Summary of Merged Proposal

Hitoshi Takanashi, Masahiro Morikura and
Richard van Nee

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NTT, Lucent

Merged Proposal

-Former proposals by Lucent Technologies and NTT were merged into one proposal that is described here.
-A complete specification of the merged proposal is described in document 98/071r1.

Summary

Advantages

-Robust against delay spread

-Low packet error rate with interleving+FEC

-High capacity (up to 30 Mbit/s * 5 carriers in 100 MHz)

-Insensitive to clock and carrier frequency accuracy

Implementation issues

-Less than 200 k Gates

-Low power consumption

-Conventional HPA with appropriate backoff

Data Rates and Coding Rates

	coding rate	**3/4**	**1/2**
16 QAM	Data Rate	30 Mbit/s	20 Mbit/s
	Signal Field	10 10	10 01
DQPSK	Data Rate	15 Mbit/s	10 Mbit/s
	Signal Field	01 10	01 01
DBPSK	Data Rate		5 Mbit/s
	Signal Field		00 01

Table 77, Contents of Signal Field

OFDM Parameters

N_s : Number of subcarriers	48
T_s : Symbol interval	4.8 μs
T : IFFT/FFT period	4.042 μs (T_s·64/76)
T_G : Guard interval	758 ns (T_s-T)
T_{prefix} : Pre-guard interval	758 ns (T_s-T)
$T_{postfix}$: Post-guard interval	101 ns (0.025T)
b : Roll-off factor	0.025

Table 87, OFDM parameters

Transmitting Power

Frequency Band	*Maximum Output Power with up to 6 dBi antenna gain*
5.15 - 5.25 GHz	30 mW (2.5 mW/MHz)
5.25 - 5.35 GHz	150 mW (12.5 mW/MHz)
5.725 - 5.825 GHz	600 mW (50 mW/MHz)

Table 88, Transmit Power Levels

Training Symbols

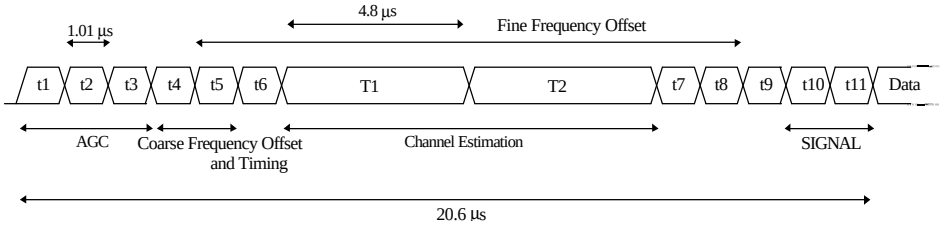
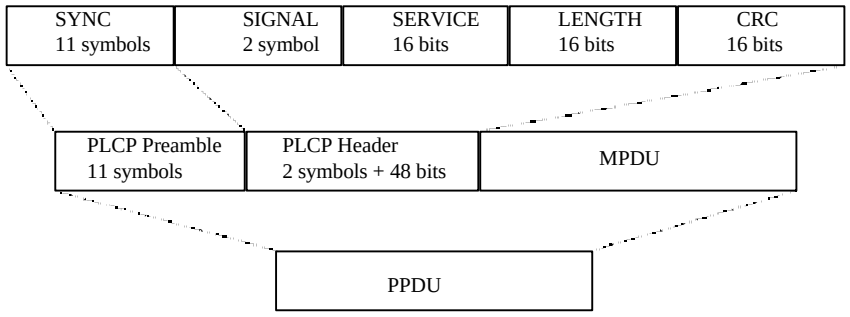


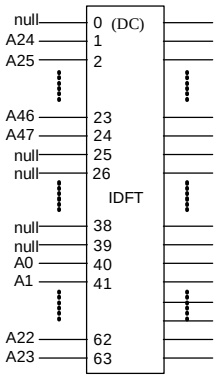
Figure 108, Training Structure

PLCP Frame Format

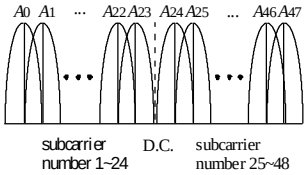


PLCP preamble and header are transmitted using the 20 Mbit/s DQPSK-OFDM modulation

Allocation of Subcarriers



- The center carrier interfered by the DC offset is not used.
- Three of the subcarriers are dedicated to pilot signals in order to make the coherent detection robust against frequency offsets and phase noise when 16-QAM is selected. These pilot signals are put in subcarrier #3, 26 and 47 with values of {1, 1, -1} respectively. The data supposed to be sent on these subcarriers are stolen and punctured.



Frequency Allocation