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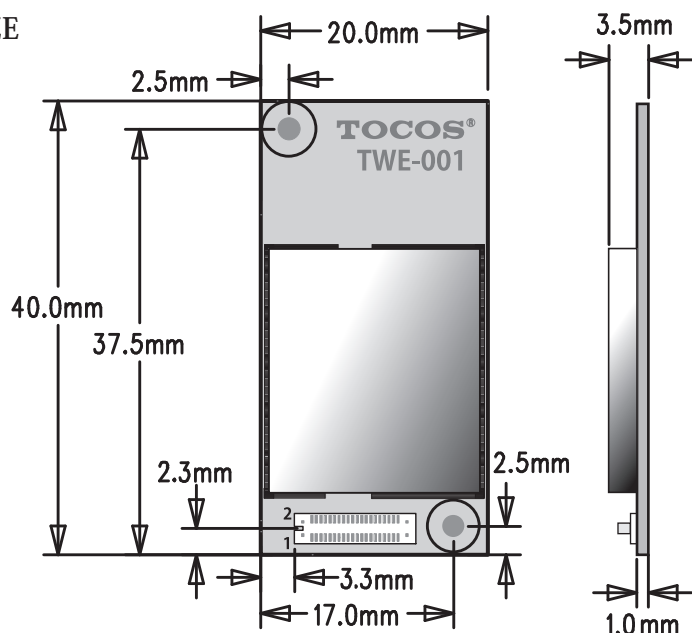


Wireless Engine TWE-001

ZigBee/IEEE 802.15.4 Wireless 32-bit MCU

Ultra Low Power Tx:14.6mA , Rx:17.2mA Very Long Range up to 1km

SIZE



SPECIFICATION

Part Number	TWE-001
Size	20x40x3.5mm
Weight	4g
Working Temp.	-40~85°C (Industrial)
Antennae	chosen between Pattern Ant or IPEX u.FL connector
Connector	0.4mm pitch 2x20pins header (AXT440124)

Standard	IEEE 802.15.4
Frequency	2.4GHz
Channels	16 channels
Modulation	O-QPSK, DSSS
Data Rate	250kbps(IEEE802.15.4)/500kbps/667kbps
Tx Power	+2.7dBm (25°C,3V,typ,SWG connector)
Rx Sensitivity	-95dBm (25°C,3V,typ,SWG connector)
Supply Voltage	2.0 ~ 3.6V (>2.3V on flash access)
Tx Current	14.6mA (25°C,3V,typ)
Rx Current	17.2mA (25°C,3V,typ)
Standby Cu.	1.3uA (25°C,3V,typ,deep standby)
Certification	ARIB-STD-T66(JAPAN), FCC(planned), CE(planned)
Green	RoHS compliance

PIN ASSIGN

2	DIO2	40	C1M
4	DAC2	38	C1P
6	DIO20	36	DIO13
8	DIO3	34	DIO12
10	SWP	32	DIO11
12	SPIMISO	30	SPIMOSI
14	RESETN	28	DIO14
16	SSM	26	SPICLK
18	DIO4	24	DIO15
20	DIO5	22	DIO6
22	DIO7	20	DIO5
24	DIO8	18	DIO4
26	ADC2	16	C2M
28	ADC1	14	C2P
30	DIO10	12	DAC1
32	DIO9	10	GND
34	DIO16	8	SSZ
36	DIO17	6	DIO1
38	DIO18	4	DIO0
40	DIO19	2	VCC

HEADER (on module) : Panasonic Electric Works AXT440124

SOCKET : Panasonic Electric Works AXT340124 or AXT340224

SCREW HOLES: 2.5Φ x 2

note: Connect SSZ and SSM on use.

MCU	32bit RISC CPU (32MHz, can be at 16/8/4MHz)
Memory	ROM 128KiB / RAM 128KiB
Non-volatile Memory	FLASH 4Mibit / (optional I2C EEPROM)
Interface	12bit ADCs(4)/12bitDACs(2)/Comparators(2) Timer/Counters (3) ... 5 modes as PWM, $\Delta \Sigma$ Pulse counters(2) ... can work at sleep state UART(2) 5 select SPI master / SPI slave 2 wires serial 4 wires audio I2S Generic Digital IOs(21) ... shared with other I/Fs
Function	128bit AES enc/decryption Distance engine JTAG debugging Internal watchdog timer Random generator Sampling FIFO (for ADC/DAC/I2S) Vector interrupt with 15 priorities Wakeup timers(2) Brown-out detection
Supported N/W	ZigBee PRO, RF4CE

Spec can be changed without a notice.

* Power, Current consumption varies according to conditions
(e.g. selected channel, voltage, temp.)

* The max distance is measured at open space with 2dbi u.FL ant.

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