Volume Control TEST REPORT

No.24T04Z102806-018

for

TCL Communication Ltd.

GSM/UMTS/LTE/NR Mobile phone

T705J

FCC ID:2ACCJH184

with

Hardware Version: 03

Software Version:8F3H

Issued Date: 2024-12-27

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

Test Laboratory:

CTTL-Telecommunication Technology Labs, CAICT

No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

Tel:+86(0)10-62304633-2512, Fax:+86(0)10-62304633-2504

Email: cttl_terminals@caict.ac.cn, website: www.caict.ac.cn

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
24T04Z102806-018	Rev.0	1st edition	2024-12-27

Note: the latest revision of the test report supersedes all previous version.

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1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

1.2. Testing Location

Location 1: CTTL(huayuan North Road)

Address:	No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191

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1.3. Testing Environment

Normal Temperature:	18-28℃
Relative Humidity:	0-80%
Ambient noise of acoustic chamber	14dB(A) and is compliance with requirement of standards (SEE ANNEX H)

1.4. Project data

Testing Start Date:	2024-10-21
Testing End Date:	2024-12-26

1.5. Signature

Zhu Hongye

(Prepared this test report)

Lu Yuping

(Reviewed this test report)

Zhao Xinglong

(Approved this test report)

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2. Client Information

2.1. Applicant Information

Company Name	TCL Communication Ltd.
Address	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact	Huizhou
Email	Ting Wang
Tel.	ting.wang.hz@tcl.com
Fax	+86 752 2639091

2.2. Manufacturer Information

Company Name	TCL Communication Ltd.
Address	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact	Huizhou
Email	Ting Wang
Tel.	ting.wang.hz@tcl.com
Fax	+86 752 2639091

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3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

This EUT is a variant product and the report of original sample is No. 24T04Z102259-009-V1. The changes are declared as ANNEX J. We do full test for newly add bands 5GN12+N38 and reuse the results from the of original sample.

3.1. About EUT

General Information:

Description	GSM/UMTS/LTE/NR Mobile phone
Model name/HVIN	T705J
Brand name	TCL
FCC ID	2ACCJH184
Extreme Temperature	-10~55℃
Nominal Voltage	3.85V
Extreme High Voltage	4.4V
Extreme Low Voltage	3.6V

Supported Bands:

UMTS Frequency Band(s)	B 1/2/4/5
GSM Frequency Band(s)	GSM 850/900/1800/1900
E-UTRA Frequency Band(s)	B 1/2/3/4/5/7/12/13/17/20/25/26/28/29/30/38/41/42/66/71
WLAN Frequency Band(s)	2.4G/5GHz
5G Frequency Band(s)	N 1/2/3/5/12/20/25/28/30/38/40/41/48/66/70/71/77/78

Supported Codecs:

UMTS Audio Codec(s)	AMR NB/AMR WB
GSM Audio Codec (s)	EFR/AMR NB/AMR WB
E-UTRA Audio Codec(s)	AMR NB/AMR WB/EVS NB/EVS WB/EVS SWB
WLAN Audio Codec(s)	AMR NB/AMR WB/EVS NB/EVS WB/EVS SWB
5G Audio Codec(s)	AMR NB/AMR WB/EVS NB/EVS WB/EVS SWB
OTT	Google Meet

Note: Photographs of EUT are shown in ANNEX A of this test report.

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
UT31a	IMEI: 016649000002630/ 016649000002648	03	8F3H	2024-12-25

*EUT ID: is used to identify the test sample in the lab internally.

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3.3. Internal Identification of AE

AE ID*	Description	SN
/	/	/

*AE ID: is used to identify the test sample in the lab internally.

4. Reference Documents

4.1. Documents supplied by applicant

EUT parameters, referring to Annex B for detailed information, is supplied by the client or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
ANSI C63.19	American National Standard Methods of Measurement of Compatibility Between Wireless Communications Devices and Hearing Aids	2019
TIA 5050	Telecommunications Communications Products Receive Volume Control Requirements for Wireless (Mobile) Devices	2018 Edition
285076 D04 Volume Control v02	GUIDANCE FOR PERFORMING VOLUME CONTROL MEASUREMENTS ON MOBILE HANDSETS	2023.09.29
285076 D05 HAC Waiver DA 23-914 v01	HAC COMPLIANCE UNDER WAIVER DA 23-914	2023.09.29

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5. Air Interfaces / Bands used for testing

The codec bit rates of the applicant's choosing are EVS-NB 13.2kbps and EVS-WB 13.2kbps.

Air-interface	Band	Tested Codec	Tested Rate(kbps)
GSM	850/1900	EFR	/
WCDMA (UMTS)	B2/4/5	AMR-NB	4.75/12.2
		AMR-WB	6.6/23.85
VoLTE	B2/4/5/7/12/13/17/25/26/30/38/41/66/71	AMR-NB	4.75/12.2
		AMR-WB	6.6/23.85
		EVS-NB	13.2
		EVS-WB	13.2
VoWiFi	802.11g/ac	AMR-WB	6.6
		EVS-NB	13.2
		EVS-WB	13.2
VoNR	N 2/5/12/25/38/41/66/71	AMR-NB	4.75
		AMR-WB	6.6
		EVS-NB	13.2

6. Test Results

6.1. Test summary and Conclusions

The volume control measurement method is in accordance with the TIA 5050-2018.
The EUT was tested in CTTL acoustics laboratory. All the detail results are showed in section 6.3.

I: 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 dB8 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.

II: For all other narrowband and wideband codecs not evaluated in I.a. above, TIA 5050-2018 Receive Distortion and Noise Performance and Receive Acoustic Frequency Response

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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 I.a. shall be used for these other CMRS codec evaluations.

III. Any other codec for voice services embedded in the handset, not identified in I and II above, is not required to comply or demonstrate in the test reports for conversational gain.

Table 6.1-1: the worst-case test results of the chosen codec of telephony call

Mode	Channel	Modulation	Data Rate [Mbps]	Volume Level	Codec	NB/WB	Bit Rate [kbps]	2N/8N [N]	Conv. Gain (ANNEX D) [dB]	RFR (ANNEX D)	Minimum Distortion (ANNEX D) [Hz]	Minimum Distortion (ANNEX D) [dB]	Verdict
802.11ac	44	64-QAM	54	Max-2	EVS	NB	13.2	2N	8.95	PASS	800	20.94	PASS
802.11ac	44	64-QAM	54	Max-2	EVS	NB	13.2	8N	16.65	PASS	800	22.84	PASS
802.11ac	44	64-QAM	54	Max-2	EVS	WB	13.2	2N	8.84	PASS	250	27.16	PASS
802.11ac	44	64-QAM	54	Max-2	EVS	WB	13.2	8N	16.13	PASS	315	27.15	PASS

Table 6.1-2: the worst-case test results of other codecs of telephony call

Band	Channel	Bandwidth [MHz]	Modulation	SCS (kHz)	RB	Volume Level	Codec	NB/WB	Bit Rate [kbps]	2N/8N [N]	Conv. Gain (ANNEX E) [dB]	FR	Min PN-SDNR [Hz]	Min PN-SDNR [dB]	Verdict
N66	132322	20	64QAM	15	1	Max-2	AMR	NB	4.75	2N	8.68	/	/	/	PASS
N66	132322	20	64QAM	15	1	Max-2	AMR	NB	4.75	8N	16.41	/	/	/	PASS
N66	132322	20	64QAM	15	1	Max-2	AMR	WB	6.6	2N	8.07	/	/	/	PASS
N66	132322	20	64QAM	15	1	Max-2	AMR	WB	6.6	8N	16.07	/	/	/	PASS

Table 6.1-3: the worst conversational gains

Volume Level	Codec	NB/WB	HAC ON-2N/ HAC OFF-8N	Conv. Gain [dB]
Max-2	AMR	WB	HAC ON-2N	8.07
Max-2	AMR	WB	HAC OFF-8N	16.07

6.2. Description of Test Setup

In order to provide the complete information about the measurement environment within this report the setup is described in this chapter. Figure 6.2.1 shows a block diagram of the test arrangement.

