NEWS RELEASE

Released: October 2, 1987

SUMMARY OF PROPOSED CHANGES TO
PART 15 OF THE REGULATIONS

On September 17, 1987, in Gen. Docket No. 87-389, FCC 87-300 the Commission adopted a Notice of Proposed Rule Making to amend Part 15 of its regulations. Due to the extent of the revisions to the regulations proposed in this item, the attached appendices are issued to allow manufacturers and consumers to rapidly determine specific areas of this proposal that may affect them. Appendix A contains a brief summary of the proposed changes. Appendix B shows the existing transmitter regulations and compares those regulations to the proposed changes, based on the frequency of the transmitter. Appendix C provides the same comparison for receivers. Appendix D contains a list of the proposed restricted frequency bands and the allocated radio service that is being protected.

Any questions regarding the proposals in this rule making action should be directed to Mr. John Reed, Room 7122, Technical Standards Branch, FCC, Washington, D.C. 20554, (202) 653-6288.

This is an unofficial announcement of the Commission’s action. Release of the full text of the Commission’s order constitutes official action. See MCI v. FCC, 515 F. 2d 385 (D. C. Cir. 1975).

APPENDIX A
Summary of Proposed Changes

General:
- Marketing regulations for verified equipment and computing devices are proposed to be clarified
- All of the equipment authorization procedures would be contained in Part 2 (currently, some of the certification procedures are in Part 15)
- Only one FCC identifier number would be required for equipment containing multiple devices
- FCC Form 740 (importation) would no longer be required for devices with a power consumption of less than 6 nW, musical greeting cards, quartz watches and clocks, modules of quartz watches and clocks, and battery operated hand-held calculators (including some low clock rate personal computers and peripherals) and electronic games not requiring connection to the AC power lines
- A special temporary authorization or experimental license would no longer be required for testing devices to determine compliance with the regulations

- The technical standards pertaining to measurements to determine compliance would be contained in the regulations instead of in the measurement procedure bulletins
- With certain exceptions, field strength limits and conducted emission limits below 1000 MHz would be specified using a CISPR quasi-peak detector, and emission limits above 1000 MHz would be specified in peak values
- All kits are proposed to be subject to the regulations, including the equipment authorization procedures
- Verification of compliance or a grant of equipment authorization would be required for all Part 15 devices except: incidental radiators, home built devices that are not marketed (excluding kits), power line carrier systems, subassemblies, and certain exempted digital devices
- Labelling would be required for all verified or authorized Part 15 devices
- Special accessories that are not readily obtainable from multiple sources and that are needed to enable equipment to comply with the regulations would be required to be included with the equipment when it is marketed (this formerly applied only to computing devices)
- Devices that are operated with a peripheral(s) (external or internal accessories) would be tested for compliance using the type of peripheral with which the equipment will be marketed or operated.

Digital Devices:
- Devices with a power consumption of less than 6 nW, quartz watches and clocks, modules of quartz watches and clocks, musical greeting cards, and battery powered hand-held calculators and electronic games not requiring connection to the AC power lines would no longer be subject to the technical regulations
- Portable personal computers with a low power consumption and a low clock rate and their peripherals would be considered to be calculators
- The distinction between personal computer peripheral equipment requiring certification and subassemblies which require no testing for compliance would be defined in the regulations
- The permissive change regulations would be clarified
- Emission limits above 1000 MHz are proposed to be applied in the event that digital device clock rates exceed 108 MHz.

Other Unintentional Radiators:
- A power line conducted limit of 250 microvolts in the frequency range of 450 kHz to 30 MHz is proposed for all devices except carrier current systems operating in that frequency band
- Emission limits for receivers would be established above 1000 MHz
- The radiated emission limit for CB receivers would be relaxed
- The emission limit within the frequency range of 30 to 960 MHz is proposed to be tightened to the Class B digital device limits and the limit above 1000 MHz is proposed to be 500 uV/m at 3 meters; however, this requirement would be gradually phased-in
- Radiated limits for receivers would be measured with the antenna terminals shielded and an antenna conduction limit is proposed (unless the receiver uses a permanently attached antenna).
- The frequency range over which receivers are subject to the technical standards and equipment authorization procedures would be expanded to include the frequency bands of 901 to 935 MHz and 940 to 1000 MHz.
- The conducted signal limits, except for the limit on the antenna transfer switch and emissions conducted on the power lines, for a TV interface device would be deleted.
- The inclusion of video distribution systems and cable terminal devices under the same standards as applied to TV interface devices would be clarified.

