



SAR EVALUATION REPORT

Applicant Name:
 Samsung Electronics Co., Ltd.
 129, Samsung-ro, Maetan dong,
 Yeongtong-gu, Suwon-si
 Gyeonggi-do, 16677, Korea

Date of Testing:
 03/24/20 – 04/08/20
Test Site/Location:
 PCTEST, Columbia, MD, USA
Document Serial No.:
 1M2003230050-01.A3L

FCC ID: A3LSMN976U


APPLICANT: SAMSUNG ELECTRONICS CO., LTD.

DUT Type: Portable Handset
Application Type: Class II Permissive Change
FCC Rule Part(s): CFR §2.1093
Model: SM-N976U
Permissive Change(s): Adding DFT-s-OFDM $\pi/2$ BPSK Modulation to NR FR1
Date of Original Certification 11/15/2019

Note: Please refer to RF Exposure Technical Report S/N: 1M1909040147-01.A3L and 1M1911080182-01.A3L for original compliance evaluation.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.4 of this report; for North American frequency bands only.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.



Randy Ortanez
 President



The SAR Tick is an initiative of the Mobile & Wireless Forum (MWF). While a product may be considered eligible, use of the SAR Tick logo requires an agreement with the MWF. Further details can be obtained by emailing: sartick@mwfai.info.





FCC ID: A3LSMN976U		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 1 of 30	

TABLE OF CONTENTS




1	DEVICE UNDER TEST	3
2	NR FR1 INFORMATION	5
3	RF CONDUCTED POWERS	6
4	EQUIPMENT LIST	28
5	REFERENCES	29

FCC ID: A3LSMN976U	 PCTEST <small>Proud to be part of element</small>	SAR EVALUATION REPORT	 Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 2 of 30

1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
NR Band n71	Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 14	Voice/Data	790.5 - 795.5 MHz
LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
NR Band n5 (Cell)	Data	826.5 - 846.5 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
NR Band n41	Data	2506.02 - 2679.99 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2462 MHz
U-NII-1	Voice/Data	5180 - 5240 MHz
U-NII-2A	Voice/Data	5260 - 5320 MHz
U-NII-2C	Voice/Data	5500 - 5720 MHz
U-NII-3	Voice/Data	5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
ANT+	Data	2402 - 2480 MHz
MST	Data	555 Hz - 8.33 kHz

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset		Page 3 of 30

1.2 Nominal and Maximum Output Power Specifications

This device operates using the following maximum and nominal output power specifications. See RF Exposure Technical Report S/N 1M1909040147-01.A3L and 1M1911080182-01.A3L for complete maximum and nominal output power specifications.

1.2.1 5G Output Power

Mode / Band		Modulated Average Output Power (in dBm)	
		Max	RCV Active
NR FDD Band n71	Max allowed power	25.8	25.8
	Nominal	24.8	24.8
NR FDD Band n5	Max allowed power	25.8	25.8
	Nominal	24.8	24.8
NR TDD Band n41	Max allowed power	25.0	21.0
	Nominal	24.0	20.0




1.3 Miscellaneous SAR Test Considerations

NR implementation of n71, n5, and n41 is limited to EN-DC operations only, with LTE Band 66, LTE Band 2, or LTE Band 30 acting as the anchor band. See RF Exposure Technical Report S/N 1M1909040147-01.A3L and 1M1911080182-01.A3L for SAR compliance evaluation.

Note: SAR testing for DFT-s-OFDM $\pi/2$ BPSK was not performed since its maximum output power is same as DFT-s-OFDM QPSK and DFT-s-OFDM QPSK was evaluated for RF Exposure Compliance. Therefore, the SAR data in the original compliance evaluation demonstrate a conservative evaluation for this device. Please see RF Exposure Technical Report S/N 1M1909040147-01.A3L and 1M1911080182-01.A3L for complete evaluation.




