

User Manual

802.11a/b/g/n 2T2R Wireless LAN USB Module

WN4519R

MT7600U

Version 1.0

LiteOn P/N: AAZ100364D0

TPV P/N: 317GAAWF646LON

Change History

Revision	Date	Author	Change List
Version 1.0	2016/09/01	Ben J Chen	Preliminary

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PRODUCT SPECIFICATION

802.11a/b/g/n 2T2R Wireless LAN USB Module

WN4519R

MT7600U

Version 1.0

Networking B.U.

Lite-on Technology Corporation

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Chung Ho, New Taipei City 235, Taiwan, R.O.C.

Customer Approval: _____ (Signature)

_____ (Title)

_____ (Company)

_____ (Date)

(Please Sign Back by FAX. For Confirming the Spec Only, not an Official Agreement for OEM/ODM Business)

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PRODUCT FEATURES

- Operate at ISM frequency Band (2.4 / 5GHz)
- IEEE Standards Support, 802.11a , 802.11b, 802.11g and 802.11n
- Support USB 2.0 host interface
- Enterprise level security supporting: WPA, WPA2, WPS2.0, WAPI
- Two-stream IEEE 802.11n support for 20MHz and 40MHz bandwidth channels provides PHY layer rates up to 300Mbps
- Integrated LNA, PA and T/R switch
- RoHS compliance
- Low Halogen compliance

PRODUCT SPECIFICATIONS

MAIN CHIPSET

MAC/ Baseband/ RF: MediaTek MT7600U

FUNCTIONAL SPECIFICATIONS

Wi-Fi Function	
Standard	IEEE802.11a;IEEE802.11b; IEEE 802.11g; IEEE 802.11n
Bus Interface	USB2.0
Data Rate	802.11a: 54, 48, 36, 24, 18, 12, 9, 6 Mbps
	802.11b: 11, 5.5, 2, 1 Mbps
	802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps
	802.11n: MCS 0 to 15 for HT20MHz MCS 0 to 15 for HT40MHz
Media Access Control	CSMA/CA with ACK
Modulation Techniques	802.11a: 64QAM, 16QAM, QPSK, BPSK
	802.11b: CCK, DQPSK, DBPSK
	802.11g: 64QAM, 16QAM, QPSK, BPSK
	802.11n: 64QAM, 16QAM, QPSK, BPSK
Network Architecture	Infrastructure mode
Operation Channel	2.4GHz 11: (Ch. 1-11) – United States 13: (Ch. 1-13) – Europe 14: (Ch. 1-14) – Japan
	5GHz 21: USA 19: EU 8: Japan
Frequency Range	802.11bg 2.400 ~ 2.4835 GHz
	802.11a 5.15 ~ 5.85 GHz

Receiver Sensitivity	802.11a: -86 dBm@6Mbps -70 dBm@54Mbps				
	802.11b: -88 dBm@1Mbps -82 dBm@11Mbps				
	802.11g: -86 dBm@6Mbps -71 dBm@54Mbps				
	802.11n: 2.4G/5G 20MHz -86 dBm@MCS0 -68 dBm@MCS7				
	40MHz -83 dBm@MCS0 -65 dBm@MCS7				
Security	WPA, WPA2, WPS, WEP 64b&128bit, IEEE 802.1X, IEEE 802.11i				
Operating Voltage	5V ± 10% I/O supply voltage				
OS Supported	Linux based				
Power Consumption	Mode	Average		Peak	
		2.4G	5G	2.4G	5G
	TX	620mA	680mA	860mA	1A
	RX	230mA	560mA		
	Radio Off	25mA			
	Standby	1.7mA			
Antenna Type	Metal antenna				