Intentional Radiators:
- A power line conducted limit of 250 microvolts in the frequency range of 450 kHz to 30 MHz is proposed for all devices except carrier current systems operating in that frequency band.
- With certain exceptions, antennas would be either permanently attached or use a unique coupler.
- Spurious emissions would be measured to the higher of either the 10th harmonic or the range specified for intentional radiators.
- General emission limits are proposed to be established at which any form of operation is permitted on almost any frequency - these limits are equivalent to the Class B digital device limits above 30 MHz, the existing limits below 1.705 MHz, and new limits between 1.705 and 10 MHz and above 960 MHz.
- Restricted bands related to safety-of-life and sensitive authorized services, e.g., radio astronomy and satellite down links, are proposed within which only spurious emissions are permitted.
- The existing Part 15 frequency “windows” within which higher field strength limits are permitted would be retained.
- External input signals on cordless telephones would be permitted.
- The requirement to use a microphone to directly modulate a transmitter in the 88 to 108 MHz band would be deleted and these transmitters would be subject to certification.
- A tunnel radio system is proposed to be established to transmit any form of operation within a tunnel or mine without limiting the level of emissions within that tunnel or mine.
- Campus radio AM broadcast systems would be recognized.
- General use, higher field strength bands without channelization or bandwidth restrictions are proposed to be established on the following frequency bands: 13.533-13.567 MHz, 26.96-27.28 MHz, 40.66-40.70 MHz, 49.82-49.90 MHz, 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz, and 24.0-24.25 GHz.
- Specific regulations for devices that measure the characteristics of a material (except for the 890-940 MHz band) and some telemetering devices would be deleted to be replaced by the general limits, the general use, higher field strength bands, or other frequency bands designed in the item.
- Comments are requested on the feasibility of applying field strength limits to the currently permitted frequency hopping and direct sequence spread spectrum systems instead of the present limit on output power.
- Automated vehicle identification systems operating in the 2.9 to 4.1 GHz band would be deleted.
- The existing channelized operations at 27 MHz and 49 MHz would be phased-out in favor of the general use bands, and the spurious emission limits for cordless telephones, as well as for general operation in the 27 MHz and 49 MHz bands, would be tightened over a grandfather period.
- Peak emissions from periodic transmitters operating above 70 MHz, including control and security alarm devices, would be limited to 20 dB above the permitted average field strength limits.
## APPENDIX B

### Non-licensed Intentional Radiators - Part 15

<table>
<thead>
<tr>
<th>Frequency Band/Rules (MHz)</th>
<th>Standards</th>
<th>Proposed Changes/Rules*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.009-.490 (15.111)</td>
<td>2400/f(kHz) uV/m @ 300m, spurious under same formula, certification required</td>
<td>Spurious may not exceed the general emission limits in 15.209 (15.209) No changes (15.217)</td>
</tr>
<tr>
<td>0.16-.19 (15.112)</td>
<td>1 W input, 15 m ant., spurious outside of band @ -20dB, certification required</td>
<td>Operation not permitted in this band (15.205) Spurious may not exceed the general emission limits in 15.209 (15.209) and campus radio system added for 535-1705 kHz (15.219) No changes (15.219)</td>
</tr>
<tr>
<td>0.49-.51 (15.7)</td>
<td>15 uV/m @ Lambda/2Pi</td>
<td></td>
</tr>
<tr>
<td>0.51-1.705 (15.111)</td>
<td>24000/f(kHz) uV/m @ 30m, spurious under same formula, certification required</td>
<td></td>
</tr>
<tr>
<td>0.51-1.705 (15.113)</td>
<td>O.1 W input, 3m ant., spurious outside of band at -20dB, conducted in band @ 200 uV, certification required</td>
<td></td>
</tr>
</tbody>
</table>

* Under the proposed regulations, all intentional radiators, except carrier current systems operating from 450 kHz to 30 MHz, must limit their conducted emissions to 250 uV within the frequency range of 450 kHz to 30 MHz (see proposed 15.207). Unless otherwise stated, spurious emissions must be attenuated to the limits shown in the proposed Section 15.209. In addition, the range of frequencies over which spurious and harmonic emissions are investigated is proposed to be increased for some intentional radiators (see proposed 15.33). Further, there are a number of frequency bands on which operation is not permitted (see proposed 15.205).

