

Annex D - 15.209 Spurious Emissions at Antenna Terminals and Band Edges

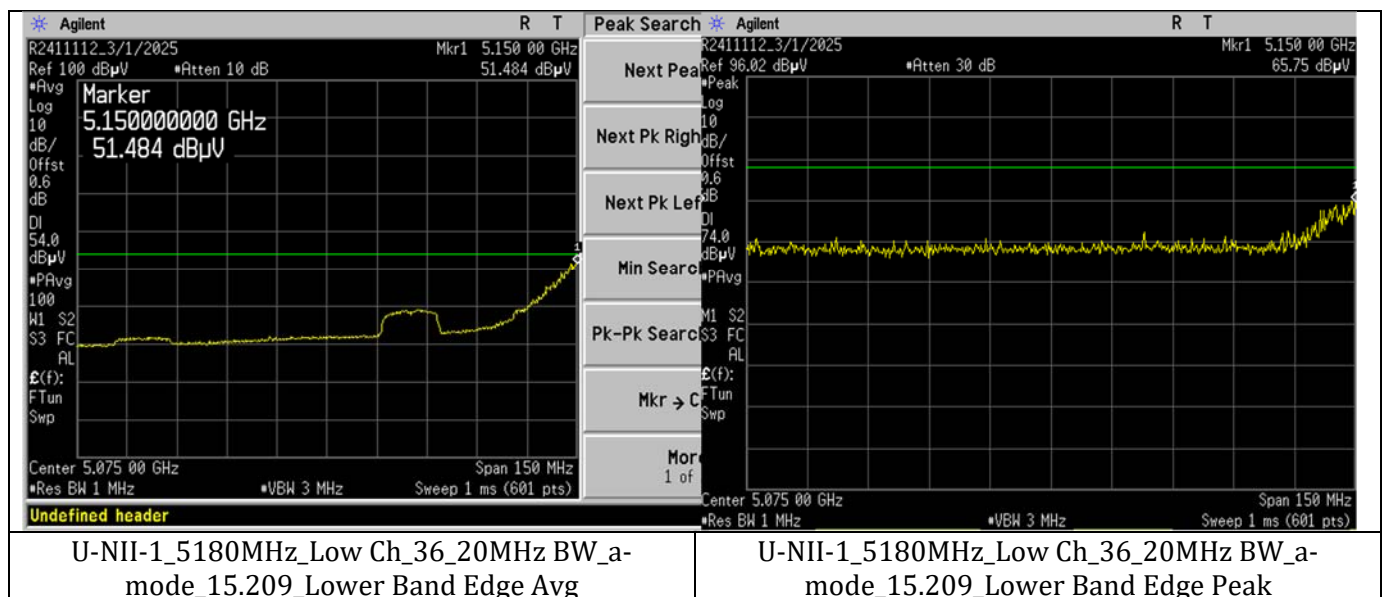
Note: below measurements are in units of dBuV/m at 3meters. These measurements are performed conducted in lieu of radiated as permitted by ANSI C63.10-2020. The following formula was used in making such conversions:

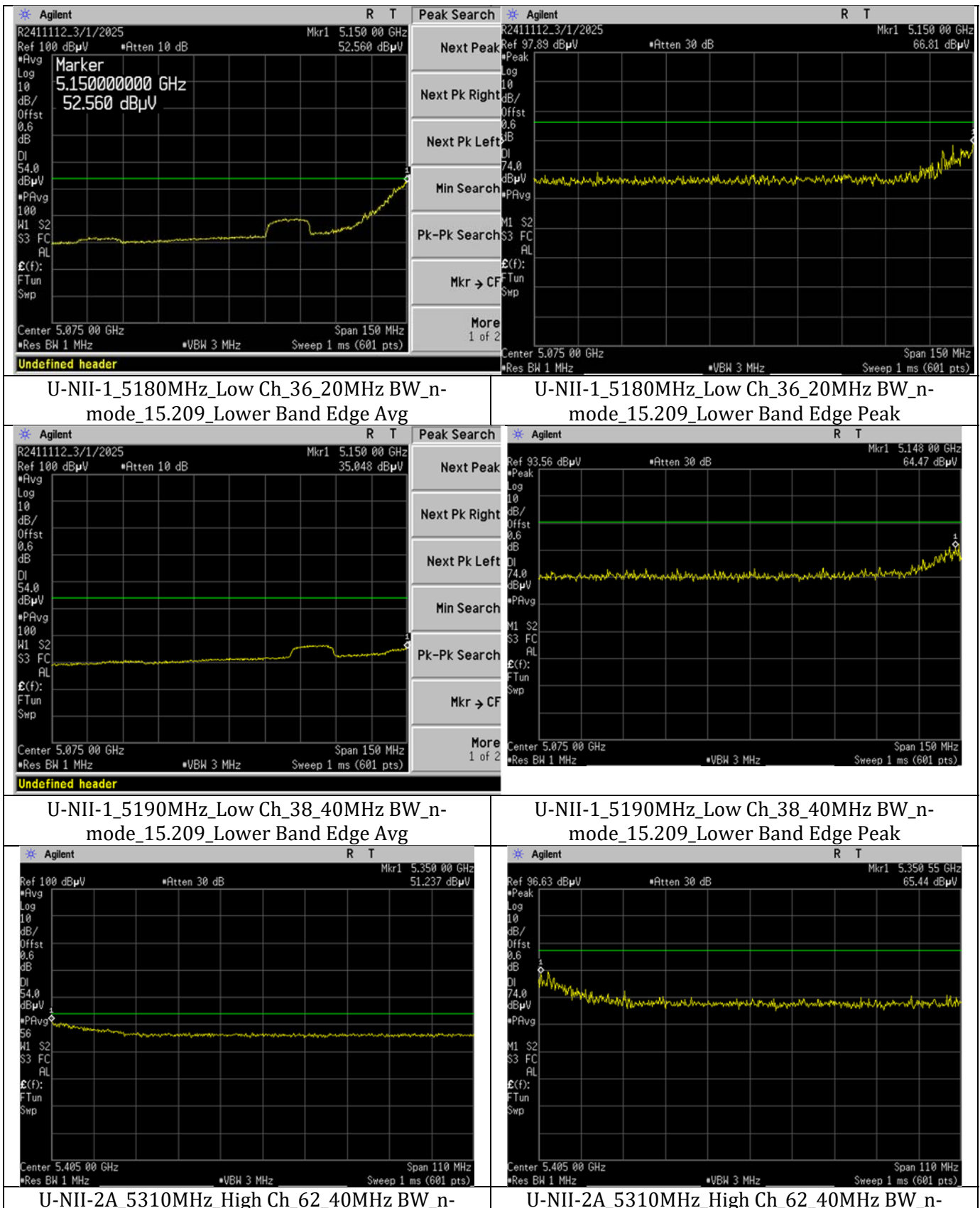
Above 1GHz: $E[\text{dB}\mu\text{V}/\text{m}] = \text{EIRP}[\text{dBm}] - 20 \log(d[\text{m}]) + 104.77$, where E is field strength and d is distance at which the field strength limit is specified in the applicable requirements. $E[\text{dB}\mu\text{V}/\text{m}] = \text{EIRP}[\text{dBm}] + 95.2$, for $d = 3 \text{ m}$. Straight conversion between $E[\text{dB}\mu\text{V}/\text{m}]$ and $\text{EIRP}[\text{dBm}] = 107$. Thus offset for dBuV/m at 3meters is $95.2 - 107 + \text{antenna gain}$. 2dBi antenna gain to be assumed if actual is less than 2dBi.

