





HAC RF TEST REPORT

No. 25T04Z100363-017

For

Luxshare Precision Limited

5G Mobile Phone

Model Name: TMRV08P5G

with

Hardware Version: V1.0

Software Version: TMRV08P5G_0.02.01

FCC ID: 2BNRMTMRV08P5G

HAC-2019 Compliance: PASS

Issued Date: 2025-07-04

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





REPORT HISTORY

Report Number	Revision	Issue Date	Description	
25T04Z100363-017	Rev.0	2025-06-03	Initial creation of test report	
			Update the maximum	
25T04Z100363-017	Rev.1	2025-07-04	output power of WLAN in	
			section4/10	





TABLE OF CONTENT

1 TEST LABORATORY	5
1.1 Introduction & Accreditation	5
1.2 TESTING LOCATION	
1.3 TESTING ENVIRONMENT	
1.4 Project Data	
2 CLIENT INFORMATION	7
2.1 APPLICANT INFORMATION	7
2.2 Manufacturer Information	7
3 EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	8
3.1 ABOUT EUT	8
3.2 Internal Identification of EUT used during the test	
3.3 Internal Identification of AE used during the test	
3.4 AIR INTERFACES / BANDS INDICATING OPERATING MODES	9
4 MAXIMUM OUTPUT POWER	10
5 REFERENCE DOCUMENTS	12
5.1 REFERENCE DOCUMENTS FOR TESTING	12
6 OPERATIONAL CONDITIONS DURING TEST	13
6.1 HAC MEASUREMENT SET-UP	13
6.2 Probe Specification.	
6.3 TEST ARCH PHANTOM &PHONE POSITIONER	
6.4 ROBOTIC SYSTEM SPECIFICATIONS	15
7 EUT ARRANGEMENT	16
7.1 WD RF Emission Measurements Reference and Plane	16
8 SYSTEM VALIDATION	17
8.1 Validation Procedure	17
8.2 VALIDATION RESULT	17
9 EVALUATION OF MIF	18
9.1 Introduction	18
9.2 DUT MIF RESULTS.	
10 EVALUATION OF RF AUDIO INTERFERENCE POWER LEVEL	21
11 NEAR-FIELD EMISSION TEST PROCEDURES	23
12 NEAR-FIELD EMISSION TEST RESULTS	24
13 ANSIC 63.19-2019 LIMITS	
13 ANSIC 63.19-2019 LIMITS	





14 MEASU	REMENT UNCERTAINTY	. 26
15 MAIN TI	EST INSTRUMENTS	. 27
16 CONCL	USION	. 27
ANNEX A	TEST LAYOUT	. 28
ANNEX B	TEST PLOTS	. 29
ANNEX C	SYSTEM VALIDATION RESULT	. 34
ANNEX D	PROBE CALIBRATION CERTIFICATE	. 38
ANNEX E	DIPOLE CALIBRATION CERTIFICATE	59





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

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





1.3 Testing Environment

Temperature:	18°C~25°C,
Relative humidity:	30%~ 70%
Ground system resistance:	< 0.5 Ω
Ground system resistance:	1 1319 22

Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.

1.4 Project Data

Testing Start Date:	April 29, 2025
Testing End Date:	May 1, 2025

1.5 Signature

Wang Tian

(Prepared this test report)

Lin Jun

(Reviewed this test report)

Qi Dianyuan

Deputy Director of the laboratory

(Approved this test report)





2 Client Information

2.1 Applicant Information

Company Name:	Luxshare Precision Limited			
Address/Post:	Suite 1621, 16/F., Ocean Centre, Harbour City, 5 Canton Road, Tsim			
	Sha Tsui, Kowloon.			
Contact Person:	Ri Sa			
Contact Email:	Rui.Sha@luxshare-ict.com			
Telephone:	+8613917939276			
Fax	1			

2.2 Manufacturer Information

Company Name:	Luxshare Precision Limited		
Address/Post:	Suite 1621, 16/F., Ocean Centre, Harbour City, 5 Canton Road, Tsim		
	Sha Tsui, Kowloon.		
Contact Person:	Ri Sa		
Contact Email:	Rui.Sha@luxshare-ict.com		
Telephone:	+8613917939276		
Fax	\		





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

3.1 About EUT

Description:	5G Mobile Phone
Model name:	TMRV08P5G
	GSM 850/1900
	WCDMA B2/4/5
Testing mode(s):	LTE Band:2/4/5/7/12/13/14/17/25/26/38/41/48/66/71
	5G NR N7/25/38/41/48/66/71/78
	BT, Wi-Fi(2.4G), Wi-Fi(5G), Wi-Fi(6E),NFC

3.2 Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version	
EUT1	861370070030247/861370070030254	V1.0	TMRV08P5G_0.02.01	

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

3.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	TM002	\	Jiade Energy Technology(Zhuhai) Co,.Ltd.

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





3.4 Air Interfaces / Bands Indicating Operating Modes

Air-interface	Band(MHz)	Туре	C63.19/te sted	Simultaneous Transmissions Not Tested ⁽¹⁾	Name of Voice Service
GSM	850	VO	Yes		CMRS Voice
GSIVI	1900	VO	163	BT, WLAN	
GPRS/EDGE	850	DT	Yes	DI, WLAN	MEET
GFN3/LDGL	1900	וט	163		IVILLI
	850				
WCDMA	1700	VO	Yes	BT, WLAN	CMRS Voice
(UMTS)	1900				
	HSPA	DT	Yes		MEET
LTE TDD	Band38/41/48	V/D	Yes	BT, WLAN	VoLTE, MEET
LTE FDD	Band2/4/5/7/12/13/14/ 17/25/26/66/71	V/D	Yes	BT, WLAN	VoLTE, MEET
NR	N7/n25/n38/n41/n48/n 66/n71/n78	V/D	Yes	BT, WLAN	VoNR, MEET
ВТ	2450	DT	NA	WWAN	NA
WLAN	2450	V/D	Yes	WWAN	VoWiFi, MEET
WLAN	5G	V/D	Yes	WWAN	VoWiFi, MEET
WLAN	6E	V/D	Yes	WWAN	VoWiFi, MEET

NA: Not Applicable VO: Voice Only V/D: CMRS and IP Voice Service over Digital Transport DT: Digital Transport

Note1: he device have similar frequency in some bands: 2/25, 4/66, 12/17, 5/26, 38/41 since the supported frequency spans for the smaller bands are completely cover by the larger bands, therefore, only larger bands were required to be tested for hearing-aid compliance.

Note2 According to KDB285076 D01, clause 2 d), for the Interference Level, the single transmission scenario of each frequency band is higher than or equal to the simultaneous transmission scenario, so the frequency band that has evaluated the single will not evaluate the simultaneous.





4 Maximum Output Power

Bands	ANT	Conducted Power (dBm)
GSM 850	0	34
GSM 850	2	33
GSM 1900	1	31
GSM 1900	4	31
WCDMA 850	0	25
WCDMA 850	2	24
WCDMA 1700	1	25
WCDMA 1700	4	25
WCDMA 1900	1	25
WCDMA 1900	4	25
LTE Band2/25	1	25
LTE Band2/25	4	25
LTE Band4/66	1	25
LTE Band4/66	4	25
LTE Band5/26	0	25
LTE Band5/26	2	23
LTE Band7	1	24
LTE Band7	4	24
LTE Band12/17	0	25
LTE Band12/17	2	25
LTE Band13	0	25
LTE Band13	2	25
LTE Band14	0	25
LTE Band14	2	25
LTE Band38/41 PC2	1	27
LTE Band38/41 PC2	4	27
LTE Band38/41 PC3	1	24
LTE Band38/41 PC3	4	24
LTE Band48	5	25
LTE Band48	7	24.2
LTE Band48	4	19.8
LTE Band48	2	19.8
LTE Band71	0	25
LTE Band71	2	25
NR n7	1	24
NR n7	4	24
NR n25	1	25
NR n25	4	25
NR n66	1	25
NR n66	4	25





NR n71	0	25
NR n71	2	25
NR n38/41	4	27
NR n38/41	1	27
NR n38/41	3	26
NR n38/41	8	23
NR n48	5	25
NR n48	7	24.2
NR n48	4	19.8
NR n48	2	19.8
NR n78	5	27
NR n78	7	26.5
NR n78	4	23.5
NR n78	2	22.5
WLAN 2.4GHz	6	20
WLAN 2.4GHz	9	18
WLAN 5GHz	7	20
WLAN 5GHz	9	18
WLAN 6E	7	16
WLAN 6E	9	8





5 Reference Documents

5.1 Reference Documents for testing

The following document listed in this section is referred for testing.

Reference	Title	Version
ANSI C63.19	American National Standard for Methods of Measurement	2019
	of Compatibility Between Wireless Communication Devices	Edition
	and Hearing Aids	
FCC 47 CFR §20.19	Hearing Aid Compatible Mobile Headsets	2024
		Edition
KDB285076	Equipment Authorization Guidance for Hearing Aid	2023
D01 v06r04.	Compatibility	Edition





6 Operational Conditions During Test

6.1 HAC MEASUREMENT SET-UP

These measurements are performed using the DASY6/8 automated dosimetric assessment system. It is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland. It consists of high precision robotics system (Stäubli), robot controller, Intel Core2 computer, near-field probe, probe alignment sensor. The robot is a six-axis industrial robot performing precise movements. A cell controller system contains the power supply, robot controller, teach pendant (Joystick),and remote control, is used to drive the robot motors. The PC consists of the HP Intel Core21.86 GHz computer with Windows 10 system and HAC Measurement Software DASY6/8, A/D interface card, monitor, mouse, and keyboard. The Stäubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE)circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.

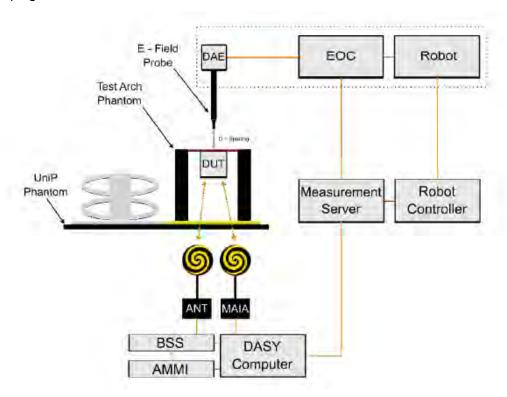


Fig. 1 HAC Test Measurement Set-up

The DAE4 consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.





6.2 Probe Specification

E-Field Probe Description

Construction One dipole parallel, two dipoles normal to probe axis

Built-in shielding against static charges

Calibration In air from 30 MHz to 6.0 GHz (absolute accuracy ±6.0%,

k=2)

Frequency 30 MHz to 6 GHz

Linearity: ± 0.2 dB (100 MHz to 3 GHz)

Directivity ± 0.2 dB in air (rotation around probe axis)

± 0.4 dB in air (rotation normal to probe axis)

Dynamic Range 2 V/m to 1000 V/m; Linearity: ± 0.2 dB

Dimensions Overall length: 337 mm (Tip: 20 mm)

Tip diameter: 4 mm (Body: 12 mm)

Distance from probe tip to dipole centers: 1.5 mm

Application General near-field measurements up to 6 GHz

Field component measurements

Fast automatic scanning in phantoms



[EF3DV3]





6.3 Test Arch Phantom & Phone Positioner

The Test Arch phantom should be positioned horizontally on a stable surface. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot. It enables easy and well defined positioning of the phone and validation dipoles as well as simple teaching of the robot (Dimensions: $370 \times 370 \times 370 \text{ mm}$).

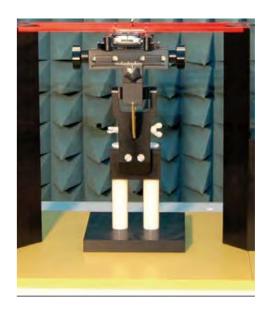


Fig. 2 HAC Phantom & Device Holder

6.4 Robotic System Specifications

Specifications

Positioner: Stäubli Unimation Corp. Robot Model: RX160L

Repeatability: ±0.02 mm

No. of Axis: 6

Data Acquisition Electronic (DAE) System

Cell Controller

Processor: Intel Core2 Clock Speed: 1.86GHz

Operating System: Windows 10

Data Converter

Features: Signal Amplifier, multiplexer, A/D converter, and control logic

Software: DASY6/8 cD6 HAC

Connecting Lines: Optical downlink for data and status info.

Optical uplink for commands and clock





7 EUT Arrangement

7.1 WD RF Emission Measurements Reference and Plane

Figure 3 illustrates the references and reference plane that shall be used in the WD emissions measurement.

- The measurement area is 50.0 mm by 50.0 mm.
- The measurement area is centered on the audio frequency output transducer of the WD (speaker or T-Coil signal).
- The measurement area is in a reference plane, which is defined as the planar area tangent to the highest point in the area of the phone that normally rests against the user's ear. It is parallel to the centerline of the receiver area of the phone and is defined by the points of the receiver-end of the WD handset, which, in normal handset use, rest against the ear.
- •The measurement plane is parallel to, and 15.0 mm in front of, the reference plane.

