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September 3, 2008

VIA ELECTRONIC FILING

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
Washington, DC 20554

Re: **Ex Parte Notice**
WT Docket No. 07-195
WT Docket No. 04-356

Dear Ms. Dortch:

On September 2, 2008, Neville Ray, Cody Sanford, Sara Leibman, Patrick Welsh, Yasmin Karimli, Pablo Tapia, Nelson Ueng, and the undersigned of T-Mobile USA, Inc., along with Tom Dombrowsky (Engineering Consultant) of Wiley Rein LLP met with Julius Knapp, Jim Szeliga, and Ahmed Lahjouji of the Office of Engineering and Technology and Stephen Zak of the Wireless Telecommunications Bureau. In this meeting, the parties discussed the attached slides regarding AWS-3 lab testing. Pursuant to Section 1.1206(b)(2) of the Commission's rules, an electronic copy of this letter is being filed for inclusion in the above-referenced dockets. Please direct any questions regarding this filing to the undersigned.

Sincerely,

/s/ Kathleen O'Brien Ham

Vice President, Federal Regulatory Affairs
T-Mobile USA, Inc.
401 9th Street, NW
Suite 550
Washington, DC 20004

cc: Julius Knapp
Jim Szeliga
Ahmed Lahjouji
Stephen Zak

T-Mobile USA Presentation to FCC OET on AWS-3 Lab Testing

September 2, 2008

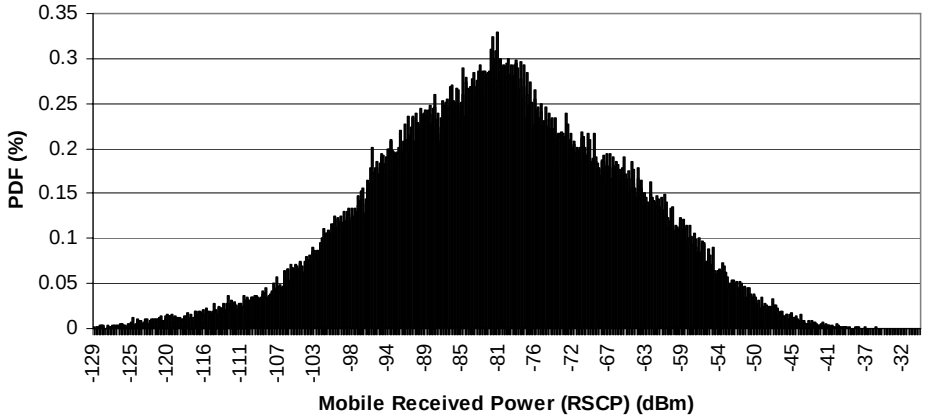
T-Mobile

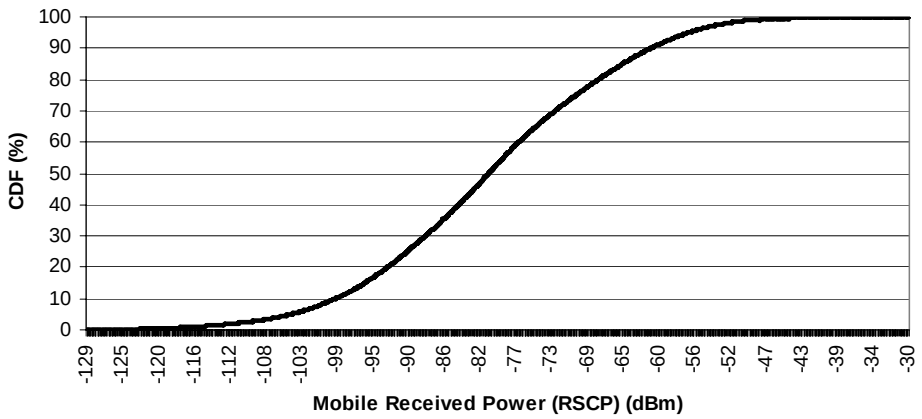
Agenda

- Background on Selection of Test Levels
  - AWS-1 Receive Powers
  - AWS-3 Transmit Powers
- Role of Receive Filters in AWS Interference
  - Out-of-band Emissions (OOBE)
  - Lab Tests Conducted with Filters Rolling Off at Edge of AWS-1
- Lab Tests to be Conducted this Week
  - OOBE + ACI Tests at Different Receive and Transmit Powers
  - WiMAX with Different Bandwidths
  - Custom Filter and Test Equipment Spectrum Responses
- Asymmetrical Pairing of AWS-3 Downlink is a reasonable alternative
- Next Steps

