

**Federal Communications Commission
Office of Engineering and Technology
Laboratory Division**

October 22, 2015

Laboratory Division Draft Publication Report

Title: Grant Comments

Reason: New publication, containing two attachments to the publication: (1) 551693 D01 Comments Notes on Grants v01, (2) 551693 D02 Grant Comments Elements v01.

Publication: 551693

Keyword/Subject: Grant Comments, Grant Conditions, Grant Notes

First Category: Administrative Requirements

Second Category: Certification

Question:

What are the guidelines for Telecommunication Certification Bodies (TCBs) for listings comments, conditions, and/or notes on a grant of equipment authorization certification?

Answer:

The documents in this review draft package provide guidance for Telecommunication Certification Bodies (TCBs) for uniform listings of conditions and notes on grants of equipment authorization.

This guidance document 551693 DR01 re-numbers, updates, replaces, and supersedes the preceding Draft Review document 821551 DR01 (posted Oct. 25, 2011; comments closed November 25, 2011).

This review draft package contains the following draft subdocuments that are proposed attachments for the new KDB Publication 551693 and are available for comment.

Attachment List:

[551693 D01 Comments Notes on Grants v01](#)
[551693 D02 Grant Comments Elements v01](#)

551693 D01 Comments Notes on Grants v01

The following subdocument D01 within this review draft package 551693 Grant Comments DR02-42299 is a new attachment to the new publication 551693.

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**Federal Communications Commission
Office of Engineering and Technology
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October 22, 2015

**COMMENTS AND NOTES ON FCC OET
EQUIPMENT AUTHORIZATION GRANT CERTIFICATES**

I. INTRODUCTION

This document (KDB Publication 551693 Attachment D01) provides guidance for Telecommunication Certification Bodies (TCBs) on uniform listings of comments, remarks, notes, and authorization conditions on grants of certification. In addition, TCBs should contact FCC OET Laboratory to request other guidance for application processing of any devices where listing variations might apply.

Clause II of this document summarizes general concepts. Clause III discusses background, concepts, and application content guidance for various items, including multi-transmitter end products having simultaneous transmission operations, and listings in grant remarks of separation distances associated with RF exposure compliance for mobile and portable devices. Finally, Clause IV describes administrative audit processing and permissive change application filing guidance for modifying notes and comments on existing grant certificates.

The associated KDB Publication 551693 Attachment D02 identifies various categories of technical and administrative items covered in grant comments. Grant comments typically may be applied in a “building block” approach, meaning administrative, EMC, RF exposure statements, etc., are each listed, as appropriate for the device type and configurations evaluated. Sample grant comments are also given in Attachment D02, which are meant as examples only, and TCBs must amend or reduce when using those as baselines for each specific device and application filing. Finally, the FCC OET electronic filing (e-filing) system contains a list of two-character alphanumeric-coded grant notes. For some standard grant comments, the coded grant notes should be used in lieu of free-form grant comments specific to an FCC ID. A list of the e-filing system codes and grant notes is also given in Attachment D02.

II. GENERAL CONCEPTS AND USE OF GRANT REMARKS

The Part 2 Subpart J equipment authorization certification rules specify that grants are valid for the specific representations and test data shown within the exhibits filed with the application for certification. FCC policies for grant comments, and the use by TCBs of grant comments, is separate from and does not substitute for the appropriate implementation and use of the TCB review and approval procedures and policies that are applicable for a device. Generally, notes, comments, and conditions on a grant certificate are only a summary of any special items that need specific notice. Collectively, irrespective of grant comments, the exhibits filed with an application for certification must provide a clear description of the scope and allowed uses for a device, as well as demonstrate compliance through representations including at minimum test data, installation/operating instructions, and detailed operational descriptions.

Besides device descriptions and device technical parameters, each *Grant of Equipment Authorization*¹ certificate (FCC Form 731A) may include grant remarks, grant comments, grant conditions, and/or grant notes. The term generic “grant remark” has been used to refer to:

- grant comment: term referring to the free-form input field Item 14 on the electronic FCC-TCB Form No. 731;
- grant condition: usually means specific restrictions for device operation and/or marketing;
- grant note: most specifically, refers to the standardized grant comments listed as alphanumeric codes in the e-filing system.

Some grant remarks are basically informative only (e.g., how a device was tested), while some may be restrictive, and may place bounds on operations allowed under the scope of the application (i.e., grant conditions). Clause III has further discussions on items covered in grant comments, while the attachment KDB Publication 551693 D02 provides further details for many types of devices and compliance considerations.

Grant comments shall not be used to substitute for demonstrating compliance for the intended and reasonably expected operating configurations of a device. For example, application filings for connectorized WLAN and WWAN modules that are intended or reasonably expected to be used in netbook and notebook computers should contain RF exposure measurements and/or test exclusion analyses and installation instructions as appropriate for those portable device operating and RF exposure conditions, to obviate use of collocation and 20 cm distance grant conditions (as described further in III C and III D).

