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BY ELECTRONIC FILING

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

Re: *Ex parte* Filing of Proposed Revisions to OET-69 for Part  
27 Licensees; WT Docket No. 05-7

Dear Ms. Dortch:

As the Association for Maximum Service Television, Inc. ("MSTV") and other concerned parties have consistently explained, the process described in Office of Engineering Technology Bulletin No. 69, "Longley-Rice Methodology for Evaluating TV Coverage and Interference" ("OET-69") cannot reliably predict interference from QUALCOMM's MediaFLO service to reception of over-the-air broadcast signals.<sup>1</sup> **Unfortunately, since filing its Petition for Declaratory ruling in late 2004 and despite its announced plans to launch the MediaFLO service later this year, QUALCOMM has failed to heed these well-documented calls for a more apt interference prediction methodology.** It has even refused to provide information, such as likely transmitter

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<sup>1</sup> See, e.g., Comments of MSTV and NAB, WT Docket No. 05-7, at 12-18 (filed March 10, 2005) ("OET-69 does not consider aggregate interference from multiple stations"); Comments of Pappas Southern California License, LLC, WT Docket No. 05-7, at 12 (filed March 10, 2005) (explaining that QUALCOMM's use of OET-69 "conveniently and cavalierly seizes upon a unique set of engineering principles and attempts to apply them wholesale to a totally different and inapposite set of circumstances."); Comments of Motorola, WT Docket No. 05-7, at 3-4 (filed March 10, 2005) (noting that "[t]here is no reason to believe" that OET-69 will not be "equally effective ... in analyzing interference caused to TV/DTV stations by land mobile operations" as it is in measuring broadcast-to-broadcast interference); Cox Broadcasting, Inc., WT Docket No. 05-7, Engr. Statement at 3 (filed March 10, 2005).

location, that would assist the Commission and other parties in making a reliable interference prediction concerning the MediaFLO service.<sup>2</sup>

Although MSTV is disappointed by QUALCOMM's reluctance to propose an adequate interference protection methodology, it believes that a methodology proposed last month in response to the Notice of Proposed Rulemaking concerning Distributed Transmission Systems ("DTS") could be utilized to solve this problem. Like Media-FLO and other Part 27 services, DTS involves intramarket use of multiple transmitters on a single frequency. MSTV thus proposed and submitted in the DTS rulemaking various proposed revisions to OET-69 that will enable measurement of interference from a multiple transmitter service to traditional, over-the-air broadcasts.<sup>3</sup>

**Because of this new methodology's relevance to the Part 27 context, and to assist the Commission in evaluating submissions by QUALCOMM pursuant to Section 27.60,<sup>4</sup> MSTV submits the attached analysis and proposed revision to OET-69 when applied to the Part 27 context.** To facilitate consensus, MSTV has even shared this methodology with QUALCOMM in advance of this filing. Regrettably, rather than undertake a serious evaluation of this new interference methodology, QUALCOMM has raised specious procedural arguments against consideration of the new methodology and attempted to lay the blame for its own delay in designing an apt interference methodology on MSTV.<sup>5</sup>

*Background:* The broadcast system in the United States is based on use of single, high-power transmitters to cover wide areas. Consequently, the interference evaluation mechanism built into OET-69 relies on certain assumptions about the placement of these transmitters within a given geographic area. For example, OET-69

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<sup>2</sup> See, e.g., Letter from David Donovan, MSTV to Dean R. Brenner, QUALCOMM (Jan. 12, 2006) (requesting information from QUALCOMM to enable evaluation of interference from MediaFLO to reception of over-the-air broadcast services). Indeed, QUALCOMM has even wavered on the question of *how many* stations would suffer loss of over-the-air service were its above-captioned Petition granted, citing in various filings a "target list of 125 markets around the country," "30 target markets," "26 television stations," and "22 stations." See Letter from David Donovan, MSTV to Marlene H. Dortch, Secretary, FCC, at 6 (filed Jan. 12, 2006).

<sup>3</sup> See Comments of MSTV, MB Docket No. 05-312, at 5 (filed Feb. 6, 2006) ("As MSTV has explained in other proceedings, OET-69 was not designed to measure interference from multiple transmitter networks operating within the coverage areas of television stations in the same market.").

<sup>4</sup> See 47 C.F.R. § 27.60 (providing television interference protection criteria to govern transmission by 700 MHz entrants prior to the conclusion of the DTV transition).

