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January 23, 2003

BY ELECTRONIC FILING

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: WT Docket No. 02-55, IB Docket No. 01-185, ET Docket No. 00-258
Ex Parte Presentation

Dear Ms. Dortch:

On Wednesday, January 22, 2003, Robert Foosaner, Senior Vice President, Nextel Communications, Inc. ("Nextel"), Larry Krevor, Nextel's Vice President - Government Affairs, Leonard Cascioli, Nextel's Vice President - RF Engineering and Operations, and I met with Barry Ohlson, Interim Legal Advisor for Spectrum and International, Office of Commissioner Adelstein, regarding interference issues in the above-captioned proceedings. We discussed the attached presentation regarding interference in the 1.9 GHz band.

Pursuant to section 1.1206(b)(2) of the Commission's rules, 47 C.F.R. § 1.1206(b)(2), this letter is being filed electronically for inclusion in the public record of the above-referenced proceedings.

Sincerely,

/s/ Regina M. Keeney
Regina M. Keeney

Attachment

cc: Barry Ohlson

Ex Parte Presentation

Nextel's Response to Allegations of Potential Interference Between Prospective MSS/ATC Operations and PCS Operations in the 1.9 GHz Band

Nextel Communications, Inc.
January 22, 2003

WT Docket No. 02-55
IB Docket No. 01-185
ET Docket No. 00-258

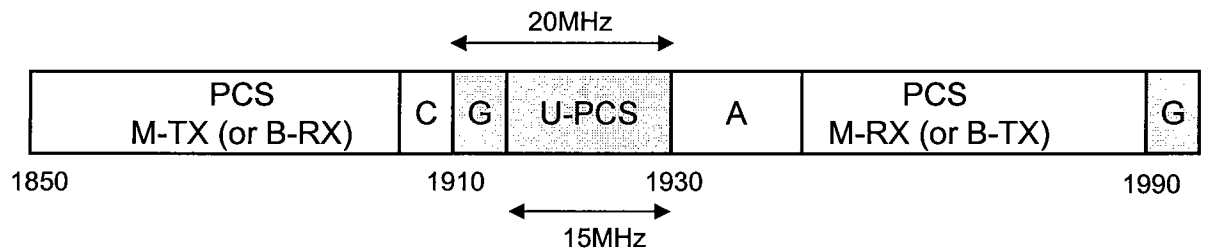
The Issues:
Possible Interference to PCS After Reallocations

- PCS providers have raised interference concerns with respect to: (1) the possible reallocation of 1910-1915 MHz from Unlicensed PCS ("UPCS") to CMRS; and (2) the authorization of Ancillary Terrestrial Components ("ATC") in the Mobile Satellite Service ("MSS") at 1990-2025 MHz.

- **Issue 1** - Prospective G Block Mobile Transmit (1910 –1915 MHz) interference to PCS Mobile Receive (1930 –1990 MHz) due to 5 MHz reduction in duplexer gap.
  - Modified duplexer for G block licensee prevents problem.

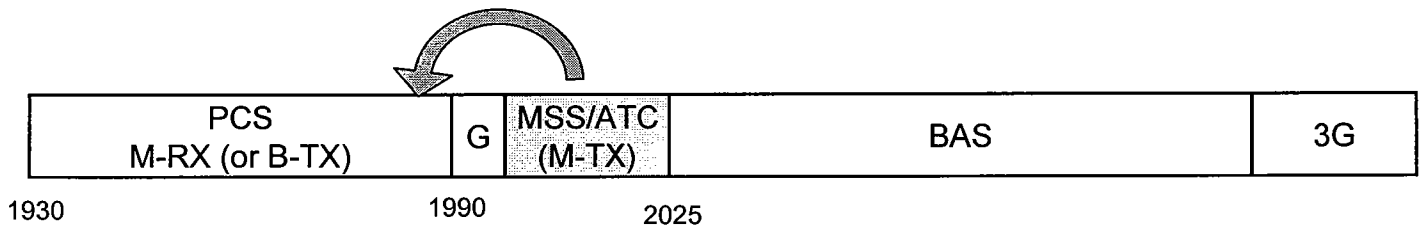
- **Issue 2** – Potential for MSS/ATC Mobile Transmit (1990-2025 MHz) Interference to PCS Mobile Receive (1930-1990 MHz).
  - Nextel has asked that 1990-1995 MHz be reallocated to CMRS and assigned to Nextel.
  - Interference from MSS/ATC to PCS/Nextel is possible; however, the probability of subscribers actually experiencing interference is very low, given the combination of contributing factors necessary to produce interference.
  - Thus, MSS/ATC allocation can be adjacent to PCS/Nextel without a guard band. MSS and PCS operators can cooperate to avoid interference issues just as A, B, D and E Block PCS licensees do today.
  - A 15 MHz or larger guard band between MSS/ATC mobile transmit and PCS mobile receive is unnecessary.

