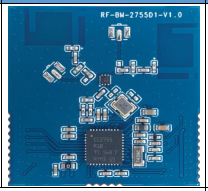
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TI SimpleLink Series Multi-Protocol Modules (Table 1)									
Part Number	**RF-TI1354P1**	**RF-TI1352P2**	**RF-TI1352P1**	**RF-TI1352B1**	**RF-BM-2755B1I**	**RF-BM-2755B1**	**RF-BM-2755D1**	**RF-BM-2755P1I**	**RF-BM-2755P1**
Photo									
IC	CC1354P10	CC1352P7	CC1352P	CC1352R	CC2755R10			CC2755P10	
Protocols	Thread, ZigBee, Matter, BLE5.3, IEEE 802.15.4g, 6LoWPAN, MIOTY, Wireless M-Bus, Wi-SUN, KNX RF, Amazon Sidewalk, proprietary systems, SimpleLink™ TI 15.4-Stack (Sub-1 GHz)	Thread, ZigBee, Matter, BLE5.3, IEEE 802.15.4g, 6LoWPAN, MIOTY, Wireless M-Bus, Wi-SUN, KNX RF, Amazon Sidewalk, proprietary systems, SimpleLink™ TI 15.4-Stack (Sub-1 GHz)	Thread, ZigBee, BLE5.3, IEEE 802.15.4g, 6LoWPAN, MIOTY, Wireless M-Bus, Wi-SUN, KNX RF, Amazon Sidewalk, proprietary systems, SimpleLink™ TI 15.4-Stack (Sub-1 GHz)	Thread, ZigBee, BLE5.3, IEEE 802.15.4g, 6LoWPAN, MIOTY, Wireless M-Bus, Wi-SUN, KNX RF, Amazon Sidewalk, proprietary systems, SimpleLink™ TI 15.4-Stack (Sub-1 GHz)	Bluetooth ® 6.0 Low Energy for Channel Sounding, Matter, ZigBee ® 3.0, Proprietary, Multi-Protocol			Bluetooth ® 6.0 Low Energy for Channel Sounding, Matter, ZigBee ® 3.0, Proprietary, Multi-Protocol	
Frequency	800 MHz ~ 928 MHz, 2.4 GHz	800 MHz ~ 928 MHz, 2.4 GHz	800 MHz ~ 928 MHz, 2.4 GHz	800 MH ~ 928 MH, 2.4 GHz	2360 MHz ~ 2500 MHz			2360 MHz ~ 2500 MHz	
Max. TX Power	+20 dBm @ Sub-1 GHz +5 dBm @ 2.4 GHz	+20 dBm @ Sub-1 GHz +5 dBm @ 2.4 GHz	+14 dBm @ Sub-1 GHz +20 dBm @ 2.4 GHz	+14 dBm @ Sub-1 GHz +5 dBm @ 2.4 GHz	+10 dBm			+20 dBm	
Receiving Sensitivity	–121 dBm @Sub-1G (Long-Range Mode) –110 dBm @ 50 Kbps Sub-1G –104 dBm @125 kbps LE Coded PHY	–121 dBm @Sub-1G (Long-Range Mode) –110 dBm @ 50 Kbps Sub-1G –104 dBm @125 kbps LE Coded PHY	–121 dBm @Sub-1G (Long-Range Mode) –110 dBm @Sub-1G (50 Kbps) –105 dBm @125 kbps LE Coded PHY	–121 dBm @Sub G (Long-Range Mode) –110 dBm @Sub G (50 Kbps) –105 dBm @125 kbps LE Coded PHY	-103.5 dBm sensitivity @ 125 kbps GFSK -97.0 dBm sensitivity @ 1 Mbps GFSK -103.0 dBm sensitivity @ IEEE 802.15.4(2.4 GHz)			-103.5 dBm sensitivity @ 125 kbps GFSK -97.0 dBm sensitivity @ 1 Mbps GFSK -103.0 dBm sensitivity @ IEEE 802.15.4(2.4 GHz)	
RAM	256 kB	152 kB	88 kB	88 kB	32 kB			32 kB	
Flash	1024 kB	704 kB	352 kB	352 kB	1 MB			1 MB	
GPIO	24	24	23	28	21	21	21	21	21
Antenna	IPEX/RF ANT interface	IPEX/RF ANT interface	RF ANT interface	IPEX/RF ANT interface	IPEX/RF ANT interface	PCB	Dual PCB	IPEX/RF ANT interface	PCB
