HEARING AID COMPATIBILITY
Volume Control Evaluation Report

FCC ID	:	**A4RG2YBB**
Equipment	:	**Phone**
Model Name	:	**G2YBB**
Receive Volume Control Results	:	**PASS**
Applicant	:	**Google LLC 1600 Amphitheatre Parkway, Mountain View, California, 94043 USA**
Standard	:	**FCC 47 CFR §20.19 ANSI C63.19-2019 ANSI/TIA-5050-2018**

The product was received on Dec. 09, 2023 and testing was started from Jan. 14, 2024 and completed on Jan. 31, 2024. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in ANSI 63.19-2019 / 47 CFR Part 20.19 / ANSI/TIA-5050-2018 and has been pass the FCC requirement.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.

Approved by: Cona Huang / Deputy Manager

Sporton International Inc. EMC & Wireless Communications Laboratory
No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan

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History of this test report

Report No.	Version	Description	Issued Date
HA3N2327	Rev. 01	Initial issue of report	Apr. 23, 2024
HA3N2327	Rev. 02	Add note in section 4	May. 24, 2024

1. General Information

Product Feature & Specification	
Applicant Name	Google LLC
Equipment Name	Phone
Model Name	G2YBB
FCC ID	A4RG2YBB
S/N	3B131FDAP0006K
Frequency Band	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR n14 : 788 MHz ~ 798 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n70 : 1695 MHz ~ 1710 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz 5G NR n78: 3700 MHz ~ 3800 MHz, 3450MHz ~ 3550MHz 5G NR n258 : 24.25 GHz~24.45 GHz, 24.75GHz ~25.25GHz 5G NR n260 : 37 GHz~40 GHz 5G NR n261 : 27.5 GHz~28.35 GHz NTN Band 23: 2000 MHz ~2020 MHz NTN Band 255: 1626.5 MHz ~ 1660.5 MHz WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 5.9 GHz Band: 5850 MHz ~ 5895 MHz WLAN 6E: 5925 MHz ~ 6425 MHz, 6425 MHz~6525 MHz, 6525 MHz~6875 MHz, 6875 MHz~7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC: 13.56 MHz WPC: 110 kHz ~ 148.5 kHz Thread: 2405 MHz ~ 2480 MHz
Mode	GSM/GPRS/EGPRS UMTS: RMC/AMR 12.2Kbps, HSDPA, HSUPA LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM NTN: BPSK,QPSK WLAN:802.11a/b/g/n/ac/ax/be HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160/EHT20/EHT40/EHT80/EHT160 Bluetooth BR/EDR/LE/CS NFC: ASK WPC: ASK Thread: QPSK

Reviewed by: Jason Wang

Report Producer: Jasmine Ku

2. Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No.: **AC01-HY**

3. Applied Standards

- FCC CFR47 Part 20.19
- ANSI C63.19-2019
- FCC KDB 285076 D01 HAC Guidance v06r04
- FCC KDB 285076 D04 Volume Control v02
- FCC KDB 285076 D05 CG Interim Waiver DA 23-914 v01
- ANSI/TIA-5050-2018

4. Air Interface and Operating Mode

Air Interface	Band MHz	Type	C63.19 Volume Control Tested	Simultaneous Transmitter	Name of Voice Service	Power State for HAC Compliance
GSM	GSM850	VO	Yes	WLAN, BT, Thread	CMRS Voice	Head
	GSM1900					
	EDGE850	VD	No		Google Meet(3)	
	EDGE1900					
UMTS	Band 2	VO	Yes	WLAN, BT, Thread	CMRS Voice	Pmax
	Band 4					
	Band 5					
	HSPA	VD	No		Google Meet(3)	
LTE (FDD)	Band 2	VD	Yes	5G NR, WLAN, BT, Thread	VoLTE / Google Meet(3)	Pmax
	Band 4					
	Band 5					
	Band 7					
	Band 12					
	Band 13					
	Band 14					
	Band 17					
	Band 25					
	Band 26					
	Band 30					
	Band 38					
	Band 41					
	Band 48					
	Band 66					
	Band 71					
5G NR	n2	VD	Yes	LTE, WLAN, BT, Thread	VoNR / Google Meet(3)	Pmax
	n5					
	n7					
	n12					
	n14					
	n25					
	n26					
	n30					
	n38					
	n41					
	n48					
	n66					
	n70					
	n71					
	n77					
	n78					
	n258	VD	No(1)		Google Meet(3)	NA
	n260					
	n261					
Wi-Fi	2450	VD	Yes	GSM, WCDMA, LTE, 5G NR, 5G/6GHz WLAN	VoWiFi / Google Meet(3)	Head
	5200			GSM, WCDMA, LTE, 5G NR, 2.4G WLAN, BT, Thread		
	5300					
	5500					
	5800 / 5900					
	U-NII 5	VD	Yes(2)	GSM, WCDMA, LTE, 5G NR, 2.4G WLAN, BT, Thread	VoWiFi / Google Meet(3)	Head
	U-NII 6		No(1)			
	U-NII 7					
	U-NII 8					
NTN	B23	DT	No	NA	NA	NA
	B255					
BT / Thread	2450	DT	No	GSM, WCDMA, LTE, 5G NR, 5G/6GHz WLAN	NA	NA

Type Transport:
VO= Voice only
DT= Digital Transport only (no voice)
VD= CMRS and IP Voice Service over Digital Transport

Remark

1. The FR2 n258/260/261 and U-NII 6/7/8 were above 6GHz and were not evaluated due to outside of the current scope of ANSI C63.19 and FCC HAC regulations.
2. The UNII-5 was evaluated for operations which are entirely below 6 GHz, above 6 GHz were not evaluated due outside of the current scope of ANSI C63.19 and FCC HAC regulations.
3. Per KDB 285076 D05, Waiver DA 23-914 only requires conversational gain compliance for CMRS narrowband and CMRS wideband voice codecs as detailed in sections 9 and 10. All other codecs either part of 3GPP set such as full-band and super-wideband codecs or OTT codecs are to be documented in the test report but not required to comply with the TIA 5050 Volume Control Standard.
4. The product only 3G/4G/5G support TAS feature, therefore UMTS/LTE/5GFR1 HAC were tested at Pmax level. The GSM and WIFI set to highest device transmit power in a held to the ear mode.
5. Pmax is the maximum output power for the handset for the indicated air interface.
6. Head refers to the handset's maximum RF power possible for all user conditions during held-to-ear scenarios.
7. The 2N mounting force lowest conversational gain is 17.15 dB with a hearing aid.
   The 8N mounting force lowest conversational gain is 18.00 dB without a hearing aid.

5. Volume Control Requirements

<Conversational Gain>

a. Per KDB 285076 D05, With a mounting force of 8N, the DUT shall have at least one volume control setting that will produce a conversational gain of ≥ 6 dB
b. Per KDB 285076 D05, With a mounting force of 2N, the DUT shall have at least one volume control setting that will produce a conversational gain of ≥ 6 dB.
c. Calculate the Conversational Gain by subtracting 70 dB from the measured dBSPL.
[Conversational Gain = (Measured dBSPL Level – 70 dBSPL) dB]

<Receive Distortion And Noise Performance>

With a mounting force of 8N and 2N, the ratio of the stimulus signal power to the 100 Hz to 8000 Hz total A-weighted distortion and noise power shall be ≥ 20 dB when tested over the range of 1/3 octave band center frequencies:
a. Narrowband transmission mode: Each 1/3 octave band center frequency from 400 Hz to 3150 Hz
b. Wideband transmission mode: Each 1/3 octave band center frequency from 250 Hz to 5000 Hz
c. Per KDB 285076 D05, choose one narrowband and one wideband for all voice services, bands of operation and air interfaces over which it operates using one codec bit rate of the applicant's choosing to meet Receive Distortion And Noise Performance requirement.

<Receive Acoustic Frequency Response Performance>

For the volume control settings determined in ANSI/TIA-5050-2018 section 5.1.1 with a mounting force of 8N and 2N, the receive frequency response shall be measured at the DRP in 1/12 octave bands. After translation to the FF, it shall fall between the applicable upper and lower limits. The exact limit values at any 1/12 octave band center frequency falling between two consecutive points specified in the table may be calculated using the formula given in Eq 2 below

$$X_f = X_1 + (X_2 - X_1) * \left(\frac{\log_{10} f - \log_{10} f_1}{\log_{10} f_2 - \log_{10} f_1}\right) \qquad \text{Eq 2}$$

Where

X_f = limit value at frequency f

X_1 = limit value at frequency f_1 as given in table

X_2 = limit value at frequency f_2 as given in table

For Narrowband: The 1/12 octave band frequency response after translation to the FF shall fall between the upper and lower limits given in Table 1
For Wideband: The 1/12 octave band frequency response after translation to the FF shall fall between the upper and lower limits given in Table 2

Table 1 – Narrowband Receive Frequency Response Limits

Lower Limit Frequency (Hz)	Lower Limit (dB)	Upper Limit Frequency (Hz)	Upper Limit (dB)
300	-6	100	+6
3400	-6	4000	+6

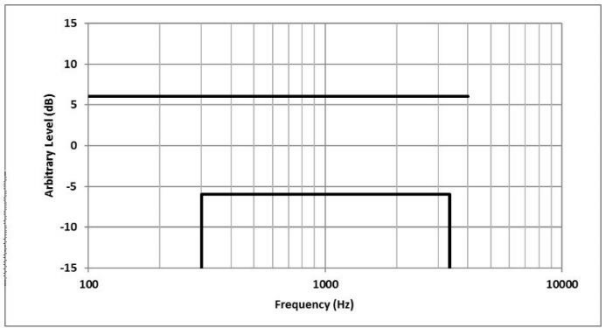
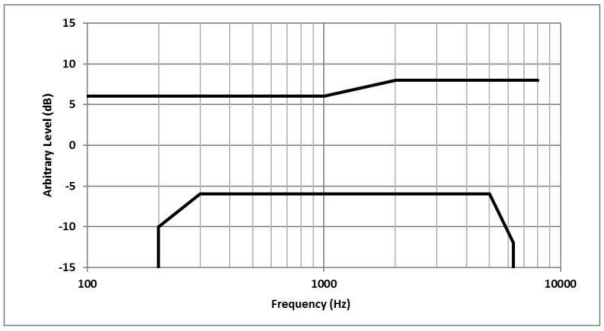
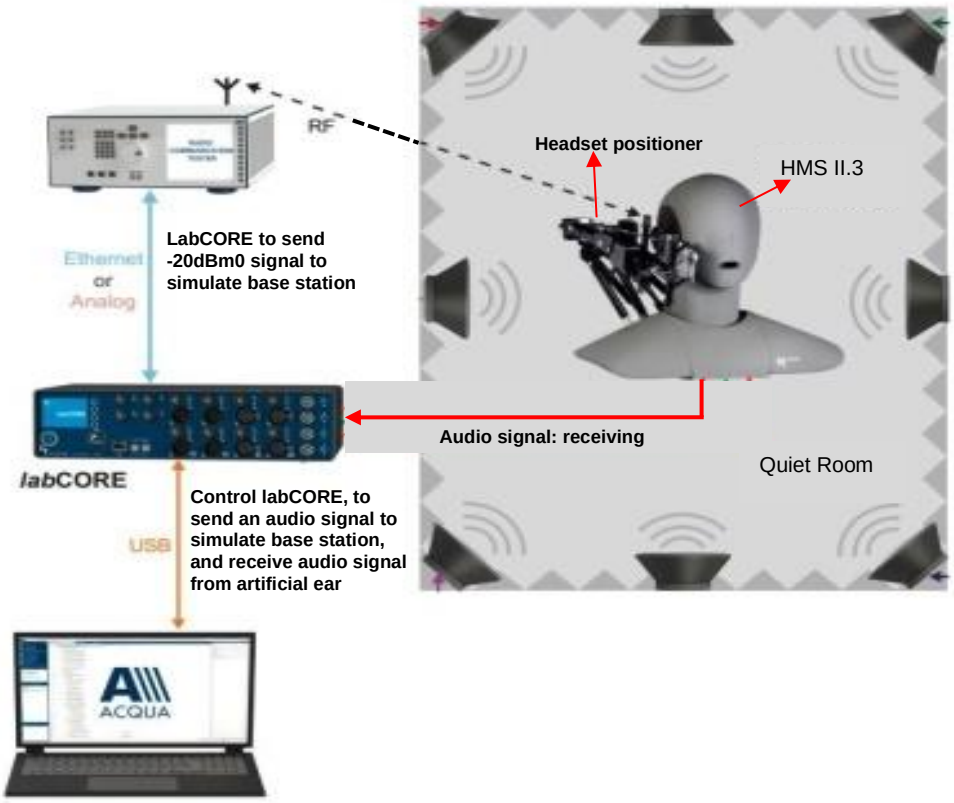


Table 2 – Wideband Receive Frequency Response Limits

Lower Limit Frequency (Hz)	Lower Limit (dB)	Upper Limit Frequency (Hz)	Upper Limit (dB)
200	-10	100	+6
300	-6	1000	+6
5000	-6	2000	+8
6300	-12	8000	+8



6. System Description



System Components:

Name of Equipment	Equipment Description
labCORE Audio Analyzer	labCORE is a high-precision measurement hardware platform. It provides multiple channels, a wide variety of analog and digital inputs and outputs, high processing power and high-performance interfaces. labCORE is an all-in-one solution for measuring the voice and audio quality of a wide range of devices. labCORE is used in conjunction with the communication quality analysis system ACQUA. Connected to a computer via USB (Plug & Play), it is configured and controlled by ACQUA. Combinations with other HEAD acoustics hardware platforms and software applications are possible. labCORE settings are controlled via the intuitive ACQUA settings. They can be stored and assigned to selectable measurement sequences.
HMS II.3, artificial head	HMS II.3 supports measurements in sending and receiving direction. For this purpose, the artificial head is equipped with an impedance simulator in the right ear and a two-way mouth loudspeaker – both meeting the requirements in the recommendations ITU-T P.57 and P.58
Handset positioner	Control the Newton's force(2N/8N) of the mobile phone on the artificial head
ACQUA, TIA-5050 Test Software	The SW version5.1.200 can be evaluated TIA-5050 section5.1, 5.2, 5.3
R&S base station simulator	RF connect with the mobile phone

7. Volume Control Test Procedure

<Conversational Gain>

1. Configure the DUT with a mounting force of 8N and test equipment as shown in section5 in an active call state with the applicable codec for the transmission mode under test.
2. Set the DUT volume control to the maximum setting.
3. If the DUT has an adjustable tone control feature, a tone control setting that meets the frequency response requirements in ANSI/TIA-5050 section 5.3.1 shall be used.
4. The ACQUA system is apply the real speech test signal at a level of -20 dBm0 at the RETP and measure the acoustic output at the Drum Reference Point (DRP) over one complete sequence of the test signal.
5. Translate the measurement made at the DRP to the Free Field (FF) using the translation data in ANSI/TIA-5050 Annex B.
6. Over the applicable frequency band, determine the ASL in dBSPL for the resulting sound pressure level in accordance with Method B of ITU-T Recommendation P.56:
   a. Narrowband 100 Hz through 4000 Hz.
   b. Wideband 100 Hz through 7720 Hz.
   Calculate the Conversational Gain by subtracting 70 dB from the measured dBSPL.
   [Conversational Gain = (Measured dBSPL Level – 70 dBSPL) dB]
7. Measure the output distortion per ANSI/TIA-5050 clause 5.2. If a distortion failure occurs at the maximum volume control setting, reduce the volume control setting and repeat the measurement to determine if a setting can be found for which the conversational gain requirement is met without a distortion failure.
8. Repeat steps 2-8 with a mounting force of 2N