III. SELECTED ITEMS COVERED IN GRANT REMARKS

A. Example requirements where grant conditions are necessary and unequivocal

Along with the finding of compliance for a device based on representations and test data, § 2.915(b) provides that special condition(s) may also be identified with grants for certification. Examples of grant comments that identify special conditions include:

- 1) This device must be professionally installed.²
- 2) The marketing and sale of these devices shall be limited to federal, state, local public safety and law enforcement officials only; and state and local law enforcement agencies must advance coordinate with the FBI the acquisition and use of the equipment authorized under this authorization.

Guidance about circumstances to apply grant conditions rather than or in addition to grant comments, notes, and attestation exhibits is given in KDB Publication 551693 Attachment D02.

¹ FCC Form No. 731 is the *Application for Equipment Authorization*, while FCC Form 731A is the *Grant of Equipment Authorization Certification*.

² See, e.g., FCC-TCB part 15 devices consolidated presentation, October 2009, (<https://apps.fcc.gov/oetcf/kdb/reports/ExpiredDocumentList.cfm?eyr=2009>).

B. Filing contents for stand-alone single transmitter or simultaneous transmission multi-transmitter end-use operations

In recent years FCC has made available several KDB publications with policies and procedures about representations and test data to be included in application filings for transmitters and modules intended or reasonably expected to operate in simultaneous transmission multi-transmitter end product conditions. The application filing framework for RF Exposure described in KDB Publication 447498 should be applied, including the following items 1) and 2) repeated for convenience;³ KDB Publication 447498 must be consulted for further details.

- 1) Stand-alone and simultaneous transmission use conditions for mobile and portable exposure conditions must be established according to the host platform and product operating configuration requirements. Transmitters approved only for use in stand-alone operations cannot be used in simultaneous transmission operations without further evaluation; this may be through test exclusion provisions or specific equipment approval.
- 2) Transmitters and modules must be approved according to one of the following host platform exposure conditions, with respect to the product configurations tested or evaluated for equipment approval, for incorporation in qualified host products. The approved host platform exposure condition(s) must be identified on the grant of equipment certification.
 - a) Mobile-device exposure host platform,
 - b) Portable-device exposure host platform,
 - c) Mixed mobile-device and portable-device exposure host platform.

For progressing multi-transmitter policies, the following grant comment example has been shown in recent FCC TCB guidance documents.⁴

- i) *The antenna(s) used for this transmitter must not transmit simultaneously with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures.*
- ii) *Grantee must provide installation and operating instructions for complying with FCC multi-transmitter product procedures.*

Strictly speaking, the preceding alternative grant comment i) can only be associated if appropriate contents are also in filings, i.e., grantee-furnished installation instructions on how to address compliance issues, and supporting test data and/or test exclusion analyses for the intended and/or reasonably expected host platform configurations. In other words, the grant comment ii) is necessary to allow grant comment i) to be used. For many modern transmitters and modules, grantees must provide appropriate installation and operating instructions for complying with available FCC multi-transmitter product procedures. At this time, pertinent FCC equipment authorization procedures for multi-transmitter products include KDB Publication 662911 and KDB Publication 447498.

³ KDB Publication 447498 D01 v05r02, Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies; the above items 1) and 2) are from 3. 3) therein.

⁴ FCC OET Equipment Authorization Presentations:
April 2015 Grant Certificate Notes and Conditions,
(<https://transition.fcc.gov/bureaus/oet/ea/presentations/files/apr15/51-556193-Grant-Notes-and-Conditions-v2a-TH.pdf>);
April 2013 Modular Transmitters,
(<https://transition.fcc.gov/bureaus/oet/ea/presentations/files/apr13/9a-Modular-Transmitters-JS.pdf>);
October 2009 Modular Transmitter Basics,
(http://transition.fcc.gov/oet/ea/presentations/files/oct09/ModularTransmittersReview_%20Oct09_JD_TH.pdf).

C. Simultaneous transmission in multi-device (“collocated”) end products

Historically, many transmitters subject to FCC certification operated normally only in single-transmitter stand-alone⁵ end-use conditions. For modern technologies and end products, many device types are now intended or reasonably expected to routinely operate in simultaneous transmission conditions⁶ as part of composite-system⁷ equipment. Multiple transmitters within an end product may be authorized to a single responsible party, or there may be multiple responsible parties for the multiple transmitters (see other discussion in, e.g., KDB Publication 996369).

For uniformity in application processing, and while numerous basic equipment authorization and review and approval policies and procedures were developing during the early stages of the TCB program, a “no co-location” grant remark has been used for many types of devices.⁸ The no-collocation grant remark has been used not only for single module (modular approval) devices, but also for stand-alone single-transmitter end products, and for specific combination (composite system) multi-transmitter and multi-module end products.

