RTX3466

Increase telemetry coverage with RTX3466 SMART HOPPING® Remote Antenna

Expanded coverage for challenging environments

Lower deployment costs

Simplified network infrastructure

Consistent performance in high-demand areas

Reliable and secure wireless connectivity with WMTS in healthcare

Healthcare environments require robust and reliable wireless connectivity to telemetry devices, such as patient-worn devices, bedside monitors, infusion pumps, etc. This can be ensured over a reserved Federal Communications Commission (FCC) designated frequency band for US hospitals: Wireless Medical Telemetry Service (WMTS). WMTS is specifically allocated for transmitting patient medical data (e.g., vital signs) over wireless networks in healthcare environments.

This ensures that telemetry devices can reliably and securely transmit real-time data without interference from other wireless devices - vital for maintaining high-quality, uninterrupted patient care.

Advancing WMTS with SMART HOPPING® for wireless patient monitoring

Although WMTS benefits from being a protected spectrum, incorporating the SMART HOPPING® technology further enhances its effectiveness by providing adaptive interference management, improved reliability, and low latency. SMART HOPPING® has specifically been developed to meet the unique demands of critical healthcare communication, making it an ideal solution for systems operating within the WMTS spectrum. Its reliability is especially crucial for telemetry devices, where uninterrupted communication is essential.

Advantages of SMART HOPPING® in wireless patient monitoring systems:

Interference avoidance
SMART HOPPING® adaptively switches frequencies and time slots upon detecting interference, ensuring a robust signal, and minimizing data loss.

Efficient spectrum utilization
By channelizing signals into time slots, SMART HOPPING® allows multiple devices to share the same spectrum efficiently, allowing up to 1,024 devices on a single network.

Deterministic roaming
SMART HOPPING® assesses signal strength, packet error rates, and fading conditions to determine optimal roaming times and locations, enhancing connectivity and sustaining low latency.

Data confidentiality
Using a proprietary protocol, SMART HOPPING® avoids transmitting patient identifiers over the wireless interface.

Bi-directional communication
SMART HOPPING® features bi-directional communication to also enable features such as “Find Device,” “Device Location,” and “Control Clinical Measurements” to enhance functionality of telemetry devices.

These advantages collectively contribute to a reliable, scalable, and secure wireless monitoring environment in healthcare settings.

Extend wireless coverage with the SMART HOPPING® Remote Antenna

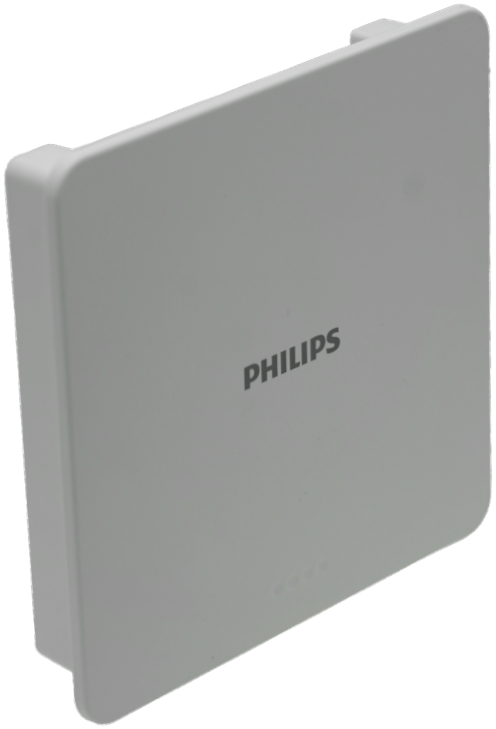
RTX3466 – SMART HOPPING® Remote Antenna 1.4GHz utilizes SMART HOPPING® technology to significantly boost the wireless range and connectivity of the **RTX3481 – SMART HOPPING® Access Point 1.4GHz**. Ideal for environments requiring broad and dependable wireless access, the RTX3481 Access Point can connect with up to two RTX3466 Remote Antennas to enlarge its coverage zone. Each RTX3466 Remote Antenna can be installed up to 68 feet (20 meters) away, extending radio signals for optimized performance. This setup delivers dependable, scalable wireless communication - critical for supporting healthcare staff, devices, and patients.

For detailed specifications on the RTX3481 Access Point, consult the product sheet.

