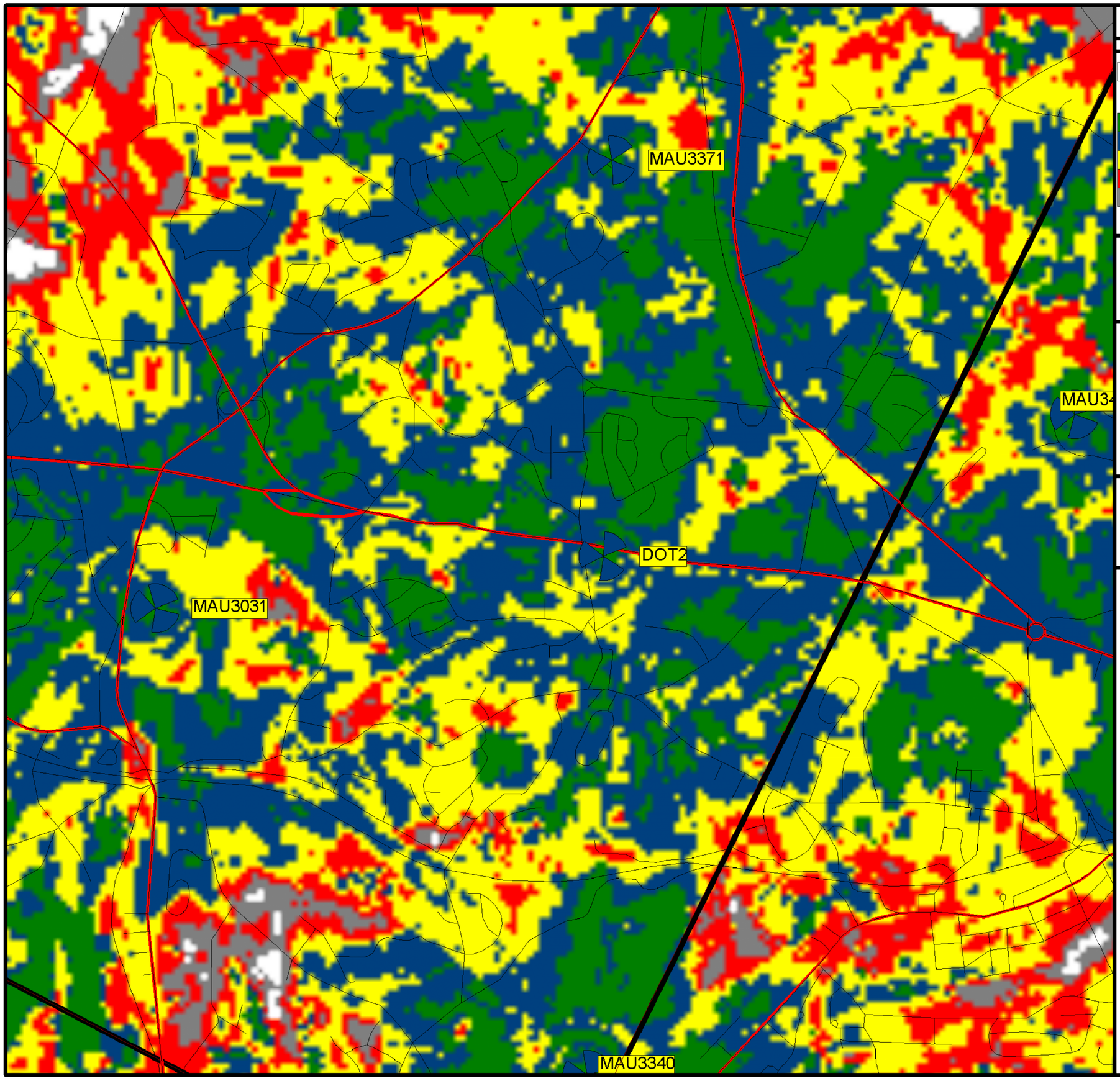

SIGNAL™: Acton 5 Craig Road

Town Lines

Received Power at remote

>=	-74.0 dBmW	
	-82.0 to	-74.0 dBmW
	-92.0 to	-82.0 dBmW
	-105.0 to	-92.0 dBmW
<	-105.0 dBmW	

Display threshold level: -120.0 dBmW

FEET

-2500 0 2500

Isotrope LLC

SBA: 5 Craig Road

ATT Existing 3G PCS + DOT2 100 ft

Thu Jan 23 18:03:12 2014

Appendix 6 – AT&T 4G PCS Coverage

The applicant has asserted that the 4G technology ("LTE") that AT&T is reportedly installing in the PCS spectrum merits independent consideration with respect to a gap in service. Isotrope, in the interest of time and resources, has prepared only an existing coverage map of the 4G PCS coverage of AT&T. AT&T's specifications operate the facility at a lower reference power than the 3G technology, resulting in less signal coverage. Compensating for this, AT&T employs lower signal level thresholds, resulting in a larger footprint than would have been shown using the 3G signal thresholds.

For example, the AT&T "in-building" threshold is -74 dBm for 3G services and -86 dBm for 4G services – a 12 dB difference in favor of the 4G technology. -74 is stronger than -86, so if all other things were equal, the -74 coverage would not reach as far. Because all things are not equal, the total power of the reference signal of the 4G technology is about 12 dB less than the 3G technology – a 12 dB difference in favor or 3G coverage. The net effect should be no difference between the coverage of the two technologies (in the PCS band). In other words, the "in-building" service footprints of both systems should be the same.

Signal		"In-Building"		"In-Vehicle"		"Outdoor"	
PCS	Power transmitted	Threshold	Path loss allowed	Threshold	Path loss allowed	Threshold	Path loss allowed
3G	65 dBm	-74 dBm	139 dB	-82 dBm	147 dB	-92	157
4G	53 dBm	-86	139	-96	149	-106	159

The table above illustrates the coverage similarities of the AT&T PCS 3G and 4G services. The difference between the transmitted power and the received signal threshold is the allowable path loss. The greater the allowable path loss, the wider the coverage area on the map. As the three pairs of allowable path loss reveal, the 4G PCS signal, even accounting for lower transmitted power, will have equal or better coverage than its 3G PCS counterpart at all three thresholds.

The AT&T analysis of 4G PCS coverage was presented to the Board in a separate set of maps. The AT&T results are substantially more pessimistic than the 3G coverage information. This is inconsistent with the above analysis. Isotrope's map of AT&T 4G PCS coverage is presented below. The 3G coverage maps presented in this report are the controlling factor in assessing any gaps in 3G and 4G coverage. No further 4G coverage analysis is necessary.