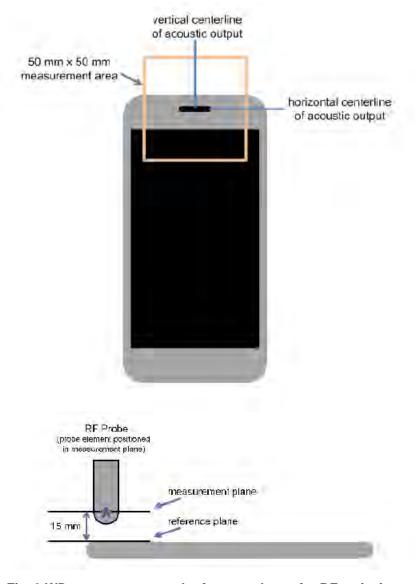


Fig. 3 WD measurement and reference planes for RF emission measurements





8 System Validation

8.1 Validation Procedure

Place a dipole antenna meeting the requirements given in ANSI C63.19 in the position normally occupied by the WD. The dipole antenna serves as a known source for an electrical output. Position the E-field probes so that:

- •The probes and their cables are parallel to the coaxial feed of the dipole antenna
- •The probe cables and the coaxial feed of the dipole antenna approach the measurement area from opposite directions
- The center point of the probe element(s) are 15 mm from the closest surface of the dipole elements.

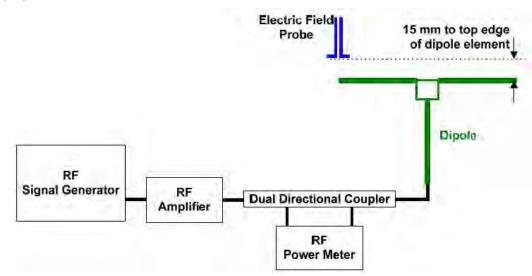


Fig. 4 Dipole Validation Setup

8.2 Validation Result

	E-Field Scan					
Mode	Frequency (MHz)	Input Power (mW)	Measured ¹ Value(V/m)	Target² Value(V/m)	Deviation ³ (%)	Limit⁴ (%)
CW	835	100	113.00	112.60	0.36	±18
CW	1880	100	85.50	88.20	-3.06	±18
CW	2600	100	83.00	85.30	-2.70	±18
CW	3500	100	82.90	85.70	-3.27	±18

Notes:

- 1. Please refer to the attachment for detailed measurement data and plot.
- 2. Target value is provided by SPEAG in the calibration certificate of specific dipoles.
- 3. Deviation (%) = 100 * (Measured value minus Target value) divided by Target value.
- 4. ANSI C63.19 requires values within \pm 18% are acceptable, of which 12% is deviation and 13% is measurement uncertainty. Values independently validated for the dipole actually used in the measurements should be used, when available.





9 Evaluation of MIF

9.1 Introduction

The HAC Standard ANSI C63.19-2019 defines the MIF as a scaling factor to evaluate the Radio Frequency Audio Interference Level (RFail). It is applicable to any modulation scheme. The MIF (in dB) is added to the measured averaged E-field (in dBV /m) to obtain the RFail (also in dBV/m) which defines the audible amplitude of the measured RF signal strength. The RFail is then compared to the associated qualification level.

The MIF is defined in section D.7 of the ANSI C63.19-2019 as the interference potential of a signal to its steady state RMS signal level or average power level. This factor is a function only of the audio frequency amplitude modulation characteristics of the signal and is the same for field strength or conducted power measurements. The modulated signal is processed as described below:

- The full signal bandwidth is presented to a wideband square law detector which demodulates the signal.
- The baseband signal (after demodulation) is presented to a spectral weighting filter which is normalized to 1 kHz. The filter frequency response is shown in Section D.4 of the ANSI C63.19-2019 standard.
- The spectral weighted signal is presented to a temporal weighting filter consisting of rapid Root Mean Square (RMS) level detection followed by peak detection with a 550 ms decay time.

• The MIF is calculated as
$$\frac{10 \cdot log10_{10} (filtered\ signal)}{1.154 \cdot RMS\ of\ demodulated\ signal}$$

Measurements of the MIF value are conducted using the MAIA designed by SPEAG. The resulting deviations from the simulated values are within the requirements of the HAC standard.

MAIA is a hardware interface for evaluating the modulation and audio interference characteristics of RF signals in the frequency range 698–6000 MHz. It uses USB-powered active electronics to identify the modulation of the DUT. It can be operated with the over-the-air interface using the built-in ultra-broadband planar log spiral antenna (698–6000 MHz) or in the conducted mode using the coaxial SMA 50W connector (300–6000 MHz).





Fig. 5 MAIA View

9.2 DUT MIF results

Based on the KDB285076D01v06r02, the handset can also use the MIF values predetermined by the test equipment manufacturer. MIF values applied in this test report were provided by the HAC equipment provider of SPEAG, and the worst values for all air interface are listed below.

Typical MIF levels in ANSI C63.19-2019				
Transmission protocol	Modulation interference factor			
GSM-FDD (TDMA, GMSK)	+3.63 dB			
EDGE-FDD (TDMA, 8PSK, TN 0-1)	+1.23dB			
EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	-0.52dB			
EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	-1.82dB			
UMTS-FDD(WCDMA, AMR)	-25.43dB			
UMTS-FDD (HSPA+)	-20.39dB			
LTE-FDD (SC-FDMA, 1RB, 20MHz, QPSK)	-15.63 dB			
LTE-FDD (SC-FDMA, 1RB, 20MHz, 16QAM)	-9.76 dB			
LTE-FDD (SC-FDMA, 1RB, 20MHz, 64QAM)	-9.93 dB			
LTE-TDD (SC-FDMA, 1RB, 20MHz, QPSK)	-1.62 dB			
LTE-TDD (SC-FDMA, 1RB, 20MHz, 16QAM)	-1.44 dB			
LTE-TDD (SC-FDMA, 1RB, 20MHz, 64QAM)	-1.54 dB			
LTE-TDD(SC-FDMA,1RB,20MHz,QPSK,UL Subframe=2,3,4,7,8,9)	-3.41 dB			
LTE-TDD(SC-FDMA,1RB,20MHz,16QAM,UL Subframe=2,3,4,7,8,9)	-3.17 dB			
LTE-TDD(SC-FDMA,1RB,20MHz,64QAM,UL Subframe=2,3,4,7,8,9)	-3.31 dB			





IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps) -5.90 dB IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps) -5.17 dB IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps) -3.37 dB IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps) -2.02 dB IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps) -0.36dB IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK) -15.80 dB IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps) -5.82 dB IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle) -12.23dB IEEE 802.11ax (20MHz, MCS0, 90pc duty cycle) -5.58dB IEEE 802.11ax (20MHz, MCS0, 99pc duty cycle) -20.98dB 5G NR (DFT-s-OFDM, 1RB, 100 MHz, QPSK, 30 kHz) -1.64dB 5G NR (CP-OFDM, 1RB, 20 MHz, QPSK, 15 kHz) -1.65dB 5G NR (DFT-s-OFDM, 1RB, 20 MHz, QPSK, 15 kHz) -15.06dB 5G NR (CP-OFDM, 1RB, 5 MHz, QPSK, 15 kHz) -12.18dB 5G NR (CP-OFDM, 1RB, 10 MHz, QPSK, 15 kHz) -12.26dB 5G NR (CP-OFDM, 1RB, 15 MHz, QPSK, 15 kHz) -12.08dB 5G NR (CP-OFDM, 1RB, 20 MHz, QPSK, 15 kHz) -12.20dB 5G NR (CP-OFDM, 1RB, 5 MHz, QPSK, 30 kHz) -14.39dB 5G NR (CP-OFDM, 1RB, 10 MHz, QPSK, 30 kHz) -14.47dB 5G NR (CP-OFDM, 1RB, 15 MHz, QPSK, 30 kHz) -14.33dB 5G NR (CP-OFDM, 1RB, 20 MHz, QPSK, 30 kHz) -14.46dB 5G NR (CP-OFDM, 1RB, 25 MHz, QPSK, 30 kHz) -14.35dB 5G NR (CP-OFDM, 1RB, 30 MHz, QPSK, 30 kHz) -14.32dB 5G NR (CP-OFDM, 1RB, 40 MHz, QPSK, 30 kHz) -14.32dB 5G NR (CP-OFDM, 1RB, 50 MHz, QPSK, 30 kHz) -14.55dB 5G NR (CP-OFDM, 1RB, 60 MHz, QPSK, 30 kHz) -14.45dB 5G NR (CP-OFDM, 1RB, 80 MHz, QPSK, 30 kHz) -14.47dB 5G NR (CP-OFDM, 1RB, 90 MHz, QPSK, 30 kHz) -14.43dB 5G NR (CP-OFDM, 1RB, 100 MHz, QPSK, 30 kHz) -14.38dB 5G NR (DFT-s-OFDM, 1RB, 5 MHz, QPSK, 15 kHz) -15.06dB 5G NR (DFT-s-OFDM, 1RB, 10 MHz, QPSK, 15 kHz) -15.06dB 5G NR (DFT-s-OFDM, 1RB, 15 MHz, QPSK, 15 kHz) -15.06dB 5G NR (DFT-s-OFDM, 1RB, 20 MHz, QPSK, 15 kHz) -15.06dB





10 Evaluation of RF Audio Interference Power Level

According to ANSIC 63.19-2019, the WD's conducted power must be at or below either the stated RFAIPL (Table 13-1) or the stated peak power level (Table 13-2), or the average near-field emissions over the measurement area must be at or below the stated RFAIL (Table 13-3), or the stated peak field strength (Table 13-4). The WD may demonstrate compliance by meeting any of these four requirements, but it must do so in each of its operating bands at its established worst-case normal speech-mode operating condition. This chapter will evaluate the RF audio interference power level of WD.

Bands	ANT	Average Power _{max} (dBm)	MIFworst (dB)	Power + MIF	C63.19 Lowest RF _{AIPL} (dBm)	Compliance
GSM 850	0	34	3.63	37.63	29	To be tested
GSM 850	2	33	3.63	36.63	29	To be tested
GSM 1900	1	31	3.63	34.63	26	To be tested
GSM 1900	4	31	3.63	34.63	26	To be tested
WCDMA 850	0	25	-20.39	4.61	29	PASS
WCDMA 850	2	24	-20.39	3.61	29	PASS
WCDMA 1700	1	25	-20.39	4.61	26	PASS
WCDMA 1700	4	25	-20.39	4.61	26	PASS
WCDMA 1900	1	25	-20.39	4.61	26	PASS
WCDMA 1900	4	25	-20.39	4.61	26	PASS
LTE Band2/25	1	25	-9.76	15.24	26	PASS
LTE Band2/25	4	25	-9.76	15.24	26	PASS
LTE Band4/66	1	25	-9.76	15.24	26	PASS
LTE Band4/66	4	25	-9.76	15.24	26	PASS
LTE Band5/26	0	25	-9.76	15.24	29	PASS
LTE Band5/26	2	23	-9.76	13.24	29	PASS
LTE Band7	1	24	-9.76	14.24	25	PASS
LTE Band7	4	24	-9.76	14.24	25	PASS
LTE Band12/17	0	25	-9.76	15.24	29	PASS
LTE Band12/17	2	25	-9.76	15.24	29	PASS
LTE Band13	0	25	-9.76	15.24	29	PASS
LTE Band13	2	25	-9.76	15.24	29	PASS
LTE Band14	0	25	-9.76	15.24	29	PASS
LTE Band14	2	25	-9.76	15.24	29	PASS
LTE Band38/41 PC2	1	27	-1.62	25.38	25	To be tested
LTE Band38/41 PC2	4	27	-1.62	25.38	25	To be tested
LTE Band38/41 PC3	1	24	-1.62	22.38	25	PASS



LTE Band38/41 PC3	4	24	-1.62	22.38	25	PASS
LTE Band48	5	25	-1.62	23.38	25	PASS
LTE Band48	7	24.2	-1.62	22.58	25	PASS
LTE Band48	4	19.8	-1.62	18.18	25	PASS
LTE Band48	2	19.8	-1.62	18.18	25	PASS
LTE Band71	0	25	-9.76	15.24	29	PASS
LTE Band71	2	25	-9.76	15.24	29	PASS
NR n7	1	24	-1.64	22.36	25	PASS
NR n7	4	24	-1.64	22.36	25	PASS
NR n25	1	25	-1.64	23.36	26	PASS
NR n25	4	25	-1.64	23.36	26	PASS
NR n66	1	25	-1.64	23.36	26	PASS
NR n66	4	25	-1.64	23.36	26	PASS
NR n71	0	25	-1.64	23.36	29	PASS
NR n71	2	25	-1.64	23.36	29	PASS
NR n38/41	4	27	-1.64	25.36	25	To be tested
NR n38/41	1	27	-1.64	25.36	25	To be tested
NR n38/41	3	26	-1.64	24.36	25	PASS
NR n38/41	8	23	-1.64	21.36	25	PASS
NR n48	5	25	-1.64	23.36	25	PASS
NR n48	7	24.2	-1.64	22.56	25	PASS
NR n48	4	19.8	-1.64	18.16	25	PASS
NR n48	2	19.8	-1.64	18.16	25	PASS
NR n78	5	27	-1.64	25.36	25	To be tested
NR n78	7	26.5	-1.64	24.86	25	PASS
NR n78	4	23.5	-1.64	21.86	25	PASS
NR n78	2	22.5	-1.64	20.86	25	PASS
WLAN 2.4GHz	6	20	-0.36	19.64	25	PASS
WLAN 2.4GHz	9	18	-0.36	17.64	25	PASS
WLAN 5GHz	7	20	-5.82	14.18	25	PASS
WLAN 5GHz	9	18	-5.82	12.68	25	PASS
WLAN 6E	7	16	-5.58	10.42	25	PASS
WLAN 6E	9	8	-5.58	2.42	25	PASS

According to the above table, the RFAIPL for WCDMA, LTE FDD, WIFI and NR FDD are less than the stated RFAIPL (Table 13.1). Near field emission testing is required for the GSM, LTE TDD,NR TDD bands.





