NimbeLink Embedded Modems Technical Specs Comparison Chart

Use this comparison chart to choose the right NimbeLink embedded modem for your IoT Project.
If you'd like to speak to a Sales representative, feel free to contact us.

										EOL Products						
	LTE-M/NB-IoT	**LTE-M/NB-IoT**	**LTE-M/NB-IoT**	**LTE CAT 1**	**LTE CAT 1**	**LTE CAT 1**	**LTE CAT 4**	**LTE CAT 4**	**LTE CAT 4**	**3G**	**LTE-M/NB-IoT**	**LTE CAT 1**	**LTE CAT 1**	**LTE CAT 4**	**LTE CAT 4**	**LTE CAT 4**
	NL-SWN-LTE-NRF9160	**NL-SW-LTE-QBG95**	**NL-SW-LTE-TG1WWG**	**NL-SW-LTE-GELS3**	**NL-SW-LTE-TC1NAG**	**NL-SW-LTE-TC1WWG**	**NL-SW-LTE-TC4WWG**	**NL-SW-LTE-TC4NAG**	**NL-SW-LTE-SRC7611-4**	**NL-SW-HSPA**	**NL-SW-LTE-QBG96**	**NL-SW-LTE-S7648**	**NL-SW-LTE-S7618RD**	**NL-SW-LTE-S7588**	**NL-SW-LTE-TC4EU**	**NL-SW-LTE-TC4APG**
Target Region																
Region	Global	Global	Global	United States	North America	Global	Global	North America	North America	Global	Global	North America	United States	North America	Europe	Asia-Pacific
Compatible Carriers	Verizon	AT&T, Orange, Telstra, Telus, T-Mobile, Verizon, Vodafone, and more	AT&T, Orange, Telstra, Telus, T-Mobile, Verizon, Vodafone, and more	Verizon	AT&T, Bell, Rogers, Telus, Verizon	AT&T, Orange, Telstra, Telus, T-Mobile, Verizon, Vodafone, and more	AT&T, Orange, Telstra, Telus, T-Mobile, Verizon, Vodafone, and more	AT&T, Bell, Rogers, Telus, T-Mobile, Verizon	AT&T, Bell, Rogers, Telus, Verizon	AT&T, T-Mobile, WW 3G Networks	AT&T, Orange, Telstra, Telus, Verizon, Vodafone	AT&T, Bell, Rogers, Telus, T-Mobile	Verizon	AT&T, Verizon	Orange, Vodafone	N/A
Cellular Technology																
LTE Category	LTE-M (CAT M1), NB-IoT (NB1, NB2)	LTE-M (CAT M1), NB-IoT (NB1, NB2)	LTE-M (CAT M1), NB-IoT (NB1, NB2)	LTE CAT 1	LTE CAT 1	LTE CAT 1	LTE CAT 4	LTE CAT 4	LTE CAT 4	NA	LTE-M, NB-IoT	LTE CAT 1	LTE CAT 1	LTE CAT 4	LTE CAT 4	LTE CAT 4, 3GPP Release 10 Compliant
LTE Frequency Bands	LTE-FDD: B1[2100], B2[1900] B3[1800], B4[1700], B5[850], B8[900], B12[700], B13[700],B14[700], B17[700], B18[850], B19[850], B20[800], B25[1900], B26[850], B28[700], B66[1700]	LTE-FDD: B1[2100], B2[1900] B3[1800], B4[1700], B5[850], B8[900], B12[700], B13[700], B14[700], B17[700], B18[850], B19[850], B20[800], B25[1900], B26[850], B27[850], B28[700], B31[450], B66[1700], B71[600]	LTE-FDD: B1[2100], B2[1900] B3[1800], B4[1700], B5[850], B8[900], B12[700], B13[700],B18[850], B19[850], B20[800], B25[1900], B26[850], B27[850], B28[700], B66[1700], B71[600], B85[700]	LTE B4 [1700], B13 [700]	FDD B2[1900], B4[1700], B5[850], B12[700], B13[700], B14[700], B66[1700], B71[600]	FDD B1[2100], B2[1900], B3[1800], B4[1700], B5[850], B7[2600], B8[900], B12[700], B13[700], B14[700], B19[850], B20[800], B26[850], B28[700]	FDD B1[200], B2[1900], B3[1800], B4[1700], B5[850], B7[2600], B8[900], B12[700], B13[700], B14[700], B19[850], B20[800], B26[850], B28[700]	FDD B2[1900], B4[1700], B5[850], B12[700], B13[700], B14[700], B66[1700], B71[600]	