
Title : LLW-4250

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1. 適用 / Introduction

本ドキュメントは村田機械株式会社向け LLW-4250 の製品仕様について記載します。

This document describes the detail of product specification for the LLW-4250.

2. 概要 / Overview

LLW-4250（以下、本製品）は LLW-4150 をベースにした Low Latency Wireless (LLW) デバイスで 2 つの無線 LAN モジュールを搭載し DFS 機能に対応しています。

LLW-4150 から下記の仕様変更を行っています。

- ・ DFS 検波機能
 - 無線モジュール 1：DFS 検波機能を無効として無線データの送受信を行う。
 - 無線モジュール 2：DFS 検波機能は有効として無線データの送信は行わない。
 - 無線モジュール 1 と 2 は同じチャネルで動作し、無線モジュール 1 の送信可否（CAC、レーダー検波等）は無線モジュール 2 の状態に従う。

無線 LAN モジュールは SX-PCEAN2c を 2 台搭載し、2.4GHz 帯、W52 帯、W56 帯、W58 帯を使用します。

無線 LAN モジュールは一方を無線通信用、もう一方を DFS 検波用として使用し DFS 検波用の無線 LAN モジュールは送信を行いません。

ハードウェアの構成は LLW-4150 と同一です。

The LLW-4250 (hereafter referred to as this product) is a Low Latency Wireless (LLW) device based on the LLW-4150, featuring two wireless LAN modules and supporting DFS functionality. The following specifications have been changed from the LLW-4150:

- DFS Detection Function:
 - Wireless Module 1: DFS detection function is disabled, and it performs wireless data transmission and reception.
 - Wireless Module 2: DFS detection function is enabled, and it does not perform data transmission.
 - Wireless Module 1 and 2 operate on the same channel, with the transmission permission of Wireless Module 1 (CAC, radar detection, etc.) being governed by the state of Wireless Module 2.

The wireless LAN modules are two SX-PCEAN2c units, operating in the 2.4 GHz band, W52 band, W56 band, and W58 band. One wireless LAN module is used for communication, while the other is dedicated to DFS detection and does not perform transmission. The hardware configuration is the same as the LLW-4150.

製品構成 / Product Composition

区分 / Item	内容 / Description	数量 / Quantity	備考 / Note
本体 / Product	LLW-4250 本体 / Product	1	
付属品 / Accessory	アンテナ / Antenna	4	2.4GHz/5GHz