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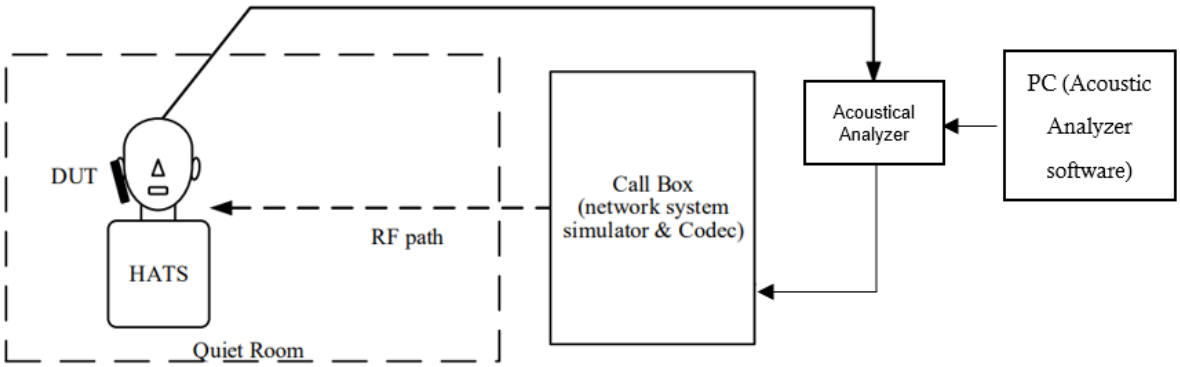

Fig. 6.2.1: Block diagram of the test setup

An artificial head measurement system according to ITU-T Recommendation P.58 equipped with artificial ears (Type3.3 acc. ITU-T Rec. P.57) are used. The artificial head is placed in the center of an anechoic test room. The measurements are implemented in the HEAD acoustics software ACQUA and can be carried out automatically. They allow signal recording at the artificial ears and feeding at the network simulator.

The network simulators (e.g. Rohde & Schwarz CMW500, CMX500) establish the call to the mobile phone via an antenna connection. The EUT was tested using EFR/AMR-NB/AMR-WB/EVS-NB/EVS-WB codecs.

ANNEX C shows the handheld Positioner with mounted EUT. The application force between the phone and the artificial ear is adjusted. A mounting force of 2N or 8 N is adjusted.

6.3. Test Detail Results

According to TIA 5050, the mobile T705J's frequency response and distortion failures occur at the maximum and max-1 volume control setting, the max-2 volume is found for which the conversational gain requirement is met without a frequency response or a distortion failure.

6.3.1 VoLTE IMS call investigation

Table 6.3.1-1: the **Codec** and **Bandwidth** investigating results of **VoLTE** IMS call

Band	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Volume Level	Codec	NB/WB	Bit Rate [kbps]	2N/8N [N]	Conv. Gain [dB]	FR	Min PN-SDNR [Hz]	Min PN-SDNR [dB]
B2	18900	10	QPSK	50	0	Max-2	EVS	NB	13.2	2N	8.94	PASS	800	21.90

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B2	18900	10	QPSK	50	0	Max-2	EVS	NB	13.2	8N	16.61	PASS	3150	22.60
B2	18900	10	QPSK	50	0	Max-2	EVS	WB	13.2	2N	8.96	PASS	315	25.85
B2	18900	10	QPSK	50	0	Max-2	EVS	WB	13.2	8N	15.89	PASS	250	25.91
B2	18900	10	QPSK	50	0	Max-2	AMR	NB	4.75	2N	8.50	/	/	/
B2	18900	10	QPSK	50	0	Max-2	AMR	NB	12.2	2N	9.12	/	/	/
B2	18900	10	QPSK	50	0	Max-2	AMR	NB	4.75	8N	16.39	/	/	/
B2	18900	10	QPSK	50	0	Max-2	AMR	WB	6.6	2N	8.23	/	/	/
B2	18900	10	QPSK	50	0	Max-2	AMR	WB	23.85	2N	8.27	/	/	/
B2	18900	10	QPSK	50	0	Max-2	AMR	WB	6.6	8N	16.28	/	/	/

Table 6.3.1-2: the **Radio Configuration** investigating results of **VoLTE** IMS call

Band	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Volume Level	Codec	NB/WB	Bit Rate [kbps]	2N/8N [N]	Conv. Gain [dB]	FR	Min PN-SDNR [Hz]	Min PN-SDNR [dB]
B2	18900	10	QPSK	1	0	Max-2	EVS	NB	13.2	2N	9.12	PASS	800	23.03
B2	18900	10	QPSK	1	49	Max-2	EVS	NB	13.2	2N	8.96	PASS	800	22.91
B2	18900	10	16QAM	1	0	Max-2	EVS	NB	13.2	2N	8.98	PASS	800	23.14
B2	18900	10	16QAM	1	49	Max-2	EVS	NB	13.2	2N	8.91	PASS	800	21.33
B2	18900	10	16QAM	50	0	Max-2	EVS	NB	13.2	2N	8.93	PASS	800	21.87
B2	18900	20	QPSK	100	0	Max-2	EVS	NB	13.2	2N	9.02	PASS	800	24.20
B2	18900	20	QPSK	1	0	Max-2	EVS	NB	13.2	2N	9.00	PASS	800	23.37
B2	18900	20	QPSK	1	99	Max-2	EVS	NB	13.2	2N	9.07	PASS	800	24.44
B2	18900	20	16QAM	1	0	Max-2	EVS	NB	13.2	2N	8.92	PASS	800	23.48
B2	18900	20	16QAM	1	99	Max-2	EVS	NB	13.2	2N	9.07	PASS	800	24.30
B2	18900	20	16QAM	100	0	Max-2	EVS	NB	13.2	2N	8.99	PASS	800	22.05
B2	18900	15	QPSK	75	0	Max-2	EVS	NB	13.2	2N	8.95	PASS	800	24.15
B2	18900	15	QPSK	1	0	Max-2	EVS	NB	13.2	2N	9.01	PASS	800	22.72
B2	18900	15	QPSK	1	74	Max-2	EVS	NB	13.2	2N	8.94	PASS	800	23.51
B2	18900	15	16QAM	1	74	Max-2	EVS	NB	13.2	2N	8.96	PASS	800	22.11
B2	18900	15	16QAM	75	0	Max-2	EVS	NB	13.2	2N	9.05	PASS	800	21.81

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B2	18900	5	QPSK	25	0	Max-2	EVS	NB	13.2	2N	9.00	PASS	800	22.72
B2	18900	5	QPSK	1	0	Max-2	EVS	NB	13.2	2N	8.99	PASS	800	23.40
B2	18900	5	16QAM	25	0	Max-2	EVS	NB	13.2	2N	9.03	PASS	800	21.97
B2	18900	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	8.95	PASS	800	21.04
B2	18900	3	16QAM	15	0	Max-2	EVS	NB	13.2	2N	9.00	PASS	800	23.54
B2	18900	1.4	QPSK	6	0	Max-2	EVS	NB	13.2	2N	9.07	PASS	250	23.69
B2	18900	10	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.33	/	/	/
B2	18900	10	QPSK	1	49	Max-2	AMR	WB	6.6	2N	8.30	/	/	/
B2	18900	10	16QAM	1	0	Max-2	AMR	WB	6.6	2N	8.26	/	/	/
B2	18900	10	16QAM	1	49	Max-2	AMR	WB	6.6	2N	8.35	/	/	/
B2	18900	10	16QAM	50	0	Max-2	AMR	WB	6.6	2N	8.34	/	/	/
B2	18900	20	QPSK	100	0	Max-2	AMR	WB	6.6	2N	8.64	/	/	/
B2	18900	20	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.27	/	/	/
B2	18900	20	QPSK	1	99	Max-2	AMR	WB	6.6	2N	8.13	/	/	/
B2	18900	20	16QAM	1	0	Max-2	AMR	WB	6.6	2N	8.53	/	/	/
B2	18900	20	16QAM	1	99	Max-2	AMR	WB	6.6	2N	8.41	/	/	/
B2	18900	20	16QAM	100	0	Max-2	AMR	WB	6.6	2N	8.78	/	/	/
B2	18900	15	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.16	/	/	/
B2	18900	15	QPSK	1	74	Max-2	AMR	WB	6.6	2N	8.30	/	/	/
B2	18900	15	16QAM	1	0	Max-2	AMR	WB	6.6	2N	8.26	/	/	/
B2	18900	15	16QAM	1	74	Max-2	AMR	WB	6.6	2N	8.20	/	/	/
B2	18900	5	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.30	/	/	/
B2	18900	5	16QAM	1	24	Max-2	AMR	WB	6.6	2N	8.30	/	/	/
B2	18900	3	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.31	/	/	/
B2	18900	3	16QAM	1	14	Max-2	AMR	WB	6.6	2N	8.35	/	/	/
B2	18900	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.11	/	/	/
B2	18900	1.4	16QAM	1	5	Max-2	AMR	WB	6.6	2N	8.25	/	/	/