FDD B2[1900], B4[1700], B5[850], B12[700], B13[700], B14[700], B25[1900], B26 [850], B66[1700], B71[600]	N/A	LTE-FDD: B1[2100], B2[1900] B3[1800], B4[1700], B5[850], B8[900], B12[700], B13[700], B18[850], B19[850], B20[800], B26[850], B28[700]	LTE B2 [1900], B4 [1700], B12 [700]	LTE B4 [1700], B13 [700]	LTE: B2 [1900], B4[1700], B5[850], B13[700], B71[7700]	FDD B1[2100], B3[1800], B7[2600], B8[900], B20[800]	FDD B1[2100], B3[1800], B5[850], B8[900], B9[1800], B18[850], B19[850], B26[850], B28[700]
3G Technology Supported WW 3G providers	N/A	N/A	N/A	N/A	DC-HSPA+	DC-HSPA+	DC-HSPA+	DC-HSPA+	N/A	UMTS, HSPA+	N/A	N/A	N/A	HSPA+	HSPA+	HSPA+
3G Frequency Band	N/A	N/A	N/A	N/A	B2[1900], B4[1700], B5[850]	B1[2100], B2[1900], B3[1800], B5[850], B8[900], B19[850]	B1[2100], B2[1900], B3[1800], B5[850], B8[900] , B19[850]	B2[1900], B4[1700], B5[850]	N/A	B1[2100], B2[1900], B4[1700], B5[850], B8[900]	N/A	N/A	N/A	B2[1900], B5[850]	B1 [2100], B8 [900]	B1[2100], B5[850], B6[800], B8 [900], B19[800]
2G Technology Supported	N/A	GSM, EDGE, GPRS	GSM, EDGE, GPRS, EGPRS	N/A	N/A	GSM, EDGE, GPRS	GSM, EDGE, GPRS	N/A	N/A	GSM, EDGE, GPRS	GSM, EDGE, GPRS	N/A	N/A	N/A	GSM, EDGE	N/A
2G Frequency Band	N/A	GSM850, EGSM900, DCS1800, PCS1900	GSM850, EGSM900, DCS1800, PCS1900	N/A	N/A	GSM850, EGSM900, DCS1800, PCS1900	GSM850, EGSM900, DCS1800, PCS1900	N/A	N/A	GSM850/900, DCS1800, PCS1900	GSM850, EGSM900, DCS1800, PCS1900	N/A	N/A	N/A	GSM900, DCS1800	N/A
Data Speeds																
Download Rate and Upload Rate	**Download Max:** LTE-M: 375 Kbps | NB-IoT: 60 Kbps **Upload Max:** LTE-M: 300 Kbps | NB-IoT: 30 Kbps	**Download Max:** LTE-M: 589 Kbps | NB-IoT: 136 Kbps | GPRS: 107 Kbps | EDGE: 296 Kbps **Upload Max:** LTE-M: 1.2 Mbps | NB-IoT: 150 Kbps | GPRS: 85.6 Kbps | EDGE: 236.8 Kbps	**Download Max:** LTE-M: 588 Kbps | NB-IoT: 120 Kbps | GPRS: 107 Kbps | EGPRS: 264 Kbps **Upload Max:** LTE-M: 1 Mbps | NB-IoT: 160 Kbps | EGPRS: 210 Kbps	**Download:** LTE: 10 Mbps **Upload:** LTE: 5 Mbps	**Download:** LTE: 10 Mbps | HSPA+: 42.0 Mbps **Upload:** LTE: 5 Mbps | HSPA+: 5.76 Mbps	**Download: LTE:** 10 Mbps | HSPA+: 42.0 Mbps **Upload:** LTE: 5 Mbps | HSPA+: 5.76 Mbps	**Download:** LTE: 150 Mbps | HSPA+: 42.0 Mbps **Upload:** LTE: 50 Mbps | HSPA+: 5.76 Mbps	**Download:** LTE: 150 Mbps | HSPA+: 42.0 Mbps **Upload:** LTE: 50 Mbps | HSPA+: 5.76 Mbps	**Download:** LTE: 150 Mbps **Upload:** LTE: 50 Mbps	**Download:** HSPA+: 21.0 Mbps | EDGE: 296 Kbps | GPRS: 107 Kbps **Upload:** HSPA+ 5.76 Mbps | EDGE: 236.8 Kbps | GPRS: 85.6 Kbps	**Download:** LTE-M: 375 Kbps | NB-IoT: 32 Kbps | GPRS: 107 Kbps | EDGE: 296 Kbps **Upload:** LTE-M: 375 Kbps | NB-IoT: 70 Kbps | GPRS: 85.6 Kbps | EDGE: 236.8 Kbps	**Download:** LTE: 10 Mbps **Upload:** LTE: 5 Mbps	**Download:** LTE: 10 Mbps **Upload:** LTE: 5 Mbps	**Download:** LTE: 150 Mbps | HSPA+: 42.2 Mbps **Upload:** LTE: 50 Mbps | HSPA+: 5.7 Mbps	**Download:** LTE: 150 Mbps | HSPA+: 42.0 Mbps | EDGE: 296 Kbps **Upload:** LTE: 50 Mbps | HSPA+: 5.76 Mbps | EDGE: 236.8 Kbps	**Download:** LTE: 150 Mbps | HSPA+: 42.0 Mbps **Upload:** LTE: 50 Mbps | HSPA+: 5.76 Mbps
