

IFF-45TS Integral Mode 5 Crypto Emulation

The IFF-45TS (test set) incorporates an internal emulator for mode 5 crypto operation, allowing the test set to perform Mode 5 testing without the use of a cryptographic applique and keys. The internal emulation is compliant with the operation defined in the document published by U.S. Navy PMA 213 and is compliant with NATO AC/322(CP/2)N(2011)0034. The emulator operation is supported as an IFF-45TS internal mode of operation and can be used without any external equipment installed in the test set.

To use this feature, the UUT (unit under test) must utilize a compatible Mode 5 crypto emulator applique, or the UUT itself must incorporate the same algorithm. Hardware emulators are available from crypto manufacturers, including but not limited to Raytheon, BAE Systems and Hendsoldt.

This capability is useful for development, testing and maintenance of transponders or interrogators in the production environment, or maintenance area where the utilization of secured COMSEC devices would ordinarily be troublesome or prohibited.

Full RF parametric and data analysis of the device being tested can be accomplished in the Mode 5 instruments using the internal encryption/decryption feature in the IFF-45TS without the need for security clearances or secure areas for the test environment.

All features and controls for Mode 5 are available for use with the Mode 5 emulator such as CVI, date/time, message indicator field and others. Please refer to section 4.2.2 of the IFF-45TS operator's manual for more information regarding the set up and use of the internal crypto emulator/simulator.

The algorithm and associated hardware are not classified or controlled; therefore, they can be used while performing Mode 5 testing.

Details of the algorithm itself are Controlled Unclassified Information (CUI), and permission to obtain the algorithm details will need to be requested from the U.S. Navy.

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