3GPP TSG-S1#6
San Diego CA., USA, 29th November – 3rd December

S1-(99)xxx

Source: UWCC

GPRS-136HS EDGE – Motivation Presentation
Revision 1.0

Universal Wireless Communications

GPRS-136HS EDGE

Background and Motives

UWCC Carrier Community

UWCC

- UWCC is a Limited Liability Corporation
  - Established to support an association of carriers and vendors developing, building, and deploying products and services based on ANSI-136 TDMA and ANSI-41 WIN standards
- UWCC/ETSI Agreement
  - On December 18th, 1998, UWCC and ETSI announced a cooperation agreement that enabled information and documentation exchange between the two organizations
- UWCC Designated ETSI Observer
  - Filip Lindell

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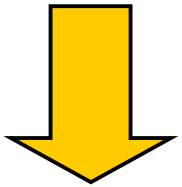
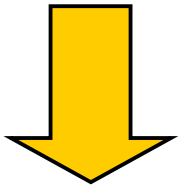
ANSI-136 Packet Data History

- 30 kHz TDMA Packet Data on CDPD



- 30 kHz TDMA Packet Data on GPRS (GPRS-136)



- UWCC considers requirements for GPRS-136HS (High Speed Packet Data)

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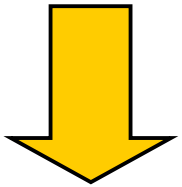
GPRS-136HS Packet Data History

- UWCC Sets High Speed Packet Data Requirements (Jan. '98)
  - Must support 384 kbps data
  - Must be deployable within < 1 MHz
  - High spectral efficiency
  - Economies of scale



- **RESULT: GPRS-136HS EDGE**

GPRS-136HS EDGE

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- Solution as of Feb. '98: Best method to meet 384 kbps & < 1 MHz requirement:
  - use ANSI-136 voice
  - use EDGE carrier for packet data traffic in 1:3 reuse
  - use 30 kHz control for both systems

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The EDGE Compact Concept

- Must deploy in < 1 MHz spectrum

- 200 kHz based control allowing 200 kHz only devices. (stand-alone)

- Facilitates global EDGE roaming

-minimal changes to ETSI EDGE (EDGE-Classic)

- Allow migration to ETSI EDGE

Further explanations on EDGE Compact desires

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- **Spectrum:** Many existing TDMA carriers are spectrum challenged, and still desire to deploy EDGE
- **Complexity:** If we don't require 30 kHz control, it allows simpler 200 kHz only data devices. Allows different infrastructure vendors for EDGE vs. voice.
- **Roaming:** 200 kHz control allows global EDGE roaming between ETSI EDGE and EDGE-Compact

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The EDGE Compact Solution

- Defines a new mode for EDGE, with only slight changes to EDGE spec.
- Only 600 kHz + guard band (~100 kHz)
- 200 kHz control
- Up to 7/8's data rate of ETSI EDGE

Global EDGE

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The New GPRS-136HS EDGE

EDGE Compact **EDGE Classic**

GPRS-136HS EDGE

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Recommendation:

- UWCC to propose the EDGE Compact proposal to ETSI.
- ETSI adopt EDGE Compact as an additional mode in the EDGE specification.
- EDGE mobiles operating within the 850 & 1900 MHz frequency bands to support both ETSI EDGE (EDGE Classic), and EDGE Compact.