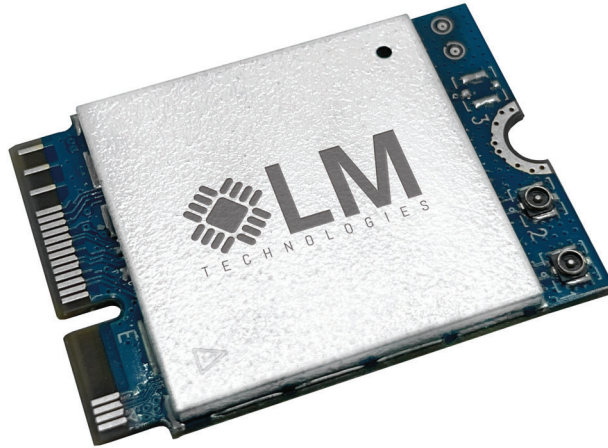


LM514 Wi-Fi 6 (802.11ax) and Bluetooth® 5.2 Industrial M.2 Card

PCIe + USB Interface, M.2 2330 (A-E Key) Form Factor

Revised
Datasheet Version

10/FEB/2026
1.6



Features

- Wi-Fi 6 (802.11 a/b/g/n/ac/ax)
- Bluetooth® 5.2
(Backwards compatible with all previous Bluetooth versions)
- WPA, WPA2, WPA3, 802.1x and WEP (64bit & 128bit) encryption schemes
- MU-MIMO and data rate up to 1201Mbps
- Dual Mode simultaneous LE and BR/EDR support
- PCIe Interface for Wi-Fi, USB Interface for Bluetooth
- Operating temperature: -30°C to +85°C
- Supports Bluetooth adaptive power management
- 2.4~2.484 GHz and 5.0~5.8 Ghz
- M.2 2230 (A-E) Key form factor
- 2 x IPEX connector receptacle
- 30mm x 22mm x 2.25mm
- Linux and Windows 10 – 11 compatible
- See the website for this product's certifications. RoHS, REACH and WEEE compliant

Overview

The LM514 module is a high-performance and highly integrated Wi-Fi 6 solution that offers coexistence for Bluetooth® Dual Mode and Wi-Fi operations, allowing the host computer to wirelessly communicate with other Bluetooth and Wi-Fi enabled devices.

The LM514 is ideal for industrial applications, delivering both high throughput and low power consumption. The compact form factor saves valuable space within your product, making it ideal for laptops, desktops, medical devices and industrial PCs.

The LM514 supports IEEE 802.11a/b/g/n/ac/ax and Bluetooth 2.0, 2.1, 3.0, 4.0, 4.2 and 5.2 standards and is compatible with Linux (Kernel 5.4), Windows 10 – 11 platforms.

*Please contact our sales team for further information.

LM514 Wi-Fi 802.11ax and Bluetooth® 5.2 M.2 Card

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General Specification

Wireless Standard	<p>Wi-Fi:</p> <p>802.11 a/b/g/n/ac/ax</p> <p>Bluetooth:</p> <p>2.1+EDR/3.0/4.0/4.2/5.2 - BR/EDR and Low Energy</p>
Module Type	M.2 Card
OS Compatibility	Linux, Windows 10 – 11
Security	<p>Wi-Fi:</p> <p>WPA, WPA2, WPA3 , WEP (64bit & 128bit), TKIP, AES, 802.1x</p> <p>Bluetooth:</p> <p>Secure Simple Paring</p>
Chipset	Realtek
Antenna	2 x IPEX Connectors
Interfaces	Wi-Fi: PCIe, Bluetooth: UART
Tx Output Power	<p>Wi-Fi:</p> <p>2.4GHz</p> <p>17 dBm – 802.11b@11Mbps</p> <p>15 dBm – 802.11g@54Mbps</p> <p>14 dBm – 802.11n@MCS7_HT20</p> <p>14 dBm – 802.11n@MCS11_HT40</p> <p>5GHz</p> <p>14 dBm – 802.11a@54Mbps</p> <p>13 dBm – 802.11n@MCS7_HT20</p> <p>12 dBm – 802.11n@MCS7_HT40</p> <p>12 dBm – 802.11ac@MCS8_VHT20</p> <p>11 dBm – 802.11ac@MCS9_VHT40</p> <p>11 dBm – 802.11ac@MCS9_VHT80</p> <p>12 dBm – 802.11ax@MCS11_HE20</p> <p>11 dBm – 802.11ax@MCS11_HE40</p> <p>Bluetooth:</p> <p>Typical 6 dBm</p>
Frequency	24~2484 GHz , 5.0~5.8 GHz



