610B	2.4G Wi-Fi, BLE	External Antenna	W1~8

From the above models, model: MAYA-W476-10B, MAYA-W473-10B was selected as representative model for the test and its data was recorded in this report.



1.1.5 Table for Permissive Change

his product is an extension of original one reported under Sporton project number: FR4O2915AN

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Add model name, and Add LTE Coexistence filter on 2.4G path (MAYA-W476-10B, MAYA-W466-10B MAYA-W446-10B, MAYA-W436-10B, MAYA-W473-10B, MAYA-W463-10B, MAYA-W443-10B, MAYA-W433-10B)	The worst case of Radiated Unwanted Emissions was evaluated, and the test result of original report was found to be the worst case scenario.
2. Update standard version to ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024	After evaluation, no RF test validations are required.

————THE END————