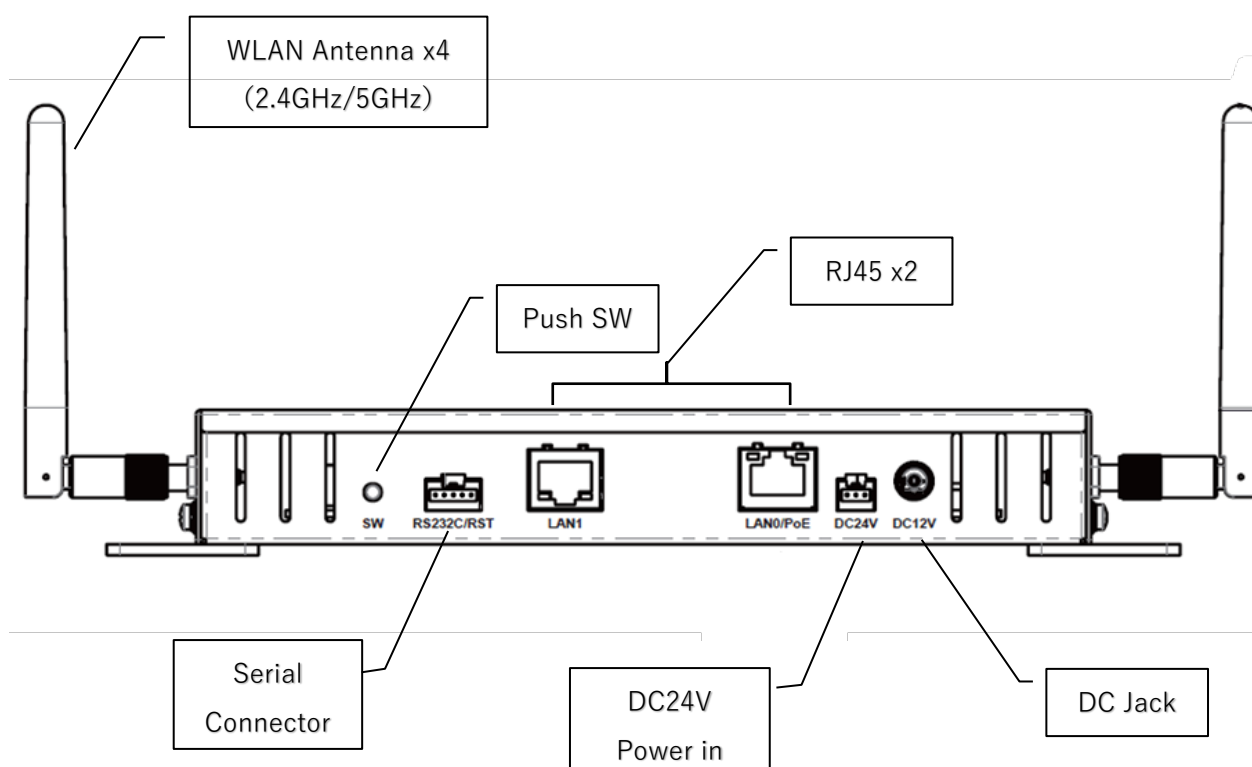
3. 仕様一覧 / Specifications

区分 / Item	内容 / Description	備考 / Note
SoC	P/N: 88F6810-xx-BRT4C100 (Marvell) Family: ARMADA380 CPU Core: ARM7 Coretex-A9 CPU Speed: 1066MHz	xx is die revision code.
Memory	SPI Flash ROM: Capacity: 32MBytes DDR3L SDRAM: Capacity: 256MBytes Clock Frequency: 533MHz (max.)	
Storage	eMMC: Capacity: 4GBytes (pSLC)	ver. 5.0 以降を使用 Use ver. 5.0 or later
Ethernet1	PHY controller: P/N: 88E1518 (Marvell) Speed: 10Base-T / 100Base-TX / 1000Base-T Connector : RJ-45 Connector (with Trans & LED) x2	PoE compatible (IEEE802.3af)
Ethernet2	PHY controller: P/N: 88E1512 (Marvell) Speed: 10Base-T / 100Base-TX / 1000Base-T Connector : RJ-45 Connector (with Trans & LED) x2	
Wireless	Module: P/N: SX-PCEAN2c (silex) WiFi: IEEE 802.11 a/b/g/n Antenna connector: MHF1 x 2	See 13. Appendix
Serial	RS232C x 1	TXD/RXD only
I/O(input)	1bit (for External Reset)	Photo coupler isolated input