11 Near-field Emission Test Procedures

The evaluation was performed with the following procedure:

- 1) Confirm proper operation of the field probe, probe measurement system and other instrumentation and the positioning system.
- 2) Position the WD in its intended test position. The gauge block can simplify this positioning.
- 3) Set the WD to transmit a fixed and repeatable combination of signal power and modulation characteristic that is representative of the worst case (highest interference potential) encountered in normal use. Transiently occurring start-up, changeover, or termination conditions, or other operations likely to occur less than 1% of the time during normal operation, may be excluded from consideration.
- 4) The measurement area shall be centered on the acoustic output or the T-Coil mode measurement reference point, as appropriate. Locate the field probe at the initial test position in the 50 mm by 50 mm measurement area, which is contained in the measurement plane. If the field alignment method is used, align the probe for maximum field reception
- 5) Record the reading at the output of the measurement system.
- 6) Scan the entire 50 mm by 50 mm measurement area in equally spaced step sizes and record the reading at each measurement point.
- 7) Calculate the average of the measurements taken in Step 6)
- 8) The RF audio interference level in dB(V/m) is obtained by adding the Modulation Interference Factor (in decibels) to the average steady state rms field strength reading over the measurement area, in dB(V/m)
- 9) Compare this RF audio interference level to the limits in ANSI C63.19-2019 clause 4.7 and record the result.





12 Near-field Emission Test Results

Bands	Frequency (MHz)	Channel	RFail (dBV/m)	Compliance
0014.050	848.8	251	29.05	PASS
GSM 850 ANT2	836.6	190	29.50	PASS
ANIZ	824.2	128	29.14	PASS
CCM 950	848.8	251	32.54	PASS
GSM 850 ANT0	836.6	190	33.81	PASS(see Fig B.1)
ANTO	824.2	128	33.71	PASS
CCM 4000	1909.8	810	36.34	PASS(see Fig B.2)
GSM 1900 ANT4	1880	661	36.04	PASS
ANT4	1850.2	512	35.48	PASS
OCM 4000	1909.8	810	17.96	PASS
GSM 1900 ANT1	1880	661	16.80	PASS
ANTI	1850.2	512	15.92	PASS
	2680	41490	29.27	PASS(see Fig B.3)
LTE Band41	2636.5	41055	29.23	PASS
PC2	2593	40620	28.82	PASS
ANT4	2549.5	40185	28.64	PASS
	2506	39750	27.70	PASS
	2680	41490	14.95	PASS
LTE Band41	2636.5	41055	16.25	PASS
PC2	2593	40620	16.05	PASS
ANT1	2549.5	40185	16.60	PASS
	2506	39750	15.85	PASS
	2640	528000	32.91	PASS(see Fig B.4)
	2616.495	523299	32.55	PASS
NR N41	2592.99	518598	31.63	PASS
ANT4	2569.5	513900	31.51	PASS
	2546.01	509202	31.31	PASS
	2640	528000	18.74	PASS
AID ALGO	2616.495	523299	19.73	PASS
NR N41	2592.99	518598	19.23	PASS
ANT1	2569.5	513900	18.84	PASS
	2546.01	509202	19.30	PASS
NR N78	3499.98	633332	26.85	PASS
ANT5	3500.01	633334	28.71	PASS(see Fig B.5)





13 ANSIC 63.19-2019 Limits

13-1 Wireless device RF audio interference power level

Frequency range	RFAIPL
(MHz)	(dBm)
<960	29
960–2000	26
>2000	25

13-2 Wireless device RF peak power level

Frequency range	RFPeak Power
(MHz)	(dBm)
<960	35
960–2000	32
>2000	31

13-3 Wireless device RF audio interference level

Frequency range	RFAIL
(MHz)	[dB(V/m)]
<960	39
960–2000	36
>2000	35

13-4 Wireless device RF peak near-field level

Frequency range	RFPeak
(MHz)	[dB(V/m)]
<960	45
960–2000	42
>2000	41





14 Measurement Uncertainty

Favor Description	Uncert.	Prob.	Div.	(Ci)	Std. Unc.
Error Description	value	Dist.		Eav	Е
Measurement System					
Probe Calibration	<i>±</i> 5.1 %	N	1	1	<i>±</i> 5.1 %
Axial Isotropy	±4.7 %	R	√3	1	±2.7 %
Sensor Displacement	±7.2 %	R	√3	0.5	<i>±</i> 2.1 %
Boundary Effects	±2.4 %	R	√3	1	±1.4 %
Phantom Boundary Effect	±7.2 %	R	√3	1	±4.2 %
Probe Linearity	±4.7 %	R	√3	1	±2.7 %
Scaling to Peak Power with MIF	±10.0 %	R	√3	1	±5.8 %
System Detection Limit	±1.0 %	R	√3	1	±0.6 %
Readout Electronics	±0.3 %	N	1	1	±0.3 %
Response Time	±0.8 %	R	√3	0	±0 %
Integration Time	±2.6 %	R	√3	0	±0 %
RF Ambient Conditions	±3.0 %	R	√3	1	±1.7 %
RF Reflections	±12.0 %	R	√3	1	<i>±</i> 6.9 %
Probe Positioner	±1.2 %	R	√3	1	±0.7 %
Probe Positioning	±3.0 %	R	√3	1	±1.7 %
Extrapolation and Interpolation	±1.0 %	R	√3	1	±0.6 %
Test Sample Related					
Device Positioning Vertical	±4.7 %	R	√3	1	±2.7 %
Device Positioning Lateral	±1.0 %	R	√3	1	±0.6 %
Device Holder and Phantom	±2.4 %	R	√3	1	±1.4 %
Power Drift	±5.0 %	R	√3	1	±2.9 %
Phantom and Setup Related					
Phantom Thickness	±2.4 %	R	√3	1	±1.4 %
Combined Std. Uncertainty					±13.2 %
Expanded Std. Uncertainty on Power	er				±26.4 %
Expanded Std. Uncertainty on Field					±13.2 %





15 Main Test Instruments

Table 1: List of Main Instruments

No.	Name	Туре	Serial Number	Calibration Date	Valid Period
01	Signal	E4438C	MY49071430	December 19,	One Year
	Generator		2024		
02	Power meter	NRP2	106276	May 17, 2024	One year
03	Power sensor	NRP6A	101369	Way 17, 2024	Offic year
04	Amplifier	60S1G4	0331848	No Calibration	n Requested
05	E-Field Probe	EF3DV3	4060	May 23, 2024	One year
06	DAE	DAE4	1556	January 07, 2025	One year
07	HAC Dipole	CD835V3	1023	August 16, 2024	One year
80	HAC Dipole	CD1880V3	1018	August 16, 2024	One year
09	HAC Dipole	CD2600V3	1017	August 16, 2024	One year
10	HAC Dipole	CD3500V3	1008	August 16, 2024	One year
11	BTS	CMW500	166370	July 4, 2024	One year
12	MAIA	SE UMS 171 DB	1554	No Calibration	n Requested

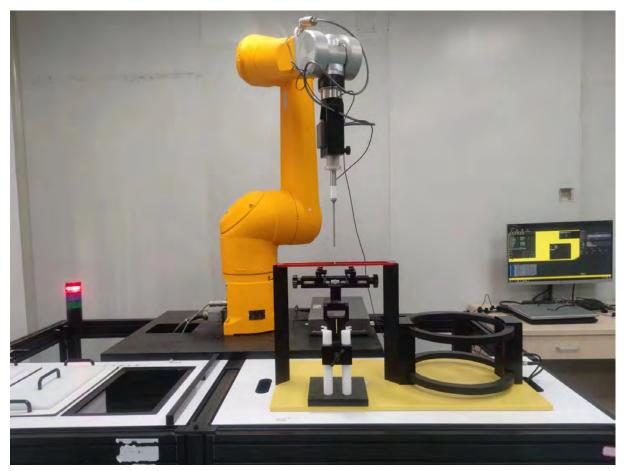
16 Conclusion

The HAC measurement indicates that the EUT complies with the HAC limits of the ANSI C63.19-2019. It is comprehensively determined as **PASS**

END OF REPORT BODY



ANNEX A TEST LAYOUT



Picture A1:HAC RF System Layout





ANNEX B TEST PLOTS

Device Under Test

Manufacturer	Model	Dimensions[mm]	Speaker Position [mm]
1.	1	146.2 x 71.8 x 7.5	144.3

Hardware Setup

Probe Name	Probe Calibration Date	DAE Name	DAE Calibration Date	
EF3DV3 - SN4060	May 23, 2024	DAE4 Sn1556	January 07, 2025	- 4

Communication Systems

Band Name Communication Systems Name		Channel	Frequency [MHz]	
GSM 850	GSM-FDD (TDMA, GMSK)	190	836.6	

Grid Settings

Extent X [mm]	Extent Y [mm]	Step X [mm]	Step Y [mm]	Distance [mm]	
50.0	50.0	10.0	10.0	15.0	

Emax [dB(V/m)]	Eavg50x50 max [dB(V/m)]	MIF [dB]	RFail [dB(V/m)]
31.54	30.18	3.63	33.81

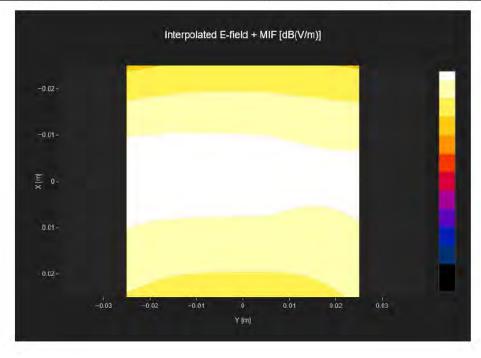


Fig B.1 GSM 850 ANT0





Manufacturer	Model	Dimensions[mm]	Speaker Position [mm]
1	1	146.2 x 71.8 x 7.5	144.3

Hardware Setup

Probe Name	Probe Calibration Date	DAE Name	DAE Calibration Date	
EF3DV3 - SN4060	May 23, 2024	DAE4 Sn1556	January 07, 2025	

Communication Systems

Band Name	Communication Systems Name	Channel	Frequency [MHz]
PCS 1900	GSM-FDD (TDMA, GMSK)	810	1909.8

Grid Settings

Extent X [mm]	Extent Y [mm]	Step X [mm]	Step Y [mm]	Distance [mm]
50.0	50.0	10.0	10.0	15.0

Emax [dB(V/m)]	Eavg50x50 max [dB(V/m)]	MIF [dB]	RFail [dB(V/m)]
35.28	32.71	3.63	36.34

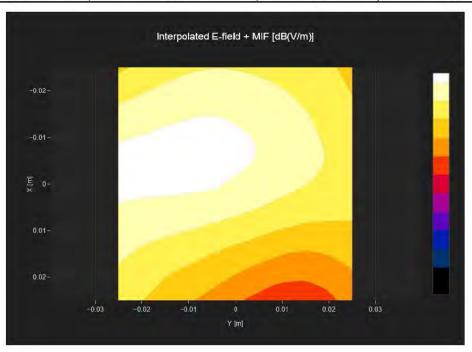


Fig B.2 GSM 1900 ANT4





Manufacturer	Model	Dimensions[mm]	Speaker Position [mm]
1	1	146.2 x 71.8 x 7.5	144.3

Hardware Setup

Probe Name	Probe Calibration Date	DAE Name	DAE Calibration Date	
EF3DV3 - SN4060	May 23, 2024	DAE4 Sn1556	January 07, 2025	

Communication Systems

Band Name	Communication Systems Name	Channel	Frequency [MHz]
Band 41	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	41490	2680.0

Grid Settings

Extent X [mm]	Extent Y [mm]	Step X [mm]	Step Y [mm]	Distance [mm]
50.0	50.0	10.0	10.0	15.0

Emax [dB(V/m)]	Eavg50x50 max [dB(V/m)]	MIF [dB]	RFail [dB(V/m)]
36.35	30.89	-1.62	29.27