Transmission Range	120 m @ 1M PHY (external PCB antenna) 180 m @ LE Coded PHY (external PCB antenna) 900 m @ 802.15.4 (external glue stick antenna) 1200 m @ Sub-1G (external glue stick antenna)	120 m @ 1M PHY (external PCB antenna) 180 m @ LE Coded PHY (external PCB antenna) 900 m @ 802.15.4 (external glue stick antenna) 1200 m @ Sub-1G (external glue stick antenna)	400 m @ 1M PHY (external PCB antenna) 600 m @ LE Coded PHY (external PCB antenna) 900 m @ 802.15.4 (external glue stick antenna) 1200 m @ Sub-1G (external glue stick antenna)	120 m @ 1M PHY (external PCB antenna) 180 m @ LE Coded PHY (external PCB antenna) 400 m @ 802.15.4 (external glue stick antenna) 1200 m @ Sub-1G (external glue stick antenna)	270 m @ 1M PHY (external PCB antenna) 420 m @ LE Coded PHY (external PCB antenna) 600 m @ 802.15.4 (external PCB antenna)	220 m @ 1M PHY 360 m @ LE Coded PHY 470 m @ 802.15.4	300 m @ 1M PHY	380 m @ 1M PHY (external PCB antenna) 570 m @ LE Coded PHY (external PCB antenna) 800 m @ 802.15.4 (external PCB antenna)	360 m @ 1M PHY 500 m @ LE Coded PHY 600 m @ 802.15.4
Dimension (mm)	26.5 x 16.9 x 2.1	26.5 x 16.8 x 2.2	25.0 x 16.4 x 2.2	26.5 x 16.8 x 2.2	15.55 x 22.5 x 2.35	15.55 x 22.5 x 2.35	32.5 x 32 x 1.8	15.55 x 22.5 x 2.35	15.55 x 22.5 x 2.35
UART Protocol	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Certifications	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Core	48 MHz ARM® Cortex®-M4F								
Power Supply	1.8 V ~ 3.8 V, recommend to 3.3 V								
Working Temperature	-40 ℃ ~ +85 ℃								
Storage Temperature	-40 ℃ ~ +125 ℃								
Application	Smart grid, industrial monitoring and control, Smart agriculture, sensor control, Wireless M-Bus, energy-harvesting								

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TI SimpleLink Series Multi-Protocol Modules (Table 2)									
Part Number	**RF-BM-2652P4I**	**RF-BM-2652P4**	**RF-BM-2652P3**	**RF-BM-2652P2I**	**RF-BM-2652P2**	**RF-BM-2652P1**	**RF-BM-2652B2**	**RF-BM-2652B1**	**RF-BM-2651B1**
Photo									
IC	CC2652P7		CC2652P				CC2652R7	CC2652R	CC2651R3
Protocols	Matter, Thread, ZigBee, Matter, BLE5.3, IEEE 802.15.4, 6LoWPAN, proprietary systems, SimpleLink™ TI 15.4 stack (2.4 GHz)		Thread, ZigBee, BLE5.3, IEEE 802.15.4, 6LoWPAN, proprietary systems, SimpleLink™ TI 15.4 stack (2.4 GHz)				Thread, ZigBee, BLE5.3, IEEE 802.15.4, 6LoWPAN, proprietary systems, SimpleLink™ TI 15.4 stack (2.4 GHz)	Thread, ZigBee, BLE5.3, IEEE 802.15.4, 6LoWPAN, proprietary systems, SimpleLink™ TI 15.4 stack (2.4 GHz)	ZigBee, BLE5.3, SimpleLink™ TI 15.4-stack, Proprietary systems