Issue 1 – Reallocation of Unlicensed PCS Spectrum to Nextel Will Not Increase Likelihood of Interference to PCS



- Under today's 1.9 GHz (1910-1915 MHz) band plan, there is 20 MHz of duplexer gap between PCS Transmit ("TX") and PCS Receive ("RX").
- This 20 MHz provides attenuation such that PCS mobile receive (M-RX) band is protected from PCS mobile transmit (M-TX) band.
- G Block (1910-1915 MHz) reallocation for CMRS (potentially to Nextel as part of the Consensus Plan for 800 MHz realignment) reduces the duplexer gap to 15 MHz.
- Loss of attenuation due to 5 MHz reduction in duplexer gap, if any, can be accommodated by redesigning G block duplexer such that no interference will occur.
- Existing PCS handsets cannot operate in G block and cannot cause interference to PCS M-RX.
- Several vendors agree: no interference to PCS mobile receive band if 1910-1915 MHz UPCS is reallocated to Nextel/CMRS:
  - Motorola: implementation of 15 MHz duplexer for PCS band is feasible with minimal cost/size/performance impact
  - Agilent: new duplexer design will achieve required attenuation within 15 MHz
  - Qualcomm: new duplexer design should eliminate potential for interference

Issue 2 – MSS Reallocation and Potential Interference to PCS

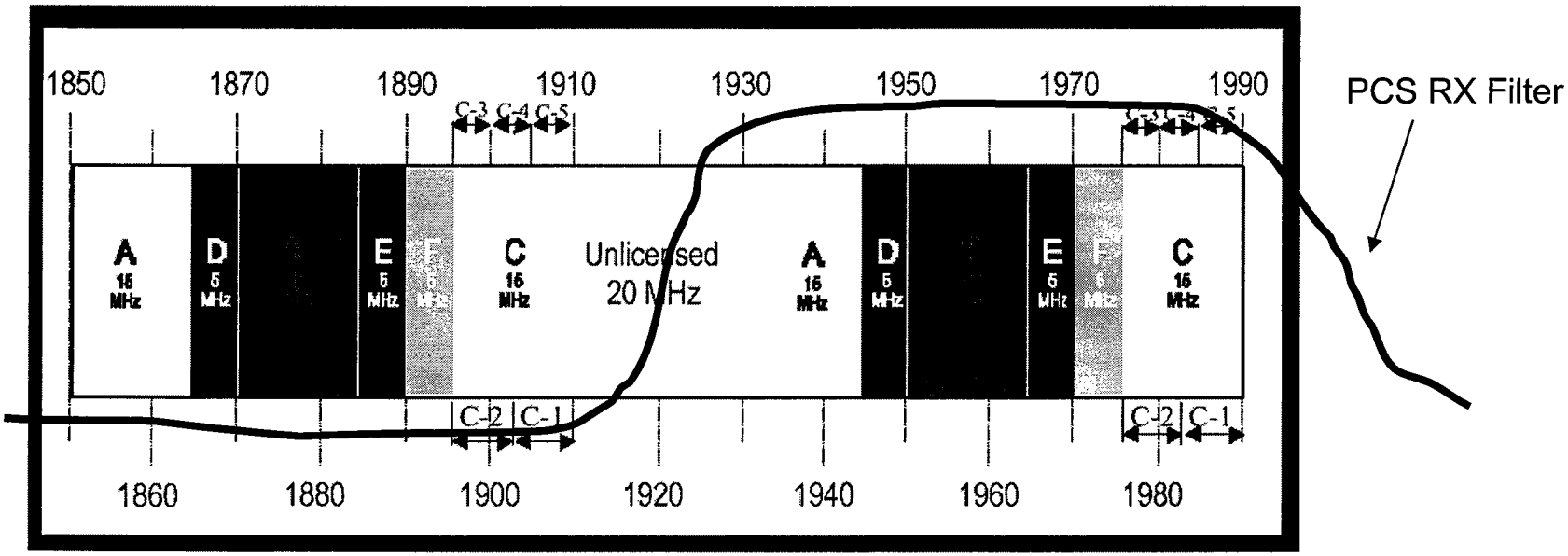


- PCS carriers claim that MSS/ATC mobile transmit (M-TX) (1990-2025 MHz) will interfere with PCS mobile receive M-RX (1990 MHz & below) and assert that 15-20 MHz Guard Band is required to protect PCS M-RX.
- Prospective G block (1990-1995 MHz) would be M-RX just like the adjacent PCS bands; PCS carriers confirm that there is no interference issue between prospective G block CMRS licensee and existing PCS M-RX operators.
- Interference from MSS M-TX to PCS M-RX is possible; however, Nextel disagrees that 15-20 MHz Guard Band is necessary to protect PCS M-RX.

Issue 2 – MSS Reallocation and Potential Interference to PCS: Probability of Interference from MSS/ATC to PCS/Nextel is Very Low

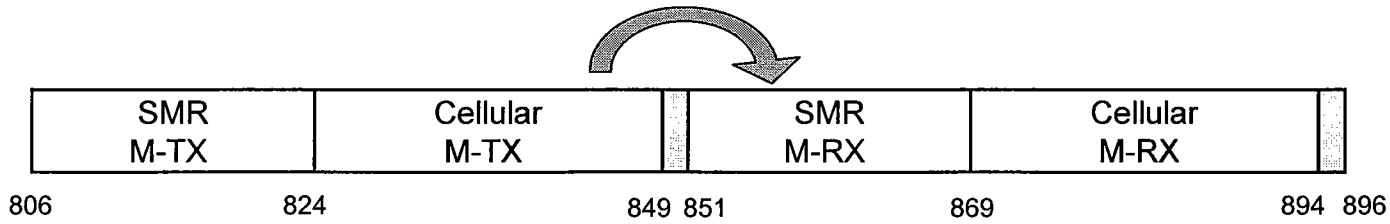
- Probability of required factors occurring at same time and causing interference is very low. Interference from proposed MSS/ATC mobile transmit at 1990-2025 MHz to PCS M-RX only occurs when:
  - –Both mobiles (PCS and MSS/ATC) are very close to each other
  - –Both mobiles are making calls
  - –Desired signal for PCS mobile is very weak
  - –MSS/ATC mobile transmitting at its maximum power
