Minutes of the Conference Call

Date

The 17th conference call was held on May 24, 2005, at 8 PM EST.

Participants

1 Bruce Bosco
2 Chia-Chin Chong
3 Chuck Haymes
4 Abbie Mathew
5 Tony Pollock
6 Alireza Seyedi
7 Stan Skafidas
8 Su-Khiong Yong

Issues Discussed

(1) We reviewed the events at Cairns for the benefit of members who could not attend the IEEE meeting.

(2) A considerable amount of time was spent on issues pertaining to the channel model. Abbie updated on the efforts to obtain measured data.

Action Items

(1) Abbie to brief the subgroup on the responses to the email requesting for measured data. A copy of the email is on page 2.

(2) Bruce to advise when the measured data will be released to this subgroup.

(3) Shahriar to review document number 05/255 which follows page 2.

Next Conference Calls

The next meeting will be held at the times listed below. The dial-in number is (641) 985-8000 and the access code is 657719#.

Eastern Standard Time	8.00 PM, May 31 - Tuesday
Mountain Time	5.00 PM, May 31 - Tuesday
Pacific Time	5.00 PM, May 31 - Tuesday
Eastern Australian Time	8.00 AM, April 1 - Wednesday
Japan/South Korea Time	9.00 AM, April 1 - Wednesday

From: Abbie Mathew
Sent: Friday, May 27, 2005 12:20 PM
To: stds-802-15-3c@listserv.ieee.org
Subject: Intent to share measured data

Hello to all,

The channel model subgroup in 802.15.3c is collecting measured data to develop a 60 GHz channel model. If you have the measured data or plan to make measurements, please let me know of your willingness to share the information with this subgroup. A response on or before June 10, 2005 would be much appreciated. In your email, please also comment on the points listed below.

(a) A brief description on the data – i.e. type of antenna, attenuation or reflection measurement, type/nature of captured data, goal of the measurement, etc.
(b) Firm date when the data can be shared with this subgroup

Please do not hesitate to contact me if you require any further clarifications regarding this subject matter.

I encourage you to forward this email to others who may have such data or, you believe, plan to make measurements at 60 GHz.

Thank you.

Regards,

Abbie Mathew
Vice Chair 802.15.3c

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

Submission Title: [60 GHz Channel Modeling Simulation Work for Indoor Environment]
Date Submitted: [May 2005]
Source: [Shahriar Emami and Abbie Mathew and Zhiguo Lai]
Company [Freescale Semiconductor, Inc, Newlans and University of Massachusetts]
Address [Freescale Semiconductor, Inc. 6100 Broken Sound Pkwy., N.W. Suite 1
Boca Raton, FL 33487-2790]
Voice:[(561) 544-4064], FAX: []

Abstract: [Summarizes 60 GHz channel modeling simulation work]

Purpose: [To update task group on channel modeling simulation work]

Typical office Environment

- J.H. Park et. al provide S-V channel model parameters:

