Subject: ***Description points related to a limited modular transmitter compliant to FCC 15.212 rules***

III MODULAR TRANSMITTERS SUBJECT TO § 15.212 RULES

1) *The module mount a single chip 2.4GHz transceiver with an embedded baseband protocol engine and all the modulator/demodulator and the radio frequency circuitry are embedded on this chip, so the shield is made by the chip itself and no other shield are required. Also there is a ground copper layer above the whole circuit. Other components on the board are passive component such as capacitor, resistors, crystal, and coils. The antenna is PCB designed. All the components including the antenna lay on the same assembly.*

2) *The chip has 3.3 Volt digital signal inputs/outputs used by host to control the transmissions. The internal registry of the chip are all buffered.*

3) *The module specifications provides all the power operating conditions that the hosts must respect. Furthermore, like Block Diagram describes, a Power management is embedded into the chip to assure a correct regulation of the power supply.*

4) *The module contains a PCB antenna. The antenna is fixed, is unremovable and can't be changed.*

5) *Due to the modular specific usage, as described into the datasheet attached, the modular transmitter must be externally powered and drived by a microcontroller or other digital logic (with 3.3 Volt levels, so it is not possible to test the module stand alone, but all the tests will be made with the module mounted on a device that is standard grantee product and commercially available. The software inside the host device will be modified just to grant a continuous power transmission that assures goods test conditions during the certification test. All other features are presents in the commercial version.*
The device under test that embeds the module is battery powered, so no other power adapter and then conductive test are required.
The name of device use in the certification test is: MOKWCO-PB-2976-S02 and is produced by the grantee.

6) *Due to the small dimensions of the module and because of the integration into other host devices that assure the correct functioning, the label with FCC-ID will be applied on the case of the host device. Attached to this documentation, the document "Labels" define the label to be attached on the external visible part of the device that will host the modular transmitter.*

7) *The module can transmit in any frequency inside the band between 2400MHh and 2525MHz with*

step of 1MHz. Due to FCC rule limitation specified by §15 chapter the module can be installed only into devices or host products manufactured by the grantee or his controlled company, this will assure to avoid any improper use of the module. This limitation of use can be achieved by following the attached document "Integration Instruction and Limitation of use for FCC frequency band restriction" that should always be included in the module documentation.
The final system integrator must follow and respect those limitations by programming the internal registry of the single chip with the correct values to assure that all transmissions are FCC compliant.

8) *Please refer to the specific test report*

ADDITIONAL INFORMATION ABOUT PROGRAMMINIG AND RE-PROGRAMMING FEATURES

The module in object ***can't be used as it is****, but to take advantage of his features it* ***must be hosted*** *inside a compliant device, it* ***must be wired*** *correctly (follows pinout reported on the user manual) and it* ***must be programmed*** *with a firmware that respect the correct registry information and algorithms (follows the original Nordic Semiconductor Datasheet).*
To achieve that, the device has to be programmed or re-programmed with the ***specific firmware programmers*** *adopted by the grantee during the device development phase.*

Due to those operative conditions and limitations, no final user can, in any situation, re-program or modify the software to obtain different behaviors from those originally wanted by the grantee.

All the grantee's devices (presents and futures) are specifically tested to respect current limitations imposed by FCC § 15.212 rule and no third-party modifications or reverse engineering are allowed.