



# **3GPP GERAN1-GERAN2 Cellular IoT ad-hoc#2**

## **WG2 Chairman's Summary (GPC150299)**

**Chairman:** **Yang ZHAO (Huawei Technologies)**

**Secretary:** **Gert THOMASEN (MCC report in GPC150300)**

# Schedule

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>
<b>9:00-10:30</b>		NB M2M	Other input	Revision
<b>Coffee Break</b>				
<b>11:00-12:30</b>		NB M2M	Other input	Revision
<b>Lunch</b>				
<b>14:00-16:00</b>	LS/Rapporteur	NB M2M EC-GSM	Other input/ Architecture	Joint: work plan updated TR
<b>Coffee Break</b>				
<b>16:30-18:00</b>	C-UNB NB OFDMA	EC-GSM	NB Hybrid modulation	
<b>18:00-20:00</b>	NB OFDMA /Assumptions	EC-GSM		

# Incoming LSs

- **Response to Reply LS on Security Framework for Cellular IoT**
  - **0248 noted:** SA1 answers to previous SA3 questions
  - **0249 noted:** SA2 answers to previous SA3 questions
  - No impact on GERAN study
- **0250 Response to Reply LS on paging for MTC noted**
  - SA2 anticipates a common approach for all RATs is desirable to avoid significant signalling load on the core network and maintain the capability for multi-vendor RAN-CN operation. Joint SA2-RAN1 session is expected in May's meeting.
  - GERAN see necessity to inform SA2 in an early stage of GERAN's view.
  - Related LS in **0297** sent to SA2
- **0254 LS on RAN assumptions from SA2 for FS\_eDRX noted**
  - SA2 asked three issues related to support of eDRX
  - Specific answers expected at GERAN#66 meeting

# Rapporteur work

- **0185 TR update noted**
  - Version consistency should be maintained
- **work plan -> discuss in G1&G2 joint session**

# Simulation assumptions & Evaluation methodology Update

- **0155** Evaluation Methodology for Software Update and Reconfiguration  
agreed

# EC-GSM

- **0216** pCR Removal of agreed drafting rule **agreed**
- **0200** Paging group determination, PCR in **0273** **Conditionally agreed**
- **0213** Cell selection and cell Re-selection, PCR in **0269** **Conditionally agreed**
- **0217** PACCH Block Interpretation, PCR in **0218** **agreed**
- **0219** PACCH message set, PCR in **0220** **agreed**
- **0221** RLC Data Block Corrections, PCR in **0222** **agreed**
- **0223** Adjusting the Estimated Coverage Class PCR in **0224** **agreed**
- **0209** Downlink Application layer Ack Latency Performance Evaluation, PCR in **0210** **noted**
  - Previous TR methodology is not consistent and needs double check
- **0211** Exception Report Latency performance evaluation, PCR in **0212** **postponed**
  - Impact for EC-GSM on legacy mobiles, e.g. capacity, latency etc. requires investigation.
- **0225** Battery lifetime estimation, PCR in **0226** **postponed**
  - evaluations on other metrics based on 23dBm are required.
- **0286** is the agreed set of PCRs

# Narrowband Hybrid Modulation

- **0230 Design and Performance for N-SCH** noted
- **0231 Design and Performance for N-BCCH** noted
  - More investigation on System information design
- **0232 Design and Performance for N-RACH** noted
- **0233 Design and Performance for N-PDTCH** noted
  - More investigation on MAC header performance
- **0234 Adaptive chase combining with N-MAC** noted
- **0235 Text proposal for N-GSM** noted
  - More time needed for review

# Narrowband M2M

- **0267** pCR NB M2M – Introduction **Conditionally agreed**
- **0265** NB M2M Link layer and Radio Resource Management reorganisation **agreed**
- **0141** NB M2M UE Operating Modes, PCR in **0266** **agreed**
- **0147** Discussions of System Design **noted**
- **0151** Data Transmission and Retransmission, PCR in **0152** **agreed**
- **0175** Optimization of DCI Burst Structure, PCR in **0176** **Conditionally agreed**
- **0196** NB M2M and NB OFDMA, On the impact to legacy GSM/EDGE base stations **noted**
  - Evaluations should be provided based on agreed deployment scenarios
- **0137** Battery Life Analysis, PCR in **0136** **Conditionally agreed**
- **0138** SI1 Reading Latency **noted** -> mainly G1 discussion
- **0149** Exception Report Latency, PCR in **0253** **Conditionally agreed**
- **0287** is the agreed set of PCRs

# Narrowband OFDMA

- **0255** Narrowband OFDMA – MAC PDU and message design **noted**
- **0148** NB-OFDMA – Discussions of System Design **noted**
- **0237** Narrowband OFDMA - Energy consumption analysis **noted**
- **0238** Narrowband OFDMA – Latency evaluation **noted**

# Cooperative Ultra Narrowband

## ➤ **0145 C-UNB : Link Layer Aspects noted**

- Compatibility to legacy cellular architecture is unclear, e.g. the UE identity and security mechanism is not consistent with current GPRS
- Architectural change needs to be investigated by SA2

## ➤ **0146 C-UNB : Radio Resource Management noted**

- The DL data can only be delivered when the UL data is transmitted, which might not be able to support latency-sensitive NC traffic model
- More technical details are expected to justify subsequent performance evaluations

# Combined Narrowband and Chirp Spread Spectrum

- No input

# Other technical input

- **0207 Cellular IoT, Mobility Management, PCR in 0208 noted**
  - Concerns raised on whether this can be a purely network side function, and whether CN or Base station should do it is also FFS
  - More investigation needed
- **0215 Synchronized Cells for eDRX, PCR in 0264 noted -> G1 discussion**
  - Whether more parameters are needed in addition to TDMA frame is FFS
  - Network vendors and operators are encouraged to provide feedback on use of synchronized cells at GERAN#66, especially considering multi-vendor case
  - related LS in 0282 postponed to next meeting and decision is expected to be made at GERAN#66
- **0288 Core network enhancements for paging devices in extended coverage, PCR in 0298 agreed**
  - WAs agreed of principle to let the CN get device specific coverage class for paging.
  - Corresponding LS in 0297 sent to SA2
- **0244 Paging Issues in GERAN Based Clot: Extended Coverage and eDRX Use Cases noted**
  - Repeated discussion
- **0245 Ready State DRX in EC-GSM noted**
  - More evaluation needed

# Architecture

## ➤ Transmission efficiency evaluation

- 0153 NB M2M - Evaluation of Transmission Efficiency noted
  - Transmission efficiency, impact on terminal protocol stack design and real deployment for short and long term should be considered together
  - Companies input especially from operators are encouraged
  - Decision is expected to be made in August
  - PCR in 0285 comparing transmission efficiency between legacy Gb and legacy S1 postponed

# Outgoing LSs

## ➤ Source GERAN2

- GPC150297 Reply LS on paging for MTC

# Next Meetings

- GERAN2#66      25 - 29 May 2015,      Vilnius, Lithuania
- WG1&2 adhoc      29 June – 2 July, 2015, Stockholm, Sweden



**Thank You**