Sampling frequency = 200 MHz

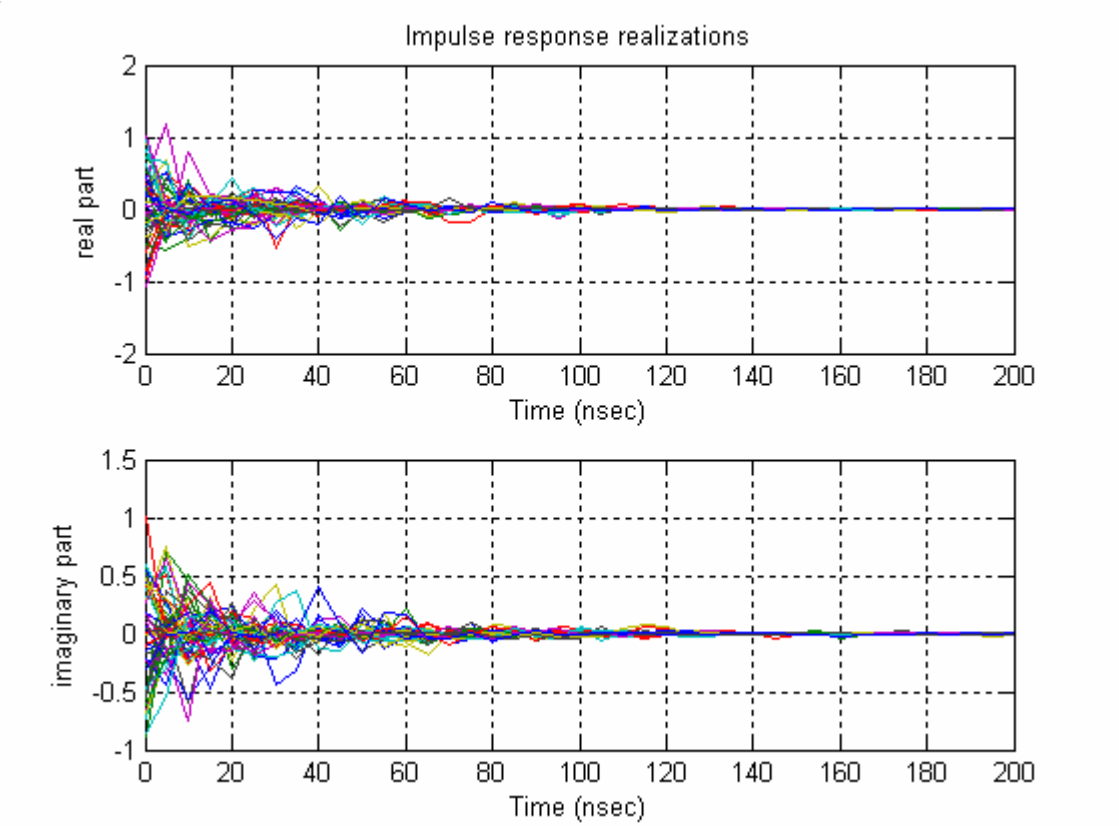
Mean time between clusters: 75 ns

Mean time between rays: 5 ns

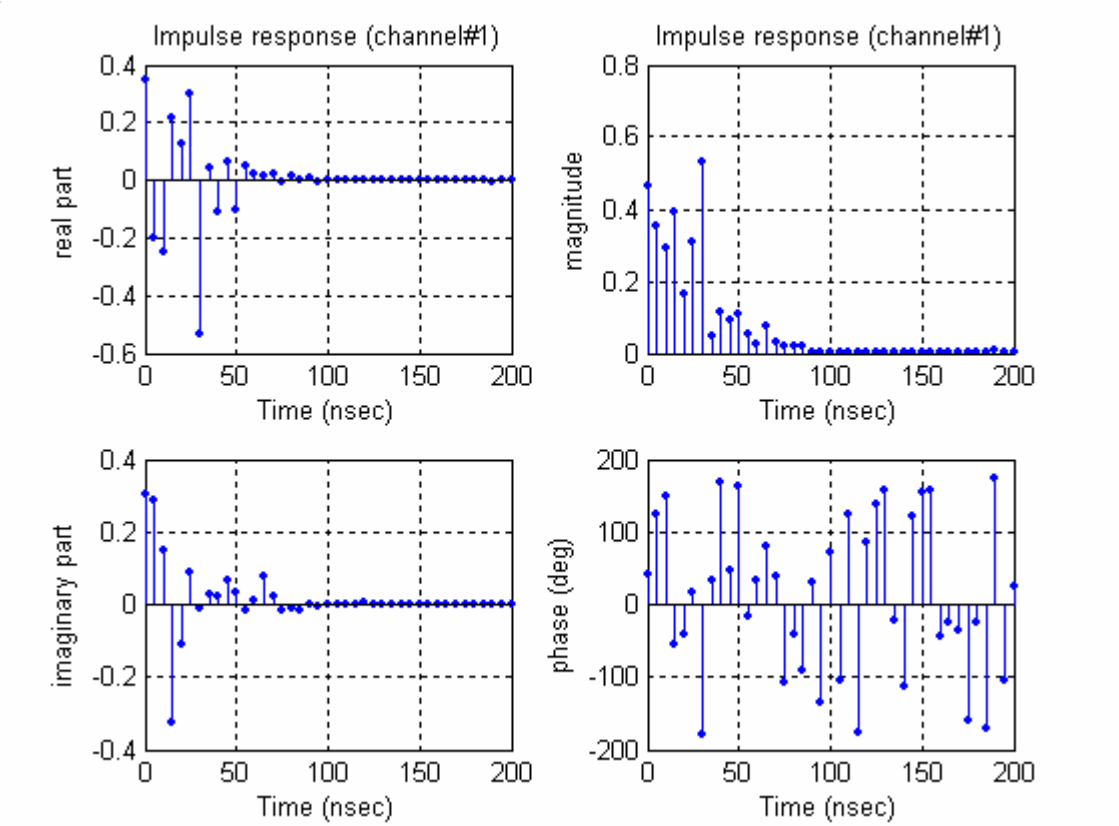
