

## Declaration – MIF for HAC RF Interference Evaluation

To Whom It May Concern,

This device, with FCC ID: 2AJOTTA-1573, Hearing Aid Compatibility Requirement is going to be certified under **ANSI C63.19-2011 version per Part 20.19.**

The M rating was determined by measuring the maximum steady state average E-field values in dB (V/m) as documented in the HAC report and adding the MIF value in dB (V/m) using pre-determined values provided by Speag under the below table:

| <b>Typical MIF levels in ANSI C63.19-2011</b>            |                                |
|--|--------------------------------|
| Transmission protocol                                    | Modulation interference factor |
| GSM-FDD (TDMA, GMSK)                                     | +3.63 dB                       |
| EDGE-FDD (TDMA, 8PSK, TN 0-1)                            | +1.23dB                        |
| EDGE-FDD (TDMA, 8PSK, TN 0-1-2)                          | -0.52dB                        |
| EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)                        | -1.82dB                        |
| UMTS-FDD(WCDMA, AMR)                                     | -25.43dB                       |
| UMTS-FDD (HSPA)  | -20.75dB                       |
| LTE-FDD (SC-FDMA, 1RB, 20MHz, QPSK)                      | -15.63 dB                      |
| LTE-FDD (SC-FDMA, 1RB, 20MHz, 16QAM)                     | -9.76 dB                       |
| LTE-FDD (SC-FDMA, 1RB, 20MHz, 64QAM)                     | -9.93 dB                       |
| LTE-TDD (SC-FDMA, 1RB, 20MHz, QPSK)                      | -1.62 dB                       |
| LTE-TDD (SC-FDMA, 1RB, 20MHz, 16QAM)                     | -1.44 dB                       |
| LTE-TDD (SC-FDMA, 1RB, 20MHz, 64QAM)                     | -1.54 dB                       |
| LTE-TDD(SC-FDMA,1RB,20MHz,QPSK,UL Subframe=2,3,4,7,8,9)  | -3.41 dB                       |
| LTE-TDD(SC-FDMA,1RB,20MHz,16QAM,UL Subframe=2,3,4,7,8,9) | -3.17 dB                       |
| LTE-TDD(SC-FDMA,1RB,20MHz,64QAM,UL Subframe=2,3,4,7,8,9) | -3.31 dB                       |
| IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)                 | -5.90 dB                       |
| IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)                 | -5.17 dB                       |
| IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)               | -3.37 dB                       |
| IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)                | -2.02 dB                       |
| IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)            | -0.36dB                        |
| IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)             | -15.80 dB                      |
| IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)                 | -5.82 dB                       |
| IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)        | -12.23dB                       |
| 5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)               | -12.18dB                       |
| 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)              | -12.26dB                       |
| 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)              | -12.08dB                       |
| 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)              | -12.20dB                       |
| 5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)               | -14.39dB                       |
| 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)              | -14.47dB                       |

|   |          |
|---|----------|
| 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)   | -14.33dB |
| 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)   | -14.46dB |
| 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)   | -14.35dB |
| 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)   | -14.32dB |
| 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)   | -14.32dB |
| 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)   | -14.55dB |
| 5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)   | -14.45dB |
| 5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)   | -14.47dB |
| 5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)   | -14.43dB |
| 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)  | -14.38dB |
| 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)   | -16.74dB |
| 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)   | -16.83dB |
| 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)   | -16.58dB |
| 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)   | -16.65dB |
| 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)   | -16.48dB |
| 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)   | -16.85dB |
| 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)   | -16.56dB |
| 5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)   | -16.85dB |
| 5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)   | -16.71dB |
| 5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)   | -16.57dB |
| 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)  | -16.46dB |
| 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30kHz)  | -16.67dB |
| 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30kHz) | -16.68dB |
| 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30kHz) | -16.68dB |
| 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30kHz) | -16.68dB |
| 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30kHz) | -16.68dB |
| 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30kHz) | -16.68dB |
| 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30kHz) | -16.68dB |
| 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30kHz) | -16.68dB |
| 5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30kHz) | -16.68dB |
| 5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30kHz) | -16.69dB |
| 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15kHz)  | -15.06dB |
| 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15kHz) | -15.06dB |
| 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15kHz) | -15.06dB |
| 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15kHz) | -15.06dB |

The Speag-reference documentation for supporting the pre-determined MIF value is Schmid & Partner Engineering AG, **UID SUMMARY (Communication Systems for Calibration, Issued Date 03/10/2020)**.

We confirm that the Speag simulation provided represents all the air interface modes applicable for a HAC rating for this handset.

Signature:



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