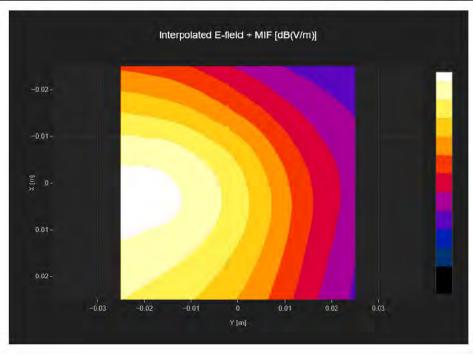


Fig B.3 LTE Band41 PC2 ANT4





Manufacturer	Model	Dimensions[mm]	Speaker Position [mm]
1	1	146.2 x 71.8 x 7.5	144.3

Hardware Setup

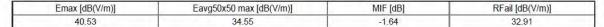
Probe Name	Probe Calibration Date	DAE Name	DAE Calibration Date
EF3DV3 - SN4060	May 23, 2024	DAE4 Sn1556	January 07, 2025

Communication Systems

Band Name	Communication Systems Name	Channel	Frequency [MHz]
Band n41	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	528000	2640.0

Grid Settings

Extent X [mm]	Extent Y [mm]	Step X [mm]	Step Y [mm]	Distance [mm]	
50.0	50.0	10.0	10.0	15.0	



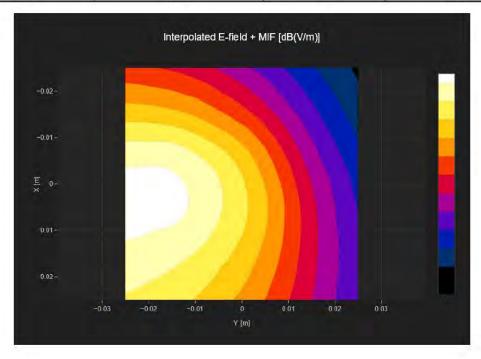


Fig B.4 NR N41 ANT4





Manufacturer	Model	Dimensions[mm]	Speaker Position [mm]
1	1	146.2 x 71.8 x 7.5	144.3

Hardware Setup

Probe Name	Probe Calibration Date	DAE Name	DAE Calibration Date	
EF3DV3 - SN4060	May 23, 2024	DAE4 Sn1556	January 07, 2025	

Communication Systems

Band Name	Communication Systems Name	Channel	Frequency [MHz]
Band n78	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	633334	3500.01

Grid Settings

Extent X [mm]	Extent Y [mm]	Step X [mm]	Step Y [mm]	Distance [mm]
50.0	50.0	10.0	10.0	15.0

Emax [dB(V/m)]	Eavg50x50 max [dB(V/m)]	MIF [dB]	RFail [dB(V/m)]
32.86	30.35	-1.64	28.71

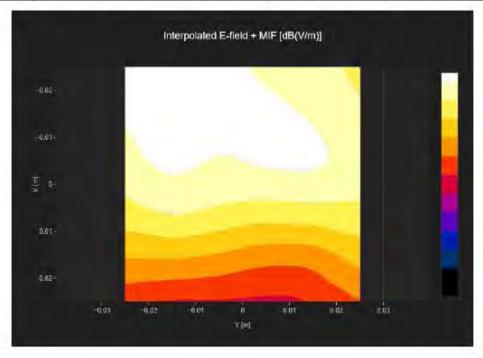


Fig B.5 NR N78 ANT5





ANNEX C SYSTEM VALIDATION RESULT

E SCAN of Dipole 835 MHz

Device Under Test

Manufacturer	Model	Dimensions [mm]	Speaker Position [mm]
	11	146.2 x 71.8 x 7.5	144.3

Hardware Setup

Probe Name	Probe Calibration Date	DAE Name	DAE Calibration Date
EF3DV3 - SN4060	May 23, 2024	DAE4 Sn1556	January 07, 2025

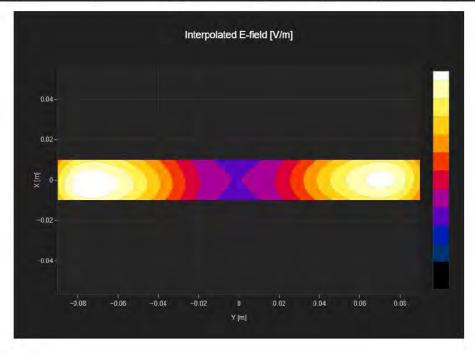
Communication Systems

Band Name	Communication Systems Name	Channel	Frequency [MHz]
CD835	CW	50	835.0

Grid Settings

Extent X [mm]	Extent Y [mm]	Step X [mm]	Step Y [mm]	Distance [mm]	
20.0	180.0	5.0	5.0	15.0	

Dipole Type	Dipole Serial Number	Emax [V/m]	Drift [dB]
CD835	1023	113	0.01







E SCAN of Dipole 1880 MHz

Device Under Test

Manufacturer	Model	Dimensions [mm]	Speaker Position [mm]
		146.2 x 71.8 x 7.5	144.3

Hardware Setup

Probe Name	Probe Calibration Date	DAE Name	DAE Calibration Date	
EF3DV3 - SN4060	May 23, 2024	DAE4 Sn1556	January 07, 2025	

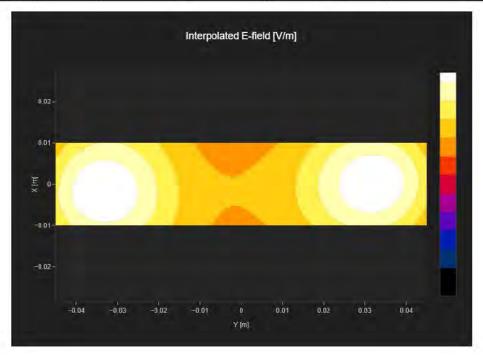
Communication Systems

Band Name	Communication Systems Name	Channel	Frequency [MHz]
CD1880	CW	50	1880.0

Grid Settings

Extent X [mm]	Extent Y [mm]	Step X [mm]	Step Y [mm]	Distance [mm]	_
20.0	90.0	5.0	5.0	15.0	

Dipole Type	Dipole Serial Number	Emax [V/m]	Drift [dB]
CD1880	1018	85.5	-0.01







E SCAN of Dipole 2600 MHz

Device Under Test

Manufacturer	Model	Dimensions [mm]	Speaker Position [mm]
		146.2 x 71.8 x 7.5	144.3

Hardware Setup

Probe Name	Probe Calibration Date	DAE Name	DAE Calibration Date
EF3DV3 - SN4060	May 23, 2024	DAE4 Sn1556	January 07, 2025

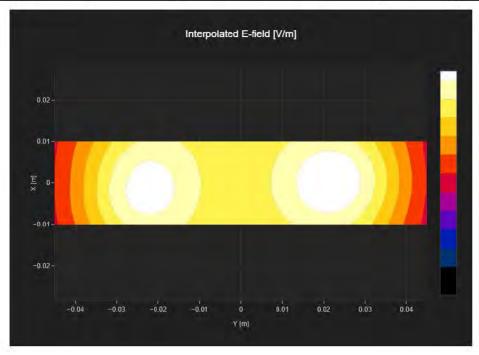
Communication Systems

Band Name	Communication Systems Name	Channel	Frequency [MHz]
CD2600V3	CW	50	2600.0

Grid Settings

Extent X [mm]	Extent Y [mm]	Step X [mm]	Step Y [mm]	Distance [mm]	
20.0	90.0	5.0	5.0	15.0	

Dipole Type	Dipole Serial Number	Emax [V/m]	Drift [dB]
CD2600	1017	83.0	0.06







E SCAN of Dipole 3500 MHz

Device Under Test

Manufacturer	Model	Dimensions [mm]	Speaker Position [mm]
		146.2 x 71.8 x 7.5	144.3

Hardware Setup

Probe Name	Probe Calibration Date	DAE Name	DAE Calibration Date	
EF3DV3 - SN4060	May 23, 2024	DAE4 Sn1556	January 07, 2024	

Communication Systems

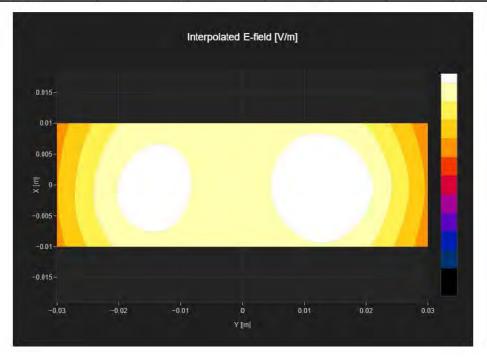
Band Name	Communication Systems Name	Channel	Frequency [MHz]	
CD3500V3	CW	50	3500.0	

Grid Settings

Extent X [mm]	Extent Y [mm]	Step X [mm]	Step Y [mm]	Distance [mm]
20.0	60.0	5.0	5.0	15.0

Results

Dipole Type	Dipole Serial Number	Emax [V/m]	Drift [dB]
CD3500	1008	82.9	0.01







ANNEX D PROBE CALIBRATION CERTIFICATE

Calibration Laboratory of

Schmid & Partner Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Accredited by the Swiss Accreditation Service (SAS)





- Schweizerischer Kalibrierdienst
- Service suisse d'étalonnage C Servizio svizzero di taratura
- **Swiss Calibration Service**

Accreditation No.: SCS 0108

The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

CTTL Beijing

Certificate No.

EF-4060 May24

CALIBRATION CERTIFICATE

EF3DV3 - SN:4060 Object

QA CAL-02.v9, QA CAL-25.v8 Calibration procedure(s)

Calibration procedure for E-field probes optimized for close near field

evaluations in air

May 23, 2024 Calibration date

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22±3) ℃ and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP2	SN: 104778	26-Mar-24 (No. 217-04036/04037)	Mar-25
Power sensor NRP-Z91	SN: 103244	26-Mar-24 (No. 217-04036)	Mar-25
Power sensor NRP-Z91	SN: 103245	26-Mar-24 (No. 217-04037)	Mar-25
Reference 20 dB Attenuator	SN: CC2552 (20x)	26-Mar-24 (No. 217-04046)	Mar-25
DAE4	SN: 789	18-Oct-23 (No. DAE4-789_Oct23)	Oct-24
Reference Probe ER3DV6	SN: 2328	02-Oct-23 (No. ER3-2328_Oct23)	Oct-24

Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-22)	In house check: Jun-24
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-22)	In house check: Jun-24
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-22)	In house check: Jun-24
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-22)	In house check: Jun-24
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-22)	In house check: Oct-24

Name Function Signature Calibrated by Jeffrey Katzman Laboratory Technician Sven Kühn Technical Manager Approved by Issued: May 23, 2024

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: EF-4060_May24

Page 1 of 21





Calibration Laboratory of Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland





S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
Servizio svizzero di taratura

S Swiss Calibration Service

Accreditation No.: SCS 0108

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the sig

The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Glossary

NORMx,y,z sensitivity in free space DCP diode compression point

CF crest factor (1/duty_cycle) of the RF signal A, B, C, D modulation dependent linearization parameters incident E-field orientation normal to probe axis probe axis incident E-field orientation parallel to probe axis

Polarization φ φ rotation around probe axis

Polarization ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is

normal to probe axis

Connector Angle information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- a) IEEE Std 1309-2005, "IEEE Standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz", December 2005
- b) CTIA Test Plan for Hearing Aid Compatibility, Rev 3.1.1, May 2017

Methods Applied and Interpretation of Parameters:

- NORMx,y,z: Assessed for E-field polarization $\vartheta = 0$ for XY sensors and $\vartheta = 90$ for Z sensor ($f \le 900\,\text{MHz}$ in TEM-cell; $f > 1800\,\text{MHz}$ in R22 waveguide).
- NORM(f)x,y,z = NORMx,y,z * frequency_response (see Frequency Response Chart).
- DCPx,y,z: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal. DCP
 does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z: A, B, C, D are numerical linearization parameters assessed based on the data of
 power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum
 calibration range expressed in RMS voltage across the diode.
- · Spherical isotropy (3D deviation from isotropy): in a locally homogeneous field realized using an open waveguide setup
- Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis).
 No tolerance required.
- Connector Angle: The angle is assessed using the information gained by determining the NORMx (no uncertainty required).