Hardware																
Form Factor	Skywire Nano Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface	Skywire Interface
Dimensions	22mm x 15mm x 4mm	29mm x 33mm x 10.5mm	29mm x 33mm x 10.5mm	29mm x 33mm x 10.5mm	29mm x 33mm x 10.5mm	29.85mm x 34.4mm x 10.5mm	29.85mm x 34.4mm x 10.5mm	29mm x 33mm x 10.5mm	29mm x 33mm x 10.5mm	29mm x 33mm x 10.5mm	29mm x 33mm x 10.5mm	29mm x 33mm x 10.5mm	29mm x 33mm x 10.5mm	29mm x 33mm x 10.5mm	29mm x 33mm x 10.5mm	29mm x 33mm x 10.5mm
Weight	4 grams	8 grams	8 grams	8 grams	8 grams	8 grams	8 grams	8 grams	8 grams	8 grams	8 grams	8 grams	8 grams	8 grams	8 grams	8 grams
Internet Protocols																
Network Stack Support	NimbeLink provided AT command parser supporting: TCP/IP, UDP/IP, IPv4/IPv6, PING, Roadmap for TLS 1.2 and MQTT	Integrated TCP/IP, UDP/IP, HTTP/HTTPS, FTP/SFTP, SSL/TLS, IPv4/IPv6, NITZ, PING, MQTT, PPP	Integrated TCP/IP, UDP/IP, IPv4/IPv6, TLS 1.3/DTLS	Integrated TCP/IP, UDP/IP, HTTP/HTTPS, FTP, SMTP, IPv4/IPv6, NITZ, PING, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP, FTP, SSL/TLS, SMTP, IPv4/IPv6, NITZ, PING, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP, FTP, SSL/TLS, SMTP, IPv4/IPv6, NITZ, PING, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP, FTP, SSL/TLS, SMTP, IPv4/IPv6, NITZ, PING, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP, FTP, SSL/TLS, SMTP, IPv4/IPv6, NITZ, PING, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP, FTP, SSL/TLS, SMTP, IPv4/IPv6, NITZ, PING, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP/HTTPS, FTP, SSL/TLS, IPv4/IPv6, NITZ, PING, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP/HTTPS, FTP/SFTP, SSL/TLS IPv4/IPv6, NITZ, PING, MQTT, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP, FTP, SSL/TLS, IPv4/IPv6, NITZ, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP, FTP, SSL/TLS, IPv4/IPv6, NITZ, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP, FTP, SSL/TLS, IPv4/IPv6, NITZ, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP, FTP, SSL/TLS, SMTP, IPv4/IPv6, NITZ, PING, PPP Stacks	Integrated TCP/IP, UDP/IP, HTTP, FTP, SSL/TLS, SMTP, IPv4/IPv6, NITZ, PING, PPP Stacks
SMS	SMS supported	SMS supported	SMS supported	SMS over IMS	SMS over IMS	SMS over IMS	SMS over IMS	SMS over IMS	SMS over IMS	SMS over GPRS	SMS supported	SMS over SGs	SMS over IMS and SGs	SMS over IMS and SGs	SMS over IMS	SMS over IMS
Location																
GNSS	GPS	GPS, GLONASS, Beidou, Galileo	GPS, GLONASS, Beidou, Galileo, QZSS	N/A	GPS, Glonass, Beidou, Galileo, and QZSS	GPS, Glonass, Beidou, Galileo, and QZSS	GNSS GPS, Glonass, Beidou, Galileo, and QZSS	GPS, Glonass, Beidou, Galileo, and QZSS	GPS, Glonass, Beidou, Galileo, and QZSS	GPS, GLONASS	GPS, GLONASS, Beidou/Compass, Galileo, QZSS	N/A	N/A	N/A	N/A	GPS, Glonass, Beidou, Galileo, QZSS
