



Dt Associates

PO Box 1644
Mariposa, CA
Phone: 209 966-2145
Email: dennisw@sti.net

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Phone 425 415-6634
Fax 425 415-6602

Request for a modular approval - FCC ID: Q4YHS2141

Dear Application Examiner:

The Microvision Bluetooth module HS2141-A is seeking FCC authorization as a modular transmitter. 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 radio portion of the module is contained in its own RF shielding. See photos

2. The modular transmitter must have buffered modulation/data inputs

The module has a memory management unit inside of the IC. It buffers the data inputs from UART and USB terminal.

3. The modular transmitter must have its own power supply regulation

The IC contains an own voltage regulation. In case of changes in the supply voltage VCC (for example caused by temperature changes or other effects), the internal voltage will be stabilized.

4. The modular transmitter must comply with the antenna requirements of Section 15.203 and 15.204c

The transmitter shall only be used with the tested integral antenna or with an antenna that has less antenna gain. Requirements for the use of external antennas are specified in Exhibit M

5. The modular transmitter must be tested in a stand-alone configuration

The EUT was tested in a stand-alone configuration. See original report for original under which the 2.933 filing is being made.

6. The modular transmitter must be labelled with its own FCC ID number

The EUT will be labelled with its own FCC ID number. The label is specified in Exhibit 2. If the module is installed inside of an end-product, the label will not be visible. In this case the OEM customer will be instructed to how to apply the exterior label.

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.

8. The modular transmitter must comply with any applicable RF exposure requirements.

The maximum measured conducted power output is 1.2 mW, the maximum antenna gain is 2.14 dBi = numeric gain 1.64

The maximum permissible exposure is defined in 47 CFR 1.1310 with 1 mW/cm².



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The distance from the EUT's transmitting antenna where the exposure level reaches the maximum permitted level is calculated using the general equation:

$$S = P * G / 4\pi R^2$$

$S_{\max} = 1\text{mW/cm}^2$, $P = 1.2\text{ mW}$, linear power gain relative to the isotropic radiator = 2,14 dBi = 1.64 (numeric gain), R = distance in cm

Solving for R , the 1mW/cm^2 limit is reached in a distance of 0.4 cm to the transmitting antenna.

The module has to be integrated in a way that the minimum distance of 0.4 cm.

Please contact us if you have any additional questions.

Sincerely

Dennis Ward
Dennisw@sti.net