

**TECHNICAL STATEMENT
SUPPORTING THE REQUEST FOR
SPECIAL TEMPORARY AUTHORIZATION
FOR A PROPOSED MEDIAFLO OPERATION
AT SUN VALLEY, IDAHO**

This Technical Statement provides technical information supporting a request for a special temporary authorization (STA) for a proposed MediaFLO system at Sun Valley, Idaho. The proposed MediaFLO STA operation will consist of 1 station operating on channel 55 (716-722 MHz). The proposed MediaFLO STA station will employ a non-directional (ND) transmitting antenna system. The site elevation is 1810.5 meters (5940 feet) above mean sea level (AMSL). The antenna center of radiation will be 16.2 meters (53 feet) above ground level (AGL). The proposed effective radiated power (ERP) for the horizontally polarized component consistent with FCC practice for evaluating predicted interference to broadcast stations, is 22.5 kilowatts (kW). The following provides the site coordinates (NAD-27) and antenna radiation center height above mean sea level (AMSL) for the proposed MediaFLO STA station.

43-41-44, 114-21-17, Rc=1826.7 m AMSL, 22.5 kW-ND

Interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin with adjustments made for Part-27 stations (MediaFLO, see attached Appendix). A 1 kilometer grid, 0.2 kilometer terrain increment and the 2000 US Census were employed. The FCC's database has been used to identify the analog (NTSC) television (TV) and digital television (DTV) assignments for protection. Full service TV and DTV assignments, as well as analog and digital Class A TV and low power television (LPTV) assignments on channels 54, 55 and 56 have been considered.

There are no full service TV and DTV stations on channels 54, 55 and 56 within the OET-69 study distance. The following is a list of the LPTV stations studied and the calculated interference (OET-69) to those stations from the proposed MediaFLO STA operation.

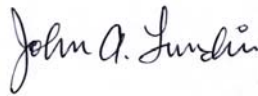
<u>Station</u>	<u>Channel</u>	<u>Interference</u>	
		<u>Population</u>	<u>Area</u>
KCJY-LP, Twin Falls, ID (Lic)	55	0	0 sq km
K55GZ, Garden Valley, ID (Lic)	55	0	0

<u>Station</u>	<u>Channel</u>	<u>Interference</u>	
		<u>Population</u>	<u>Area</u>
K55GM, Cambridge, ID (Lic)	55	0	0 sq km
K55AI, Tendoy-Baker, ID (Lic)	55	0	0
K55JS, Baker City, OR (Lic)	55	0	0
K55GC, Milton-Freewater, OR (Lic)	55	0	0
K55KF-D, Winnemucca, NV (CP)	55	0	0

The proposed MediaFLO STA operation on channel 55 in Sun Valley causes no interference (ie, 0 people, 0 sq km, 0.0%) to full service analog TV, full service DTV, Class A TV, Class A DTV, analog LPTV and digital LPTV assignments.

In summary, it is believed the proposed MediaFLO STA operation on channel 55 at Sun Valley, Idaho protects pertinent surrounding broadcast assignments. Therefore, the FCC is respectfully requested to grant the proposed STA operation.

If there are questions concerning this Technical Statement, please communicate with the office of the undersigned.



John A. Lundin

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, FL, 34237

Phone : 941-329-6000
Fax : 941-329-6030
Email : john@DLR.com

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Implementation of OET-69 Methodology Under QUALCOMM Order

On October 13, 2006, the Federal Communications Commission released its *Order In the Matter of QUALCOMM Incorporated Petition for Declaratory Ruling in WT Docket No. 05-7 ("QUALCOMM Order")*. The *QUALCOMM Order* established that the methodology outlined in the FCC Office of Engineering and Technology Bulletin No. 69 (OET-69), with certain modifications, is an acceptable methodology for making alternative showings for QUALCOMM's MediaFLO system. The *QUALCOMM Order* also granted a waiver of Section 27.60 of the FCC Rules to QUALCOMM, which permits a *de minimis* exception to the interference protection requirements.

OET-69 describes a methodology for evaluating service from and interference to broadcast television stations. It is divided into three parts: a methodology for evaluation of service, a methodology for evaluation of interference and a description of the FCC Longley-Rice computer program. Under the *QUALCOMM Order* there are no changes to the first part of OET-69, and there are the following changes to the second and third parts of OET-69.

