NOKIA

# CONFIDENTIAL

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**Answers to Information request EA98731 of FCC from 21st of Sep. 2000**

Question 1.

All tests have been performed with two different antennas, a 0 dBi integral antenna and a 1.9 dBi antenna. The Bluetooth Tranceiver Component LRB-1 provides a unique antenna port, which can be used with different antennas. Nokia recomments a 0dBi antenna. The tests with the 1.9 dBi antenna were conducted for information only.

The Bluetooth Tranceiver Component is designed according Bluetooth specification as Power Class II Component. Class II Components have to stay within the limts of –6 dBm and +4 dBm.

LRB-1 is a 1 mW (Uncertainty +/- 0.5 mW) Bluetooth Tranceiver Component. The test sample had a measured peak conducted power of 1.26 mW, which is right in our specification.

With this document corrected documents will be provided.

Question 2.

LRB-1 is a Bluetooth Transceiver Component and will only be used by Nokia in appropriate products. These products will have to be tested again for compliance.

Question 3.

The MPE test was conducted for information only.

Depending on the product that the Bluetooth Tranceiver Component is used with, the final device could be subject to routine evaluation for RF exposure, either SAR limits or MPE limits.

Question 4.

LRB-1 is a Bluetooth Transceiver Component and will only be used by Nokia in appropriate products.These products will have to be tested again for compliance.

The Bluetooth Transceiver Component covers the following functionalitity according FCC Public Notice DA 00-1407 (Part 15 Unlicensed Modular Transmitter Approval) :

1. The Bluetooth Transceiver Component has its own RF shielding. Details of the shielding can be found in Exhibit 02 (Marking of Lid)and Exhibit 03 (Position of Lid)
2. The Bluetooth Transceiver Component contains a flash memory, which buffers modulation and data inputs. Details can be found in Exhibit 11 (Block Diagram)
3. LRB-1 has it's own power supply. The input voltage range is 2.95 V – 5.2 V DC.Details can be found in Exhibit 12 (Schematic Diagrams).
4. LRB-1 provides a unique antenna connection at connection pin 14. Nokia recommends an antenna design. Details can be found in Exhibit 01 revision 0.1 (Information Manual), which will be provided with this document. This antenna has been used for the tests. LRB-1 will only be used by Nokia in appropriate products, which could have a unique antenna. These products will have to be tested again for compliance.
5. LRB-1 was tested in a stand-alone configuration. The Bluetooth Transceiver Component was assembeled on a Development board to provide LRB-1 with commands. The devlopment board contains an antenna according the Nokia Antenna recommendation.
6. The Bluetooth Transceiver Componentis labeled with it's own FCC ID number. Details of the labeling can be found in Exhibit 02 (Marking of Lid)and Exhibit 03 (Position of Lid).

   LRB-1 will only be used by Nokia in appropriate products. These products will either have an exterior label referring

To the enclosed module or have to be tested again for compliance.

7. LRB-1 will only be used by Nokia in appropriate products. Details can be found in Exhibit 01 revision 0.1 (Information Manual), which will be provided with this document.

8. The maximum RF power output from the LRB-1 Bluetooth Tranceiver Component is 0 dBm or about 1 milliwatt. The Bluetooth Tranceiver Component is designed to use a simple antenna with a nominal gain of 0 dBi as the radiating element.

   The SAR limit would not be exceeded, even if the entire RF power output were absorbed by 1 gram of tissue, which is not possible with a typical RF circuit. With a seperating distance of 20 cm the MPE limits are well above the potential a 1 milliwatt device is capable of producing. This has been shown by measurement results according to standard MPE tests, which are still on noise level for an active LRB-1 Bluetooth Tranceiver Component. The MPE test was conducted for information only, since at an EIRP of 0,813 mW max. for the tested Bluetooth Tranceiver Component.

   Depending on the product that the Bluetooth Tranceiver Component is used with, the final device could be subject to routine evaluation for RF exposure, either SAR limits or MPE limits.

Question 5. and 6.

Photos will be provided with this document.

Question 7.

LRB-1 is a Bluetooth Transceiver Component and will only be used by Nokia in appropriate products. These products will have to be tested again for compliance. The information document will be provide as Exhibit 10 revision 0.1 (Information Manual) with this document.