Certificate No: EF-4060 May24

Page 2 of 21



Parameters of Probe: EF3DV3 - SN:4060

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k = 2)
Norm $(\mu V/(V/m)^2)$	0.79	0.74	1.29	±10.1%
DCP (mV) B	92.8	98.2	93.9	±4.7%

Calibration Results for Frequency Response (30 MHz - 5.8 GHz)

Frequency MHz	Target E-field (En) V/m	Measured E-field (En) V/m	Deviation E-field (En)	Target E-field (Ep) V/m	Measured E-field (Ep) V/m	Deviation E-field (Ep)	Unc (k = 2)
30	77.1	77.3	0.2%	77.1	77.0	-0.2%	±5.1%
100	77.0	78.0	1.3%	77.0	78.1	1.5%	±5.1%
450	77.2	78.1	1.2%	77,1	78.2	1.3%	±5.1%
600	77.1	77.6	0.6%	77.1	77.6	0.7%	±5.1%
750	77.1	77.4	0.4%	77.1	77.4	0.3%	±5.1%
1800	143.0	139.9	-2.2%	143.2	140.3	-2.0%	±5.1%
2000	135.0	129.5	-4.1%	134.9	129.6	-4.0%	±5.1%
2200	127.6	124.6	-2.4%	127.5	125.7	-1.4%	±5.1%
2500	125.5	120.3	-4.2%	125.6	121.3	-3.4%	±5.1%
3000	79.4	76.2	-4.1%	79.4	77.2	-2.8%	±5.1%
3500	256.2	255.4	-0.3%	255.8	251.8	-1.6%	±5.1%
3700	250.4	245.4	-2.0%	250.8	243.7	-2.8%	±5.1%
5200	50.8	50.9	0.2%	50.7	51.1	0.8%	±5.1%
5500	49.7	48.9	-1.5%	49.6	49.1	-1.0%	±5.1%
5800	48.9	48.1	-1.6%	48.9	47.6	-2.6%	±5.1%

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

B Linearization parameter uncertainty for maximum specified field strength.

E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.





Parameters of Probe: EF3DV3 - SN:4060

Calibration Results for Modulation Response

UID	Communication System Name		A dB	$dB\sqrt{\mu V}$	С	D dB	VR mV	Max dev.	Max Unc ^E k = 2
0	CW	X	0.00	0.00	1.00	0.00	126.1	±3.3%	±4.7%
7	***		0.00	0.00	1.00		164.6		
		Z	0.00	0.00	1.00		127.1		
10352	Pulse Waveform (200Hz, 10%)	X	2.79	66.36	9.95	10.00	60.0	±2.8%	±9.6%
		Y	2.98	67.14	10.50		60.0		
		Z	2.96	67.04	10.32		60.0		
10353	Pulse Waveform (200Hz, 20%)	X	1.54	64.47	8.15	6.99	80.0	±1.1%	±9.6%
112201 00	See and the second second	Y	1.71	65.56	8.89		80.0		
		Z	1.22	63.13	7.66		80.0		
10354	Pulse Waveform (200Hz, 40%)	X	0.83	63.89	7.11	3.98	95.0	±0.8%	±9.6%
37.2.2.4	A 400 S 100	Y	1.01	65.47	8.04		95.0	TOWNY,	
		Z	0.77	63.73	6.98		95.0		
10355	Pulse Waveform (200Hz, 60%)	X	20.00	85.19	12.98	2.22	120.0	±0.9%	±9.6%
		Y	20.00	86.18	13.45		120.0		
		Z	20.00	82.99	11.82		120.0		
10387	QPSK Waveform, 1 MHz	X	2.18	73.12	18.36	1.00	150.0	±2.1%	±9.6%
		Y	1.71	68.59	15.68		150.0		
		Z	1.96	71.52	17.24		150.0		
10388	QPSK Waveform, 10 MHz	X	2.61	71.82	18.19	0.00	150.0	±1.0%	±9.6%
		Y	2.23	68.76	16.25		150.0		
		Z	2.42	70.54	17.37		150.0		
10396	64-QAM Waveform, 100 kHz	X	2.33	69.82	19.41	3.01	150.0	±1.8%	±9.6%
14.44.30	and and assessment about	Y	1.80	65.17	17.48		150.0		
		Z	2.24	68.95	18.67		150.0		
10399	64-QAM Waveform, 40 MHz	X	3.55	67.76	16.55	0.00	150.0	±1.2%	±9.6%
, 5500		Y	3.43	66.95	15.82		150.0	-	
		Z	3.55	67.72	16.40		150.0		
10414	WLAN CCDF, 64-QAM, 40 MHz	X	4.72	65.81	15.97	0.00	150.0	±2.4%	±9.69
	200 TO 100 ALE OF 100 ALE OF 100 ALE	Y	4.71	65.74	15.68		150.0		1
		Z	4.64	65.61	15.78		150.0		

Note: For details on UID parameters see Appendix

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Certificate No: EF-4060_May24

B Linearization parameter uncertainty for maximum specified field strength.

E Uncertainty is determined using the max, deviation from linear response applying rectangular distribution and is expressed for the square of the field value.





Parameters of Probe: EF3DV3 - SN:4060

Sensor Frequency Model Parameters

	Sensor X	Sensor Y	Sensor Z
Frequency Corr. (LF)	0.17	0.20	4.63
Frequency Corr. (HF)	2.82	2.82	2.82

Sensor Model Parameters

	C1 fF	C2 fF	α V ⁻¹	T1 ms V ⁻²	T2 ms V ⁻¹	T3 ms	T4 V ⁻²	T5 V ⁻¹	T6
X	36.0	239.41	37.41	5.51	0.05	4.95	0.77	0.01	1.00
V	35.1	230.50	36.41	5.15	0.00	4.97	0.00	0.00	1.01
z	33.7	225.26	37.55	4.26	0.03	4.97	0.69	0.02	1.00

Other Probe Parameters

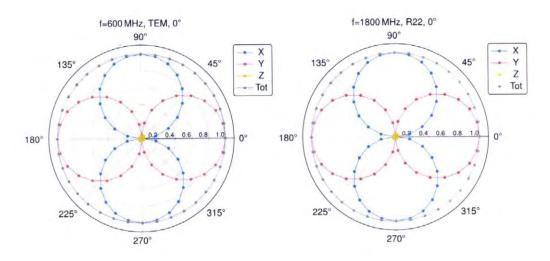
Sensor Arrangement	Rectangular
Connector Angle	-38.9°
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	12 mm
Tip Length	25 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	1.5 mm
Probe Tip to Sensor Y Calibration Point	1.5 mm
Probe Tip to Sensor Z Calibration Point	1.5 mm

Certificate No: EF-4060_May24

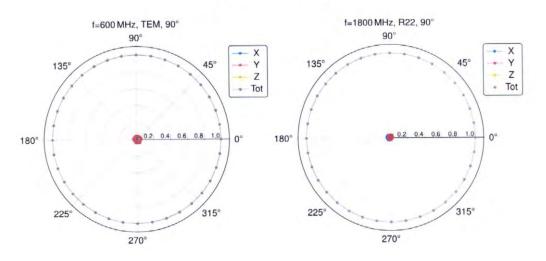
Page 5 of 21



Receiving Pattern (ϕ), $\theta = 0^{\circ}$



Receiving Pattern (ϕ), $\theta = 90^{\circ}$



Certificate No: EF-4060_May24

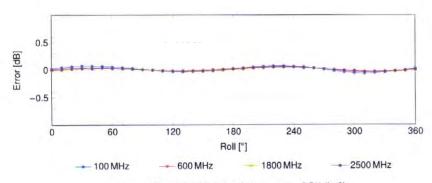
Page 6 of 21



EF3DV3 - SN:4060

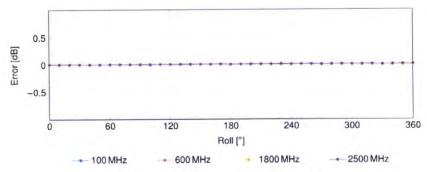
May 23, 2024

Receiving Pattern (ϕ), $\vartheta = 0^{\circ}$



Uncertainty of Axial Isotropy Assessment: ±0.5% (k=2)

Receiving Pattern (ϕ), $\theta = 90^{\circ}$



Uncertainty of Axial Isotropy Assessment: ±0.5% (k=2)

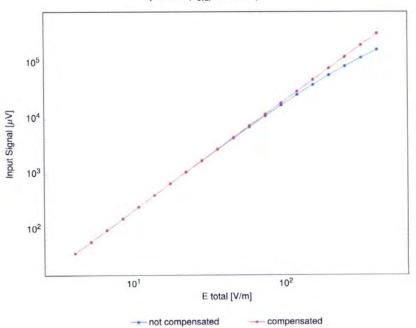
Certificate No: EF-4060_May24

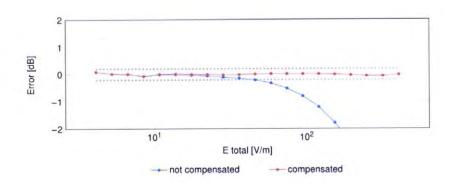
Page 7 of 21



Dynamic Range f(E-field)

(TEM cell, f_{eval} = 900 MHz)





Uncertainty of Linearity Assessment: $\pm 0.6\%$ (k=2)

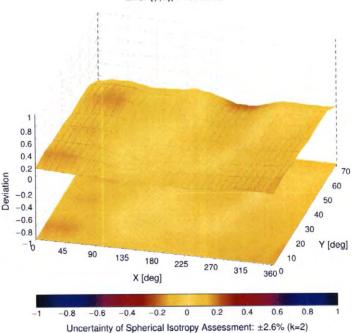
Certificate No: EF-4060_May24

Page 8 of 21



Deviation from Isotropy in Air

Error (ϕ , θ), f = 900 MHz



Certificate No: EF-4060_May24

Page 9 of 21





Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E k =
0		CW	CW	0.00	±4.7
0010	CAB	SAR Validation (Square, 100 ms, 10 ms)	Test	10.00	±9.6
0011	CAC	UMTS-FDD (WCDMA)	WCDMA	2.91	±9.6
0012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	±9.6
0013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	±9.6
0021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	±9.6
0023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	±9.6
0024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	±9.6
0025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	±9.6
0026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	±9.6
0027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	±9.6
0028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	±9.6
0029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	±9.6
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	±9.6
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	±9.6
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	±9,6
10032	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	±9.6
2.000	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	±9.6
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	±9.6
10035		IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	8.01	±9.6
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	4.77	±9.6
10037	CAA		Bluetooth	4.10	±9.6
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	CDMA2000	4.57	±9.6
10039	CAB	CDMA2000 (1xRTT, RC1)	AMPS	7.78	±9.6
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	0.00	±9.6
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	DECT	13.80	±9.6
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)		10.79	
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	11.01	±9.6
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA		
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	±9.6
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	±9.6
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	±9.6
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	±9.6
10062	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	±9.6
10063	CAE	IEEE 802,11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	±9.6
10064	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	±9.6
10065	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	±9.6
10066	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	±9.6
10067	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	±9.6
10068	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	±9.6
10069	CAE	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	±9.6
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	±9.6
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	±9.6
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	±9.6
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	±9.6
10075	CAB	IEEE 802.11g WiFi 2,4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	±9.6
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	±9.6
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	±9.6
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	±9.6
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	±9.6
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	±9.6
10097	CAC	UMTS-FDD (HSDPA)	WCDMA	3.98	±9.6
10097	CAC	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	±9.6
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	±9.6
10100	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	±9.6
10100	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	±9.6
10101	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±9,6
10102	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-CAM)	LTE-TDD	9.29	±9.6
	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	±9.6
10104			LTE-TDD	10.01	±9.6
10105	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	5.80	±9.6
10108	-	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	6.43	±9.6
	CAH	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	5.75	±9.6
10109	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)			