Table 6.3.1-3: the **LTE Band** investigating results of **VoLTE** IMS call

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Band	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Volume Level	Codec	NB/WB	Bit Rate [kbps]	2N/8N [N]	Conv. Gain [dB]	FR	Min PN-SDNR [Hz]	Min PN-SDNR [dB]
B4	20175	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	9.01	PASS	800	22.17
B5	20525	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	9.01	PASS	800	24.12
B7	21100	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	9.05	PASS	800	22.13
B12	23095	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	9.03	PASS	800	22.12
B13	23230	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	9.03	PASS	800	21.36
B17	23790	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	9.03	PASS	800	24.76
B25	26365	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	9.00	PASS	800	23.95
B26	26865	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	8.83	PASS	800	22.19
B30	27710	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	8.95	PASS	800	22.99
B38	38000	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	9.04	PASS	800	21.01
B41	40620	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	8.97	PASS	800	21.76
B66	132322	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	8.87	PASS	800	23.61
B71	133297	3	QPSK	15	0	Max-2	EVS	NB	13.2	2N	8.97	PASS	800	23.15
B4	20175	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.17	/	/	/
B5	20525	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.27	/	/	/
B7	21100	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.61	/	/	/
B12	23095	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.27	/	/	/
B13	23230	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.09	/	/	/
B17	23790	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.64	/	/	/
B25	26365	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.23	/	/	/
B26	26865	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.13	/	/	/
B30	27710	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.54	/	/	/
B38	38000	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.43	/	/	/
B41	40620	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.47	/	/	/
B66	132322	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.48	/	/	/
B71	133297	1.4	QPSK	1	0	Max-2	AMR	WB	6.6	2N	8.32	/	/	/

6.3.2 VoWiFi IMS call investigation

Table 6.3.2: the investigating results of **VoWiFi** IMS call

Mode	Channel	Modulation	Data Rate [Mbps]	Volume Level	Codec	NB/WB	Bit Rate [kbps]	2N/8N [N]	Conv. Gain [dB]	FR	Min PN-SDNR [Hz]	Min PN-SDNR [dB]
802.11g	6	DSSS	1	Max-2	EVS	NB	13.2	2N	8.99	PASS	800	22.96

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802.11g	6	DSSS	2	Max-2	EVS	NB	13.2	2N	9.07	PASS	800	22.41
802.11g	6	CCK	5.5	Max-2	EVS	NB	13.2	2N	8.88	PASS	800	22.34
802.11g	6	CCK	11	Max-2	EVS	NB	13.2	2N	8.91	PASS	800	21.32
802.11ac	44	BPSK	6	Max-2	EVS	NB	13.2	2N	8.88	PASS	800	22.10
802.11ac	44	BPSK	9	Max-2	EVS	NB	13.2	2N	8.83	PASS	800	21.97
802.11ac	44	QPSK	12	Max-2	EVS	NB	13.2	2N	8.86	PASS	800	21.99
802.11ac	44	QPSK	18	Max-2	EVS	NB	13.2	2N	8.89	PASS	800	23.81
802.11ac	44	16-QAM	24	Max-2	EVS	NB	13.2	2N	8.89	PASS	800	22.64
802.11ac	44	16-QAM	36	Max-2	EVS	NB	13.2	2N	9.02	PASS	800	22.28
802.11ac	44	64-QAM	48	Max-2	EVS	NB	13.2	2N	8.81	PASS	800	23.14
802.11ac	44	64-QAM	54	Max-2	EVS	NB	13.2	2N	8.95	PASS	800	20.94
802.11g	6	DSSS	1	Max-2	AMR	WB	6.6	2N	8.33	/	/	/
802.11g	6	DSSS	2	Max-2	AMR	WB	6.6	2N	8.40	/	/	/
802.11g	6	CCK	5.5	Max-2	AMR	WB	6.6	2N	8.35	/	/	/
802.11g	6	CCK	11	Max-2	AMR	WB	6.6	2N	8.35	/	/	/
802.11ac	44	BPSK	6	Max-2	AMR	WB	6.6	2N	8.57	/	/	/
802.11ac	44	BPSK	9	Max-2	AMR	WB	6.6	2N	8.16	/	/	/
802.11ac	44	QPSK	12	Max-2	AMR	WB	6.6	2N	8.25	/	/	/
802.11ac	44	QPSK	18	Max-2	AMR	WB	6.6	2N	8.25	/	/	/
802.11ac	44	16-QAM	24	Max-2	AMR	WB	6.6	2N	8.36	/	/	/
802.11ac	44	16-QAM	36	Max-2	AMR	WB	6.6	2N	8.31	/	/	/
802.11ac	44	64-QAM	48	Max-2	AMR	WB	6.6	2N	8.21	/	/	/
802.11ac	44	64-QAM	54	Max-2	AMR	WB	6.6	2N	8.34	/	/	/

6.3.3 GSM call investigation

Table 6.3.3: the investigating results of **GSM** call

Band	Channel	Volume Level	Codec	Voice bandwidth	Bit Rate	2N/8N	Conv. Gain	FR	Min PN-SDNR	
					[kbps]	[N]	[dB]		[Hz]	[dB]
GSM850	162	Max-2	EFR	NB	/	2N	9.19	/	/	/
GSM850	162	Max-2	EFR	NB	/	8N	16.93	/	/	/
GSM1900	600	Max-2	EFR	NB	/	2N	9.33	/	/	/
GSM1900	600	Max-2	EFR	NB	/	8N	16.92	/	/	/

6.3.4 WCDMA call investigation

Table6.3.4: the investigating results of **WCDMA** call

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air interface	Band	Channel	Volume Level	Codec	Voice bandwidth	Bit Rate [kbps]	2N/8N [N]	Conv. Gain [dB]	FR	Min PN-SDNR [Hz]	Min PN-SDNR [dB]
WCDMA	Band2	9800	Max-2	AMR	NB	4.75	2N	8.55	/	/	/
WCDMA	Band2	9800	Max-2	AMR	NB	12.2	2N	9.33	/	/	/
WCDMA	Band2	9800	Max-2	AMR	NB	4.75	8N	16.76	/	/	/
WCDMA	Band2	9800	Max-2	AMR	WB	6.6	2N	8.30	/	/	/
WCDMA	Band2	9800	Max-2	AMR	WB	23.85	2N	9.00	/	/	/
WCDMA	Band2	9800	Max-2	AMR	WB	6.6	8N	16.62	/	/	/
WCDMA	Band4	1312	Max-2	AMR	WB	6.6	2N	8.10	/	/	/
WCDMA	Band5	4132	Max-2	AMR	WB	6.6	2N	8.29	/	/	/