<Receive Distortion And Noise Performance>

1. Configure the DUT with a mounting force of 8N and test equipment as shown in section in an active call state with the applicable codec for the transmission mode under test.
2. Receive distortion and noise is measured using the PN-SDNR procedure as described in ANSI/TIA-5050 Annex A
3. To ensure DUT activation, the ACQUA system is apply the real speech test signal at a level of -20 dBm0 followed immediately by the initial 1/3 octave center frequency PN test signal in ANSI/TIA-5050 Table A.1 based on the narrowband or wideband operating mode. Measure the acoustic output at the DRP over the complete sequence of the PN test signal.
4. Translate the measurement made at the DRP to the FF using the translation data in ANSI/TIA-5050 Annex B
5. Calculate the acoustic output unweighted total signal power of the stimulus measurement band as described in ANSI/TIA-5050 A.2.
6. Calculate the notched A-weighting distortion and noise components as described in ANSI/TIA-5050 A.3.
7. Calculate the ratio of the signal power to the total A-weighted distortion and noise power using ANSI/TIA-5050 Eq A-1.
8. Repeat for each of the remaining 1/3 octave center frequencies in Table A.1 based on the narrowband or wideband operating mode
9. Repeat steps 2-8 with a mounting force of 2N
10. The measured value that the system equipment will automatically calculates or converts to define whether it meets the requirements of ANSI/TIS-5050 annex A and annex B

<Receive Acoustic Frequency Response Performance>

1. Configure the DUT with a mounting force of 8N and test equipment as shown in Figure 1 in an active call state with the applicable codec for the transmission mode under test.
2. If the DUT has an adjustable tone control feature the initial measurement is to be performed with the default tone control setting.
3. The ACQUA system is apply the real speech test signal with a level of -20 dBm0 at the RETP.
4. Capture the frequency spectrum at the DRP of the HATS using real-time analysis with 1/12 octave bands over the frequency range from 100 Hz to 4000 Hz for narrowband measurements, or over the frequency range from 100 Hz to 8000 Hz for wideband measurements, averaged over the entire duration of the test signal.
5. Transform the DRP frequency spectrum measurement to the FF (include ANSI/TIA-5050 Annex B).
6. Divide the 1/12 octave measurement data by the 1/12 octave frequency spectrum of the test signal at the RETP and present the measurement in terms of dB(Pa/V).
7. Apply the applicable frequency response limits to determine compliance.
8. If the default tone control setting does not meet the requirement, repeat the above steps for other tone control settings to determine a tone control setting that meets the requirements.
9. Repeat with a mounting force of 2N
10. The receive acoustic frequency response performance was perform at max tone control setting.

8. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
HEAD acoustic GmbH	Audio Analyzer	labCORE	77000544	Oct. 31, 2023	Oct. 30, 2024
R&S	Wideband Radio Communication Tester	CMW500	115793	Nov. 20, 2023	Nov. 19, 2024
R&S	Wideband Radio Communication Tester	CMX500	101931	Sep. 12, 2023	Sep. 11, 2024
Testo	Hygro meter	608-H1	83723154	May. 23, 2023	May 22, 2024
HEAD acoustic GmbH	Fullband artificial head	HMS II.3	12306610	NCR	NCR

Remark:
1. NCR: no calibration required

9. Device Support Codec

General Note:

1. Per KDB 285076 D04, it is expected to investigate and document only the worst-case test conditions and results. Each submitted test report shall document the codec type (i.e., NB, WB, EVS, etc.), every air interface (i.e., LTE, 5G NR, WI-FI) and band supported for the worst-case codec bit rate, band channel, bandwidth, air interface bit rate, subcarrier spacings, and resource blocks
2. Through Internal codec and air interface configuration investigation (e.g. (i.e., NB, WB, EVS codec, bandwidth, modulation data rate, subcarrier spacing, and resource blocks) that the worst investigate results of codec, air interface configuration etc. were include in section10
3. Per KDB 285076 D05, Waiver DA 23-914 only requires conversational gain compliance for CMRS narrowband and CMRS wideband voice codecs. All other codecs either part of 3GPP set such as full-band and super-wideband codecs or OTT codecs are to be documented in the test report but not required to comply with the TIA 5050 Volume Control Standard
4. If a handset does not have a wideband codec or the handset only has an AMR wideband codec, then the test report must document this fact and the passing requirement under these circumstances for the wideband codec test is waived. The passing results for the distortion/noise and frequency response tests must be reported in the handset's test report

GSM Codec/bitrate			
Codec	AMR NB	AMR WB	EFR NB
Bitrate	4.75kbps	6.60kbps	12.2kbps
	5.15kbps	8.85kbps	
	5.9kbps	12.65kbps	
	6.7kbps		
	7.4kbps		
	7.95kbps		
	10.2kbps		
	12.2kbps		

WCDMA Codec/bitrate		
Codec	AMR NB	AMR WB
Bitrate	4.75kbps	6.60kbps
	5.15kbps	8.85kbps
	5.9kbps	12.65kbps
	6.7kbps	14.25kbps
	7.4kbps	15.85kbps
	7.95kbps	18.25kbps
	10.2kbps	19.85kbps
	12.2kbps	23.05kbps
		23.85kbps

VoLTE/VoWIFI Codec/bitrate investigation					
Codec	AMR NB	AMR WB	EVS NB	EVS WB	EVS SWB
Bitrate	4.75kbps	6.60kbps	5.9kbps	5.9kbps	9.6kbps
	5.15kbps	8.85kbps	7.2kbps	7.2kbps	13.2kbps
	5.9kbps	12.65kbps	8kbps	8kbps	16.4kbps
	6.7kbps	14.25kbps	9.6kbps	9.6kbps	24.4kbps
	7.4kbps	15.85kbps	13.2kbps	13.2kbps	
	7.95kbps	18.25kbps	16.4kbps	16.4kbps	
	10.2kbps	19.85kbps	24.4kbps	24.4kbps	
	12.2kbps	23.05kbps			
		23.85kbps			

Google meet Codec/bitrate investigation	
Codec	Opus (Full Band)
Bitrate	6Kbps~75Kbps

10. Volume Control Evaluation Results

General Note:

1. All the test result was done at quiet room and measured ambient noise is 33.35 dBa and less than 40dBa.
2. Per KDB 285076 D05, Under the waiver, only CMRS narrowband and CMRS wideband voice codecs are required to comply with the volume control requirements of the TIA 5050-2018 Volume Control Standard as amended as follows:
   a. For the 2N mounting force test, one narrowband and one wideband voice codec embedded with the handset must pass with at least one volume control setting with a conversational gain of ≥ 6 dB for all voice services, bands of operation and air interfaces over which it operates using one codec bit rate of the applicant's choosing
   b. For the 8N mounting force test, one narrowband and one wideband voice codec embedded with the handset must pass with at least one volume control setting with a conversational gain of ≥ 6 dB 8 for all voice services, bands of operation and air interfaces over which they operate but is not required to meet or exceed the full 18 dB of conversational gain specified in section 5.1.1 of the TIA 5050 Volume Control Standard using one codec bit rate of the applicant's choosing
3. For all other narrowband and wideband codecs not evaluated in item1. above, TIA 5050-2018 Receive Distortion and Noise Performance and Receive Acoustic Frequency Response Performance evaluations are not required; however, these codecs shall be assessed for conversational gain and documented in the test report at the 2N and 8N levels with a gain of ≥ 6 dB for all voice services, bands of operation and air interfaces over which they operate. The handset volume setting used to comply with item2. shall be used for these other CMRS codec evaluations.
4. Any other codec for voice services embedded in the handset, not identified in item 2. and item3. above, is not required to comply or demonstrate in the test reports for conversational gain.
5. Per KDB 285076 D05 and document of DA 23-914 item 30, the manufacturer only perform EVS codec to meet distortion/noise and frequency response tests at the 2N and 8N force levels.
6. All the test results were set the DUT volume control to the maximum setting.
7. Conversational Gain = (measured dBSPL Level – 70 dB) dB
8. Through Internal radio configuration investigation (e.g. bandwidth, modulation data rate, subcarrier spacing, and resource blocks) that the worst radio configuration was document as below table.
9. The device have similar frequency in some LTE and NR bands: 12/17, 5/26, 4/66, 2/25, 38/41, 77/78 since the supported frequency spans for the smaller LTE and NR bands are completely cover by the larger LTE and NR bands, therefore, only larger LTE and NR bands were required to be tested for hearing-aid compliance.

<Evaluation results for KDB 285076 D05 2.a>

<LTE>

Plot No.	Air Interface	Radio Configuration	Channel	Codec & Bitrate	Mounting Force (N)	Conversational Gain				Receive Distortion And Noise Performance			Receive Acoustic Frequency Response Performance
						Measured dBSPL Level	Conv. Gain (dB)	Limit (dB)	Margin to limit (dB)	Minimum PN-SDNR (dB)	Limit (dB)	Margin to limit (dB)	PASS/FAIL
	LTE Band 7	20M_QPSK_1_0	21100	EVS NB 24.4kbps	2N	90.49	20.49	≥6	14.49	29.44	≥20	9.44	PASS
	LTE Band 7	20M_QPSK_1_0	21100	EVS NB 24.4kbps	8N	89.1	19.1	≥6	13.1	28.5	≥20	8.5	PASS
	LTE Band 7	20M_QPSK_1_0	21100	EVS WB 24.4kbps	2N	89.11	19.11	≥6	13.11	29.17	≥20	9.17	PASS
	LTE Band 7	20M_QPSK_1_0	21100	EVS WB 24.4kbps	8N	88.56	18.56	≥6	12.56	27.22	≥20	7.22	PASS
	LTE Band 12	10M_QPSK_1_0	23095	EVS NB 24.4kbps	2N	88.94	18.94	≥6	12.94	29.59	≥20	9.59	PASS
	LTE Band 12	10M_QPSK_1_0	23095	EVS NB 24.4kbps	8N	88.71	18.71	≥6	12.71	28.42	≥20	8.42	PASS
	LTE Band 12	10M_QPSK_1_0	23095	EVS WB 24.4kbps	2N	88.1	18.1	≥6	12.1	28.3	≥20	8.3	PASS
	LTE Band 12	10M_QPSK_1_0	23095	EVS WB 24.4kbps	8N	88.56	18.56	≥6	12.56	26.95	≥20	6.95	PASS
	LTE Band 13	10M_QPSK_1_0	23230	EVS NB 24.4kbps	2N	91.78	21.78	≥6	15.78	29.84	≥20	9.84	PASS
	LTE Band 13	10M_QPSK_1_0	23230	EVS NB 24.4kbps	8N	88.74	18.74	≥6	12.74	28.63	≥20	8.63	PASS
	LTE Band 13	10M_QPSK_1_0	23230	EVS WB 24.4kbps	2N	88.14	18.14	≥6	12.14	28.07	≥20	8.07	PASS
	LTE Band 13	10M_QPSK_1_0	23230	EVS WB 24.4kbps	8N	88.96	18.96	≥6	12.96	26.92	≥20	6.92	PASS
	LTE Band 14	10M_QPSK_1_0	23330	EVS NB 24.4kbps	2N	88.67	18.67	≥6	12.67	28.98	≥20	8.98	PASS
	LTE Band 14	10M_QPSK_1_0	23330	EVS NB 24.4kbps	8N	88.05	18.05	≥6	12.05	28.66	≥20	8.66	PASS
	LTE Band 14	10M_QPSK_1_0	23330	EVS WB 24.4kbps	2N	88.64	18.64	≥6	12.64	28.28	≥20	8.28	PASS
	LTE Band 14	10M_QPSK_1_0	23330	EVS WB 24.4kbps	8N	88.82	18.82	≥6	12.82	26.9	≥20	6.9	PASS
	LTE Band 25	20M_QPSK_1_0	26340	EVS NB 24.4kbps	2N	88.05	18.05	≥6	12.05	28.84	≥20	8.84	PASS
	LTE Band 25	20M_QPSK_1_0	26340	EVS NB 24.4kbps	8N	88.13	18.13	≥6	12.13	28.85	≥20	8.85	PASS
	LTE Band 25	20M_QPSK_1_0	26340	EVS WB 24.4kbps	2N	88.06	18.06	≥6	12.06	28.3	≥20	8.3	PASS
	LTE Band 25	20M_QPSK_1_0	26340	EVS WB 24.4kbps	8N	88.8	18.8	≥6	12.8	26.93	≥20	6.93	PASS
	LTE Band 26	15M_QPSK_1_0	26865	EVS NB 24.4kbps	2N	88.82	18.82	≥6	12.82	28.73	≥20	8.73	PASS
	LTE Band 26	15M_QPSK_1_0	26865	EVS NB 24.4kbps	8N	88.28	18.28	≥6	12.28	28.69	≥20	8.69	PASS
	LTE Band 26	15M_QPSK_1_0	26865	EVS WB 24.4kbps	2N	88.93	18.93	≥6	12.93	28.07	≥20	8.07	PASS
	LTE Band 26	15M_QPSK_1_0	26865	EVS WB 24.4kbps	8N	88.76	18.76	≥6	12.76	26.88	≥20	6.88	PASS
	LTE Band 30	10M_QPSK_1_0	27710	EVS NB 24.4kbps	2N	88.19	18.19	≥6	12.19	28.65	≥20	8.65	PASS
	LTE Band 30	10M_QPSK_1_0	27710	EVS NB 24.4kbps	8N	89.41	19.41	≥6	13.41	28.83	≥20	8.83	PASS
	LTE Band 30	10M_QPSK_1_0	27710	EVS WB 24.4kbps	2N	88.4	18.4	≥6	12.4	27.87	≥20	7.87	PASS
	LTE Band 30	10M_QPSK_1_0	27710	EVS WB 24.4kbps	8N	88.9	18.9	≥6	12.9	26.79	≥20	6.79	PASS
	LTE Band 41	20M_QPSK_1_0	40620	EVS NB 24.4kbps	2N	88.08	18.08	≥6	12.08	28.96	≥20	8.96	PASS
	LTE Band 41	20M_QPSK_1_0	40620	EVS NB 24.4kbps	8N	88.5	18.5	≥6	12.5	28.94	≥20	8.94	PASS
	LTE Band 41	20M_QPSK_1_0	40620	EVS WB 24.4kbps	2N	90.19	20.19	≥6	14.19	29.11	≥20	9.11	PASS
	LTE Band 41	20M_QPSK_1_0	40620	EVS WB 24.4kbps	8N	88.61	18.61	≥6	12.61	26.72	≥20	6.72	PASS
	LTE Band 48	20M_QPSK_1_0	55830	EVS NB 24.4kbps	2N	87.93	17.93	≥6	11.93	28.52	≥20	8.52	PASS
	LTE Band 48	20M_QPSK_1_0	55830	EVS NB 24.4kbps	8N	89.2	19.2	≥6	13.2	28.51	≥20	8.51	PASS
1	LTE Band 48	20M_QPSK_1_0	55830	EVS WB 24.4kbps	2N	90.26	20.26	≥6	14.26	27.7	≥20	7.7	PASS
	LTE Band 48	20M_QPSK_1_0	55830	EVS WB 24.4kbps	8N	88.63	18.63	≥6	12.63	26.47	≥20	6.47	PASS
	LTE Band 66	20M_QPSK_1_0	132322	EVS NB 24.4kbps	2N	91.45	21.45	≥6	15.45	29.33	≥20	9.33	PASS
	LTE Band 66	20M_QPSK_1_0	132322	EVS NB 24.4kbps	8N	89.15	19.15	≥6	13.15	29.31	≥20	9.31	PASS
	LTE Band 66	20M_QPSK_1_0	132322	EVS WB 24.4kbps	2N	89.56	19.56	≥6	13.56	28.1	≥20	8.1	PASS
	LTE Band 66	20M_QPSK_1_0	132322	EVS WB 24.4kbps	8N	88.5	18.5	≥6	12.5	26.86	≥20	6.86	PASS
	LTE Band 71	20M_QPSK_1_0	133297	EVS NB 24.4kbps	2N	88.53	18.53	≥6	12.53	28.72	≥20	8.72	PASS
	LTE Band 71	20M_QPSK_1_0	133297	EVS NB 24.4kbps	8N	88.06	18.06	≥6	12.06	28.74	≥20	8.74	PASS
	LTE Band 71	20M_QPSK_1_0	133297	EVS WB 24.4kbps	2N	88.82	18.82	≥6	12.82	26.76	≥20	6.76	PASS
	LTE Band 71	20M_QPSK_1_0	133297	EVS WB 24.4kbps	8N	88.18	18.18	≥6	12.18	26.82	≥20	6.82	PASS

