A trace has been found.

Abbreviations
~M = AES_enc((rand2,(seed,rand2)),derive_key(encryption_key, privacy_const),privacyIV)
~M_1 = Mode_E2E
~M_2 = AES_enc((AES_enc((rand2,(seed,rand2)),derive_key(encryption_key,privacy_const),privacyIV),Mode_E2E), derive_key(encryption_key,signature_const),privacyIV)
~M_3 = adv
~M_4 = AES_enc((rand2_2,(seed,rand2_2)),derive_key(encryption_key,privacy_const),privacyIV)
~M_5 = Mode_E2E
~M_6 = AES_enc((AES_enc((rand2_2,(seed,rand2_2)), derive_key(encryption_key,privacy_const),privacyIV), Mode_E2E),derive_key(encryption_key,signature_const), privacyIV)
~M_7 = adv

Honest Process

Attacker

{1} new pre_app_ch1
{2} new pre_app_ch2
{3} new owner_account
{4} new encryption_key
{5} new seed
{6} new privacyIV
{7} new six_pin
{9} new iv
{10} new pri

!

{14} new rand2   {21} event Secret(location)

(~M,(~M_1,(~M_2,~M_3)))

{14} new rand2_2   {21} event Secret(location)

(~M_4,(~M_5,(~M_6,~M_7)))

(a_2,(a_3,(a_4,adv)))

(a_2,(a_3,(a_4,(location,location_report_NoE2E))))

(~M_8,(~M_9,(~M_10,(~M_11,~M_12)))) = (a_2,(a_3, (a_4,(location,location_report_NoE2E))))

The attacker has the message ~M_11 = location