Expanded coverage for challenging environments

Hospitals are often difficult for wireless networks due to their structural complexity - multi-story buildings, reinforced concrete, shielded rooms like X-ray areas, and a variety of medical equipment that obstructs standard Wi-Fi signals. The RTX3466 Remote Antenna extends the reach of an access point into areas that would otherwise remain unserved, eliminating dead zones in essential spaces such as ICUs, operating theaters, distant wards, and restrooms.

By bridging physical barriers, the RTX3466 Remote Antenna ensures dependable connectivity for both clinical workflows and hospital operations.



Lower deployment costs

In scenarios where the RTX3466 Remote Antenna is not used, achieving full coverage typically requires deploying additional access points - each demanding cabling and installation efforts. Strategically placed RTX3466 Remote Antenna(s) in the core switching infrastructure allows a single access point to cover a broader area, reducing the need for extra equipment.

This streamlined approach minimizes expenses related to hardware, wiring, and maintenance.

Simplified network infrastructure

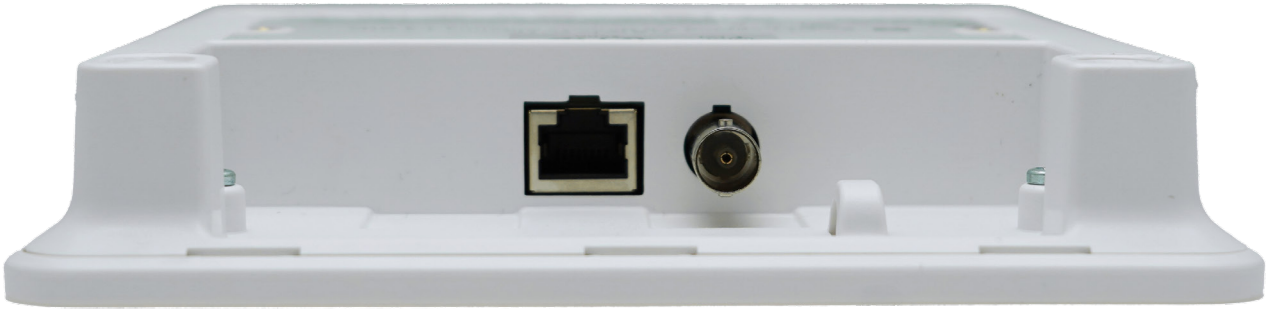
A dense deployment of access points to reach difficult areas can create signal overlap, interference, and complex network management. The RTX3466 Remote Antenna enables more targeted coverage, allowing access points to remain in convenient, accessible areas (such as server rooms or above ceilings) while the antennas are extended to where signal is most needed.

This results in a cleaner network design that is easier to troubleshoot and maintain - especially vital in healthcare settings where reliability is non-negotiable.

Consistent performance in high-demand areas

Hospitals depend on wireless infrastructure to support a range of critical functions - from Electronic Health Record (EHR) systems and VoIP to telemetry and patient entertainment platforms. The RTX3466 Remote Antenna helps balance user load, minimizes network congestion, and ensures strong signal delivery, even in crowded or high-traffic zones.

It guarantees high-capacity, stable wireless performance for vital medical applications and simultaneous users.



