Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Second Periodic Review of the	)	MM Docket No. 03-15
Commission's Rules and Policies	)	
Affecting the Conversion to	)	RM 9832
Digital Television	)	
	)	

COMMENTS OF FLARION TECHNOLOGIES, INC.

Flarion Technologies, Inc. ("Flarion") respectfully submits these comments in the Commission's second periodic review of issues affecting the conversion of the nation's broadcast television system from analog to digital technology ("DTV").[1] Flarion urges the Commission to adopt DTV transition rules and policies that will speed the migration of non-core television licensees to core DTV channels, so that wireless service providers may begin deploying new services and equipment in the 700 MHz band.[2]

I. INTRODUCTION

Flarion is developing and commercializing a new wireless data access technology known as flash-OFDM (Orthogonal Frequency Division Multiplexing) that will provide mobile network operators with breakthrough speed, reliability, and cost effectiveness. This innovative technology will allow mobile users of devices that will operate in the 700 MHz band, such as PDAs, handheld PCs, laptops, and smart phones, to access the Internet, voice over IP, and other multimedia services at speeds

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[1] *See In re Second Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, Notice of Proposed Rulemaking, MB Docket No. 03-15, FCC 03-8 (rel. Jan. 27, 2003) ("NPRM").

[2] The 700 MHz band (698-806 MHz) consists of non-core television channels 52-69. *See id*. at ¶ 39.

previously available only over broadband connections such as DSL and cable. Flash-OFDM technology is a very spectrally efficient, low cost technology that will provide end users with broadband mobile data communications using existing Internet protocols and applications. As the demand for wireless data services grows, the Commission should encourage spectrally efficient technologies, such as flash-OFDM, by removing barriers to the deployment of such technology in the 700 MHz band.

II. EXPEDITED CLEARING OF THE 700 MHZ BAND WILL FACILITATE THE RAPID DEPLOYMENT OF NEW TECHNOLOGIES.

The Commission should adopt DTV transition rules that will expedite the clearing of the 700 MHz band and facilitate the swift entry of new services and products in the band. The continued presence of television broadcast licensees on non-core channels 52-69 continues to limit the availability and deployment of new equipment and technologies in the 700 MHz band.[3] Flarion's potential customers have been reluctant to invest in 700 MHz equipment because such equipment presently cannot be used in major population centers due to interference from television stations operating in out-of-core spectrum.[4]

As a result, the 700 MHz band risks becoming orphaned spectrum. New wireless service providers in the band and their subscribers do not want to invest in equipment that they cannot use until after the DTV transition period. Equipment manufacturers, in turn, have no inducement to develop products for which there will be no considerable demand until after the 700 MHz band has been cleared. Moreover, manufacturers have little incentive to innovate or mass-produce equipment for which

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[3] Presently, there are 196 NTSC incumbents and 186 DTV incumbents in on channels 52-69. *See* NPRM at n. 44 and n. 55.

[4] As the Commission is aware, many of the demonstrations of Flarion's technology, including the demonstration for FCC Commissioners and personnel in 2002, have been conducted under temporary authority from the Commission using 700 MHz frequencies. Flarion's broadband mobile Internet technology could be deployed in consumer volumes at 700 MHz once the interference issues presented by the DTV transition are resolved.

presently there is little demand, which in turn has kept the price of such equipment high.

For these reasons, the Commission should pursue the rapid recovery of channel 52-69 spectrum by adopting rules that will encourage broadcasters either to use the spectrum or to migrate to core channels.

III. DIGITAL TELEVISION STATIONS OPERATING ON NON-CORE CHANNELS SHOULD BE SUBJECT TO EARLY REPLICATION AND MAXIMIZATION INTERFERENCE PROTECTION DEADLINES.

The Commission has sought comment on whether it should adopt earlier replication and maximization protection deadlines for DTV stations operating on non-core channels 52-69 than the deadlines it will adopt for stations operating on core channels 2-51.[5] Flarion urges the Commission to adopt early replication and maximization interference protection deadlines for all DTV stations operating on non-core channels. That deadline should be no later than one year after the Report and Order in this proceeding is effective.[6] After that date, wireless operators should be required to protect only actual DTV facilities.