LM514 Wi-Fi 802.11ax and Bluetooth® 5.2 M.2 Card

PCIe + USB Interface, M.2 2330 (A-E Key) Form Factor

General Specification (Continued)

Physical Characteristics

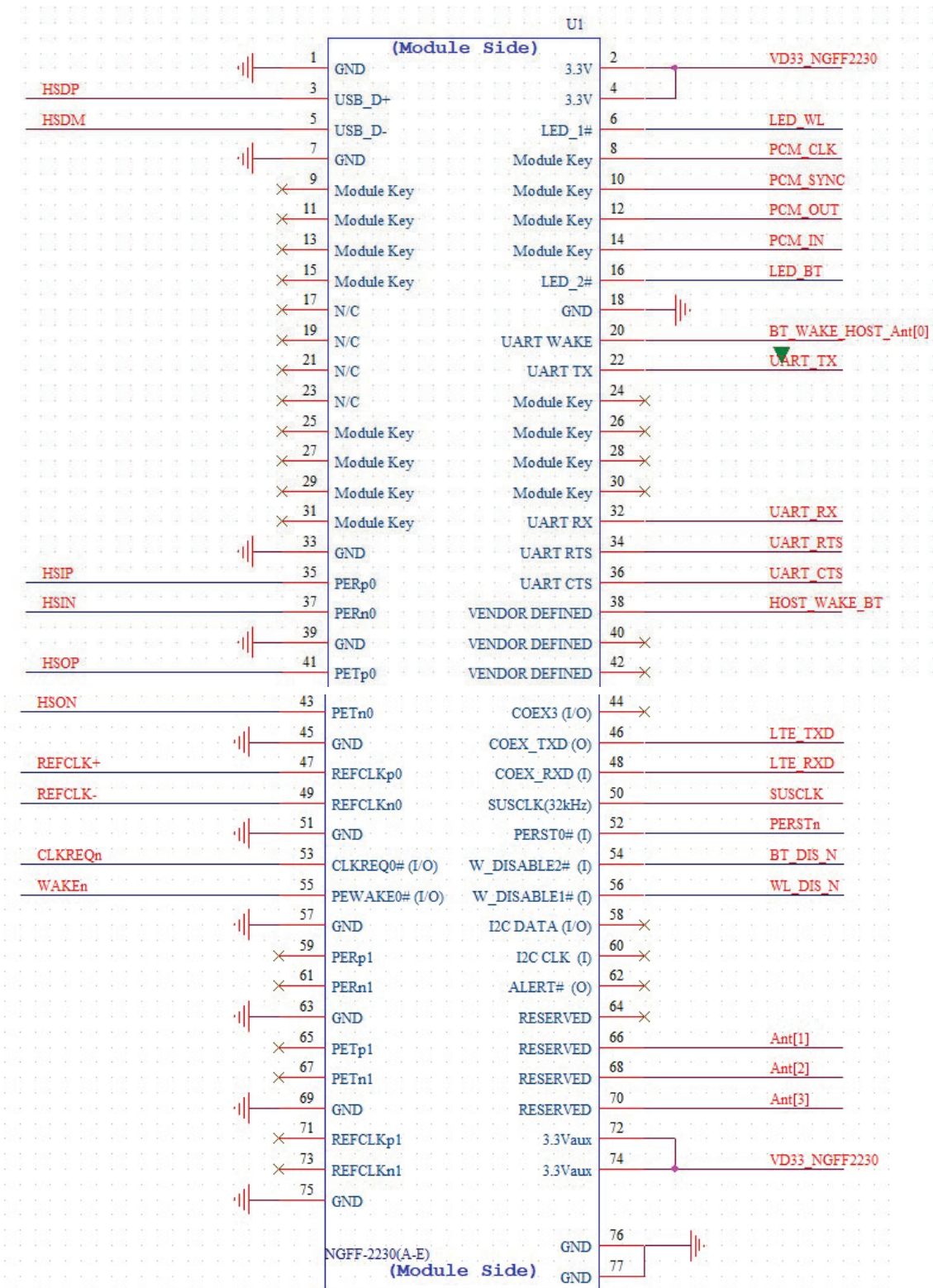
Operating Temperature	-30°C to +85°C ambient temperature 5 to 90 % (non-condensing)
Storage Temperature	-40°C to +90°C ambient temperature 5 to 90 % (non-condensing)
Dimensions (L x W x H)	25mm x 12mm x 2.25mm
Weight	TBA
Certifications	See the website for this product's certifications.
Compliance	RoHS, REACH and WEEE