<NR>

Plot No.	Air Interface	Radio Configuration	Channel	Codec & Bitrate	Mounting Force (N)	Conversational Gain				Receive Distortion And Noise Performance			Receive Acoustic Frequency Response Performance
						Measured dBSPL Level	Conv. Gain (dB)	Limit (dB)	Margin to limit (dB)	Minimum PN-SDNR (dB)	Limit (dB)	Margin to limit (dB)	PASS/FAIL
	FR1 n7	50M_BPSK_1_1	507000	EVS NB 24.4kbps	2N	88.9	18.9	≥6	12.9	30.45	≥20	10.45	PASS
	FR1 n7	50M_BPSK_1_1	507000	EVS NB 24.4kbps	8N	88.21	18.21	≥6	12.21	30.57	≥20	10.57	PASS
	FR1 n7	50M_BPSK_1_1	507000	EVS WB 24.4kbps	2N	88.52	18.52	≥6	12.52	27.66	≥20	7.66	PASS
	FR1 n7	50M_BPSK_1_1	507000	EVS WB 24.4kbps	8N	88.83	18.83	≥6	12.83	27.17	≥20	7.17	PASS
	FR1 n12	15M_BPSK_1_1	141500	EVS NB 24.4kbps	2N	88.7	18.7	≥6	12.7	30.36	≥20	10.36	PASS
	FR1 n12	15M_BPSK_1_1	141500	EVS NB 24.4kbps	8N	88.25	18.25	≥6	12.25	30.27	≥20	10.27	PASS
	FR1 n12	15M_BPSK_1_1	141500	EVS WB 24.4kbps	2N	89.18	19.18	≥6	13.18	26.74	≥20	6.74	PASS
	FR1 n12	15M_BPSK_1_1	141500	EVS WB 24.4kbps	8N	88.83	18.83	≥6	12.83	26.8	≥20	6.8	PASS
	FR1 n14	10M_BPSK_1_1	158600	EVS NB 24.4kbps	2N	88.81	18.81	≥6	12.81	30.31	≥20	10.31	PASS
	FR1 n14	10M_BPSK_1_1	158600	EVS NB 24.4kbps	8N	88.36	18.36	≥6	12.36	30.29	≥20	10.29	PASS
	FR1 n14	10M_BPSK_1_1	158600	EVS WB 24.4kbps	2N	89.19	19.19	≥6	13.19	27.14	≥20	7.14	PASS
	FR1 n14	10M_BPSK_1_1	158600	EVS WB 24.4kbps	8N	88.76	18.76	≥6	12.76	27.08	≥20	7.08	PASS
	FR1 n25	40M_BPSK_1_1	376500	EVS NB 24.4kbps	2N	88.05	18.05	≥6	12.05	28.84	≥20	8.84	PASS
	FR1 n25	40M_BPSK_1_1	376500	EVS NB 24.4kbps	8N	88.13	18.13	≥6	12.13	28.85	≥20	8.85	PASS
	FR1 n25	40M_BPSK_1_1	376500	EVS WB 24.4kbps	2N	88.06	18.06	≥6	12.06	28.3	≥20	8.3	PASS
	FR1 n25	40M_BPSK_1_1	376500	EVS WB 24.4kbps	8N	88.8	18.8	≥6	12.8	26.93	≥20	6.93	PASS
	FR1 n26	20M_BPSK_1_1	166300	EVS NB 24.4kbps	2N	88.35	18.35	≥6	12.35	29.52	≥20	9.52	PASS
	FR1 n26	20M_BPSK_1_1	166300	EVS NB 24.4kbps	8N	88.71	18.71	≥6	12.71	29.56	≥20	9.56	PASS
	FR1 n26	20M_BPSK_1_1	166300	EVS WB 24.4kbps	2N	89.45	19.45	≥6	13.45	26.84	≥20	6.84	PASS
	FR1 n26	20M_BPSK_1_1	166300	EVS WB 24.4kbps	8N	88.81	18.81	≥6	12.81	26.83	≥20	6.83	PASS
	FR1 n30	10M_BPSK_1_1	462000	EVS NB 24.4kbps	2N	88.61	18.61	≥6	12.61	29.52	≥20	9.52	PASS
	FR1 n30	10M_BPSK_1_1	462000	EVS NB 24.4kbps	8N	88.66	18.66	≥6	12.66	29.52	≥20	9.52	PASS
	FR1 n30	10M_BPSK_1_1	462000	EVS WB 24.4kbps	2N	89.17	19.17	≥6	13.17	26.78	≥20	6.78	PASS
	FR1 n30	10M_BPSK_1_1	462000	EVS WB 24.4kbps	8N	89.39	19.39	≥6	13.39	26.81	≥20	6.81	PASS
	FR1 n41	100M_BPSK_1_1	518598	EVS NB 24.4kbps	2N	88.97	18.97	≥6	12.97	31.55	≥20	11.55	PASS
	FR1 n41	100M_BPSK_1_1	518598	EVS NB 24.4kbps	8N	88.75	18.75	≥6	12.75	30.31	≥20	10.31	PASS
	FR1 n41	100M_BPSK_1_1	518598	EVS WB 24.4kbps	2N	89.78	19.78	≥6	13.78	29.19	≥20	9.19	PASS
	FR1 n41	100M_BPSK_1_1	518598	EVS WB 24.4kbps	8N	88.58	18.58	≥6	12.58	27.04	≥20	7.04	PASS
	FR1 n48	100M_BPSK_1_1	641666	EVS NB 24.4kbps	2N	89.45	19.45	≥6	13.45	30.16	≥20	10.16	PASS
	FR1 n48	100M_BPSK_1_1	641666	EVS NB 24.4kbps	8N	88.2	18.2	≥6	12.2	29.66	≥20	9.66	PASS
	FR1 n48	100M_BPSK_1_1	641666	EVS WB 24.4kbps	2N	89.48	19.48	≥6	13.48	28.83	≥20	8.83	PASS
	FR1 n48	100M_BPSK_1_1	641666	EVS WB 24.4kbps	8N	88.51	18.51	≥6	12.51	26.95	≥20	6.95	PASS
	FR1 n66	40M_BPSK_1_1	349000	EVS NB 24.4kbps	2N	89.08	19.08	≥6	13.08	29.37	≥20	9.37	PASS
	FR1 n66	40M_BPSK_1_1	349000	EVS NB 24.4kbps	8N	88.57	18.57	≥6	12.57	29.41	≥20	9.41	PASS
2	FR1 n66	40M_BPSK_1_1	349000	EVS WB 24.4kbps	2N	89.44	19.44	≥6	13.44	26.7	≥20	6.7	PASS
	FR1 n66	40M_BPSK_1_1	349000	EVS WB 24.4kbps	8N	88.66	18.66	≥6	12.66	26.74	≥20	6.74	PASS
	FR1 n70	15M_BPSK_1_1	340500	EVS NB 24.4kbps	2N	88.27	18.27	≥6	12.27	29.4	≥20	9.4	PASS
	FR1 n70	15M_BPSK_1_1	340500	EVS NB 24.4kbps	8N	88.62	18.62	≥6	12.62	29.43	≥20	9.43	PASS
	FR1 n70	15M_BPSK_1_1	340500	EVS WB 24.4kbps	2N	89.4	19.4	≥6	13.4	27	≥20	7	PASS
	FR1 n70	15M_BPSK_1_1	340500	EVS WB 24.4kbps	8N	88.75	18.75	≥6	12.75	26.93	≥20	6.93	PASS
	FR1 n71	20M_BPSK_1_1	136100	EVS NB 24.4kbps	2N	89.68	19.68	≥6	13.68	30	≥20	10	PASS
	FR1 n71	20M_BPSK_1_1	136100	EVS NB 24.4kbps	8N	88.26	18.26	≥6	12.26	29.44	≥20	9.44	PASS
	FR1 n71	20M_BPSK_1_1	136100	EVS WB 24.4kbps	2N	89.23	19.23	≥6	13.23	26.84	≥20	6.84	PASS
	FR1 n71	20M_BPSK_1_1	136100	EVS WB 24.4kbps	8N	88.92	18.92	≥6	12.92	26.9	≥20	6.9	PASS
	FR1 n77	100M_BPSK_1_1	656000	EVS NB 24.4kbps	2N	90.21	20.21	≥6	14.21	29.91	≥20	9.91	PASS
	FR1 n77	100M_BPSK_1_1	656000	EVS NB 24.4kbps	8N	88.64	18.64	≥6	12.64	29.83	≥20	9.83	PASS
	FR1 n77	100M_BPSK_1_1	656000	EVS WB 24.4kbps	2N	88.87	18.87	≥6	12.87	28.52	≥20	8.52	PASS
	FR1 n77	100M_BPSK_1_1	656000	EVS WB 24.4kbps	8N	88.35	18.35	≥6	12.35	26.82	≥20	6.82	PASS

<WLAN>

Plot No.	Air Interface	Radio Configuration	Channel	Codec & Bitrate	Mounting Force (N)	Conversational Gain				Receive Distortion And Noise Performance			Receive Acoustic Frequency Response Performance
						Measured dBSPL Level	Conv. Gain (dB)	Limit (dB)	Margin to limit (dB)	Minimum PN-SDNR (dB)	Limit (dB)	Margin to limit (dB)	PASS/FAIL
	WLAN2.4GHz	802.11b 1Mbps	6	EVS NB 24.4kbps	2N	89.03	19.03	≥6	13.03	29.63	≥20	9.63	PASS
	WLAN2.4GHz	802.11b 1Mbps	6	EVS NB 24.4kbps	8N	89.04	19.04	≥6	13.04	24.44	≥20	4.44	PASS
	WLAN2.4GHz	802.11b 1Mbps	6	EVS WB 24.4kbps	2N	88.6	18.6	≥6	12.6	29.04	≥20	9.04	PASS
	WLAN2.4GHz	802.11b 1Mbps	6	EVS WB 24.4kbps	8N	89.05	19.05	≥6	13.05	26.63	≥20	6.63	PASS
	WLAN5GHz	802.11a 6Mbps	40	EVS NB 24.4kbps	2N	90.25	20.25	≥6	14.25	29.36	≥20	9.36	PASS
	WLAN5GHz	802.11a 6Mbps	40	EVS NB 24.4kbps	8N	88.52	18.52	≥6	12.52	28.33	≥20	8.33	PASS
	WLAN5GHz	802.11a 6Mbps	40	EVS WB 24.4kbps	2N	88.78	18.78	≥6	12.78	27.88	≥20	7.88	PASS
	WLAN5GHz	802.11a 6Mbps	40	EVS WB 24.4kbps	8N	88.8	18.8	≥6	12.8	26.45	≥20	6.45	PASS
	WLAN5GHz	802.11a 6Mbps	60	EVS NB 24.4kbps	2N	88.89	18.89	≥6	12.89	30.05	≥20	10.05	PASS
	WLAN5GHz	802.11a 6Mbps	60	EVS NB 24.4kbps	8N	88.83	18.83	≥6	12.83	30.33	≥20	10.33	PASS
3	WLAN5GHz	802.11a 6Mbps	60	EVS WB 24.4kbps	2N	88.95	18.95	≥6	12.95	20.09	≥20	0.09	PASS
	WLAN5GHz	802.11a 6Mbps	60	EVS WB 24.4kbps	8N	88.36	18.36	≥6	12.36	26.85	≥20	6.85	PASS
	WLAN5GHz	802.11a 6Mbps	116	EVS NB 24.4kbps	2N	90.27	20.27	≥6	14.27	24.12	≥20	4.12	PASS
	WLAN5GHz	802.11a 6Mbps	116	EVS NB 24.4kbps	8N	88.5	18.5	≥6	12.5	30.86	≥20	10.86	PASS
	WLAN5GHz	802.11a 6Mbps	116	EVS WB 24.4kbps	2N	88.11	18.11	≥6	12.11	28.04	≥20	8.04	PASS
	WLAN5GHz	802.11a 6Mbps	116	EVS WB 24.4kbps	8N	88.84	18.84	≥6	12.84	27.32	≥20	7.32	PASS
	WLAN5GHz	802.11a 6Mbps	157	EVS NB 24.4kbps	2N	88.78	18.78	≥6	12.78	22.56	≥20	2.56	PASS
	WLAN5GHz	802.11a 6Mbps	157	EVS NB 24.4kbps	8N	89.09	19.09	≥6	13.09	24.01	≥20	4.01	PASS
	WLAN5GHz	802.11a 6Mbps	157	EVS WB 24.4kbps	2N	88.75	18.75	≥6	12.75	28.08	≥20	8.08	PASS
	WLAN5GHz	802.11a 6Mbps	157	EVS WB 24.4kbps	8N	89.02	19.02	≥6	13.02	27.68	≥20	7.68	PASS
	WLAN5GHz	802.11a 6Mbps	173	EVS NB 24.4kbps	2N	89.57	19.57	≥6	13.57	29.49	≥20	9.49	PASS
	WLAN5GHz	802.11a 6Mbps	173	EVS NB 24.4kbps	8N	88.3	18.3	≥6	12.3	30.09	≥20	10.09	PASS
	WLAN5GHz	802.11a 6Mbps	173	EVS WB 24.4kbps	2N	88.64	18.64	≥6	12.64	27.89	≥20	7.89	PASS
	WLAN5GHz	802.11a 6Mbps	173	EVS WB 24.4kbps	8N	88.65	18.65	≥6	12.65	27.22	≥20	7.22	PASS
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS NB 24.4kbps	2N	90.03	20.03	≥6	14.03	30.6	≥20	10.6	PASS
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS NB 24.4kbps	8N	89.72	19.72	≥6	13.72	28.27	≥20	8.27	PASS
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS WB 24.4kbps	2N	91.57	21.57	≥6	15.57	26.92	≥20	6.92	PASS
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS WB 24.4kbps	8N	88.72	18.72	≥6	12.72	26.14	≥20	6.14	PASS