6.3.5 VoNR call investigation

Table6.3.5: the investigating results of **VoNR** call

Band	Channel	Bandwidth [MHz]	Modulation	SCS (kHz)	RB	Volume Level	Codec	NB/WB	Bit Rate [kbps]	2N/8N [N]	Conv. Gain [dB]	FR	Min PN-SDNR [Hz]	Min PN-SDNR [dB]
N41	40620	100	QPSK	30	273	Max-2	EVS	NB	13.2	2N	8.95	PASS	3150	26.67
N41	40620	100	QPSK	30	270	Max-2	EVS	NB	13.2	2N	8.64	PASS	3150	26.37
N41	40620	100	QPSK	30	137	Max-2	EVS	NB	13.2	2N	8.59	PASS	3150	26.37
N41	40620	100	16QAM	30	273	Max-2	EVS	NB	13.2	2N	8.58	PASS	3150	26.38
N41	40620	100	16QAM	30	1	Max-2	EVS	NB	13.2	2N	8.56	PASS	3150	26.36
N41	40620	100	64QAM	30	273	Max-2	EVS	NB	13.2	2N	8.56	PASS	3150	26.36
N41	40620	100	64QAM	30	1	Max-2	EVS	NB	13.2	2N	8.55	PASS	3150	26.13
N41	40620	100	256QAM	30	1	Max-2	EVS	NB	13.2	2N	8.57	PASS	3150	26.37
N41	40620	80	QPSK	30	109	Max-2	EVS	NB	13.2	2N	8.62	PASS	3150	25.97
N41	40620	80	16QAM	30	1	Max-2	EVS	NB	13.2	2N	8.60	PASS	3150	26.36
N41	40620	80	64QAM	30	1	Max-2	EVS	NB	13.2	2N	8.64	PASS	3150	26.37
N41	40620	80	256QAM	30	273	Max-2	EVS	NB	13.2	2N	8.62	PASS	3150	26.37

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N41	40620	50	QPSK	30	67	Max-2	EVS	NB	13.2	2N	8.62	PASS	3150	26.12
N41	40620	50	16QAM	30	1	Max-2	EVS	NB	13.2	2N	8.57	PASS	3150	26.11
N41	40620	20	QPSK	30	50	Max-2	EVS	NB	13.2	2N	8.59	PASS	3150	26.37
N41	40620	20	16QAM	30	1	Max-2	EVS	NB	13.2	2N	8.63	PASS	3150	26.14
N41	40620	10	16QAM	30	1	Max-2	EVS	NB	13.2	2N	8.59	PASS	3150	26.36
N2	18900	20	QPSK	15	20	Max-2	EVS	NB	13.2	2N	8.68	PASS	3150	26.43
N5	20525	20	QPSK	15	20	Max-2	EVS	NB	13.2	2N	8.63	PASS	3150	26.42
N12	18900	15	QPSK	15	20	Max-2	EVS	NB	13.2	2N	9.16	PASS	1000	25.93
N25	26365	20	QPSK	15	20	Max-2	EVS	NB	13.2	2N	8.64	PASS	3150	26.41
N38	18900	20	QPSK	15	53	Max-2	EVS	NB	13.2	2N	8.82	PASS	3150	25.84
N66	132322	20	QPSK	15	20	Max-2	EVS	NB	13.2	2N	8.59	PASS	3150	26.42
N71	133297	20	QPSK	15	20	Max-2	EVS	NB	13.2	2N	8.99	PASS	3150	26.37
N41	40620	100	QPSK	30	273	Max-2	AMR	WB	6.6	2N	8.50	/	/	
N41	40620	100	QPSK	30	137	Max-2	AMR	WB	6.6	2N	9.05	/	/	/
N41	40620	100	16QAM	30	273	Max-2	AMR	WB	6.6	2N	8.69	/	/	/
N41	40620	100	16QAM	30	1	Max-2	AMR	WB	6.6	2N	9.02	/	/	/
N41	40620	100	64QAM	30	273	Max-2	AMR	WB	6.6	2N	8.81	/	/	/
N41	40620	100	64QAM	30	1	Max-2	AMR	WB	6.6	2N	8.83	/	/	/
N41	40620	100	256QAM	30	1	Max-2	AMR	WB	6.6	2N	8.50	/	/	/
N41	40620	80	QPSK	30	217	Max-2	AMR	WB	6.6	2N	9.02	/	/	/
N41	40620	80	QPSK	30	109	Max-2	AMR	WB	6.6	2N	8.46	/	/	/
N41	40620	80	16QAM	30	217	Max-2	AMR	WB	6.6	2N	8.47	/	/	/
N41	40620	80	16QAM	30	1	Max-2	AMR	WB	6.6	2N	8.46	/	/	/
N41	40620	80	64QAM	30	1	Max-2	AMR	WB	6.6	2N	8.45	/	/	/
N41	40620	80	256QAM	30	1	Max-2	AMR	WB	6.6	2N	8.52	/	/	/
N41	40620	50	16QAM	30	1	Max-2	AMR	WB	6.6	2N	8.74	/	/	/
N41	40620	50	64QAM	30	1	Max-2	AMR	WB	6.6	2N	8.69	/	/	/
N41	40620	20	16QAM	30	1	Max-2	AMR	WB	6.6	2N	8.79	/	/	/

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N41	40620	20	64QAM	30	1	Max-2	AMR	WB	6.6	2N	8.51	/	/	/
N41	40620	10	16QAM	30	1	Max-2	AMR	WB	6.6	2N	8.46	/	/	/
N41	40620	10	64QAM	30	1	Max-2	AMR	WB	6.6	2N	8.47	/	/	/
N2	18900	20	64QAM	15	1	Max-2	AMR	WB	6.6	2N	8.23	/	/	/
N5	20525	20	64QAM	15	1	Max-2	AMR	WB	6.6	2N	8.13	/	/	/
N12	18900	15	64QAM	15	1	Max-2	AMR	WB	6.6	2N	8.24	/	/	/
N25	26365	20	64QAM	15	1	Max-2	AMR	WB	6.6	2N	8.28	/	/	/
N38	18900	20	64QAM	15	1	Max-2	AMR	WB	6.6	2N	8.40	/	/	/
N66	132322	20	64QAM	15	1	Max-2	AMR	WB	6.6	2N	8.07	/	/	/
N71	133297	20	64QAM	15	1	Max-2	AMR	WB	6.6	2N	8.47	/	/	/

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7. Test Facilities Utilized

No	Name	Type	SN	Manufacturer	Cal.Due Date
1	Measurement Frontend	Labcore	77000136	HEAD acoustics GmbH	2025-11-29
2	HEAD measurement system	HMS II.3	12306194 (torso13740182)	HEAD acoustics GmbH	2026-09-25
3	Universal communication tester	CMW500	170430	Rohde&Schwarz	2026-08-03
4	Universal communication tester	CMX500	101626	Rohde&Schwarz	2026-08-05
5	Acoustic chamber	4.70 m×4.30 m×2.10 m	None	Ruisen	2026-10-26
Software					
Name		**Version**			
ACQUA		V 6.0.200			

END OF REPORT BODY

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ANNEX A: EUT photograph

No phone's photos for Confidentiality requirements.

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ANNEX B: EUT parameters

Disclaimer: The bands and codecs of EUT provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

General Information:

Description	GSM/UMTS/LTE/NR Mobile phone
Model name/HVIN	T705J
Brand name	TCL
FCC ID	2ACCJH184
Extreme Temperature	-10~55℃
Nominal Voltage	3.85V
Extreme High Voltage	4.4V
Extreme Low Voltage	3.6V

Supported Bands:

UMTS Frequency Band(s)	B 1/2/4/5
GSM Frequency Band(s)	GSM 850/900/1800/1900
E-UTRA Frequency Band(s)	B 1/2/3/4/5/7/12/13/17/20/25/26/28/29/30/38/41/42/66/71
WLAN Frequency Band(s)	2.4G/5GHz
5G Frequency Band(s)	N 1/2/3/5/12/20/25/28/30/38/40/41/48/66/70/71/77/78

Supported Codecs:

UMTS Audio Codec(s)	AMR NB/AMR WB
GSM Audio Codec (s)	EFR/AMR NB/AMR WB
E-UTRA Audio Codec(s)	AMR NB/AMR WB/EVS NB/EVS WB/EVS SWB
WLAN Audio Codec(s)	AMR NB/AMR WB/EVS NB/EVS WB/EVS SWB
5G Audio Codec(s)	AMR NB/AMR WB/EVS NB/EVS WB/EVS SWB
OTT	Google Meet

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ANNEX C: Test Layout

Artificial Ear Type		3.3
Mounting Force [N]		2 and 8
Center Fork Offset [°]		0
Volume Level		5(1-7)
Angle settings		
Xe [°]	Ye [°]	Ze[°]
0	0	5

NOTE: The handset shall be placed in either the standard test position as specified in IEEE Std 269 or a recommended test position specified by the manufacturer that complies with the recommended test position requirements in IEEE Std 269.

