Before The
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C.

In the Matter of	)	
	)	
Additional Spectrum for Unlicensed Devices	)	ET Docket No. 02-380
Below 900 MHz and in the 3 GHz Band	)	

COMMENTS OF REC NETWORKS

REC Networks ("REC") is a supporter of locally owned and diverse radio. REC currently operates several Internet only radio stations. REC also operates several websites including the original LPFM Channel Search Tool. REC Networks also represents the interests of independently owned Low Power FM ("LPFM") broadcast stations and their listeners.

REC is responding to a Commission *Notice of Inquiry* ("NOI") regarding the potential of placing Part 15 devices in various bands including the television broadcast bands. We will first answer some of the questions raised in the NOI.

IN RESPONSE TO THE NOTICE OF INQUIRY

Should new unlicensed devices be permitted to operate within any portions of the TV bands, and if so, which portions?

REC feels that there are excellent opportunities for wireless devices to operate in bands, such as the Channel 7-13 spectrum (174-216 MHz), REC feels that these devices can share spectrum with licensed users as well as other unlicensed devices currently authorized in this spectrum. This spectrum offers excellent propagation characteristics for short-range data transmission. We feel that unused core UHF spectrum can be used for wideband wireless devices including Wi-Fi as well as short-range video links for wireless cameras and home video equipment such as multi-room satellite receivers. In the UHF band, we are also promoting the use of unused DTV channels for digital audio broadcasting (DAB) as an alternative to the In Band on Channel (IBOC) system[1].

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[1] - See *In the Matter of Digital Audio Broadcasting Systems and Their Impact On The Terrestrial Radio Broadcast Service, MM Docket 99-325, Comments of REC Networks, December 30, 1999, http://www.recnet.com/fcc/99-325.pdf*

Should the use of certain channels by unlicensed device not be permitted?

REC feels that Commission should not consider any rulemaking that would permit any unlicensed devices in the Channel 5 and 6 spectrum (76-88 MHz) other than those that would normally be used in the FM broadcast band (88-108 MHz). After the completion of the DTV transition, we do not think there will be that many TV stations using the Channel 6 spectrum[2] (82-88 MHz) and the proliferation of certain wireless devices in this spectrum could hamper efforts supported by REC and others to extend the FM broadcast band to at least around 84 MHz for lower power non-commercial educational stations. The Channel 6 spectrum is currently undesirable to many DTV broadcasters because of the potential of interference to the NCE-FM service[3]. Therefore, it will be most likely that not a lot of Channel 6 DTV stations will be on the air after the transition. REC is also concerned about the impact of unlicensed broadband wireless devices and their impact to NCE-FM stations. Based on these reasons, we must insist that the existing 200 kHz bandwidth limit be extended down into Channel 5 and 6 spectrum with the existing field strengths that are currently allowed by unlicensed devices in the 88-108 MHz band.

Should there be geographic restrictions on where unlicensed operation in the TV bands is permitted, such as in areas where co-channel or adjacent channel television, Private Land Mobile Radio Service (PLMRS) or Commercial Mobile Radio Service (CMRS) is present, or in the border areas near Canada and Mexico?

REC is very concerned about potential interference to land mobile and Gulf-coast users in the Channel 14-20 (470-512) spectrum. Since the non-broadcast use of this spectrum is limited to metro areas as the Gulf-coast and Hawaii, low power devices in this spectrum must be able to employ some form of GPS technology in order to assure that operation near a known non-broadcast operation area must be avoided. In a majority of the country where these frequencies are not used for non-broadcast use, this spectrum could be utilized as long as DTV stations are protected.

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[2] - See Appendix "B".

[3] - See *DTV Channel 6 Interference to NCE-FM Reception. Final Report.* Published © National Public Radio. http://iris.npr.org/euonline/dtvch6/

What restrictions, if any, should be placed on the applications or numbers of unlicensed devices that would be permitted in the TV broadcast bands, and why would such restrictions be needed?

REC is asking for specific restrictions for the Channel 5 & 6 spectrum (76-88 MHz). REC is asking that the existing §15.239 be extended to cover the spectrum between 76-108 MHz. This will allow for devices such as computer speaker extenders, internet radio devices similar to the iM Networks IRhythm and very low power broadcast transmitters to utilize this band. Very high quality receivers for this band are readily available as the spectrum of 76-92 MHz is the FM broadcast band in Japan. The use of 76-88 MHz for these devices will permit the use of such devices in a band that can be easily added to new FM receivers and offer a very interesting option for consumers to extend their computer's audio to their stereo systems.