Evaluation of Service

Pursuant to the OET-69 methodology, the population is computed within the predicted analog Grade B or DTV noise-limited service contour of the subject station taking into consideration the dipole adjustment factor applicable to UHF stations. The population within the analog Grade B service contour is employed as the baseline population for the determination of compliance with the *de minimis* criteria for analog stations. For digital stations the terrain-limited service is computed according to the OET-69 method considering the dipole-adjustment factor. All other existing sources of broadcast interference are calculated. The resulting terrain-limited interference-free service population is employed as the baseline for digital stations for the determination of compliance with the *de minimis* criteria.

Evaluation of Interference

The *QUALCOMM Order* requires modifications to the OET-69 methodology of evaluating interference so as to permit evaluation of interference from MediaFLO stations. These modifications provide a method for evaluating interference to full-service analog and digital television stations operating on Channels 54, 55, and 56 during the remainder of the DTV transition period. At the end of the DTV transition period, these analog and digital television stations will vacate these channels and there will be no more need for evaluation of interference to them.

The changes to the OET-69 methodology of evaluating interference under the *QUALCOMM Order* are as follows:

1. For MediaFLO stations, the desired-to-undesired (D/U) ratios for co-channel and adjacent-channel protection of broadcast stations are modified to reflect the D/U ratios contained in Section 27.60.
2. For MediaFLO stations the D/U ratio for determining co-channel interference to DTV service is +23 dB at all locations and is not adjusted based on the signal-to-noise (S/N) ratio of the DTV signal.
3. In accordance with Section 27.60, no consideration is given to taboo-channel interference to analog television stations from Part-27 (MediaFLO) stations.
4. Where multiple MediaFLO transmitting stations are to be deployed, a Root-Sum-Square (RSS) summation of undesired fields from individual MediaFLO transmitting stations will be used to establish the interfering signal in each grid evaluated.

A discussion of the changes to the OET-69 methodology follows.

The first change is the incorporation of the D/U ratios of Section 27.60 for evaluation of interference from MediaFLO transmitting stations. A summary of the D/U ratios employed in the OET-69 methodology as modified by the *QUALCOMM Order* is contained in the following table.

D/U Ratio Comparison (dB)			
Relationship	Undesired Signal Type		
	Analog TV	Digital TV	MediaFLO
Co-channel into desired DTV	+2	+15	+23
Co-channel into desired analog TV	+28 (offset) +45 (non-offset)	+34	+40
Lower adjacent channel into desired DTV	-48	-28	-23
Lower adjacent channel into desired analog TV	-3	-14	0
Upper adjacent channel into desired DTV	-49	-26	-23
Upper adjacent channel into desired analog TV	-13	-17	0

The second change relates to the adjustable D/U ratio for determining co-channel interference to DTV service found in Section 73.623 of the Commission's Rules. For co-channel analog TV into DTV the D/U ratio varies from +2 dB at locations where the DTV service S/N ratio is 25 dB or greater to as great as +21 dB where the DTV service S/N ratio is 16 dB. For co-channel DTV into DTV the D/U ratio varies from +15 dB where the DTV service S/N ratio is 28 dB or greater to as great as +23 dB where the DTV service S/N ratio is 16 dB. Under the *QUALCOMM Order* a flat +23 dB D/U ratio is employed. This matches the D/U ratio contained in Section 27.60 and is the "worst-case" D/U ratio for co-channel interference to DTV service presently in OET-69.

Thirdly, since Section 27.60 does not prescribe consideration of taboo-channel interference to analog TV service, under the *QUALCOMM Order* taboo-channel interference from MediaFLO transmitters to analog TV service is not considered in the modified OET-69 methodology.

Fourthly, QUALCOMM may require more than one MediaFLO transmitter in certain markets. To evaluate the combined interference impact from multiple transmitters, the *QUALCOMM Order* specifies the RSS method of summing predicted fields from multiple transmitters. All MediaFLO stations that are subject to *QUALCOMM Order* filings that are within the “culling” distances specified in Table 7 of OET-69 with respect to the grid cells of subject station are included in the RSS interference analysis. The interfering fields from each MediaFLO transmitter, in dB μ V/m, in each OET-69 grid are calculated after consideration of the appropriate receive antenna discrimination and converted to their corresponding linear values in μ V/m, squared, then summed, and the square root of the sum taken to get the combined field in μ V/m. This combined field is then converted back into logarithmic form in dB μ V/m and tested to determine whether it meets the required D/U ratio.