Nokia Wavence

Ultra-Broadband Transceiver Twin | Outdoor Combiner Module
Release 20 (ETSI and ANSI)

The Nokia Wavence Ultra-Broadband Transceivers (UBT) low frequencies (6-11 GHz) family provides high-capacity, low latency microwave transport for long haul applications. The UBT-T is a “dual carrier in a box” configuration supporting multiple microwave frequencies.

The Nokia Wavence UBT-T implements an innovative product design, with a hardware split between the active wideband radio part and the passive part interfacing the antenna. Thanks to this design, the UBT-T can interface diplexer or outdoor combiner box (OCM) used when high capacity links requires multiple channels connected to same antenna. The solution is very compact and with low weight compared to competition. The limited insertion losses and enhanced RF performances take benefit from Nokia leadership in long haul systems. The Nokia Wavence family is supporting split mount and full outdoor with same radio, this allow to have full outdoor long-haul radio without using external cabinet.

Technical specifications

Application

- Macro cell backhaul
- Split-mount or standalone configuration

Physical

- UBT-T: minimum size is 255.4 x 250 x 86.2 (9.8 in. x 9.8 in. x 4.2 in.)
- OCM: 210 x 300 x 300 mm (8.26 in. x 11.8 in. x 11.8 in)

Interfaces

- UBT-T:
  - 1 x DC port
  - Three GE ports: (1 x 100/1000 Base T RJ45 PFoE and 2 x 1/2.5/10 Gbit Optical SFP)
  - 1X XPIC port
  - 100x1000 Base T RJ45 used as default management port or as user port
- OCM: Interface to external antenna:
  - 6L – 6U :WR137/PDR70
  - 7/8GHz: WR112/PDR84
  - 11GHz: WR90/PDR100

Radio

- UBT-T: Dual carrier in one box
- wideband radio capability
- 6 to 11 GHz (FDD)
- 2.5 Gb/s standard (1.3Gb/s per carrier)
- Support for packet compression
- Channels: 2 x 28-80MHz per UBT-T

Modulation

- 4 QAM to 4096 QAM

Weight

- UBT-T: 5,8 Kg
- OCM: 11 Kg

Power

- UBT-T: -48 V (-30V to -57V)
- PFoE
- 110 W (dual carrier 2+0)

Features

Radio

- Carrier aggregation
- Embedded LAG L1
- Integrated XPIC
- Latency one way down to 60 usec
- Typical Tx power: 32 dBm
- Support for adaptive coding and modulation (ACM)
- Duplex technology: FDD
- Low insertion losses
- Possibility to mix 6L/6U 7/8 GHz on same OCM and same antenna

Supported configurations:

- 4+0 alternate polar/ XPIC or copolar
- 8+0 alternate polar/ XPIC or copolar
- 16+0 alternate polar/ XPIC
- Space diversity configuration
- Adjacent and co channel operation with XPIC

Environmental

- Operating temperature: -40°C up to +55°C (-40°F up to +131°F)
- ETSI Class 4.1 (EN 300019-1-4), ANSI GR 3108 Class 4, GR-950, GR-63
- IP 55

Standards compliance

Regulatory

- Radio Equipment Directive 2014/53/EU - RED
- EN 302 217, FCC Part101, ISED Canada

Safety compliance

- EN 60950-1, EN 60825-1, 60825-2, GR-1089, GR-3108IEC 60825-1

EMC compliance

- EN 60950-1, EN 60825-1, 60825-2, GR-1089, GR-3108

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