Cluster decay constant: 20 ns

Ray decay constant: 9 ns

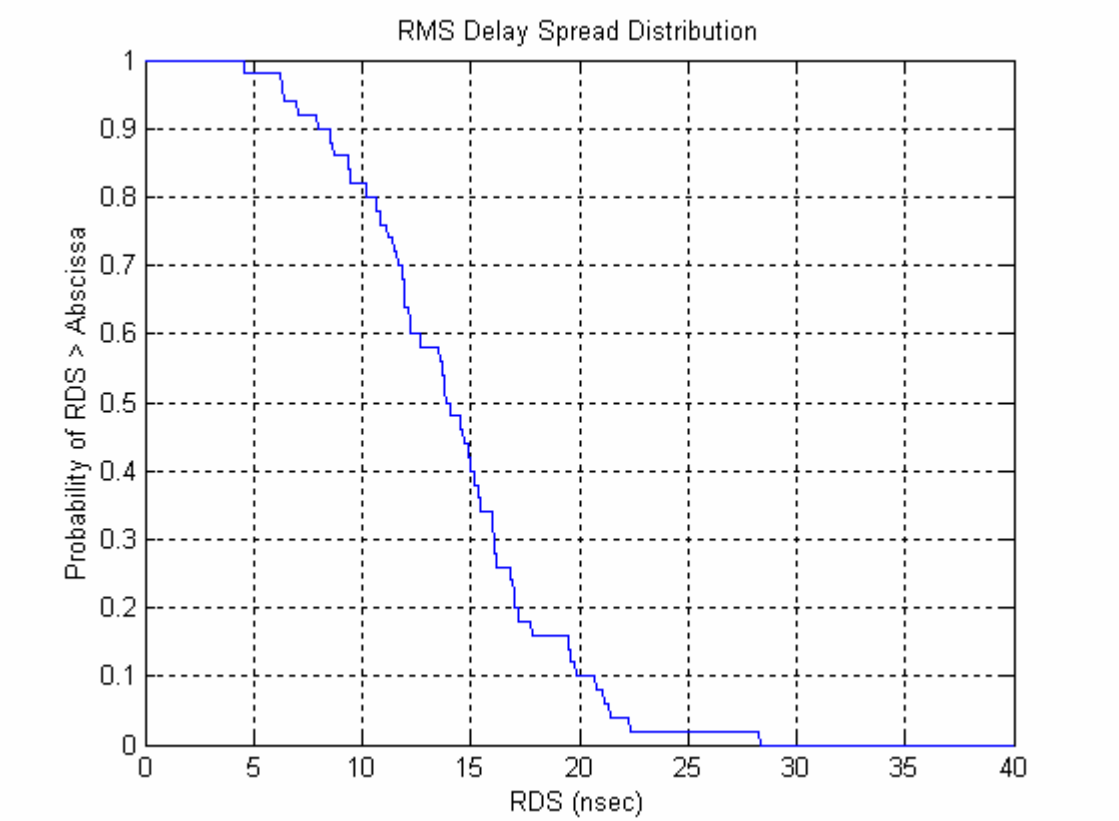
Realizations



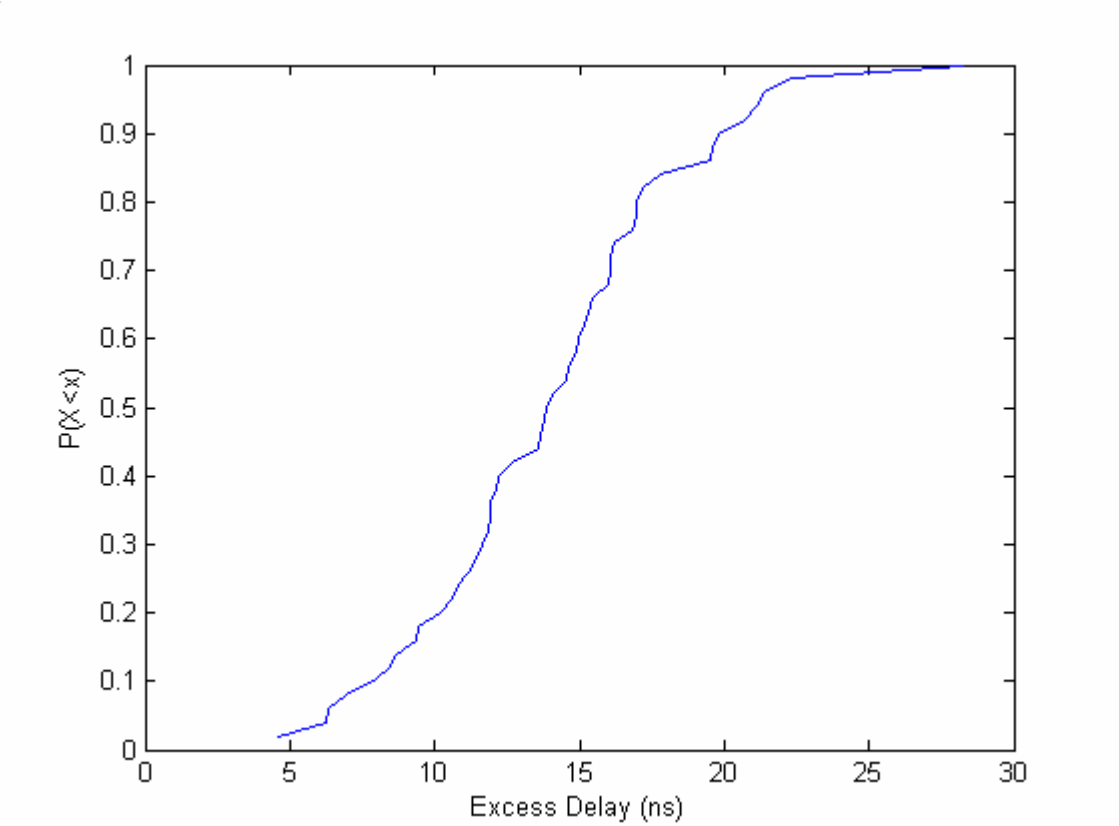
CIR


Impulse response (channel#1)
real part
Time (nsec)
Impulse response (channel#1)
magnitude
Time (nsec)
imaginary part
Time (nsec)
phase (deg)
Time (nsec)

