Compare IoT communications technologies

Technical Data	NB-IoT	LoRaWAN	Sigfox (EU)
Technology	open standard	proprietary	proprietary
Licensed spectrum	yes	no	no
Max data rate (gross)	27 kbit/s	5,47 kbit/s (SF7)	0,1 kbit/s
Worst case data rate (~144 dB link budget)	5–6 kbit/s	0,297 kbit/s (SF12)	0,1 kbit/s
Max. payload length (data per message)	>1.000 B	51 B (EU) / 11 B (US)	12 B
Downlink capacity	unlimited	very low	very low
Link budget / max. path loss (Uplink)	164 dB	141–146 dB	163 dB
Link budget / max. path loss (Downlink)	164 dB	151–156 dB	158 dB

Source: Naumann H. & Oelers W.(2020)