Background on Selection of Test Levels: AWS-1 Receive Powers

- Received Code Signal Power (RSCP) drive test measurements made of UMTS networks in several markets .
- One market's information is shown below for a dense urban drive test



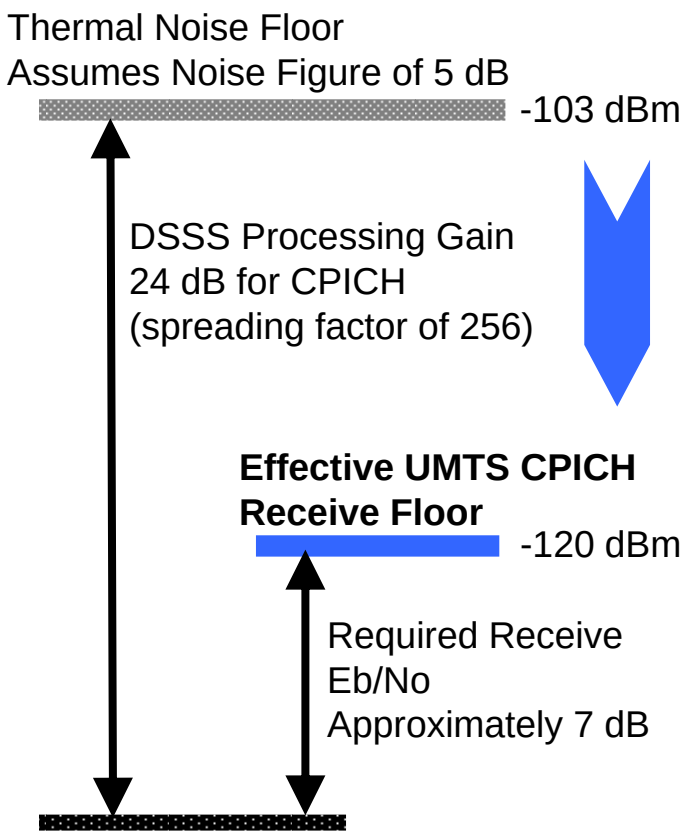


- This measured market has 26% < -90 dBm, 9% < -100 dBm and 5% < -105 dBm
  - These drive test measurements do not include indoor locations where RSCP values would typically be much lower
- Received powers of -90, -100 and -105 dBm are representative of typical UMTS markets and clearly not rare or extreme

Background on Selection of Test Levels: CDMA Victim Receiver Performance

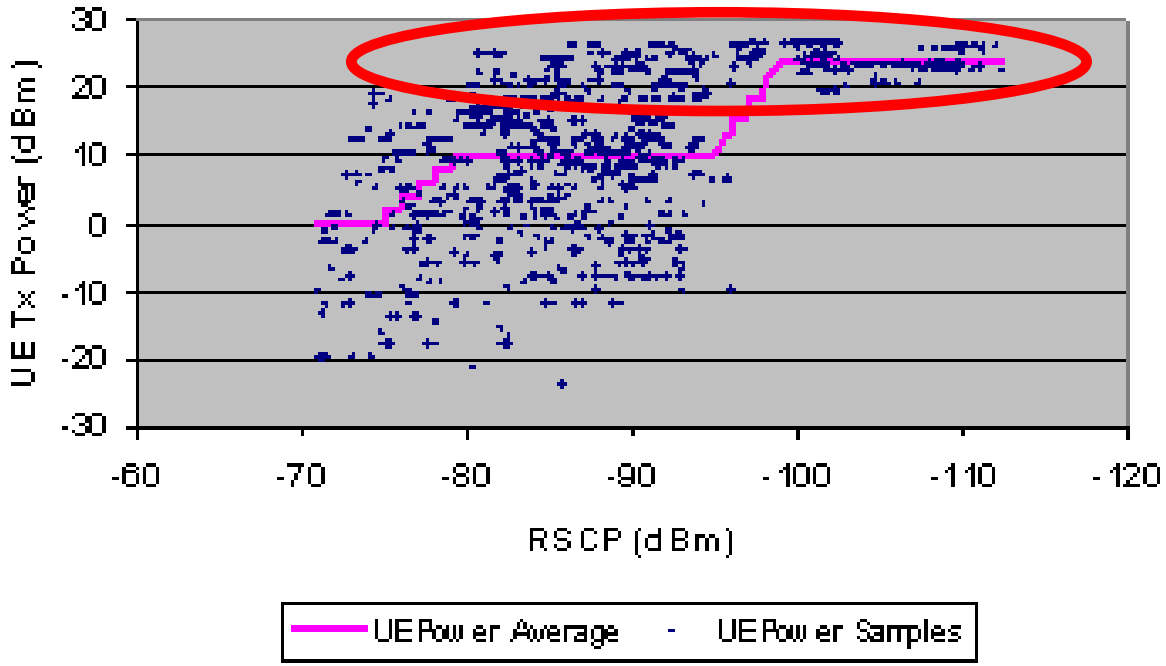
- Universal Mobile Telecommunications System (UMTS) uses Wideband Code Division Multiple Access (WCDMA) technology
- Due to the direct sequence spread spectrum processing (DSSS) gain, CDMA receivers can and do receive signals below the thermal noise floor
  - UMTS receive sensitivity is far lower than the noise floor
- Received Signal Code Power (RSCP) is measured for the downlink common pilot channel (CPICH)
  - CPICH must always be received by the mobile because it is used for carrier recovery and coherent demodulation
  - Therefore CPICH is broadcast by the base station cell sites at higher transmit power (10-15% of total power) than traffic (voice) channels
  - This makes CPICH a stronger signal compared to other channels