<table>
<thead>
<tr>
<th>Frequency Band/Rules (MHz)</th>
<th>Standards</th>
<th>Proposed Changes/Rules*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.705-10 (15.114)</td>
<td>15-100 uV/m @ 3m depending on bandwidth, spurious outside of band from 10-20 uV/m @ 30m depending on frequency, certification required</td>
<td>30-100 uV/m @ 30m depending on bandwidth, (15.223)</td>
</tr>
<tr>
<td>10-26.99 (15.7)</td>
<td>15 uV/m @ Lambda/2Pi</td>
<td>30 uV/m @ 30m, certification required (15.209)</td>
</tr>
<tr>
<td>13.553-13.567 (15.191-15.194)</td>
<td>15 uV/m @30m, spurious at 0.5 uV/m @30m, certification required, restricted to devices that measure the characteristics of a material</td>
<td>100000 uV/m @30m, +0.01% frequency tolerance, restriction deleted (15.225)</td>
</tr>
<tr>
<td>26.99-27.26 (15.116)</td>
<td>10000 uV/m @ 3m, 6 channels of 20 kHz bandwidth, spurious of 500 uV/m @ 3m, conducted below 25 MHz of 100 uV, no voice or CW, certification required</td>
<td>Gradually phased-out in favor of band shown below (15.227(c))</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>Emission Requirements</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
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<td></td>
</tr>
<tr>
<td>6.96-27.28 (15.191-15.194)</td>
<td>32 uV/m @ 30m, spurious at 1 uV/m @ 30m, certification required, restricted to devices in that measure the characteristics of a material</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10000 uV/m @ 3m, spurious outside this band at general limits 15.209, restriction deleted (15.227)</td>
<td></td>
</tr>
<tr>
<td>27.28-30 (15.7)</td>
<td>15 uV/m @ Lambda/2Pi</td>
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<tr>
<td></td>
<td>30 uV/m @ 30m, certification required (15.209)</td>
<td></td>
</tr>
<tr>
<td>30-41 (15.7)</td>
<td>15 uV/m @ Lambda/2Pi</td>
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<tr>
<td></td>
<td>100 uV/m @ 3m, certification required (15.209)</td>
<td></td>
</tr>
<tr>
<td>38-41 (15.172)</td>
<td>10 uV/m @ 15m, 200 kHz bandwidth, spurious at 10 uV/m @ 3m, certification required, restricted to biomedical telemetry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100 uV/m @ 3m, restriction deleted (15.209)</td>
<td></td>
</tr>
<tr>
<td>.066-40.70 (15.122, 15.191-15.194, 15.201-15.215, 15.310)</td>
<td>Ranges from 50 uVm @ 30m with spurious at 1.5 uV/m @ 30m to 2250 uV/m @ 3m with spurious at 225 uV/m at 3m depending on application, certification required, restricted to devices that measure the characteristics of a material, perimeter protection and periodic operation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1000 uV/m @ 3m, +0.01% frequency stability, restrictions deleted (15.229)</td>
<td></td>
</tr>
<tr>
<td>41-46.6 (15.7)</td>
<td>15 uV/m @ Lambda/2Pi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100 uV/m @ 3m, certification required (15.209)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>External input signals permitted (15.231)</td>
<td></td>
</tr>
<tr>
<td>46.6-46.98 (15.231-15.237)</td>
<td>10000 uV/m @ 3m with spurious from 100 to 200 uV/m @ 3m depending on frequency, conducted below 30 MHz of 100 uV, certification required, restricted to cordless telephone base</td>
<td></td>
</tr>
<tr>
<td>46.98-49.82 (15.7)</td>
<td>15 uV/m @ Lambda/2Pi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100 uV/m @ 3m, certification required (15.209)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>External input signals permitted (15.231)</td>
<td></td>
</tr>
<tr>
<td>49.66-50.0 (15.231-15.237)</td>
<td>10000 uV/m @ 3m with spurious from 100 to 200 uV/m @ 3m depending on frequency, conducted below 30 MHz of 100 uV, certification required, restricted to cordless telephone mobile</td>
<td></td>
</tr>
<tr>
<td>49.82-49.90 (15.117-15.118)</td>
<td>Channelization and bandwidth limits deleted, spurious outside this band at general limits under 15.209, existing standards permitted for a grandfather period (15.233)</td>
<td></td>
</tr>
<tr>
<td>Frequency Range</td>
<td>Description</td>
<td>Requirement</td>
</tr>
<tr>
<td>-----------------</td>
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</tr>
<tr>
<td>49.82-49.90 (15.119)</td>
<td>0.1 W input, 1m ant., harmonics suppressed 20 dB, restricted to home built in quantities less than 5 with no marketing</td>
<td>No changes (15.233)</td>
</tr>
<tr>
<td>49.90-70 (15.7)</td>
<td>15 uV/m @ Lambda/2Pi</td>
<td>100 uV/m @ 3m, certification required (15.209)</td>
</tr>
<tr>
<td>70-130 (15.122)</td>
<td>500 uV/m @ 3m with spurious at 50 uV/m @ 3m, maximum bandwidth of 0.25% of operating frequency, conducted from .45-30 MHz of 250 uV, certification required, restricted to periodic operation of 30:1 with maximum on time of 1 second and minimum off of 10 seconds</td>
<td>Spurious need not be attenuated below the general limits in 15.209 (15.235(d))</td>
</tr>
<tr>
<td>70-130 (15.201-15.215)</td>
<td>1250 uV/m @ 3m with spurious at 125 uV/m @ 3m, spurious of 15 uV/m @ 3m within 73-75.4, 108-118 and 121.4-121.6 MHz, maximum bandwidth of .25%, conducted from .45-30 MHz of 250 uV, certification required, restricted to control and security alarm devices</td>
<td>Spurious need not be attenuated below the general limits in 15.209 (15.235)</td>
</tr>
<tr>
<td>70-88 (none)</td>
<td>Not permitted</td>
<td>100 uV/m @ 3m, certification required (15.209)</td>
</tr>
<tr>
<td>72-73 and 75.4-76 (15.331-15.337)</td>
<td>8000 uV/m @ 30 m with spurious at 150 uV/m @ 30m, channelized with 50 kHz and 200 kHz bandwidths, certification bandwidth permitted at required, restricted to auditory assistance to the hearing handicapped</td>
<td>80000 uV/m @ 3m with spurious at 1500 uV/m @ 3m, channelization deleted, 200 kHz all frequencies (15.237)</td>
</tr>
<tr>
<td>88-108 (15.161-15.164, 15.174, 15.335)</td>
<td>50 uV/m @ 15m with spurious at 40 uV/m @ 3m, 200 kHz bandwidth, no conducted limit, type approval (15.161-15.164, 15.174) or certification (15.335) required, restricted to wireless microphones, telemetry and auditory assistance devices</td>
<td>250 uV/m @ 3m, no microphone input requirement, certification required, restrictions deleted (15.239)</td>
</tr>
<tr>
<td>88-216 (none)</td>
<td>Not permitted</td>
<td>150 uV/m @ 3m, certification required (15.209)</td>
</tr>
</tbody>
</table>
0-174 (15.122)
500-1500 uV/m @ 3m
with spurious of 50-150
uV/m @ 3m (linear
interpolation), maximum
bandwidth of 0.25%,
conducted from .45-30
MHz of 250 uV, certifi-
cation required,
restricted to periodic
operation of 30:1 with
maximum on time of 1
second and minimum off
of 10 seconds
Spurious need not be
attenuated below the
general limits in
15.209 (15.235(d))