RECOMMENDED OPERATION CONDITIONS

For Module

Symbol	Rating	Min	Typ	Max	Units
VCC	5V Supply Voltage	4.5	5	5.5	V

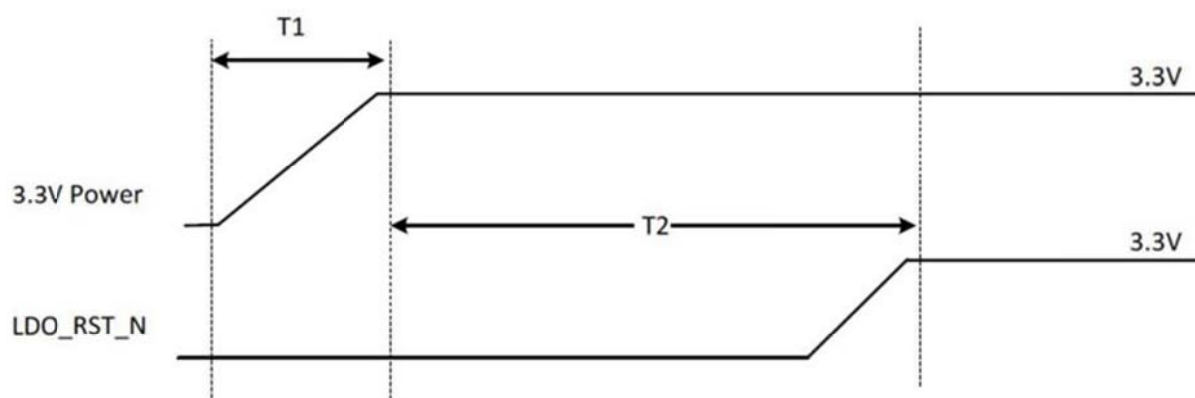
For MT7600U IC

Symbol	Rating	Min	Typ	Max	Units
VDD33	3.3V Supply Voltage	2.97	3.3	3.63	V
VDD12	1.2V Supply Voltage	1.14	1.2	1.26	V
VDD15	1.5V Supply Voltage	1.425	1.5	1.575	V

DC CHARACTERISTICS

Symbol	Parameter	Min	Typ	Max	Units
V _{IL}	Input Low Voltage	-0.28	-	0.6	V
V _{IH}	Input High Voltage	2.0	-	3.63	V
V _{OL}	Output Low Voltage	-0.28	-	0.4	
V _{OH}	Output High Voltage	2.4	-	3.63	V

RESET TIMING SPEC



T1: max. 3.5ms

T2 > 0 (LDO_RST_N must be asserted after 3.3V ready)