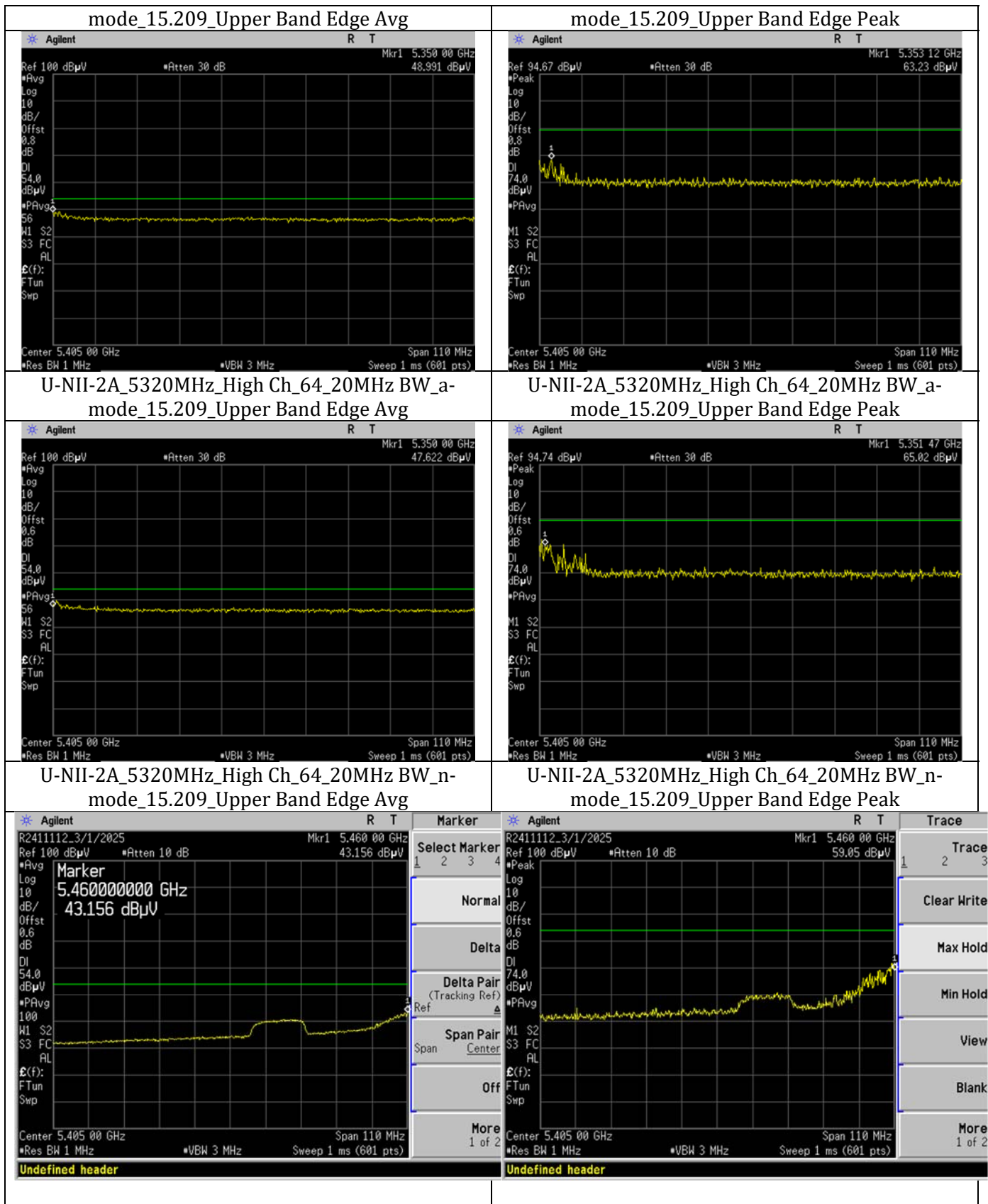
Note: cable loss is also included into offset.

