

# Bluetooth Chipset Selection Guide



Product Summary		GR533x Series				GR5525 Series				GR5526 Series				GR551x Series						
		GR5331AENI	GR5331CENI	GR5332AENE	GR5332CENE	GR5525I0NI	GR5525I1NI	GR5525I2NI	GR5525I3NI	GR5526I0NI	GR5526I1NI	GR5526I2NI	GR5526I3NI	GR5513BENDU	GR5515I0NDA	GR5515I1ENDU	GR5515I2GGBD	GR5515I3GND	GR5515I4GGBD	
PROTOCOL	Status	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	Active	
	Bluetooth® LE <sup>[1]</sup>	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.1	5.1	5.1	5.1	5.1	5.1	
	ISO																			
	Direction Finding																			
	Bluetooth® Mesh	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CORE SYSTEM	CPU	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	Cortex®-M4F	
	Clocks	64 MHz/32kHz	64 MHz/32kHz	64 MHz/32kHz	64 MHz/32kHz	96 MHz/32kHz	96 MHz/32kHz	96 MHz/32kHz	96 MHz/32kHz	96 MHz/32kHz	96 MHz/32kHz	96 MHz/32kHz	96 MHz/32kHz	64 MHz/32 kHz	64 MHz/32 kHz	64 MHz/32 kHz	64 MHz/32 kHz	64 MHz/32 kHz	64 MHz/32 kHz	
	Cache	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	8 KB	
	RAM	96 KB	96 KB	96 KB	96 KB	256 KB	256 KB	256 KB	256 KB	256 KB	512 KB	512 KB	512 KB	128 KB	256 KB	256 KB	256 KB	256 KB	256 KB	
	PSRAM										8 MB	8 MB	8 MB							
	Flash	512KB	512KB	512KB	512KB	External Flash	512KB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	512 KB	External Flash	512 KB	1 MB	1 MB	1 MB	
	2.5D GPU																			
	SECURITY	Root-Of-Trust					•	•	•	•	•	•	•	•	•	•	•	•	•	•
Secure Key Store						4	4	4	4	4	4	4	4	4	4	4	4	4	4	
PKC						•	•	•	•	•	•	•	•	•	•	•	•	•	•	
RSA						•	•	•	•	•	•	•	•	•	•	•	•	•	•	
AES		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
ECC						•	•	•	•	•	•	•	•	•	•	•	•	•	•	
TRNG		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
RADIO	Frequency	2.4GHz	2.4GHz	2.4GHz	2.4GHz	2.4GHz	2.4GHz	2.4GHz	2.4GHz	2.4 GHz	2.4 GHz	2.4 GHz	2.4 GHz	2.4 GHz	2.4 GHz	2.4 GHz	2.4 GHz	2.4 GHz		
	Maximum Tx Power	6dBm	6dBm	15dBm	15dBm	7dBm	7dBm	7dBm	7dBm	7 dBm	7 dBm	7 dBm	7 dBm	7 dBm	7 dBm	7 dBm	7 dBm	7 dBm		
	Rx Sensitivity	-97.5 dBm(@1Mbps)	-97.5 dBm(@1Mbps)	-99 dBm(@1Mbps)	-99 dBm(@1Mbps)	-97 dBm(@1Mbps)	-97 dBm(@1Mbps)	-97 dBm(@1Mbps)	-97 dBm(@1Mbps)	-97 dBm(@1Mbps)	-98 dBm(@1Mbps)	-98 dBm(@1Mbps)	-98 dBm(@1Mbps)	-98 dBm(@1Mbps)	-96 dBm(@1Mbps)	-96 dBm(@1Mbps)	-96 dBm(@1Mbps)	-96 dBm(@1Mbps)	-96 dBm(@1Mbps)	
PERIPHERAL	UART	2	2	2	2	4	4	4	4	6	6	6	6	2	2	2	2	2		
	SPI	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS	1 x SPIM/ 1 x SPIS		
	I2C	2	2	2	2	4	4	4	4	6	6	6	6	2	2	2	2	2		
	ISO7816									1	1	1	1	1	1	1	1	1		
	USB									1 x USB 2.0	1 x USB 2.0	1 x USB 2.0	1 x USB 2.0							
	QSPI					3	3	3	3	3	3	3	3	1	2	2	0	2		
	DSPI					1	1	1	1	1	1	1	1							
	DC									1	1	1	1							
	Timers	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
	PWM	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
	RTC	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1		
	I2S					1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS	1 x I2SM/ 1xI2SS		
	PDM					•	•	•	•	•	•	•	•							
	ADC	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit	13-bit		
	Comparator	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Temperature sensor	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
GPIO	16	32	16	32	39	39	39	50	48	48	50	50	22	39	39	29	39			
PACKAGES	Type & Pins Dimensions	QFN32 4.0 x 4.0 mm	QFN48 6.0 x 6.0 mm	QFN32 4.0 x 4.0 mm	QFN48 6.0 x 6.0 mm	QFN56 7.0 x 7.0 mm	QFN56 7.0 x 7.0 mm	QFN56 7.0 x 7.0 mm	QFN68 7.0 x 7.0 mm	QFN68 7.0 x 7.0 mm	QFN68 7.0 x 7.0 mm	BGA83 4.3 x 4.3 mm	BGA83 4.3 x 4.3 mm	QFN40 5.0 x 5.0 mm	QFN56 7.0 x 7.0 mm	QFN56 7.0 x 7.0 mm	BGA55 3.5 x 3.5 mm	QFN56 7.0 x 7.0 mm	BGA68 5.3 x 5.3 mm	
	Certification					SIG BQB (QDID: 179976)				SIG BQB (QDID: 179976,181083)				PSA Level 1 SIG BQB (QDID: 119449)						
	Operating Temperature	-40°C - 85°C	-40°C - 85°C	-40°C - 105°C	-40°C - 105°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C	
Supply Voltage Range	2.0V - 3.63V	2.0V - 3.63V	2.0V - 3.63V	2.0V - 3.63V	2.4V - 3.8V	2.4V - 3.8V	2.4V - 3.8V	2.4V - 3.8V	2.4V - 3.8V	2.4V - 4.35V	2.4V - 4.35V	2.4V - 4.35V	2.4V - 4.35V	2.2V - 3.8V	2.2V - 3.8V	2.2V - 3.8V	2.2V - 3.8V	2.2V - 3.8V		
Development Kits	GR5331_Starter_Kit				GR5525_Starter_Kit				GR5526_Starter_Kit				GR5515_Starter_Kit							

[1] 1M-PHY, 2M-PHY, Long Range supported by default [2] GR5332 is now using the same starter kit as GR5331, so the +15dBm TX / -99dBm RX features are not supported on the starter kit.