130-174 (15.201-
15.215)
1250-3750 uB/m @ 3m
with spurious of 125-
375 uV/m @ 3m (linear
interpolation), spuri-
ous of 15 uV/m @ 3m
from 156.7-156.9 MHz,
maximum bandwidth of
0.25%, conducted from
.45-30 MHz of 250 uV,
certification required,
restricted to control
and security alarm
devices
Spurious need not be
attenuated below the
general limits in
15.209 (15.235)

174-216 (15.176)
150 uV/m @ 30m with
spurious at 15 uV/m
@ 30m, 200 kH band-
width, certification
required, restricted
to biomedical telemetry
1500 uV/m @ 3m
(15.241)

174-216 (15.122)
1500 uV/m @ 3m with
spurious @ 150 uV/m
@ 3m, maximum bandwidth
of 0.25%, conducted from
.45-30 MHz of 250 uV,
certification required,
restricted to periodic
operation of 30:1 with
maximum on time of 1
second and minimum off
of 10 seconds
Spurious need not be
attenuated below the
general limits in
15.209 (15.235(d))

174-216 (15.201-
15.215)
3750 uV/m @ 3m with
spurious @ 375 uV/m
@ 3m, maximum band-
width of .25%, con-
donducted from .45-30
MHz of 250 uV, certifi-
cation required,
restricted to control
and security alarm
devices
Spurious need not be
attenuated below the
general limits in
15.209 (15.235)

216-960 (none)
Not permitted.
200 uV/m @ 3m,
certification required
(15.209)
<table>
<thead>
<tr>
<th>Frequency Band</th>
<th>Spurious Emission Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>216-260 (15.122)</td>
<td>1500 uV/m @ 3m with spurious @ 150 uV/m @ 3m. Maximum bandwidth of 250 uV, certification required, restricted to periodic operation of 30:1 with maximum on time of 1 second and minimum off of 10 seconds.</td>
</tr>
<tr>
<td>216-260 (15.201-15.215)</td>
<td>3750 uV/m @ 3m with spurious @ 375 uV/m @ 3m, spurious of 15 uV/m @ 3m in the band 240-260 MHz, maximum bandwidth of 250 uV, certification required, restricted to security alarm devices.</td>
</tr>
<tr>
<td>260-470 (15.122)</td>
<td>1500-5000 uV/m @ 3m with spurious of 150-500 uV/m @ 3m (linear interpolation), maximum bandwidth of 250 uV, certification required, restricted to periodic operation of 30:1 with maximum on time of 1 second and minimum off of 10 seconds.</td>
</tr>
<tr>
<td>260-470 (15.201-15.215)</td>
<td>3750-12500 uV/m @ 3m with spurious at 375-1250 uV/m @ 3m (linear interpolation), spurious of 15 uV/m @ 3m in the bands 260-285, 328.6-335.4, and 404-406.2 MHz, maximum bandwidth of 250 uV, certification required, restricted to security alarm devices.</td>
</tr>
<tr>
<td>Above 470 (15.122)</td>
<td>5000 uV/m @ 3m with spurious at 500 uV/m @ 3m, maximum bandwidth of 250 uV, certification required, restricted to periodic operation of 30:1 with maximum on time of 1 second and minimum off of 10 seconds.</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>Maximum Emissions/Attenuation/Measurements</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Above 470 (15.201-215)</td>
<td>12500 uV/m @ 3m with spurious of 1250 uV/m @ 3m, spurious in restricted bands (see 15.205) below 1000 MHz of 15 uV/m @ 3m and above 1000 MHz of 125 uV/m @ 3m, maximum bandwidth 0.25% below 900 MHz and 0.5% above 900 MHz, conducted from 45-30 MHz of 250 uV, certification required, restricted to control and security alarm devices</td>
</tr>
<tr>
<td>890-940 (15.191-15.194)</td>
