

TABLE 4—CONSULTATION AREA COORDINATES FOR LAND STATIONS, SET 1 (1.7–30 MHz)—
Continued

Command name	Location	Latitude	Longitude
Campspac	Pt. Reyes Sta, CA	38°06'00" N	122°55'48" W
COMMSTA Honolulu	Wahiawa, HI	21°31'08" N	157°59'28" W
COMMSTA Kodiak	Kodiak, AK	57°04'26" N	152°28'20" W
Guam	Finegayan, GU	13°53'08" N	144°50'20" E

NOTE: Systems of coordinates conform to NAD 83.

Point of contact: COTHEN Technical Support Center, COTHEN Program Manager, Tel: (800) 829-6336.

TABLE 5—CONSULTATION AREA COORDINATES FOR LAND STATIONS, SET 2 (1.7–30 MHz)

Site name	Latitude	Longitude
Albuquerque, NM	35°05'02" N	105°34'23" W
Arecibo, PR	18°17'26" N	66°22'33" W
Atlanta, GA	32°33'06" N	84°23'35" W
Beaufort, SC	34°34'22" N	76°09'48" W
Cape Charles, VA	37°05'37" N	75°58'06" W
Cedar Rapids, IA	42°00'09" N	91°17'39" W
Denver, CO	39°15'45" N	103°34'23" W
Fort Myers, FL	81°31'20" N	26°20'01" W
Kansas City, MO	38°22'10" N	93°21'48" W
Las Vegas, NV	36°21'15" N	114°17'33" W
Lovelock, NV	40°03'07" N	118°18'56" W
Memphis, TN	34°21'57" N	90°02'43" W
Miami, FL	25°46'20" N	80°28'48" W
Morehead City, NC	34°34'50" N	78°13'59" W
Oklahoma City, OK	34°30'52" N	97°30'52" W
Orlando, FL	28°31'30" N	80°48'58" W
Reno, NV	38°31'12" N	119°14'37" W
Sarasota, FL	27°12'41" N	81°31'20" W
Wilmington, NC	34°29'24" N	78°04'31" W

NOTE: Systems of coordinates conform to NAD 83.

Point Of Contact: ROTH Deputy Program Manager, (540) 653-3624.

TABLE 6—CONSULTATION AREA COORDINATES FOR RADAR RECEIVER STATIONS (1.7–30 MHz)

Latitude/Longitude
18°01' N/66°30' W
28°05' N/98°43' W
36°34' N/76°18' W

NOTE: Systems of coordinates conform to NAD 83.

[70 FR 1374, Jan. 7, 2005, as amended at 71 FR 49379, Aug. 23, 2006]

Subpart H—Television Band Devices

SOURCE: 74 FR 7326, Feb. 17, 2009, unless otherwise noted.

§ 15.701 Scope.

This subpart sets forth the regulations for unlicensed Television Band

Devices (TVBDs). These devices are unlicensed intentional radiators that operate on available TV channels in the broadcast television frequency bands at 54–60 MHz (TV channel 2), 76–88 MHz (TV channels 5 and 6), 174–216 MHz (TV channels 7–13), 470–608 MHz (TV channels 14–36) and 614–698 MHz (TV channels 38–51).

[75 FR 75835, Dec. 6, 2010]

§ 15.703 Definitions.

(a) *Available channel.* A six-megahertz television channel, as specified in § 15.703 of this chapter, which is not being used by an authorized service at or near the same geographic location as the TVBD and is acceptable for use by an unlicensed device under the provisions of this subpart.

(b) *Contact verification signal.* An encoded signal broadcast by a fixed or Mode II device for reception by Mode I devices to which the fixed or Mode II device has provided a list of available channels for operation. Such signal is for the purpose of establishing that the Mode I device is still within the reception range of the fixed or Mode II device for purposes of validating the list of available channels used by the Mode I device and shall be encoded to ensure that the signal originates from the device that provided the list of available channels. A Mode I device may respond only to a contact verification signal from the fixed or Mode II device that provided the list of available channels on which it operates. A fixed or Mode II device shall provide the information needed by a Mode I device to decode the contact verification signal at the same time it provides the list of available channels.

(c) *Fixed device.* A TVBD that transmits and/or receives radiocommunication signals at a specified fixed location. A fixed TVBD may

select channels for operation itself from a list of available channels provided by a TV bands database, initiate and operate a network by sending enabling signals to one or more fixed TVBDs and/or personal/portable TVBDs. Fixed devices may provide to a Mode I personal/portable device a list of available channels on which the Mode I device may operate under the rules, including available channels above 512 MHz (above TV channel 20) on which the fixed TVBD also may operate and a supplemental list of available channels above 512 MHz (above TV channel 20) that are adjacent to occupied TV channels on which the Mode I device, but not the fixed device, may operate.

(d) *Geo-location capability.* The capability of a TVBD to determine its geographic coordinates within the level of accuracy specified in §15.711(b)(1), *i.e.* 50 meters. This capability is used with a TV bands database approved by the FCC to determine the availability of TV channels at a TVBD's location.

(e) *Mode I personal/portable device.* A personal/portable TVBD that does not use an internal geo-location capability and access to a TV bands database to obtain a list of available channels. A Mode I device must obtain a list of available channels on which it may operate from either a fixed TVBD or Mode II personal/portable TVBD. A Mode I device may not initiate a network of fixed and/or personal/portable TVBDs nor may it provide a list of available channels to another Mode I device for operation by such device.