No phone's photos for Confidentiality requirements.

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ANNEX D: The Worst-case Measurement Data of The Chosen Codec of Telephony Call

SMD	Status	Single Value Description	Single Value	Object
5.1 Receive Volume Control Performance 8N Table-9	Done	Speech Level [dB[SPL]]	86.65	24T04Z102259 VoWifi EVS
5.1.1 -1 Conversation Gain 8N Table-9	Ok	Calculated Value [dB]	16.65	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 400Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	25.22	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 500Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	27.04	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 630Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	26.94	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 800Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	22.84	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 1000Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	35.61	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 1250Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	30.90	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 1600Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	35.68	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 2000Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	35.29	24T04Z102259 VoWifi EVS

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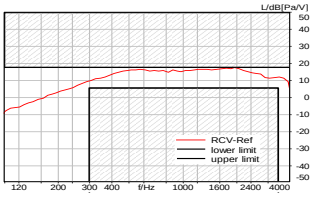
Receive path - distortion and noise 2500Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	33.67	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 3150Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	28.75	24T04Z102259 VoWifi EVS
5.2 Receive path – distortion and noise Table-9	Ok			24T04Z102259 VoWifi EVS
5.3 Receive Acoustic Frequency response Performance Table-9	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	 4.49	24T04Z102259 VoWifi EVS
5.1 Receive Volume Control Performance 8N Table-9	Done	Speech Level [dB[SPL]]	86.13	24T04Z102259 VoWifi EVS
5.1.1 -1 Conversation Gain 8N Table-9	Ok	Calculated Value [dB]	16.13	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 250 WBonly Table-9	Done	Distortion (Noise) [dB], 0.0 dB	27.59	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 315Hz WBonly Table-9	Done	Distortion (Noise) [dB], 0.0 dB	27.15	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 400Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	32.65	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 500Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	33.87	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 630Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	35.46	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 800Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	37.59	24T04Z102259 VoWifi EVS

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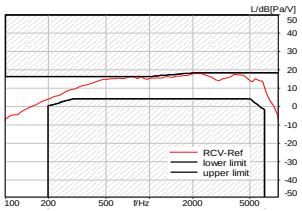
Receive path - distortion and noise 1000Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	33.91	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 1250Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	32.12	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 1600Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	38.00	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 2000Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	37.94	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 2500Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	35.28	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 3150Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	33.04	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 4000Hz WBonly Table-9	Done	Distortion (Noise) [dB], 0.0 dB	32.39	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 5000Hz WBonly Table-9	Done	Distortion (Noise) [dB], 0.0 dB	33.19	24T04Z102259 VoWifi EVS
5.2 Receive path – distortion and noise Table-9	Ok			24T04Z102259 VoWifi EVS
5.3 Receive Acoustic Frequency response Performance Table-9	Ok	Min. dist. to tolerance scheme [dB], 205.7 Hz	 3.90	24T04Z102259 VoWifi EVS

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5.1 Receive Volume Control Performance 2N Table-9	Done	Speech Level [dB[SPL]]	78.84	24T04Z102259 VoWifi EVS
5.1.1 -1 Conversation Gain 2N Table-9	Ok	Calculated Value [dB]	8.84	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 250 WBonly Table-9	Done	Distortion (Noise) [dB], 0.0 dB	27.16	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 315Hz WBonly Table-9	Done	Distortion (Noise) [dB], 0.0 dB	28.81	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 4000Hz WBonly Table-9	Done	Distortion (Noise) [dB], 0.0 dB	31.92	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 400Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	33.84	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 500Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	34.02	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 630Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	37.67	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 800Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	39.09	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 1000Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	38.18	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 1250Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	31.30	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 1600Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	37.38	24T04Z102259 VoWifi EVS

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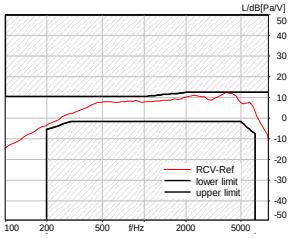
Receive path - distortion and noise 2000Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	37.15	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 2500Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	35.76	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 3150Hz WB&NB Table-9	Done	Distortion (Noise) [dB], 0.0 dB	32.38	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 5000Hz WBonly Table-9	Done	Distortion (Noise) [dB], 0.0 dB	34.06	24T04Z102259 VoWifi EVS
5.2 Receive path – distortion and noise Table-9	Ok			24T04Z102259 VoWifi EVS
5.3 Receive Acoustic Frequency response Performance Table-9	Ok	Min. dist. to tolerance scheme [dB], 205.7 Hz	 2.62	24T04Z102259 VoWifi EVS
5.1 Receive Volume Control Performance 2N 64QAM,54Mbps; Table-9	Done	Speech Level [dB[SPL]]	78.95	24T04Z102259 VoWifi EVS
5.1.1 -1 Conversation Gain 2N 64QAM,54Mbps; Table-9	Ok	Calculated Value [dB]	8.95	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 400Hz WB&NB 64QAM,54Mbps; Table-9	Done	Distortion (Noise) [dB], 0.0 dB	25.28	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 500Hz WB&NB 64QAM,54Mbps; Table-9	Done	Distortion (Noise) [dB], 0.0 dB	28.15	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 630Hz WB&NB 64QAM,54Mbps; Table-9	Done	Distortion (Noise) [dB], 0.0 dB	25.99	24T04Z102259 VoWifi EVS

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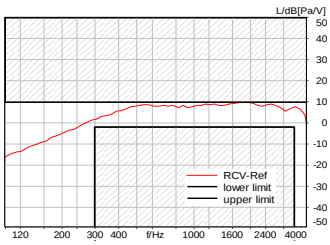
Receive path - distortion and noise 800Hz WB&NB 64QAM,54Mbps; Table-9	Done	Distortion (Noise) [dB], 0.0 dB	20.94	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 1000Hz WB&NB 64QAM,54Mbps; Table-9	Done	Distortion (Noise) [dB], 0.0 dB	33.66	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 1250Hz WB&NB 64QAM,54Mbps; Table-9	Done	Distortion (Noise) [dB], 0.0 dB	31.53	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 1600Hz WB&NB 64QAM,54Mbps; Table-9	Done	Distortion (Noise) [dB], 0.0 dB	35.03	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 2000Hz WB&NB 64QAM,54Mbps; Table-9	Done	Distortion (Noise) [dB], 0.0 dB	35.50	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 2500Hz WB&NB 64QAM,54Mbps; Table-9	Done	Distortion (Noise) [dB], 0.0 dB	32.88	24T04Z102259 VoWifi EVS
Receive path - distortion and noise 3150Hz WB&NB 64QAM,54Mbps; Table-9	Done	Distortion (Noise) [dB], 0.0 dB	26.06	24T04Z102259 VoWifi EVS
5.2 Receive path – distortion and noise 64QAM,54Mbps; Table-9	Ok			24T04Z102259 VoWifi EVS
5.3 Receive Acoustic Frequency response Performance 64QAM,54Mbps; Table-9	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	 3.95	24T04Z102259 VoWifi EVS

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ANNEX E: The Worst-case Measurement Data of Other Codecs of Telephony Call

SMD	Status	Single Value Description	Single Value	Object
5.1 Receive Volume Control Performance 8N Table-10	Done	Speech Level [dB[SPL]]	86.41	24T04Z102259 VoNR AMR
5.1.1 -1 Conversation Gain 8N Table-10	Ok	Calculated Value [dB]	16.41	24T04Z102259 VoNR AMR
5.1 Receive Volume Control Performance 8N Table-10	Done	Speech Level [dB[SPL]]	86.07	24T04Z102259 VoNR AMR
5.1.1 -1 Conversation Gain 8N Table-10	Ok	Calculated Value [dB]	16.07	24T04Z102259 VoNR AMR
5.1 Receive Volume Control Performance 2N Table-10	Done	Speech Level [dB[SPL]]	78.68	24T04Z102259 VoNR AMR
5.1.1 -1 Conversation Gain 2N Table-10	Ok	Calculated Value [dB]	8.68	24T04Z102259 VoNR AMR
5.1 Receive Volume Control Performance 2N N66; Table-5; Table-10	Done	Speech Level [dB[SPL]]	78.07	24T04Z102259 VoNR AMR
5.1.1 -1 Conversation Gain 2N N66; Table-5; Table-10	Ok	Calculated Value [dB]	8.07	24T04Z102259 VoNR AMR

