EXHIBIT 5

RF EXPOSURE ASSESSMENT

Section 1.1307 (b) Environmental Assessment Requirement for Equipment Authorization

Commission actions granting construction permits, licenses to transmit or renewals thereof, equipment authorizations or modifications in existing facilities, require the preparation of an Environmental Assessment (EA) if the particular facility, operation or transmitter would cause human exposure to levels of radiofrequency radiation in excess of the limits in §§ 1.1310 and 2.1093 of this chapter.

Section 1.1310 Radio Frequency Radiation Exposure Limits

The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in Section 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter. Further information on evaluating compliance with these limits can be found in the FCC's OST/OET Bulletin Number 65, ''Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation.''

Response

The Nokia **AWHHF Airscale Micro RRH 4T4R 5G n41 4x20W** is typically installed on poles or walls in fixed locations. Therefore, the AWHHF is neither a portable nor a mobile wireless device.

The AWHHF functions as a remote RF head designed to support 10 MHz bandwidth single carrier and 10+10 dual carrier configurations with the following modulations: QPSK, 16QAM, 64QAM and 256QAM.

Product: AWHHF Airscale Micro RRH 4T4R 5G n41 4x20W
RF Output Power: 50W total from 4xMIMO
Frequency Band: 3GPP band 41
Down-Link: 2496-2690 MHz Up-link: 2496-2690 MHz

The AWHHF can have either directly-connected omnidirectional stick antennas supplied by Nokia or customer-supplied remote antennas. In this evaluation, only Nokia supplied antennas were evaluated. The customers will be responsible for the RF exposure compliance with installing customer-supplied antennas.

The FCC requires the evaluation and documentation of the environmental impact of human exposure to radiofrequency (RF) radiation as specified in Title 47CFR Section 1.1307(b). The safe distances documented herein are applicable only with the Nokia supplied antenna.
If the product is installed with other antenna(s), then per FCC Rules the RF exposure compliance shall be addressed at the time of licensing, as required by the responsible FCC Bureau(s), including antenna co-location requirements of Part 1.1307(b)(3).

The information on Nokia supplied antennas is provided in Table 13.1.

The limits specified in FCC Section 1.1310 Table 1(B) for occupational/controlled exposure and general population/uncontrolled exposure, which are tabulated below in Table 13.2, shall be met.

All of the transmitters installed in the **AWHHF Airscale Micro RRH 4T4R 5G n41 4x20W** operate in the frequency range of 2.496 GHz – 2.690 GHz. The maximum power density thus needs to be less than 1.0 mW/cm² for general population/uncontrolled environment and 5.0 mW/cm² for occupational/controlled environment.

Per FCC's OST/OET Bulletin Number 65, the appropriate EIRP (equivalent or effective isotropically radiated power) limits can be calculated based on the relationship between power density and EIRP, i.e.,

$$S = EIRP/(4\pi R^2)$$

where S is the power density in mW/cm², R is the distance to the center of radiation of the antenna in cm and EIRP is in mW.

When all transmitters operate simultaneously, the EIRP and thus power density from all transmitters gives the worst-case scenario.

Table 13.1 AWHHF Antenna

Transmitter	Antenna	Model	Antenna Gain (dBi)
AWHHF	Directional	AAHM AirScale mRRH 2.496 - 2.690 GHz	Peak: **11.0**

Table 13.2 Limits for Occupational/Controlled Exposure and General Population/Uncontrolled Exposure (FCC Section 1.1310 Table 1(B))

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Average Time $|E|^2$, $|H|^2$ or S (minutes)
(A) Limits for Occupational/Controlled Exposure				
300 - 1500			F/300	6
1500 – 100,000			5.0	6
(B) Limits for General Population/Uncontrolled Exposure				
300 - 1500			F/1500	30
1500 – 100,000			1.0	30

Note: f = frequency in MHz; *Plane-wave equivalent power density.

Table 13.3 (a) Minimum RF Safety Distances for Uncontrolled Exposure

Module	Freq Band (GHz)	Maxi Total P_{out} (4x4) (dBm)	Antenna Gain (dBi)	Maximum Total EIRP (dBm)	Maximum Total EIRP (mW)	Limit of Power Density S (mW/cm^2)	RF Safety Distance (cm)
AWHHF B41	2.690	49.0	11.0	60.0	891250.94	1	282.17

Table 13.3 (b) Power Density at the Proposed Minimum RF Safety Distance

Module	Freq Band (GHz)	Maxi Total P_{out} (4x4) (dBm)	Maxi Antenna Gain (dBi)	Maximum Total EIRP (dBm)	Maximum Total EIRP (mW)	RF Safety Distance (cm)	Limit of Power Density S (mW/cm^2)
AWHHF B41	2.690	49.0	11.0	60.0	891250.94	285	0.8736

Table 13.4 (a) Minimum RF Safety Distances for Controlled Exposure

Module	Freq Band (GHz)	Maxi Total P_{out} (4x4) (dBm)	Antenna Gain (dBi)	Maximum Total EIRP (dBm)	Maximum Total EIRP (mW)	Limit of Power Density S (mW/cm^2)	RF Safety Distance (cm)
AWHHF B41	2.690	49.0	11.0	60.0	891250.94	5	119.13

Table 13.4 (b) Power Density at the Proposed Minimum RF Safety Distance

Module	Freq Band (GHz)	Maxi Total P_{out} (4x4) (dBm)	Antenna Gain (dBi)	Maximum Total EIRP (dBm)	Maximum Total EIRP (mW)	RF Safety Distance (cm)	Limit of Power Density S (mW/cm^2)
AWHHF B41	2.690	49.0	11.0	60.0	891250.94	120	4.928

Therefore, the RF safety distance for the Nokia **AWHHF Airscale Micro RRH 4T4R 5G n41 4x20W** shall be larger than 120 cm (1200 mm) for Occupational/Controlled exposure and larger than 283 cm (2830 mm) for General population/Uncontrolled exposure.

Results

The results are summarized below in Tables 13.5.

Table 13.5 Minimum RF Safety Distances for AWHHF RF Module

Exposure	RF Safety Distance (mm)	RF Safety Distance (cm)	Total Power Density S (mW/cm^2)	Limit of Power Density S (mW/cm^2)
Occupational/Controlled	1200	120	4.928	5
General Population/Uncontrolled	2830	283	0.8736	1