Example UMTS Receive Sensitivity:



Background on Selection of Test Levels: AWS-3 Transmit Powers

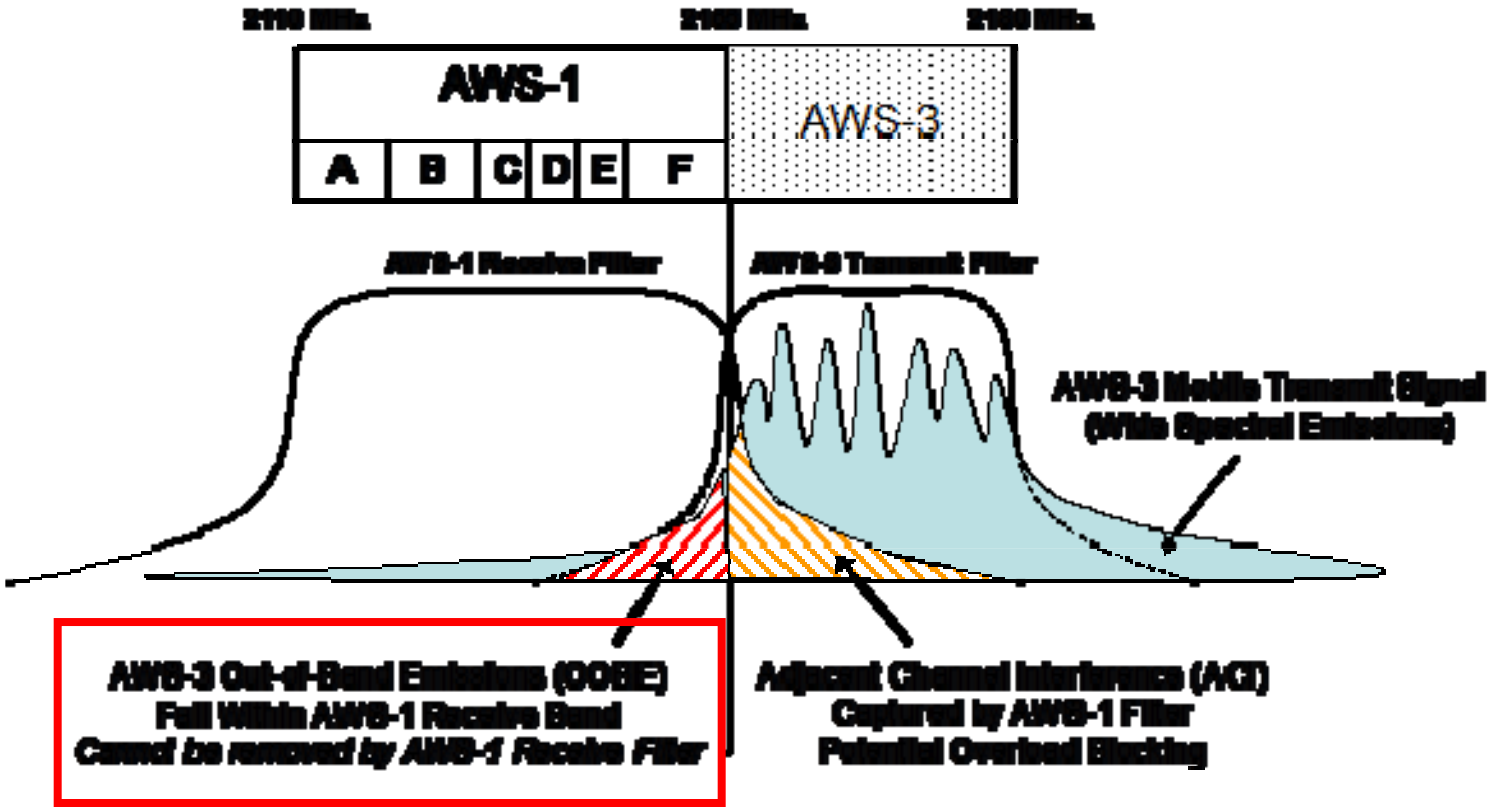
- Transmit power drive test measurements made of UMTS/HSPA device while uploading data



