

## SLEEP DEVICE SUCCESS STORY



The increasing prevalence of sleep disorders is the main factor boosting the market revenue of sleep tech devices worldwide. The Global Sleep Tech Devices Market size was valued at USD 15,407 Million in 2021 and is estimated [to reach the value of USD 60,955 Million by 2030, growing at a CAGR of 16.8% from 2022 to 2030.](#)

Tech devices have proven to be very helpful in tackling sleep disorders such as obstructive sleep apnea (OSA), characterized by recurring partial or complete obstruction of the upper airway in sleep, resulting in hypoxia, arousals, and sleep fragmentation. According to the American Academy of Sleep Medicine (AASM), it has recently been estimated that [more than 930 million adults aged 30-69 years have mild-to-severe OSA, and around 425 million people](#) have moderate to severe OSA worldwide. Devices such as Continuous positive airway pressure (CPAP) therapy is a common treatment for obstructive sleep apnea. These devices provide continuous monitoring of related indicators, which are communicated wirelessly to the cloud for further analysis and eventually triggers an action where it sends pressurized air to widen the airways, improving apnea and hypopnea conditions.

Obviously, connectivity technology in such devices must be reliable and robust as it is critical to analyze real time data and take immediate action.

Murata is a key provider of the technologies which are shaping the future of healthcare around the world and mostly in Japan, including: connectivity modules,

electronic components, sensors and many more. Apart from standard products, Murata has also developed new, innovative products specifically for healthcare applications in testing and diagnostics; patient monitoring and assistance; wearable, portable and stretchable electronics; digital care in-home care.

Murata set out to launch a connected CPAP device for the Japanese market.

They needed the CPAP device to rely on robust connectivity solution.

Their functional requirements included low power, reliable connectivity, ease of use for elderly patients, long range connectivity - in a small package for greater comfort.

Ease of use was also a requirement, especially for elderly people or people with cognitive impairments/various disabilities. It would need to be simple for patients to operate and easy for doctors to seamlessly access patient data.

To ensure reliable connectivity at all times, enabled even in small form factor, Murata needed a mature core technology with a track record of stability and reliability. Sony's Altair ALT1250 chipset is ideal for sleep devices since they are designed from the ground up to enable ultra-low power consumption and feature a HW based security engine with GNSS functionality and an integrated SIM in a miniature-sized SiP.



## KEY FEATURES OF ALT1250



### Small Size

Sony's Altair chipsets have a small form factor which enables a compact device. Sony's Altair highly integrated ALT1250 chipset has a small footprint yet holds all the components needed, enabling miniature module sizes as small as 100mm<sup>2</sup>.



### Low power

Sony's Altair cellular IoT chipset provides low-power, wide-area connectivity - maintaining the device's low-power consumption and seamless operation, while offering essential tracking data.



### Highly secured communication

Security is crucial for healthcare devices. Sony's Altair cellular IoT chipset provides the security architecture approved by tier 1 operators, with built-in security designed from the bottom up. In particular, the ALT1250 LTE-M & NB-IoT cellular IoT chipset offers highly secured communication, while OTA upgrades keep the device relevant and secure for years after installation.

LTE connectivity enables independent, safe and effective monitoring at the hospital and during the recovery phase at home, with built-in data protection and safety, and a direct channel to the cloud.



### Ease of use

LTE offers direct data upload to the cloud, with no need for a smartphone or BT gateway. With LTE, there are no worries about smartphone battery charge or connectivity in case the smartphone BLE has been accidentally turned off.

Most importantly, LTE means ease of use for elderly people and children, especially for those with cognitive impairments/various disabilities, with only a single ON button press for operation. There is no need to pair the device with anything as opposed to BT pairing for a BLE device. No PIN/user codes are needed for operation.

Sony's Altair LTE-M/NB-IoT chipset provides very simple to use high performance connectivity for a reliable product that provides better sleep.



## PARTNER WITH US FOR IOT-ENABLED SLEEP DEVICES

At Sony Semiconductor Israel, we are committed to our customers' success. Bringing years of cellular IoT experience and a commitment to offering the highest quality, we provide the optimal cellular IoT chipset for a comprehensive connectivity platform for monitoring sleep solution and other digital health application.