

**T-Mobile**

# T-Mobile USA, Inc. Ex Parte Presentation

WT Dockets 02-353 & 04-356

- One of the fastest growing wireless carriers: 19.2 million subscribers at mid 2005, up from 9.9 million at EY2002.
- Access to additional spectrum resources is critical to T-Mobile's continued ability to meet growing consumer demand for existing and new advanced services.
- T-Mobile applauds the Commission's efforts to make AWS spectrum at 1.7/2.1 GHz available to wireless operators as quickly as possible.

- T-Mobile also commends the Commission for making additional 20 MHz of spectrum available for AWS services in the H & J Blocks.
- The Commission must ensure, however, that appropriate safeguards are in place to protect incumbent PCS operations from harmful interference from H Block out-of-band emissions (OOBE) and in-band overload.
- A power limit of 200 mW EIRP measured on an *average* basis, as well as a requirement that H Block handsets conform to an OOBE limit of  $-76$  dBm/MHz, should make the H Block useable for PCS-like services while protecting incumbent GSM operations.

- Industry tests suggest that H Block handsets may interfere with GSM handsets when several conditions exist. T-Mobile believes that the likelihood of conditions existing is relatively low. These conditions include:
  - The H Block handset transmits at high power.
  - The GSM handset is near cell edges, and hence receives at nearly minimum power.
  - The two handsets operate in close proximity to one another (within 1 meter).
  - The two handsets operate in close proximity in frequency (at band edges).

- The following factors also affect the interpretation of the test results:
  - Assumption in body-loss: A few dB increase in the body-loss assumption could significantly change the interference outlook.
  - Handset performance: Industry test results show that some handsets performed better than others when confronting potential H Block handset interference. This negative effect seems more evident with CDMA handsets. The interference outlook is thus variable depending on handsets under test.

- 13 dBm Power Level:

- T-Mobile believes a 13 dBm power level will undermine the usefulness of the H-Block for most of the mainstream technologies suitable to AWS, hence potentially lowering the value of the spectrum significantly.
- A 13 dBm power level will require 10 times as many BTS sites as needed for 30 dBm, and 4 times as many as needed for 23 dBm, in order to provide services covering a given geographical area.

- Splitting in-band power levels:
  - Under this proposal, the power limits would be 30 dBm and 6 dBm for the lower 2 MHz and the upper 3 MHz of the H Block, respectively.
  - The lower 2 MHz can be used to deploy a CDMA carrier (which requires only 1.25 MHz). However, it could not be used for UMTS, as an UMTS carrier requires 5 MHz. In addition, it would not be feasible to deploy GSM in the lower 2 MHz, as GSM requires at least 3 MHz for a workable BCCH frequency plan (not to mention the additional spectrum needed for the TCH frequency plan).
  - For the upper 3 MHz, T-Mobile believes it would be extremely difficult to make good use of the spectrum for PCS like services, due to the very low power limits.