<td>500 uV/m @ 30m with harmonics at 50 uV/m @ 30m and spurious at 15 uV/m @ 30m, certification required, restricted to devices that measure the characteristics of a material</td>
</tr>
<tr>
<td>902-928 (none)</td>
<td>Not permitted</td>
</tr>
<tr>
<td>902-928 (15.126)</td>
<td>1 W peak output, certification required, restricted to frequency hopping and direct sequence spread spectrum systems</td>
</tr>
<tr>
<td>902-928 (15.301-15.324)</td>
<td>50 mV/m @ 30m with harmonics at 160 uV/m @ 30m and spurious at -50dB or 15 uV/m @ 30m, certification required, restricted to field disturbance sensors</td>
</tr>
<tr>
<td>Above 960 (none)</td>
<td>Not permitted</td>
</tr>
<tr>
<td>2400-2483.5 (15.126)</td>
<td>1 W peak output, certification required, restricted to frequency hopping and direct sequence spread spectrum systems</td>
</tr>
<tr>
<td>2400-2500 (15.191-15.194)</td>
<td>0.5 mV/m @ 30m with harmonics at 50 uV/m @ 30m and spurious at 15 uV/m @ 30m, certification required, restricted to devices that measure the characteristics of a material</td>
</tr>
<tr>
<td>Frequency Band/Rules (GHz)</td>
<td>Standards Proposed</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>2.4-2.4835 (none)</td>
<td>Not permitted</td>
</tr>
<tr>
<td>2.435-2.465 (15.301-15.324)</td>
<td>50 mV/m @ 30m with harmonics at 160 uV/m and spurious at -50dB or 15 uV/m @ 30m, certification required, restricted to field disturbance sensors</td>
</tr>
<tr>
<td>2.9-4.1 (15.221-15.228)</td>
<td>3 mV/m/MHz @ 3m with spurious of 100 uV/m/ MHz @ 3m, conducted limit of 200 uV from .45-30 MHz, certification required, restricted to automatic vehicle identification system (other standards regarding sweep rate, etc. also exist)</td>
</tr>
<tr>
<td>5.725-5.85 (15.126)</td>
<td>1 W peak output, certification required, restricted to frequency hopping and direct sequence spread spectrum systems</td>
</tr>
<tr>
<td>5.725-5.875 (15.191-15.194)</td>
<td>0.5 mV/m @ 30m with harmonics at 50 uV/m @ 30m and spurious at 15 uV/m @ 30m, certification required, restricted to devices that measure the characteristics of a material</td>
</tr>
<tr>
<td>5.725-5.875 (none)</td>
<td>Not permitted</td>
</tr>
<tr>
<td>5.785-5.815 (15.301-15.324)</td>
<td>50 mV/m @ 30m with harmonics at 160 uV/m @ 30m and spurious at -50dB or 15 uV/m @ 30m, certification required, restricted to field disturbance sensors</td>
</tr>
<tr>
<td>Frequency Band (MHz)</td>
<td>Current Standards</td>
</tr>
<tr>
<td>---------------------</td>
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</tr>
<tr>
<td>10.5-10.55 (15.301-15.324)</td>
<td>250 mV/m @ 30m with harmonics at 2.5 mV/m @ 30m and spurious at -50 dB or 15 uV/m @ 30m, certification required, restricted to field disturbance sensors</td>
</tr>
<tr>
<td>24.0-24.25 (none)</td>
<td>Not permitted</td>
</tr>
<tr>
<td>24.0-24.25 (15.191-15.194)</td>
<td>500 uV/m @ 30m with harmonics at 50 uV/m @ 30m and spurious at 15 uV/m @ 30m, certification required, restricted to devices that measure the characteristics of a material</td>
</tr>
<tr>
<td>24.075-24.175 (15.301-15.324)</td>
<td>250 mV/m @ 30m with harmonics at 2.5 mV/m @ 30m and spurious at -50 dB or 15 uV/m @ 30m, certification required, restricted to field disturbance sensors</td>
</tr>
</tbody>
</table>

