

[WPAN] IEEE 802.15.5 Mesh Network

IEEE 802.15 Working Group TG1(Task Group 1) Bluetooth TG3
 가 HR-WPAN, TG4가 LR-WPAN, TG4a가 LR-
 UWB(Low Rate UWB) IT-839 3 USN
 WPAN(Wireless Personal Area Network)
 U-City U-Korea Multi-Hop
 Mesh Network 가
 IEEE 802.15.5 Mesh Network Task Group

IEEE 802.15 WG WPAN
 Mesh Network
 2005 5 Cairns CFP(Call for Proposal) 11
 Vancouver Baseline Document가 2006 1
 IEEE 802.15.5 Mesh Network

IEEE 802.15.1 Bluetooth

IEEE 802.15 WPAN 가 가 IEEE 802.15.1
 Ericsson Nokia 1,790
 Bluetooth Bluetooth
 가 2.4 GHz ISM(Unlicensed Industrial Science Medical)
 10m , 가
 . 100m 가 Class 1
 Power Amp 가 , Master-Slave TDD
 QoS가
 , 가

1999 6 Bluetooth Specification version 1.0 , 1999 12
 Bluetooth Specification version 1.0B가 , 2000 11
 Bluetooth Specification version 1.1
 Bluetooth , 2004 11 version
 2.0 + EDR (Enhanced Data Rate) 가 3Mbps
 가
 Bluetooth 8
 SCO(Synchronous Connection Oriented)

3
 83.5 MHz FHSS 79 2.4 GHz
 1,600 Hopping
 가 QoS가 Version 1.1 Scatternet
 Master RF
 Version 1.2가 Scatternet
 2006 2 CSR 가

IEEE 802.15.3 HR-WPAN IEEE 802.15.3a HR-UWB

IEEE 802.15.3 HR(High Rate)-WPAN Security QoS 55
 Mbps A/V
 PNC (DEV
) QoS
 CTA(Channel Time Allocation) CSMA/CA
 CAP(Contention Access Period) PNC 가
 가 PNC가
 WPAN
 Peer-to-Peer Bluetooth 가
 Multihop PNC RF
 IEEE 802.15.5 Mesh Network Task
 Group
 IEEE 802.15.3a 480 Mbps UWB(Ultra
 Wide Band) PHY . FCC Part 15
 3.1 GHz 10.6 GHz 7.5 GHz -41.25 dBm/MHz Spectrum Mask
 가 10m 가
 Mesh Network
 가
 2002 3 PAR(Project Authorization Request)가 MBOA
 Motorola DS-UWB 가 2006 1
 Task Group IEEE SA
 IEEE 802
 UWB DS-UWB , MBOA
 Multi-Band OFDM ECMA(European Computer Manufacture's Association)
 ISO/IEC JTC1 SC6 Fast Track

IEEE 802.15.4 LR-WPAN IEEE 802.15.4a LR-UWB

IEEE 802.15.4 800 MHz , 900 MHz , 2.4 GHz 20
Kbps, 40 Kbps, 250 Kbps Star , Peer-to-Peer
, Custer Tree

Superframe Depth가 Coordinator
Beacon 가 Beacon
ZigBee Alliance Low Duty Cycle 가
BOP(Beacon-Only Period) Beacon Scheduling
가

IEEE 802.15.4a LR(Low Rate) UWB Coherent Noncoherent
2 Mbps PHY Band Plan
IEEE 802.15.4 MAC
UWB Ranging Positioning
IEEE 802.15.4
MAC 가

IEEE 802.15.5 Mesh Network

IEEE 802 Layer 3 IETF Layer 1 PHY
Layer 2 MAC Mesh Network
MAC Network Application
Recommended Practice
MAC IEEE

802.15.5 Task Group PAR(Project Authorization Request)
HR-WPAN IEEE 802.15.3 Mesh Network
, Mesh Network 가 Beacon Period
Beacon
Neighbor's Neighborhood Table RTS/CTS Hidden Node Problem
Exposed Node Problem Computer Simulation

가 가
Hop 10 가 가 4
가
HR WPAN 가 QoS 가
Source Sink 가 RSVP

DRP(Distributed Reservation Protocol) Mesh

QoS Mesh Node가 8

Bit Short Address 가

가

LR-WPAN Mesh Network CUNY(City University of New York)

ART(Adaptive Robust Tree)

가 ART , , 3 Phase 가

Mesh Network Routing

ART LR-WPAN Mesh Network Protocol ,

Tree Mesh Network 가 가

Network 가 Mesh

PNC Association

가

Network Layer Addressing

가 Mesh Network

2005 9 LA Garden Grove CUNY가

IEEE 802.15.5 Baseline Document 2005 11

Vancouver Confirmation Vote

Vancouver 150

75% 50%

가 Baseline Document가

Simulation

Baseline Document

가 50%

CFA(Cal for Application) Document

Philips CFA

12

E-Mail Comments Resolution Meeting 2006 1

Architecture 가 Panasonic Centralized Mesh Network

Architecture Teleconference