Frequency	2.4 GHz		2.4 GHz				2.4 GHz	2.4 GHz	2.4 GHz
Max. TX Power	+20 dBm		+20 dBm				+5 dBm	+5 dBm	+5 dBm
Receiving Sensitivity	-99 dBm @ 802.15.4 (2.4 GHz) -104 dBm @ 125 kbps BLE Coded PHY		-100 dBm @ 802.15.4 (2.4 GHz) -105 dBm @ 125 kbps BLE Coded PHY				-99 dBm @ 802.15.4 (2.4 GHz) -104 dBm @ 125 kbps BLE Coded PHY	-100 dBm @ 802.15.4 (2.4 GHz) -105 dBm @ 125 kbps BLE Coded PHY	-100 dBm @ 802.15.4 (2.4 GHz) -104 dBm @ 125 kbps BLE Coded PHY
RAM	152 kB		88 kB				152 kB	88 kB	40 kB
Flash	704 kB		352 kB + 1 MB	352 kB	352 kB	352 kB	704 kB	352 kB	352 kB
GPIO	23	23	11	23	23	23	31	31	23
Antenna	IPEX/RF ANT interface	PCB	PCB	IPEX/RF ANT interface	PCB	RF ANT interface	PCB	PCB	PCB
Transmission Range	380 m @ 1M PHY (external PCB antenna) 570 m @ LE Coded PHY (external PCB antenna) 800 m @ 802.15.4 (external PCB antenna)	260 m @ 1M PHY 420 m @ LE Coded PHY 500 m @ 802.15.4	370 m @ 1M PHY 500 m @ LE Coded PHY 600 m @ 802.15.4	380 m @ 1M PHY (external PCB antenna) 570 m @ LE Coded PHY (external PCB antenna) 800 m @ 802.15.4 (external PCB antenna)	360 m @ 1M PHY 500 m @ LE Coded PHY 600 m @ 802.15.4	380 m @ 1M PHY (external PCB antenna) 570 m @ LE Coded PHY (external PCB antenna) 800 m @ 802.15.4 (external PCB antenna)	200 m @ 1M PHY 330 m @LE Coded PHY 350 m @ 802.15.4	200 m @ 1M PHY 330 m @LE Coded PHY 350 m @ 802.15.4	140 m @ 1M PHY 260 m @LE Coded PHY 280 m @ 802.15.4
Dimension (mm)	30.0 x 16.4 x 2.2	30.0 x 16.4 x 2.2	24.0 x 16.0 x 2.1	30.0 x 16.4 x 2.2	30.0 x 16.4 x 2.2	25.0 x 16.4 x 2.2	23.5 x 17.0 x 2.2	23.5 x 17.0 x 2.2	22.5 x 15.55 x 2.3
UART Protocol	N/A	N/A	N/A	BLE 5.0 Master-Slave	BLE 5.0 Master-Slave	N/A	N/A	BLE 5.0 Master-Slave	N/A
Certifications	N/A	FCC (BLE, ZIgBee, Thread)	FCC and CE (BLE, ZIgBee)	With RF-star extrenal PCB antenna, FCC and CE (BLE, ZIgBee, Thread)	FCC and CE (BLE, ZIgBee, Thread)	N/A	CE (BLE)	N/A	N/A
Core	48 MHz ARM® Cortex®-M4F								
Power Supply	1.8 V ~ 3.8 V, recommend to 3.3 V								
Working Temperature	-40 ℃ ~ +85 ℃								
Storage Temperature	-40 ℃ ~ +125 ℃								
Application	Smart home gateway, building automation, Home automation, fire alarm control panel (FACP), Smoke and heat detector, asset tracking, Smart grid, wireless sensor networks, Access control, IP network camera								

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