**APPENDIX C**

**Receiver Standards - Part 15**

<table>
<thead>
<tr>
<th>Frequency Band (MHz)</th>
<th>Current Standards</th>
<th>Proposed Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.45-25</td>
<td>TV rcvs. = 100 uV conducted; all other rcvs. = 100 uV conducted for 45-9 MHz, 1000 uV conducted for 10-25 MHz, and linear increase in conducted from 100 uV to 1000 uV for 9-10 MHz</td>
<td>250 uV conducted for all receivers, to be phased-in</td>
</tr>
<tr>
<td>25-70</td>
<td>32 uV/m @ 100 ft. except for rcvs. associated with a periodic transmitter at 40.66-40.70 MHz which are 320 uV/m @ 3m</td>
<td>250 uV conducted for 25-30 MHz, 100 uV/m @ 3m for 30-70 MHz, to be phased-in</td>
</tr>
<tr>
<td>70-130</td>
<td>50 uV/m @ 100 ft. except for rcvs. associated with a periodic transmitter which are 500 uV/m @ 3m</td>
<td>100 uV/m @ 3m for 70-88 MHz, 150 uV/m @ 3m for 88-130 MHz, to be phased-in</td>
</tr>
<tr>
<td>130-174</td>
<td>50-150 uV/m @ 100 ft. (linear interpolation) except for rcvs. associated with a periodic transmitter which are 500 uV/m @ 3m</td>
<td>150 uV/m @ 3m, to be phased-in</td>
</tr>
</tbody>
</table>
### Federal Communications Commission

