BlueNRG-MS Stack v7.1e release notes

Solved Issues

- ID 1176: If the device is in non-discoverable undirected connectable mode the FLAGS AD type is not included.
- ID 1221: Only one descriptor automatically added for each characteristic.
- ID 1237: In BlueNRG stack there is no event that signals to the application when a confirmation has been received for an indication. Nevertheless confirmations are autonomously handled by BlueNRG stack. ACI_GATT_SERVER_CONFIRMATION_EVENT has been added.
- ID 1295: If a ATT command is queued for transmission (e.g. with ACI_GATT_WRITE_WITHOUT_RESPONSE), a ATT request cannot be queued (e.g. with ACI_GATT_WRITE_CHARAC_VAL) and returns 0x46 (not allowed).
- ID 1241: SCAN_RESP packets are truncated if a ACI_GAP_SET_DISCOVERABLE is done after a scanning procedure.
- ID 1311: ACI_HAL_TONE_START does not wait for HS crystal to be ready: it could rarely happen (especially at low operating voltages and with crystals with long startup time) that the tone is not correctly generated. A workaround is to delay the release of CS line after the command is sent.
- ID 1343: Connection lost if a packet is received at the end of an SPI header.
- ID 1431: With a long HS_STARTUP_TIME, if the Connection Event is extended for too long, the slave skips next connection event.
- ID 1435: Connection lost when LL buffer becomes full and link is encrypted.
- ID 1444: GATT events lost with an high rate of GATT packets received from the peer.
- ID 1484: Pairing not working when master sets LinkKey bit in Initiator Key Distribution field (new bit introduced with Core v4.2)
- ID 1499: Packets may be duplicated over the air if CS line is kept low while a radio interrupt occurs.
- ID 1506: Insufficient resources error when a ACI_GATT_WRITE_RESP is given while a read request is waiting for an ACI_GATT_ALLOW_READ
- ID 1507: Occasionally the LE_TRANSMITTER_TEST command transmits only one single packet.
- ID 1508: Device may crash if ACI_GAP_SET_NON_DISCOVERABLE is called while in a connection.
- ID 1519: Public address is sent in Identity Address Information packet if the static random address has been overwritten with HCI_LE_SET_RANDOM_ADDRESS.

Limitations

This section lists the issues found at firmware image release time. Issues found after this release are listed as solved or limitations on newer releases.

- ID 583: No ACI commands for internal ADC.
- ID 727: When BlueNRG is running as a master with one (or more) connections active, then any

additional connection/scan slot request will be activated only after the next scheduled wake-up slot.

- ID 838: Some command complete events could only return the status (not equal to 0) without other parameters if the command does not completed successfully.
- ID 841: A flash erase can cause a disconnection. A flash erase will happen when the security database is full.
- ID 894: With a probability of (2**-24), the window length of the slave will be wrong, resulting in a lost communication opportunity (i.e. packet sent by the master could not be received).
- ID 919: Sometimes ACI_HAL_LE_TX_TEST_PACKET_NUMBER can return a value equal to the number of transmitted packets minus one.
- ID 938: Fixed advertising interval for low duty cycle directed advertising. Recommended values are used.
- ID 1065: When more than one connection is supported (mode 3) one copy of each characteristic value was allocated for each possible connection.
- ID 1111: Sometimes, when using RO, BlueNRG master starts the connection event with a timing error larger than expected.
- ID 1126: No ACI function to access battery level detector
- ID 1208: Client characteristic configuration descriptor not reset when only the master has lost its bond.
- ID 1222: ACI_GAP_SET_UNDIRECTED_CONNECTABLE uses fixed advertising interval.
- ID 1235: BlueNRG-MS enters in a not consistent state if a disconnection is received on a previous established link, while an ACI_GAP_CREATE_CONNECTION is pending.
- ID 1265: When BlueNRG has sent the first ADV_NONCONN_IND packet (just after advertising is enabled), it enters in an unexpected RX state. During following ADV_NONCONN_IND events, BlueNRG does not go in RX state, as expected.
- ID 1271: While BlueNRG is acting as a slave, scanning is allowed only with discovery procedures and selective connection establishment procedure.
- ID 1293: HCI_LE_CONNECTION_COMPLETE and HCI_DISCONNECTION_COMPLETE events have the same priority of other events and will be lost if the event queue of BlueNRG becomes full.
- ID 1305: BlueNRG does not enter advertise if it is a master of a connection with CE length = 0 or 1.
- ID 1306: If BlueNRG is already advertising, a connection with CE Length 0 or 1 cannot be established and the command returns 0x86 (Slot length failed).
- ID 1314: After updating connection parameters some connection slots could not be allocated even if they are potentially available.
- ID 1329: No explicit GATT function that allows to choose if a notification or indication has to be sent. Indications/notifications are automatically sent (if enabled) after calling ACI_GATT_UPDATE_CHAR_VALUE.
- ID 1335: When a descriptor is modified an indication for the Service Changed characteristic is sent (if enabled).
- ID 1353: When a BlueNRG in mode 4 has all of its connections with a given connection interval (e.g. 1 second), it is not possible to do advertise with an advertising interval less than the connection interval of the existing connections (e.g. 100 ms). The

ACI_GAP_SET_DISCOVERABLE is rejected with 0x85 error code ("too large interval").

- ID 1407: When using BlueNRG as a master (in mode 3), it is not possible to establish a new connections if CE length of the first connection is 3 or less. The command returns 0x86 (Slot length failed).
- ID 1421: In mode 3, a call to ACI_GAP_SET_DISCOVERABLE after an ACI_GAP_START_GEN_DISC_PROC returns with Status success instead of "not allowed".
- ID 1469: If BlueNRG performs a bonding procedure but it is reset before a clean disconnection can be made, the GATT database is not stored in Flash. Hence, BlueNRG cannot send an indication for the service changed characteristic to the previously bonded device if the GATT database has been changed.
- ID 1481: LLWithoutHost is accessed without bit masking in several functions
- ID 1482: Master not able to connect if scan interval and window are larger than 6.7s and scan is started when slave is not advertising.
- ID 1544: Event lost when peer performs a long write that would generate more than 4 ACI_GATT_ATTRIBUTE_MODIFIED_EVENTs