

Classic Bluetooth vs. Bluetooth low energy

The table below shows a high level comparison between classic *Bluetooth* (also known as *Bluetooth BR/EDR*) and *Bluetooth* low energy technologies.

| Technical specification | Classic <i>Bluetooth</i> technology | <i>Bluetooth</i> low energy technology |
|---|---|---|
| Radio frequency | 2.4GHz | 2.4GHz |
| Distance/Range | ~10-100 meters | ~10-100 meters |
| Symbol rate | 1-3Mbps | 1Mbps |
| Application throughput | 0.7 – 2.1Mbps | 305kbps |
| Nodes/Active slaves | 7 | Unlimited |
| Security | 56 to 128 bit | 128-bit AES |
| Robustness | FHSS | FHSS |
| Latency (from not connected state to send data) | 100+ ms | <6ms |
| Government regulation | Worldwide | Worldwide |
| Certification body | Bluetooth SIG | Bluetooth SIG |
| Voice capable | Yes | No |
| Network topology | Point-to-point, scatternet | Point-to-point, star |
| Power consumption | 1 (reference value) | 0.01 to 0.5 (use case dependent) |
| Service discover | Yes | Yes |
| Profile concept | Yes | Yes |
| Primary use cases | Mobile phones, headsets, stereo audio, automotive, PCs etc. | Mobile phones, gaming, PCs, sport & fitness, medical, automotive, industrial, automation, home electronics etc. |