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PCIe + USB Interface, M.2 2330 (A-E Key) Form Factor

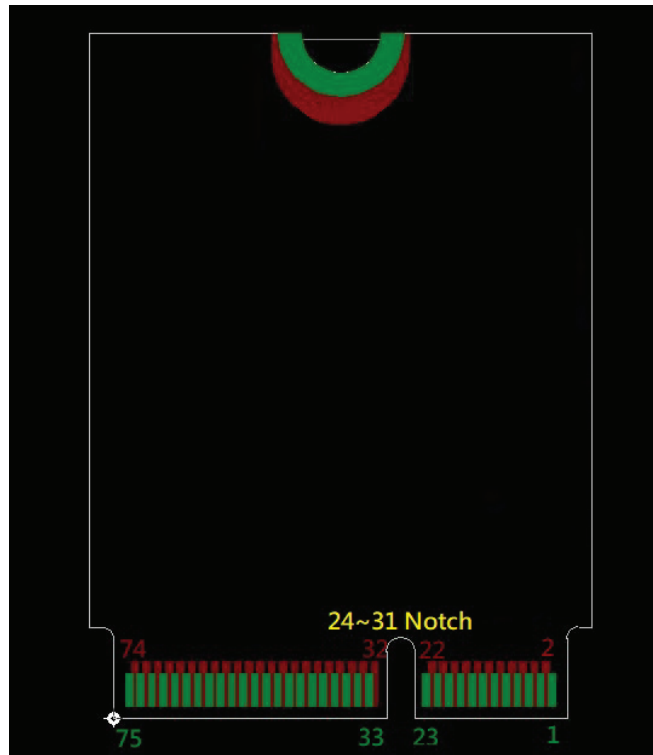
Pinouts



LM514 Wi-Fi 802.11ax and Bluetooth® 5.2 M.2 Card

PCIe + USB Interface, M.2 2330 (A-E Key) Form Factor

Pinouts (Continued)



PIN#	Pin Name	Design Status	PIN#	Pin Name	Design Status
1	GND	Ground	2	3.3V	DC 3.3V
3	USB_D+	USB Data	4	3.3V	DC 3.3V
5	USB_D-	USB Data	6	LED_1#	WL LED
7	GND	Ground	8	PCMCLK	PCM Clock
9	NA	NA	10	PCMFR1	PCM SYNC
11	NA	NA	12	PCM_IN	PCM Data
13	NA	NA	14	PCM_OUT	PCM Data
15	NA	NA	16	LED_2#	BT LED
17	NA	NA	18	GND	Ground
19	NA	NA	20	UART WAKE	BT WAKE HOST
21	NA	NA	22	UART TX	UART Data
23	NA	NA	24	NOTCH	KEY
25	NOTCH	KEY	26	NOTCH	KEY