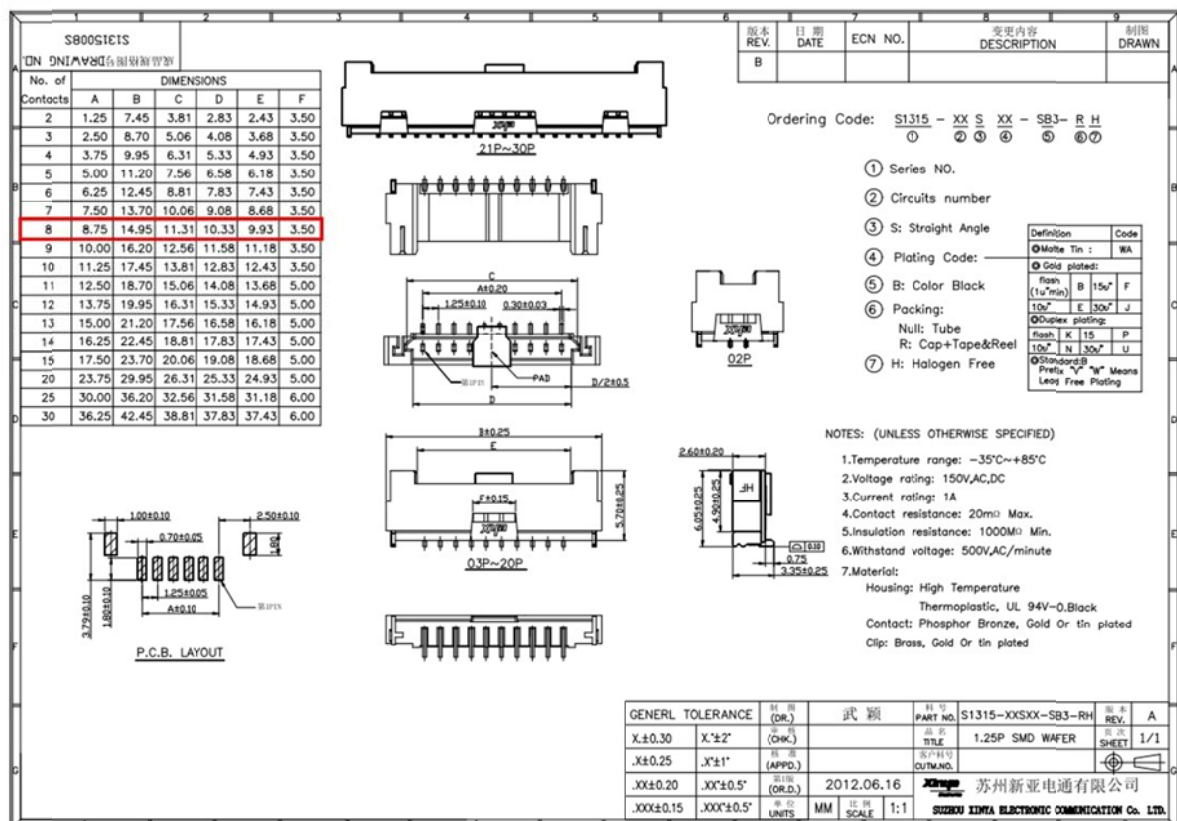
PIN ASSIGMENT

Pin.	Pin Define	Description	Status
1	+5VCC	5V source	YES
2	+5VCC	5V source	YES
3	USB_D-	USB Data-	YES
4	USB_D+	USB Data+	YES
5	GND	Ground	YES
6	RESET#	System reset MT7600U, low active	YES
7	WoWLAN#	Wake up system via wifi, low active	YES
8	GND	Ground	YES

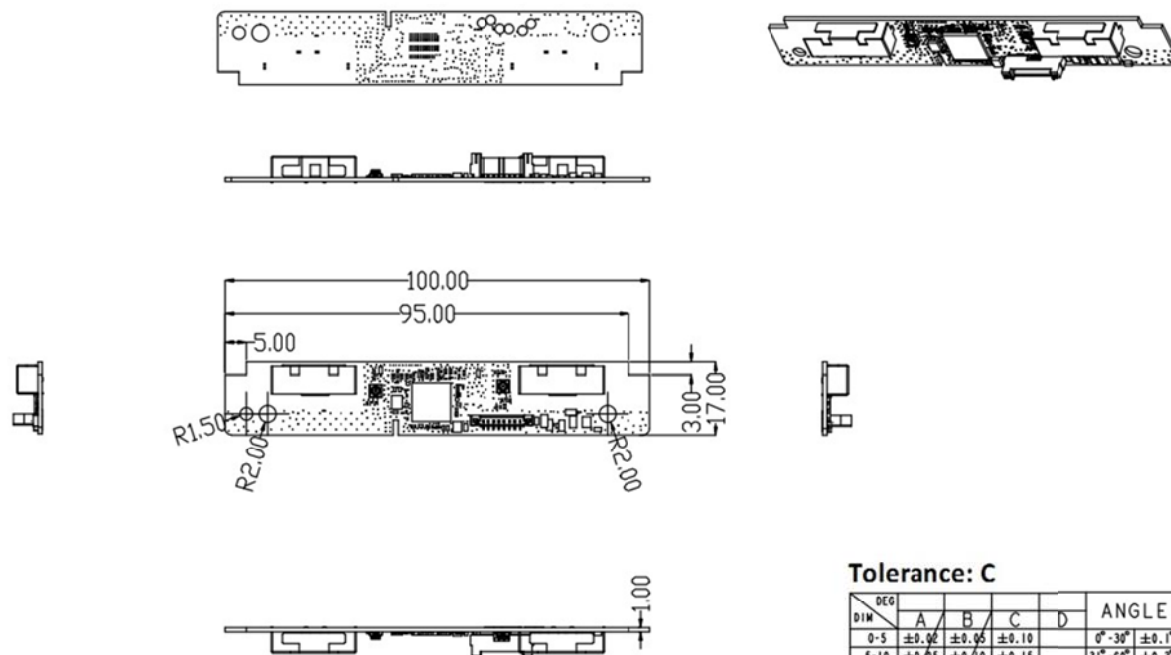
USB CONNECTOR SPEC

Manufacture P/N: S1315-08SVB-SB3-RH

Thickness of gold flash printed: $\geq 1\mu$ "



