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FCC
Federal Communications Commission
Equipment Approval Services
Post Office Box 358315
Pittsburg, PA 15262-0001

Application for a modular approval - FCC ID: RFD-PANMOD1

Dear Application Examiner,

We kindly apply for FCC authorization as a modular transmitter for our Bluetooth module PANMOD. The requirements of the FCC Public notice DA00-1407 are met.

The following requirements are fulfilled:

1. **The modular transmitter must have its own RF shielding.**
The transmitter portion of the modul is entirely part of the system on chip (SoC) ZV4002 from Broadcom (formerly Zeevo), which has an integrated RF shielding on the SoC. The chip is built as a flip chip on LTCC ground plane construction, which acts as the RF shielding. This means the RF shielding is part of the design of the chip itself.
2. **The modular transmitter must have buffered modulation / data inputs.**
All modulation and data inputs are buffered.
The data inputs to the modular transmitter are first buffered by the UART and second by the on chip processor. The Processor takes the data from the UART-buffer and feeds it to the modulator of the RF part.
3. **The modular transmitter must have its own power supply regulation.**
The modul has its own onboard power supply circuitry.
The SoC ZV4002 from Broadcom (formerly Zeevo) is built in a 0.18µm RFCMOS process and integrates all parts of the module on one single silicon chip except Flash, Quartz and Antenna. On chip low drop out voltage regulators bring the external supply voltage from 3.3V +/-5% down to 1.8V for the internal radio and baseband.
4. **The modular transmitter must comply with the antenna requirements of Section 15.203 and 15.204c.**
The transmitter has a built in, permanently attached antenna which is not removeable.
5. **The modular transmitter must be tested in a stand-alone configuration.**
The EUT was tested in the requested stand-alone configuration. Refer to the detailed test report.
6. **The modular transmitter must be labeled with its own FCC ID number.**
The EUT is labeled with its own FCC ID number. If the module is inside of an end

product, the label will not be visible. In this case the end product will be labeled exterior with the FCC ID.

- 7. The modular transmitter must comply with any specific rule or operating requirements applicable to the transmitter and the manufacturer must provide adequate instructions along with the module to explain any such requirements.**
The EUT is compliant with all applicable FCC rules. Detail instructions are given in the *USERS GUIDE PANMOD*.

- 8. The modular transmitter must comply with any applicable RF exposure requirements.**
The antenna shown in this filing must not be co-located or operated in conjunction with any other antenna or transmitter. End users may not be provided with the module installation instructions. OEM integrators and end users must be provided with transmitter operating conditions for satisfying RF exposure compliance.

For portable applications OEM integrators need no SAR evaluation. The max source-based time-averaged output of 1.17 mW is below the low threshold of 24mW for $d < 2.5$ cm.

Please contact us if you have any additional questions.

Best Regards



Gerhard Schwärzler
Director Quality Management, Division S&E
Leica Geosystems AG