REC also endorses the use of 76-88 MHz for use within structures for special event broadcasting including sports arenas and convention centers. Use of these channels would be restricted to areas outside the 40 dBu F(50,50) service contour[4] of a Channel 5 (for operation on 76-82 MHz) or Channel 6 (for operation on 82-88 MHz) TV station as well as outside the interference contours of nearby broadcast stations on 87.9, 88.1 and 88.3 MHz. REC proposes a field strength limited to 250 m/VM measured at 3 meters *outside the structure*.

Are any special, temporary restrictions needed to ensure that unlicensed devices do not impact the transition of television from analog to digital service?

REC feels that the current television spectrum is in a log-jam because of the DTV transition. Since channel election has been deferred[5], we do not know what the band is going to look like after the transition. REC is asking that the Commission defer the authorization of higher power Part 15 devices in the TV spectrum until after the completion of the DTV transition. Lower power requests, such as our request to extend §15.239 to 76-108 MHz can be accommodated during the DTV transition, especially in light of the future of DTV Channel 6 and the very low powers involved.

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[4] - The 40 dBu contour is 7 dB beyond the Grade B protected contour. An average NTSC Channel 6 station has a 151 km contour at 40 dBu.

[5] - See *Review of the Commission's Rules and Policies Affecting the Conversion To Digital Television* at 16. (16 FCC 20594)

What separation distances or D/U ratios should be established between unlicensed devices and the service of analog, digital, Class A and low power TV and TV translator stations?

Devices currently operating in the 88-108 MHz band under §15.239 do so without causing interference to FM broadcast systems especially since the interference contour of a Part 15 FM transmitter is minimal. We feel that employing the same to the 76-88 MHz band should prevent DTV interference, especially to Channel 6. If anything, REC will encourage the use of frequencies between 84.5 and 87.9 MHz in areas where there is a DTV Channel 5 due to potential interference to Part 15 operations in the 82-84.5 MHz band.

For our proposal to use 76-88 MHz in enclosed structures for special event broadcasting, we propose the following limitations:

- Operations must be outside the 47 dBu F(50,50) service contour of a DTV or NTSC Channel 5 or 6 station[6].
- Operations on the first adjacent channel must be outside the 54 dBu F(50,10) interference contour of all affected FM broadcast stations (including translators and LPFM stations).
- Operations on the second adjacent channel must be outside the 100 dBu F(50,10) interference contour of all affected FM broadcast stations (including translators and LPFM stations).
- KSFH in Mountain View, CA is the only NCE-FM station actually operating on 87.9 MHz. This station must be protected to the 40 dBu F(50,10) interference contour for transmitters operating on 87.9 MHz.

Could GPS or other location techniques be incorporated into an unlicensed device so it could determine its precise location and identify licensed users in its vicinity by accessing a database?

Our main concern about this is that the entire CDBS TV database would have to be placed in the device so it will not cause harmful interference when it is initially used[7]. We feel that data in firmware can protect non-broadcast licensed users of Channel 14-20 spectrum in metro areas and the Gulf Coast. We do not think that GPS would be a viable method for

[6] - Transmitters operating solely in Channel 5 spectrum (76-82 MHz) must protect the 47 dBu (Grade B) contour of Channel 5 TV stations while transmitters operating solely in Channel 6 spectrum (82-88 MHz) must protect the 47 dBu contour of Channel 6 TV stations. Transmitters operating on the band edge (such as a carrier frequency of 82.0 MHz) would need to protect both channels. See our proposed rule in Appendix A, §15.239(e)(2)(i) through (iii).

[7] - The CDBS data may have updated since the unit has been manufactured. Depending solely on the Table of Allotments does not take into consideration the TV Translator, LPTV and Class A stations that do not appear in the Table of Allotments.

determining the location and interference potential of NTSC and DTV broadcast stations. We feel that devices that are professionally installed by a wireless ISP (WISP) have a better chance of being tuned to a frequency that would not cause interference to broadcast and non-broadcast users of the TV spectrum for the initial installation.

Initial tuning of a wireless device can also be achieved by obtaining information from a website, such as REC[8] to determine what is the most desirable channel(s) to initially tune a wireless device to.

