

Marcus Spectrum Solutions, LLC

*Consulting Services in
Radio Technology and Policy*
8026 Cypress Grove Lane
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November 7, 2014

VIA ECFS

EX PARTE

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW, Room TW-A325
Washington, DC 20554

Re: Docket 14-166

Dear Ms. Dortch:

Attached is the content of an interview with me on the issues in Docket 14-166 that was posted this week in the RF Venue blog, <http://blog.rfvenue.com/leasing-spectrum>

This interview addresses how marketplace forces could be used to address most wireless microphone uses, while keeping a Part 15 approach for small wireless microphone systems so as not to impose transactions costs on small businesses and churches with modest size audio systems. But many large wireless microphones users are in business models where their spectrum use is an integral part of services that result in large incomes, e.g. large concerts and plays with significant ticket prices. They should be subject to the same marketplace forces that have been the general rule in US spectrum policy for about 20 years.

The UK has used a similar system for more than a decade and it has not resulted in “the day the music died”.

Sincerely,



Michael J. Marcus, Sc.D., F-IEEE
Director

Realities of Spectrum Policy and Innovation @FCC Today

Michael J. Marcus, Sc. D., F-IEEE
FCC/OET (Retired)
Marcus Spectrum Solutions
Adjunct Professor, Virginia Tech
9/4/2014

Background

§ 7

a) It shall be the policy of the United States to encourage the provision of new technologies and services to the public. Any person or party (other than the Commission) who opposes a new technology or service proposed to be permitted under this chapter shall have the burden to demonstrate that such proposal is inconsistent with the public interest.

(b) The Commission shall determine whether any new technology or service proposed in a petition or application is in the public interest within one year after such petition or application is filed. If the Commission initiates its own proceeding for a new technology or service, such proceeding shall be completed within 12 months after it is initiated

§303

(g) Study new uses for radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective use of radio in the public interest;

FCC 80 years ago:

- 7 commissioners
- 3 “divisions” or subcommittees of commissioners
- Maximum frequency in routine user: 2.5 MHz
- Available technologies: AM or CW/Morse code
- No APA - simplified procedures for adopting new rules

FCC spectrum Policy Today

Big issues like DTV and new spectrum for cellular addressed on a reasonably timely basis

BUT

Reagan Era §7 continues to be ignored

Interference issues needing policy decisions, **even for major parties before FCC**, are delayed and possibly hidden from “8th Floor”

Examples:

- Radar detector to VSAT interference – 10 + years
- Cellular booster to base station interference – 9.5 years
A lose/lose situation for all parties!
- FM broadcast to 700 MHz base station interference – 2 years and counting!
- ET Docket ET Doc. 13-259:

PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

News Media Information: 202-418-0900
Internet: <http://www.fcc.gov>
TTY: 1-888-835-5322

DA No. 13-2113

October 31, 2013

OFFICE OF ENGINEERING AND TECHNOLOGY

PETITION FOR DECLARATORY RULING FILED

Interested persons may file statements opposing or supporting the Petition for Rulemakings listed herein within 30 days, or as noted. See Sections 1.4 and 1.405 of the Commission's rules for further information.

RM NO.	RULES SEC.	PETITIONER	DATE RECEIVED	NATURE OF PETITION
	Part 5	Marc T. Apter, IEEE-USA President	7/1/2013	In the Matter of Petition for Declaratory Ruling Regarding Treatment of Rulemakings and Waivers Related to New Equipment and Services at Frequencies above 95 GHz

FCC's “War on Millimeterwave Technology”

<http://www.marcus-spectrum.com/Blog/files/Auxarmes95%20214.html>

Several delays in FCC proceedings have put US developers at a disadvantage in developing next generation radio technology – presently of little interest to main players at FCC, although they don't oppose it either

Note: Qualcomm was once a startup trying to remove FCC barriers to CDMA technology

Key international competitors use a “state capitalism” system to foster their radio technology industries and coordinate government funding with spectrum policy.

US firms can compete **if** spectrum access for new technologies is timely and transparent

The 3 mmW “war fronts”:

- Docket 13-259 Lack of any radio service rules, licensed or unlicensed, above 95 GHz prevents routine development and market access for equipment or services and complicates capital formation for R&D. Petition seeks §1.2 declaratory ruling that technology above 95 GHz is presumptively “new technology” in the context of §7. **No action** since comments were received.

- Docket 10-236 – Experimental License Rulemaking

§5.85(a) provision in proposed and adopted rules that was never discussed in the text of the NPRM or in the text of the R&O and was not discussed in any of the comments bans any experiment from using “any frequency or frequency band exclusively allocated to the passive services (including the radio astronomy service).”

Limited part availability >100 GHz and generous allocations to passive services dating back decades complicates working around passive bands. Unlike lower frequencies >100 GHz signals are short range due to atmospheric absorption and are strictly line of sight – minimizing interference risk.

Boeing supports reconsideration request that is more than a year old.

<http://apps.fcc.gov/ecfs/document/view?id=7520931069>

- Docket 13-84 – RF Safety Rulemaking

Updating of 20 year old RF safety rules *continues* numeric limits only to 100 GHz - even though it is based on an IEEE standard that goes to 300 GHz.

Developers above 100 GHz then can not rely, as cellular industry does, on argument that their systems comply with FCC limits., hence increasing regulatory risks and potential problems in actual deployments.

On “lighting candles” - vice “cursing darkness”



§7 legislation along the lines of CMU speech likely to get lost in current “broken Congress”

Near term goal possible without legislation is to have FCC announce a policy and processing schedule for §7 requests as it has for merger approval (not required by law) and §10(d) forbearance requests (required by law)

Act on the above “3 war fronts” of mmW

Ask FCC Chairman to raise to NTIA in Biannual NTIA/FCC Spectrum Planning Meeting the need for an ombudsman at NTIA to address experimental license coordination issues that experience odd problems in IRAC coordination

Only available options today are expensive legal pressure on NTIA or slow appeal of FCC Part 5 denial

Example of IRAC coordination problems for mmW
(Note this was before revised §5.85 was effective)

FEDERAL COMMUNICATIONS COMMISSION
Experimental Licensing Branch
445 12th Street, S.W., Room 7A-321
Washington, D.C. 20554

April 25, 2013

Attn: David W. Nippa
Battelle
505 King Ave.
Columbus, OH 43201

DISMISSED-WITHOUT PREJUDICE

Dear David W. Nippa,

This refers to application, File No. 0350-EX-ST-2013, for an experimental authorization.

You are advised that the Commission is unable to grant your application for the facilities requested. This application was dismissed because the frequency bands 100-102 GHz and 109.5-111.8 GHz are reserved exclusively for passive services (radio astronomy, earth exploration-satellite and space research).

Responses to this correspondence must contain the Reference number : 20001

Sincerely,

Walter Johnston
Chief
Electromagnetic Compatibility Division