Power Supply																
Supply Voltage	3.3V to 5.5V (3.8V nominal)	2.5V to 4.8V (3.8V nominal)	3.4V to 4.2V (3.8V nominal)	3V - 5.5V (3.8V nominal)	1.65V - 5.5V	3.4V - 4.2V (3.8V Nominal)	3.4V - 4.2V (3.8V nominal)	1.65V - 5.5V	3.0V - 5.5V	3.5V - 4.3V (3.8V nominal)	3.4V to 4.3V (3.8V nominal)	3V - 5.5V (3.8V nominal)	3V - 5.5V (3.8V nominal)	3V to 5.5V (3.8V nominal)	3.4V - 4.2V (3.8V nominal)	3.4V - 4.2V (3.8V nominal)
I/O Voltage	1.7V - 3.6V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V	1.65V - 5.5V
Current Consumption	Average TBD mA | Peak TBD mA | Idle TBD mA | Sleep TBD uA | PSM 5uA | eDRX 19uA	Average TBD mA | Peak TBD mA | Idle TBD mA | Sleep TBD uA	Average TBD mA | Peak TBD mA | Idle TBD mA | Sleep TBD uA	Average 135 mA | Peak 700 mA | Idle 48 mA | Sleep 8.6 mA	Average N/A | Peak N/A | Idle N/A | Sleep N/A	Average N/A | Peak N/A | Idle N/A | Sleep N/A	Average N/A | Peak N/A | Idle N/A | Sleep N/A	Average N/A | Peak N/A | Idle N/A | Sleep N/A	Average N/A | Peak N/A | Idle N/A | Sleep N/A	Average 110 mA | Peak 215 mA | Idle 19 mA | Sleep N/A	Average 130 mA | Peak 900 mA | Idle 19 mA | Sleep 680 uA	Average 135 mA | Peak 335 mA | Idle 35 mA | Sleep 18 mA	Average 177 mA | Peak 300 mA | Idle 54 mA | Sleep 24 mA	Average 66 mA | Peak 229 mA | Idle 14 mA | Sleep 11 mA	Average 135 mA | Peak 225 mA | Idle 40 mA | Sleep N/A	Average TBD mA | Peak TBD mA | Idle TBD mA | Sleep TBD
Interfaces																
Type	Multiple UART, SPI, I2C, GPIO	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)	UART, USB (USB 2.0 compliant)
USB Driver Support	N/A	**OS:** Windows 7/8/10, Windows CE 5/6/7, Linux 2.6/3.X/4.1-4.14, Android 4/5/6/7/8 **Drivers:** PPP | QMI | AT Console | RIL Driver	**OS:** Windows 10, Linux 4.15 **Drivers:** PPP | AT Console | ECM | MBIM	**OS:** Windows XP | Windows Vista | Windows 7 | Windows 8 | Windows 10 | Linux **Drivers:** PPP | ECM | ACM | AT Console	**OS:** Windows 7 | Windows 8 | Windows 10 | Linux **Drivers:** MBIM | PPP | RNDIS | ECM | QMI | NMEA | AT Console	**OS:** Windows 7 | Windows 8 | Windows 10 | Linux **Drivers:** MBIM | PPP | RNDIS | ECM | QMI | NMEA | AT Console	**OS:** Windows 7 | Windows 8 | Windows 10 | Linux **Drivers:** MBIM | PPP | RNDIS | ECM | QMI | NMEA | AT Console	**OS:** Windows 7 | Windows 8 | Windows 10 | Linux **Drivers:** MBIM | PPP | RNDIS | ECM | QMI | NMEA | AT Console	**OS:** Windows 10 | Linux **Drivers:** MBIM | ECM | RIL | WMI | PPP | RmNet | QMI | NMEA | AT Console	**OS:** Windows 7 | Windows 8 | Windows 10 | Linux **Drivers:** PPP | NMEA | AT Console	**OS:** Windows XP, Windows Vista, Windows 7, Windows 8, Windows 10, Linux **Drivers:** PPP | QMI | AT Console	**OS:** Windows XP | Windows Vista | Windows 7 | Windows 8 | Windows 10 | Linux **Drivers:** MBIM | PPP | NCM | ACM | AT Console	**OS:** Windows XP | Windows Vista | Windows 7 | Windows 8 | Windows 10 | Linux **Drivers:** MBIM | PPP | NCM | ACM | AT Console	**OS:** Windows XP | Windows Vista | Windows 7 | Windows 8 | Windows 10 | Linux **Drivers:** MBIM | PPP | NCM | ACM | AT Console	**OS:** Windows 7 | Windows 8 | Windows 10 | Linux **Drivers:** MBIM | PPP | RNDIS | ECM | QMI | NMEA | AT Console	**OS:** Windows 7 | Windows 8 | Windows 10 | Linux **Drivers:** MBIM | PPP | RNDIS | ECM | QMI | NMEA | AT Console