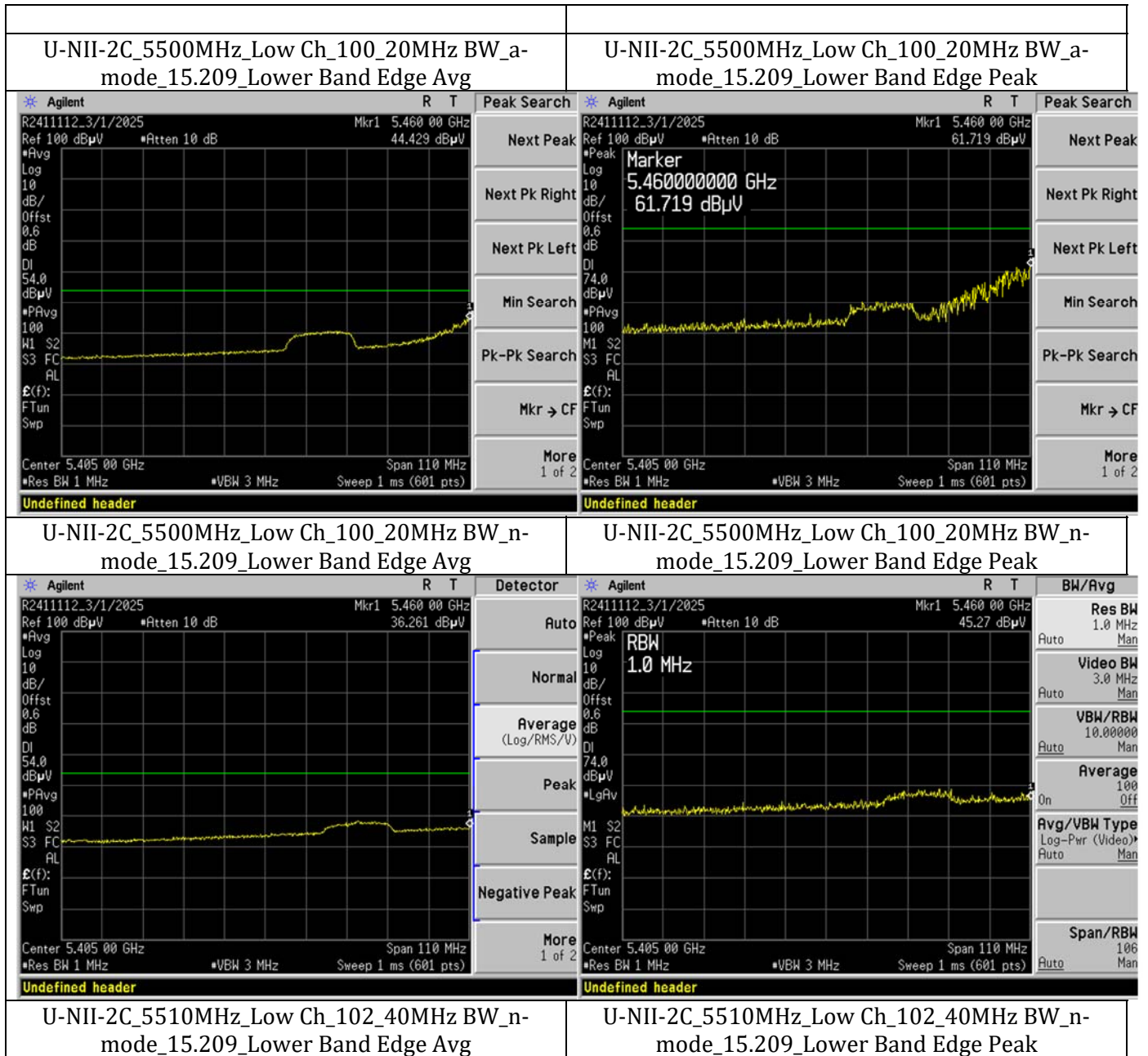
Naming Convention

Band (U-NII-1, U-NII-2A, U-NII-2C)_ Frequency (MHz)_ Channel (Low Ch, Mid Ch, High Ch)_ Bandwidth (MHz BW)_ Mode (a-mode, n-mode)_ Measurement (15.209, Mask)_ Range (MHz, Lower Band Edge, Upper Band Edge) Type (Peak, Avg)









The below table applies an additional Duty Cycle Correction Factor (DCCF) to the above Average Band Edge measurements in order to accurately compare to the appropriate limit.

U-NII-1 and 2A

Mode	Frequency (MHz)	BE (dBuV/m @3m)	BE Corr (dBuV/m @3m)	Limit (dBuV/m @3m)	Margin (dB)
802.11a	5180	51.484	52.014	54	-1.986
	5320	48.991	49.521	54	-4.479
802.11n20	5180	52.560	53.138	54	-0.862
	5320	47.662	48.240	54	-5.76
802.11n40	5190	35.048	35.982	54	-18.018
	5310	51.237	52.171	54	-1.829

Note: BE = Corrected Band Edge average measurement prior to applying DCCF.

Note: BE Final [dBuV/m@3m] = BE [dBuV/m@3m] + DCCF [dB]

U-NII-2C

Mode	Frequency (MHz)	BE (dBuV/m @3m)	BE Corr (dBuV/m @3m)	Limit (dBuV/m @3m)	Margin (dB)
802.11a	5500	43.156	43.686	54	-10.314
802.11n20	5500	44.429	45.077	54	-8.923
802.11n40	5510	36.261	37.195	54	-16.805

Note: BE = Corrected Band Edge average measurement prior to applying DCCF.

Note: BE Final [dBuV/m@3m] = BE [dBuV/m@3m] + DCCF [dB]