Fundamentally, the no-collocation grant comment simply indicates that additional compliance supporting information may be needed for additional usage in a final or end product containing multiple transmitters and having simultaneous transmission operations, and in case the existing FCC ID records contain representations and test data only for stand-alone single transmitter operations. Where a device qualifies for simultaneous-transmission test exclusions (e.g., described in KDB Publication 447498), and a filing contains the supporting details, the generic no-collocation condition on some grants is actually unnecessary and may be too restrictive. It is important to also note that the absence of a no-collocation comment on a grant generally does not mean that the use of the device in all simultaneous-transmission multi-radio product configurations is authorized. The no-collocation condition is not intended to restrict device usage options, but rather is to warrant compliance of multi-radio simultaneous transmission operations within a single end product, in filings where that is not already evaluated, and/or for use outside parameters/scope for which the device was already evaluated. With the preceding considerations, a specific “definition” of collocation becomes unnecessary for equipment authorization purposes. Instead, the following III C describes the recommended framework to be pursued at a minimum for tailoring equipment authorization applications for devices operating in mobile device and portable device RF exposure conditions.

D. Distances listed on grant certificates for RF exposure mobile and portable devices

Unless a transmitting device with its radiating element(s) is designed to be used within 20 cm of the user, the applicable FCC RF exposure limits are in terms of MPE field strength and/or power density. MPE limits and MPE compliance evaluations are not applicable at distances closer than 20 cm, because the

⁵ Stand-alone: For the purposes of this document, equipment that is able to operate (transmit) without additional coordination or control from another device, system, and/or host product.

⁶ KDB Publication 447498 D01 v05r02, item 5.3: “SAR compliance for simultaneous transmission must be considered when the maximum duration of overlapping transmissions, including network hand-offs, is greater than 30 seconds. ...”

⁷ A basic definition for composite system is a system that incorporates different devices (e.g., transmitter modules, digital circuits) contained either in a single enclosure, or in separate enclosures connected by wire or cable.

⁸ Typical synonyms of co-location are colocation, collocation.

exposure limits are in terms of SAR only.⁹ The MPE limits of § 1.1310(e) conventionally apply for both fixed-mounted devices and also devices operating under the conditions specified in § 2.1091 (mobile-device RF exposure evaluation rules). For some devices, e.g., many broadcast and base-station transmitters, installation configurations generally ensure those are inaccessible to consumers and the general population, for maintaining RF exposure compliance.

The 20 cm mobile-device RF exposure condition frequently used on grants was introduced and required for the first generation of TCB approval procedures, before SAR reviews in applications were qualified for TCB approvals. Over the years as specific KDB procedures have been introduced, the 20 cm grant comment is no longer strictly necessary as a generic remark, consistent with the following discussion.

Qualifying for operation under the mobile-device RF exposure rules requires a minimum separation of 20 cm. Unless a device requires more than 20 cm to comply with MPE requirements, and if there are obvious indications that the larger distance could be violated if it was not clearly stated on the grant, it is not necessary to identify the separation distance on the grant. As discussed in III B, the policies and procedures of KDB Publication 447498 require the exposure host platform (mobile, portable, or mixed mobile and portable) to be specified on the grant, which should establish the minimal separation distance required for the product exposure category.

KDB Publication 447498, along with §§ 2.1033(b)(3), 2.1033(c)(3) also require installation, operating, and user instructions to address exposure concerns, and for users to satisfy compliance; therefore, these general requirements are available to users and installers. Except when there is good reason to believe that the tested or evaluated distance cannot be easily maintained by the installation, however which should have been resolved during equipment certification to avoid such concerns, these other circumstances (beyond normal use) that can have high potential to become closer to the user may require that the separation distance be identified in a grant condition.

Similar reasoning applies for distances associated with SAR evaluations. Consumer products must be tested at the most- or sufficiently-conservative separation distance to demonstrate compliance; that is, smaller distances should be of no concern because they are not expected to exist or introduce issues. Therefore, when a product has been properly tested to demonstrate RF exposure compliance, it is usually not necessary to identify the test separation distance on the grant. Grant comments with distances are necessary only when there are secondary issues that are not related to normal use (tested conditions), which can have high potential for non-compliance; provided that all operating, use, and installation requirements are available to users and installers to satisfy compliance.

⁹ Transmitting devices designed to be used with their radiating structure(s) within 20 cm of the body of the user are defined as portable devices.

Portable devices are subject to the SAR RF exposure limits of § 2.1093(d) [also §§ 1.1310(a), 1.1310(c), 1.1310(d)(2)], rather than the MPE RF exposure limits of § 1.1310(e).

Mobile and fixed-mount devices [i.e., devices designed to generally be used with their radiating structure(s) normally maintained at a separation distance of at least 20 cm from the body of the user or nearby persons] are qualified to use the MPE RF exposure limits of § 1.1310(e).

§ 2.1093(b) “For purposes of this section, a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.”

IV. MODIFICATIONS OR AMENDMENTS OF COMMENTS ON EXISTING GRANTS

A. Permissive change application filings

To modify the conditions attendant to an equipment authorization for devices that have already been marketed after a grant is issued, a permissive change application may be submitted, which identifies and contains modified representations and test data as applicable. Such modification permissive change applications must be in accordance with KDB Publication 178919, and the specific rules and policies and procedures (KDB publications, etc.) applicable for the modified device operating conditions.

