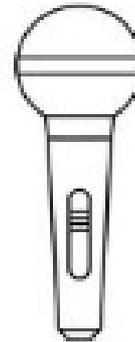




WIRELESS MICROPHONES RULE UPDATE (KDB 206256)

Nov. 1, 2017





600 MHz Service Band

- **Incentive Auction Closing and Channel Reassignment Public Notice, April 13, 2017**
 - April 13, 2017 marks start of the 39-month post auction transition period
 - Technical rules for devices operating in the 600 MHz service band are effective now under Part 27
 - 600 MHz Service Band comprised of uplink (663-698 MHz) and downlink (617-652 MHz), 3GPP Band 71

Figure 1: 600 MHz Band Plan²²

UHF Band	RAS/WMTS	G. B.	600 MHz Band Downlink							Duplex Gap	600 MHz Band Uplink							700 MHz UL
35	36	37	A	B	C	D	E	F	G	11	A	B	C	D	E	F	G	
		614 MHz	617 MHz							652 MHz	663 MHz							698 MHz



Unlicensed Wireless Microphones

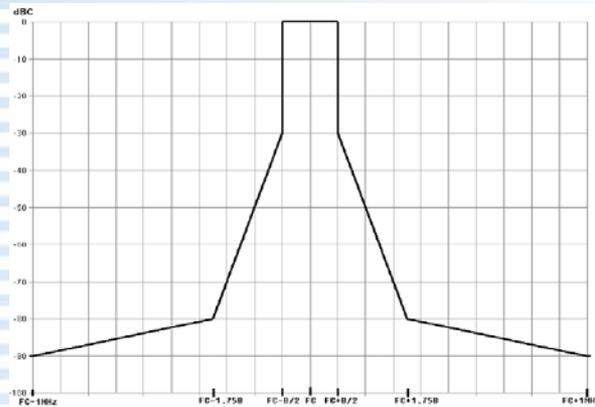
● §15.236 Wireless microphones

- Applications for certification filed beginning **October 3, 2017** must comply with requirements of §15.236. No operation in 600 MHz wireless service band.
- Compliance with 15.204 (amps and antenna mods) required, but not 15.203 (antenna reqs).
- Operation permitted in repacked TV bands (54-72 MHz, 76-88 MHz, 174-216 MHz and 470-608 MHz bands)
- Operation on frequencies above 608 MHz are limited to:
 - Upper 6 MHz of the 600 MHz duplex gap **657-663 MHz**
 - 600 MHz guard band between TV band and 600 MHz downlink, excluding upper 1 MHz **614-616 MHz**



Unlicensed Wireless Microphones

- Power limited to 20mW EIRP in the 600 MHz guard band and duplex gap. 50mW EIRP in other bands.
- Need to meet EN 300 422-1 v1.4.2 emission mask and spurious emission requirements.



State	Frequency		
	47 MHz to 74 MHz 87,5 MHz to 137 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other Frequencies below 1 000 MHz	Frequencies above 1 000 MHz
Operation	4 nW	250 nW	1 µW
Standby	2 nW	2 nW	20 nW



Unlicensed Wireless Microphones

- Equipment class DWM
- Specify specific frequencies on grant. Extended frequencies not allowed.
- For devices intended to operate in the 600 MHz guard band and 600 MHz duplex gap, the user needs to register with and check a white-space database to determine available channels. Instructions should be in user manual.



Licensed Wireless Microphones

- §74H Low power auxiliary stations (LPAS) under new rules
 - Devices allowed to operate in the re-packed TV bands, 600 MHz duplex gap (653-657 MHz), 941.5-944 MHz, 944-952 MHz, 952.850-956.250 MHz, 956.450-959.85 MHz, 1435-1525 MHz, 6875-6900 MHz, 7100-7125 MHz



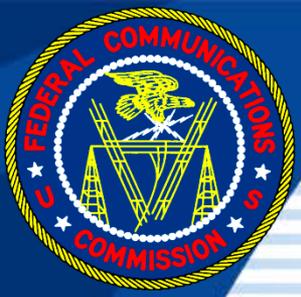
Licensed Wireless Microphones

- Need to meet EN 300 422-1 emission mask and spurious emission requirements
- Need to meet general population/uncontrolled RF exposure limits.
- Extended frequency listings or the use of EF grant note is not allowed.
- Equipment class TLD.



