

COM3028 Systems Verification

River Phillips

April 21, 2020

1. $\llbracket AFAG(p \vee q) \rrbracket_{M1}$
 $SAT_{AF}(AG(p \vee q))$
 $SAT_{AF}(SAT_{AG}(p \vee q))$
 $SAT_{AF}(SAT_{AG}(SAT(p) \cup SAT(q)))$
 $SAT_{AF}(SAT_{AG}(\{S_0, S_2\} \cup \{S_3\}))$
 $SAT_{AF}(SAT_{AG}(\{S_0, S_2, S_3\}))$
 $SAT_{AF}(\neg SAT_{EF}(\neg\{S_0, S_2, S_3\}))$
 $SAT_{AF}(\neg SAT_{EF}(\{S_1\}))$
 $SAT_{AF}(\neg SAT_E(\top \cup \{S_1\}))$
 $SAT_{AF}(\neg\{S_0, S_1, S_2, S_3\})$
 $SAT_{AF}(\emptyset)$

\perp

This model does not satisfy $AFAG(p \vee q)$