$n := 1, 3 .. 80$ $Ldata := 1024$ $Pf := 0.0175$ $p := 0.05$ $NDBPS := 72$

$Lrts := 20$ $Lcts := 14$ $Lack := 14$ $Pb := 10^{-6}$ $Pe := 1 - (1 - Pb)^{Lrts+Lcts+Ldata+Lack}$

$$A1 := \frac{Pcce}{16\left(\frac{Pce}{8} + \frac{Pcce}{32}\right)} \quad A2 := \frac{Pcce}{16\left(\frac{Pce}{8} + \frac{Pcce}{32}\right)} \cdot \sum_{L=1}^{15} \left(\frac{1 - Pf}{1 - 2Pf}\right)^{L} \quad A3 := A1 + A2 \quad B1 := \frac{}{32}$$

$$D2 := \frac{Pcce}{128\left(\frac{Pce}{8} + \frac{Pcce}{256}\right)} \cdot \sum_{L=1}^{127} \left(\frac{1 - Pf}{1 - 2Pf}\right)^{L} \quad D3 := D1 \cdot C3 + D2 \cdot C3 \quad E1 := \frac{Pcce}{256\left(\frac{Pce}{8} + \frac{Pcce}{512}\right)}$$

$$G1 := \frac{Pcce}{1024\left(\frac{Pce}{8}\right)} \quad G2 := \frac{Pcce}{1024\left(\frac{Pce}{8}\right)} \cdot \sum_{L=1}^{1023} \left(\frac{1 - Pf}{1 - 2Pf}\right)^{L} \quad G3 := \frac{(G1 + G2)}{(1 - G1 - G2)} \cdot F3$$

$$taw := \frac{1}{1 + A3 + B3 + C3 + D3 + E3 + F3 + G3} \qquad taw = 0.175$$

$$tDATA := \left[16 + 4 + 4 \cdot \left[\frac{16 + 6 + 8 \cdot (34 + Ldata)}{NDBPS}\right]\right] \cdot 10^{-6} \quad tRTS := \left[16 + 4 + 4 \cdot \frac{[16 + 6 + 8 \cdot (20)}{NDBPS}\right.$$

$Tatime := 9 \cdot 10^{-6}$ $tSIFS := 16 \cdot 10^{-6}$ $tDIFS := 34 \cdot 10^{-6}$ $tDelay := 1 \cdot 10^{-6}$ $tRTS = 3.011 \times 10^{-}$

$Ts := tRTS + 3 \cdot tSIFS + 4 \cdot tDelay + tCTS + tDATA + tACK + tDIFS$

$Tc := tDIFS + tRTS + Tatime$

$tCTStimeout := tSIFS + tCTS + Tatime$ $tACKtimeout := tSIFS + tACK + Tatime$ $Terts := t$

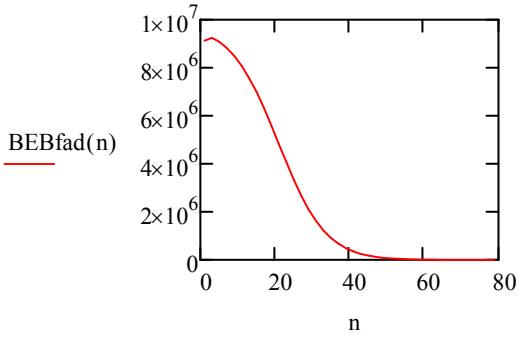
$Tedata := tRTS + tCTS + tDIFS + 2 \cdot tSIFS + tDATA + tACKtimeout + 3 \cdot tDelay$ $Teack := tR$

$Perts := 1 - (Pb)^{Lrts}$ $Pects := (1 - Pb)^{Lrts} \cdot \left[1 - (1 - Pb)^{Lcts}\right]$ $Pedata := (1 - Pb)^{Lrts+Lcts} \cdot [$

$Ptr(n) := 1 - (1 - taw)^{n}$ $Ps(n) := \frac{n \cdot taw \cdot (1 - taw)^{n-1}}{1 - (1 - taw)^{n}}$ $Pc(n) := 1 - Ps(n)$ BEBfad

$BEBfad(n) =$

$9.138 \cdot 10^{6}$
$9.26 \cdot 10^{6}$
$9.096 \cdot 10^{6}$
$8.84 \cdot 10^{6}$
$8.505 \cdot 10^{6}$
$8.089 \cdot 10^{6}$
$7.587 \cdot 10^{6}$
$6.998 \cdot 10^{6}$
$6.331 \cdot 10^{6}$



[illegible]
$5.602 \cdot 10^6$
$4.84 \cdot 10^6$
$4.078 \cdot 10^6$
$3.35 \cdot 10^6$
$2.687 \cdot 10^6$
$2.109 \cdot 10^6$
...