<sup>5</sup> See Letter from Dean R. Brenner, QUALCOMM to Marlene Dortch, Secretary, FCC (filed March 29, 2006) (claiming that because the comment cycle on QUALCOMM's Petition had closed, an *ex parte* filing of the new interference methodology by MSTV "would be impossibly late and should be disregarded by the Commission for that reason"). As QUALCOMM is aware, the Commission has designated WT Docket No. 05-7 a "permit-but-disclose" proceeding under the *ex parte* rules. See Public Notice, DA 05-87 (rel. Jan. 18, 2005).

assumes that DTV stations operating on first adjacent channels were either collocated (*i.e.*, clustered all together at the same location) or significantly separated from each other (*i.e.*, outside their respective TV service area). MediaFLO, however, turns these assumptions on their head: it uses *multiple* transmitters placed *anywhere* within the service area of adjacent channel DTV stations. Because MediaFLO operates under different parameters than are assumed in the OET-69 methodology, that methodology must be revised before it can be used to predict interference from MediaFLO to reception of over-the-air television stations.

*Variable vs. Fixed D/U Ratio:* Television receivers operating at moderate and high signal levels degrade differently in the presence of interference than those operating at low signal levels. This effect is well understood and documented within the technical community and television receiver designers, and has been acknowledged by the Advanced Television Systems Committee (“ATSC”).<sup>6</sup> Unfortunately, the current OET-69 methodology ignores this effect and only computes interference resulting from weak signal levels by using a single static, desired-to-undesired (“D/U”) signal ratio.

Thus, where viewers of an adjacent channel television station are subject to moderate or strong signal conditions from a MediaFLO transmitter, OET-69 will significantly underestimate the interference from MediaFLO to such viewers. For example, as demonstrated in Table 2 of the attached analysis, if a MediaFLO transmitter were co-located with KNXV-DT, channel 56 in Phoenix, OET-69 would correctly predict interference to 7,670 viewers. But if a MediaFLO transmitter were located 20 Km north of KNXV’s transmitter, OET-69 would predict interference to only 5,664 viewers (based on its incorrect assumption of weak signal conditions), whereas in fact over 75,000 viewers would be prevented from receiving KNXV-DT’s signal.

In order to properly evaluate interference from a MediaFLO transmitter that could be located anywhere within a television station’s service contour, OET-69 must incorporate D/U ratios that vary depending upon the level of the desired (television) signal level. In the attached analysis, MSTV proposes a methodology based on the values specified in the ATSC A/74 Receiver Performance Guidelines for strong, moderate, and weak DTV signal levels and modified for Part 27 applications, as well as a linear interpolation technique to determine appropriate D/U ratios when the desired signal level falls in between these three signal levels.

*Aggregate Transmitters:* As explained above, because the existing broadcasting service has been based on the use of single high-powered transmitters, it has traditionally been assumed that transmitters operating on the same channel would be widely separated from one another (*i.e.*, each station would only operate one transmitter on its assigned frequency and any other transmitters operating on that frequency would

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<sup>6</sup> See, e.g., ATSC, ATSC A/74 Recommended Practice: Receiver Performance Guidelines, at 13 (2004), available at [http://www.atsc.org/standards/practices/a\\_74.pdf](http://www.atsc.org/standards/practices/a_74.pdf) (last visited March 30, 2006).

be located far away in another market). MediaFLO, however, utilizes *multiple* transmitters operating on channel 55 in a single market.

Accordingly, OET-69 must be revised to account for the interference impact of multiple MediaFLO transmitters used to serve the same area within a television station's service contour. In its analysis, MSTV proposes a straightforward methodology that computes and aggregates the interference contribution of each transmitter.

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Regardless of whether the Commission enforces existing rules that require Part 27 licensees to create no new interference or grants QUALCOMM a new 2% interference allowance, accurate prediction of interference between MediaFLO and the public's over-the-air television service is in the interest of all parties, including QUALCOMM, local broadcasters, the Commission, and most importantly, the viewing public. Unfortunately, it appears increasingly unlikely that QUALCOMM will ever develop and propose an appropriate interference methodology.

**In light of QUALCOMM's announced plans to launch MediaFLO service later this year, MSTV urges the Commission to promptly adopt the attached proposed revisions to the OET-69 methodology for Part 27 licensees.** Such action will facilitate the coexistence of new wireless services with the public's free, over-the-air television service during the transition to digital television.

Respectfully submitted,

Association for Maximum Service  
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cc: Dean Brenner, QUALCOMM