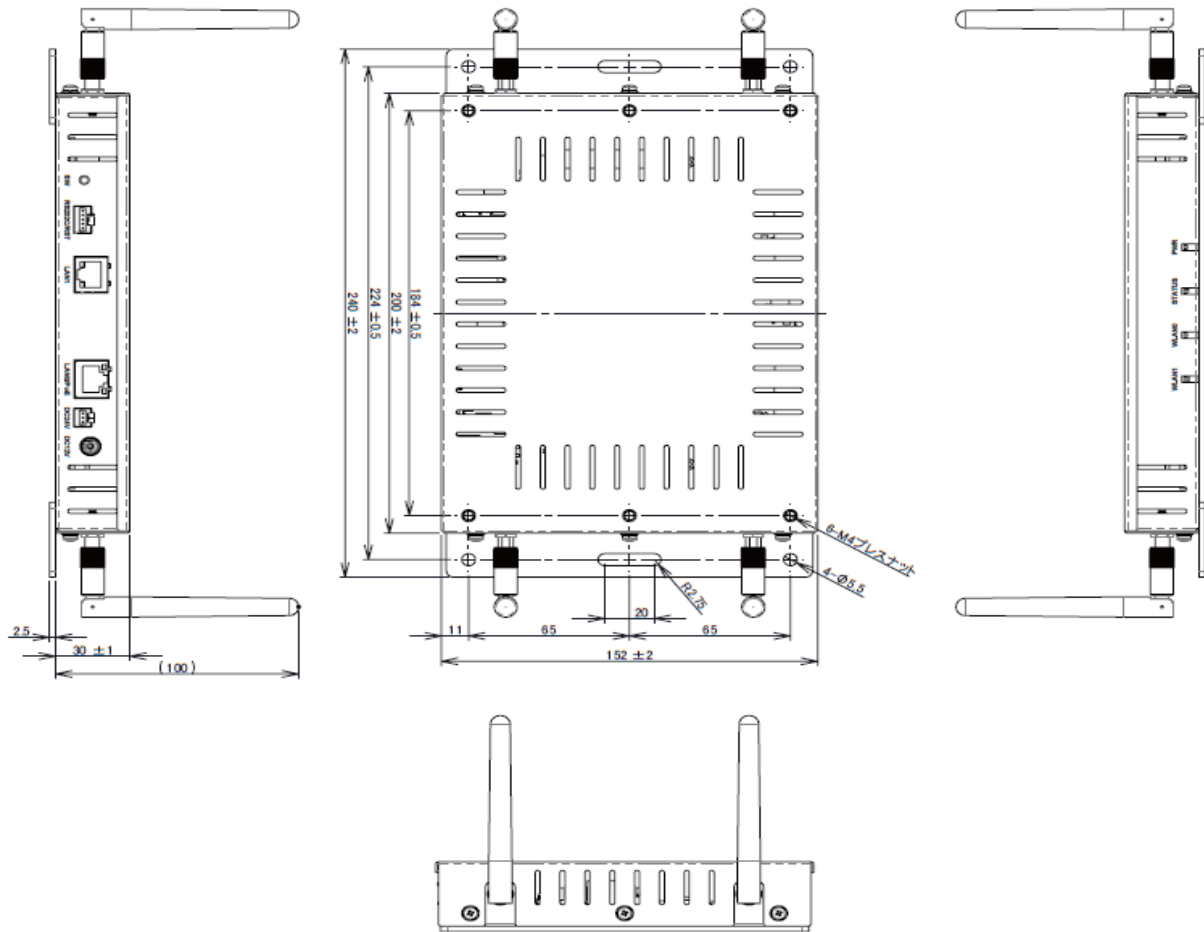
区分 / Item	内容 / Description		備考 / Note
LED	Bi-color (Green/Red) x4		
Switch	Push Switch x1		Right angle
Power	AC Adapter: Input range: DC12V $\pm$ 5% Operating Current: 0.79A DC24Vin: Input range: DC24V $\pm$ 10% Operating Current: 0.41A PoE : Input range:DC48V Operating Current: 0.25A (max)		
基板 PCB	外形寸法 Dimension	160 $\times$ 145mm	t=1.6mm
製品 Product	外形寸法 Dimension	240 $\times$ 152 $\times$ 32.5mm	アンテナ含まず Not including antenna
	重量 Weight	About 500 g	
動作温湿度 Operating environment	0 $\sim$ 40°C 20 $\sim$ 80%RH(結露なきこと / No condensation)		
保存温湿度 Storage environment	-10 $\sim$ 50°C 20 $\sim$ 90%RH(結露なきこと / No condensation)		
目標 MTBF Target MTBF	90,000hours		AC アダプタを除く Excluding ac adapter