B. Requests submitted by TCBs for administrative application audits

Modification requests for most grant comments circumstances should be handled using the permissive change process described in the preceding section. As the grant comments process is being updated and implemented based on the policies and procedures changes under this KDB publication, depending on the scope and nature of issues that arise, FCC will consider then notify TCBs whether modification requests will be accepted similar to the process used in KDB Publication 546630 for exhibit changes.¹⁰

¹⁰ KDB Publication 546630, Telecommunication Certification Body Supersede Procedures.

551693 D02 Grant Comments Elements v01

The following subdocument D02 within this review draft package 551693 Grant Comments DR02-42299 is a new attachment to the new publication 551693.

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**Federal Communications Commission
Office of Engineering and Technology
Laboratory Division**

October 22, 2015

**SELECTED GRANT COMMENTS ELEMENTS CATEGORIES, STATEMENTS
EXAMPLES, AND SYSTEM NOTE CODES**

**NOTE: THIS DOCUMENT IS FOR REVIEW-DRAFT WORKING STRUCTURE
PURPOSES; CONTENTS WILL BE UPDATED AND CONSOLIDATED FOR
SUBSEQUENT PUBLICATION VERSION.**

**I. VARIOUS CATEGORIES AND EXAMPLE BUILDING-BLOCK STATEMENTS FOR
GRANT COMMENTS**

- A) General Provision for all of this Clause I:
- 1) For the following list, unless specified by text of the form “NOTE ID: ##,” filings should include a summary attestation exhibit containing a compilation of the applicable items, as prepared by the applicant in collaboration with the TCB.
 - 2) Device approved for use in accordance with the representations and conditions indicated in the attestation exhibit in this filing. NOTE ID: *AT*
- B) Output power: The output power listed on the grant must be in watts, and is considered to be the power rating of the device. When applicable, an output power listing is required for each emission designator, each frequency band, and additional configurations. Compliance must be addressed for output power in the same units/quantity as the applicable limit (e.g., EIRP for Part 24 mobile / portable station, ERP for Part 22). Conducted output power may be listed for devices where measurements can be made at the antenna connector, where consistent with an applicable rule or policy (e.g., see KDB Publications 291699, 971168; FCC-TCB conference call July 2006). The output power listed must be the same type (i.e., peak, average) as defined by the applicable rule part.
- 1) Output Power listed is conducted. NOTE ID: *01*
 - 2) Output Power listed is ERP. NOTE ID: *02*
 - 3) Output Power listed is EIRP. NOTE ID: *03*
 - 4) Output Power listed is the maximum combined conducted output power. NOTE ID: *04*
 - 5) Output Power is ERP and EIRP for above and below 1 GHz, respectively. NOTE ID *05*
- C) General antenna installation, operation, and use requirements.
- 1) Device may operate with multiple antennas; output is specified at each antenna terminal. NOTE ID: *AM*
 - 2) The installation and operating configurations of this transmitter, including antenna gain and cable loss, as specified in this filing must be used for satisfying the RF exposure requirements of Sections 1.1310(d)(2) and 2.1091(c).

- 3) Installers and end-users must be provided with antenna installation instructions and transmitter operating conditions and instructions for satisfying RF exposure compliance.
 - 4) The antenna(s) used for this transmitter must not be collocated or operating in conjunction with any other antenna or transmitter within a host device, except in accordance with FCC multi-transmitter product procedures.
 - 5) RF exposure compliance is addressed under Sections 1.1310(d)(2) and 2.1091(c), as described in this filing. NOTE ID: *AE*
- D) Professional installation
- 1) The host device must be professionally installed by an installer authorized by the grantee. NOTE ID: *PI*
- E) Fixed transmitters with antennas mounted on permanent structures
- 1) The antenna(s) used for this transmitter/device must be fixed-mounted on permanent structures. RF exposure compliance is addressed at the time of licensing, as required by the responsible FCC Bureau(s), including antenna co-location requirements of Section 1.1307(b)(3).
 - 2) The antenna(s) used for this transmitter must be installed to provide a minimum separation distance, as specified in this filing, from persons during normal operation, d(xx cm).
 - 3) The antenna collocation requirements of Section 1.1307(b)(3) must be addressed at the time of installation.
- F) Operating duty factor requirements.
- 1) Device must operate with a maximum duty factor not exceeding 50 %.
 - 2) Device must operate with a maximum duty factor not exceeding DF(xx %), as described in the filing.
 - 3) The duty factor must be implemented in factory firmware.
- G) Body-worn accessory SAR compliance requirements (see also KDB Publications 447498, 690783).
- 1) SAR compliance for body-worn operating configurations is limited to the specific body-worn accessories, such as belt-clips and holsters, tested for this filing. NOTE ID: *SB*
 - 2) SAR compliance for body-worn operating configurations must be restricted to belt-clips and holsters that have no metallic component in the assembly. NOTE ID: *SM*
 - 3) Device must operate with the minimum separation distance tested for SAR body-worn with accessories compliance, as described in this filing, d(xx cm)
- H) SAR results listings – see KDB Publication 690783.
- I) Occupational / Controlled RF exposure compliance requirements (see also KDB Publication 447498).
- 1) A label, as described in this filing, must be displayed on the device to direct users to specific training information for meeting occupational exposure requirements, and users must be provided with the training information.
 - 2) An RF exposure label must be placed on the antenna of subscriber units; visible to all persons exposed in the vicinity of the antenna.
- J) Modular transmitter requirements (see also KDB Publications 996369, 447498).
- 1) The antenna of this device must not be co-located or used in conjunction with any other antenna or transmitter except for the conditions shown in this filing and/or in accordance with FCC multi-transmitter product guidelines. NOTE ID: *M1*
 - 2) The grantee must provide OEM integrators, or end-users if marketed directly to end-users, with installation and operating instructions for satisfying FCC multi-transmitter product guidelines. NOTE ID: *M2*