(f) *Mode II personal/portable device.* A personal/portable TVBD that uses an internal geo-location capability and access to a TV bands database, either through a direct connection to the Internet or through an indirect connection to the Internet by way of fixed TVBD or another Mode II TVBD, to obtain a list of available channels. A Mode II device may select a channel itself and initiate and operate as part of a network of TVBDs, transmitting to and receiving from one or more fixed TVBDs or personal/portable TVBDs. A Mode II personal/portable device may provide its list of available channels to a Mode I personal/portable device for operation on by the Mode I device.

(g) *Network initiation.* The process by which a fixed or Mode II TVBD sends control signals to one or more fixed TVBDs or personal/portable TVBDs and allows them to begin communications.

(h) *Operating channel.* An available channel used by a TVBD for transmission and/or reception.

(i) *Personal/portable device.* A TVBD that transmits and/or receives radiocommunication signals at unspecified locations that may change. Personal/portable devices may only transmit on available channels in the frequency bands 512–608 MHz (TV channels 21–36) and 614–698 MHz (TV channels 38–51).

(j) *Receive site.* The location where the signal of a full service television station is received for rebroadcast by a television translator or low power TV station, including a Class A TV station, or for distribution by a Multiple Video Program Distributor (MVPD) as defined in 47 U.S.C. 602(13).

(k) *Sensing only device.* A personal/portable TVBD that uses spectrum sensing to determine a list of available channels. Sensing only devices may transmit on any available channels in the frequency bands 512–608 MHz (TV channels 21–36) and 614–698 MHz (TV channels 38–51).

(l) *Spectrum sensing.* A process whereby a TVBD monitors a television channel to detect whether the channel is occupied by a radio signal or signals from authorized services.

(m) *Television band device (TVBD).* Intentional radiators that operate on an unlicensed basis on available channels in the broadcast television frequency bands at 54–60 MHz (TV channel 2), 76–88 MHz (TV channels 5 and 6), 174–216 MHz (TV channels 7–13), 470–608 MHz (TV channels 14–36) and 614–698 MHz (TV channels 38–51).

(n) *TV bands database.* A database system that maintains records of all authorized services in the TV frequency bands, is capable of determining the available channels as a specific geographic location and provides lists of available channels to TVBDs that have been certified under the Commission's equipment authorization procedures. TV bands databases that provide lists of available channels to

Federal Communications Commission

§ 15.709

TVBDs must receive approval by the Commission.

[75 FR 75835, Dec. 6, 2010]

§ 15.705 Cross reference.

(a) The provisions of subparts A, B, and C of this part apply to TVBDs, except where specific provisions are contained in subpart H.

(b) The requirements of subpart H apply only to the radio transmitter contained in the TVBD. Other aspects of the operation of a TVBD may be subject to requirements contained elsewhere in this chapter. In particular, a TVBD that includes a receiver that tunes within the frequency range specified in §15.101(b) contains digital circuitry not directly associated with the radio transmitter is also subject to the requirements for unintentional radiators in subpart B.

§ 15.706 Information to the user.

(a) In addition to the labeling requirements contained in §15.19, the instructions furnished to the user of a TVBD shall include the following statement, placed in a prominent location in the text of the manual:

This equipment has been tested and found to comply with the rules for TV bands devices, pursuant to part 15 of the FCC rules. These rules are designed to provide reasonable protection against harmful interference. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- (1) Reorient or relocate the receiving antenna.
- (2) Increase the separation between the equipment and receiver.
- (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- (4) Consult the manufacturer, dealer or an experienced radio/TV technician for help.

(b) In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the

manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

[74 FR 7326, Feb. 17, 2009, as amended at 75 FR 75836, Dec. 6, 2010]

§ 15.707 Permissible channels of operation.

(a) All TVBDs are permitted to operate available channels in the frequency bands 512–608 MHz (TV channels 21–36) and 614–698 MHz (TV channels 38–51), subject to the interference protection requirements in §§15.711 and 15.712, except that operation of TVBDs is prohibited on the first channel above and the first channel below TV channel 37 (608–614 MHz) that are available, *i.e.*, not occupied by an authorized service. If a channel is not available both above and below channel 37, operation is prohibited on the first two channels nearest to channel 37. These channels will be identified and protected in the TV bands database(s).

(b) Operation on available channels in the bands 54–60 MHz (TV channel 2), 76–88 MHz (TV channels 5 and 6), 174–216 MHz (TV channels 7–13) and 470–512 MHz (TV channels 14–20), subject to the interference protection requirements in §§15.711 and 15.712, is permitted only for fixed TVBDs that communicate only with other fixed TVBDs.

(c) Fixed and Mode II TVBDs shall operate only on available channels as identified in paragraphs (a) and (b) of this section and as determined by a TV bands database in accordance with the interference avoidance mechanisms of §§15.711 and 15.712.

(d) Mode I TVBDs shall operate only on available channels as identified in paragraphs (a) and (b) of this section and provided from a fixed or Mode II TVBD in accordance with §15.711(b)(3)(iv).

[75 FR 75836, Dec. 6, 2010]

§ 15.709 General technical requirements.

(a) *Power limits for TVBDs.* (1) For fixed TVBDs, the maximum power delivered to the transmitting antenna shall not exceed one watt per 6 megahertz of bandwidth on which the device operates. The power delivered to the