

	BLUETOOTH 5.3+EDR USB ADAPTER B103B UNITEK	WLAN USB ADAPTER ARCHER-T3U 300 Mbps @ 2.4 GHz, 867 Mbps @ 5 GHz TP-LINK	BLUETOOTH 5.0 USB ADAPTER TL-UB500 TP-LINK	WLAN USB ADAPTER TL-WN725N 150 Mbps TP-LINK	WLAN USB ADAPTER TL-WN823N 300 Mbps TP-LINK	WLAN USB ADAPTER ARCHER-T3U 150 Mbps @ 2.4 GHz, 433 Mbps @ 5 GHz TP-LINK	WLAN USB ADAPTER ARCHER-T4U 300 Mbps @ 2.4 GHz, 867 Mbps @ 5 GHz TP-LINK	WLAN USB ADAPTER ARCHER-T4U-PLUS 400 Mbps @ 2.4 GHz, 867 Mbps @ 5 GHz TP-LINK	WLAN USB ADAPTER ARCHER-T9UH 600 Mbps @ 2.4 GHz, 1300 Mbps @ 5 GHz TP-LINK	USB - UART 3.3V INTERFACE ESP-01-CH340-ESP8266	WIFI MODULE ESP-12F ESP8266 Expressif	WIFI MODULE ESP-WROOM-02 ESP8266EX Expressif	WIFI + BLUETOOTH + BLUETOOTH LE MODULE ESP-WROOM-32 Expressif	DEVELOPMENT KIT ESP32-ESP-WROOM-32 Expressif	WLAN USB ADAPTER TL-MERC-MW300UM 300 Mbps TP-LINK / MERCUSYS	WLAN USB ADAPTER TL-WN722N 150 Mbps TP-LINK	WLAN USB ADAPTER TL-WN822N 300 Mbps TP-LINK	WLAN USB ADAPTER WIFI W03 150 Mbps @ 2.4 GHz FERGUSON	WLAN USB ADAPTER WIFI W3 150 Mbps @ 2.4 GHz OPTICUM	
	6.45 EUR 6.45 EUR	22.77 EUR 22.77 EUR	10.54 EUR 10.54 EUR	7.22 EUR 7.22 EUR	9.47 EUR 9.47 EUR	14.87 EUR 14.87 EUR	29.42 EUR 29.42 EUR	29.52 EUR 29.52 EUR	54.44 EUR 54.44 EUR	6.22 EUR 6.22 EUR	3.06 EUR 3.06 EUR	3.93 EUR 3.93 EUR	4.92 EUR 4.92 EUR	8.99 EUR 8.99 EUR	8.09 EUR 8.09 EUR	10.54 EUR 10.54 EUR	16.12 EUR 16.12 EUR	11.78 EUR 11.78 EUR	5.78 EUR 5.78 EUR	
Compatibility	---	---	---	---	---	---	---	---	---	ESP01, ESP01 and others	---	---	---	---	---	---	---	Ferguson Ariva (102 cable, 102mini, 102E, 103, 103mini, 104, 150 Combo, 152 Combo, 153 Combo, 154 Combo, 202E, 203, 204, 250 Combo, 252 Combo, 253 Combo, 254 Combo, 52E, 54)	---	
Processor	---	---	---	---	---	Atheros	Atheros	---	---	---	ESP8266	ESP8266EX	2 x Xtensa® 32-bit LX6	Xtensa® 32-bit LX6	---	---	---	Atheros	---	
Supported standards	Bluetooth 5.3, 5.1, 5.0, 4.2, 4.0	IEEE 802.11 b/g/n @ 2.4 GHz , IEEE 802.11 a/n/ac @ 5 GHz	Bluetooth 5.0, 4.0, 3.0, 2.1, 2.0, 1.1	IEEE 802.11 b/g/n	IEEE 802.11 b/g/n	IEEE 802.11 b/g/n @ 2.4 GHz, IEEE 802.11 a/n/ac @ 5 GHz	IEEE 802.11 b/g/n @ 2.4 GHz, IEEE 802.11 a/n/ac @ 5 GHz	IEEE 802.11 b/g/n @ 2.4 GHz, IEEE 802.11 a/n/ac @ 5 GHz	IEEE 802.11 b/g/n @ 2.4 GHz, IEEE 802.11 a/n/ac @ 5 GHz	IEEE 802.11 b/g/n/e/i	IEEE 802.11 b/g/n	IEEE 802.11 b/g/n	IEEE 802.11 b/g/n, Bluetooth LE	IEEE 802.11 b/g/n, Bluetooth LE	IEEE 802.11 b/g/n	IEEE 802.11 b/g/n	IEEE 802.11 b/g/n	IEEE 802.11 b/g/n @ 2.4 GHz	IEEE 802.11 b/g/n @ 2.4 GHz	
Connectors type	---	---	---	---	---	---	---	---	---	• 1 x USB-A plug, • 1 x 8x goldpin socket (dedicated to ESP01 / ESP01S), • 8 x goldpin plug - Leading out the pins	---	---	---	---	---	---	---	---	---	