With no specific deadline for lifting interference protection, broadcasters have little incentive to use their replication or maximization facilities before the end of the DTV transition period.[7] Broadcasters on non-core channels (52-69) have even less incentive to build replication or maximized facilities. As the Commission notes in the NPRM, non-core DTV licensees may never intend to serve their full NTSC replication service areas during the DTV transition. Similarly, non-core licensees have little reason to construct maximized facilities that will receive interference protection for un-served areas only until the end of the DTV transition.[8]

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[5] *See* NPRM at ¶ 40.
[6] *See id*. at ¶ 34.
[7] *See id*.
[8] *See id.* at ¶¶ 53 and 54.

An early replication and maximization protection deadline will spur non-core broadcasters to address these uncertainties sooner rather than later and will speed the clearing of the 700 MHz band for use by new wireless service providers. Non-core licensees should be required either to build replication or maximized facilities within one year after the effective date of the Report and Order in this proceeding. Setting a firm early deadline will allow new service providers in the 700 MHz band and equipment manufacturers like Flarion to move forward with their own business plans and will facilitate the deployment of new services in the band.

IV. CHANNEL 51 TELEVISION LICENSEES SHOULD BE REQUIRED TO PROTECT WIRELESS SERVICE PROVIDERS OPERATING ON ADJACENT CHANNEL 52.

The Commission has requested comment on how to protect television licensees on core channel 51 from possible interference from new wireless service providers operating on adjacent channel 52. [9] Flarion suggests that any interference protection obligation that the Commission adopts should be reciprocal. Channel 51 television licensees should be required to protect channel 52 wireless operators from harmful interference and vice versa.

Moreover, applicants for new broadcast facilities on channel 51 should be required to undertake frequency coordination with wireless operators using channel 52 frequencies located within 100 miles of the proposed channel 51 facilities. Such a requirement would provide notice to wireless operators, underscore the obligation of channel 51 broadcasters to protect wireless operators on channel 52 frequencies, and allow both users of the frequencies to take steps to minimize potential interference.

The Commission also requested comments on whether it should retain or modify the interference standard currently used for television-wireless adjacent channel licensees, and how it can accomplish interference protection without restricting the use

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[9] *See id.* at ¶ 60.

of channel 52 spectrum.[10] The current rules treat the entire 6 MHz comprising channel 52 as "adjacent" to channel 51. However, a 1.25 MHz wireless channel used at the top of channel 52 could be as far as 4.75 MHz removed from the top of channel 51 and as much as 9.5 MHz removed from the channel 51 visual carrier. Thus, such "distantly adjacent" wireless channels should not be subject to the same adjacent channel protection requirements imposed on wireless channels immediately adjacent to channel 51.[11]

Instead, the Commission should reduce or eliminate the required desired/undesired signal strength ratio for "distantly adjacent" wireless channels.[12] At minimum, the Commission should recognize that "distantly adjacent" wireless channels are less likely to interfere with channel 51 facilities than wireless channels that are immediately adjacent to channel 51. Therefore, the Commission should consider this factor in evaluating alternative engineering analyses allowed under Section 27.60 of its rules.

CONCLUSION

For the foregoing reasons, Flarion urges the Commission to adopt DTV transition rules and policies that will promote more efficient use of the 700 MHz band during the

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[10] *See id*.

[11] For example, a 1.25 MHz wireless channel at the bottom of channel 52 is 0 MHz removed from the top of channel 51 and only 4.75 removed from the channel 51 visual carrier.

[12] This argument applies to all TV channels that are adjacent to wireless services, not just channel 51.

transition period and allow new service providers and equipment manufactures to implement their deployment plans in the band.

Respectfully submitted,

FLARION TECHNOLOGIES, INC.

By: _____
Henry Goldberg

Goldberg, Godles, Wiener & Wright
1229 Nineteenth Street, N.W.
Washington, DC 20036
(202) 429-4900

Its Attorneys

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