<Codec Investigation and Evaluation results for KDB 285076 D05 2.b>

<GSM>

Plot No.	Air Interface	Radio Configuration	Channel	Codec & Bitrate	Mounting Force (N)	Conversational Gain			
						Measured dBSPL Level	Conv. Gain (dB)	Limit (dB)	Margin to limit (dB)
	GSM850	GSM Voice	189	EFR NB 12.2Kbps	2N	88.15	18.15	≥6	12.15
	GSM850	GSM Voice	189	EFR NB 12.2Kbps	8N	88.65	18.65	≥6	12.65
	GSM850	GSM Voice	189	AMR NB 4.75kbps	2N	88.33	18.33	≥6	12.33
	GSM850	GSM Voice	189	AMR NB 4.75kbps	8N	88.07	18.07	≥6	12.07
	GSM850	GSM Voice	189	AMR NB 12.2kbps	2N	88.06	18.06	≥6	12.06
	GSM850	GSM Voice	189	AMR NB 12.2kbps	8N	88.11	18.11	≥6	12.11
	GSM850	GSM Voice	189	AMR WB 6.60kbps	2N	89.01	19.01	≥6	13.01
	GSM850	GSM Voice	189	AMR WB 6.60kbps	8N	88.65	18.65	≥6	12.65
	GSM850	GSM Voice	189	AMR WB 12.65kbps	2N	89.02	19.02	≥6	13.02
	GSM850	GSM Voice	189	AMR WB 12.65kbps	8N	89.4	19.4	≥6	13.4
	GSM1900	GSM Voice	661	EFR NB 12.2Kbps	2N	88.33	18.33	≥6	12.33
	GSM1900	GSM Voice	661	EFR NB 12.2Kbps	8N	88.16	18.16	≥6	12.16
4	GSM1900	GSM Voice	661	AMR NB 4.75kbps	2N	88	18	≥6	12
	GSM1900	GSM Voice	661	AMR NB 4.75kbps	8N	88.36	18.36	≥6	12.36
	GSM1900	GSM Voice	661	AMR NB 12.2kbps	2N	88.05	18.05	≥6	12.05
	GSM1900	GSM Voice	661	AMR NB 12.2kbps	8N	88.09	18.09	≥6	12.09
	GSM1900	GSM Voice	661	AMR WB 6.60kbps	2N	89.24	19.24	≥6	13.24
	GSM1900	GSM Voice	661	AMR WB 6.60kbps	8N	89.32	19.32	≥6	13.32
	GSM1900	GSM Voice	661	AMR WB 12.65kbps	2N	89.35	19.35	≥6	13.35
	GSM1900	GSM Voice	661	AMR WB 12.65kbps	8N	89.25	19.25	≥6	13.25

<UMTS>

Plot No.	Air Interface	Radio Configuration	Channel	Codec & Bitrate	Mounting Force (N)	Conversational Gain			
						Measured dBSPL Level	Conv. Gain (dB)	Limit (dB)	Margin to limit (dB)
	WCDMA II	Voice	9400	AMR NB 4.75kbps	2N	88.39	18.39	≥6	12.39
	WCDMA II	Voice	9400	AMR NB 4.75kbps	8N	88	18	≥6	12
	WCDMA II	Voice	9400	AMR NB 12.2kbps	2N	88.11	18.11	≥6	12.11
	WCDMA II	Voice	9400	AMR NB 12.2kbps	8N	88.56	18.56	≥6	12.56
	WCDMA II	Voice	9400	AMR WB 6.60kbps	2N	89.18	19.18	≥6	13.18
	WCDMA II	Voice	9400	AMR WB 6.60kbps	8N	89.01	19.01	≥6	13.01
	WCDMA II	Voice	9400	AMR WB 23.85kbps	2N	89.07	19.07	≥6	13.07
	WCDMA II	Voice	9400	AMR WB 23.85kbps	8N	88.86	18.86	≥6	12.86
	WCDMA IV	Voice	1413	AMR NB 4.75kbps	2N	88.07	18.07	≥6	12.07
	WCDMA IV	Voice	1413	AMR NB 4.75kbps	8N	88.21	18.21	≥6	12.21
5	WCDMA IV	Voice	1513	AMR NB 12.2kbps	2N	87.92	17.92	≥6	11.92
	WCDMA IV	Voice	1513	AMR NB 12.2kbps	8N	88.21	18.21	≥6	12.21
	WCDMA IV	Voice	1413	AMR WB 6.60kbps	2N	89.26	19.26	≥6	13.26
	WCDMA IV	Voice	1413	AMR WB 6.60kbps	8N	89.1	19.1	≥6	13.1
	WCDMA IV	Voice	1413	AMR WB 23.85kbps	2N	89.21	19.21	≥6	13.21
	WCDMA IV	Voice	1413	AMR WB 23.85kbps	8N	88.97	18.97	≥6	12.97
	WCDMA V	Voice	4182	AMR NB 4.75kbps	2N	88.54	18.54	≥6	12.54
	WCDMA V	Voice	4182	AMR NB 4.75kbps	8N	88.27	18.27	≥6	12.27
	WCDMA V	Voice	4182	AMR NB 12.2kbps	2N	87.99	17.99	≥6	11.99
	WCDMA V	Voice	4182	AMR NB 12.2kbps	8N	89.1	19.1	≥6	13.1
	WCDMA V	Voice	4182	AMR WB 6.60kbps	2N	89.3	19.3	≥6	13.3
	WCDMA V	Voice	4182	AMR WB 6.60kbps	8N	88.92	18.92	≥6	12.92
	WCDMA V	Voice	4182	AMR WB 23.85kbps	2N	89.49	19.49	≥6	13.49
	WCDMA V	Voice	4182	AMR WB 23.85kbps	8N	88.95	18.95	≥6	12.95

<LTE>

Plot No.	Air Interface	Radio Configuration	Channel	Codec & Bitrate	Mounting Force (N)	Conversational Gain			
						Measured dBSPL Level	Conv. Gain (dB)	Limit (dB)	Margin to limit (dB)
	LTE Band 7	20M_QPSK_1_0	21100	AMR NB 4.75kbps	2N	92.23	22.23	≥6	16.23
	LTE Band 7	20M_QPSK_1_0	21100	AMR NB 4.75kbps	8N	88.56	18.56	≥6	12.56
	LTE Band 7	20M_QPSK_1_0	21100	AMR NB 12.2kbps	2N	90.12	20.12	≥6	14.12
	LTE Band 7	20M_QPSK_1_0	21100	AMR NB 12.2kbps	8N	88.12	18.12	≥6	12.12
	LTE Band 7	20M_QPSK_1_0	21100	AMR WB 6.60kbps	2N	88.62	18.62	≥6	12.62
	LTE Band 7	20M_QPSK_1_0	21100	AMR WB 6.60kbps	8N	88.92	18.92	≥6	12.92
	LTE Band 7	20M_QPSK_1_0	21100	AMR WB 23.85kbps	2N	88.51	18.51	≥6	12.51
	LTE Band 7	20M_QPSK_1_0	21100	AMR WB 23.85kbps	8N	89.18	19.18	≥6	13.18
	LTE Band 7	20M_QPSK_1_0	21100	EVS NB 5.9kbps	2N	88.96	18.96	≥6	12.96
	LTE Band 7	20M_QPSK_1_0	21100	EVS NB 5.9kbps	8N	88.85	18.85	≥6	12.85
	LTE Band 7	20M_QPSK_1_0	21100	EVS WB 5.9kbps	2N	88.54	18.54	≥6	12.54
	LTE Band 7	20M_QPSK_1_0	21100	EVS WB 5.9kbps	8N	88.74	18.74	≥6	12.74
	LTE Band 7	20M_QPSK_1_0	21100	EVS NB 24.4kbps	2N	90.49	20.49	≥6	14.49
	LTE Band 7	20M_QPSK_1_0	21100	EVS NB 24.4kbps	8N	89.1	19.1	≥6	13.1
	LTE Band 7	20M_QPSK_1_0	21100	EVS WB 24.4kbps	2N	89.11	19.11	≥6	13.11
	LTE Band 7	20M_QPSK_1_0	21100	EVS WB 24.4kbps	8N	88.56	18.56	≥6	12.56
	LTE Band 12	10M_QPSK_1_0	23095	AMR NB 4.75kbps	2N	87.54	17.54	≥6	11.54
	LTE Band 12	10M_QPSK_1_0	23095	AMR NB 4.75kbps	8N	89.7	19.7	≥6	13.7
	LTE Band 12	10M_QPSK_1_0	23095	AMR NB 12.2kbps	2N	87.36	17.36	≥6	11.36
	LTE Band 12	10M_QPSK_1_0	23095	AMR NB 12.2kbps	8N	90.52	20.52	≥6	14.52
	LTE Band 12	10M_QPSK_1_0	23095	AMR WB 6.60kbps	2N	88.59	18.59	≥6	12.59
	LTE Band 12	10M_QPSK_1_0	23095	AMR WB 6.60kbps	8N	88.19	18.19	≥6	12.19
	LTE Band 12	10M_QPSK_1_0	23095	AMR WB 23.85kbps	2N	88.06	18.06	≥6	12.06
	LTE Band 12	10M_QPSK_1_0	23095	AMR WB 23.85kbps	8N	88.18	18.18	≥6	12.18
	LTE Band 12	10M_QPSK_1_0	23095	EVS NB 5.9kbps	2N	87.82	17.82	≥6	11.82
	LTE Band 12	10M_QPSK_1_0	23095	EVS NB 5.9kbps	8N	89.03	19.03	≥6	13.03
	LTE Band 12	10M_QPSK_1_0	23095	EVS WB 5.9kbps	2N	88.94	18.94	≥6	12.94
	LTE Band 12	10M_QPSK_1_0	23095	EVS WB 5.9kbps	8N	88.72	18.72	≥6	12.72
	LTE Band 12	10M_QPSK_1_0	23095	EVS NB 24.4kbps	2N	88.94	18.94	≥6	12.94
	LTE Band 12	10M_QPSK_1_0	23095	EVS NB 24.4kbps	8N	88.71	18.71	≥6	12.71
	LTE Band 12	10M_QPSK_1_0	23095	EVS WB 24.4kbps	2N	88.1	18.1	≥6	12.1
	LTE Band 12	10M_QPSK_1_0	23095	EVS WB 24.4kbps	8N	88.56	18.56	≥6	12.56
	LTE Band 13	10M_QPSK_1_0	23230	AMR NB 4.75kbps	2N	87.26	17.26	≥6	11.26
	LTE Band 13	10M_QPSK_1_0	23230	AMR NB 4.75kbps	8N	90.61	20.61	≥6	14.61
	LTE Band 13	10M_QPSK_1_0	23230	AMR NB 12.2kbps	2N	87.55	17.55	≥6	11.55
	LTE Band 13	10M_QPSK_1_0	23230	AMR NB 12.2kbps	8N	90.71	20.71	≥6	14.71
	LTE Band 13	10M_QPSK_1_0	23230	AMR WB 6.60kbps	2N	88.3	18.3	≥6	12.3
	LTE Band 13	10M_QPSK_1_0	23230	AMR WB 6.60kbps	8N	88.7	18.7	≥6	12.7
	LTE Band 13	10M_QPSK_1_0	23230	AMR WB 23.85kbps	2N	88.18	18.18	≥6	12.18
	LTE Band 13	10M_QPSK_1_0	23230	AMR WB 23.85kbps	8N	88.14	18.14	≥6	12.14
	LTE Band 13	10M_QPSK_1_0	23230	EVS NB 5.9kbps	2N	87.95	17.95	≥6	11.95
	LTE Band 13	10M_QPSK_1_0	23230	EVS NB 5.9kbps	8N	90.79	20.79	≥6	14.79
	LTE Band 13	10M_QPSK_1_0	23230	EVS WB 5.9kbps	2N	88.86	18.86	≥6	12.86
	LTE Band 13	10M_QPSK_1_0	23230	EVS WB 5.9kbps	8N	88.6	18.6	≥6	12.6
	LTE Band 13	10M_QPSK_1_0	23230	EVS NB 24.4kbps	2N	91.78	21.78	≥6	15.78
	LTE Band 13	10M_QPSK_1_0	23230	EVS NB 24.4kbps	8N	88.74	18.74	≥6	12.74
	LTE Band 13	10M_QPSK_1_0	23230	EVS WB 24.4kbps	2N	88.14	18.14	≥6	12.14
	LTE Band 13	10M_QPSK_1_0	23230	EVS WB 24.4kbps	8N	88.96	18.96	≥6	12.96
	LTE Band 14	10M_QPSK_1_0	23330	AMR NB 4.75kbps	2N	87.39	17.39	≥6	11.39
	LTE Band 14	10M_QPSK_1_0	23330	AMR NB 4.75kbps	8N	88.08	18.08	≥6	12.08
	LTE Band 14	10M_QPSK_1_0	23330	AMR NB 12.2kbps	2N	87.43	17.43	≥6	11.43
	LTE Band 14	10M_QPSK_1_0	23330	AMR NB 12.2kbps	8N	89.36	19.36	≥6	13.36
	LTE Band 14	10M_QPSK_1_0	23330	AMR WB 6.60kbps	2N	88.62	18.62	≥6	12.62
	LTE Band 14	10M_QPSK_1_0	23330	AMR WB 6.60kbps	8N	88.11	18.11	≥6	12.11
	LTE Band 14	10M_QPSK_1_0	23330	AMR WB 23.85kbps	2N	88.03	18.03	≥6	12.03
	LTE Band 14	10M_QPSK_1_0	23330	AMR WB 23.85kbps	8N	88.05	18.05	≥6	12.05
	LTE Band 14	10M_QPSK_1_0	23330	EVS NB 5.9kbps	2N	87.98	17.98	≥6	11.98