Technical specifications

Physical	
Chassis (only dimensions (H x W x L)	• 30 mm x 163 mm x 163 mm (1.2 in x 6.38 in x 6.38 in)
Weight with internal antennas	• <~300 g (~0.66 lb)
Mounting options	• Wall mount (standard) • Wall mount with cosmetic cover • Flush ceiling mount with cosmetic ring • Mount below ceiling tile • Mount below ceiling tile with cosmetic cover
Environmental	
Operating temperature	• 0 to +55°C (32 to 131°F)
Storage temperature	• -40 to +70°(-40 to 158°F)
Humidity range (operating)	• 15% RH to < 95% RH @ 40°C non-condensing
Humidity range (storage)	• 5% RH to < 90% RH @ 60°C non-condensing
Altitude	• -500 meters (-1,640 ft) to 3,048 meters (10,000 ft) (operating) • -500 meters (-1,640 ft) to 4,700 meters (-15,420 ft) (non-operating) (106 Kpa to 56 Kpa)
Electrical	
Power (input)	• Power input 5V nom (4.5 - 5.5) 110mA (from RTX3481 Access Point)
LED indicators	Two LEDs for: • Power • Radio activity
SMART HOPPING® radio	
SMART HOPPING® Remote Antenna frequency range	• 1390 - 1395 MHz + 1395 - 1400 MHz + 1427 - 1432 MHz + 1432 - 1435 MHz • WMTS - Wireless Medical Telemetry Service (USA)
Antenna type	• SMART HOPPING® dual internal antennas
Space diversity	• Uses two antennas and selects the antenna with the best signal
Frequency diversity	• Dynamically selects RF channels for best signals
Compatibility mode	
Channel spacing	• 1.6 MHz
Modulation	• GFSK
Power output	• 12.5 (±3.0) dBm (12.6 mW to 25 mW)
Antenna gain	• 2 dBi
Time slot types supported	• Single or long
Total time slots available	• One RTX3466 connected: 9 (and 9 for the Remote Antenna) • Two RTX3466 connected: 6 (and 6 for each Remote Antenna) • Time slots allocated for roaming: 14
RF sensitivity @ 10-3 BER	• Min. -87 dBm (nom. -92 for RTX3481 Access Point)
RSSI level per cell radius	• -67 dBm
Advanced mode (4 channel mode)	
Channel spacing	• 1.728 MHz
Modulation	• PI/2-DBPSK, PI/4-DQPSK
Power output	• High: 14 (±3) dBm in RTX3481 Access Point
Antenna gain	• 2 dBi

Technical specifications

Advanced mode (4 channel mode) (continued)	
Time slot types supported	• Single or long
Time slots allocated for wireless clients	• One RTX3466 connected: 9 (and 9 for the Remote Antenna) • Two RTX3466 connected: 6 (and 6 for each Remote Antenna) • Time slots allocated for roaming: 14
RF sensitivity @ 10-3 BER	• Min. -87 dBm for BPSK • Min. -86 dBm for QPSK • Nom. -92 for RTX3481 Access Point
Electrical installation	
Fire safety	• RTX3466 – SMART HOPPING® Remote Antenna 1.4 GHz is listed for use within “Other Spaces Used for Environmental Air (Plenum)” per NFPA70: 2011, Article 300.22. Note: The term ‘plenum’ as used in Article 300.22 Section C correlates with the use of the term ‘plenum’ in NFPA 90A-2009, Standard for the Installation of Air-Conditioning and Ventilating Systems, and other mechanical codes where the plenum is used for return air purposes, as well as some other air-handling spaces. The area above dropped ceilings is an example of plenum space.
Interface connections	
Control signals	• RJ-45 female socket
Core AP 75 Ohm coaxial cable connector	• One standard 75 Ohm connector is provided for the coaxial cable on which RF and DC sense signals are carried to the RTX3466 Remote Antenna.
Ordering details	
RTX3466 - SMART HOPPING® Remote Antenna 1.4 GHz	• Contact RTX for more details at sales@rtx.dk
Part number	• RTX3466 SH2.0 Remote Antenna 1.4 GHz: 94100010 • Philips Smart-hopping 2.0 Remote Antenna 1.4 GHz OEM: 989803221641

Application Standards

Radio as accessory to RTX3481 (ITS867216A) Standard
FCC Part 95H
As accessory to ITS4843E Standard
FCC Part 95H
EMC as accessory to RTX3481 (ITS867216A) Standard
EN 55032:2015+A11:2020+A1:2020
EN 55035:2017+A11:2020
EN IEC 61000-3-2:2019+A1:2021
EN 61000-3-3:2013+A1:2019+A2:2021
BS EN 60601-1-2:2015+A1:2021
FCC 15 Subpart B
EMC as accessory to ITS4843E Standard
EN 55032:2015+A11:2020+A1:2020
EN 55035:2017+A11:2020
EN IEC 61000-3-2:2019+A1:2021
EN 61000-3-3:2013+A1:2019+A2:2021
BS EN 60601-1-2:2015+A1:2021
FCC 15 Subpart B

Safety Standard	Area
CAN/CSA C22.2 No. 62368-1:19 UL 62368-1:Ed.3,2019(R2021)	• Safety
FCC 47 CFR §2.1091	• SAR
UL 2043, FIFTH EDITION	• Smoke Release