- Often necessary to have high transmit power even in relatively good conditions
- In non-ideal conditions, transmit powers nearly always pegged at or near maximum

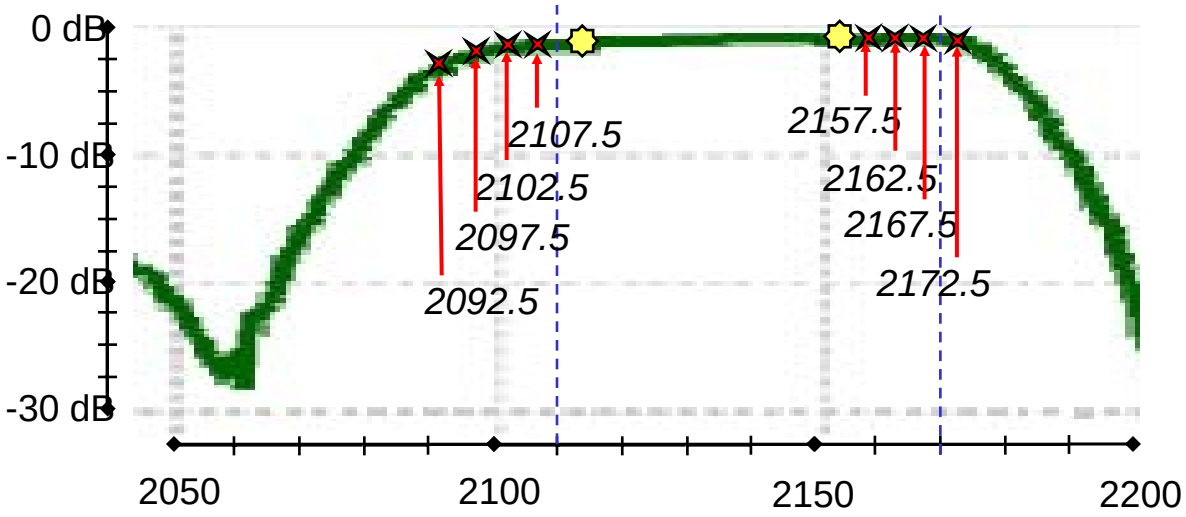
Role of Receive Filters in AWS Interference

- OOBE is a large source of the interference from AWS-3 to AWS-1
  - OOBE cannot be removed by AWS-1 receive filter because it is from AWS-3 device emissions that are within the AWS-1 band



Role of Receive Filters in AWS Interference

- Commercial AWS-1 handsets have receive filters with a pass band from 2110 to 2170 MHz
  - At the 2110 MHz lower end of AWS-1 band the filter rolls off at the band edge
  - At the 2155 MHz upper end of AWS-1 band the filter rolls off outside the band edge



- Lab tests were conducted with filters rolling off at edge of AWS-1
  - Tests cases performed with interferer at upper and lower ends of the AWS-1 band
  - At lower end of AWS-1 band, the current handset receive filters roll off at the band edge
  - Lab tests demonstrated that better AWS-1 receive filtering will not solve the interference problem