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ANNEX F: FREQUENCY RESPONSE USED DF and 1/12 OCTAVE

Title:	5.3 Receive Acoustic Frequency response Performance		
Mode:	Do measurement	File to analyse:	
Source			
Use source file:	Yes	Source file:	ıale_dual_nb.dat
Source level adj.:	Ch.1: -90.00 dB; Ch.2: -4.00 dB		
Delayed channels:	Off		
Filter (out):	Off		
Sink			
Number of channels:	2		
Record length:	10616.02 ms	Sampling freq.:	48000 Hz
Filter (in):	FIR: Ch.2, File:drp2df_ieee1652.fft		
Measurement			
Pre measure info:	No	Run time info:	No
Analysis			
Channels to analyse:	2		
Reference:	rcv_nb_ref1.fft (ext. created)		
Time range:	250.0..10450.0 ms		
Transformation:	12th octave, Hann, FFT:16384, OV:75%		
Tolerance scheme:	nb_fr_tol.tol, adj. to upper, 100..4000 Hz		
Calculate value:	No		
Result			
Check min. dist.:	> 0.0 dB, (Req.)		
Representation:	-5..5 , 100..4000 Hz, -50..50 dB		
Special features			
Special features:	Comp.delay, Store to rcv_fr.fft		

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ANNEX G: HATS CERTIFICATE

中 国 计 量 科 学 研 究 院

证书编号 LSsx2022-08382

校 准 结 果

表 2 HATS 右耳校准结果

频率/Hz	31.5	63	125	250
REF/dB	92.45	92.40	92.39	92.46
(REF+10)/dB	102.45	102.40	102.38	102.47
差值/dB	10.00	10.00	9.99	10.01
频率/Hz	500	1000	2000	16000
REF/dB	92.83	94.00	98.20	94.12
(REF+10)/dB	102.83	104.00	108.19	103.81
差值/dB	10.00	10.00	9.99	9.69

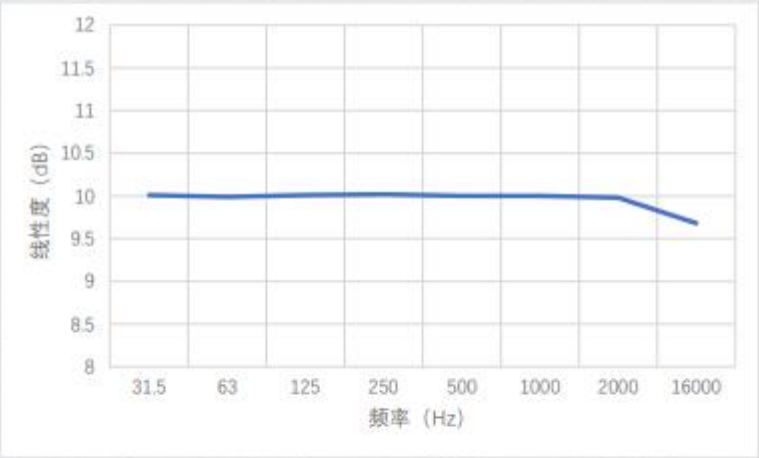

图 2 HATS 右耳线性度图

输出部分

2、频率响应

校准时用 B&K 4938 型压力场传声器在 HATS 嘴正前方，在其参考点处进行校准，测得其嘴（配 PA50 型功率放大器）的频谱如图 3 所示，100 Hz 至 20 kHz 范围内 1/3 倍频程中心频率频谱数据见表 3。

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ANNEX H: ACOUSTIC CHAMBER CERTIFICATE

中 国 计 量 科 学 研 究 院

证书编号 LSsx2021-19386

校 准 结 果

二、背景噪声校准结果

正常情况下，消声室的 A 计权背景噪声为 14 dB，其 1/3 倍频频谱见图 2。

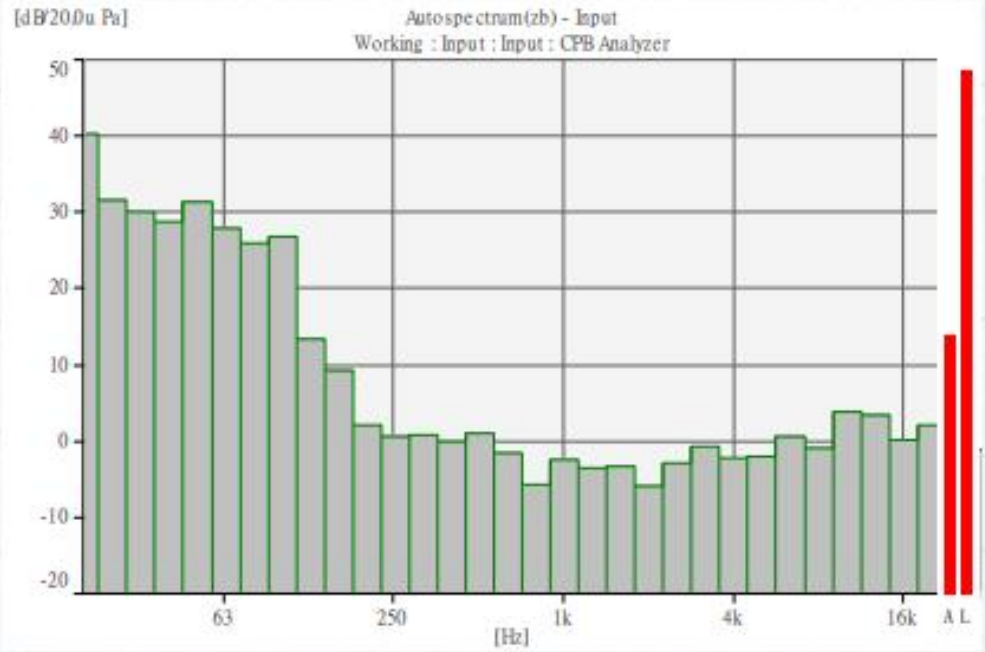

图 2 背景噪声频谱图

声压级校准结果不确定度：U=0.6 dB (k=2)

----------以下空白----------

说明：

根据校准规范 JJF 1147-2006 的规定，通常情况下 60 个月校准一次。

声明：

1. 我院仅对加盖“中国计量科学研究院校准专用章”的完整证书负责。
2. 本证书的校准结果仅对本次所校准的计量器具有效。

校 准 员： 郑云山 核 验 员： 牛锋

2019-jz-R0520

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ANNEX I: Accreditation Certificate

Accredited Laboratory

A2LA has accredited

TELECOMMUNICATION TECHNOLOGY LABS, CAICT

Beijing, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 23rd day of July 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7049.01
Valid to July 31, 2026

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

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ANNEX J: EUT Declaration

TCL Communicat
5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong

Declaration of changes from Initial Goldfinch Pro Dish (T702Z) to Variant Sunrise CAN (T705J)

General: Sunrise CAN (T705J) is a variant product of Goldfinch Pro Dish (T702Z):

- **SOFTWARE MODIFICATIONS:**
  - OS update (e.g. from Android 12 to 13) / change (e.g. from Android to other OS) : YES, from Android 14 to 15
  - Protocol Stack changes: No
  - MMS/STK/USAT/USIM changes: No
  - DM/SUPL/VT/FUMO/SWP/HCI: No
  - Other changes detail: Yes, add new band via SW such as 5G NR SA/NSA band: n12/n38 ; remove some bands via SW such as LTE band : B8/B9/B14/B39/B40 and 5G NR SA band : n29

- **HARDWARE MODIFICATIONS:**
  - Baseband changes: No
  - Band changes: Yes, add or remove bands via SW

