TI CC13xx Series Sub-1G Modules								
Part Number	**RF-TI1354P1**	**RF-TI1352P2**	**RF-TI1352P1**	**RF-TI1352B1**	**RF-SM-1277B2**	**RF-SM-1277B1**	**RF-SM-1077B2**	**RF-SM-1077B1**
Photo								
IC	CC1354P10	CC1352P7	CC1352P	CC1352R	CC1312R		CC1310R	
Core	48 MHz ARM® Cortex®-M4F	48 MHz ARM® Cortex®-M4F	48 MHz ARM® Cortex®-M4F	48 MHz ARM® Cortex®-M4F	48 MHz ARM® Cortex®-M4F		48 MHz ARM® Cortex®-M3	
RAM	256 kB	152 kB	88 kB	88 kB	88 kB		28 kB	
Flash	1024 kB	704 kB	352 kB	352 kB	352 kB		128 kB	
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	–121 dBm @ Sub-1 GHz (Long-Range Mode) –110 dBm @ Sub-1 GHz (50 kbps)		–114 dBm @ Sub-1 GHz (Long-Range Mode) –110 dBm @ Sub-1 GHz (50 kbps)	
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)	IEEE 802.15.4g, IPv6-enabled smart objects(6LoWPAN),MIOTY®, Wireless M-Bus(T, S, C mode), Wi-SUN®, KNX RF, Amazon Sidewalk, proprietary systems, SimpleLink™ TI 15.4 stack (Sub-1 GHz)		IEEE 802.15.4g, Wireless M-Bus (T, S, C mode), 6LoWPAN, MIOTY, SimpleLink™ TI 15.4 stack (Sub-1 GHz)	
Frequency	800 MHz ~ 928 MHz, 2.4 GHz	800 MHz ~ 928 MHz, 2.4 GHz	800 MHz ~ 928 MHz, 2.4 GHz	800 MHz ~ 928 MH, 2.4 GHz	431 MHz ~ 527 MHz	779 MHz ~ 930 MHz	431 MHz ~ 527 MHz	779 MHz ~ 930 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	+13 dBm	+14 dBm	+15 dBm	+14 dBm
GPIO	24	24	23	28	30	30	30	30
Antenna	IPEX/RF ANT interface	IPEX/RF ANT interface	ANT RF interface	IPEX/ANT RF interface	IPEX/ANT RF interface	IPEX/ANT RF interface	IPEX/ANT RF interface	IPEX/ANT RF interface
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)	1000 m (external glue stick antenna)	1000 m (external glue stick antenna)	1000 m (external glue stick antenna)	1000 m (external glue stick antenna)
Dimension (mm)	26.5 x 16.8 x 2.2	26.5 x 16.8 x 2.2	25.0 x 16.4 x 2.2	26.5 x 16.8 x 2.2	26.0 x 18.0 x 2.3	26.0 x 18.0 x 2.3	26.0 x 18.0 x 2.3	26.0 x 18.0 x 2.3
Power Supply	1.8 V ~ 3.8 V, recommend to 3.3 V							
Working Temperature	-40 ℃ ~ +85 ℃							
Storage Temperature	-40 ℃ ~ +125 ℃							
Functions	Wireless M-Bus, energy-harvesting, smart agriculture, sensor control, sSmart grid, industrial monitoring and control							

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