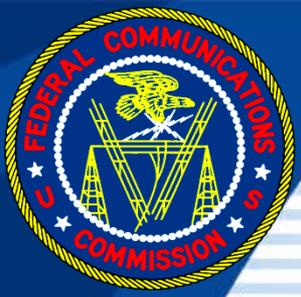
Licensed Wireless Microphones – (600MHz Duplex Gap & 600 MHz Wireless Service band)

- Effective **January 13, 2018**, applications for certification shall no longer be accepted for LPAS devices capable of operating in the 600 MHz wireless service band
- 600 MHz duplex gap operations limited to the 4 MHz segment from 1-5 MHz above the lower edge (**653-657 MHz**), and limited to 20 mW EIRP.



Licensed Wireless Microphones – (600MHz Duplex Gap & 600 MHz Wireless Service band)

- Need to meet EN 300 422-1 emission mask and spurious emission requirements
- Permissible changes to previously authorized devices
 - Only software/firmware modifications allowed, filing needs to include details on how this is controlled and managed.
 - Equipment class updated.



Legacy Systems

- Devices approved under previous Part 74 certification (Legacy systems) capable of operating in the 600 MHz wireless service band may no longer be sold after **October 13, 2018**.
- These devices may be operated on a licensed or unlicensed basis in the 600 MHz wireless service band during the post-incentive auction transition period under certain conditions.
- Operation in the 600 MHz wireless service must cease by **July 13, 2020**.



Legacy Systems

Disclosure Requirement of Rule Part 74.851 (I) for devices that operate in the 600MHz wireless service band.

CONSUMER ALERT

This particular wireless microphone device operates in portions of the 617-652 MHz or 663-698 MHz frequencies. Beginning in 2017, these frequencies are being transitioned by the Federal Communications Commission (FCC) to the 600 MHz service to meet increasing demand for wireless broadband services. Users of this device must cease operating on these frequencies no later than July 13, 2020. In addition, users of this device may be required to cease operations earlier than that date if their operations could cause harmful interference to a 600 MHz service licensee's wireless operations on these frequencies. For more information, visit the FCC's wireless microphone website at www.fcc.gov/wireless-microphones-guide or call the FCC at 1-888-CALL-FCC (TTY: 1-888-TELL-FCC)."



Wireless Microphones

Summary of affected bands

<i>Frequency Band</i>	<i>Unlicensed</i>		<i>Licensed</i>	
	<i>Rule Part</i>	<i>Output Power</i>	<i>Rule Part</i>	<i>Output Power</i>
54-72 MHz (VHF)(TV Band Ch 2-4), 76-88 MHz (VHF)(TV Band Ch 5-8)	15.236	50 mW EIRP	74H	50 mW EIRP
161.625 - 161.775 MHz (VHF)			74H	1 Watt
169-172 MHz (VHF)			90.265	50 mW
174-216 MHz (VHF)(TV Band Ch 7-13)	15.236	50 mW EIRP	74H	50 mW EIRP
450-451 MHz (UHF), 455-456 MHz			74H	1 Watt
470-608 MHz (UHF)(TV Band Ch 14-36)	15.236	50 mW EIRP	74H	250 mW
614-616 MHz (guard band)	15.236	20 mw EIRP		
653-657 MHz (duplex gap)			74H	20 mw EIRP
657-663 MHz (duplex gap)	15.236	20 mw EIRP		
941.5-944, 944 - 952.0 MHz, 952.850 - 956.250 MHz, 956.450 - 959.85 MHz, 6875 - 6900 MHz, 7100 - 7125 MHz			74H	1 Watt
1435 - 1525 MHz			74H	250 mW