- In dense urban areas, where the probability of the first two factors occurring at the same time is highest, the street level signal strength of PCS B-TX (mobile receive) will be relatively high (robust) due to the large number of PCS cell sites in such areas. At the same time, MSS/ATC M-TX should be operating at relatively lower power levels in this environment because of similar terrestrial base station site infrastructure for urban ATC.
- In suburban/rural areas, where on-street signal strength is relatively lower, the probability of having two mobiles within a few feet and making calls at the same time is very low. Even if this happens, need significant disparity in PCS and MSS/ATC signal strength to trigger PCS mobile interference.
- PCS operators routinely work together to prevent PCS BS-TX to PCS MS-RX interference cases through coordination; PCS and ATC can do the same.

Issue 2 – MSS Reallocation and Potential Interference to PCS: If PCS assertions Were Correct, Extensive Interference Would Be Occurring Today Between Adjacent PCS Systems



- Because PCS mobile receive handset filter is over 60 MHz wide, D Block PCS mobiles receive base station transmit signals from all PCS operators in a market. In dense urban areas such as New York City, where transmitter towers are less than 50 ft high, D Block PCS mobiles, for example, should experience severe interference from PCS base station signals -- particularly from A and B Block operators.
- *Notwithstanding the above, D block mobiles do not experience significant interference from other PCS carriers. As discussed above, probability is very low of all necessary interference factors occurring in the same place and at the same time.*

Issue 2 – MSS Reallocation and Potential Interference to PCS: A Similar Band Plan Exists at 800 MHz with No Interference



- There is a near-identical band allocation at 800 MHz where cellular M-TX is adjacent to the Land Mobile Radio Band (SMR) M-RX with 2 MHz of Air-to-Ground systems acting as a *de facto* guard band.
- Using the PCS carriers' own arguments, Nextel's customers in Land Mobile Radio Band (851-866 MHz) should be experiencing severe interference from cellular mobiles transmitting at 824-849 MHz – *but* they are not.
- More than 50 million customers in 800 MHz cellular band adjacent to Land Mobile Radio band. Nextel has more than 10 million subscribers in the Land Mobile Radio band. *There have, however, been few if any incidents of customer- impacting interference caused by cellular M-TX to Land Mobile Radio/SMR M-RX band.*