![TÜVRheinland® Precisely Right.]

Cover letter Fluke Thermal image device Gemini

FCCID: T68-FT400; IC: 6627A-FT400

Gemini is Thermal Imager with Wi-Fi, Blue tooth and Zigbee radios and is used as Portable measuring device. The Thermal Imagers have three Models: Ti200, Ti300, and Ti400. The model differences are with Infrared Resolution, Temperature Measurements Ranges, and Thermal Sensitivity. The models use the same hardware. Software settings are used to configure the models.   Ti400 with highest camera resolution was used for testing.

 Gemini has Zigbee radio   which not evaluated before. The main focus is testing and qualifying Zigbee radio. Test report # 31362328.001 dated Sep 13, 2013 covers Zibee testing. The device has passed required regulations.

 Gemini also uses LS Research approved module PN: 450-0064R   with Single modular approval with FCC ID: TFB-TIWI1-01 and IC: 5969-TIWI101.

 Fluke Corporation uses the above module with following changes

1) Using lower gain antenna   ceramic chip max gain of 1.5dBi instead of
2) Added switch uPG2214TB GaAs, Integrated Circuit for L, S-Band SPDT Switch manufactured by California Eastern Labs. This switch accommodates use of the same antenna by Zigbee radio as well as Wi-Fi and Bluetooth radio module.

Blue tooth and WIFI radios can operate simultaneously.

Zigbee never operates simultaneously with Blue tooth and WIFI

1) Zigbee radio was evaluated for all tests required for FCC 15.247.

2) No changes were made Blue tooth radio. Preliminary tests indicated no reduction power was required. Spurious emissions were lower than module approval. Test results of module approval are applicable

3) For Wi-Fi radio power was reduced. Power levels are recorded in the test report.

Limited evaluation of Wi-Fi radio was performed. Band edges, power levels and Radiated spurious emissions shall be re-evaluated. All the conducted measurements of Wi-Fi are still applicable.

EUT shall be evaluated for simultaneous operation of Wi-Fi and Blue tooth radios. All conducted tests results of module are applicable.

Test results are presented in Test report # 31362328.001 dated Sep 13, 2013

(Suresh Kondapalli)

Test Engineer