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Compliance strategy used for SCG2221 FCC certification

SCG2221 is a TETRA mobile radio in the frequency range 136-174MHz with optional features of Bluetooth, Wi-Fi and GNSS.

It is a variant in the SCG22 series of mobile radios provided by Sepura.

There are 3 variants of the SCG2221; Premium, Standard and Basic.

The SCG2221 Premium will be certified under FCC ID XX6SCG2221M.

The SCG2221 Standard has the same RF parameters as the SCG2221 Premium, but the Standard is a depopulated version of the Premium. The SCG2221 Standard will therefore be a family member of the FCC ID XX6SCG2221M.

The SCG2221 Standard is the same as the SCG2221 Premium but without the extended interface ports.

a) Bluetooth tests (47 CFR 15.247):

All Bluetooth EDR tests were completed on the Bluetooth module in report 1901WSU002-U4.

All Bluetooth LE tests were completed on the Bluetooth module in report 1901WSU002-U5.

When the Bluetooth and WLAN module was placed in the SCG22, it was first placed in a SCG2229; a device like the SCG2221 but with a different TETRA operating frequency. The module was not modified, so results for bandwidth, power spectral density and conducted band edge are leveraged, but output power and radiated emissions needed to be repeated. These are covered in report 73315RRF.001A2 to verify EDR and LE output power, and EDR and LE to verify radiated emissions.

The same Bluetooth/WLAN module is used on the SCG2221; it uses the same hardware and software as the SCG2229. Therefore, the output power results completed on the SCG2229 remain applicable, but the radiated emissions testing needed to be repeated. Radiated emissions for the SCG2221 Premium are in report 75956225-02 and radiated emissions for the SCG2221 Standard are in report 75957883-04.

b) WLAN (47 CFR 15.247)

All WLAN tests were completed on the BT/WLAN module in a SCG2229 (a device like the SCG2221 but with a different TETRA operating frequency) in report 73315RRF.001A2.

The same Bluetooth/WLAN module is used on the SCG2221; it uses the same hardware and software as the SCG2229. Therefore, all test results on the SCG2229 are applicable for the SCG2221 except for the radiated emissions.

Radiated emissions for the SCG2221 Premium are in report 75956225-03 and radiated emissions for the SCG2221 Standard are in report 75957883-05.

c) TETRA (47 CFR 90)

Complete TETRA testing has been completed on the SCG2221 Premium. Results are in report 75956225-04.

The TETRA feature has not been modified between the SCG2221 Premium and the SCG2221 Standard.



TETRA testing has been leveraged from the SCG2221 Premium. A further report on the SCG2221 Standard has been added to include verification of the spurious emissions at antenna terminal and maximum conducted output power reports to ensure a valid read across of the remaining tests. These results are contained in Document 75957883-03.

d) Simultaneous transmission (47 CFR 2)

SCG2221 supports simultaneous transmission of TETRA and Wi-Fi or TETRA and Bluetooth. Test results for the Premium variant are in Document 75956225-05. Advice from TUV was that given the FCC Permissive Change policy that states “minor circuitry for non-transmitter portions (such as receiver, peripheral circuits, or some other digital function) can be changed or depopulated, and may be approved under one FCC ID”, the simultaneous testing compliance shown in 75956225-05 would cover the SCG2221 Standard because the RF transmitters are identical.

e) Unintentional radiator testing (47 CFR 15B)

Unintentional radiator testing has been completed on the SCG2221 Premium and Standard.

Results for the SCG2221 Premium are in Document 75956225-01.

Results for the SCG2221 Standard are in Document 75957883-02.

f) RF Exposure calculation (47 CFR 1)

RF Exposure calculations for the SCG2221 Standard and Premium variants are identical. Results are in Document 75956225-08. The report is for the Premium variant but since there are no differences in the transmitters between Standard and Premium, the report remains valid for both.

Signed



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