

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554-0001**

In the Matter of)
)
Digital Audio Broadcasting Systems)
And Their Impact on the Terrestrial) MM Docket No. 99-325
Radio Broadcast Service)

To: The Commission and Media Bureau

REPLY COMMENTS

I. INTRODUCTION

1. My name is Jonathan E. Hardis, and I very grateful to the Commission for this opportunity to file reply comments in the matter of “Comment Sought on Request for FM Asymmetric Sideband Operation and Associated Technical Studies,” of November 1, 2011.¹

II. IBIQUITY CONTINUES TO MISSTATE § 73.317

2. We now have at hand iBiquity’s explanation of why they have stated that elevated sideband powers, asymmetric or not, comply with [§ 73.317](#) of the Commission’s rules.² When they look at the spectral occupancy of the IBOC sidebands, they see not one emission, or even two (upper and lower). They see 140.³ iBiquity reads into [§ 73.317](#) with particularity that “any emission” means within a single 1 kHz—that is, “an emission” is specifically the radio energy found within 1 kHz of bandwidth. Why stop there? We can equally well read into [§ 73.317](#) that

¹ See http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-11-1832A1.pdf.

See also [76 FR 72885-72888](#), November 28, 2011.

² Reply Comments of iBiquity Digital Corporation, January 24, 2012, MM Docket No. 99-325; electronically at <http://fjallfoss.fcc.gov/ecfs/document/view?id=7021755151>.

³ iBiquity rounds upward the spectral occupancy of IBOC subcarriers in hybrid mode to 70 kHz, times two. It is actually slightly less.

“any emission” means at a particular frequency, in Hz. This would provide even “greater specificity” than 1 kHz divisions—and under iBiquity’s faulty reasoning be read to allow another 1000 times the power in total, spread among 140,000 different “emissions.”

3. Of course, [§ 73.317](#) says nothing of the kind. The plain language of the rule is that “any” emission is to be considered—“any” meaning without exclusion (e.g., as to type: spurs, spikes, harmonics, or broadband noise). I provided the history of this rule in my *Application for Review*,⁴ and there is no need to repeat it here. In short, the purpose of the rule was to limit all off-channel emissions to “as low a level as practicable at all times in accordance with good engineering practice.”⁵ Among its first uses was for type approval of transmitters. The –25 dBc specification limited off-channel transmitter output to approximately 0.3% of total power—regardless of whether that power was in the form of “spurs,” “spikes,” “harmonics,” or otherwise. The Federal Communications Commission of the early 1960s would not, under any circumstances, have read [§ 73.317](#) to allow type approval of an FM transmitter that put out 10% of its power off-channel (–10 dBc), or have allowed a radio station to operate in that manner.

4. This is not an issue of “measurement methodology.” Scanning the digital signal in a 1 kHz bandwidth is fine—as would be scanning it in other bandwidths. This is not a question of using old or new measurement equipment. There is no dispute as to the facts of what the power spectral densities of the IBOC emissions are intended to be, or how one can measure them in practice. The only issue present here is whether or not these emissions meet the regulatory standard given in [§ 73.317](#), and the clear fact is they do not.

⁴ Application for Review of Jonathan E. Hardis (“*Application for Review*”), April 8, 2010, MM Docket No. 99–325, at 12; <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020408278>.

⁵ See § 3.317(f)(2), 20 FR 9041, 9101.

III. REFERENCES TO NRSC ACTIVITY ARE MISPLACED

5. In their reply comments, iBiquity references standardization activities that have occurred within the National Radio Systems Committee (NRSC). These references are inapposite to the issue at hand. To the best of my knowledge, the NRSC-5 standard and the G201 Guideline provide no interpretive guidance as to what complies with the Commission’s rules and what does not. This is as it should be—it is not the prerogative of the NRSC to interpret the Commission’s rules. Furthermore, it is well known that NRSC-5 describes IBOC operating modes, such as all-digital transmission, that are not currently authorized in the United States.

6. As noted in the “HD Radio™ Asymmetric Sideband Laboratory Test Report,”⁶ the NRSC has defined its own emission mask—a differential mask in units of dBc/kHz in contrast to the Commission’s integral mask in units of dBc. In the G201 Guideline, the NRSC provides guidance on interpreting *its own* standard. That’s fine, but not germane to the Commission’s current rules.

IV. CONCLUSION

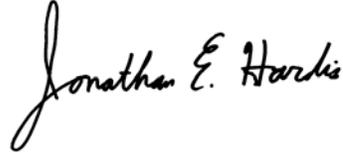
7. In their Petition for Rulemaking, iBiquity did not say that digital sidebands would comply with in [§ 73.317](#)—indeed, they proposed the opposite, that [§ 73.317](#) should *not* apply to the digital signal. “... the current analog emissions mask as defined in Sections 73.317 and 73.44 of the Commission’s rules for FM and AM, respectively, would continue to apply to all stations *as long as they transmit in an analog-only mode.*”⁷ This rule did not allow –20 dBc sidebands then, and it does not permit –10 dBc sidebands now. While the Commission made an exemption

⁶ Comments of iBiquity Digital Corporation, December 19, 2011, MM Docket No. 99–325, at <http://fjallfoss.fcc.gov/ecfs/document/view?id=7021751178>

⁷ USA Digital Radio, *Petition for Rulemaking*, October 7, 1998 (RM-9395), at p. 86 (emphasis added); available electronically <http://fjallfoss.fcc.gov/ecfs/document/view?id=2170270004>.

for –20 dBc sidebands in the *Second Report and Order*⁸, and may continue to make other exceptions in the future, an exception cannot be justified by the rule for which the exception is being sought.

Respectfully submitted,

A handwritten signature in black ink that reads "Jonathan E. Hardis". The signature is written in a cursive style with a large initial 'J'.

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Dated: January 24, 2012

⁸ “*Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service*,” Second Report and Order, First Order on Reconsideration and Second Further Notice of Proposed Rule Making, 22 FCC Rcd 10344 (2007) (“*Second Report and Order*”); electronically at http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-07-33A1.pdf.