1.4 Guidance Applied

- FCC KDB Publication 941225 D05v02r04, D05Av01r02
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)

FCC ID: A3LSMN976U	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 4 of 30	

2 NR FR1 INFORMATION

NR Information					
Form Factor	Portable Handset				
Frequency Range of each NR transmission band	NR Band n71 (665.5 MHz - 695.5 MHz)				
	NR Band n5 (Cell) (826.5 MHz - 846.5 MHz)				
	NR Band n41: (2506.02 MHz - 2679.99 MHz)				
Channel Bandwidths	NR Band n71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n5 (Cell): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n41: 20 MHz, 40 MHz, 50MHz, 60 MHz, 80 MHz, 90 MHz, 100 MHz				
NR Band n71: 5 MHz	665.5 (133100)		680.5 (136100)		695.5 (139100)
NR Band n71: 10 MHz	668 (133600)		680.5 (136100)		693 (138600)
NR Band n71: 15 MHz	670.5 (134100)		680.5 (136100)		690.5 (138100)
NR Band n71: 20 MHz	673 (134600)		680.5 (136100)		688 (137600)
NR Band n5 (Cell): 5 MHz	826.5 (165300)		836.5 (167300)		846.5 (169300)
NR Band n5 (Cell): 10 MHz	829 (165800)		836.5 (167300)		844 (168800)
NR Band n5 (Cell): 15 MHz	831.5 (166300)		836.5 (167300)		841.5 (168300)
NR Band n5 (Cell): 20 MHz	834 (166800)		836.5 (167300)		839 (167800)
NR Band n41: 20 MHz	2506.02 (501204)	2549.49 (509898)	2592.99 (518598)	2636.49 (527298)	2679.99 (535998)
NR Band n41: 40 MHz	2516.01 (503202)	2657.34 (513468)	N/A	2618.67 (523734)	2670 (534000)
NR Band n41: 50 MHz	2521.02 (504204)		2592.99 (518598)	2664.99 (532998)	
NR Band n41: 60 MHz	2526 (505200)		2592.99 (518598)	2659.98 (531996)	
NR Band n41: 80 MHz	2536.02 (507204)		N/A	2649.99 (529998)	
NR Band n41: 90 MHz	2541 (508200)		N/A	2644.98 (528996)	
NR Band n41: 100 MHz	N/A		2592.99 (518598)	N/A	
NR Band n71 SCS	15 kHz				
NR Band n5 SCS	15 kHz				
NR Band n41 SCS	30 kHz				
Modulations Supported in UL	DFT-s-OFDM: $\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
EN-DC Carrier Aggregation Possible Combinations	Please see the technical description included with the original filing for the possible carrier aggregation combinations.				
LTE Anchor Bands for NR Band n71	LTE Band 66, LTE Band 2				
LTE Anchor Bands for NR Band n5	LTE Band 66, LTE Band 2, LTE Band 30				
LTE Anchor Bands for NR Band n41	LTE Band 66, LTE Band 2				

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 5 of 30	

3 RF CONDUCTED POWERS



3.1 NR Conducted Powers

3.1.1 NR Band n71

**Table 3-1
NR Band n71 Maximum Conducted Powers - 20 MHz Bandwidth**

NR Band n71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			136100 (680.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.57	0	0
	1	53	24.37		0
	1	104	24.48		0
	50	0	23.89	0-0.5	0.5
	50	28	24.32	0	0
	50	56	23.81	0-0.5	0.5
	100	0	23.82		0.5
DFT-s-OFDM QPSK	1	1	24.72	0	0
	1	53	24.53		0
	1	104	24.40		0
	50	0	23.57	0-1	1
	50	28	24.36	0	0
	50	56	23.53	0-1	1
	100	0	23.47		1
DFT-s-OFDM 16QAM	1	1	23.96	0-1	1
CP-OFDM QPSK	1	1	23.20	0-1.5	1.5




Note: NR Band n71 at 20 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset		Page 6 of 30