BEB Fading 802.11a 6Mbps

$$Pce := (1 - p)\cdot(1 - Pe) \qquad Pcce := p + (1 - p)\cdot Pe$$

$$\frac{Pcce}{\left(\frac{Pce}{8} + \frac{Pcce}{64}\right)} \qquad B2 := \frac{Pcce}{32\left(\frac{Pce}{8} + \frac{Pcce}{64}\right)}\cdot \sum_{L=1}^{31} \left(\frac{1 - Pf}{1 - 2Pf}\right)^{L} \qquad B3 := B1\cdot A3 + B2\cdot A3 \qquad C1 := \frac{P}{64\left(\frac{Pce}{8}\right.}$$

$$E2 := \frac{Pcce}{256\left(\frac{Pce}{8} + \frac{Pcce}{512}\right)}\cdot \sum_{L=1}^{255} \left(\frac{1 - Pf}{1 - 2Pf}\right)^{L} \qquad E3 := E1\cdot D3 + E2\cdot D3 \qquad F1 := \frac{Pcce}{512\left(\frac{Pce}{8} + \frac{Pc}{10}\right.}$$

$$\left.\right]\cdot 10^{-6} \qquad tCTS := \left[16 + 4 + 4\cdot\frac{[16 + 6 + 8\cdot(14)]}{NDBPS}\right]\cdot 10^{-6} \qquad tACK := \left[16 + 4 + 4\cdot\frac{[16 + 6 + 8\cdot(14)]}{NDBPS}\right]\cdot 10^{-}$$

$$^{-5} \qquad tCTS = 2.744\times 10^{-5} \qquad tACK = 2.744\times 10^{-5}$$

RTS + tCTStimeout + tDIFS + tDelay

TS + tCTS + tDIFS + 3·tSIFS + tDATA + 4·tDelay

$$1 - (1 - Pb)^{Ldata}\Big] \qquad Peack := (1 - P \qquad Tects := tRTS + tSIFS + tDIFS + 2\cdot tSIFS$$

$$(n) := \frac{Ptr(n)\cdot Ps(n)\cdot(1 - Pe)\cdot(8\cdot Ldata)}{(1 - Ptr(n))\cdot Tatime + Ptr(n)\cdot Ps(n)\cdot Ts\cdot(1 - Pe) + Ptr(n)\cdot(1 - Pe)\cdot Tc + Ptr(n)\cdot Ps(n)(Perts\cdot Terts +}$$

$$\frac{\text{cce}}{+\frac{\text{Pcce}}{128}}\right)} \qquad C2 := \frac{\text{Pcce}}{64\left(\frac{\text{Pce}}{8}+\frac{\text{Pcce}}{128}\right)}\cdot\sum_{L=1}^{63}\left(\frac{1-\text{Pf}}{1-2\text{Pf}}\right)^{L} \qquad C3 := C1\cdot B3 + C2\cdot B3 \qquad D1 := \frac{\text{P}}{128\left(\frac{\text{Pc}}{8}\right.}$$

$$\frac{}{\frac{\text{ce}}{24}\right)} \qquad F2 := \frac{\text{Pcce}}{512\left(\frac{\text{Pce}}{8}+\frac{\text{Pcce}}{1024}\right)}\cdot\sum_{L=1}^{511}\left(\frac{1-\text{Pf}}{1-2\text{Pf}}\right)^{L} \qquad F3 := F1\cdot E3 + F2\cdot E3$$

6

Pects·Tects + Pedata·Tedata + Peack·Teack)

$$\frac{\text{cce}}{\left(\text{-} + \frac{\text{Pcce}}{256}\right)}$$