DISCUSSION

The future of Channel 6 as a DTV channel

Based on the research that we have been conducting, we are finding out that the use of Channel 6 may be undesirable for Digital Television broadcasting. Mostly due to interference that DTV stations can cause to NCE-FM stations operating between 88.1-90.3 MHz. Currently, the DTV Table of Allotments only shows two transition Channel 6 assignments in Alaska and Virginia. In addition, two rural stations in Nevada and Utah, currently under construction permits have been assigned Channel 6. Since these stations were established post-1997, they are not entitled to a transition channel. REC is also aware of 12 channel 6 NTSC stations that have been given transition channels outside the core. It is unknown if these stations will transition back to channel 6 or to another UHF channel inside the core.

The Television Spectrum is Currently Too Crowded for Part 15 Broadband Devices

REC has conducted a study[9] where we looked at the field strength of all TV stations at 50 different reference points across the country. We looked for channels that have no station's 40 dBu F(50, 50) contour over the reference point. This includes NTSC, DTV, LPTV, Class A, translators, boosters as well as vacant allotments, construction permits, foreign stations and allotments and displacement applications.

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[8] - REC Networks operates a suite of web services that can generate various reports based on data from the Commission's Centralized Data Base System (CDBS) and other FCC databases. REC already maintains a website that shows the availability of Channel 5 and 6 spectrum for Part 15 operations. http://www.recnet.com/mpfm

[9] - See Appendix C.

The largest city with an available channel using the 40dBu rule was Los Angeles. We are concerned about using that channel because it is right between two channels reserved for land mobile purposes.

In the report, we also looked for channels that clear the Grade B contour but do not clear the 40 dBu contour. When we ran that test, we were disturbed to find that San Francisco, the unofficial birthplace of wireless networks does not have a single TV channel that could be operated without the potential of interference to a Grade-B contour.

REC feels that the Commission should wait until after the DTV conversion is complete before considering any rulemaking to allow for the proliferation of broadband network devices and other high powered Part 15 operations on television channels.

Because of the nature of DTV, it is not like analog. You just can not turn on a TV and think because you can not see a picture that the channel is available for use. We seriously need the television spectrum to "settle down" before we can introduce any new higher powered devices to the bands.

Conclusion

REC feels that the best use of a portion of the Low-VHF spectrum, especially in the Channel 6 area would be best utilized in the future for the expansion of the FM broadcast band therefore any Part 15 services authorized in that area should not only have to co-exist with television broadcast stations but also FM broadcast stations that may be authorized in that spectrum. This can be done by extending the allowable field strengths of §15.239 to also include the Channel 5 and 6 spectrum and to not allow any devices that would not be compatible with future FM broadcast stations in this spectrum. REC endorses the use of "broadcast-like" Part 15 devices in this spectrum to extend the output of computer speakers to high quality FM receivers that can be imported from Japan.

REC feels that the high-band VHF spectrum (Channels 7-13) could eventually provide some excellent opportunities for low power broadband networking devices. Part 15 operations

on Channels 14-20 must protect vital public safety communications as well as other non-broadcast operations in metro areas and the Gulf-coast. However, we do not feel that these devices should be deployed until after the dust of the DTV transition settles down and we know how crowded the television spectrum will really be. In addition we need to determine which bands (VHF-Lo, VHF-Hi, UHF) will be best suited for manufacturers to build devices. We currently see the VHF-Hi (174-216) spectrum as the best candidate.

REC feels that this is now the time to consider expanding the Part 15 rules to allow for higher powered devices between 76-88 MHz to operate within enclosed structures as long as the field strengths of the device outside the structure does not exceed those currently allowed by a Part 15 device outside the structure and such operation does not interfere with licensed broadcast stations.

Respectfully submitted,
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APPENDIX A
PROPOSED RULES

Amended rules in CAPITAL LETTERS.

PART 15--RADIO FREQUENCY DEVICES--Table of Contents

Subpart C--Intentional Radiators

Sec. 15.239 Operation in the band 76-108 ~~88-108~~ MHz.

(a) Emissions from the intentional radiator shall be confined within a band 200 kHz wide centered on the operating frequency. The 200 kHz band shall lie wholly within the frequency range of 76 ~~88~~-108 MHz.

(b) The field strength of any emissions within the permitted 200 kHz band shall not exceed 250 microvolts/meter at 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in Sec. 15.35 for limiting peak emissions apply.

(c) The field strength of any emissions radiated on any frequency outside of the specified 200 kHz band shall not exceed the general radiated emission limits in Sec. 15.209.

