

Information about the Applicant

Company Name	Motorola, Inc.
Address	8000 West Sunrise Blvd
City, State, Zip	Ft. Lauderdale
Requested By	Mike Ramnath
Job Number	SPTE0007
Model	F4420A and F4425
FCC ID	AZ489FT7005
Agent	Rod Munro – Spectrum Technology, Inc.
Approval Type	Certification
Equipment Type	FHSS (Bluetooth radio)
Rule Part	47CFR15.247

Overview

Certification is sought for Motorola's PowerPad Model: F4420A and identical Model: F4425. The two models are "identical" as defined by Part 2.908, with cosmetic appearance changes only. Both are ruggedized Portable Digital Assistants (PDAs) which contain a new Bluetooth™ Intentional Radiator, not previously approved under 47 CFR 15.247. The Bluetooth™ radio is intended for short distance communication with peripheral devices. It supports multimedia and audio using a built-in microphone, speaker and buzzer.

Recommendation

All items have been resolved and completed to my satisfaction; therefore I recommend this application for approval.

Gregory V. Kiemel, Director of Engineering

February 18, 2003

Date

Findings and Resolution

Item #1	User Card stated for "occupational / controlled applications"
Resolution	User Card and Manual exhibit was updated to reflect general population exposure.
Item #2	Location of FCC ID label was unclear
Resolution	External Photos exhibit was updated to more clearly show the location of the FCC ID label
Item #3	In the test report, the description for occupied bandwidth referenced an older version of Part 15.
Resolution	The test report exhibit was updated to reflect the latest version of Part 15 (8-23-2002)
Item #4	A non-standard test method was used to measure power spectral density.
Resolution	The test report exhibit was updated to delete the power spectral density test data. The applicant requested that the subject device be filed as a FHSS. The applicant conferred with Joe Dichoso of the FCC who confirmed this was acceptable.
Item #5	The carrier was not modulated during testing.
Resolution	The test report exhibit was updated with new test data taken with the carrier modulated.
Item #6	The list of measurement equipment did not show test equipment capable of radiated emissions scans up to the 10 th harmonic of the radio's transmit frequency.
Resolution	The test report exhibit was updated with new test data taken with measurement equipment capable of radiated emissions scans up to 22 GHz. The applicant conferred with Joe Dichoso of the FCC who granted a "one time exception" and deemed 22 GHz an acceptable upper frequency limit. (See FCC email filed with this application).
Item #7	No radiated emission data was provided in the 2.4835 GHz to 2.5 GHz restricted band while the radio was transmitting at the highest possible channel.
Resolution	The test report exhibit was updated with new test data taken in the 2.4835 GHz to 2.5 GHz restricted band while the radio was transmitting at the highest possible channel.

Opinion

Specification Requirements	Description
47 CFR 15.247(b)(5) and 2.1093	RF Exposure

Opinion: The Equipment meets the intent specified by the requirements listed above.

Discussion: The Applicant has demonstrated compliance in the form of an Exhibit.

Reference: Exhibit 11

Specification Requirements	Description
47 CFR 15.247	Occupied Bandwidth

Opinion: The Equipment meets the intent specified by the requirements listed above.

Discussion: The Applicant has submitted test results in the form of a test report. According to the FCC's Interpretations Database, "Frequency hoppers in the 2.4 GHz band are required to use a minimum of 15 non-overlapping channels. The hopping channel bandwidth can be wider than 1 MHz as long as the channels do not overlap and all emissions stay within the 2400-2483.5 MHz band. (ref. email sent to tcb@tcbCouncil.org 10/08/2002)" The subject radio uses more than 15 hopping channels, none of which overlap. The maximum 20 dB occupied bandwidth is less than 1 MHz.

Reference: Exhibit 6

Specification Requirements	Description
47 CFR 15.247(b)(1)	Power Output

Opinion: The Equipment meets the intent specified by the requirements listed above.

Discussion: The Applicant has submitted test results in the form of a test report.

Reference: Exhibit 6

Specification Requirements	Description
47 CFR 15.247(c)	Spurious Emissions, Antenna Conducted

Opinion: The Equipment meets the intent specified by the requirements listed above.

Discussion: The Applicant has submitted test results in the form of a test report.

Reference: Exhibit 6

Specification Requirements	Description
47 CFR 15.247(c), 15.205, & 15.209	Spurious Emissions, Radiated Emissions

Opinion: The Equipment meets the intent specified by the requirements listed above.

Discussion: The Applicant has submitted test results in the form of a test report.

Reference: Exhibit 6

Specification Requirements	Description
47 CFR 15.207	AC Powerline Conducted Emissions

Opinion: The Equipment meets the intent specified by the requirements listed above.

Discussion: The radio uses rechargeable lithium ion batteries. There is no provision for transmitting while recharging. Therefore, the Applicant submitted no AC Powerline Conducted data.

Reference: Exhibit 12

Specification Requirements	Description
47 CFR 15.203	Antenna Requirement

Opinion: The Equipment meets the intent specified by the requirements listed above.

Discussion: The Applicant has demonstrated compliance in the form of exhibits.

Reference: Exhibits 5 and 12

Specification Requirements	Description
47 CFR 2.925	FCC ID Label and Location

Opinion: The Equipment meets the intent specified by the requirements listed above.

Discussion: The Applicant has demonstrated compliance in the form of exhibits.

Reference: Exhibit 1

Specification Requirements	Description
47 CFR 2.1033(b)	Application for Certification

Opinion: The Equipment meets the intent specified by the requirements listed above.

Discussion: The Applicant has submitted all the required exhibits to sufficiently demonstrate compliance of his product to the relevant FCC rules.

Reference: Exhibits 1 through 13