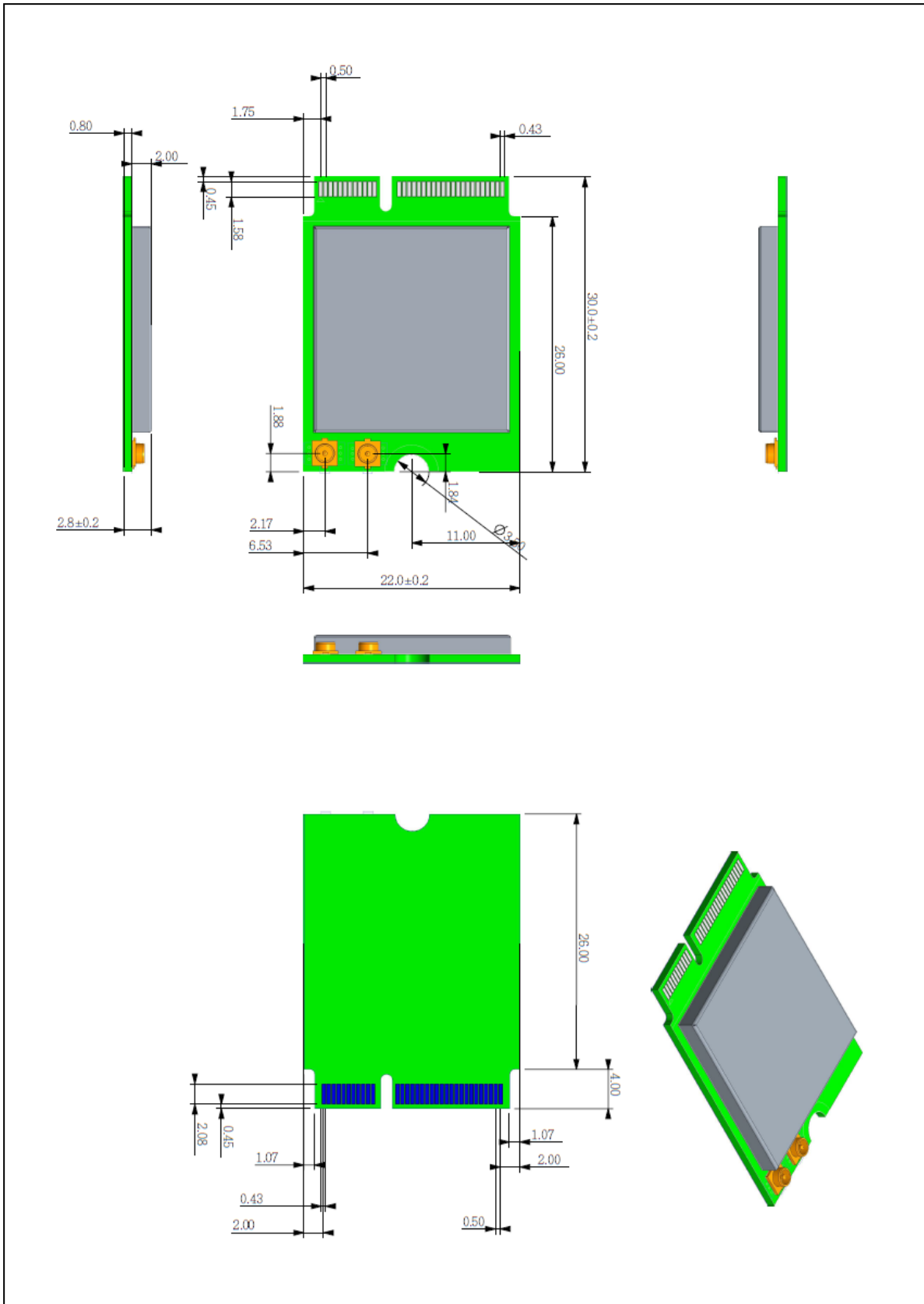
LM514 Wi-Fi 802.11ax and Bluetooth® 5.2 M.2 Card

PCIe + USB Interface, M.2 2330 (A-E Key) Form Factor

Pinouts (Continued)

27	NOTCH	KEY	28	NOTCH	KEY
29	NOTCH	KEY	30	NOTCH	KEY
31	NOTCH	KEY	32	UART RX	UART Data
33	GND	Ground	34	UART RTS	UART RTS
35	PETp0	PCIE RX+	36	UART CTS	UART CTS
37	PETn0	PCIE RX-	38	VENDOR DEFINED	HOST WAKE BT
39	GND	Ground	40	NA	NA
41	PERp0	PCIE TX+	42	NA	NA
43	PERn0	PCIE TX-	44	NA	NA
45	GND	Ground	46	COEX_TXD(0)	LTE_TXD
47	REFCLKP	PCIE Differential Clock	48	COEX_RXD(1)	LTE_RXD
49	REFCLKN	PCIE Differential Clock	50	SUSCLK(32kHz)	SUSCLK
51	GND	Ground	52	PERST0	PCIE Reset
53	CLKREQ0	Reference Clock	54	RESERVED /W_DISABLE#2	BT_DIS_N
55	PEWake0	PCIE Reset Signal	56	W_DISABLE#1	WL_DIS)N
57	GND	Ground	58	NA	NA
59	NA	NA	60	NA	NA
61	NA	NA	62	NA	NA
63	GND	Ground	64	NA	NA
65	NA	NA	66	RESERVED	GPIO
67	NA	NA	68	RESERVED	GPIO
69	GND	Ground	70	RESERVED	GPIO
71	NA	NA	72	3.3Vaux	DC 3.3V
73	NA	NA	74	3.3Vaux	DC 3.3V
75	GND	Ground			

LM514 Dimensions



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Ordering Options



Ordering Code	Product Description	Packaging
514-5140	MOD 802.11ax BT5.2 M.2 2T2R IPEX PCS - ETSI	PCS
514-5141	MOD 802.11ax BT5.2 M.2 2T2R IPEX PCS - US	PCS

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Though every effort has been made to ensure that this document is current and accurate, additional information may have become available subsequent to the production of this guide. Please consult with LM Technologies for the latest information regarding this product.

- Product User Guides, Manuals and Configuration Software can be downloaded via our website - <http://www.lm-technologies.com/downloads>

