

BLE IC/Module Benchmark by CRESCO Wireless Inc. as of 2019/1/21

	LAPIS	Nordic			Raytac	Taiyo Yuden				SiliconLabs		Dialog			Toshiba	Microchip		Renesus	AKM
Part No.	MK71351-01	nRF51822	nRF52832	nRF52810	MDBT42V	EYSHSNZWW	EYLSNSZWW	EYSHJNZWW	EYSGJNZXXWY	BGM13S	BGM11S	DA14580	DA14585	DA14586	TC35680FSG-002	RN4870	RN4871	RY7011(RL78/G1D)	AK1594
Type	Module	IC	IC	IC	Module(nRF52832)	Module(nRF52832)	Module(nRF52832)	Module(nRF52832)	Module(nRF51822)	Module	Module	IC	IC	IC	IC	Module(RN4870/U)	Module(RN4871/U)	Module	IC
Antenna	Pattern	N/A	N/A	N/A	Pattern	Pattern	--	--	--			N/A	N/A	N/A	N/A	Chip/N/A	Chip/N/A	Pattern	N/A
Bluetooth	4.2	4.2	5.0	--	--	5.0	5.0	5.0	4.2	5.0	4.2	4.2	5.0	5.0	5.0	4.2	4.2	4.2	4.2
MCU	M0 @13/23MHz	M0 32bit	M4 32bit@64MHz	--	-	-	-	-	-	-	-	M0 32bit	M0 32bit	M0 32bit	M0 32bit	8051	8051	RL78 16bit@32MHz	-
Tx(mAh)	2.90	10.5	5.3	4.6	5.3@0dBm(DCDC) 11.6@0dBm	7.5@+4dBm(DCDC) 16.6@+4dBm	7.0@+4dBm(DCDC) 15.4@+4dBm	7.5@+4dBm(DCDC) 16.6@+4dBm	16@+4dBm 10.5@0dBm	8.9@0dBm	8.2@0dBm	4.9@0dBm	3.4@0dBm	3.4@0dBm	5.2@0dBm	13	13	4.3	5.0
Rx(mAh)	3.00	13	5.4	4.6	5.4@1M(DCDC) 11.7@1M	5.4@1M(DCDC) 11.7@1M	5.2@1M(DCDC) 11.2@1M	5.4@1M(DCDC) 11.7@1M	13	9.7	8.7	4.9@0dBm	3.7@0dBm	3.7@0dBm	5.1@0dBm	13	13	3.5	N/A
Sleep(uA)	2.40	2.6 uA at 3 V ON mode, all blocks IDLE	1.9uA System ON, no RAM retention, wake on RTC	1.4uA System ON, no RAM retention, wake on RTC	1.6	1.6	1.6	1.6	1.6	1.4	2.5	1.2	1.2	1.2	2.5	2.9	2.9	0.3	0.3
Deep Sleep(uA)	0.05	-	0.3	--	-	-	-	-	-	1.4	2.5	-	-	-	0.05	-	-	-	0.9
TxPower(Max)	0dBm	+4dBm	+4dBm	--	--	--	--	--	--	+18dBm	+8dBm	0dBm	0dBm	0dBm	+8dBm	0dBm	0dBm	+3dBm	+6dBm
Sensitivity	-	-93dBm	-96dBm	--	--	--	--	--	--	-	-90dBm	-93dBm	-93dBm	-93dBm	-94.5dBm	-90dBm	-90dBm	-92dBm	N/A
Flash	128KB	256/128KB	512/256KB	192KB	512KB	512KB	192KB	512KB	256KB	512KB	256KB	82KB	128KB	128KB+2M	128KB	256K	256K	256KB	-
RAM	-	32/16KB	64/32KB	24KB	64KB	64KB	24KB	64KB	16/32KB	64KB	32KB	42KB	64KB	64KB	76KB	24KB	24KB	20KB	-
Master Clock	26MHz	16MHz	32MHz	32MHz	32MHz	32MHz	32MHz	32MHz	32MHz	38.4M	38.4M	16MHz	16MHz	16MHz	16MHz	32M	32MHz	32MHz	32MHz
Low Power	32.768kHz	(32.768kHz)	(32.768kHz)	(32.768kHz)	(32.768kHz)	(32.768kHz)	(32.768kHz)	(32.768kHz)	(32.768kHz)	(32.768kHz)	32KHz	32KHz	32KHz	32KHz	32KHz	-	-	32.768kHz	32.768kHz
Size(mm)	9.7x11.95x2.0	6.0x6.0x0.85 (QFN48) 3.5x3.83x0.5 (WLCSP)	6.0x6.0x0.85 (QFN48) 3.0x3.2x0.4 (WLCSP)	6.0x6.0x0.85 (QFN48) 5.0x5.0x0.85 (QFN32) 2.482x2.464x0.477 (WLCSP)	6.4x8.4x1.5	3.25x8.55x0.85	3.25x8.55x1.0	5.1x11.3x1.3	5.1x11.3x1.3	6.5x6.5x1.4	6.5x6.5x1.4	5x5x0.9	5x5x0.9 (QFN40) 2.4x2.66x0.39 (WLCSP34)	5x5x0.9 (QFN40) 2.4x2.66x0.39 (WLCSP34)	5x5x0.4	12x22x2.4 12x15x1.6	9x11.5x2.1 6x15x1.6	8.95x13.35x1.7	4 x 4 x 0.75
No. of Pins	31pins	-	-	-	20pins	15pins	15pins	15pins	15pins	-	-	-	40pins	40pins	40pins	-	-	42pins	28pins
Operating Voltage	2.0-3.6V	1.7-3.6V	1.7-3.6V	--	1.7-3.6V	1.7-3.6V	1.7-3.6V	1.7-3.6V	1.7-3.6V	1.8-3.8V	1.85-3.8V	0.9-3.6V	1.8-3.6V	1.8-3.6V	1.9-3.6V	1.9-3.6V	1.9-3.6V	1.6-3.6V	2.0-3.7V
Operating Temperature	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-40to+85°C	-25to+75°C	-25to+75°C
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Transmitting only

Remark: Information above is based on our own investigation obtained from publicly available information etc. subject to no guarantee and E.&O.E. If any error or wrong information found, please contact to us for immediate correction.