- 3) Approved for OEM integration only.
 - 4) This WPAN module is approved for use with wireless handsets manufactured by the grantee only and is not approved for any other use, (Grantee Name).
- K) U-NII devices: dynamic frequency selection (DFS); indoor-only (see also KDB Publications 443999, 848637).
- 1) This UNII device complies with the Transmit Power Control (TPC) and Dynamic Frequency Selection (DFS) requirements in Section 15.407(h). NOTE ID: *ND*
 - 2) This device has shown compliance, in all grant-listed U-NII sub-bands, with the new rules for U-NII devices adopted under Docket No. 13-49 and may be marketed, manufactured, installed or imported after the June 1, 2016 transition deadline. NOTE ID: *38*
 - 3) This sub-band complies with the new rules for U-NII devices adopted under Docket No. 13-49. This device may not be sold or marketed after June 1, 2016, unless all grant-listed U-NII sub-bands demonstrate compliance with Docket No. 13-49. NOTE ID: *39*
- L) Non-U.S. bands and modes: TCBs must ensure that filing contents do include basic descriptions about the specific non-US modes and capabilities; however non-US bands and modes shall not be itemized in the grant comments field. (See also KDB Publication 634817.)
- 1) This device contains functions that are not operational in U.S. Territories; this filing is applicable only for U.S. operations. NOTE ID: *OF*
- M) Extended frequencies: non-FCC U.S. frequencies contiguous with FCC allocations (see also KDB Publication 634817).
- 1) This device may contain functions that are not operational in U.S Territories except as noted in the filing. This grant has extended frequencies as noted in the filing and Section 2.927(b) applies to this authorization. NOTE ID: *EF*
- N) Booster, repeater, amplifier devices: Identify whether powers and bandwidths listed are single- or multi-channel and system configurations required for testing and operation. (See also KDB Publication 935210.)
- 1) This device is a Wideband Mobile Consumer Signal Booster authorized only for operation by and marketing to members of the general public for their personal use in accordance with the requirements of 47 CFR 20.21(a) and 20.21(g). NOTE ID: *WM*
 - 2) This device is a Wideband Fixed Consumer Signal Booster authorized only for operation by and marketing to members of the general public for their personal use in accordance with the requirements of 47 CFR 20.21(a) and 20.21(g). NOTE ID: *WF*
- O) Hearing aid compatibility (see also KDB Publication 285076).
- 1) This equipment complies with the hearing aid compatibility technical requirements of Section 20.19 of the rules. NOTE ID: *HC*
 - 2) This mode of operation has the means to permit held to the ear telephone calls but has not been tested for hearing aid compatibility. The device supports other modes which have been found to be compliant with the HAC rules. NOTE ID: *HX*
- P) Software and configuration management (see also KDB Publications 442812, 594280).
- 1) This device and host are approved for operation only with the TV white space database(s) as described in filing. NOTE ID: *WS*
 - 2) The grantee is responsible for ensuring that software and/or configuration control will not permit device to operate out of compliance of the technical rules under which it was certified.
- Q) Part 90 subpart Z contention-based protocol (see also KDB Publication 552295).

- 1) This device incorporates a restricted contention based protocol. It is not capable of avoiding co frequency interference with devices using all other types of contention-based protocols. Operation is restricted to the 3650-3675 MHz band. NOTE ID: *RS*
 - 2) This device incorporates an unrestricted contention based protocol. It is capable of avoiding co frequency interference with devices using all other types of contention-based protocols. NOTE ID: *UR*
- R) Permissive changes – Grant comments need to identify the grant as a permissive change. All grant notes and comments from preceding grant(s) under an FCC ID must be repeated on the permissive change Form 731, unless the FCC policies and procedures for the permissive change item(s) specifically precludes use of a grant comment. (See also KDB Publication 178919.)
- S) Waiver conditions.
- 1) This grant is subject to the conditions of the limited waiver issued by FCC Wireless Telecommunications Bureau, as shown in this filing. NOTE: *WV*

II. PARTIAL AND FULL SAMPLE GRANT COMMENTS AND OTHER CONSIDERATIONS FOR VARIOUS DEVICE TYPES

The following list provides example uses of note codes and grant comments for selected devices types.

