The meeting started 10:00am PST.

Attendees:

Tim Godfrey (The TG chairman) – EPRI

Juha Juntunen – Meteorcomm

Menashe Shahar – Ondas Networks

Harry Bims – Bims Laboratories

Bivesh Paudyal – TTCI

Daoud Serang – CML Microcircuits

Guy Simpson – Ondas Networks

Royce Connerley – Union Pacific Railroad

Clint Powell - Meta

Sarat Eruvuru – TTCI

The TG chair asked if anyone would like to be the secretary for the meeting. Juha agreed to take the meeting minutes.

The TG chair presented the agenda. There were no objections to the agenda, and it was approved with unanimous consent.

Meeting policy and patent policy slides were shown.

Meeting minutes from the last meeting (April) were discussed.

* Daoud had made more detailed added notes to the last meeting minutes about OFDM pros/cons with narrow-band channels.
  + As the spectral bandwidth goes down, so does the number of subcarriers, but elevated PAPR will not diminish.
  + If OFDM subcarriers are used as individual channels, OFDM pulse shape filter (rectangular pulse / sinc shape) typically does not provide enough neighbor channel interference protection for licensed narrow-band channels to satisfy regulatory powers.
  + OFDM systems generally use guard subcarriers (turned off) to reduce the problem at band edges.
* Harry discussed the possibilities of using other pulse shape or channel filter types.
  + Using some other pulse match filter shape (than rectangle / sinc) may ruin the orthogonality of OFDM and typically cannot be used.
* Menashe pointed out that by increasing cyclic-prefix one can smooth the symbol transitions and control the subcarrier “leakage”.
* FBMM (Filter Bank Multicarrier Modulation) was brought up and could be something to be considered also.
* Daoud also pointed out that using non-constant envelope modulation results in non-zero PAPR, which depends on type of filtering being used. Zero PAPR with QPSK was previously referenced in a previous contribution.
* Daoud’s amendments/additions to the previous meeting minutes were approved by the participants with unanimous consent.

Menashe asked if there was any feedback for his last meeting contribution #210rev0.

* The document includes a bullet list for still to be defined items, which was briefly looked at.

One new contribution was identified to be discussed during the meeting.

* Single Carrier PAPR by Menashe
  + The contribution lists single carrier PAPR performance values with changing channel filter parameters.
  + Daoud explained characteristics of Raised-Cosine filters and the mechanism how the inter-symbol interference is minimized despite the (time-based) filtered response.

The TG chair presented a slide about the future meetings:

A poll was arranged if people will be attending the next meeting in Montreal.

* Besides the chairman, others didn’t have a firm commitment to participate in person at this point.
* The same question will be asked again during the next call (5/16).

The TG chair asked if there was any other business, but there was none.

The TG chair called the meeting adjourned at 11:29pm PST.