USB <-> TTL Converter	---	---	---	---	---	---	---	---	---	CH340	---	---	---	---	---	---	---	---	---	
Supported transmission speeds	---	300 Mbps @ 2.4 GHz , 867 Mbps @ 5 GHz	---	150 Mbps	300 Mbps	150 Mbps @ 2.4 GHz , 433 Mbps @ 5 GHz	300 Mbps @ 2.4 GHz , 867 Mbps @ 5 GHz	400 Mbps @ 2.4 GHz , 867 Mbps @ 5 GHz	600 Mbps @ 2.4 GHz , 1300 Mbps @ 5 GHz	---	---	---	---	max. 150 Mbps	max. 150 Mbps	300 Mbps	150 Mbps	300 Mbps	150 Mbps @ 2.4 GHz	150 Mbps @ 2.4 GHz
TTL voltage	---	---	---	---	---	---	---	---	---	3.3 V	---	---	---	---	---	---	---	---	---	
Operation modes	---	Ad-Hoc, Infrastructure	---	Ad-Hoc, Infrastructure	Ad-Hoc, Infrastructure	Ad-Hoc, Infrastructure	Ad-Hoc, Infrastructure	Infrastructure	Ad-Hoc, Infrastructure	Station / Soft AP / Station + Soft AP	Station / Soft AP / Station + Soft AP	Station / Soft AP / Station + Soft AP	Station / Soft AP / Station + Soft AP	Station / Soft AP / Station + Soft AP	• Wireless network adapter	Ad-Hoc, Infrastructure	Ad-Hoc, Infrastructure	Wireless network adapter	Wireless network adapter	
Power output	---	---	---	---	---	---	---	---	---	3.3 V	---	---	---	---	---	---	---	---	---	
Radio communication range (at open area)	< 20 m	---	< 20 m	---	---	---	---	---	---	---	---	---	---	---	---	---	---	max. 300 m	---	
Power supply	---	---	---	---	---	---	---	---	---	5 V - from USB port	---	---	---	---	---	---	---	---	---	
Modulation	---	DBPSK, DQPSK, CCK, OFDM, 16-QAM, 64-QAM, 256-QAM	---	DBPSK, DQPSK, CCK, OFDM, 16-QAM, 64-QAM	DBPSK, DQPSK, CCK, OFDM, 16-QAM, 64-QAM	DBPSK / DQPSK / CCK / OFDM / 16-QAM / 64-QAM	DBPSK / DQPSK / CCK / OFDM / 16-QAM / 64-QAM	DBPSK / DQPSK / CCK / OFDM / 16-QAM / 64-QAM	DBPSK / DQPSK / CCK / BPSK / QPSK / 16-QAM / 64-QAM / 256-QAM	---	---	---	---	---	---	OFDM/CCK/16-QAM/64-QAM	16-QAM, 64-QAM, OFDM, DQPSK, DBPSK, CCK	---	---	
Permissible relative humidity	---	---	10 % ... 90 %	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Antenna type	---	Omnidirectional antenna , integrated	---	Integrated	Integrated	Indoor	Indoor	2 x Omnidirectional antenna 5 dBi - Outdoor, Integrated	4 x Omnidirectional antenna 5 dBi - Indoor, Integrated	---	Indoor	Indoor	Indoor	Indoor	Indoor	Detachable, 4 dBi	2 pcs, 3 dBi built-in	Omnidirectional antenna 5 dBi - Outdoor, Integrated	Omnidirectional antenna 5 dBi - Outdoor, Integrated	
