

**Before the  
FEDERAL COMMUNICATION COMMISSION  
Washington DC. 20554**

In the Matter of	)	
Unlicensed Operation in the TV Broadcast Bands	)	ET Docket No. 04-186
	)	
Additional Spectrum for Unlicensed Devices	)	ET Docket No. 02-380
Below 900 MHz and n the 3 GHz Band	)	

**COMMENTS OF  
Samson Technologies Corp.**

Samson Technologies Corp. presents these comments in response to the Commission’s Notice of Proposed Rule Making (NPRM) in ET Docket Nos. 04-186 and 02-380, which proposes to make additional spectrum available in the television (TV) broadcast bands for unlicensed devices.

Samson Technologies is an industry leader and respected manufacturer of wireless microphones operating within the TV band under section 74.861 of the Commission’s Rules on Low Power Auxiliary Stations. Although Samson recognizes the need and supports making more spectrum available for unlicensed devices, we are convinced that allowing the operation of unlicensed devices within the TV broadcast band would not protect approved wireless microphone usage in bands allocated to the specific use for many years.

Samson Technologies Corp. provides wireless microphone systems in support of a variety of educational, religious, service and entertainment institutions. Permitting the use of unlicensed devices into the so-called “white spaces”, as proposed in the NPRM, could in some cases render them useless. This would be especially damaging to anyone who relies on our wireless microphone systems for their livelihood.

The Commission states in the NPRM that wireless microphones will not be adversely affected by unlicensed devices operating in the “white spaces”. There are three points the Commission sights, indicating interference would be unlikely: (1)Wireless microphones are permitted to operate at relatively high power; (2)Wireless microphones are used at relatively short working distances (line if sight); and (3) Wireless microphones use FM transmission, which exhibits “capture effect” that rejects co-channel interference.

As a significant supplier of wireless microphones in the USA, and worldwide, we wholly disagree with these assumptions. (1) Regarding power, we have found through vigorous testing that wireless microphones’ effective rated power ranges between 5 – 50 mW, with 50 mW rarely being used due to battery consumption. (2) Concerning distance, even at close proximity, wireless microphones experience interference from unlicensed devices as per our testing. During actual trial operations our wireless system in the presence of unlicensed devices we have experienced the following adverse effects; (a) a significant

increase in background noise in the receiving system: and (b) The overall working range (distance) is greatly reduced due to heterodyning interference cause by unlicensed devices. (3) Due to the narrow band operation, wireless microphones derive little benefit from capture effect.

Samson Technologies strongly urges the Commission to adopt rules that would (1) identify 2 VHF TV channels and 4 UHF TV channels to be exempt from unlicensed device operation; (2) require unlicensed devices to employ spectrum sensing/dynamic frequency selection techniques; and (3) implement smart beacon or geo-location frequency selection for unlicensed devices as recommended in numerous documents published by the Commission.

In summary, it is critical that the Commission address all these requirements in the Commission's Rules to ensure that existing users, and approved systems are protected from harmful interference caused by unlicensed devices.

Respectfully Submitted,

Samson Technologies Corp.

A handwritten signature in black ink, appearing to read 'DBryant', is written over a horizontal line.

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