4. コネクタ仕様 / Connector Specification

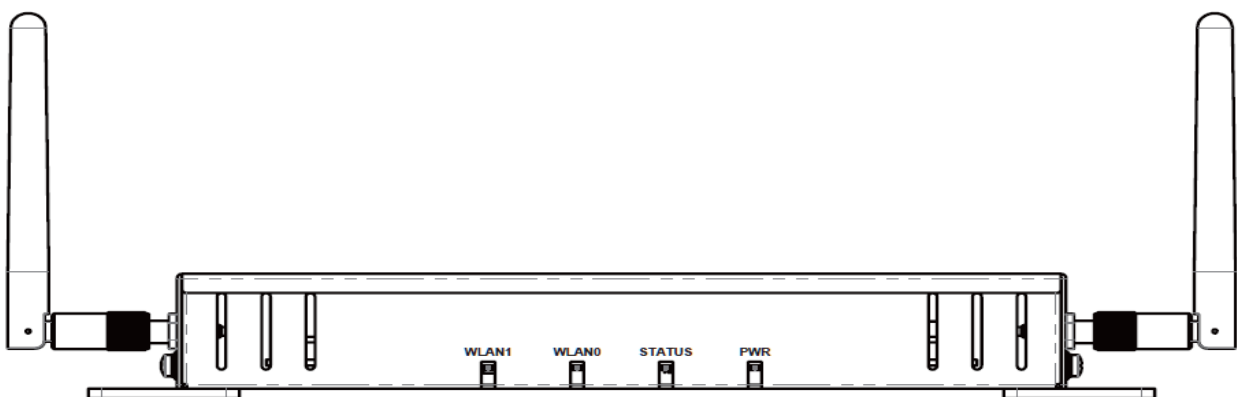
4.1. コネクタ配置 / Connector Location



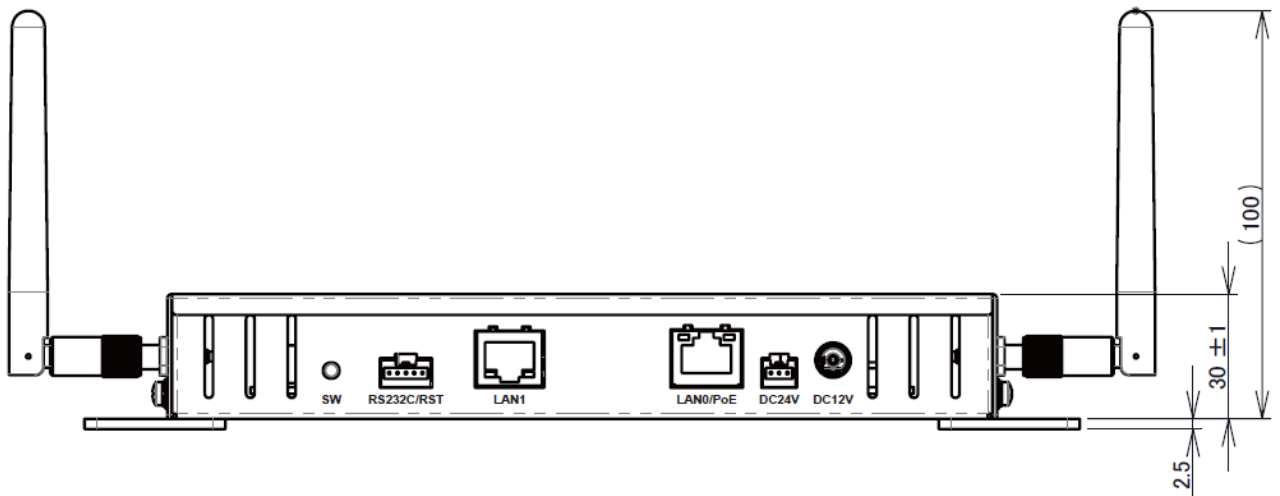
5. 外観 / Outside Drawing



LED 部拡大 / Enlarged LED



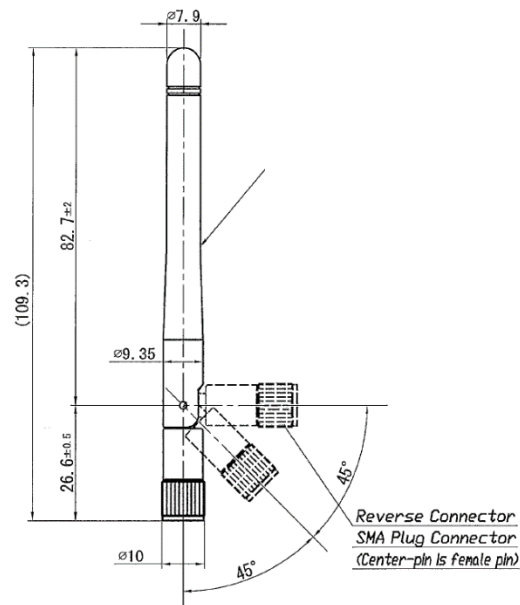
IF 部拡大 / Enlarged IF



6. 付属品 / Accessory

6.1. アンテナ / Antenna

型番 / Part Number : ANTDP-027A0
 メーカー / Manufacture : 三省電機 / SANSEI ELECTRIC



本製品ではアンテナを 4 本使用します。

This product uses 4 antennas.

7. Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment must be installed and operated keeping the radiator at least 20cm or more away from person's body.

Compliance with FCC requirement 15.407

Data transmission is always initiated by software, which is then passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the and can radiate radio frequency energy and, if not installed and used in accordance with the instruction packet. Therefore, the transmitter will be on only while one of the aforementioned packets is

being transmitted. In other words, this device automatically discontinue transmission in case of either absence of information to transmit or operational failure.

Frequency Tolerance: ± 60 ppm

Supplier's Declaration of Conformity

47 CFR § 2.1077 Compliance Information

Unique Identifier: LLW-4250

Responsible Party – U.S. Contact Information

Responsible Party Name: Silex Technology America, Inc.

Responsible Party Address: 1751 E. Garry Ave. Santa Ana, CA 92705

Phone: 657-218-5199

URL <https://www.silextechnology.com/>

8. NCC Notice — For Taiwan

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

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前述合法通信，指依電信管理法規定作業之無線電通信。

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