	LTE Band 14	10M_QPSK_1_0	23330	EVS NB 5.9kbps	8N	88.57	18.57	≥6	12.57
	LTE Band 14	10M_QPSK_1_0	23330	EVS WB 5.9kbps	2N	88.75	18.75	≥6	12.75
	LTE Band 14	10M_QPSK_1_0	23330	EVS WB 5.9kbps	8N	88.63	18.63	≥6	12.63
	LTE Band 14	10M_QPSK_1_0	23330	EVS NB 24.4kbps	2N	88.67	18.67	≥6	12.67
	LTE Band 14	10M_QPSK_1_0	23330	EVS NB 24.4kbps	8N	88.05	18.05	≥6	12.05
	LTE Band 14	10M_QPSK_1_0	23330	EVS WB 24.4kbps	2N	88.64	18.64	≥6	12.64
	LTE Band 14	10M_QPSK_1_0	23330	EVS WB 24.4kbps	8N	88.82	18.82	≥6	12.82
	LTE Band 25	20M_QPSK_1_0	26340	AMR NB 4.75kbps	2N	87.78	17.78	≥6	11.78
	LTE Band 25	20M_QPSK_1_0	26340	AMR NB 4.75kbps	8N	88.8	18.8	≥6	12.8
	LTE Band 25	20M_QPSK_1_0	26340	AMR NB 12.2kbps	2N	88.06	18.06	≥6	12.06
	LTE Band 25	20M_QPSK_1_0	26340	AMR NB 12.2kbps	8N	88.07	18.07	≥6	12.07
	LTE Band 25	20M_QPSK_1_0	26340	AMR WB 6.60kbps	2N	88.08	18.08	≥6	12.08
	LTE Band 25	20M_QPSK_1_0	26340	AMR WB 6.60kbps	8N	88.41	18.41	≥6	12.41
	LTE Band 25	20M_QPSK_1_0	26340	AMR WB 23.85kbps	2N	88.65	18.65	≥6	12.65
	LTE Band 25	20M_QPSK_1_0	26340	AMR WB 23.85kbps	8N	88.19	18.19	≥6	12.19
	LTE Band 25	20M_QPSK_1_0	26340	EVS NB 5.9kbps	2N	87.43	17.43	≥6	11.43
	LTE Band 25	20M_QPSK_1_0	26340	EVS NB 5.9kbps	8N	88.23	18.23	≥6	12.23
	LTE Band 25	20M_QPSK_1_0	26340	EVS WB 5.9kbps	2N	88.83	18.83	≥6	12.83
	LTE Band 25	20M_QPSK_1_0	26340	EVS WB 5.9kbps	8N	88.54	18.54	≥6	12.54
	LTE Band 25	20M_QPSK_1_0	26340	EVS NB 24.4kbps	2N	88.05	18.05	≥6	12.05
	LTE Band 25	20M_QPSK_1_0	26340	EVS NB 24.4kbps	8N	88.13	18.13	≥6	12.13
	LTE Band 25	20M_QPSK_1_0	26340	EVS WB 24.4kbps	2N	88.06	18.06	≥6	12.06
	LTE Band 25	20M_QPSK_1_0	26340	EVS WB 24.4kbps	8N	88.8	18.8	≥6	12.8
	LTE Band 26	15M_QPSK_1_0	26865	AMR NB 4.75kbps	2N	88.55	18.55	≥6	12.55
	LTE Band 26	15M_QPSK_1_0	26865	AMR NB 4.75kbps	8N	88.5	18.5	≥6	12.5
	LTE Band 26	15M_QPSK_1_0	26865	AMR NB 12.2kbps	2N	87.19	17.19	≥6	11.19
	LTE Band 26	15M_QPSK_1_0	26865	AMR NB 12.2kbps	8N	88.04	18.04	≥6	12.04
	LTE Band 26	15M_QPSK_1_0	26865	AMR WB 6.60kbps	2N	88.35	18.35	≥6	12.35
	LTE Band 26	15M_QPSK_1_0	26865	AMR WB 6.60kbps	8N	88.11	18.11	≥6	12.11
	LTE Band 26	15M_QPSK_1_0	26865	AMR WB 23.85kbps	2N	88.56	18.56	≥6	12.56
	LTE Band 26	15M_QPSK_1_0	26865	AMR WB 23.85kbps	8N	88.15	18.15	≥6	12.15
6	LTE Band 26	15M_QPSK_1_0	26865	EVS NB 5.9kbps	2N	87.15	17.15	≥6	11.15
	LTE Band 26	15M_QPSK_1_0	26865	EVS NB 5.9kbps	8N	90.53	20.53	≥6	14.53
	LTE Band 26	15M_QPSK_1_0	26865	EVS WB 5.9kbps	2N	89.07	19.07	≥6	13.07
	LTE Band 26	15M_QPSK_1_0	26865	EVS WB 5.9kbps	8N	88.91	18.91	≥6	12.91
	LTE Band 26	15M_QPSK_1_0	26865	EVS NB 24.4kbps	2N	88.82	18.82	≥6	12.82
	LTE Band 26	15M_QPSK_1_0	26865	EVS NB 24.4kbps	8N	88.28	18.28	≥6	12.28
	LTE Band 26	15M_QPSK_1_0	26865	EVS WB 24.4kbps	2N	88.93	18.93	≥6	12.93
	LTE Band 26	15M_QPSK_1_0	26865	EVS WB 24.4kbps	8N	88.76	18.76	≥6	12.76
	LTE Band 30	10M_QPSK_1_0	27710	AMR NB 4.75kbps	2N	87.52	17.52	≥6	11.52
	LTE Band 30	10M_QPSK_1_0	27710	AMR NB 4.75kbps	8N	89.67	19.67	≥6	13.67
	LTE Band 30	10M_QPSK_1_0	27710	AMR NB 12.2kbps	2N	88.52	18.52	≥6	12.52
	LTE Band 30	10M_QPSK_1_0	27710	AMR NB 12.2kbps	8N	90.31	20.31	≥6	14.31
	LTE Band 30	10M_QPSK_1_0	27710	AMR WB 6.60kbps	2N	88.69	18.69	≥6	12.69
	LTE Band 30	10M_QPSK_1_0	27710	AMR WB 6.60kbps	8N	89.65	19.65	≥6	13.65
	LTE Band 30	10M_QPSK_1_0	27710	AMR WB 23.85kbps	2N	88.05	18.05	≥6	12.05
	LTE Band 30	10M_QPSK_1_0	27710	AMR WB 23.85kbps	8N	89.86	19.86	≥6	13.86
	LTE Band 30	10M_QPSK_1_0	27710	EVS NB 5.9kbps	2N	87.95	17.95	≥6	11.95
	LTE Band 30	10M_QPSK_1_0	27710	EVS NB 5.9kbps	8N	88.54	18.54	≥6	12.54
	LTE Band 30	10M_QPSK_1_0	27710	EVS WB 5.9kbps	2N	88.76	18.76	≥6	12.76
	LTE Band 30	10M_QPSK_1_0	27710	EVS WB 5.9kbps	8N	88.88	18.88	≥6	12.88
	LTE Band 30	10M_QPSK_1_0	27710	EVS NB 24.4kbps	2N	88.19	18.19	≥6	12.19
	LTE Band 30	10M_QPSK_1_0	27710	EVS NB 24.4kbps	8N	89.41	19.41	≥6	13.41
	LTE Band 30	10M_QPSK_1_0	27710	EVS WB 24.4kbps	2N	88.4	18.4	≥6	12.4
	LTE Band 30	10M_QPSK_1_0	27710	EVS WB 24.4kbps	8N	88.9	18.9	≥6	12.9
	LTE Band 41	20M_QPSK_1_0	40620	AMR NB 4.75kbps	2N	90.31	20.31	≥6	14.31
	LTE Band 41	20M_QPSK_1_0	40620	AMR NB 4.75kbps	8N	90.29	20.29	≥6	14.29
	LTE Band 41	20M_QPSK_1_0	40620	AMR NB 12.2kbps	2N	90.22	20.22	≥6	14.22
	LTE Band 41	20M_QPSK_1_0	40620	AMR NB 12.2kbps	8N	90.43	20.43	≥6	14.43
	LTE Band 41	20M_QPSK_1_0	40620	AMR WB 6.60kbps	2N	87.55	17.55	≥6	11.55
	LTE Band 41	20M_QPSK_1_0	40620	AMR WB 6.60kbps	8N	89.34	19.34	≥6	13.34
	LTE Band 41	20M_QPSK_1_0	40620	AMR WB 23.85kbps	2N	88.16	18.16	≥6	12.16

	LTE Band 41	20M_QPSK_1_0	40620	AMR WB 23.85kbps	8N	89.38	19.38	≥6	13.38
	LTE Band 41	20M_QPSK_1_0	40620	EVS NB 5.9kbps	2N	90.29	20.29	≥6	14.29
	LTE Band 41	20M_QPSK_1_0	40620	EVS NB 5.9kbps	8N	90.26	20.26	≥6	14.26
	LTE Band 41	20M_QPSK_1_0	40620	EVS WB 5.9kbps	2N	90.62	20.62	≥6	14.62
	LTE Band 41	20M_QPSK_1_0	40620	EVS WB 5.9kbps	8N	88.79	18.79	≥6	12.79
	LTE Band 41	20M_QPSK_1_0	40620	EVS NB 24.4kbps	2N	88.08	18.08	≥6	12.08
	LTE Band 41	20M_QPSK_1_0	40620	EVS NB 24.4kbps	8N	88.5	18.5	≥6	12.5
	LTE Band 41	20M_QPSK_1_0	40620	EVS WB 24.4kbps	2N	90.19	20.19	≥6	14.19
	LTE Band 41	20M_QPSK_1_0	40620	EVS WB 24.4kbps	8N	88.61	18.61	≥6	12.61
	LTE Band 48	20M_QPSK_1_0	55830	AMR NB 4.75kbps	2N	90.38	20.38	≥6	14.38
	LTE Band 48	20M_QPSK_1_0	55830	AMR NB 4.75kbps	8N	88.76	18.76	≥6	12.76
	LTE Band 48	20M_QPSK_1_0	55830	AMR NB 12.2kbps	2N	90.32	20.32	≥6	14.32
	LTE Band 48	20M_QPSK_1_0	55830	AMR NB 12.2kbps	8N	90.34	20.34	≥6	14.34
	LTE Band 48	20M_QPSK_1_0	55830	AMR WB 6.60kbps	2N	88.56	18.56	≥6	12.56
	LTE Band 48	20M_QPSK_1_0	55830	AMR WB 6.60kbps	8N	88.97	18.97	≥6	12.97
	LTE Band 48	20M_QPSK_1_0	55830	AMR WB 23.85kbps	2N	87.98	17.98	≥6	11.98
	LTE Band 48	20M_QPSK_1_0	55830	AMR WB 23.85kbps	8N	89.25	19.25	≥6	13.25
	LTE Band 48	20M_QPSK_1_0	55830	EVS NB 5.9kbps	2N	89.35	19.35	≥6	13.35
	LTE Band 48	20M_QPSK_1_0	55830	EVS NB 5.9kbps	8N	90.43	20.43	≥6	14.43
	LTE Band 48	20M_QPSK_1_0	55830	EVS WB 5.9kbps	2N	91.39	21.39	≥6	15.39
	LTE Band 48	20M_QPSK_1_0	55830	EVS WB 5.9kbps	8N	88.76	18.76	≥6	12.76
	LTE Band 48	20M_QPSK_1_0	55830	EVS NB 24.4kbps	2N	87.93	17.93	≥6	11.93
	LTE Band 48	20M_QPSK_1_0	55830	EVS NB 24.4kbps	8N	89.2	19.2	≥6	13.2
	LTE Band 48	20M_QPSK_1_0	55830	EVS WB 24.4kbps	2N	90.26	20.26	≥6	14.26
	LTE Band 48	20M_QPSK_1_0	55830	EVS WB 24.4kbps	8N	88.63	18.63	≥6	12.63
	LTE Band 66	20M_QPSK_1_0	132322	AMR NB 4.75kbps	2N	88.68	18.68	≥6	12.68
	LTE Band 66	20M_QPSK_1_0	132322	AMR NB 4.75kbps	8N	90.45	20.45	≥6	14.45
	LTE Band 66	20M_QPSK_1_0	132322	AMR NB 12.2kbps	2N	90.41	20.41	≥6	14.41
	LTE Band 66	20M_QPSK_1_0	132322	AMR NB 12.2kbps	8N	90.41	20.41	≥6	14.41
	LTE Band 66	20M_QPSK_1_0	132322	AMR WB 6.60kbps	2N	89.15	19.15	≥6	13.15
	LTE Band 66	20M_QPSK_1_0	132322	AMR WB 6.60kbps	8N	88.63	18.63	≥6	12.63
	LTE Band 66	20M_QPSK_1_0	132322	AMR WB 23.85kbps	2N	88.86	18.86	≥6	12.86
	LTE Band 66	20M_QPSK_1_0	132322	AMR WB 23.85kbps	8N	88.58	18.58	≥6	12.58
	LTE Band 66	20M_QPSK_1_0	132322	EVS NB 5.9kbps	2N	87.42	17.42	≥6	11.42
	LTE Band 66	20M_QPSK_1_0	132322	EVS NB 5.9kbps	8N	90.39	20.39	≥6	14.39
	LTE Band 66	20M_QPSK_1_0	132322	EVS WB 5.9kbps	2N	88.16	18.16	≥6	12.16
	LTE Band 66	20M_QPSK_1_0	132322	EVS WB 5.9kbps	8N	89.05	19.05	≥6	13.05
	LTE Band 66	20M_QPSK_1_0	132322	EVS NB 24.4kbps	2N	91.45	21.45	≥6	15.45
	LTE Band 66	20M_QPSK_1_0	132322	EVS NB 24.4kbps	8N	89.15	19.15	≥6	13.15
	LTE Band 66	20M_QPSK_1_0	132322	EVS WB 24.4kbps	2N	89.56	19.56	≥6	13.56
	LTE Band 66	20M_QPSK_1_0	132322	EVS WB 24.4kbps	8N	88.5	18.5	≥6	12.5
	LTE Band 71	20M_QPSK_1_0	133297	AMR NB 4.75kbps	2N	90.39	20.39	≥6	14.39
	LTE Band 71	20M_QPSK_1_0	133297	AMR NB 4.75kbps	8N	90.3	20.3	≥6	14.3
	LTE Band 71	20M_QPSK_1_0	133297	AMR NB 12.2kbps	2N	88.85	18.85	≥6	12.85
	LTE Band 71	20M_QPSK_1_0	133297	AMR NB 12.2kbps	8N	89.11	19.11	≥6	13.11
	LTE Band 71	20M_QPSK_1_0	133297	AMR WB 6.60kbps	2N	87.37	17.37	≥6	11.37
	LTE Band 71	20M_QPSK_1_0	133297	AMR WB 6.60kbps	8N	88.08	18.08	≥6	12.08
	LTE Band 71	20M_QPSK_1_0	133297	AMR WB 23.85kbps	2N	87.88	17.88	≥6	11.88
	LTE Band 71	20M_QPSK_1_0	133297	AMR WB 23.85kbps	8N	89.03	19.03	≥6	13.03
	LTE Band 71	20M_QPSK_1_0	133297	EVS NB 5.9kbps	2N	91.79	21.79	≥6	15.79
	LTE Band 71	20M_QPSK_1_0	133297	EVS NB 5.9kbps	8N	88.74	18.74	≥6	12.74
	LTE Band 71	20M_QPSK_1_0	133297	EVS WB 5.9kbps	2N	90.45	20.45	≥6	14.45
	LTE Band 71	20M_QPSK_1_0	133297	EVS WB 5.9kbps	8N	88.68	18.68	≥6	12.68
	LTE Band 71	20M_QPSK_1_0	133297	EVS NB 24.4kbps	2N	88.53	18.53	≥6	12.53
	LTE Band 71	20M_QPSK_1_0	133297	EVS NB 24.4kbps	8N	88.06	18.06	≥6	12.06
	LTE Band 71	20M_QPSK_1_0	133297	EVS WB 24.4kbps	2N	88.82	18.82	≥6	12.82
	LTE Band 71	20M_QPSK_1_0	133297	EVS WB 24.4kbps	8N	88.18	18.18	≥6	12.18