Interface	USB 2.0	USB	USB 2.0	USB	USB	USB	USB	USB 3.0	USB 3.0	UART 3.3 V, SDIO, SPI, I2C, I2S, GPIO, ADC, PWM	UART 3.3 V, SDIO, HSPI, I2C, I2S, GPIO, IR Remote Control, PWM	UART 3.3 V, SDIO, SPI, I2C, I2S, GPIO, ADC, DAC, PWM, TWAI®, RMT	UART 3.3 V, SDIO, SPI, I2C, I2S, GPIO, ADC, DAC, PWM, TWAI®, RMT	micro USB, UART 3.3 V, SDIO, SPI, I2C, I2S, GPIO, ADC, DAC, PWM, TWAI®, RMT	USB 2.0	USB	mini USB	USB 2.0	USB 2.0	
Frequency range	---	2.4 GHz ... 2.4835 GHz , 5.15 GHz ... 5.85 GHz	---	2.4 GHz ... 2.4835 GHz	2.4 GHz ... 2.4835 GHz	• 2.4 GHz • 5 GHz	• 2.4 GHz • 5 GHz	• 2.4 GHz • 5 GHz	• 2.4 GHz • 5 GHz	2.4 GHz	2.4 GHz	2.4 GHz	2.4 GHz	2.4 GHz	2.4 GHz ... 2.4835 GHz	2.4 GHz ... 2.4835 GHz	2.4 GHz ... 2.4835 GHz	2.4120 GHz ... 2.4835 GHz	2.4120 GHz ... 2.4835 GHz	
Transmitter power	---	< 20 dBm	---	< 20 dBm	< 20 dBm	---	< 20 dBm	• 18 dBm @ 2.4 GHz, • 20 dBm @ 5 GHz	< 20 dBm	---	---	---	---	---	< 20 dBm	---	---	• 18 dBm @ IEEE 802.11b, • 15 dBm @ IEEE 802.11g, • 14 dBm @ IEEE 802.11n	• 17 dBm ± 1.5 @ IEEE 802.11b, • 14 dBm ± 1.5 @ IEEE 802.11g, • 13 dBm ± 1.5 @ IEEE 802.11n (HT20) • 13 dBm ± 1.5 @ IEEE 802.11n (HT40)	
Main features	---	---	---	---	---	---	---	---	---	---	---	---	---	---	• Enable/disable wireless network • Wireless transmission statistics • Hotspot • The product has a very small dimensions	• QSS (Quick Secure Setup) This function allows easy connection (and configuration) of wireless devices to Access Point • Pressing WPS button on the device and the AP, the user triggers automatic configuration of both devices The whole procedure takes about 10 seconds	• QSS (Quick Secure Setup) This function allows easy connection (and configuration) of wireless devices to Access Point • Pressing WPS button on the device and the AP, the user triggers automatic configuration of both devices The whole procedure takes about 10 seconds	---	---	
Drivers	Plug and Play - Windows 8.1 / 10 / 11	---	Windows 7 / 8.1 / 10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Windows CE/2000/XP/Vista/7/8/10, Mac OS X, Linux 2.6	
Receiver sensitivity	---	• 2.4 GHz : 11b 11M : -86 dBm 11g 54M : -65 dBm 11n HT20 : -71 dBm 11n HT40 : -70 dBm • 5 GHz : 11a 6M : -91 dBm 11a 54M : -76 dBm 11n HT20 : -71 dBm 11n HT40 : -70 dBm 11ac HT20 : -68 dBm 11ac HT40 : -64 dBm 11ac HT80 : -62 dBm	---	300M : -65 dBm @ 10% PER 270M : -65 dBm @ 10% PER 130M : -68 dBm @ 10% PER 108M : -69 dBm @ 10% PER 54M : -72 dBm @ 10% PER 11M : -85 dBm @ 10% PER 6M : -87 dBm @ 10% PER 1M : -93 dBm @ 10% PER	5 GHz • 11a 6M : -94 dBm • 11a 54M : -78 dBm • 11n HT20 MCS0 : -94 dBm • 11n HT20 MCS7 : -77 dBm • 11n HT40 MCS0 : -92 dBm • 11n HT40 MCS7 : -74 dBm • 11ac VHT80 MCS0 : -89 dBm • 11ac VHT80 MCS9 : -89 dBm • 11ac HT20 : -65 dBm • 11ac HT40 : -60 dBm • 11ac VHT40 : -65 dBm • 11ac VHT80 : -62 dBm 2.4 GHz • 11b 1M : -99 dBm • 11b 11M : -91 dBm • 11g 6M : -94 dBm • 11g 54M : -77 dBm • 11n HT20 MCS0 : -95 dBm • 11n HT20 MCS7 : -76 dBm • 11n HT40 MCS0 : -92 dBm • 11n HT40 MCS7 : -73 dBm	5 GHz • 11a 6M : -88 dBm • 11a 54M : -71 dBm • 11n HT20 : -63 dBm • 11n HT40 : -61 dBm • 11ac HT20 : -65 dBm • 11ac HT40 : -60 dBm • 11ac VHT40 : -65 dBm • 11ac VHT80 : -62 dBm 2.4 GHz • 11b 11M : -90 dBm • 11g 54M : -73 dBm • 11n HT20 : -71 dBm • 11n HT40 : -68 dBm	5 GHz • 11a 54M : -77 dBm • 11n HT20 : -74 dBm • 11n HT40 : -71 dBm • 11ac VHT20 : -69 dBm • 11ac VHT40 : -65 dBm • 11ac VHT80 : -62 dBm 2.4 GHz • 11b 11M : -87 dBm • 11g 54M : -75 dBm • 11n HT20 : -72 dBm • 11n HT40 : -70 dBm	---	• 11b 11M : -91 dBm • 11g 54M : -75 dBm • 11n MCS7 : -72 dBm	• 11b 11M : -91 dBm • 11g 54M : -75 dBm • 11n MCS7 : -72 dBm	• 11b 11M : -88 dBm • 11g 54M : -75 dBm • 11n HT20 MCS0 : -93 dBm • 11n HT20 MCS7 : -70 dBm • 11n HT40 MCS0 : -90 dBm • 11n HT40 MCS7 : -70 dBm • Bluetooth : -94 dBm	• 11b 11M : -88 dBm • 11g 54M : -75 dBm • 11n HT20 MCS0 : -93 dBm • 11n HT20 MCS7 : -70 dBm • 11n HT40 MCS0 : -90 dBm • 11n HT40 MCS7 : -70 dBm • Bluetooth : -94 dBm	• 270M : -62 dBm @ 10% PER • 130M : -65 dBm @ 10% PER • 108M : -68 dBm @ 10% PER • 11M : -85dBm@8% PER • 54M : -68dBm@10% PER • 11M : -85 dBm @ 10% PER • 6M : -88 dBm @ 10% PER • 1M : -90 dBm @ 10% PER	• 130M: -68dBm@10% PER • 108M: -68dBm@10% PER • 54M: -68dBm@10% PER • 11M: -85dBm@8% PER • 6M: -88dBm@10% PER • 1M: -90dBm@8% PER	• 270M: -68dBm@10% PER • 130M: -68dBm@10% PER • 108M: -68dBm@10% PER • 54M: -68dBm@10% PER • 11M: -85dBm@8% PER • 6M: -88dBm@10% PER • 1M: -90dBm@8% PER	2.4 GHz • 11b 11M : -88 dBm • 11g 54M : -76 dBm • 11n HT20 : -72 dBm • 11n HT40 : -69 dBm	11n HT40 MCS7 : -64 dBm			
Security measures	---	WEP 64/128-bit, WPA/WPA2, WPA-PSK/WPA2-PSK	---	WEP, WPA/WPA2, WPA-PSK/WPA2-PSK	WEP, WPA/WPA2, WPA-PSK/WPA2-PSK	WEP 64/128-bit, WPA-PSK/WPA2-PSK, 802.1x Radius	WEP 64/128-bit, WPA-PSK/WPA2-PSK, 802.1x Radius	WEP, WPA/WPA2, WPA-PSK/WPA2-PSK	WEP 64/128-bit, WPA/WPA2, WPA-PSK/WPA2-PSK, 802.1x Radius	WEP / TKIP / AES, WPA-PSK/WPA2-PSK	WEP / TKIP / AES, WPA-PSK/WPA2-PSK	WEP / TKIP / AES, Hash (SHA-2), RSA, ECC	WEP / TKIP / AES, Hash (SHA-2), RSA, ECC	WEP / TKIP / AES, Hash (SHA-2), RSA, ECC	WEP, WPA/WPA2, WPA-PSK/WPA2-PSK	64/128-bit WEP, WPA/WPA2, WPA-PSK/WPA2-PSK (TKIP/AES)	WEP 64/128-bit, WPA/WPA2, WPA-PSK/WPA2-PSK	WEP, WPA/WPA2, WAPI, QoS (IEEE 802.11e, WMM)	WEP 64/128-bit, WPA/WPA2, TKIP/AES, WAPI	
