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American Certification Body, Inc.  
6731 Whittier Ave.  
Suite C110, 2110

Attn: Reviewing and certification engineers

We would like to certify a wireless device under a new single FCC ID/IC number. It includes an uncertified ISM radio that falls under FCC Part 15.247 as well as a module with modular approval under FCC Part 25.

The module is certified under FCC IDL2V-STX3 and IC:3989A-STX3. The module is unmodified except for the following 3 items:

1. An RF switch was added in between the RF output and the antenna
2. The trace between the RF output and the antenna is not identical to the reference trace as specified in the modular grant/certification.
3. The antenna used is different from the one in the grant. It is however of the same type. The gain of the new antenna is 1 dBi.

Spectrum PA25-1615-025SA LHCP 3.0dB peak gain (original antenna)

Spectrum PA45-1615-1575SA LHCP 4.0dB gain (new antenna)

The data sheets for the new antenna, schematics and internal photos have been provided for the new application to support the above statements.

In order to show that the output power and spurious emissions of the Part 25 module are still compliant with the rules with the modified RF path and antenna an additional test report has been provided. It is assumed that all measurements related to bandwidth, duty cycle and modulation have not changed. The test report from the original grant has also been supplied to show compliance with all of the other requirements. The Part 15 ISM radio has been fully tested to show compliance with the rules.

**Table 1 – Original vs. Modified Power Measurements**

Frequency	EIRP Measurement Original Grant	EIRP Measurement With different antenna, trace and RF switch	Delta
MHz	dBm	dBm	dB
1.61123246	22.83	23.97	1.14
1.61623246	21.99	23.85	1.86

The chart above shows the EIRP measurements from the original certification compared to the new certification. The EIRP is within 2dB.

The firmware in the new device also limits the Part 25 radio to the two channels listed above.

Thank you for your assistance, and please contact me if I can answer any additional questions.

Sincerely,



Nic Johnson, NCE

Technical Manager

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