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IEEE 802.15.4g Standards Activity Update

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EPRI AMI Interest Group Webcast
March 17, 2009

Project: IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)

Submission Title: TG4g-SUN Closing Report for Vancouver, March 2009

Date Submitted: March 2009

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Re: TG4g Closing Report for March 2009 Session

Abstract: Closing Report for the SUN Session in Vancouver, BC

Purpose: Smart Utility Networks

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TG4g-SUN PAR Scope

This Standard defines an amendment to IEEE 802.15.4. It addresses principally outdoor Low Data Rate Wireless Smart Metering Utility Network requirements. It defines an alternate PHY and only those MAC modifications needed to support its implementation.

Specifically, the amendment supports all of the following:

- Operation in any of the regionally available license exempt frequency bands, such as 700MHz to 1GHz, and the 2.4 GHz band.
- Data rate of at least 40 kbits per second but not more than 1000 kbits per second
- Achieve the optimal energy efficient link margin given the environmental conditions encountered in Smart Metering deployments.
- Principally outdoor communications
- PHY frame sizes up to a minimum of 1500 octets
- Simultaneous operation for at least 3 co-located orthogonal networks
- Connectivity to at least one thousand direct neighbors characteristic of dense urban deployment
- Provides mechanisms that enable coexistence with other systems in the same band(s) including IEEE 802.11, 802.15 and 802.16 systems

TG4g-SUN PAR

Purpose

To provide a global standard that facilitates very large scale process control applications such as the utility smart-grid network. This amendment supports large, geographically diverse networks with minimal infrastructure. Smart Metering Utility Networks can potentially contain millions of fixed endpoints. The communication range, robustness, and coexistence characteristics required for this class of application have not been met with existing 802 standards (See explanatory notes in Section 8.1 Doc#15-08-705).

Presentations heard

Battery operated applications
Trends in sun capacity
Narrow band phy preliminary proposal
Coronis ft preliminary proposal
Market potential of sun in Korea
Multi rate phy proposal
Signal processing options
Smart grid communications preliminary
Ultra link processing preliminary proposal
Battery operated sensing device requirements
Design considerations for the sun
Multi regional sub ghz phy
European regularity considerations
Korean regulatory considerations
SUN applications and use cases
Flexible DSSS Proposal
802-15nan-phy-considerations
Spectrum in china licenseexempt
China reg summary
Technical requirements of japanese regulations

Mitsubishi Electric Corp
Landis+Gyr
Silver Spring Networks
France Telecom
ETRI
Atmel
Steve Shearer Consultant
Elster
On-Ramp Wireless
Aclara RF
Analog Devices
Texas Instruments
Atmel
ETRI
Certicom
Rick Enns – Dust Networks

Ben Rolfe - Blind Creek Associates
OKI

Between Now and May 2009

- Teleconference calls: to be held weekly on Wednesdays at 10pm GMT, starting March 25, 2009 (details to be posted to reflector)
- Continue to refine Technical Guidance Document (15-09-0075-004g)
- Refine Coexistence Scenarios, define Coexistence Metrics
- Work on Proposals –merging and enhancing.
- Preparatory work for May meeting