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Subject : USHR-700L

Booster up link Gain limit

1. UL max gain

max UL gain < - 34dB – RSSI + MSCL

[“FCC 20.21 (i) technical requirement,(C) Booster gain limit”p78]

2. RSSI value

RSSI = DL 출력 power – DL gain

3. MSCL value

$L_{fs} = 32.45 + 20\log_{10}(d_{km}) + 20\log_{10}(f_{MHz})$ [free space path loss model : CCIR]

$= 32.45 + 20\log_{10}(0.001 \text{ km} = 1 \text{ m}) + 20\log_{10}(698 \text{ MHz})$

$= 32.45 + (-60) + 56.85$

$= 29.30$

$= 32.45 + 20\log_{10}(0.001 \text{ km} = 1 \text{ m}) + 20\log_{10}(776 \text{ MHz})$

$= 32.45 + (-60) + 57.80$

$= 30.25$

$MSCL = L_{fs} - \text{Antenna gain} + \text{Cable loss}$

$= 29.30 - 6.00 + 5.00$

$= 28.30 \text{ (698 MHz)}$

$= 30.25 - 6.00 + 5.00$

$= 29.25 \text{ (776 MHz)}$