

demod $\llbracket id, (), (mod_0 \dots (module\ id\ ()\ (code_0 \dots (0\ (expr \dots))\ code_n \dots))\ mod_n \dots) \rrbracket$

demod $\llbracket id, (), ((module\ id\ ((require\ id_r\ @\ phase_r)\ req_m \dots) (code_{m0} \dots (0\ (expr_m \dots))\ code_{mn} \dots))\ (module\ id_r\ (req_r \dots) (code_{r0} \dots (phase_{nr}\ (expr_r \dots))\ code_{rn} \dots))\ mod_n \dots) \rrbracket$

where $phase_{nr} = (-\ phase_r)$

demod $\llbracket id, (), ((module\ id\ ((require\ id_r\ @\ phase_r)\ req_m \dots) (code_m \dots))\ (module\ id_r\ (req_r \dots) (code_r \dots))\ mod_n \dots) \rrbracket$

demod $\llbracket id, ((id_c\ phase_c)\ (id_n\ phase_n) \dots), ((module\ id\ (req_m \dots) (code_{m0} \dots (0\ (expr_m \dots))\ code_{mn} \dots))\ (module\ id_c\ ((require\ id_r\ @\ phase_r)\ req_c \dots) (code_c \dots))\ (module\ id_r\ (req_r \dots) (code_{r0} \dots (phase_c\ (expr_r \dots))\ code_{rn} \dots))\ mod_n \dots) \rrbracket$

demod $\llbracket id, ((id_c\ phase_c)\ (id_n\ phase_n) \dots), ((module\ id\ (req_m \dots) (code_m \dots))\ (module\ id_c\ ((require\ id_r\ @\ phase_r)\ req_c \dots) (code_c \dots))\ (module\ id_r\ (req_r \dots) (code_r \dots))\ mod_n \dots) \rrbracket$

demod $\llbracket id, ((id_c\ phase_c)\ (id_n\ phase_n) \dots), ((module\ id\ (req_m \dots) (code_m \dots))\ (module\ id_c\ ()\ (code_c \dots))\ mod_n \dots) \rrbracket$

demod $\llbracket id, (), (mod_0 \dots (module\ id\ (req \dots) (code \dots))\ mod_n \dots) \rrbracket$

demod $\llbracket id, (), ((module\ id\ ((require\ id_r\ @\ phase_r)\ req_m \dots) (code_m \dots))\ mod_i \dots (module\ id_r\ (req_r \dots) (code_r \dots))\ mod_n \dots) \rrbracket$

demod $\llbracket id, ((id_c\ phase_c)\ (id_n\ phase_n) \dots), ((module\ id\ (req_m \dots) (code_m \dots))\ mod_i \dots (module\ id_c\ (req_c \dots) (code_c \dots))\ mod_n \dots) \rrbracket$

demod $\llbracket id, ((id_c\ phase_c)\ (id_n\ phase_n) \dots), ((module\ id\ (req_m \dots) (code_m \dots))\ (module\ id_c\ ((require\ id_r\ @\ phase_r)\ req_c \dots) (code_c \dots))\ mod_i \dots (module\ id_r\ (req_r \dots) (code_r \dots))\ mod_n \dots) \rrbracket$

= $((module\ id\ ()\ ((0\ (expr \dots))))$

= demod $\llbracket id, ((id_r\ (-\ phase_r))), ((module\ id\ (req_m \dots) (code_{m0} \dots (0\ (expr_r \dots expr_m \dots))\ code_{mn} \dots))\ (module\ id_r\ (req_r \dots) (code_{r0} \dots (phase_{nr}\ (expr_r \dots))\ code_{rn} \dots))\ mod_n \dots) \rrbracket$

= demod $\llbracket id, ((id_r\ (-\ phase_r))), ((module\ id\ (req_m \dots) (code_m \dots))\ (module\ id_r\ (req_r \dots) (code_r \dots))\ mod_n \dots) \rrbracket$

= demod $\llbracket id, ((id_r\ (-\ phase_c\ phase_r))\ (id_c\ phase_c)\ (id_n\ phase_n) \dots), ((module\ id\ (req_m \dots) (code_{m0} \dots (0\ (expr_r \dots expr_m \dots))\ code_{mn} \dots))\ (module\ id_c\ (req_c \dots) (code_c \dots))\ (module\ id_r\ (req_r \dots) (code_{r0} \dots (phase_c\ (expr_r \dots))\ code_{rn} \dots))\ mod_n \dots) \rrbracket$

= demod $\llbracket id, ((id_r\ (-\ phase_c\ phase_r))\ (id_c\ phase_c)\ (id_n\ phase_n) \dots), ((module\ id\ (req_m \dots) (code_m \dots))\ (module\ id_c\ (req_c \dots) (code_c \dots))\ (module\ id_r\ (req_r \dots) (code_r \dots))\ mod_n \dots) \rrbracket$

= demod $\llbracket id, ((id_n\ phase_n) \dots), ((module\ id\ (req_m \dots) (code_m \dots))\ (module\ id_c\ ()\ (code_c \dots))\ mod_n \dots) \rrbracket$

= demod $\llbracket id, (), ((module\ id\ (req \dots) (code \dots))\ mod_0 \dots mod_n \dots) \rrbracket$

= demod $\llbracket id, (), ((module\ id\ ((require\ id_r\ @\ phase_r)\ req_m \dots) (code_m \dots))\ (module\ id_r\ (req_r \dots) (code_r \dots))\ mod_i \dots mod_n \dots) \rrbracket$

= demod $\llbracket id, ((id_c\ phase_c)\ (id_n\ phase_n) \dots), ((module\ id\ (req_m \dots) (code_m \dots))\ (module\ id_c\ (req_c \dots) (code_c \dots))\ mod_i \dots mod_n \dots) \rrbracket$

= demod $\llbracket id, ((id_c\ phase_c)\ (id_n\ phase_n) \dots), ((module\ id\ (req_m \dots) (code_m \dots))\ (module\ id_c\ ((require\ id_r\ @\ phase_r)\ req_c \dots) (code_c \dots))\ (module\ id_r\ (req_r \dots) (code_r \dots))\ mod_i \dots mod_n \dots) \rrbracket$