MECHANICAL



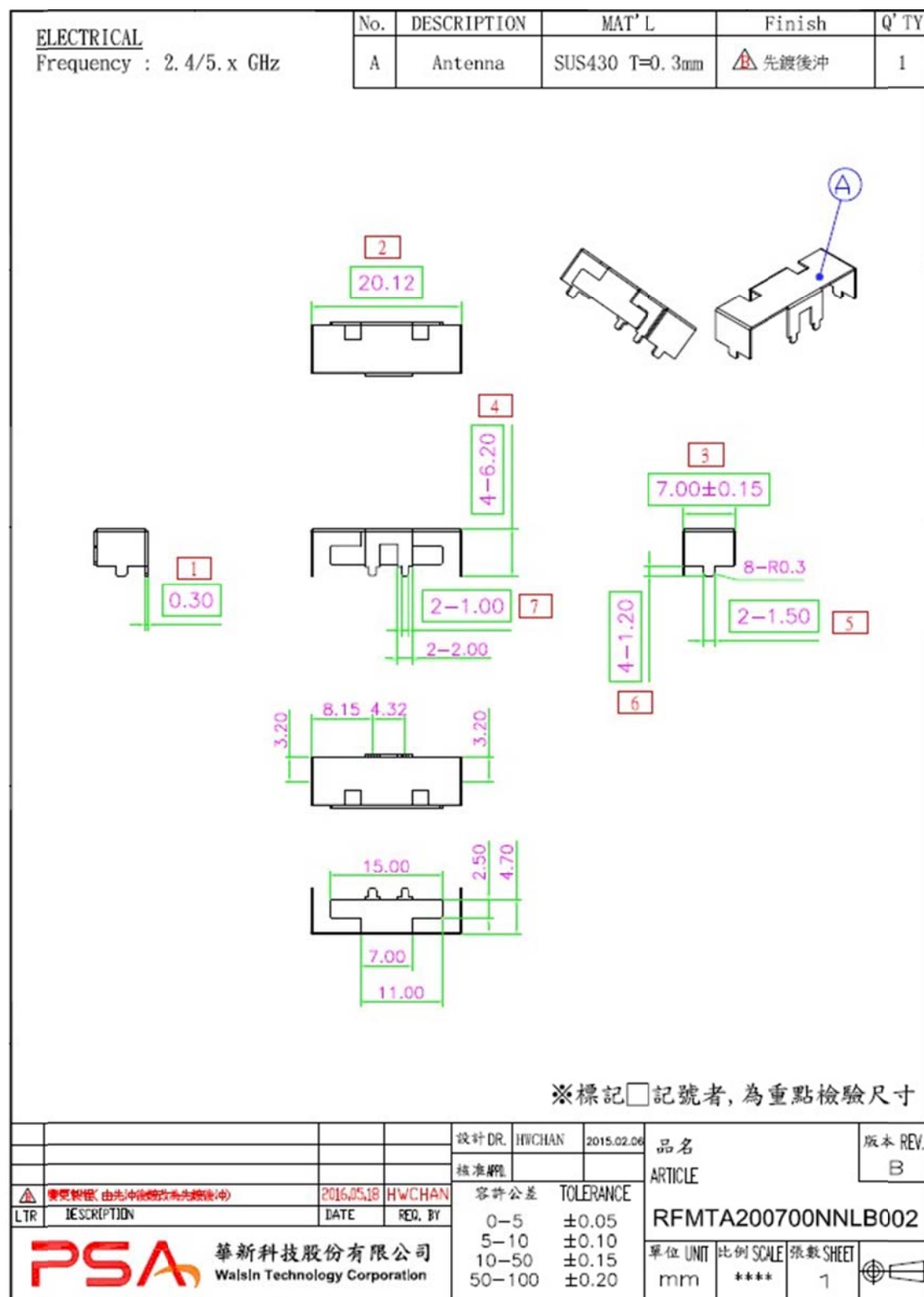
Tolerance: C

DIM	A	B	C	D	ANGLE
0-5	±0.02	±0.05	±0.10		0°-30° ±0.1°
5-10	±0.05	±0.10	±0.15		31°-60° ±0.3°
10-50	±0.10	±0.15	±0.20		61°-90° ±0.5°
50-100	±0.15	±0.20	±0.25		
100-	±0.15	±0.20	±0.25		

Unit: mm

ANTENNA SPEC

On Board Antenna for WiFi (Q'ty:2pcs)



EEPROM INFORMATION

Reg Domain	World Wide 2.4G/5G Read from registry; Control by driver
	Offset 0x38 for 5G: 0xFF Offset 0x39 for 2.4G: 0xFF
Vendor ID	0x0471
Product ID	0x7600

ENVIRONMENTAL

Operating

Operating Temperature: 0 to 70 °C (32 to 158 °F)

Relative Humidity: 5-90% (non-condensing)

Storage

Temperature: -20 to 70 °C (-4 to 158 °F)

Relative Humidity: 5-95% (non-condensing)

PACKING DRAWING

Tray