(d) A custom built telemetry intentional radiator operating in the frequency band 88-108 MHz and used for experimentation by an educational institute need not be certified provided the device complies with the standards in this part and the educational institution notifies the Engineer in Charge of the local FCC office, in writing, in advance of operation, providing the following information:

(1) The dates and places where the device will be operated;

(2) The purpose for which the device will be used;

(3) A description of the device, including the operating frequency, RF power output, and antenna; and,

(4) A statement that the device complies with the technical provisions of this part.

(E)(1) THE FIELD STRENGTH OF A DEVICE OPERATING WHOLLY WITHIN THE FREQUENCY RANGE 76-88 MHZ THAT IS FULLY CONTAINED WITHIN AN ENCLOSED STRUCTURE SHALL NOT EXCEED 250 MICROVOLTS/METER MEASURED AT ALL GROUND-LEVEL POINTS 3 METERS OUTSIDE OF THE ENCLOSED STRUCTURE.

(2) DEVICES OPERATING UNDER PARAGRAPH (E) OF THIS PART MUST ALSO AFFORD PROTECTION TO TV, DTV AND FM BROADCAST STATIONS AS SHOWN

(i) DEVICES OPERATING WHOLLY WITHIN THE FREQUENCY RANGE OF 76-82 MHZ MAY NOT BE USED AT A LOCATION THAT IS WITHIN THE 47DBU F(50,50) SERVICE CONTOUR OF A CHANNEL 5 TV STATION.

(ii) DEVICES OPERATING WHOLLY WITHIN THE FREQUENCY RANGE OF 82-88 MHZ MAY NOT BE USED AT A LOCATION THAT IS WITHIN THE 47DBU F(50,50) SERVICE CONTOUR OF A CHANNEL 6 TV STATION.

(iii) DEVICES OPERATING WITHIN BOTH THE 76-82 MHZ AND THE 82-88 MHZ FREQUENCY RANGES MUST PROTECT BOTH CHANNEL 5 AND 6 STATIONS AS SHOWN IN (i) AND (ii) PRECEDING.

(iv) DEVICES MAY NOT BE OPERATED ON A FREQUENCY WITHIN 300KHZ OF AN FM BROADCAST STATION (INCLUDING SECONDARY SERVICES) WHERE THE DEVICE IS LOCATED WITHIN THE 54 DBU F(50,10) INTERFERENCE CONTOUR OF THE FM BROADCAST STATION.

(v) DEVICES MAY NOT BE OPERATED ON A FREQUENCY WITHIN 500KHZ OF AN FM BROADCAST STATION (INCLUDING SECONDARY SERVICES) WHERE THE DEVICE IS LOCATED WITHIN THE 100 DBU F(50,10) INTERFERENCE CONTOUR OF THE FM STATION.

(vi) DEVICES OPERATING IN THE FREQUENCY RANGE OF 87.8-88.0 MHZ MAY NOT BE OPERATED WITHIN THE 40 DBU F(50,10) INTERFERENCE CONTOUR OF NON-COMMERCIAL EDUCATIONAL FM STATIONS OPERATING ON CHANNEL 200 (87.9 MHZ).

APPENDIX B
TV BROADCAST STATIONS MOST LIKELY TO OPERATE ON CHANNEL 6 AFTER THE DTV TRANSITION

Facility	Call	City of License	NTSC Ch.	DTV Ch.	Comments
18066	KTVM	Butte, MT	6	2	Ch. 6 DTV assigned in Low-Band
66414	KBSD	Ensign, KS	6	5	Ch. 6 DTV assigned in Low-Band
86538	KBNY	Ely, NV	6	6	Single Channel post-1997 assignment.
83729	KBCJ	Vernal UT	6	6	Single Channel post-1997 assignment.
8651	KTOO	Juneau, AK	3	6	May go back to Ch. 3 after transition
70592	WDTV	Weston, WV	5	6	May go back to Ch. 5 after transition
35855	KVIE	Sacramento	6	53	Ch. 6 DTV assigned out of core
48666	WECT	Wilmington, NC	6	54	Ch. 6 DTV assigned out of core
43203	WABG	Greenwood, MS	6	54	Ch. 6 DTV assigned out of core
35434	KOTV	Tulsa, OK	6	55	Ch. 6 DTV assigned out of core
53859	WIPR	San Juan, PR	6	55	Ch. 6 DTV assigned out of core
6885	KWQC	Davenport, IA	6	56	Ch. 6 DTV assigned out of core
53313	KSRE	Minot, ND	6	57	Ch. 6 DTV assigned out of core
9917	WCML	Alpena, MI	6	57	Ch. 6 DTV assigned out of core
71293	WKMG	Orlando, FL	6	58	Ch. 6 DTV assigned out of core
22129	WDAY	Fargo, ND	6	59	Ch. 6 DTV assigned out of core
74420	WLNS	Lansing, MI	6	59	Ch. 6 DTV assigned out of core
8616	WPVI	Philadelphia, PA	6	64	Ch. 6 DTV assigned out of core

NOTE: One of the original DTV Channel 6 allotments was placed in New Haven CT for WCTX on NTSC Channel 59. That allotment was changed to Channel 39.

