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RE FCC ID LVCVAL2LTE01

Simultaneous SAR Exemption

Dear Sir or madam,

Cubic Transportation is submitting this application for their model Validator, carrying FCC ID: LVCVAL2LTE02. The Validator consists of a user interface assembly connected and an external pole mounted LTE antenna connected via three coaxial cables. The unit is to be professionally installed on a public Transportation vehicle.

The validator contains an NFC 13.56 MHz radio certified under FCC ID: LVCVAL2LTE02, an FCC certified Modular Wi-Fi / BT Radio (FCC ID: Z64-WL18DBMOD) and an FCC Certified LTE Wireless Cellular Module (FCC ID: LVCVAL2TE01).

The Validator and the external pole mounted antenna assembly can be used closer than 20cm to the users's torso.

The Wi-Fi Antenna and the NFC antenna are co-located within the validator main assembly. SAR Test report by RF Exposure Lab, Report #20181210 is provided.

The LTE antenna is not co-located with the WI-FI and NFC Antenna. The LTE antenna is professionally installed a minimum of 248mm away from the validator's main user interface assembly (Containing the Wi-Fi and NFC antennas). SAR test report by UL, Report number UL-SAR-RP13040245-116A V1.0 is provided for the LTE antenna assembly.

Simultaneous SAR testing for the LTE and WiFi Radio is not required. As per KDB Publication 447498 section 4.3.2, SAR exclusion for multiple transmitters requires that when the sum of 1-g or 10-g SAR all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration.

The calculation below shows that the sum of the standalone SARS for the WIFI + Cellular radio is below the 10g SAF limit (4W/kG)

Wi-Fi + Cellular
0.17W/kg (WiFi) + 0.89W/kg (Cellular) = 1.06W/Kg
1.06W/kg < 4W/kG

Regards

Richard Rowlands

Richard Rowlands
VP Engineering