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Allocation/Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.49-0.51</td>
<td>Maritime distress frequency</td>
</tr>
<tr>
<td>2.1735-2.1905</td>
<td>Mobile distress frequency</td>
</tr>
<tr>
<td>8.362-8.366</td>
<td>Maritime and aeronautical survival craft</td>
</tr>
<tr>
<td>13.36-13.41</td>
<td>search and rescue</td>
</tr>
<tr>
<td>25.5-25.67</td>
<td>Radio astronomy</td>
</tr>
<tr>
<td>37.5-38.25</td>
<td>Radio astronomy</td>
</tr>
<tr>
<td>73.0-75.4</td>
<td>73-74.6 MHz: Radio astronomy</td>
</tr>
<tr>
<td></td>
<td>74.6-75.4 MHz: Aeronautical radionavigation marker beacon (75.0 MHz) and guard bands (noie - this band is currently restricted for control and security alarm devices (CSAD))</td>
</tr>
<tr>
<td>108-121.94</td>
<td>108-117.975 MHz: Aeronautical radionavigation (aircraft-to-tower) (noie - currently restricted for CSAD)</td>
</tr>
<tr>
<td></td>
<td>117.975-121.9375 MHz: Aeronautical mobile for safety and regularity of flight</td>
</tr>
<tr>
<td></td>
<td>121.4-121.6 MHz: Search and rescue (SARSAT) (noie - currently restricted for CSAD)</td>
</tr>
<tr>
<td>123-123.2</td>
<td>Coordinated search and rescue by mobile, land and aeronautical</td>
</tr>
<tr>
<td>123.58-138.0</td>
<td>123.5875-137 MHz: Aeronautical mobile for safety and regularity of flight</td>
</tr>
<tr>
<td>149.9-150.05</td>
<td>Satellite down link</td>
</tr>
<tr>
<td>150 uV/m @ 100 ft except for rcvrs. associated with a periodic transmitter which are 500 uV/m @ 3m for 174-200 MHz and 500-707.7 uV/m @ 3m for 200-260 MHz (linear interpolation)</td>
<td>150 uV/m @ 3m for 174-216 MHz, 200 uV/m @ 3m for 216-260 MHz, to be phased-in</td>
</tr>
<tr>
<td>260-470</td>
<td>150-500 uV/m @ 100 ft (linear interpolation) except for rcvrs. associated with a periodic transmitter which are 707.7-1435 uV/m @ 3m (linear interpolation)</td>
</tr>
<tr>
<td>470-1000</td>
<td>500 uV/m @ 100 ft except for rcvrs. associated with a periodic transmitter which are 1435-3269 uV/m @ 3m (linear interpolation) and TV broadcast rcvrs. which are 350 uV/m @ 100 ft. average with no emission exceeding 750 uV/m @ 100 ft.</td>
</tr>
<tr>
<td>1000-1500</td>
<td>3269-5000 uV/m @ 3m (linear interpolation) (applies only to rcvrs. associated with a periodic transmitter)</td>
</tr>
<tr>
<td>Above 1500</td>
<td>5000 uV/m @ 3m (applies only to rcvrs. associated with a periodic transmitter)</td>
</tr>
</tbody>
</table>
156.7-156.9 MHz: Search and rescue (maritime mobile distress and calling on 156.7625-156.8375 MHz)
   (note - currently restricted for CSAD)
164.43-164.72 MHz: Department of Interior for tracking of potentially dangerous animals
166.73-167.17 MHz: Department of Interior for telemetry operations for wildlife studies using sensitive receiving equipment
243 MHz: Search and rescue (SARSAT)
240-285 MHz: Radiolocation, glide slope indicators, instrument landing systems
   (note - currently restricted for CSAD)
322-335.4 MHz: Radio astronomy
328.6-335.4 MHz: Aeronautical radionavigation - instrument landing system glide path
   (note - 328.6-335.4 MHz currently restricted for CSAD)
399.9-410 MHz: Radiolocation satellite
400.05-400.15 MHz: Standard frequency and time signal
400.15-402 MHz: Satellite down link
402-406 MHz: Meteorological aids (radio sonde)
406-406.1 MHz: Emergency position-indicating radiobeacon (EPIRB)
406.1-410 MHz: Radio astronomy
   (note - 404-406.2 MHz currently restricted for CSAD)
608-614 MHz: Radio astronomy
   (note - currently restricted for CSAD)
960-1240 MHz: Aeronautical radionavigation
1215-1240 MHz: Satellite down link
   (note - 960-1215 MHz currently restricted for CSAD)
1300-1427 MHz: Aeronautical radionavigation
1350-1400 MHz: Spectral line observations of neutral hydrogen
1400-1427 MHz: Radio astronomy
   (note - 1400-1427 MHz currently restricted for CSAD)
1530-1559 MHz: Satellite down link
1559-1610 MHz: Satellite down link and aeronautical radionavigation
1610-1626.5 MHz: Aeronautical radionavigation
1610.6-1613.8 MHz: Spectral line observations of OH radical (radio astronomy)
   (note - 1535-1660 MHz currently restricted for CSAD)
1660-1710 MHz: Radio astronomy
1668.4-1670 MHz: Radio astronomy and radio sonde
1670-1710 MHz: Satellite down link and radio sonde
   (note - 1660-1670 MHz currently restricted for CSAD)
2200-2300 MHz: Satellite down link
2483.5-2500 MHz: Radiodetermination satellite down link (Geostar)
2655-2900 MHz: Spectral line observations (radio astronomy)
2655-2690 MHz: Radio astronomy and satellite down link
2690-2700 MHz: Radio astronomy
2700-2900 MHz: Air traffic control radars
   (note - 2690-2700 MHz currently restricted for CSAD)
3260-3267 MHz: Spectral line observations (radio astronomy)
3332-3339 MHz: Spectral line observations (radio astronomy)
3345.8-3358 MHz: Spectral line observations (radio astronomy)
3600-4400 MHz: Satellite down link
   (note - 4200-4400 MHz currently restricted for CSAD)
4500-5250 MHz: Satellite down link
4500-4800 MHz: Satellite down link
4800-5000 MHz: Radio astronomy
5000-5250 MHz: Aeronautical radionavigation
   (note - 4990-5250 MHz currently restricted for CSAD)
750-5460 MHz: Aeronautical radionavigation
50-7750 MHz: Satellite down link
8025-8500 MHz: Satellite down link
Federal Communications Commission