Certificate No: EF-4060_May24

Page 10 of 21



May 23, 2024

EF3DV3 - SN:4060

PAR (dB) $Unc^E k = 2$ Rev Communication System Name LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM) ITE-FDD CAH ITE-FDD 10113 LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM) 6.62 +9.6 10114 CAE IEEE 802.11n (HT Greenfield, 13.5 Mbps. BPSK) WLAN 8.10 ±9.6 10115 CAE IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM WLAN ±9.6 8,46 IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM) WLAN 8.15 ±9.6 10116 ±9.6 IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK) WI AN 8 07 CAE CAE IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM) WLAN 8.59 ±9.6 10118 8.13 ±9.6 10119 CAE IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM) WLAN LTE-FDD CAF LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM) 6.49 10140 LTE-FDD 6.53 ±9.6 CAF LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM) 10141 10142 CAF LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK) LTE-FDD 5.73 +9.6 10143 CAF LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM) LTE-FDD 6.35 +9.6 LTE-FDD 6.65 10144 CAF LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM) ± 9.6 LTE-FDD ±9.6 10145 CAG LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK) LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM LTE-FDD 6.41 ±9.6 10146 CAG LTE-FDD 6.72 +9.6 LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM) 10147 CAG LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM) LTE-FDD 6.42 ±9.6 10149 LTE-FDD CAF LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM) 6.60 ±9.6 10151 CAH LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK) LTE-TDD 9.28 ±9.6 10152 LTE-TDD ±9.6 CAH LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM) LTE-TDD 10.05 ±9.6 10153 CAH LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM) LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK ITE-FDD 5.75 ±9.6 CAH 10154 10155 LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM) LTE-FDD 6.43 +9.6 LTE-FDD 5.79 LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK) ± 9.6 LTE-FDD 6.49 ±9.6 10157 CAH LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM) LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM) LTE-FDD 6.62 ±9.6 10158 CAH LTE-FDD 6.56 ±9.6 LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM) CAH 10159 LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK) LTE-FDD 5.82 ±9.6 10160 LTE-FDD 6.43 LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM) ±9.6 LTE-FDD 6.58 ±9.6 CAF LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM) 10162 5.46 ±9.6 10166 CAG LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK) LTE-FDD 6.21 ±9.6 CAG LTE-FDD (SC-FDMA, 50% RB, 1,4 MHz, 16-QAM 10167 10168 CAG LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM) ITE-FDD 6.79 +9.6 LTE-FDD CAF LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK) 5.73 ± 9.6 LTE-FDD ±9.6 10170 CAF LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM) 6.49 ±9.6 LTE-FDD 10171 AAF LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM) LTE-TDD 9.21 ± 9.6 LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK) 10172 CAH LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM) LTF-TDD 9 48 ±9.6 CAH 10173 LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM) LTE-TDD 10,25 ±9.6 10174 5.72 LTE-FDD ±9.6 LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK) 10175 CAH 6.52 ±9.6 LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM) 10176 CAH LTE-FDD 5.73 ±9.6 LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK) 10177 CA.I LTE-FDD 6.52 +9.6 10178 CAH LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM) CAH LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM) LTE-FDD 6.50 ±9.6 LTE-FDD 6.50 +9.6 10180 CAH LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM) LTE-FDD 5.72 ±9.6 10181 CAF LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK) 6.52 LTE-FDD ±9.6 LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) 10182 CAF LTE-FDD 6.50 ±9.6 10183 AAE LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) 10184 CAF LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK) ITE-FDD 5.73 +9.6 LTE-FDD 6.51 LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM) ±9.6 10185 CAF LTE-FDD 6.50 10186 AAF LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM) ±9.6 LTE-FDD 5.73 ±9.6 10187 CAG LTE-FDD (SC-FDMA, 1 RB, 1,4 MHz, QPSK) LTE-FDD 6.52 ±9.6 LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM) 10188 CAG LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM) ITE-FDD 6.50 +9.6 10189 IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK) WLAN 8.09 ±9.6 10194 CAE IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM) WLAN 8.12 ±9.6 8.21 WLAN ±9.6 IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM) 10195 CAE ±9.6 WLAN 8.10 IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK) CAE 10196 IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM) WLAN 8 13 +96 10197 WLAN 8.27 IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM) +9.6 WLAN 8.03 10219 CAE IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK) WLAN 8.13 ±9.6 IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM) 10220 CAE IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM) WIAN 8 27 +96

Certificate No: EF-4060_May24

CAE

10222 CAE IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)

10224 CAE IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)

IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)

10221

10223

WLAN

WLAN

8.06

8.48

±9.6

+9.6

±9.6





UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E k =
10225	CAC	UMTS-FDD (HSPA+)	WCDMA	5.97	±9.6
10226	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	±9.6
0227	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	±9.6
0228	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	±9.6
0229	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
0230	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
0231	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	±9.6
0232	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
0233	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
0234	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	±9.6
0235	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
0236	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
0237	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	±9.6
0238	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
0239	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
0240	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	±9.6
0241	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	±9.6
0242	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	±9.6
0243	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	±9.6
0244	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	±9.6
0245	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	±9.6
0246	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	±9.6
10247	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	±9.6
10248	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	±9.6
10249	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	±9.6
10250	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	±9.6
10251	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	±9.6
10252	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	±9.6
10253	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	±9.6
10254	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10,14	±9.6
10255	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9,20	±9.6
10256	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	±9.6
10257	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	±9.6
10258	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	±9.6
10259	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	±9.6
10260	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	±9.6
10261	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	±9.6
10262	CAH	LTE-TDD (SC-FDMA, 100% RB, 5MHz, 16-QAM)	LTE-TDD	9.83	±9.6
10263	CAH	LTE-TDD (SC-FDMA, 100% RB. 5 MHz. 64-QAM)	LTE-TDD	10.16	±9.6
10264	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	±9.6
10265	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	±9.6
10266	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	±9.6
10267	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	±9.6
10268	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	±9.6
10269	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	±9.6
10270	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	±9.6
10274	-	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	±9.6
10275		UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	±9.6
10277		PHS (QPSK)	PHS	11,81	±9.6
10278		PHS (QPSK, BW 884 MHz, Rolloff 0.5)	PHS	11,81	±9.6
10279		PHS (QPSK, BW 884 MHz, Rolloff 0.38)	PHS	12.18	±9.6
10290		CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	±9.
10291	_	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	±9.6
10292		CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	±9.6
10293	AAB	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	±9.
10295	_	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	±9.
10297		LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	±9.
10298	_	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	±9.
10299		LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	±9.
10300	-	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	±9.
10301	_	IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, QPSK, PUSC)	WiMAX	12.03	±9.
10302	AAA	IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, QPSK, PUSC, 3 CTRL symbols)	WiMAX	12.57	±9.
10303	AAA	IEEE 802,16e WiMAX (31:15, 5 ms, 10 MHz, 64QAM, PUSC)	WiMAX	12.52	±9.
10304	AAA	IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, 64QAM, PUSC)	WiMAX	11.86	±9.
10305	AAA	IEEE 802.16e WiMAX (31:15, 10 ms, 10 MHz, 64QAM, PUSC, 15 symbols)	WiMAX	15.24	±9.
10306	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, 64QAM, PUSC, 18 symbols)	WiMAX	14.67	±9.

Certificate No: EF-4060_May24

Page 12 of 21



EF3DV3 - SN:4060

May 23, 2024

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E k =
10307	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, QPSK, PUSC, 18 symbols)	WiMAX	14.49	±9.6
0308	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, 16QAM, PUSC)	WiMAX	14.46	±9.6
0309	AAA	IEEE 802.16e WIMAX (29:18, 10 ms, 10 MHz, 16QAM, AMC 2x3, 18 symbols)	WiMAX	14.58	±9.6
0310	AAA	IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, QPSK, AMC 2x3, 18 symbols)	WiMAX	14,57	±9.6
0311	AAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	±9.6
0313	AAA	IDEN 1.3	iDEN	10.51	±9.6
0314	AAA	IDEN 1:6	iDEN	13.48	±9.6
0315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	±9.6
10316	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	±9.6
10317	AAE	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	±9.6
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	±9.6
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	±9.6
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	±9.6
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	±9.6
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	±9.6
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	±9.6
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	±9.6
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	±9.6
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	±9.6
10400	AAF	IEEE 802.11ac WiFi (20 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.37	±9.6
10400	AAF	IEEE 802.11ac WiFi (40 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.60	±9.6
10401	AAF	IEEE 802.11ac WiFi (80 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.53	±9.6
10402	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	±9.6
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	±9.6
10404	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	±9.6
10410	AAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	LTE-TDD	7.82	±9.6
10414	AAA	WLAN CCDF, 64-QAM, 40 MHz	Generic	8.54	±9.6
10414	AAA	IEEE 802,11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	WLAN	1.54	±9.6
10415	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6
10417	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6
	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	WLAN	8.14	±9.6
10418		IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	WLAN	8.19	±9.6
10419	AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	±9.6
10422	AAD	IEEE 802.11n (HT Greenlied, 7.2 Mbps, 16-QAM)	WLAN	8.47	±9.6
10423	AAD	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 10-QAM)	WLAN	8.40	±9.6
10424	AAD		WLAN	8.41	±9.6
10425	AAD	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.45	±9.6
10426	AAD	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.41	±9.6
10427	AAD	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	LTE-FDD	8.28	±9.6
10430	AAE	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.38	±9.6
10431	AAE	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.34	±9.6
10432	_	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	±9.6
10433	-	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	WCDMA	8.60	±9.6
10434		W-CDMA (BS Test Model 1, 64 DPCH)	LTE-TDD	7.82	±9.6
10435	-	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-FDD	7.56	±9.6
10447	_	LTE-FDD (OFDMA, 5MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	±9.6
10448		LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)		7.51	±9.6
10449		LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	LTE-FDD	7.48	±9.6
10450		LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)		7.48	±9.6
10451	_	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	10.00	±9.6
10453	_	Validation (Square, 10 ms, 1 ms)	Test		±9.6
10456		IEEE 802.11ac WiFi (160 MHz, 64-QAM, 99pc duty cycle)	WLAN	8.63 6.62	±9.6
10457		UMTS-FDD (DC-HSDPA)	0.000		-
10458		CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	±9.6
10459		CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25 2.39	±9.6
10460	-	UMTS-FDD (WCDMA, AMR)	WCDMA		
10461		LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TOD	7.82	±9.6
10462	-	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TOD	8.30	±9.6
10463		LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	±9.6
10464		LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9,6
10465		LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2.3,4,7,8,9)	LTE-TDD	8.32	±9.6
10466	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.
10467	AAG		LTE-TDD	7.82	±9.
10468	AAG		LTE-TDD	8.32	±9.
10469	AAG		LTE-TDD	8,56	±9.
10470	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.
10471		LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6

Certificate No: EF-4060_May24

Page 13 of 21



UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E k =
0472	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
0473	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
0474	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
0475	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
0477	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
0478	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
0479	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2.3,4,7,8,9)	LTE-TDD	7.74	±9.6
0480	AAC	LTE-TDD (SC-FDMA, 50% RB, 1,4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.18	±9.6
0481	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	±9.6
0482	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.71	±9.6
0483	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.39	±9.6
0484	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.47	±9.6
0485	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.59	±9.6
0486	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.38	±9.6
0487	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.60	±9.6
0488	AAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7,70	±9.6
	AAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8,31	±9.6
0489	7 10 7 2	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8,54	±9.6
0490	AAG		LTE-TDD	7.74	±9.6
0491	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.41	±9.6
0492	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	±9.6
0493	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3.4,7,8,9)		7.74	±9.6
0494	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	±9.6
0495	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)			
0496	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6
10497	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	±9.6
0498	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2.3.4,7.8.9)	LTE-TDD	8.40	±9.6
0499	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.68	±9.6
0500	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	±9.6
10501	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.44	±9.6
0502	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.52	±9.6
10503	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.72	±9.6
10504	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	±9.6
10505	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6
10506	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10507	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.36	±9.6
10508	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	±9.6
10509	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.99	±9.6
10510	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.49	±9.6
10511	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.51	±9.6
10512	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2.3,4,7,8,9)	LTE-TDD	7.74	±9.6
10513	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.42	±9.6
10514	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	±9.6
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	±9.6
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1.57	±9.6
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	±9.6
10517	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6
10518	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	±9.6
10519	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.12	±9.6
10520	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Midps, 99pc duty cycle)	WLAN	7.97	±9.6
	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	±9.6
10522	AAD	IEEE 802,11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.08	±9.6
	AAD	IEEE 802,11a/h WiFi 5 GHz (OFDM, 46 Mbps, 99pc duty cycle)	WLAN	8.27	±9.6
10524		IEEE 802,11a/h WIFI 5 GHZ (OFDM, 54 Mops, 99pc duty cycle)	WLAN	8.36	±9.6
10525	AAD		WLAN	8.42	±9.6
10526	AAD	IEEE 802.11ac WiFi (20 MHz, MCS1, 99pc duty cycle)	WLAN	8.21	±9.6
10527	AAD	IEEE 802.11ac WiFi (20 MHz, MCS2, 99pc duty cycle)	WLAN	8.36	±9.
10528		IEEE 802.11ac WiFi (20 MHz, MCS3, 99pc duty cycle)	WLAN	8.36	±9.
10529	_	IEEE 802.11ac WiFi (20 MHz, MCS4, 99pc duty cycle)	WLAN	8.43	±9.
10531	AAD	IEEE 802.11ac WiFi (20 MHz, MCS6, 99pc duty cycle)	The second second	8.29	±9.6
10532		IEEE 802.11ac WiFi (20 MHz, MCS7, 99pc duty cycle)	WLAN		_
10533		IEEE 802.11ac WiFi (20 MHz, MCS8, 99pc duty cycle)	WLAN	8.38	±9.0
10534	_	IEEE 802.11ac WiFi (40 MHz, MCS0, 99pc duty cycle)	WLAN	8.45	±9.
10535	_	IEEE 802.11ac WiFi (40 MHz, MCS1, 99pc duty cycle)	WLAN	8.45	±9.6
10536		IEEE 802.11ac WiFi (40 MHz, MCS2, 99pc duty cycle)	WLAN	8.32	±9.
10537		IEEE 802.11ac WiFi (40 MHz, MCS3, 99pc duty cycle)	WLAN	8.44	±9.
10538	AAD	IEEE 802.11ac WiFi (40 MHz, MCS4, 99pc duty cycle)	WLAN	8.54	±9.
10540	AAD	IEEE 802.11ac WiFi (40 MHz, MCS6, 99pc duty cycle)	WLAN	8.39	±9.