RF	Primary, SISO DL (U.FL)	Primary, SISO DL (U.FL)	Primary, SISO DL (U.FL)	Primary (U.FL), Rx Diversity and MIMO DL 2x2 (U.FL)	Primary (U.FL), Rx Diversity and MIMO DL 2x2 (U.FL)	Primary (U.FL), Rx Diversity and MIMO DL 2x2 (U.FL)	Primary (U.FL), Rx Diversity and MIMO DL 2x2 (U.FL)	Primary (U.FL), Rx Diversity and MIMO DL 2x2 (U.FL)	Primary (U.FL), Rx Diversity and MIMO DL 2x2 (U.FL)	Primary (U.FL), Rx Diversity (U.FL)	Primary, SISO DL (U.FL)	Primary (U.FL), Rx Diversity (U.FL)	Primary (U.FL), Rx Diversity (U.FL)	Primary (U.FL), Rx Diversity and MIMO DL 2x2 (U.FL)	Primary (U.FL), Rx Diversity and MIMO DL 2x2 (U.FL)	Primary (U.FL), Rx Diversity and MIMO DL 2x2 (U.FL)
SIM																
Type	Integrated Verizon SIM, support for external SIM sockets	Dual MFF2 Verizon and 3FF standard	Integrated Verizon SIM, additional 3FF SIM slot	3FF SIM card slot	Integrated Verizon SIM, external 3FF slot	Integrated Verizon SIM, external 3FF slot	Integrated Verizon SIM, external 3FF slot	Dual MFF2 Verizon and 3FF standard	Integrated Verizon SIM, external 3FF slot	3FF SIM card slot	Dual MFF2 Verizon and 3FF standard	3FF SIM card slot	3FF SIM card slot	3FF SIM card slot	3FF SIM card slot	3FF SIM card slot
Approvals																
Regulatory Certifications	PTCRB, FCC, IC	PTCRB, CE/RED, FCC, IC	PTCRB, CE/RED, FCC, IC	FCC	FCC, IC, PTCRB	FCC (in progress), IC (in progress), PTCRB (in progress)	FCC (in progress), IC (in progress), PTCRB (in progress)	FCC, IC, PTCRB (In Progress)	FCC, IC, PTCRB (In Progress)	GCF, PTCRB, CE/RED, FCC, IC, Anatel	PTCRB, CE/RED, FCC, IC	PTCRB, FCC, IC	FCC	PTCRB, FCC, IC	CE/RED	N/A
Carrier Approvals	Verizon	AT&T, Rogers, Telus, Verizon, and more	AT&T, Rogers, Telus, Verizon, and more	Verizon	AT&T (In-Progress), Verizon (In-Progress), Rogers (In-Progress), Telus (In-Progress)	AT&T (In-Progress), Verizon (In-Progress), Rogers (In-Progress), Telus (In-Progress) Verizon and more	AT&T, Rogers (In-Progress), Telus (In-Progress), Verizon, and more	AT&T (In-Progress), Rogers (In-Progress), Telus (In-Progress), Verizon	AT&T (In-Progress), Rogers (In-Progress), Telus (In-Progress), Verizon (In-Progress)	AT&T, Rogers, Telus	AT&T, Rogers (In-Progress), Telus, Verizon	AT&T, Rogers (In-Progress), Telus	Verizon	AT&T, Verizon		TBD
Compliance	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant	RoHS compliant
Temperature Range																
Industrial Grade	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Support and Warranty																
	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty	1 Year standard warranty