APPENDIX C

THE AVAILABILITY OF TV CHANNELS FOR BROADBAND NETWORK DEVICES IN THE REC TOP-50 MEDIA MARKETS

AVAILABILITY OF TELEVISION CHANNELS FOR BROADBAND DEVICES IN THE REC TOP-50 MEDIA MARKETS

Rank	Market	Latitude	Longitude	Fully spaced channels	Outside Grade B strength
1	NEW YORK NY	40 42 15	73 55 05	NONE	3, 6, 10, 16
2	LOS ANGELES CA	34 05 10	118 22 34	15	3, 8, 10, 12, 19
3	CHICAGO IL	41 50 26	87 40 46	NONE	4, 6, 8, 10, 12, 25, 33, 40
4	PHILADELPHIA PA	39 53 53	75 08 41	NONE	2, 4, 5, 11, 13, 18
5	DETROIT MI	42 23 14	83 06 10	NONE	6, 8, 10, 12, 27
6	BOSTON MA	42 19 18	71 05 21	15	8, 45
7	SAN FRANCISCO CA	37 45 36	122 26 15	NONE	NONE
8	CLEVELAND OH	41 28 56	81 40 11	6	4, 7, 9, 11, 12, 44
9	WASHINGTON DC	38 54 49	77 00 48	3, 19	6, 12
10	PITTSBURGH PA	40 26 29	79 58 38	NONE	3, 5, 10, 12, 17, 31, 39
11	ST LOUIS MO	38 37 40	90 14 34	6, 45, 47	3, 10, 12, 15, 17, 25, 27, 32, 36, 42
12	DALLAS TX	32 47 58	96 47 14	3, 15, 17	6, 7, 10, 12, 22
13	MINNEAPOLIS MN	44 57 52	93 16 06	30, 51	3, 6, 8, 10, 12, 15, 18, 20, 24, 25, 31, 33, 36, 38, 39, 42, 46
14	BALTIMORE MD	39 18 29	76 37 01	19	3, 6, 10, 12
15	HOUSTON TX	29 45 46	95 22 59	10, 16, 18, 40	4, 6, 12, 15
16	INDIANAPOLIS IN	39 47 27	86 08 52	NONE	2, 3, 5, 7, 10, 12, 28, 33, 35, 36
17	CINCINATTI OH	39 08 10	84 30 11	NONE	4, 6, 8, 11, 13, 15, 17, 20, 21
18	ATLANTA GA	33 45 34	84 24 11	6	3, 9, 13, 15, 16, 29, 35, 47, 50
19	HARTFORD CT	41 45 45	72 41 19	8, 14, 15	2, 4, 7, 9
20	SEATTLE WA	47 37 35	122 19 59	30, 34, 40, 43, 46, 49	2, 3, 6, 8, 10, 23, 26
21	MIAMI FL	25 47 16	80 13 27	3	11, 15, 50
22	KANSAS CITY MO	39 04 35	94 33 19	3, 8, 10, 12, 20, 22, 30, 39, 40, 43, 45	6, 15, 17
23	MILWAUKEE WI	43 03 08	87 57 21	NONE	2, 3, 5, 9, 11, 13, 16, 23, 42
24	BUFFALO NY	42 54 17	78 50 58	20, 30, 42	3, 6, 12, 16, 36, 44, 48, 50
25	SACRAMENTO CA	38 33 20	121 28 08	28	2, 5, 11, 12, 34
26	MEMPHIS TN	35 07 03	89 58 16	2, 6, 14, 21, 22, 32, 33, 34, 46	4, 7, 9, 11, 12, 15, 17, 35, 45
27	COLUMBUS OH	39 59 23	82 59 29	3	5, 9, 11, 12, 15, 29, 33, 35, 39, 47, 49
28	TAMPA FL	27 58 15	82 27 53	4	2, 5, 9, 11, 23
29	PORTLAND OR	45 31 23	122 38 25	3, 11, 21, 41, 42	9, 13, 17, 23, 25, 28, 29, 31, 44
30	NASHVILLE TN	36 06 17	86 45 44	6	3, 7, 9, 11, 18, 29, 32, 35, 41, 43, 45, 47
31	NEW ORLEANS LA	29 56 53	94 04 10	5, 17	2, 3, 8, 10, 11, 13, 15, 16, 28, 43
32	DENVER CO	39 43 35	104 57 56	49	5, 30
33	PROVIDENCE RI	41 49 25	71 25 20	8, 15	11
34	ALBANY NY	42 39 35	73 46 53	5, 8, 14, 16, 21, 38	3, 9, 11, 32, 44, 46
35	SYRACUSE NY	43 02 49	76 08 40	NONE	4, 6, 8, 10, 26, 39, 42, 49
36	CHARLESTON WV	38 20 58	81 37 60	2	5, 6, 7, 10, 12, 17, 18, 24, 28, 32, 35, 43, 49, 51
37	GRAND RAPIDS MI	42 57 38	85 39 30	4	5, 6, 12, 21, 30, 32, 34, 36, 42, 46
38	LOUISVILLE KY	38 13 44	85 44 58	2, 6	4, 7, 9, 10, 12, 14, 20, 25, 31, 33
39	OKLAHOMA CITY OK	35 28 56	97 32 06	3, 16, 45, 49	2, 6, 8, 10, 12, 18, 20, 22, 23, 26, 28, 31, 35, 41, 42
40	BIRMINGHAM AL	33 31 29	86 48 46	3, 11, 18, 39	4, 8, 12, 16, 22, 35, 43
41	DAYTON OH	39 45 46	84 11 48	11	3, 15, 17, 20, 24, 27
42	CHARLOTTE NC	35 12 26	80 49 45	NONE	4, 5, 13, 24
43	PHOENIX AZ	33 31 42	112 04 35	6, 14, 16, 38, 44, 50	2, 4, 7, 9, 13, 32
44	NORFOLK VA	36 53 09	76 15 36	11, 34, 48, 51	6, 8, 9, 12, 14, 22, 26, 28, 32, 42 ,44
45	SAN ANTONIO TX	29 27 06	98 30 46	3, 6	13, 15, 34, 40
46	GREENVILLE SC	34 50 40	82 23 08	NONE	2, 8, 11, 12, 15, 28, 30, 44
47	WINSTON-SALEM NC	36 06 10	80 15 38	25	5, 6, 11, 49
48	SALT LAKE CITY UT	40 45 17	111 53 33	3, 23, 39	6, 18, 32
49	WILKES-BARRE PA	41 14 40	75 52 41	5	2, 3, 4, 6, 10, 30
50	LITTLE ROCK AR	34 44 10	92 19 52	3, 17, 21, 23, 31, 33, 35, 41	8, 10, 15, 18, 19, 27, 49