<NR>

Plot No.	Air Interface	Radio Configuration	Channel	Codec & Bitrate	Mounting Force (N)	Conversational Gain			
						Measured dBSPL Level	Conv. Gain (dB)	Limit (dB)	Margin to limit (dB)
	FR1 n7	50M_BPSK_1_1	507000	AMR NB 4.75kbps	2N	87.81	17.81	≥6	11.81
	FR1 n7	50M_BPSK_1_1	507000	AMR NB 4.75kbps	8N	88.08	18.08	≥6	12.08
	FR1 n7	50M_BPSK_1_1	507000	AMR NB 12.2kbps	2N	88.06	18.06	≥6	12.06
	FR1 n7	50M_BPSK_1_1	507000	AMR NB 12.2kbps	8N	89.19	19.19	≥6	13.19
	FR1 n7	50M_BPSK_1_1	507000	AMR WB 6.60kbps	2N	89.25	19.25	≥6	13.25
	FR1 n7	50M_BPSK_1_1	507000	AMR WB 6.60kbps	8N	88.69	18.69	≥6	12.69
	FR1 n7	50M_BPSK_1_1	507000	AMR WB 23.85kbps	2N	89.13	19.13	≥6	13.13
	FR1 n7	50M_BPSK_1_1	507000	AMR WB 23.85kbps	8N	88.88	18.88	≥6	12.88
	FR1 n7	50M_BPSK_1_1	507000	EVS NB 5.9kbps	2N	88.65	18.65	≥6	12.65
	FR1 n7	50M_BPSK_1_1	507000	EVS NB 5.9kbps	8N	88.54	18.54	≥6	12.54
	FR1 n7	50M_BPSK_1_1	507000	EVS WB 5.9kbps	2N	88.04	18.04	≥6	12.04
	FR1 n7	50M_BPSK_1_1	507000	EVS WB 5.9kbps	8N	88.74	18.74	≥6	12.74
	FR1 n7	50M_BPSK_1_1	507000	EVS NB 24.4kbps	2N	88.9	18.9	≥6	12.9
	FR1 n7	50M_BPSK_1_1	507000	EVS NB 24.4kbps	8N	88.21	18.21	≥6	12.21
	FR1 n7	50M_BPSK_1_1	507000	EVS WB 24.4kbps	2N	88.52	18.52	≥6	12.52
	FR1 n7	50M_BPSK_1_1	507000	EVS WB 24.4kbps	8N	88.83	18.83	≥6	12.83
	FR1 n12	15M_BPSK_1_1	141500	AMR NB 4.75kbps	2N	88.16	18.16	≥6	12.16
	FR1 n12	15M_BPSK_1_1	141500	AMR NB 4.75kbps	8N	88.34	18.34	≥6	12.34
	FR1 n12	15M_BPSK_1_1	141500	AMR NB 12.2kbps	2N	88.2	18.2	≥6	12.2
	FR1 n12	15M_BPSK_1_1	141500	AMR NB 12.2kbps	8N	88.2	18.2	≥6	12.2
	FR1 n12	15M_BPSK_1_1	141500	AMR WB 6.60kbps	2N	88.78	18.78	≥6	12.78
	FR1 n12	15M_BPSK_1_1	141500	AMR WB 6.60kbps	8N	88.66	18.66	≥6	12.66
	FR1 n12	15M_BPSK_1_1	141500	AMR WB 23.85kbps	2N	88.92	18.92	≥6	12.92
	FR1 n12	15M_BPSK_1_1	141500	AMR WB 23.85kbps	8N	89.01	19.01	≥6	13.01
	FR1 n12	15M_BPSK_1_1	141500	EVS NB 5.9kbps	2N	88.1	18.1	≥6	12.1
	FR1 n12	15M_BPSK_1_1	141500	EVS NB 5.9kbps	8N	88.35	18.35	≥6	12.35
	FR1 n12	15M_BPSK_1_1	141500	EVS WB 5.9kbps	2N	88.74	18.74	≥6	12.74
	FR1 n12	15M_BPSK_1_1	141500	EVS WB 5.9kbps	8N	88.93	18.93	≥6	12.93
	FR1 n12	15M_BPSK_1_1	141500	EVS NB 24.4kbps	2N	88.7	18.7	≥6	12.7
	FR1 n12	15M_BPSK_1_1	141500	EVS NB 24.4kbps	8N	88.25	18.25	≥6	12.25
	FR1 n12	15M_BPSK_1_1	141500	EVS WB 24.4kbps	2N	89.18	19.18	≥6	13.18
	FR1 n12	15M_BPSK_1_1	141500	EVS WB 24.4kbps	8N	88.83	18.83	≥6	12.83
	FR1 n14	10M_BPSK_1_1	158600	AMR NB 4.75kbps	2N	88.18	18.18	≥6	12.18
	FR1 n14	10M_BPSK_1_1	158600	AMR NB 4.75kbps	8N	88.38	18.38	≥6	12.38
	FR1 n14	10M_BPSK_1_1	158600	AMR NB 12.2kbps	2N	88.26	18.26	≥6	12.26
	FR1 n14	10M_BPSK_1_1	158600	AMR NB 12.2kbps	8N	88.24	18.24	≥6	12.24
	FR1 n14	10M_BPSK_1_1	158600	AMR WB 6.60kbps	2N	88.76	18.76	≥6	12.76
	FR1 n14	10M_BPSK_1_1	158600	AMR WB 6.60kbps	8N	88.69	18.69	≥6	12.69
	FR1 n14	10M_BPSK_1_1	158600	AMR WB 23.85kbps	2N	88.83	18.83	≥6	12.83
	FR1 n14	10M_BPSK_1_1	158600	AMR WB 23.85kbps	8N	88.96	18.96	≥6	12.96
	FR1 n14	10M_BPSK_1_1	158600	EVS NB 5.9kbps	2N	88.21	18.21	≥6	12.21
	FR1 n14	10M_BPSK_1_1	158600	EVS NB 5.9kbps	8N	88.36	18.36	≥6	12.36
	FR1 n14	10M_BPSK_1_1	158600	EVS WB 5.9kbps	2N	88.81	18.81	≥6	12.81
	FR1 n14	10M_BPSK_1_1	158600	EVS WB 5.9kbps	8N	88.85	18.85	≥6	12.85
	FR1 n14	10M_BPSK_1_1	158600	EVS NB 24.4kbps	2N	88.81	18.81	≥6	12.81
	FR1 n14	10M_BPSK_1_1	158600	EVS NB 24.4kbps	8N	88.36	18.36	≥6	12.36
	FR1 n14	10M_BPSK_1_1	158600	EVS WB 24.4kbps	2N	89.19	19.19	≥6	13.19
	FR1 n14	10M_BPSK_1_1	158600	EVS WB 24.4kbps	8N	88.76	18.76	≥6	12.76
	FR1 n25	40M_BPSK_1_1	376500	AMR NB 4.75kbps	2N	88.01	18.01	≥6	12.01
	FR1 n25	40M_BPSK_1_1	376500	AMR NB 4.75kbps	8N	88.81	18.81	≥6	12.81
	FR1 n25	40M_BPSK_1_1	376500	AMR NB 12.2kbps	2N	87.43	17.43	≥6	11.43
	FR1 n25	40M_BPSK_1_1	376500	AMR NB 12.2kbps	8N	88	18	≥6	12
	FR1 n25	40M_BPSK_1_1	376500	AMR WB 6.60kbps	2N	88.62	18.62	≥6	12.62
	FR1 n25	40M_BPSK_1_1	376500	AMR WB 6.60kbps	8N	88.95	18.95	≥6	12.95
	FR1 n25	40M_BPSK_1_1	376500	AMR WB 23.85kbps	2N	88.92	18.92	≥6	12.92
	FR1 n25	40M_BPSK_1_1	376500	AMR WB 23.85kbps	8N	88.74	18.74	≥6	12.74
	FR1 n25	40M_BPSK_1_1	376500	EVS NB 5.9kbps	2N	88.05	18.05	≥6	12.05
	FR1 n25	40M_BPSK_1_1	376500	EVS NB 5.9kbps	8N	88.8	18.8	≥6	12.8

	FR1 n25	40M_BPSK_1_1	376500	EVS WB 5.9kbps	2N	88.65	18.65	≥6	12.65
	FR1 n25	40M_BPSK_1_1	376500	EVS WB 5.9kbps	8N	88.73	18.73	≥6	12.73
	FR1 n25	40M_BPSK_1_1	376500	EVS NB 24.4kbps	2N	88.05	18.05	≥6	12.05
	FR1 n25	40M_BPSK_1_1	376500	EVS NB 24.4kbps	8N	88.13	18.13	≥6	12.13
	FR1 n25	40M_BPSK_1_1	376500	EVS WB 24.4kbps	2N	88.06	18.06	≥6	12.06
	FR1 n25	40M_BPSK_1_1	376500	EVS WB 24.4kbps	8N	88.8	18.8	≥6	12.8
	FR1 n26	20M_BPSK_1_1	166300	AMR NB 4.75kbps	2N	87.97	17.97	≥6	11.97
	FR1 n26	20M_BPSK_1_1	166300	AMR NB 4.75kbps	8N	88.31	18.31	≥6	12.31
	FR1 n26	20M_BPSK_1_1	166300	AMR NB 12.2kbps	2N	88.06	18.06	≥6	12.06
	FR1 n26	20M_BPSK_1_1	166300	AMR NB 12.2kbps	8N	88.51	18.51	≥6	12.51
	FR1 n26	20M_BPSK_1_1	166300	AMR WB 6.60kbps	2N	88.3	18.3	≥6	12.3
	FR1 n26	20M_BPSK_1_1	166300	AMR WB 6.60kbps	8N	88.94	18.94	≥6	12.94
	FR1 n26	20M_BPSK_1_1	166300	AMR WB 23.85kbps	2N	88.23	18.23	≥6	12.23
	FR1 n26	20M_BPSK_1_1	166300	AMR WB 23.85kbps	8N	88.65	18.65	≥6	12.65
	FR1 n26	20M_BPSK_1_1	166300	EVS NB 5.9kbps	2N	88.95	18.95	≥6	12.95
	FR1 n26	20M_BPSK_1_1	166300	EVS NB 5.9kbps	8N	88.66	18.66	≥6	12.66
	FR1 n26	20M_BPSK_1_1	166300	EVS WB 5.9kbps	2N	88.74	18.74	≥6	12.74
	FR1 n26	20M_BPSK_1_1	166300	EVS WB 5.9kbps	8N	88.64	18.64	≥6	12.64
	FR1 n26	20M_BPSK_1_1	166300	EVS NB 24.4kbps	2N	88.35	18.35	≥6	12.35
	FR1 n26	20M_BPSK_1_1	166300	EVS NB 24.4kbps	8N	88.71	18.71	≥6	12.71
	FR1 n26	20M_BPSK_1_1	166300	EVS WB 24.4kbps	2N	89.45	19.45	≥6	13.45
	FR1 n26	20M_BPSK_1_1	166300	EVS WB 24.4kbps	8N	88.81	18.81	≥6	12.81
	FR1 n30	10M_BPSK_1_1	462000	AMR NB 4.75kbps	2N	88.07	18.07	≥6	12.07
	FR1 n30	10M_BPSK_1_1	462000	AMR NB 4.75kbps	8N	88.13	18.13	≥6	12.13
	FR1 n30	10M_BPSK_1_1	462000	AMR NB 12.2kbps	2N	88.03	18.03	≥6	12.03
	FR1 n30	10M_BPSK_1_1	462000	AMR NB 12.2kbps	8N	88.07	18.07	≥6	12.07
	FR1 n30	10M_BPSK_1_1	462000	AMR WB 6.60kbps	2N	88.77	18.77	≥6	12.77
	FR1 n30	10M_BPSK_1_1	462000	AMR WB 6.60kbps	8N	89	19	≥6	13
	FR1 n30	10M_BPSK_1_1	462000	AMR WB 23.85kbps	2N	88.59	18.59	≥6	12.59
	FR1 n30	10M_BPSK_1_1	462000	AMR WB 23.85kbps	8N	88.58	18.58	≥6	12.58
7	FR1 n30	10M_BPSK_1_1	462000	EVS NB 5.9kbps	2N	87.41	17.41	≥6	11.41
	FR1 n30	10M_BPSK_1_1	462000	EVS NB 5.9kbps	8N	88.66	18.66	≥6	12.66
	FR1 n30	10M_BPSK_1_1	462000	EVS WB 5.9kbps	2N	88.66	18.66	≥6	12.66
	FR1 n30	10M_BPSK_1_1	462000	EVS WB 5.9kbps	8N	88.55	18.55	≥6	12.55
	FR1 n30	10M_BPSK_1_1	462000	EVS NB 24.4kbps	2N	88.61	18.61	≥6	12.61
	FR1 n30	10M_BPSK_1_1	462000	EVS NB 24.4kbps	8N	88.66	18.66	≥6	12.66
	FR1 n30	10M_BPSK_1_1	462000	EVS WB 24.4kbps	2N	89.17	19.17	≥6	13.17
	FR1 n30	10M_BPSK_1_1	462000	EVS WB 24.4kbps	8N	89.39	19.39	≥6	13.39
	FR1 n41	100M_BPSK_1_1	518598	AMR NB 4.75kbps	2N	89.84	19.84	≥6	13.84
	FR1 n41	100M_BPSK_1_1	518598	AMR NB 4.75kbps	8N	88.06	18.06	≥6	12.06
	FR1 n41	100M_BPSK_1_1	518598	AMR NB 12.2kbps	2N	90.24	20.24	≥6	14.24
	FR1 n41	100M_BPSK_1_1	518598	AMR NB 12.2kbps	8N	88.12	18.12	≥6	12.12
	FR1 n41	100M_BPSK_1_1	518598	AMR WB 6.60kbps	2N	90.38	20.38	≥6	14.38
	FR1 n41	100M_BPSK_1_1	518598	AMR WB 6.60kbps	8N	88.6	18.6	≥6	12.6
	FR1 n41	100M_BPSK_1_1	518598	AMR WB 23.85kbps	2N	90.45	20.45	≥6	14.45
	FR1 n41	100M_BPSK_1_1	518598	AMR WB 23.85kbps	8N	88.62	18.62	≥6	12.62
	FR1 n41	100M_BPSK_1_1	518598	EVS NB 5.9kbps	2N	88.68	18.68	≥6	12.68
	FR1 n41	100M_BPSK_1_1	518598	EVS NB 5.9kbps	8N	88.6	18.6	≥6	12.6
	FR1 n41	100M_BPSK_1_1	518598	EVS WB 5.9kbps	2N	89.73	19.73	≥6	13.73
	FR1 n41	100M_BPSK_1_1	518598	EVS WB 5.9kbps	8N	88.51	18.51	≥6	12.51
	FR1 n41	100M_BPSK_1_1	518598	EVS NB 5.9kbps	2N	88.68	18.68	≥6	12.68
	FR1 n41	100M_BPSK_1_1	518598	EVS NB 5.9kbps	8N	88.6	18.6	≥6	12.6
	FR1 n41	100M_BPSK_1_1	518598	EVS WB 5.9kbps	2N	89.73	19.73	≥6	13.73
	FR1 n41	100M_BPSK_1_1	518598	EVS WB 5.9kbps	8N	88.51	18.51	≥6	12.51
	FR1 n41	100M_BPSK_1_1	518598	EVS NB 24.4kbps	2N	88.97	18.97	≥6	12.97
	FR1 n41	100M_BPSK_1_1	518598	EVS NB 24.4kbps	8N	88.75	18.75	≥6	12.75
	FR1 n41	100M_BPSK_1_1	518598	EVS WB 24.4kbps	2N	89.78	19.78	≥6	13.78
	FR1 n41	100M_BPSK_1_1	518598	EVS WB 24.4kbps	8N	88.58	18.58	≥6	12.58
	FR1 n48	100M_BPSK_1_1	641666	AMR NB 4.75kbps	2N	88.8	18.8	≥6	12.8
	FR1 n48	100M_BPSK_1_1	641666	AMR NB 4.75kbps	8N	88.68	18.68	≥6	12.68
	FR1 n48	100M_BPSK_1_1	641666	AMR NB 12.2kbps	2N	90.13	20.13	≥6	14.13
	FR1 n48	100M_BPSK_1_1	641666	AMR NB 12.2kbps	8N	88.64	18.64	≥6	12.64
	FR1 n48	100M_BPSK_1_1	641666	AMR WB 6.60kbps	2N	89.06	19.06	≥6	13.06
	FR1 n48	100M_BPSK_1_1	641666	AMR WB 6.60kbps	8N	88.33	18.33	≥6	12.33

