Abbreviations  $\sim$ M 34252 = non\_confirmable  $\sim$ M 34253 = CoAP POSTCode  $\sim$ M 34254 = messageid 33327  $\sim$ M 34255 = token 33328  $\sim$ M 34258 = partial iv 33326  $\sim$ M 34259 = IDir 33322  $\sim$ M 34260 = idcontext 33325  $\sim$ M\_34257 = aeadEncrypt(HKDF(msecret\_33323,msalt\_33324, (IDir 33322,idcontext 33325,AES CCM,label key), alg key length(AES CCM,label key)),aeadNonce(IDir 33322, partial iv 33326,HKDF(msecret 33323,msalt 33324, (emptyId,idcontext\_33325,AES\_CCM,label\_iv),alg\_key\_length( AES CCM, label iv))),((CoAP GETCode, is LightBulbTurnedOn), msg1(a\_33314,a\_33315)),(encrypt0,oscore\_version\_one, AES CCM, IDir 33322, partial iv 33326))  $\sim$ X\_1 = (a\_33316,a\_33317,a\_33318,a\_33319,( $\sim$ M\_34258, $\sim$ M\_34057, ~M 34059),~M 34257) = (a 33316,a 33317,a 33318, a\_33319,(partial\_iv\_33326,IDir\_33322,idcontext\_33325), aeadEncrypt(HKDF(msecret\_33323,msalt\_33324,(IDir\_33322, idcontext\_33325,AES\_CCM,label\_key),alg\_key\_length( AES\_CCM,label\_key)),aeadNonce(IDir\_33322,partial\_iv\_33326, HKDF(msecret 33323,msalt 33324,(emptyId,idcontext 33325, AES\_CCM,label\_iv),alg\_key\_length(AES\_CCM,label\_iv))), ((CoAP GETCode,isLightBulbTurnedOn),msg1(a 33314, a\_33315)),(encrypt0,oscore\_version\_one,AES\_CCM, IDir 33322,partial iv 33326)))  $\sim X_2 = (a_33316, a_33317, a_33318, a_33319, (\sim M_34258, \sim M_34057, a_33318, a_33319, (\sim M_34258, \sim M_34057, a_33318, a_33319, a_33319,$ ~M 34059),~M 34257) = (a 33316,a 33317,a 33318, a\_33319,(partial\_iv\_33326,IDir\_33322,idcontext\_33325), aeadEncrypt(HKDF(msecret\_33323,msalt\_33324,(IDir\_33322, idcontext\_33325,AES\_CCM,label\_key),alg\_key\_length( AES\_CCM,label\_key)),aeadNonce(IDir\_33322,partial\_iv\_33326,

A trace has been found.

HKDF(msecret\_33323,msalt\_33324,(emptyId,idcontext\_33325, AES\_CCM,label\_iv),alg\_key\_length(AES\_CCM,label\_iv))), ((CoAP\_GETCode,isLightBulbTurnedOn),msg1(a\_33314, a\_33315)),(encrypt0,oscore\_version\_one,AES\_CCM, IDir\_33322,partial\_iv\_33326)))  $\sim$ M 35394 = non confirmable

 $\sim$ M 35395 = CoAP CHANGEDCode

 $\sim$ M 35396 = responseId 35381

 $\sim$ M 35397 = a 33319

 $\sim$ M 35398 = empty

~M\_35399 = aeadEncrypt(HKDF(msecret\_33323,msalt\_33324, (IDri\_33321,idcontext\_33325,AES\_CCM,label\_key), alg\_key\_length(AES\_CCM,label\_key)),aeadNonce(IDir\_33322, partial\_iv\_33326,HKDF(msecret\_33323,msalt\_33324, (emptyId,idcontext\_33325,AES\_CCM,label\_iv),alg\_key\_length( AES\_CCM,label\_iv))),((CoAP\_CONTENTCode,bounded by( (CoAP\_GETCode,isLightBulbTurnedOn))),msg2(a\_33315, a\_33314)),(encrypt0,oscore\_version\_one,AES\_CCM, IDir\_33322,partial\_iv\_33326))