Certificate No: EF-4060_May24

Page 14 of 21



UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E k =
0541	AAD	IEEE 802.11ac WiFi (40 MHz, MCS7, 99pc duty cycle)	WLAN	8.46	±9.6
0542	AAD	IEEE 802.11ac WiFi (40 MHz, MCS8, 99pc duty cycle)	WLAN	8.65	±9.6
0543	AAD	IEEE 802.11ac WiFi (40 MHz, MCS9, 99pc duty cycle)	WLAN	8.65	±9.6
)544	AAD	IEEE 802.11ac WiFi (80 MHz, MCS0, 99pc duty cycle)	WLAN	8.47	±9.6
545	AAD	IEEE 802.11ac WiFi (80 MHz, MCS1, 99pc duty cycle)	WLAN	8.55	±9.6
546	AAD	IEEE 802,11ac WiFi (80 MHz, MCS2, 99pc duty cycle)	WLAN	8.35	±9.6
0547	AAD	IEEE 802.11ac WiFi (80 MHz, MCS3, 99pc duty cycle)	WLAN	8.49	±9.6
0548	AAD	IEEE 802.11ac WiFi (80 MHz, MCS4, 99pc duty cycle)	WLAN	8.37	±9.6
0550	AAD	IEEE 802.11ac WiFi (80 MHz, MCS6, 99pc duty cycle)	WLAN	8.38	±9.6
0551	AAD	IEEE 802.11ac WiFi (80 MHz, MCS7, 99pc duty cycle)	WLAN	8.50	±9.6
0552	AAD	IEEE 802.11ac WiFi (80 MHz, MCS8, 99pc duty cycle)	WLAN	8.42	±9.6
0553	AAD	IEEE 802.11ac WiFi (80 MHz, MCS9, 99pc duty cycle)	WLAN	8.45	±9.6
0554	AAE	IEEE 802.11ac WiFi (160 MHz, MCS0, 99pc duty cycle)	WLAN	8.48	±9.6
0555	AAE	IEEE 802.11ac WiFi (160 MHz, MCS1, 99pc duty cycle)	WLAN	8.47	±9.6
	AAE	IEEE 802.11ac WiFi (160 MHz, MCS2, 99pc duty cycle)	WLAN	8.50	±9.6
0556	AAE	IEEE 802.11ac WiFi (160 MHz, MCS3, 99pc duty cycle)	WLAN	8.52	±9.6
0557		IEEE 802.11ac WiFi (160 MHz, MCS3, 99pc duty cycle)	WLAN	8,61	±9.6
0558	AAE		WLAN	8.73	±9.6
0560	AAE	IEEE 802.11ac WiFi (160 MHz, MCS6, 99pc duty cycle)	WLAN	8.56	±9.6
0561	AAE	IEEE 802.11ac WiFi (160 MHz, MCS7, 99pc duty cycle)	WLAN	8.69	±9.6
0562	AAE	IEEE 802.11ac WiFi (160 MHz, MCS8, 99pc duty cycle)	WLAN	8.77	±9.6
0563	AAE	IEEE 802.11ac WiFi (160 MHz, MCS9, 99pc duty cycle)	WLAN	8.25	±9.6
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.45	±9.6
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.45	±9.6
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)		8.00	±9.6
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	WLAN	8.37	±9.6
10568	AAA	IEEE 802,11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	WLAN		
10569	AAA	IEEE 802,11g WiFi 2,4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.10	±9.6
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.30	±9.6
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	WLAN	1.99	±9.6
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	WLAN	1.99	±9.6
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	WLAN	1.98	±9.6
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	WLAN	1.98	±9.6
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	±9.6
10576	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	±9.6
10577	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	±9.6
10578	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	±9.6
10579	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	±9.6
10580	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	±9.6
10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	±9.6
10582	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	±9.6
10583	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	±9.6
10584	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	±9.6
10585		IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	±9.6
10586		IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	±9.6
	-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	±9.6
10587		IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	±9.6
		IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	±9.6
10589	_	IEEE 802.11a/h WIFI 5 GHz (OFDM, 46 Mbps, 90pc duty cycle)	WLAN	8.67	±9.6
10590		IEEE 802.11a/n WIFI 5 GHZ (OPDM, 54 Mbps, 90pc duty cycle)	WLAN	8.63	±9.6
7.7	AAD	IEEE 802.11n (HT Mixed, 20 MHz, MCS1, 90pc duty cycle)	WLAN	8.79	±9.6
10592		IEEE 802.11n (HT Mixed, 20 MHz, MCS1, 90pc duty cycle)	WLAN	8.64	±9.6
10593	-	IEEE 802.11n (HT Mixed, 20 MHz, MCS2, 90pc duty cycle)	WLAN	8.74	±9.6
10594	_	IEEE 802.11n (HT Mixed, 20 MHz, MCS3, 90pc duty cycle)	WLAN	8.74	±9.
10595		IEEE 802.11n (HT Mixed, 20 MHz, MCS4, 90pc duty cycle) IEEE 802.11n (HT Mixed, 20 MHz, MCS5, 90pc duty cycle)	WLAN	8.71	±9.
10596			WLAN	8.72	±9.
10597			WLAN	8.50	±9.
10598		IEEE 802.11n (HT Mixed, 20 MHz, MCS7, 90pc duty cycle)	WLAN	8.79	±9.
10599	_	IEEE 802.11n (HT Mixed, 40 MHz, MCS0, 90pc duty cycle)	WLAN	8.88	±9.
10600		IEEE 802.11n (HT Mixed, 40 MHz, MCS1, 90pc duty cycle)		8.82	±9.
10601	_	IEEE 802.11n (HT Mixed, 40 MHz, MCS2, 90pc duty cycle)	WLAN		_
10602		IEEE 802.11n (HT Mixed, 40 MHz, MCS3, 90pc duty cycle)	WLAN	8.94	±9.
10603		IEEE 802.11n (HT Mixed, 40 MHz, MCS4, 90pc duty cycle)	WLAN	9.03	±9.
10604	_	IEEE 802.11n (HT Mixed, 40 MHz, MCS5, 90pc duty cycle)	WLAN	8.76	±9.
10605		IEEE 802.11n (HT Mixed, 40 MHz, MCS6, 90pc duty cycle)	WLAN	8.97	±9.
10606	AAD	IEEE 802.11n (HT Mixed, 40 MHz, MCS7, 90pc duty cycle)	WLAN	8.82	±9.
10607	AAD	IEEE 802.11ac WiFi (20 MHz, MCS0, 90pc duty cycle)	WLAN	8.64	±9.
10608	B AAD	IEEE 802,11ac WiFi (20 MHz, MCS1, 90pc duty cycle)	WLAN	8.77	±9.

Certificate No: EF-4060_May24

Page 15 of 21





UID	Rev	Communication System Name	Group	PAR (dB)	UncE k =
0609	AAD	IEEE 802.11ac WIFi (20 MHz, MCS2, 90pc duty cycle)	WLAN	8.57	±9.6
0610	AAD	IEEE 802.11ac WiFi (20 MHz, MCS3, 90pc duty cycle)	WLAN	8.78	±9.6
0611	AAD	IEEE 802.11ac WiFi (20 MHz, MCS4, 90pc duty cycle)	WLAN	8.70	±9.6
0612	AAD	IEEE 802,11ac WiFi (20 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6
0613	AAD	IEEE 802,11ac WiFi (20 MHz, MCS6, 90pc duty cycle)	WLAN	8.94	±9.6
0614	AAD	IEEE 802.11ac WiFi (20 MHz, MCS7, 90pc duty cycle)	WLAN	8.59	±9.6
		IEEE 802.11ac WiFi (20 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±9.6
0615	AAD		WLAN	8.82	±9.6
0616	AAD	IEEE 802.11ac WiFi (40 MHz, MCS0, 90pc duty cycle)	WLAN	8.81	±9.6
0617	AAD	IEEE 802.11ac WiFi (40 MHz, MCS1, 90pc duty cycle)	WLAN	8.58	±9.6
0618	AAD	IEEE 802.11ac WiFi (40 MHz, MCS2, 90pc duty cycle)			
0619	AAD	IEEE 802.11ac WiFi (40 MHz, MCS3, 90pc duty cycle)	WLAN	8.86	±9.6
0620	AAD	IEEE 802.11ac WiFi (40 MHz, MCS4, 90pc duty cycle)	WLAN	8.87	±9.6
0621	AAD	IEEE 802.11ac WiFi (40 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6
0622	AAD	IEEE 802.11ac WiFi (40 MHz, MCS6, 90pc duty cycle)	WLAN	8.68	±9.6
0623	AAD	IEEE 802.11ac WiFi (40 MHz, MCS7, 90pc duty cycle)	WLAN	8.82	±9.6
0624	AAD	IEEE 802.11ac WiFi (40 MHz, MCS8, 90pc duty cycle)	WLAN	8.96	±9.6
0625	AAD	IEEE 802.11ac WiFi (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.96	±9.6
0626	AAD	IEEE 802.11ac WiFi (80 MHz, MCS0, 90pc duty cycle)	WLAN	8.83	±9.6
0627	AAD	IEEE 802,11ac WiFi (80 MHz, MCS1, 90pc duty cycle)	WLAN	8.88	±9.6
0628	AAD	IEEE 802.11ac WiFi (80 MHz, MCS2, 90pc duty cycle)	WLAN	8.71	±9.6
0629	AAD	IEEE 802.11ac WiFi (80 MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±9.6
	AAD	IEEE 802.11ac WiFi (80 MHz, MCS3, 90pc duty cycle)	WLAN	8.72	±9.6
10630	AAD	IEEE 802.11ac WiFi (80 MHz, MCS4, 90pc duty cycle)	WLAN	8.81	±9.6
10631			WLAN	8.74	±9.6
10632	AAD	IEEE 802.11ac WiFi (80 MHz, MCS6, 90pc duty cycle)	WLAN	8.83	±9.6
10633	AAD	IEEE 802.11ac WiFi (80 MHz, MCS7, 90pc duty cycle)	WLAN	8.80	±9.6
10634	AAD	IEEE 802.11ac WiFi (80 MHz, MCS8, 90pc duty cycle)	WLAN	8.81	±9.6
10635	AAD	IEEE 802.11ac WiFi (80 MHz, MCS9, 90pc duty cycle)			
10636	AAE	IEEE 802.11ac WiFi (160 MHz, MCS0, 90pc duty cycle)	WLAN	8.83	±9.6
10637	AAE	IEEE 802.11ac WiFi (160 MHz, MCS1, 90pc duty cycle)	WLAN	8.79	±9.6
10638	AAE	IEEE 802.11ac WiFi (160 MHz, MCS2, 90pc duty cycle)	WLAN	8.86	±9.6
10639	AAE	IEEE 802.11ac WiFi (160 MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±9.6
10640	AAE	IEEE 802.11ac WiFi (160 MHz, MCS4, 90pc duty cycle)	WLAN	8.98	±9.6
10641	AAE	IEEE 802.11ac WiFi (160 MHz, MCS5, 90pc duty cycle)	WLAN	9.06	±9.6
10642	AAE	IEEE 802.11ac WiFi (160 MHz, MCS6, 90pc duty cycle)	WLAN	9.06	±9.6
10643	AAE	IEEE 802.11ac WiFi (160 MHz, MCS7, 90pc duty cycle)	WLAN	8.89	±9.6
	AAE	IEEE 802.11ac WiFi (160 MHz, MCS8, 90pc duty cycle)	WLAN	9.05	±9.6
10644		IEEE 802.11ac WiFi (160 MHz, MCS9, 90pc duty cycle)	WLAN	9.11	±9.6
10645	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	±9.6
10646	AAH		LTE-TOD	11,96	±9.6
10647	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2.7)	CDMA2000	3.45	±9.6
10648	AAA	CDMA2000 (1x Advanced)		6.91	±9.6
10652	AAF	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD		
10653	AAF	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	±9.6
10654	AAE	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	±9.6
10655	AAF	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	±9.6
10658	AAB	Pulse Waveform (200Hz, 10%)	Test	10.00	±9.6
10659		Pulse Waveform (200Hz, 20%)	Test	6.99	±9.6
10660		Pulse Waveform (200Hz, 40%)	Test	3.98	±9.6
10661	AAB	Pulse Waveform (200Hz, 60%)	Test	2.22	±9.
10662		Pulse Waveform (200Hz, 80%)	Test	0.97	±9.
10670		Bluetooth Low Energy	Bluetooth	2.19	±9.
10670	AAC	IEEE 802.11ax (20 MHz, MCS0, 90pc duty cycle)	WLAN	9.09	±9.
		IEEE 802.11ax (20 MHz, MCS1, 90pc duty cycle)	WLAN	8.57	±9.
10672			WLAN	8.78	±9.
10673		IEEE 802.11ax (20 MHz, MCS2, 90pc duty cycle)	WLAN	8.74	±9.
10674		IEEE 802.11ax (20 MHz, MCS3, 90pc duty cycle)	WLAN	8.90	±9.
10675	_				-
10676		IEEE 802.11ax (20 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.
10677	AAC	IEEE 802.11ax (20 MHz, MCS6, 90pc duty cycle)	WLAN	8.73	±9.
10678	AAC	IEEE 802.11ax (20 MHz, MCS7, 90pc duty cycle)	WLAN	8.78	±9.
10679	AAC	IEEE 802.11ax (20 MHz, MCS8, 90pc duty cycle)	WLAN	8.89	±9.
10680	_	IEEE 802.11ax (20 MHz, MCS9, 90pc duty cycle)	WLAN	8.80	±9.
10681		IEEE 802.11ax (20 MHz, MCS10, 90pc duty cycle)	WLAN	8.62	±9.
10682	1 1 1 1 1 1 1 1	IEEE 802.11ax (20 MHz, MCS11, 90pc duty cycle)	WLAN	8.83	±9.
10683	_	IEEE 802.11ax (20 MHz, MCS0, 99pc duty cycle)	WLAN	8.42	±9.
10684		IEEE 802.11ax (20 MHz, MCS1, 99pc duty cycle)	WLAN	8.26	±9.
	_	IEEE 802.11ax (20 MHz, MCS2, 99pc duty cycle)	WLAN	8.33	±9.
10685	MAG	IEEE 802.11ax (20 MHz, MCS3, 99pc duty cycle)	WLAN	8.28	±9.

