

OPERATIONAL DESCRIPTION

1.1. EUT description

Limited modular approval will use in different equipment from ZODIAC for RF application at 2.4GHz with followings parameters of RF.

1.2. Related Submittal(s) / Grant(s)

All host equipment used in the test configuration are FCC granted, when relevant.

1.3. Tested System Details

The system was configured for testing in a typical fashion (standalone). All configurations of EUT is considered, worst cases are presented in this test report.

- **Power supply:**

- Range: 3.0VDC – 3.3VDC, provide by host equipment.
- During all the tests, EUT is supplied by this power: 3.0VDC

- **Input/output:**

- 1 x Antenna, ceramic
- 2 x DC Power supply
- 2 x Data cables, type I2C
- 1 x Data cable

- **Cables:**

- 1 x Data + power supply cable, unshielded, length: 10cm

- **Auxiliaries equipment used during test:**

- 1 x Power supply of laboratory, ELC AL924
- 1 x W2402A control PCBA

- **Equipment information:**

- Frequency band:	[2400.0-2483.5] MHz		
- Standard:	☐ Wifi	☐ Bluetooth	☒ Zigbee
- Spectrum Modulation:	☐ FHSS		☒ DSSS
- Modulation type:	☒ QPSK	☐ Pi/4 DQPSK	☐ 8DPSK
- Number of channel:	16 channels		
- Channel separation:	☒ 5MHz	☐ 2MHz	☐ 1MHz
- Channel tested:	Full test on 2405MHz, 2445MHz and 2480MHz		
- RF mode:	☒ TX/RX	☐ RX	☐ Standby
- Antenna type:	Integral, ceramic	Gain: 2 dBi (Declaration of provider)	
- Antenna connector:	☐ Permanent external	☐ Permanent internal	☐ Temporary (only for tests)
	☒ None		

1.4. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-2003 FCC Part 15 Subpart B and C.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.5. Test facility

Tests have been performed from December 10th to 13th, 2012.

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4-2003 in a letter dated March 25th, 2008 (registration number 94821). This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, accreditation number 1-1633 as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.