	FR1 n48	100M_BPSK_1_1	641666	AMR WB 23.85kbps	2N	88.76	18.76	≥6	12.76
	FR1 n48	100M_BPSK_1_1	641666	AMR WB 23.85kbps	8N	88.86	18.86	≥6	12.86
	FR1 n48	100M_BPSK_1_1	641666	EVS NB 5.9kbps	2N	89.04	19.04	≥6	13.04
	FR1 n48	100M_BPSK_1_1	641666	EVS NB 5.9kbps	8N	88.52	18.52	≥6	12.52
	FR1 n48	100M_BPSK_1_1	641666	EVS WB 5.9kbps	2N	88.84	18.84	≥6	12.84
	FR1 n48	100M_BPSK_1_1	641666	EVS WB 5.9kbps	8N	89	19	≥6	13
	FR1 n48	100M_BPSK_1_1	641666	EVS NB 24.4kbps	2N	89.45	19.45	≥6	13.45
	FR1 n48	100M_BPSK_1_1	641666	EVS NB 24.4kbps	8N	88.2	18.2	≥6	12.2
	FR1 n48	100M_BPSK_1_1	641666	EVS WB 24.4kbps	2N	89.48	19.48	≥6	13.48
	FR1 n48	100M_BPSK_1_1	641666	EVS WB 24.4kbps	8N	88.51	18.51	≥6	12.51
	FR1 n66	40M_BPSK_1_1	349000	AMR NB 4.75kbps	2N	87.94	17.94	≥6	11.94
	FR1 n66	40M_BPSK_1_1	349000	AMR NB 4.75kbps	8N	88.02	18.02	≥6	12.02
	FR1 n66	40M_BPSK_1_1	349000	AMR NB 12.2kbps	2N	88.22	18.22	≥6	12.22
	FR1 n66	40M_BPSK_1_1	349000	AMR NB 12.2kbps	8N	88.71	18.71	≥6	12.71
	FR1 n66	40M_BPSK_1_1	349000	AMR WB 6.60kbps	2N	88.21	18.21	≥6	12.21
	FR1 n66	40M_BPSK_1_1	349000	AMR WB 6.60kbps	8N	88.71	18.71	≥6	12.71
	FR1 n66	40M_BPSK_1_1	349000	AMR WB 23.85kbps	2N	88.3	18.3	≥6	12.3
	FR1 n66	40M_BPSK_1_1	349000	AMR WB 23.85kbps	8N	88.73	18.73	≥6	12.73
	FR1 n66	40M_BPSK_1_1	349000	EVS NB 5.9kbps	2N	88.1	18.1	≥6	12.1
	FR1 n66	40M_BPSK_1_1	349000	EVS NB 5.9kbps	8N	88.17	18.17	≥6	12.17
	FR1 n66	40M_BPSK_1_1	349000	EVS WB 5.9kbps	2N	88.35	18.35	≥6	12.35
	FR1 n66	40M_BPSK_1_1	349000	EVS WB 5.9kbps	8N	88.21	18.21	≥6	12.21
	FR1 n66	40M_BPSK_1_1	349000	EVS NB 24.4kbps	2N	89.08	19.08	≥6	13.08
	FR1 n66	40M_BPSK_1_1	349000	EVS NB 24.4kbps	8N	88.57	18.57	≥6	12.57
	FR1 n66	40M_BPSK_1_1	349000	EVS WB 24.4kbps	2N	89.44	19.44	≥6	13.44
	FR1 n66	40M_BPSK_1_1	349000	EVS WB 24.4kbps	8N	88.66	18.66	≥6	12.66
	FR1 n70	15M_BPSK_1_1	340500	AMR NB 4.75kbps	2N	87.53	17.53	≥6	11.53
	FR1 n70	15M_BPSK_1_1	340500	AMR NB 4.75kbps	8N	88.11	18.11	≥6	12.11
	FR1 n70	15M_BPSK_1_1	340500	AMR NB 12.2kbps	2N	88.15	18.15	≥6	12.15
	FR1 n70	15M_BPSK_1_1	340500	AMR NB 12.2kbps	8N	88.07	18.07	≥6	12.07
	FR1 n70	15M_BPSK_1_1	340500	AMR WB 6.60kbps	2N	88.59	18.59	≥6	12.59
	FR1 n70	15M_BPSK_1_1	340500	AMR WB 6.60kbps	8N	88.57	18.57	≥6	12.57
	FR1 n70	15M_BPSK_1_1	340500	AMR WB 23.85kbps	2N	88.22	18.22	≥6	12.22
	FR1 n70	15M_BPSK_1_1	340500	AMR WB 23.85kbps	8N	88.79	18.79	≥6	12.79
	FR1 n70	15M_BPSK_1_1	340500	EVS NB 5.9kbps	2N	88.05	18.05	≥6	12.05
	FR1 n70	15M_BPSK_1_1	340500	EVS NB 5.9kbps	8N	88.51	18.51	≥6	12.51
	FR1 n70	15M_BPSK_1_1	340500	EVS WB 5.9kbps	2N	88.76	18.76	≥6	12.76
	FR1 n70	15M_BPSK_1_1	340500	EVS WB 5.9kbps	8N	88.93	18.93	≥6	12.93
	FR1 n70	15M_BPSK_1_1	340500	EVS NB 24.4kbps	2N	88.27	18.27	≥6	12.27
	FR1 n70	15M_BPSK_1_1	340500	EVS NB 24.4kbps	8N	88.62	18.62	≥6	12.62
	FR1 n70	15M_BPSK_1_1	340500	EVS WB 24.4kbps	2N	89.4	19.4	≥6	13.4
	FR1 n70	15M_BPSK_1_1	340500	EVS WB 24.4kbps	8N	88.75	18.75	≥6	12.75
	FR1 n71	20M_BPSK_1_1	136100	AMR NB 4.75kbps	2N	90.35	20.35	≥6	14.35
	FR1 n71	20M_BPSK_1_1	136100	AMR NB 4.75kbps	8N	88.49	18.49	≥6	12.49
	FR1 n71	20M_BPSK_1_1	136100	AMR NB 12.2kbps	2N	89.46	19.46	≥6	13.46
	FR1 n71	20M_BPSK_1_1	136100	AMR NB 12.2kbps	8N	88.14	18.14	≥6	12.14
	FR1 n71	20M_BPSK_1_1	136100	AMR WB 6.60kbps	2N	90.23	20.23	≥6	14.23
	FR1 n71	20M_BPSK_1_1	136100	AMR WB 6.60kbps	8N	88.83	18.83	≥6	12.83
	FR1 n71	20M_BPSK_1_1	136100	AMR WB 23.85kbps	2N	90.22	20.22	≥6	14.22
	FR1 n71	20M_BPSK_1_1	136100	AMR WB 23.85kbps	8N	88.59	18.59	≥6	12.59
	FR1 n71	20M_BPSK_1_1	136100	EVS NB 5.9kbps	2N	91.02	21.02	≥6	15.02
	FR1 n71	20M_BPSK_1_1	136100	EVS NB 5.9kbps	8N	88.35	18.35	≥6	12.35
	FR1 n71	20M_BPSK_1_1	136100	EVS WB 5.9kbps	2N	90.47	20.47	≥6	14.47
	FR1 n71	20M_BPSK_1_1	136100	EVS WB 5.9kbps	8N	89.15	19.15	≥6	13.15
	FR1 n71	20M_BPSK_1_1	136100	EVS NB 24.4kbps	2N	89.68	19.68	≥6	13.68
	FR1 n71	20M_BPSK_1_1	136100	EVS NB 24.4kbps	8N	88.26	18.26	≥6	12.26
	FR1 n71	20M_BPSK_1_1	136100	EVS WB 24.4kbps	2N	89.23	19.23	≥6	13.23
	FR1 n71	20M_BPSK_1_1	136100	EVS WB 24.4kbps	8N	88.92	18.92	≥6	12.92
	FR1 n77	100M_BPSK_1_1	656000	AMR NB 4.75kbps	2N	88.79	18.79	≥6	12.79
	FR1 n77	100M_BPSK_1_1	656000	AMR NB 4.75kbps	8N	88.17	18.17	≥6	12.17
	FR1 n77	100M_BPSK_1_1	656000	AMR NB 12.2kbps	2N	89.59	19.59	≥6	13.59
	FR1 n77	100M_BPSK_1_1	656000	AMR NB 12.2kbps	8N	88.04	18.04	≥6	12.04
	FR1 n77	100M_BPSK_1_1	656000	AMR WB 6.60kbps	2N	88.94	18.94	≥6	12.94
	FR1 n77	100M_BPSK_1_1	656000	AMR WB 6.60kbps	8N	88.13	18.13	≥6	12.13

	FR1 n77	100M_BPSK_1_1	656000	AMR WB 23.85kbps	2N	88.17	18.17	≥6	12.17
	FR1 n77	100M_BPSK_1_1	656000	AMR WB 23.85kbps	8N	88.5	18.5	≥6	12.5
	FR1 n77	100M_BPSK_1_1	656000	EVS NB 5.9kbps	2N	90.31	20.31	≥6	14.31
	FR1 n77	100M_BPSK_1_1	656000	EVS NB 5.9kbps	8N	88.52	18.52	≥6	12.52
	FR1 n77	100M_BPSK_1_1	656000	EVS WB 5.9kbps	2N	88.87	18.87	≥6	12.87
	FR1 n77	100M_BPSK_1_1	656000	EVS WB 5.9kbps	8N	88.76	18.76	≥6	12.76
	FR1 n77	100M_BPSK_1_1	656000	EVS NB 24.4kbps	2N	90.21	20.21	≥6	14.21
	FR1 n77	100M_BPSK_1_1	656000	EVS NB 24.4kbps	8N	88.64	18.64	≥6	12.64
	FR1 n77	100M_BPSK_1_1	656000	EVS WB 24.4kbps	2N	88.87	18.87	≥6	12.87
	FR1 n77	100M_BPSK_1_1	656000	EVS WB 24.4kbps	8N	88.35	18.35	≥6	12.35