- A) Phone handsets tested both with and without specific belt-clips, holsters or similar accessories that are supplied with the device or sold as optional accessories:
- 1) EXAMPLE
 - i) Grant Note(s): *05, SB, SM, EX*
 - ii) Grant Comment: Device must operate with the minimum separation distance tested for SAR body-worn with accessories compliance, as described in this filing, 10 mm.
- B) U-NII device with DFS:
- 1) EXAMPLE
 - i) Grant Not(s): *01, AS, AD, MO*
 - ii) Grant Comment: Operations in 5.15-5.25 GHz are for indoor use only. Outdoor operation is subject to the professional installation instruction requirements as described in the User’s Manual.
 - 2) EXAMPLE
 - i) Grant Note(s): *01, AS, AD, MO, 38*
 - ii) Grant Comment: Outdoor operation is subject to the professional installation instruction requirements as described in the User’s Manual.
 - 3) Use of the ND note code is optional, and is per discretion of the applicant.
- C) Push-to-talk portable device qualified to apply Occupational / Controlled SAR limits:
- 1) EXAMPLE
 - i) Grant Note(s): *01, EL, SM, HC*
 - ii) Grant Comment: Device must operate with the minimum separation distance tested for SAR body-worn with accessories compliance, as described in this filing, d(xx cm). This device must be restricted to work related operations in an Occupational / Controlled RF exposure environment, not exceeding a maximum transmitting duty factor of 50 %. All qualified end-users of this device must have the knowledge to control their exposure conditions and/or duration to comply with Occupational / Controlled SAR limit and requirements. The highest

reported SAR values with a 50% duty cycle factor for Head and Body-worn applications are: xxx W/kg and xxx W/kg respectively.

D) Vehicle-mounted push-to-talk devices:

1) EXAMPLE

i) Grant Note(s): *EL*

ii) Grant Comment: This transmitter must be restricted to work related operations in an Occupational / Controlled RF exposure environment, not exceeding a maximum transmitting duty factor of 50 %. All qualified end-users of this device must have the knowledge to control their exposure conditions and/or duration, and the exposure conditions and/or duration of their passengers and bystanders, to comply with the General Population / Uncontrolled MPE limit and requirements. Users must be provided with the training information, antenna installation and transmitter operating conditions for satisfying RF exposure compliance. The antenna(s) used for this transmitter must be installed to provide configurations and separation distances as described in this filing.

E) e-reader devices:

1) EXAMPLE

i) Grant Note(s): *OI*

ii) Grant Comment: – Device must operate with a maximum transmitting duty factor of XX %, as documented in this filing. Grantee is responsible for monitoring usage transaction activities to ensure maximum transmitting duty factor is not exceeded. The highest reported body SAR is 0.62 W/kg.

F) Limited single modular approval:

1) EXAMPLE

i) Grant Note(s): *OI, M1, M2, AS*

ii) Grant Comment: Limited modular approval. Approval is limited to OEM installation only. The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons.

G) User-installed peripheral transmitter, e.g., USB dongle:

1) EXAMPLE

i) Grant Note(s): *OI, EX*

ii) Grant Comment: SAR compliance has been established in the host product(s) with slot configurations as tested in this filing, and can be used in host product(s) with substantially similar physical dimensions, construction, and electrical and RF characteristics. Compliance of this device in all final host configurations is the responsibility of the Grantee.

III. FILING SYSTEM ALPHANUMERIC NOTE CODES

Where Equipment Authorization System (EAS) alphanumeric note codes have been established for a subject, the EAS note code shall be used in place of similar unstructured Grant Comments.

Where the same alphanumeric note code applies for all line entries on a Form 731, the exact text from the note code may be inserted in the grant comments field, in lieu of entering the system note code at every line entry.

Table 1—Tentative new note codes to be combined into the list of Table 2

id	description	usage guidance
01	Output Power listed is conducted	
02	Output Power listed is ERP	
03	Output Power listed is EIRP	
04	Output Power listed is the combined maximum output power	
AM	Device may operate with multiple antennas; output is specified at each antenna terminal	
AS	Device must be installed to operate with a minimum separation distance of xx cm from all persons according to mobile exposure conditions of §2.1091.	Apply this comment only when > 20 cm is required and there is reason to believe that device may not comply with the required distance.
AE	RF exposure compliance is addressed under Sections 1.1310(d)(2) and 2.1091(c), as described in this filing.	
AD	Installers and end-users must be provided with antenna installation instructions and transmitter operating conditions and instructions for satisfying RF exposure compliance:	
AL	The antenna(s) used for this transmitter must not be collocated or operating in conjunction with any other antenna or transmitter within a host device, except in accordance with FCC multi-transmitter product procedures.	
SB	SAR compliance for body-worn operating configurations is limited to the specific body-worn accessories, such as belt-clips and holsters, tested for this filing.	
SM	SAR compliance for body-worn operating configurations must be restricted to belt-clips and holsters that have no metallic component in the assembly.	
EH	RF exposure compliance is addressed at the time of licensing, as required by the responsible FCC Bureau(s), including antenna co-location requirements of Section 1.1307(b)(3).	
EX	End-users must be informed of the operating requirements for satisfying RF exposure compliance.	
EL	A label, as described in this filing, must be displayed on the device to direct users to specific training information for meeting occupational exposure requirements, and users must be provided with the training information.	
OF	This device contains functions that are not operational in U.S. Territories; this filing is applicable only for U.S. operations.	
WM	This device is a Wideband Mobile Consumer Signal Booster authorized only for operation by and marketing to members of the general public for their personal use in accordance with the requirements of 47 CFR 20.21(a) and 20.21(g).	
WF	This device is a Wideband Fixed Consumer Signal Booster authorized only for operation by and marketing to members of the general public for their personal use in accordance with the requirements of 47 CFR 20.21(a) and 20.21(g).	
WS	This device and host are approved for operation only with the TV white space database(s) as described in filing.	
WV	This grant is subject to the conditions of the limited waiver issued by FCC Wireless Telecommunications Bureau, as shown in this filing.	
M1	The antenna of this device must not be co-located or used in conjunction with any other antenna or transmitter except for the	