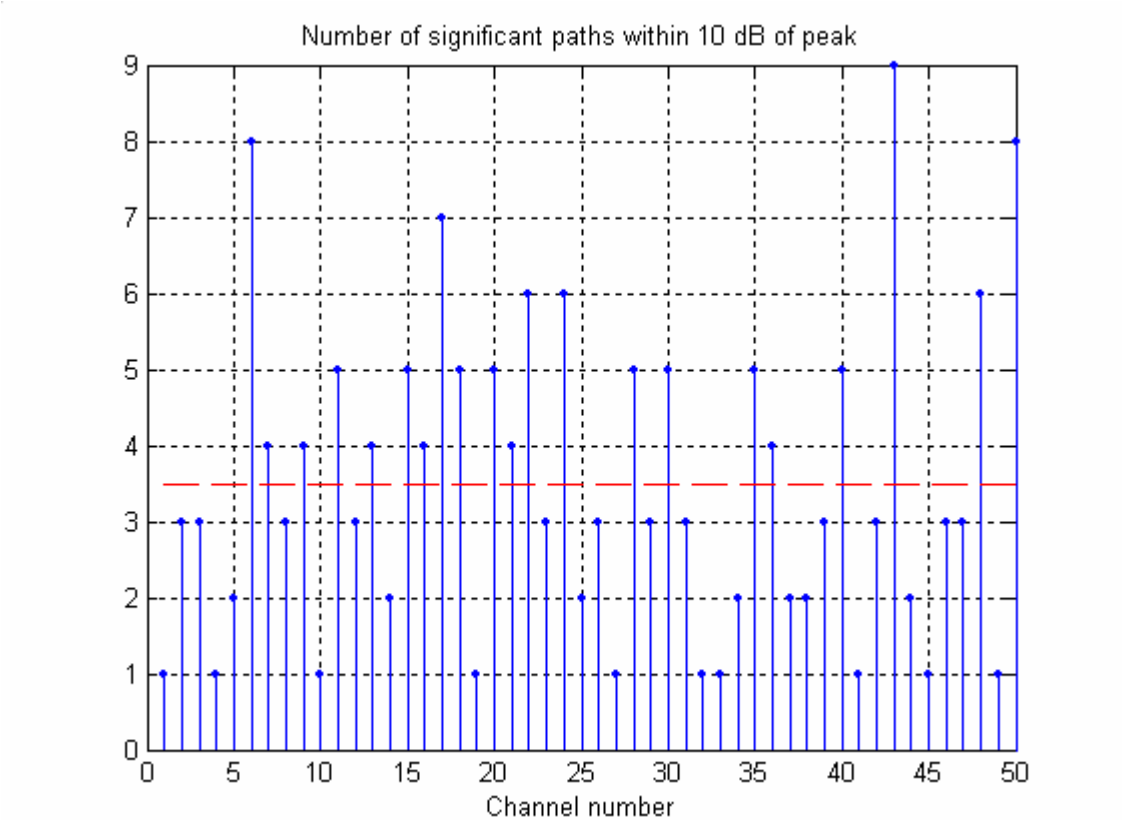
RMS Delay


RMS Delay Spread Distribution
Probability of RDS > Abscissa
RDS (nsec)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0
5
10
15
20
25
30
35
40

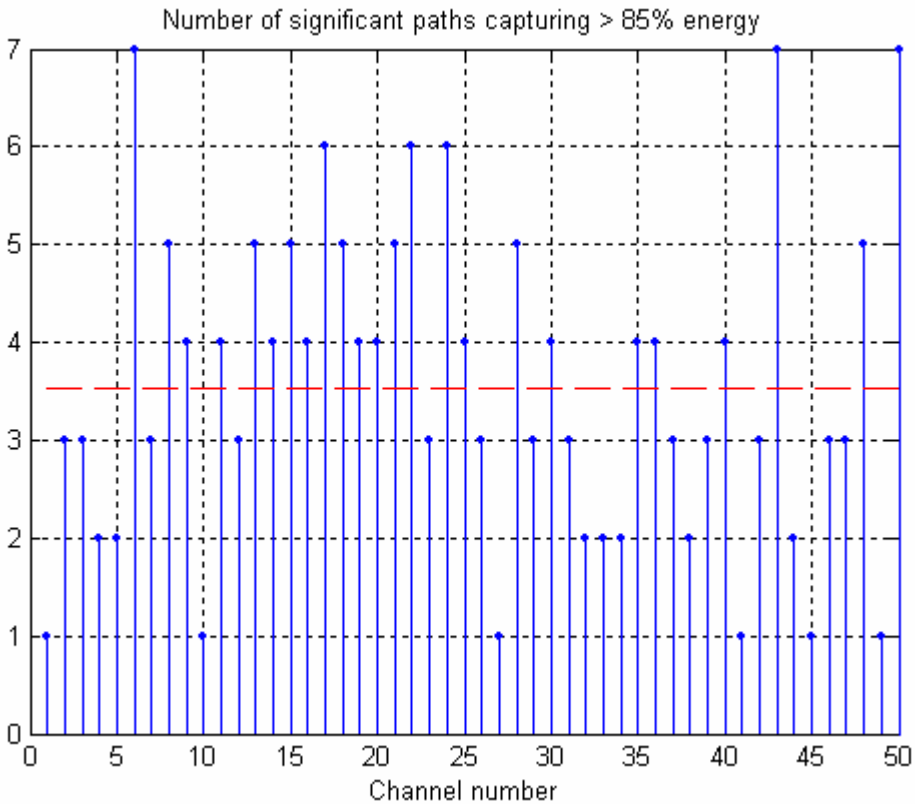
Excess Delay



Significant Paths



Energy Capture



Estimated parameters

- Mean delays: excess delay= 10.1 ns
- RMS delay = 14 ns
- Number of paths: NP_10dB = 3.5
- NP_85% = 3.5

Summary

- Reproduced the model proposed by SAIT Samsumg.
- There are a couple of other studies that use similar parameters.
- Unfortunately there is no parameters available for other environments.