<WLAN>

Plot No.	Air Interface	Radio Configuration	Channel	Codec & Bitrate	Mounting Force (N)	Conversational Gain			
						Measured dBSPL Level	Conv. Gain (dB)	Limit (dB)	Margin to limit (dB)
	WLAN2.4GHz	802.11b 1Mbps	6	AMR NB 4.75kbps	2N	88.93	18.93	≥6	12.93
	WLAN2.4GHz	802.11b 1Mbps	6	AMR NB 4.75kbps	8N	88.71	18.71	≥6	12.71
	WLAN2.4GHz	802.11b 1Mbps	6	AMR NB 12.2kbps	2N	88.58	18.58	≥6	12.58
	WLAN2.4GHz	802.11b 1Mbps	6	AMR NB 12.2kbps	8N	88.66	18.66	≥6	12.66
	WLAN2.4GHz	802.11b 1Mbps	6	AMR WB 6.60kbps	2N	88.6	18.6	≥6	12.6
	WLAN2.4GHz	802.11b 1Mbps	6	AMR WB 6.60kbps	8N	89.3	19.3	≥6	13.3
	WLAN2.4GHz	802.11b 1Mbps	6	AMR WB 23.85kbps	2N	88.63	18.63	≥6	12.63
	WLAN2.4GHz	802.11b 1Mbps	6	AMR WB 23.85kbps	8N	88.71	18.71	≥6	12.71
	WLAN2.4GHz	802.11b 1Mbps	6	EVS NB 5.9kbps	2N	88.68	18.68	≥6	12.68
	WLAN2.4GHz	802.11b 1Mbps	6	EVS NB 5.9kbps	8N	89.16	19.16	≥6	13.16
	WLAN2.4GHz	802.11b 1Mbps	6	EVS WB 5.9kbps	2N	88.7	18.7	≥6	12.7
	WLAN2.4GHz	802.11b 1Mbps	6	EVS WB 5.9kbps	8N	88.76	18.76	≥6	12.76
	WLAN2.4GHz	802.11b 1Mbps	6	EVS NB 24.4kbps	2N	89.03	19.03	≥6	13.03
	WLAN2.4GHz	802.11b 1Mbps	6	EVS NB 24.4kbps	8N	89.04	19.04	≥6	13.04
	WLAN2.4GHz	802.11b 1Mbps	6	EVS WB 24.4kbps	2N	88.6	18.6	≥6	12.6
	WLAN2.4GHz	802.11b 1Mbps	6	EVS WB 24.4kbps	8N	89.05	19.05	≥6	13.05
	WLAN5GHz	802.11a 6Mbps	40	AMR NB 4.75kbps	2N	91.89	21.89	≥6	15.89
	WLAN5GHz	802.11a 6Mbps	40	AMR NB 4.75kbps	8N	88.6	18.6	≥6	12.6
	WLAN5GHz	802.11a 6Mbps	40	AMR NB 12.2kbps	2N	90.38	20.38	≥6	14.38
	WLAN5GHz	802.11a 6Mbps	40	AMR NB 12.2kbps	8N	88.38	18.38	≥6	12.38
	WLAN5GHz	802.11a 6Mbps	40	AMR WB 6.60kbps	2N	90.49	20.49	≥6	14.49
	WLAN5GHz	802.11a 6Mbps	40	AMR WB 6.60kbps	8N	88.55	18.55	≥6	12.55
	WLAN5GHz	802.11a 6Mbps	40	AMR WB 23.85kbps	2N	88.88	18.88	≥6	12.88
	WLAN5GHz	802.11a 6Mbps	40	AMR WB 23.85kbps	8N	88.65	18.65	≥6	12.65
	WLAN5GHz	802.11a 6Mbps	40	EVS NB 5.9kbps	2N	88.94	18.94	≥6	12.94
	WLAN5GHz	802.11a 6Mbps	40	EVS NB 5.9kbps	8N	88.54	18.54	≥6	12.54
	WLAN5GHz	802.11a 6Mbps	40	EVS WB 5.9kbps	2N	88.52	18.52	≥6	12.52
	WLAN5GHz	802.11a 6Mbps	40	EVS WB 5.9kbps	8N	88.6	18.6	≥6	12.6
	WLAN5GHz	802.11a 6Mbps	40	EVS NB 24.4kbps	2N	90.25	20.25	≥6	14.25
	WLAN5GHz	802.11a 6Mbps	40	EVS NB 24.4kbps	8N	88.52	18.52	≥6	12.52
	WLAN5GHz	802.11a 6Mbps	40	EVS WB 24.4kbps	2N	88.78	18.78	≥6	12.78
	WLAN5GHz	802.11a 6Mbps	40	EVS WB 24.4kbps	8N	88.8	18.8	≥6	12.8
	WLAN5GHz	802.11a 6Mbps	60	AMR NB 4.75kbps	2N	88.74	18.74	≥6	12.74
	WLAN5GHz	802.11a 6Mbps	60	AMR NB 4.75kbps	8N	88.22	18.22	≥6	12.22
	WLAN5GHz	802.11a 6Mbps	60	AMR NB 12.2kbps	2N	90.56	20.56	≥6	14.56
	WLAN5GHz	802.11a 6Mbps	60	AMR NB 12.2kbps	8N	88.57	18.57	≥6	12.57
	WLAN5GHz	802.11a 6Mbps	60	AMR WB 6.60kbps	2N	88.95	18.95	≥6	12.95
	WLAN5GHz	802.11a 6Mbps	60	AMR WB 6.60kbps	8N	88.25	18.25	≥6	12.25
	WLAN5GHz	802.11a 6Mbps	60	AMR WB 23.85kbps	2N	88.26	18.26	≥6	12.26
	WLAN5GHz	802.11a 6Mbps	60	AMR WB 23.85kbps	8N	88.61	18.61	≥6	12.61
	WLAN5GHz	802.11a 6Mbps	60	EVS NB 5.9kbps	2N	88.96	18.96	≥6	12.96
	WLAN5GHz	802.11a 6Mbps	60	EVS NB 5.9kbps	8N	88.52	18.52	≥6	12.52
	WLAN5GHz	802.11a 6Mbps	60	EVS WB 5.9kbps	2N	88.7	18.7	≥6	12.7
	WLAN5GHz	802.11a 6Mbps	60	EVS WB 5.9kbps	8N	88.55	18.55	≥6	12.55
	WLAN5GHz	802.11a 6Mbps	60	EVS NB 24.4kbps	2N	88.89	18.89	≥6	12.89
	WLAN5GHz	802.11a 6Mbps	60	EVS NB 24.4kbps	8N	88.83	18.83	≥6	12.83
	WLAN5GHz	802.11a 6Mbps	60	EVS WB 24.4kbps	2N	88.95	18.95	≥6	12.95
	WLAN5GHz	802.11a 6Mbps	60	EVS WB 24.4kbps	8N	88.36	18.36	≥6	12.36
	WLAN5GHz	802.11a 6Mbps	116	AMR NB 4.75kbps	2N	88.11	18.11	≥6	12.11
	WLAN5GHz	802.11a 6Mbps	116	AMR NB 4.75kbps	8N	88.54	18.54	≥6	12.54
	WLAN5GHz	802.11a 6Mbps	116	AMR NB 12.2kbps	2N	89.22	19.22	≥6	13.22
	WLAN5GHz	802.11a 6Mbps	116	AMR NB 12.2kbps	8N	88.23	18.23	≥6	12.23
	WLAN5GHz	802.11a 6Mbps	116	AMR WB 6.60kbps	2N	89.63	19.63	≥6	13.63
	WLAN5GHz	802.11a 6Mbps	116	AMR WB 6.60kbps	8N	88.77	18.77	≥6	12.77
	WLAN5GHz	802.11a 6Mbps	116	AMR WB 23.85kbps	2N	89.2	19.2	≥6	13.2

	WLAN5GHz	802.11a 6Mbps	116	AMR WB 23.85kbps	8N	88.36	18.36	≥6	12.36
	WLAN5GHz	802.11a 6Mbps	116	EVS NB 5.9kbps	2N	88.75	18.75	≥6	12.75
	WLAN5GHz	802.11a 6Mbps	116	EVS NB 5.9kbps	8N	88.41	18.41	≥6	12.41
	WLAN5GHz	802.11a 6Mbps	116	EVS WB 5.9kbps	2N	88.09	18.09	≥6	12.09
	WLAN5GHz	802.11a 6Mbps	116	EVS WB 5.9kbps	8N	88.53	18.53	≥6	12.53
	WLAN5GHz	802.11a 6Mbps	116	EVS NB 24.4kbps	2N	90.27	20.27	≥6	14.27
	WLAN5GHz	802.11a 6Mbps	116	EVS NB 24.4kbps	8N	88.5	18.5	≥6	12.5
	WLAN5GHz	802.11a 6Mbps	116	EVS WB 24.4kbps	2N	88.11	18.11	≥6	12.11
	WLAN5GHz	802.11a 6Mbps	116	EVS WB 24.4kbps	8N	88.84	18.84	≥6	12.84
	WLAN5GHz	802.11a 6Mbps	157	AMR NB 4.75kbps	2N	89.32	19.32	≥6	13.32
	WLAN5GHz	802.11a 6Mbps	157	AMR NB 4.75kbps	8N	88.53	18.53	≥6	12.53
	WLAN5GHz	802.11a 6Mbps	157	AMR NB 12.2kbps	2N	89.07	19.07	≥6	13.07
	WLAN5GHz	802.11a 6Mbps	157	AMR NB 12.2kbps	8N	88.1	18.1	≥6	12.1
	WLAN5GHz	802.11a 6Mbps	157	AMR WB 6.60kbps	2N	88.54	18.54	≥6	12.54
	WLAN5GHz	802.11a 6Mbps	157	AMR WB 6.60kbps	8N	88.57	18.57	≥6	12.57
	WLAN5GHz	802.11a 6Mbps	157	AMR WB 23.85kbps	2N	88.63	18.63	≥6	12.63
	WLAN5GHz	802.11a 6Mbps	157	AMR WB 23.85kbps	8N	88.83	18.83	≥6	12.83
	WLAN5GHz	802.11a 6Mbps	157	EVS NB 5.9kbps	2N	88.85	18.85	≥6	12.85
	WLAN5GHz	802.11a 6Mbps	157	EVS NB 5.9kbps	8N	88.99	18.99	≥6	12.99
8	WLAN5GHz	802.11a 6Mbps	157	EVS WB 5.9kbps	2N	88.05	18.05	≥6	12.05
	WLAN5GHz	802.11a 6Mbps	157	EVS WB 5.9kbps	8N	88.89	18.89	≥6	12.89
	WLAN5GHz	802.11a 6Mbps	157	EVS NB 24.4kbps	2N	88.78	18.78	≥6	12.78
	WLAN5GHz	802.11a 6Mbps	157	EVS NB 24.4kbps	8N	89.09	19.09	≥6	13.09
	WLAN5GHz	802.11a 6Mbps	157	EVS WB 24.4kbps	2N	88.75	18.75	≥6	12.75
	WLAN5GHz	802.11a 6Mbps	157	EVS WB 24.4kbps	8N	89.02	19.02	≥6	13.02
	WLAN5GHz	802.11a 6Mbps	173	AMR NB 4.75kbps	2N	88.82	18.82	≥6	12.82
	WLAN5GHz	802.11a 6Mbps	173	AMR NB 4.75kbps	8N	88.32	18.32	≥6	12.32
	WLAN5GHz	802.11a 6Mbps	173	AMR NB 12.2kbps	2N	90.53	20.53	≥6	14.53
	WLAN5GHz	802.11a 6Mbps	173	AMR NB 12.2kbps	8N	88.54	18.54	≥6	12.54
	WLAN5GHz	802.11a 6Mbps	173	AMR WB 6.60kbps	2N	89.3	19.3	≥6	13.3
	WLAN5GHz	802.11a 6Mbps	173	AMR WB 6.60kbps	8N	88.68	18.68	≥6	12.68
	WLAN5GHz	802.11a 6Mbps	173	AMR WB 23.85kbps	2N	89.61	19.61	≥6	13.61
	WLAN5GHz	802.11a 6Mbps	173	AMR WB 23.85kbps	8N	88.53	18.53	≥6	12.53
	WLAN5GHz	802.11a 6Mbps	173	EVS NB 5.9kbps	2N	88.8	18.8	≥6	12.8
	WLAN5GHz	802.11a 6Mbps	173	EVS NB 5.9kbps	8N	88.61	18.61	≥6	12.61
	WLAN5GHz	802.11a 6Mbps	173	EVS WB 5.9kbps	2N	88.56	18.56	≥6	12.56
	WLAN5GHz	802.11a 6Mbps	173	EVS WB 5.9kbps	8N	88.58	18.58	≥6	12.58
	WLAN5GHz	802.11a 6Mbps	173	EVS NB 24.4kbps	2N	89.57	19.57	≥6	13.57
	WLAN5GHz	802.11a 6Mbps	173	EVS NB 24.4kbps	8N	88.3	18.3	≥6	12.3
	WLAN5GHz	802.11a 6Mbps	173	EVS WB 24.4kbps	2N	88.64	18.64	≥6	12.64
	WLAN5GHz	802.11a 6Mbps	173	EVS WB 24.4kbps	8N	88.65	18.65	≥6	12.65
	WLAN6GHz	802.11ax-HE20 MCS0	1	AMR NB 4.75kbps	2N	91.87	21.87	≥6	15.87
	WLAN6GHz	802.11ax-HE20 MCS0	1	AMR NB 4.75kbps	8N	89.23	19.23	≥6	13.23
	WLAN6GHz	802.11ax-HE20 MCS0	1	AMR NB 12.2kbps	2N	89.41	19.41	≥6	13.41
	WLAN6GHz	802.11ax-HE20 MCS0	1	AMR NB 12.2kbps	8N	89.24	19.24	≥6	13.24
	WLAN6GHz	802.11ax-HE20 MCS0	1	AMR WB 6.60kbps	2N	90.11	20.11	≥6	14.11
	WLAN6GHz	802.11ax-HE20 MCS0	1	AMR WB 6.60kbps	8N	89.18	19.18	≥6	13.18
	WLAN6GHz	802.11ax-HE20 MCS0	1	AMR WB 23.85kbps	2N	90.9	20.9	≥6	14.9
	WLAN6GHz	802.11ax-HE20 MCS0	1	AMR WB 23.85kbps	8N	89.08	19.08	≥6	13.08
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS NB 5.9kbps	2N	90.27	20.27	≥6	14.27
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS NB 5.9kbps	8N	89.73	19.73	≥6	13.73
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS WB 5.9kbps	2N	91.39	21.39	≥6	15.39
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS WB 5.9kbps	8N	88.78	18.78	≥6	12.78
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS NB 24.4kbps	2N	90.03	20.03	≥6	14.03
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS NB 24.4kbps	8N	89.72	19.72	≥6	13.72
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS WB 24.4kbps	2N	91.57	21.57	≥6	15.57
	WLAN6GHz	802.11ax-HE20 MCS0	1	EVS WB 24.4kbps	8N	88.72	18.72	≥6	12.72

Test Engineer：Din Liang

11. Uncertainty Assessment

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type A evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.
The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual “root-sum-squares” (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances. Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %.
The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Component	Standard uncertainty (dB)	U^2 (%²)
Generator Accuracy To enable harmonic distortion measurements to 0.1%, the generator distortion must be <0.05%. This is equivalent to a standard uncertainty of 0.043 dB.	0.043	0.25
Ear Simulator Pressure Sensitivity (incl. Measurement Mic.) The uncertainty of the ear simulator as per the standards and quoted on its calibration certificate is 0.3 dB with a coverage factor of k = 2. This is equivalent to a standard uncertainty of 0.3/2 = 0.15 dB.	0.15	3.03
Microphone Preamplifier The manufacturer quotes the preamp to be within ± 0.02 dB with a 95% probability or 2σ. This is equivalent to a standard uncertainty of 0.02/2 = 0.01 dB.	0.01	0.01
Analysis System / RMS Detector Typical measurement system detector accuracy is 0.1 dB with a coverage factor of k = 2. This is equivalent to a standard uncertainty of 0.1/2 = 0.05 dB.	0.05	0.33
Effect of Positioning on Mid-Band Sensitivity For a handset, with the HATS positioning jig, the typical standard deviation estimated from a statistically significant number of measurements is ±2 dB. This is equivalent to a standard uncertainty of 2 dB.	0.5	35.11
Time Varying Effects of the Mouth Simulator for Send & Sidetone For a receive measurement on a handset, the mouth simulator is not used (its uncertainty is zero), The standard uncertainty of 0 dB	0	0.00
Total Standard Uncertainty (%)	6.22	
UMAX (k = 2) (%)	12.45	
UMAX (k = 2) (dB)	1.02	

Uncertainty Budget of Volume Control assessment

12. References

[1] ANSI C63.19:2019, “American National Standard for Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids”, Aug. 2019.

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