id	description	usage guidance
	conditions shown in this filing and/or in accordance with FCC multi-transmitter product guidelines	
M2	The grantee must provide OEM integrators, or end-users if marketed directly to end-users, with installation and operating instructions for satisfying RF exposure requirements.	

Table 2—Available EAS note codes as of June 3, 2014

id	description	usage guidance
10	TV Interface Device combined with TV Broadcast Receiver.	
11	Grant Reissued this date to correct error in listed FCC ID Number	
12	This is a grant of Certification because receiver will tune frequencies allocated to Citizens Band Service. Section 2.904(d) of the Commission's rules applies to this grant.	
14	The equipment listed hereon complies with the 14dB noise figure requirements.	
16	If the subject device requires shielded interface cables to ensure compliance, the user's manual must advise the user of this requirement.	
17	Computing devices into which this device is installed must employ shielded interconnect cables.	
18	This device must be supplied with a shielded A.C. power cord if one is required to ensure compliance.	
19	This device must be marketed with a shielded interface cable which incorporates ferrite cores equal in quantity and type to those used during Certification testing.	
20	All electrical and mechanical devices employed for spurious radiation suppression, including any modifications made during certification testing, must be incorporated in each unit marketed.	
21	This grant is issued to permit marketing only when a ferrite loaded video cable or split ferrite core equivalent to the type that was used during certification testing is marketed with each unit.	
22	Keyboard connector must be chassis mounted with ferrite material encasing connecting leads to motherboard.	
23	This grant is issued to permit marketing of equipment only when the computer covered under this grant is provided with a keyboard as specified in the application for certification. The keyboard supplied must incorporate an internal ferrite within the keyboard case and an external ferrite at the connector end of the keyboard cable.	
24	This grant is issued to permit marketing only when a ferrite loaded video cable or split ferrite cores equivalent in number and type to those used during certification testing are marketed with each unit.	
25	If a keyboard is provided with this device, it must incorporate a ferrite core at the connector end of its shielded interface cable.	
28	An AC adapter incorporating a ferrite core at the connector end of its DC line must be provided with every unit sold.	
36	Certain antennas used with this equipment require a minimum cable length, or have output power limitations as documented in the application.	
41	Installation of this device must not be readily accessible to human subjects closer than 20 cm.	
43	25 Channel Cordless Phone (46-49 MHz)	
44	Unit must be installed so that users cannot approach the radiating element of this transmitter no closer than 24 inches.	

id	description	usage guidance
45	Marketing must be restricted to Federal, state and local law enforcement, highway maintenance or safety organizations, or organizations performing highway maintenance or improvements in accordance with terms specified by such organizations.	
47	This grant is issued subject to the condition that the transmitter covered hereunder will not be marketed with any capability to coordinate its hopping sequence with the hopping sequence of other transmitters, or vice versa, for the purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters.	
68	This grant does not pertain to equipment approval requirements under Part 68.	
71	This grant is issued under waiver of Section 15.7 of the Rules. It becomes invalid for units manufactured after the expiration date of that waiver.	
80	Grant issued under waiver for measurements above 1000 MHz, measurement procedure MP1 and Sections 15.201-15.215 of the FCC Rules. Measurements were made using T-7001 and Section 15.184 applies.	
82	Grant issued under waiver for measurements above 1000 MHz.	
95	Pursuant to Section 15.121 of the Commission's Rules and Regulations, the manufacturing and marketing of this device is limited to entities described in Title 18 U.S.C. 2512(2).	
AC	This entry shows power ratings at upper extremity of the frequency range indicated.	
AG	Acceptable for airborne mobile use under Part 22 with receiver designed to automatically revert to the signaling channel frequency upon completion of a call.	
BB	Power output continuously variable from value listed to less than 0.5 watts.	
BC	The output power is continuously variable from the value listed in this entry to 5%-10% of the value listed.	
BD	The output power is continuously variable from the value listed in this entry to 10%-15% of the value listed.	
BE	The output power is continuously variable from the value listed in this entry to 15%-20% of the value listed.	
BF	The output power is continuously variable from the value listed in this entry to 20%-25% of the value listed.	
BG	The output power is continuously variable from the value listed in this entry to 25%-30% of the value listed.	
BH	The output power is continuously variable from the value listed in this entry to 30%-35% of the value listed.	
BJ	The output power is continuously variable from the value listed in this entry to 35%-40% of the value listed.	
BK	The output power is continuously variable from the value listed in this entry to 40%-45% of the value listed.	
BL	The output power is continuously variable from the value listed in this entry to 45%-50% of the value listed.	
BM	The output power is continuously variable from the value listed in this entry to 50%-55% of the value listed.	
BN	The output power is continuously variable from the value listed in this entry to 55%-60% of the value listed.	
BO	The output power is continuously variable from the value listed in this entry to 60%-65% of the value listed.	