Main bands for conformance testing changes (Yes/No): Yes

Product	GSM	UMTS	LTE	LTE CA	5G NR SA	5G NR NSA
T702Z	GSM850/900/1800/1900	WCDMA B1/2/4/5/8	B1/B2/B3/B4/B5/B7/B8/B9/B12/B13/B14/B17/B20/B25/B26/B28/B29/B30/B38/B39/B40/B41/B42/B66/B71	ULCA/DL CA	n1/n2/n3/n5/n20/n25(40MHz)/n28/n29/n30/n40/n41(HPUE)/n48/n66(40MHz)/n70/n71/n77(only support 3450-3550MHz+3700-3980MHz for FCC)/n78	1LTE+1NR/2LTE+1NR
T705J	GSM50/900/1800/1900	WCDMA B1/2/4/5	B1/B2/B3/B4/B5/B7/B12/B13/B17/B20/25/B26/B28/B29/B30/B38/B41/B42/B66/B71	ULCA/DL CA	n1/n2/n3/n5/n12/n20/n25/n28/n30/n38/n40/n41/n48/n66/n70/n71/n77/n78	1LTE+1NR/2LTE+1NR

Band change details for LTE CA/5G NR SA/NSA: (if applicable)

Technology	T702Z	T705J
LTE CA	LTE 2CA for LTE ULCA" CA_2A-5A CA_2A-12A CA_2A-14A CA_4A-12A CA_5A-30A CA_5A-66A CA_12A-30A CA_12A-66A CA_14A-30A CA_14A-66A	"LTE 2CA for LTE ULCA" CA_2A-4A CA_2A-5A CA_2A-7A CA_2A-12A CA_2A-66A CA_2A-71A CA_4A-5A CA_4A-7A CA_4A-12A CA_4A-17A CA_4A-71A CA_5A-66A CA_7A-12A CA_7A-66A CA_12A-66A CA_12B CA_66A-71A CA_66B CA_66C
	"LTE 2CA for LTE DL CA" CA_2A-5A CA_2A-12A CA_2A-14A CA_2A-29A CA_2A-30A CA_2A-66A	"LTE 2CA for LTE DL CA" CA_2A-2A CA_2A-4A CA_2A-5A CA_2A-7A CA_2A-12A CA_2A-13A

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	CA_4A-5A CA_4A-12A CA_4A-29A CA_4A-30A CA_5A-30A CA_5A-66A CA_12A-30A CA_12A-66A CA_14A-30A CA_14A-66A CA_29A-30A CA_29A-66A CA_30A-66A CA_66A-66A	CA_2A-26A CA_2A-29A CA_2A-30A CA_2A-38A CA_2A-66A CA_2A-71A CA_4A-4A CA_4A-5A CA_4A-7A CA_4A-12A CA_4A-13A CA_4A-17A CA_4A-29A CA_4A-30A CA_4A-66A CA_4A-71A CA_5A-7A CA_5A-25A CA_5A-30A CA_5A-66A CA_7A-7A CA_7A-12A CA_7A-13A CA_7A-25A CA_7A-26A CA_7A-29A CA_7A-66A CA_7A-71A CA_7B CA_7C CA_12A-25A CA_12A-30A CA_12A-66A CA_12B CA_13A-66A CA_25A-25A CA_25A-26A CA_25A-66A CA_29A-30A CA_29A-66A CA_30A-66A CA_66A-66A CA_66A-71A CA_66B CA_66C
5G EN-DC	DC_2A_n2A[4] DC_5A_n2A[4] DC_12A_n2A[4] DC_14A_n2A[4] DC_30A_n2A[4] DC_66A[4]_n2A[4] DC_2A[4]_n5A DC_30A[4]_n5A DC_66A[4]_n5A DC_2A[4]_n66A[4] DC_12A[4]_n66A[4] DC_14A_n66A[4] DC_30A[4]_n66A[4] DC_66A[4]_n66A[4] DC_2A[4]_n77A[4] DC_5A_n77A[4] DC_12A_n77A DC_14A_n77A[4] DC_30A_n77A[4] DC_66A_n77A[4]	DC_2A_n2A DC_4A_n2A DC_5A_n2A DC_7A_n2A DC_12A_n2A DC_13A_n2A DC_66A_n2A DC_71A_n2A DC_2A_n5A DC_4A_n5A DC_7A_n5A DC_66A_n5A DC_2A_n12A DC_7A_n12A DC_66A_n12A DC_2A_n25A DC_5A_n25A DC_7A_n25A DC_12A_n25A DC_13A_n25A DC_26A_n25A DC_66A_n25A DC_71A_n25A DC_2A_n38A

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		DC_4A_n38A DC_5A_n38A DC_12A_n38A DC_66A_n38A DC_71A_n38A DC_2A_n41A DC_4A_n41A DC_5A_n41A DC_12A_n41A DC_25A_n41A DC_26A_n41A DC_66A_n41A DC_71A_n41A DC_2A_n66A DC_5A_n66A DC_7A_n66A DC_12A_n66A DC_13A_n66A DC_25A_n66A DC_30A_n66A DC_66A_n66A DC_71A_n66A DC_2A_n71A DC_4A_n71A DC_66A_n71A DC_2A_n77A DC_5A_n77A DC_7A_n77A DC_12A_n77A DC_13A_n77A DC_25A_n77A DC_26A_n77A DC_41A_n77A DC_66A_n77A DC_71A_n77A DC_2A_n78A DC_4A_n78A DC_5A_n78A DC_7A_n78A DC_12A_n78A DC_13A_n78A DC_25A_n78A DC_38A_n78A DC_41A_n78A DC_66A_n78A DC_71A_n78A
	2LTE+1NR DC_2A-5A_n2A[4] DC_2A-12A_n2A[4] DC_2A-14A_n2A[4] DC_2A-29A_n2A[4] DC_2A-30A_n2A[4] DC_2A-66A_n2A[4] DC_5A-30A_n2A[4] DC_5A-66A_n2A[4] DC_12A-30A_n2A[4] DC_12A-66A_n2A[4] DC_14A-30A_n2A[4] DC_14A-66A_n2A[4] DC_29A-30A_n2A[4] DC_29A-66A_n2A[4] DC_30A-66A_n2A[4] DC_2A-2A_n5A DC_2A-30A_n5A DC_2A-66A_n5A DC_30A-66A_n5A DC_66A-66A_n5A DC_2A-(n)5AA(B5 only for SCC) DC_30A-(n)5AA(B5 only for SCC) DC_66A-(n)5AA(B5 only for SCC) DC_2A-2A_n66A[4] DC_2A-12A_n66A[4] DC_2A-14A_n66A	2LTE+1NR DC_2A-5A_n2A DC_2A-7A_n2A DC_2A-12A_n2A DC_2A-13A_n2A DC_2A-66A_n2A DC_2A-71A_n2A DC_5A-7A_n2A DC_5A-66A_n2A DC_7A-12A_n2A DC_7A-71A_n2A DC_7A-66A_n2A DC_13A-66A_n2A DC_12A-66A_n2A DC_66A-71A_n2A DC_2A-2A_n5A DC_2A-7A_n5A DC_2A-66A_n5A DC_7A-7A_n5A DC_7A-66A_n5A DC_66A-66A_n5A DC_2A-2A_n66A