Discussion of M2Z's Proposed Front-end Filter

- M2Z's consultant, Hector De Los Santos PhD, claims that it is "plausible that a filter with an insertion loss lower than 10dB, and a skirt steepness of 20 dB over 5 MHz" could be developed

- Even if such front-end filters could be developed, M2Z's claims about their efficacy have been disproven by T-Mobile's lab tests: Front–end filters will not solve the OOBE interference issue

- A 10 dB of insertion loss in front-end filters will shrink T-Mobile's network link-budget by 10 dB
  - Significantly reduces radio network's coverage – as much as 65%

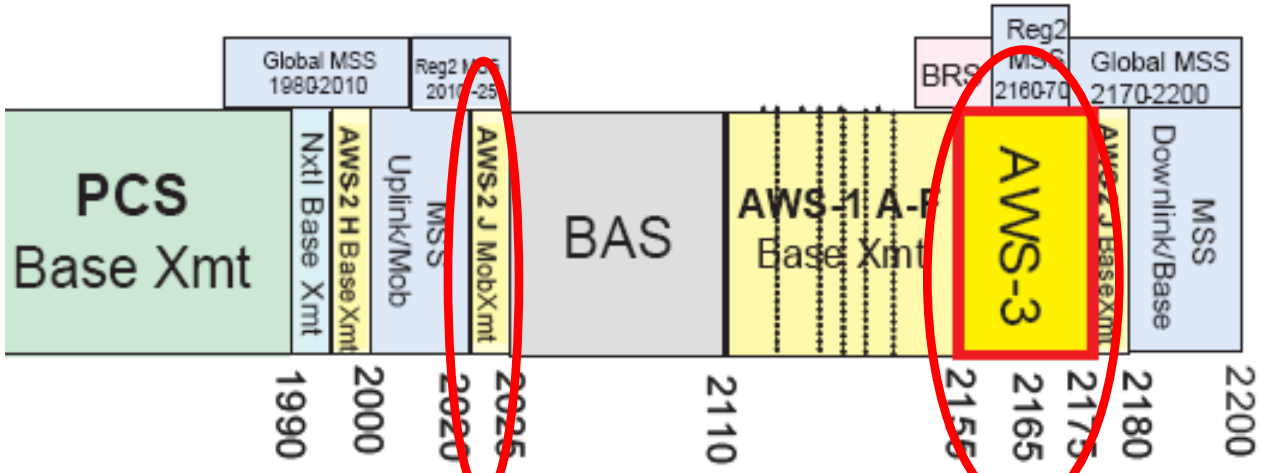
- Further, M2Z's claims about development of a filter with a skirt steepness of 20 dB over 5 MHz have been refuted by both Avago and Sony Ericsson
  - Avago noted that there would need to be at least 13 MHz of guard band prior to any significant attenuation.
  - Sony Ericsson argued that there would not be significant attenuation 15 MHz into the AWS-3 band.

Lab Tests to be Conducted

1. OOBE + ACI/Overload Tests at Different Receive and Transmit Powers
   - Repeat OOBE+ACI/Overload tests at -105, -100, -90 dBm RSCP
   - Perform additional OOBE+ACI/Overload test at -85 dBm RSCP
   - Increase AWS-3 transmit power until harmful interference occurs
     - Harmful interference defined in prior lab tests (access failures, dropped calls, high BLER)
2. Test with WiMAX as an interference source
3. Custom Filter and Test Equipment Spectrum Responses
   - Measure spectral mask of test equipment alone
   - Characterize custom transmit filter

Asymmetrical Pairing of AWS-3 Spectrum Is a Reasonable Alternative

- Asymmetrical pairing of AWS-3 downlink with J Block



- The AWS-3 downlink could be paired with J Block uplink/downlink
- Standards bodies have confirmed viability of asymmetrical pairing
- Eliminates TDD adjacent to AWS-1 FDD, along with associated interference
- Facilitates bi-directional use of the new bands
- Allows new entrants, including M2Z, to bid

Next Steps

- Review final lab test plan document
  - Plans for any updates to test plan document
- Discuss logistics for Boeing testing
- Discuss guidelines for participants
- Address any remaining questions
- Ready to begin lab testing tomorrow