

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Revisions to Broadcast Auxiliary Service	)	ET Docket No. 01-75
Rules in Part 74 and Conforming Technical	)	
Rules for Broadcast Auxiliary Service, Cable	)	
Television Relay Service and Fixed Services in	)	
Parts 74, 78 and 101 of the Commission's	)	
Rules	)	
	)	RM-9418
Telecommunications Industry Association,	)	
Petition for Rule Making Regarding Digital	)	
Modulation for the Television Broadcast	)	
Auxiliary Service	)	
	)	RM-9856
Alliance of Motion Picture and Television	)	
Producers, Petition for Rule Making	)	
Regarding Low-Power Video Assist Devices	)	
in Portions of the UHF and VHF Television	)	
Bands	)	

**Comments of Comsearch**

Comsearch, pursuant to Section 1.415 of the FCC rules, hereby respectfully submits the following comments in response to the Notice of Proposed Rulemaking ("NPRM") in the above captioned proceeding.

Comsearch is an independent engineering firm specializing in spectrum management of terrestrial microwave, satellite and mobile telecommunications systems. Comsearch works with the FCC and actively participates in industry groups such as the National Spectrum Managers Association (NSMA) and the Telecommunications Industry

Association (TIA) to develop rules, industry recommendations, and standards to promote efficient use of the radio spectrum.

### **Digital Modulation in the 944-952 MHz, 2, 7, and 13 GHz Bands**

In paragraphs 9-12 the Commission proposes modifying Part 74 to allow digital modulation in the 944-952 MHz, 2, 7, and 13 GHz bands without the need for a rule waiver. We fully support this proposal. Having engineered sharing in the Part 101 bands for many years, we can say that with proper interference analysis techniques and objectives, analog and digital microwave systems may share the same bands without difficulty. In addition, once digital modulation is allowed in these bands, the Commission should consider modifications to the frequency plans. For example, narrower channels such as 6.25, 8.33, and 12.5 MHz bandwidth could be overlaid on the existing 25 MHz plan in the 7 GHz BAS band. These additional channels would be useful for digital video transmission while also potentially relieving frequency congestion in the band. Finally, to promote efficient use of the spectrum, the Commission should consider capacity and loading standards for digital BAS microwave systems similar to those found in §101.141(a)(3). We recognize that the appropriate standards for BAS may be different than those in Part 101 based upon the technical differences in the services.

### **Maximum Effective Isotropic Radiated Power (EIRP) for Short Paths**

At paragraphs 13-17 of the NPRM the Commission proposes to modify Parts 74 and 78 to use the §101.143 formula for the EIRP limit for short paths. We agree that the Part

101 formula is more appropriate than the older formula that was previously used in Part 101 and is still codified at §74.644(b) and §78.108(b). The Part 101 formula is superior because it eliminates the discontinuity in allowable EIRP between paths just above and just below the minimum path length while also more severely limiting the EIRP of *extremely* short links as a result of the “40 log” versus “20 log” slope of the EIRP reduction. We believe that the Part 101 formula properly allows reliable use of microwave links just under the minimum path lengths listed in the rules while at the same time discouraging use of the lower microwave bands for very short links that could be more efficiently accommodated in the higher microwave bands (18 and 23 GHz).

### **Transmitter Power**

We agree with the proposals at paragraphs 18-24 to harmonize the power limits among Parts 74, 78, and 101 and to express the limits in terms of EIRP. We agree that EIRP rather than transmitter power is important in determining the impact of a station in the coordination process.

In paragraphs 22 and 23 the Commission asks whether the rules should continue to allow EIRP of 55 dBW under Parts 74 and 78 but 50 dBW under Part 101 in the 12,700 – 13,250 MHz band and offers multichannel video transmission as possible justification for such a difference. However, multichannel video (AML) systems typically must use much lower EIRP levels than single channel (FM or digital) transmission systems because of linearity issues in the transmission system. Therefore we disagree that Part 74 and 78 systems require higher EIRP than Part 101 systems for reliable operation. Should any

future licensing in the 12,700 – 13,250 MHz band be allowed under Part 101, §101.113 should be modified to allow the same 55 dBW EIRP level as is permitted under Parts 74 and 78.

### **Automatic Transmitter Power Control**

We agree that Automatic Transmitter Power Control (ATPC) should be allowed for digital BAS and CARS microwave systems. ATPC is commonly used in digital microwave systems licensed under Part 101 and has several advantages including simplified frequency coordination. Coordination of microwave transmitters that use ATPC should follow the guidelines of TIA TSB-10-F “Interference Criteria for Microwave Systems.”

### **Interference to Geostationary Satellites**

We agree that the rules should be simplified by maintaining the duplicative rule parts on GSO interference avoidance in Part 101. In addition to the rule changes proposed in the NPRM, the Commission should also delete 78.105(a)(4) as it also addresses aiming antennas at the GSO. Furthermore while the changes proposed in the NPRM will accomplish the goal of eliminating duplicative rules, the Commission should also promptly issue an NPRM to modify the technical aspects of the rules on GSO interference avoidance as requested in RM-9830.

### **Frequency Coordination**

The Part 101 frequency coordination process is effective at allowing a high degree of frequency reuse while avoiding harmful interference situations. Having many years of experience coordinating microwave links under this process, we know that if it is implemented for additional bands under Parts 74 and 78, it will be equally effective for BAS and CARS users.

### **Temporary Conditional Authority**

Temporary Conditional Authority has proven extremely useful under Part 101 and we support its use under Part 74 as well. Part 101 applicants use Conditional Authority to achieve rapid deployment of microwave links while using the prior coordination process to avoid harmful interference. Similarly, when a prior coordination process is in place for BAS and CARS, Conditional Authority should also be available to these users.

Respectfully Submitted,

**COMSEARCH**  
19700 Janelia Farm Boulevard  
Ashburn, Virginia 20147



Prepared by: \_\_\_\_\_  
William W. Perkins  
Principal Engineer

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