Source: REC Networks

See notes on next page.

PARAMETERS FOR THE SEARCH

- Search based on CDBS data for domestic and foreign TV, DTV, LPTV and Class-A stations including vacant allotments, pending rulemakings, displacement applications and construction permits.
- Channels considered as "fully spaced" are outside the 40dBu contour of all TV stations.
- "Outside Grade B Strength" channels are those between 40dBu and the Grade B contour (47 dBu for Channels 2-6, 56 dBu for Channels 7-13 and 64 dBu for UHF channels).
- Database entries without antenna height are assumed 600m HAAT for full power TV & DTV stations and 100m HAAT for LPTV, Translators and Class-A stations.
- Database entries without powers are assumed as follows:

Full Power (Ch. 2-6)	100kW
Full Power (Ch. 7-13)	316kW
Full Power (UHF)	5000kW
LPTV/Translator (VHF)	3kW
LPTV/Translator (UHF)	30kW

- Search does take directional antennas into consideration.
- "T"-Band channels between 14-20 that are used for land mobile in certain metropolitan areas have been afforded a 100km radius of protection around the geographic center of the community.
- "T"-Band channels used in the Gulf Coast area have been excluded based on the actual location and the channels that require protection.
- Contours are based on hypothetical data in the Commission's database and does not take into consideration terrain which may actually make a channel acceptable.
- Margin of error: +/- 1 dBu.

Searches using these parameters is available at the following website:
http://www.recnet.com/part15