id	description	usage guidance
BP	The output power is continuously variable from the value listed in this entry to 65%-70% of the value listed.	
BQ	The output power is continuously variable from the value listed in this entry to 70%-75% of the value listed.	
BR	The output power is continuously variable from the value listed in this entry to 75%-80% of the value listed.	
BS	The output power is continuously variable from the value listed in this entry to 80%-85% of the value listed.	
CC	This device is certified pursuant to two different Part 15 rules sections.	
CO	Transmitter meets technical requirements only for use at coast stations.	
CP	Transmitter meets technical requirements for use at coast and ship stations.	
CR	This equipment has been represented by the grantee as being capable of meeting the applicable requirements of the RTCM SC-65 report as it applies to compulsory installations. Reference Section 80.825 of the Commission's Rules.	
CS	Transmitter meets technical requirements only for use at ship stations.	
ED	Acceptable only for licensing at noncommercial educational FM broadcast stations.	
EF	This device may contain functions that are not operational in U.S Territories except as noted in the filing. This grant has extended frequencies as noted in the filing and Section 2.927(b) applies to this authorization.	
GM	This unit meets requirements for GMDSS use as contained in Subpart W of Part 80.	
HC	This equipment complies with the hearing aid compatibility technical requirements of Section 20.19 of the rules.	
HX	This mode of operation has the means to permit held to the ear telephone calls but has not been tested for hearing aid compatibility. The device supports other modes which have been found to be compliant with the HAC rules.	
IF	User is cautioned to ensure that the driver transmitter and the power amplifier are properly interfaced so that the resultant combination will operate within FCC technical requirements.	
IT	Implanted Transmitter	
KK	Acceptable for monochrome transmission only.	
M4	Operation of this unit is limited to use at stations licensed for use under Part 74 of FCC Rules.	
MO	This Multiple Input Multiple Output (MIMO) device was evaluated for multiple transmitted signals as indicated in the filing.	
ND	This UNII device complies with the Transmit Power Control (TPC) and Dynamic Frequency Selection (DFS) requirements in Section 15.407(h).	
NK	Capable of operation within 3.0 kHz authorized bandwidth.	
NR	Transmitter capable of automatic reduction of power to 150 watts or less (plate input power for A3 emission or peak envelope power for single sideband emission) on predetermined channels.	
OV	Unit meets current Great Lakes and Bridge-to-Bridge requirements.	
OW	Unit meets requirements of Section 80.80(a)(4).	
QQ	Not equipped for automatic transmission of call sign. Refer to Section on 74.750(c)(7) for TV translators or Section 74.1250(c)(7) for FM translators.	
RC	This transmitter is approved for use only in the Radio Control Service. This is not approved for general use as an RF link or for use in any	

id	description	usage guidance
	other service. Unit may not include a plug-in crystal with external access to the user.	
RS	This device incorporates a restricted contention based protocol. It is not capable of avoiding co frequency interference with devices using all other types of contention-based protocols. Operation is restricted to the 3650-3675 MHz band.	
SA	Smart antenna system that uses beam steering or beam forming capabilities to form multiple beams.	
SD	Acceptable for radio beacon purposes only in survival craft stations of vessels documented by the United States Treasury Department, Bureau of Customs.	
SV	Unit has been shown to be capable of meeting the technical requirements for portable survival craft radiotelephone transceivers.	
TC	This TVP device operates in Mode I (client mode) under control of a fixed device or a portable device in Mode II	
TD	This device Incorporates geo-location and database access mechanism per 15.717(b)	
TP	This TVF device determines geo-location by a professional installer	
TS	This device incorporates spectrum sensing per 15.717(c)	
UR	This device incorporates an unrestricted contention based protocol. It is capable of avoiding co frequency interference with devices using all other types of contention-based protocols.	
VN	Transmitter portion meets technical requirements for use as a non-portable unit pursuant to the Vessel Bridge-to-Bridge Radiotelephone Act.	
VQ	When used pursuant to the Vessel Bridge-to-Bridge Radiotelephone Act, transmitter is acceptable as a portable unit, only on foreign vessels. Transmitter not acceptable for use on U.S. vessels pursuant to this Act.	
VV	Power output shown is the maximum rated value for transmitter units which do not contain diplexer.	
W	Power output shown is the maximum rated value for transmitter units which include a Motorola Type TLN 6808A diplexer between final rf amplifier stage and the antenna output terminals of the entire unit.	
YD	Has capability for less than 3 channels and therefore must be used together with additional transmitters in ship stations to make up the required station frequency complement.	
YE	Has capability for less than 2 channels and must be used with additional transmitters to make up required station frequency complement.	