Main features	BLE Technology - Bluetooth Low Energy technology for energy-saving wireless connectivity EDR (Enhanced Data Rate) technology - allows to increase data transfer speeds up to 3 Mbps while maintaining low power consumption	---	BLE Technology - Bluetooth Low Energy technology for energy-saving wireless connectivity	---	---	---	---	• STATUS indicator • MU-MIMO - a multi-antenna transmission function that allows to increase the bandwidth and reliability of connection with the client of the network	---	RESET button	---	---	---	• Built-in USB -> UART interface (chip CP2102) • Buttons for operating the device in programming mode	---	---	LED indicator	LED indicator	---	
Included drivers	---	Windows XP/Vista/7/8/10/11	---	Windows XP/Vista/7/8	Windows XP/Vista/7/8/10/11	Windows, Mac OS X, Linux	Windows, Mac OS X, Linux	Windows 7 / 8 / 8.1 / 10 / 11, Mac OS < 10.15	Windows 7 / 8 / 8.1 / 10 / 11, Mac OS 10.9 ... 10.13, Linux	---	---	---	---	---	Windows XP/7/8/10 (32/64bit)	Windows 10/8.1/8/XP, Mac OS X, Linux	Windows XP / 7 / 8 / 8.1 (32/64-bit)	Windows XP/Vista/7/8/10, Mac OS 10.3 / 10.4 / 10.5 / 10.6, Linux 2.4 / 2.5 / 2.6	---	

Certificates	-	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, IC, RoHS	CE, FCC, IC, RoHS	FCC, CE, RoHS	FCC, CE, RoHS	CE, FCC, RoHS	CE, FCC, RoHS	-					CE, RoHS	FCC, CE	FCC, CE, RoHS	CE, RoHS	CE
Operation temp	-	0 °C ... 40 °C	0 °C ... 40 °C	0 °C ... 40 °C	0 °C ... 40 °C	0 °C ... 40 °C	0 °C ... 40 °C	0 °C ... 40 °C	0 °C ... 40 °C	-	0 °C ... 40 °C	40 °C ... 85 °C	40 °C ... 85 °C	40 °C ... 85 °C	0 °C ... 40 °C	0 °C ... 40 °C	0 °C ... 40 °C	10 °C ... 60 °C	-
Weight	...	...	...	...	...	0.006 kg	0.03 kg	0.06 kg	• 0.046 kg (without stand) • 0.208 kg (with stand)	0.004 kg	0.001 kg	0.001 kg	0.001 kg	0.01 kg	0.006 kg	...	0.048 kg	0.009 kg	0.01 kg
Dimensions	30 x 16 x 7.1 mm	40.5 x 19.72 x 10.29 mm	18.9 x 14.8 x 6.8 mm	18.7 x 15.0 x 7.0 mm	39.0 x 18.35 x 7.87 mm	41 x 20 x 9 mm	91 x 32 x 14 mm	• 156 x 84 x 19 mm • Length of the cable : 100 cm	• 101 x 37 x 14 mm (without stand) • Ø 90 x 36 mm (External dimensions of the whole base) • 110 cm (cable length)	50 x 14 x 12 mm	24 x 16 x 3.2 mm	20 x 18 x 2.8 mm	25.5 x 18 x 3.2 mm	55 x 29 x 13 mm	43 x 17 x 8 mm	93.5 x 26 x 11 mm	90 x 68 x 17.5 mm	137 x 16 x 15 mm	198 x 16 x 15 mm
Manufacturer / Brand	UNITEK	TP-LINK	TP-LINK	TP-LINK	TP-LINK	TP-LINK	TP-LINK	TP-LINK	TP-LINK	-	Espressif	Espressif	Espressif	Espressif	TP-LINK / MERCUSYS	TP-LINK	TP-LINK	FERGUSON	OPTICUM
Guarantee	2 years	3 years	2 years	3 years	3 years	3 years	3 years	3 years	3 years	2 years	2 years	2 years	2 years	2 years	2 years	2 years	3 years	2 years	2 years



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