



996369 D03 Module Integration Instructions & TCB Review

**Jihad Hermes
FCC OET Lab- Technical Research Branch
7435 Oakland Mills Road
Columbia, MD 21046**

Note: The views expressed in this presentation are those of the author and may not necessarily represent the views of the Federal Communications Commission



Introduction

FC Integration Instructions are Integral to Module Certification

15.212 a) 1) (vii): The modular transmitter must comply with any specific rules or operating requirements that ordinarily apply to a complete transmitter and the manufacturer must provide adequate **instructions** along with the module to **explain any such requirements**. A copy of these instructions must be included in the application for equipment authorization.”

FC 996369 D03 Outlines 3 Key Requirements

1. Manufacturer Integration Instructions
2. Key TCB review elements
3. Guidance for grant of certification comments

FC Limited Module Certification

How to address?

FC Feedback

Field notes

More scrutiny is needed



996369 D03 Outline – Section 2.0

2.1 General: Manufacturer and Integrator roles and responsibilities for host product compliance.

Module intended purpose and certification type, if applicable restrictions to grantee host products, requirements for continued FCC compliance, and end user manual requirements. Grantee support resources available to the Integrator, and a statement that deviation from the instructions will require the grantee approval.

2.2 Applicable module certification rules that host product must remain in continued compliance.

2.3 Summary of operational use conditions, regulatory statements, sale restrictions.

The use conditions must be clear and if there is a change what procedures a host manufacturer must follow. Ex: simultaneous transmission, indoor use only, operation on aircraft, use in grantee products only, . . .

2.4 Limited certification requirements to be addressed when integrating into a new host product.

If applicable, the manufacturer must clearly define what the Integrator must do to address grant limitation based on a method approved via KDB inquiry. Limited certification is akin to conditional certification predicated on method(s) to mitigate limitation in the final host product.

2.5 Trace antenna designs, if applicable, must detailed in accordance with 996369 D02 Q&A #11.

2.6 RF exposure conditions and host product configuration must be detailed here.

Any deviation in conditions or host configuration will require approval and FCC filing by the Grantee in accordance with KDB 447498.

Things to look for!



996369 D03 Outline – Cont'd

2.7 Antennas requirements

Acceptable antenna type(s), gain, connector, professional installation, packaging with host product, etc.

2.8 Label and Statements for compliance

“Contains FCC ID” labeling (KDB 784748) and regulatory statements requirements for the final host products

2.9 Information on test mode(s) configuration.

Test modes/instructions for standalone and simultaneous transmission configurations in accordance with 996369 D04.

2.10 Additional testing, Part 15 Subpart B disclaimer

Integrator is responsible for host product compliance with applicable FCC rules

2.11 Note EMI Considerations

KDB publication 996369 D02 and D04 for guidance on module integration and best practices.

2.12 How to address changes to conditions, operation and/or restrictions

What procedures a host integrator must follow to address changes. Grantee policy/contact information to address permissible changes if required by host integrators.

Things to look for!



Limited Module Certification

FC Grantee remains responsible for compliance of end-product

Responsibility does not end with sale –Modules, by nature, require grantee-integrator relationship.

FC 15.212 a) 1) deficiencies (limit) must be mitigated in host product

The applicant must state how control of the module in the end-product will assure full compliance.

FC Applicant must detail a method to mitigate “limit” conditions:

Instructions must address additional filing, testing or requirements that the host integrator must address in the end product.

FC Applicant must demonstrate compliance before certification

The applicant for certification must state how will full compliance of end-product will be assured.

FC Grant Comments to address limit reasons

Limit reasons, operational constraints, and/or unique conditions.

Grantee is responsible for 15.212 “Limit” mitigation in Host Product



Common issues to be addressed

- FC **Readability → #1 issue**
- FC **Techno-fillers → Needs to be professional grade**
- FC **Information organization → Follow 996369 D03 outline**
- FC **Intermixed with other information → Must be delineated**
- FC **Disclaimers → Instructions must be prescriptive**
- FC **Lack of detail → Must be complete and self supporting**
- FC **Vague Limited certification instructions → PAG rejection**
- FC **Ask the FCC for feedback → FCC does not edit**
- FC **Modeled on previous grants → No!**

Need to raise the range of acceptability!



TCB Application Review

- FC **Are the FCC integration instructions delineated and labeled?**
- FC **Does the outline follow 996369 D03?**
- FC **If “Limited” certification, what are the conditions to be mitigated?**
- FC **Does each section properly address 996369 D03 guidance?**
- FC **Are the instructions complete for proper integration?**
- FC **Are “Limited” certification deficiencies properly addressed?**
- FC **Are the instructions of professional grade? Organization, readability, . . .**
- FC **Are requirements for labeling and regulatory statements clear?**
- FC **Are integration instructions acceptable for FCC PAG review?**

Did the applicant effectively address 996369 D03?



Summary

- FC Without integration instructions modules can't be certified**
- FC Grantee is responsible for continued compliance in host product**
- FC Integration instructions must be directive and prescriptive**
- FC Organization, detail, clarity, completeness, and readability**
- FC Host integrator is responsible for following grantee instructions**
- FC TCB checklist**

Continued Focus Area