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	DC_2A-29A_n66A[4] DC_2A-30A_n66A[4] DC_2A-66A_n66A[4] DC_12A-30A_n66A[4] DC_12A-66A_n66A[4] DC_14A-30A_n66A DC_14A-66A_n66A DC_29A-30A_n66A DC_30A-66A_n66A[4] DC_2A-2A_n77A[4] DC_2A-5A_n77A[4] DC_2A-12A_n77A[4] DC_2A-14A_n77A[4] DC_2A-29A_n77A[4] DC_2A-30A_n77A[4] DC_2A-66A_n77A[4] DC_5A-30A_n77A[4] DC_5A-66A_n77A[4] DC_12A-30A_n77A[4] DC_12A-66A_n77A[4] DC_14A-30A_n77A[4] DC_14A-66A_n77A[4] DC_29A-30A_n77A[4] DC_29A-66A_n77A[4] DC_30A-66A_n77A[4] DC_66A-66A_n77A[4]	DC_2A-5A_n66A DC_2A-7A_n66A DC_2A-12A_n66A DC_2A-13A_n66A DC_2A-66A_n66A DC_2A-71A_n66A DC_5A-7A_n66A DC_5A-66A_n66A DC_7A-7A_n66A DC_7A-12A_n66A DC_7A-13A_n66A DC_7A-25A_n66A DC_7A-66A_n66A DC_7A-71A_n66A DC_12A-30A_n66A DC_12A-66A_n66A DC_13A-66A_n66A DC_25A-25A_n66A DC_25A-66A_n66A DC_30A-66A_n66A DC_66A-71A_n66A DC_2A-2A_n77A DC_2A-5A_n77A DC_2A-7A_n77A DC_2A-12A_n77A DC_2A-13A_n77A DC_2A-29A_n77A DC_2A-66A_n77A DC_5A-7A_n77A DC_5A-66A_n77A DC_7A-7A_n77A DC_7A-25A_n77A DC_7A-29A_n77A DC_7A-66A_n77A DC_12A-66A_n77A DC_13A-66A_n77A DC_25A-25A_n77A DC_25A-66A_n77A DC_66A-66A_n77A DC_2A-2A_n38A DC_2A-2A_n41A DC_2A-2A_n71A DC_2A-2A_n78A DC_2A-4A_n38A DC_2A-4A_n41A DC_2A-5A_n38A DC_2A-5A_n78A DC_2A-7A_n25A DC_2A-7A_n71A DC_2A-7A_n78A DC_2A-12A_n41A DC_2A-12A_n78A DC_2A-13A_n25A DC_2A-29A_n78A DC_2A-38A_n78A DC_2A-66A_n12A DC_2A-66A_n25A DC_2A-66A_n38A DC_2A-66A_n41A DC_2A-66A_n71A DC_2A-66A_n78A DC_2A-71A_n38A DC_2A-71A_n41A DC_2A-71A_n78A DC_4A-66A_n71A DC_5A-7A_n78A DC_5A-66A_n78A DC_7A-7A_n25A DC_7A-7A_n78A

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		DC_7A-12A_n78A DC_7A-13A_n25A DC_7A-25A_n78A DC_7A-29A_n78A DC_7A-66A_n12A DC_7A-66A_n25A DC_7A-66A_n71A DC_7A-66A_n78A DC_7A-71A_n78A DC_12A-66A_n25A DC_12A-66A_n41A DC_12A-66A_n78A DC_25A-25A_n41A DC_25A-25A_n78A DC_25A-66A_n78A DC_66A-66A_n12A DC_66A-66A_n38A DC_66A-66A_n71A DC_66A-66A_n78A DC_66A-71A_n38A DC_66A-71A_n41A DC_66A-71A_n71A DC_66A-71A_n77A DC_66A-71A_n78A
5G NR-CA	CA_n29A-n66A CA_n29A-n70A CA_n66(2A) CA_n66A-n70A CA_n66A[4]-n71A CA_n48(2A) CA_n48A-n77A CA_n70A-n71A CA_n71(2A)	CA_n25A-n71A CA_n41A-n71A CA_n66A-n71A CA_n71A-n78A CA_n71A-n77A CA_n2(2A) CA_n2A-n5A CA_n2A-n12A CA_n2A-n66A CA_n2A-n77A CA_n2A-n78A CA_n5A-n25A CA_n5A-n41A CA_n5A-n66A CA_n5A-n77A CA_n5A-n78A CA_n12A-n25A CA_n12A-n66A CA_n12A-n77A CA_n25(2A) CA_n25A-n38A CA_n25A-n41A CA_n25A-n66A CA_n25A-n77A CA_n25A-n78A CA_n38A-n66A CA_n38A-n71A CA_n38A-n78A CA_n41A-n66A CA_n41A-n77A CA_n41A-n78A CA_n66A-n78A CA_n66A-n77A CA_n77C CA_n77(2A) CA_n78(2A)

- PCB layout/material changes: No
- Main components changes: (备注：如下的频段列表是variant model 的频段，后面的器件是与原型机的器件对比结果：如果是新增的频段，那必器件变化的部分是new；如果是相同band的器件变化了，就是填写new)

GSM	Base Band	Antenna	Transceiver	ASM	Power Amplifier	Tx SAW Filter	Rx SAW Filter (SAW Duplexer)
GSM 850	No	No	No	No	No	No	No
GSM 900	No	No	No	No	No	No	No
GSM 1800	No	No	No	No	No	No	No
GSM 1900	No	No	No	No	No	No	No

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UMTS	Base Band	Antenna	Transceiver	ASM	Power Amplifier	Tx SAW Filter	Rx SAW Filter (SAW Duplexer)
UMTS FDD I	No	No	No	No	No	No	No
UMTS FDD II	No	No	No	No	No	No	No
UMTS FDD IV	No	No	No	No	No	No	No
UMTS FDD V	No	No	No	No	No	No	No
UMTS FDD VIII (Remove)	No	No	No	No	No	No	No

LTE	Base Band	Antenna	Transceiver	ASM	Power Amplifier	Tx SAW Filter	Rx SAW Filter (SAW Duplexer)
LTE B1	No	No	No	No	No	No	No
LTE B2	No	No	No	No	No	No	No
LTE B3	No	No	No	No	No	No	No
LTE B4	No	No	No	No	No	No	No
LTE B5	No	No	No	No	No	No	No
LTE B7	No	No	No	No	No	No	No
LTE B8 (Remove)	No	No	No	No	No	No	No
LTE B9(Remove)	No	No	No	No	No	No	No
LTE B12	No	No	No	No	No	No	No
LTE B13	No	No	No	No	No	No	No
LTE B14(Remove)	No	No	No	No	No	No	No
LTE B17	No	No	No	No	No	No	No
LTE B20	No	No	No	No	No	No	No
LTE B25	No	No	No	No	No	No	No
LTE B26	No	No	No	No	No	No	No
LTE B28	No	No	No	No	No	No	No
LTE B29	No	No	No	No	No	No	No
LTE B30	No	No	No	No	No	No	No
LTE B38	No	No	No	No	No	No	No
LTE B39(Remove)	No	No	No	No	No	No	No
LTE B40(Remove)	No	No	No	No	No	No	No
LTE B41	No	No	No	No	No	No	No
LTE B42	No	No	No	No	No	No	No
LTE B66	No	No	No	No	No	No	No
LTE B71	No	No	No	No	No	No	No

NR	Base Band	Antenna	Transceiver	ASM	Power Amplifier	Tx SAW Filter	Rx SAW Filter (SAW Duplexer)
NR n1	No	No	No	No	No	No	No
NR n2	No	No	No	No	No	No	No
NR n3	No	No	No	No	No	No	No
NR n5	No	No	No	No	No	No	No
NR n12(New)	No	No	No	No	No	No	No
NR n20	No	No	No	No	No	No	No
NR n25	No	No	No	No	No	No	No
NR n28	No	No	No	No	No	No	No
NR n29(Remove)	No	No	No	No	No	No	No
NR n30	No	No	No	No	No	No	No
NR n38(New)	No	No	No	No	No	No	No
NR n40	No	No	No	No	No	No	No
NR n41	No	No	No	No	No	No	No
NR n48	No	No	No	No	No	No	No
NR n66	No	No	No	No	No	No	No
NR n70	No	No	No	No	No	No	No
NR n71	No	No	No	No	No	No	No
NR n77	No	No	No	No	No	No	No
NR n78	No	No	No	No	No	No	No

Other Radio	Antenna	AP	MODEM	Transceiver	Balun	Band pass filter	Triplexer
Bluetooth	No	No	No	No		No	No
Wi-Fi	No	No	No	No		No	No

- FM changes: No
- GPS changes: No
- Memory/TP/LCD/ Camera/SIM changes: No
- Other changes detailed: No

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- **MECHANICAL MODIFICATIONS:**
  - Use new metal front/back cover or keypad: No
  - Mechanical shell changes: Yes, Added NP Key in the middle frame.
    Whole size of EUT: No
    Distance of Ear reference point to bottom of handset: No
    Other trinkets to change the surface of handset: No
  - Other changes detailed: No
- **Accessory changes:**
  - Use new charger/battery/headset/USB cable: No

APPROVED BY:
Project Manager: 刘一萍
Signature:
Date: 2024.10.31

*****END OF REPORT*****

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