9000-9200
Aeronautical radionavigation
9.3-9.5
Radar transponders for maritime search and rescue;
airborne weather and ground mapping radar for airborne
radionavigation, particularly under poor visibility
conditions
10.6-12.7
10.6-10.7 GHz: Radio astronomy
10.7-12.2 GHz: Satellite down link
12.2-12.7 GHz: Direct broadcast satellite
(note - 10.68-10.7 GHz currently restricted for CSAD)
13.25-13.4
Aeronautical radionavigation
14.47-14.5
Spectral line observations (radio astronomy)
15.35-16.2
15.35-15.4 GHz: Radio astronomy
15.4-15.7 GHz: Shuttle landing system; airborne
weather and ground mapping radar for radionavigation
15.7-16.2 GHz: Airport surface detection equipment used
to locate and navigate aircraft while on the ground
(note - 15.35-15.4 GHz currently restricted for CSAD)
17.7-21.4
Satellite down link
22.01-23.12
22.0-22.5 GHz: Radio astronomy
22.5-23.0 GHz: Broadcast satellite (22.81-22.86 GHz is
also radio astronomy)
23.0-23.07 GHz: Fixed/inter-satellite/mobile (used to
fill in the gap between frequency bands)
23.07-23.12 GHz: Radio astronomy
23.6-24.0
Radio astronomy
31.2-31.8
Radio astronomy
(note - 31.3-31.5 GHz currently restricted for CSAD)
36.43-36.5
Radio astronomy
38.6-40.0
Satellite down link
Above 40.0
Numerous bands above 40 GHz should be restricted because of use in radio
astronomy, satellite down links, etc. However, the state-of-the-art in measure-
ment techniques generally limits measurement range to 40 GHz. Due to this lack
of ability to perform measurements above 40 GHz and the present lack of
consumer demand for operation above this frequency, operation of a Part 15
device on frequencies higher than 40 GHz is not proposed at this time.