Sportvision
Application for Special Temporary Authority
Description of Purpose of STA
File Number 1061-EX-ST-2019

Sportvision, a wholly-owned subsidiary of SMT (SportsMEDIA Technology) is and has been in the process of developing, refining and testing a Race Track Wireless Data System, to provide data communications between vehicles on a race track and one or more fixed base stations installed along the track. One application of this system is a video image enhancement for television broadcasting of automobile racing events. The system allows television viewers to see displayed on screen the real-time location of cars during a racing event. The vehicles are equipped with GPS receivers and other sensors that generate a data packet every 200 milliseconds. The wireless system is responsible for collecting those packets from all rovers and delivering them to a control station in real time. A small amount of outbound data from the control station is sent to all the vehicles as well.

The radio units to be installed at the base stations and rovers are identical. The radio itself is a direct sequence spread spectrum unit, using production radios for 2.4 GHz. The system may ultimately be deployed on an unlicensed basis in the 2.4 GHz band or elsewhere, but the high noise levels in that band in the test locations (commercial automobile race tracks) are unsuitable for development and testing of the product.

The application specifies test deployments at NASCAR and other automobile racing venues in the next six months. The venues for testing the product are initially automobile racing events. A complete list of the locations and coordinates for racing events in the second half of 2019 at which the testing will occur is included.

An Intersil baseband processor performs the Direct Sequence modulation and demodulation. It is part of a five-chipset developed for the 802.11b standard. It uses $1/4^{th}$ of the standard 802.11 speed resulting in a relatively narrow occupied RF bandwidth. The power supply generates 3.3 Volts to power all circuits of the board. The radio, including the power amplifier, amplifies the signal up to 30 dBm. Power measurement is active, and keeps the transmit power at the desired level. Transmitter output is programmable, from 0 to 28 dBm. The occupied bandwith is 4.6 MHz.

The frequency band requested is allocated on a primary basis to the Amateur Radio Service. **There is also a co-primary allocation for Flight Test Telemetry between 2390 and 2395 MHz but that segment is not used for that purpose due to an inability of AFTRCC to coordinate operation with ubiquitous radio Amateurs in the band. Therefore, no coordination with AFTRCC is or has been needed for STA grants specifying a band that includes 2390-2395 MHz.** This is an exceptionally low-power system used over very short ranges within automobile racing tracks for short periods. Though it is not believed to have any significant interference potential, all test deployments of this system will be coordinated in advance with ARRL, the National

Association for Amateur Radio, through its regulatory affairs office in Newington, Connecticut. Any complaint of interference from licensed radio amateurs will result in cessation of operation until the interference is corrected. Similar STA grants have been authorized and conducted consistently over the past few years without any interference reports whatsoever.

The events and the date of each event are on the attached list. An on-site engineer for interference resolution issues and the stop-buzzer contact is Phillip Cochran, Technical Production Manager, Sportvision, whose telephone number is 270-317-7445. Other inquiries can be addressed to the office of counsel for the applicant, as follows:

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