Certificate No: EF-4060_May24

Page 16 of 21



EF3DV3 - SN:4060

May 23, 2024

UID	Rev	Communication System Name		(dB)	Unc ^E k =
0687	AAC	IEEE 802.11ax (20 MHz, MCS4, 99pc duty cycle)	WLAN 8	.45	±9.6
0688	AAC	IEEE 802.11ax (20 MHz, MCS5, 99pc duty cycle)	WLAN 8	.29	±9.6
0689	AAC	IEEE 802,11ax (20 MHz, MCS6, 99pc duty cycle)	WLAN 8	.55	±9.6
0690	AAC	IEEE 802.11ax (20 MHz, MCS7, 99pc duty cycle)	WLAN 8	.29	±9.6
0691	AAC	IEEE 802.11ax (20 MHz, MCS8, 99pc duty cycle)		.25	±9.6
0692	AAC	IEEE 802.11ax (20 MHz, MCS9, 99pc duty cycle)		.29	±9.6
				.25	±9.6
0693	AAC	IEEE 802.11ax (20 MHz, MCS10, 99pc duty cycle)		3.57	±9.6
0694	AAC	IEEE 802.11ax (20 MHz, MCS11, 99pc duty cycle)		3.78	±9.6
0695	AAC	IEEE 802.11ax (40 MHz, MCS0, 90pc duty cycle)		_	-
0696	AAC	IEEE 802.11ax (40 MHz, MCS1, 90pc duty cycle)		3.91	±9.6
0697	AAC	IEEE 802.11ax (40 MHz, MCS2, 90pc duty cycle)		3.61	±9.6
0698	AAC	IEEE 802.11ax (40 MHz, MCS3, 90pc duty cycle)		8.89	±9.6
10699	AAC	IEEE 802.11ax (40 MHz, MCS4, 90pc duty cycle)		3.82	±9.6
10700	AAC	IEEE 802.11ax (40 MHz, MCS5, 90pc duty cycle)	2.1300000	3.73	±9.6
10701	AAC	IEEE 802.11ax (40 MHz, MCS6, 90pc duty cycle)		3.86	±9.6
10702	AAC	IEEE 802.11ax (40 MHz, MCS7, 90pc duty cycle)		3.70	±9.6
10703	AAC	IEEE 802,11ax (40 MHz, MCS8, 90pc duty cycle)	WLAN 8	3.82	±9.6
10704	AAC	IEEE 802,11ax (40 MHz, MCS9, 90pc duty cycle)	WLAN 8	3.56	±9.6
10705	AAC	IEEE 802.11ax (40 MHz, MCS10, 90pc duty cycle)	WLAN 8	3.69	±9.6
10706	AAC	IEEE 802.11ax (40 MHz, MCS11, 90pc duty cycle)	WLAN 8	3.66	±9.6
10707	AAC	IEEE 802.11ax (40 MHz, MCS0, 99pc duty cycle)	WLAN 8	3.32	±9.6
10708	AAC	IEEE 802.11ax (40 MHz, MCS1, 99pc duty cycle)		3.55	±9.6
10709	AAC	IEEE 802.11ax (40 MHz, MCS2, 99pc duty cycle)		3.33	±9.6
_	AAC	IEEE 802.11ax (40 MHz, MCS3, 99pc duty cycle)		3.29	±9.6
10710				3.39	±9.6
10711	AAC	IEEE 802.11ax (40 MHz, MCS4, 99pc duty cycle)		3.67	±9.6
10712	AAC	IEEE 802.11ax (40 MHz, MCS5, 99pc duty cycle)		8.33	±9.6
10713	AAC	IEEE 802.11ax (40 MHz, MCS6, 99pc duty cycle)		8.26	±9.6
10714	AAC	IEEE 802.11ax (40 MHz, MCS7, 99pc duty cycle)		8.45	±9.6
10715	AAC	IEEE 802.11ax (40 MHz, MCS8, 99pc duty cycle)			
10716	AAC	IEEE 802.11ax (40 MHz, MCS9, 99pc duty cycle)	1,000	8.30	±9.6
10717	AAC	IEEE 802.11ax (40 MHz, MCS10, 99pc duty cycle)		8.48	±9.6
10718	AAC	IEEE 802.11ax (40 MHz, MCS11, 99pc duty cycle)		8.24	±9.6
10719	AAC	IEEE 802.11ax (80 MHz, MCS0, 90pc duty cycle)		8.81	±9.6
10720	AAC	IEEE 802.11ax (80 MHz, MCS1, 90pc duty cycle)	WLAN 8	8.87	±9.6
10721	AAC	IEEE 802.11ax (80 MHz, MCS2, 90pc duty cycle)	WLAN 8	8.76	±9.6
10722	AAC	IEEE 802,11ax (80 MHz, MCS3, 90pc duty cycle)	WLAN 8	8.55	±9.6
10723	AAC	IEEE 802.11ax (80 MHz, MCS4, 90pc duty cycle)	WLAN 8	8.70	±9.6
10724	AAC	IEEE 802.11ax (80 MHz, MCS5, 90pc duty cycle)	WLAN 8	8.90	±9.6
10725	AAC	IEEE 802.11ax (80 MHz, MCS6, 90pc duty cycle)	WLAN 8	8.74	±9.6
10726	AAC	IEEE 802.11ax (80 MHz, MCS7, 90pc duty cycle)	WLAN	8.72	±9.6
10727	AAC	IEEE 802.11ax (80 MHz, MCS8, 90pc duty cycle)		8.66	±9.6
	_			8.65	±9.6
10728	AAC	IEEE 802.11ax (80 MHz, MCS9, 90pc duty cycle)		8.64	±9.6
10729	AAC	IEEE 802.11ax (80 MHz, MCS10, 90pc duty cycle)		8.67	±9.6
10730	AAC	IEEE 802.11ax (80 MHz, MCS11, 90pc duty cycle)		8.42	±9.6
10731	AAC	IEEE 802.11ax (80 MHz, MCS0, 99pc duty cycle)		8.42	
10732	AAC	IEEE 802.11ax (80 MHz, MCS1, 99pc duty cycle)			±9.6
10733	_	IEEE 802.11ax (80 MHz, MCS2, 99pc duty cycle)		8.40	±9.6
10734		IEEE 802.11ax (80 MHz, MCS3, 99pc duty cycle)		8.25	±9.6
10735	AAC	IEEE 802.11ax (80 MHz, MCS4, 99pc duty cycle)		8.33	±9.6
10736	AAC	IEEE 802.11ax (80 MHz, MCS5, 99pc duty cycle)		8.27	±9.
10737	AAC	IEEE 802.11ax (80 MHz, MCS6, 99pc duty cycle)		8.36	±9.
10738	_	IEEE 802.11ax (80 MHz, MCS7, 99pc duty cycle)	WLAN	8.42	±9.
10739		IEEE 802.11ax (80 MHz, MCS8, 99pc duty cycle)	WLAN	8.29	±9.
10740		IEEE 802.11ax (80 MHz, MCS9, 99pc duty cycle)	WLAN	8.48	±9.
10741		IEEE 802.11ax (80 MHz, MCS10, 99pc duty cycle)		8.40	±9.
10741	-	IEEE 802.11ax (80 MHz, MCS11, 99pc duty cycle)		8.43	±9.
10742	_	IEEE 802.11ax (160 MHz, MCS11, 35pc duty cycle)		8.94	±9.
		IEEE 802.11ax (160 MHz, MCS1, 90pc duty cycle)		9.16	±9.
10744		IEEE 802.11ax (160 MHz, MCS1, 90pc duty cycle)		8.93	±9.
10745				9.11	±9.0
10746		IEEE 802.11ax (160 MHz, MCS3, 90pc duty cycle)		_	_
10747		IEEE 802.11ax (160 MHz, MCS4, 90pc duty cycle)		9.04	±9.
10748	_	IEEE 802.11ax (160 MHz, MCS5, 90pc duty cycle)		8.93	±9.
10749	_	IEEE 802.11ax (160 MHz, MCS6, 90pc duty cycle)		8.90	±9.
10750	AAC	IEEE 802.11ax (160 MHz, MCS7, 90pc duty cycle)		8.79	±9.
10751	AAC	IEEE 802.11ax (160 MHz, MCS8, 90pc duty cycle)		8.82	±9.
10752	AAC	IEEE 802.11ax (160 MHz, MCS9, 90pc duty cycle)	WLAN	8.81	±9.

Certificate No: EF-4060_May24

Page 17 of 21



UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^E k =
0753	AAC	IEEE 802.11ax (160 MHz, MCS10, 90pc duty cycle)	WLAN	9.00	±9.6
0754	AAC	IEEE 802.11ax (160 MHz, MCS11, 90pc duty cycle)	WLAN	8.94	±9.6
0755	AAC	IEEE 802.11ax (160 MHz, MCS0, 99pc duty cycle)	WLAN	8.64	±9.6
0756	AAC	IEEE 802.11ax (160 MHz, MCS1, 99pc duty cycle)	WLAN	8.77	±9.6
757	AAC	IEEE 802.11ax (160 MHz, MCS2, 99pc duty cycle)	WLAN	8.77	±9.6
758	AAC	IEEE 802.11ax (160 MHz, MCS3, 99pc duty cycle)	WLAN	8.69	±9.6
0759	AAC	IEEE 802.11ax (160 MHz, MCS4, 99pc duty cycle)	WLAN	8.58	±9.6
0760	AAC	IEEE 802,11ax (160 MHz, MCS5, 99pc duty cycle)	WLAN	8.49	±9.6
0761	AAC	IEEE 802.11ax (160 MHz, MCS6, 99pc duty cycle)	WLAN	8.58	±9.6
0762	AAC	IEEE 802.11ax (160 MHz, MCS7, 99pc duty cycle)	WLAN	8.49	±9.6
0763	AAC	IEEE 802.11ax (160 MHz, MCS8, 99pc duty cycle)	WLAN	8.53	±9.6
	AAC	IEEE 802.11ax (160 MHz, MCS9, 99pc duty cycle)	WLAN	8.54	±9.6
0764	1	IEEE 802.11ax (160 MHz, MCS10, 99pc duty cycle)	WLAN	8.54	±9.6
0765	AAC	The state of the s	WLAN	8.51	±9.6
0766	AAC	IEEE 802.11ax (160 MHz, MCS11, 99pc duty cycle)	5G NR FR1 TDD	7.99	±9.6
0767	AAG	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	±9.6
0768	AAE	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)			
0769	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	±9.6
0770	AAE	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
0771	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
0772	AAE	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.23	±9.6
0773	AAF	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.03	±9.6
0774	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
0775	AAF	5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	±9.6
0776	AAE	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	±9.6
0777	AAC	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	±9.6
10778	AAE	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.34	±9.6
10779	AAC	5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.42	±9.€
0780	AAE	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	±9.6
10781	AAF	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	±9.6
10782	AAE	5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.43	±9.6
		5G NR (CP-OFDM, 100% RB, 5MHz, QPSK, 15kHz)	5G NR FR1 TDD	8.31	±9.6
10783	AAG		5G NR FR1 TDD	8.29	±9.6
10784	AAE	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.40	±9.6
10785	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.35	±9.6
10786	AAE	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.44	±9.6
10787	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)			-
10788		5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	±9.6
10789	AAF	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.37	±9.6
10790	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	±9.6
10791	AAG	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.83	±9.6
10792	AAE	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.92	±9.6
10793	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.95	±9.6
10794	AAE	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	±9.6
10795	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.84	±9.6
10796		5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	±9.0
10797		5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.01	±9.6
10798		5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	±9.6
10799	_	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	±9.6
10801	AAF	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	±9.6
10801		5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.87	±9.
		5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	±9.
10803		5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.
10805		5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	±9.
10806			5G NR FR1 TDD	8.34	±9.
10809		5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)		8.34	±9.
10810		5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD		
10812	-	5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	±9.
10817	_		5G NR FR1 TDD	8.35	±9.
10818	_	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.
10819	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.33	±9.
10820	AAE	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.30	±9.
10821	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.
10822	AAE	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.
10823	_	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.36	±9.
10824	-	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.39	±9.
10825	_	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.
10827		5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.42	±9.
. OOL	AAE	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.43	±9.

Certificate No: EF-4060_May24

Page 18 of 21