

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of)
)
Amendment of Parts 1, 21, 73, 74 and 101)
Of the Commission's Rules to Facilitate)
The Provision of Fixed and Mobile) WT Docket No. 03-66
Broadband Access, Educational and Other)
Advanced Services in the 2150 – 2162 and)
2500 – 2690 MHz Bands)

To: The Commission

REPLY COMMENTS OF ARRAYCOMM, INC.

Respectfully Submitted,

By: _____ /s/

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ArrayComm, Inc. (hereinafter “ArrayComm”) is generally pleased with Comments filed in this proceeding. For the first time in a broad-scale allocation rule making, Comments favoring equal considerations for TDD and FDD systems were substantially in the majority. This opinion was usually cast in the context of a request to the Commission that it adhere to a policy of technological neutrality.¹ It was pointed out that all of the low power broadband transmitters currently approved for the MMDS/ITFS band are TDD.²

It appears that a large number of Comments, if not a majority, recommend that the 2500 – 2690 MHz band should be divided into four roughly equal segments. Two would go to FDD systems for uplink and downlink operations; one would be for high-powered operation such as ITFS and one for TDD. On that basis, ArrayComm would urge the Commission to allocate 50 MHz for TDD.

We recognize that this is a departure, in a sense, from our position in our Comments where we proposed an allocation based on assignments. Simply put, we proposed that a predetermined allocation of spectrum for ITFS be made, to be located roughly in the center of the band. FDD MMDS licenses would be assigned starting from the upper portions (or the lower portions) of the upper and lower band while TDD MMDS licenses would be assigned starting from the lower portions (or the upper portions) of the upper and lower bands. The process would continue until the spectrum was exhausted. At that point, subsequent users of that technology could penetrate whatever spectrum was available.

This plan has a number of attractive features:

¹ NextNet Wireless, Inc. “. . . the Commission should ensure technological neutrality by adopting an MDS/ITFS band plan that fully supports TDD and FDD technologies. Because TDD and FDD systems offer different advantages, the Commission should avoid any band plan that favors one technology over the other.” page 4.

² IPW Wireless, Inc., fn 4 on page 3.

1. It separates FDD and TDD systems. Virtually every one of the Commenters expressed concern that co-mingling these systems in the same geographic area would result in serious co-channel and/or adjacent channel interference problems.
2. It would keep the number of guard bands to a minimum.
3. It would determine which service or technology obtains more or less spectrum solely on market demand. It was ArrayComm's concern that the Commission would not be predisposed to a technology-based partition established in advance. ArrayComm still believes that this proposal has merit. The sense of the Comments, however, seems to indicate that an allocation determined in advance is generally acceptable, and it certainly simplifies coexistence considerations as pointed out in our Comments³. So we join with those who favor separate allocations to the three technologies.

In our Comments we presented two sets of bandplans, an "Option A" and an "Option B" variant.⁴ The Option A variant placed TDD operations at higher frequencies than FDD operations, while Option B placed TDD operations at lower frequencies than FDD operations. If the Commission allocates a single contiguous block of spectrum to TDD operations, we urge that the block be located below the lower portion of the paired FDD allocation, starting at 2500 MHz consistent, with our Option B proposal for TDD operations in the lower portion of the band. This placement provides TDD mobile devices with uplink propagation characteristics similar to FDD mobiles.

Whatever suggestion for allocating this spectrum is advanced, it must be compared with the elaborate, detailed proposal submitted jointly by World Communications Association, Inc., the National ITFS Association and the Catholic Television Network. ArrayComm will refer to them collectively as the "Coalition." This proposal clearly represents a substantial

³ ArrayComm Comments, page 6.

⁴ *Id.*, Pages 7-9

effort; it must be afforded careful consideration if only because it represents the views of many of the incumbents in this band.

Perhaps it is this intimacy that gives ArrayComm pause. It is a key contention of the “Coalition” plan that it provides “flexibility.” Flexibility as contemplated by the “Coalition” seems to mean that a licensee is not bound by the technology it initially chooses. It might start out with an FDD system, discover that it can better serve its market with a TDD system and, hence, flip-flop from one technology to another. As we read the Comments, it is evident that some existing users in this band are undecided about what technology to employ.⁵ For those entities, the “Coalition” plan allows them to delay any permanent decision indefinitely. While nothing in our proposal prevents a licensee from pairing unpaired spectrum for the purposes of operating an FDD system, or operating a TDD system in one or both halves of an FDD license, we believe that providing separate spectrum for TDD and FDD services will minimize and simplify the coexistence issues that will arise in the band.

Flip-flopping may cause serious problems that negate the benefits of being able to convert from one technology to the other on the same channel. Where disparate technologies exist, there is a high risk of interference. Switching operations on frequency X from TDD to FDD or vice versa may have adverse consequences to co-channel or adjacent channel operations in the same geographic area. As such, the interference may be internal to the licensee or to (or from) other licensees. The “Coalition” position seems to be that since a particular frequency is controlled by a single licensee (one of its members) in a given area, it can change technologies. Any problems, however unlikely argues the Coalition, can be resolved “off line.”

We would maintain that, at a minimum, the process to deal with these situations ought to be transparent. It is somewhat ironic that licensees who have expressed strong opposition

⁵ See, Sprint Corporation, pages 3-5.

to the intrusion of unlicensed operations on their channels are willing to accept potential interference of a potentially much higher degree on a “we’ll-work-it-out” basis.

ArrayComm again wishes to express its gratification that so many Commenters recognize the benefits of TDD and reject the arguments of those manufacturers whose principal business is making and marketing FDD systems.⁶

⁶ See, Lucent Technologies at page 2; Motorola, Inc. at pages 3 and 13.