**Table 3-2
NR Band n71 Maximum Conducted Powers - 15 MHz Bandwidth**




NR Band n71 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			136100 (680.5 MHz)		
			Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.54	0	0
	1	40	24.36		0
	1	77	24.43		0
	36	0	23.93	0-0.5	0.5
	36	22	24.35	0	0
	36	43	23.83	0-0.5	0.5
	75	0	23.86		0.5
DFT-s-OFDM QPSK	1	1	24.67	0	0
	1	40	24.54		0
	1	77	24.54		0
	36	0	23.52	0-1	1
	36	22	24.35	0	0
	36	43	23.41	0-1	1
	75	0	23.45		1
DFT-s-OFDM 16QAM	1	1	23.91	0-1	1
CP-OFDM QPSK	1	1	23.10	0-1.5	1.5

Note: NR Band n71 at 15 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 7 of 30	




**Table 3-3
NR Band n71 Maximum Conducted Powers - 10 MHz Bandwidth**

NR Band n71 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	133600 (668 MHz)	136100 (680.5 MHz)	138600 (693 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.75	24.50	24.72	0	0
	1	26	24.77	24.46	24.77		0
	1	50	24.57	24.38	24.58		0
	25	0	24.14	23.84	24.10	0-0.5	0.5
	25	14	24.56	24.39	24.46	0	0
	25	27	24.03	23.82	24.01	0-0.5	0.5
50	0	24.13	23.89	24.02	0.5		
DFT-s-OFDM QPSK	1	1	24.78	24.69	24.67	0	0
	1	26	24.63	24.71	24.69		0
	1	50	24.52	24.46	24.68		0
	25	0	23.69	23.54	23.62	0-1	1
	25	14	24.55	24.45	24.52	0	0
	25	27	23.65	23.40	23.63	0-1	1
	50	0	23.69	23.49	23.66		1
DFT-s-OFDM 16QAM	1	1	23.68	23.87	23.63	0-1	1
CP-OFDM QPSK	1	1	23.12	23.05	23.21	0-1.5	1.5

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 8 of 30	

**Table 3-4
NR Band n71 Maximum Conducted Powers - 5 MHz Bandwidth**

NR Band n71 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			133100 (665.5 MHz)	136100 (680.5 MHz)	139100 (695.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.69	24.57	24.67	0	0
	1	13	24.75	24.44	24.63		0
	1	23	24.64	24.48	24.51		0
	12	0	24.11	23.93	23.97	0-0.5	0.5
	12	7	24.61	24.33	24.53	0	0
	12	13	23.93	23.87	24.04	0-0.5	0.5
	25	0	24.05	23.84	23.96		0.5
DFT-s-OFDM QPSK	1	1	24.67	24.44	24.67	0	0
	1	13	24.72	24.49	24.53		0
	1	23	24.69	24.41	24.50		0
	12	0	23.74	23.54	23.61	0-1	1
	12	7	24.57	24.36	24.50	0	0
	12	13	23.69	23.41	23.53	0-1	1
	25	0	23.62	23.45	23.54		1
DFT-s-OFDM 16QAM	1	1	23.70	23.54	23.59	0-1	1
CP-OFDM QPSK	1	1	23.35	23.14	23.25	0-1.5	1.5

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 9 of 30	




3.1.2

NR Band n5 (Cell)

**Table 3-5
NR Band n5 (Cell) Maximum Conducted Powers - 20 MHz Bandwidth**

NR Band n5 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.81	0	0
	1	53	24.95		0
	1	104	24.95		0
	50	0	24.24	0-0.5	0.5
	50	28	24.86	0	0
	50	56	24.35	0-0.5	0.5
	100	0	24.50		0.5
DFT-s-OFDM QPSK	1	1	24.80	0	0
	1	53	24.77		0
	1	104	24.82		0
	50	0	23.76	0-1	1
	50	28	24.89	0	0
	50	56	23.82	0-1	1
	100	0	23.90		1
DFT-s-OFDM 16QAM	1	1	23.96	0-1	1
CP-OFDM QPSK	1	1	23.38	0-1.5	1.5




Note: NR Band n5 (Cell) at 20 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

FCC ID: A3LSMN976U	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 10 of 30	

**Table 3-6
NR Band n5 (Cell) Maximum Conducted Powers - 15 MHz Bandwidth**

NR Band n5 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			167300 (836.5 MHz)		
			Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.90	0	0
	1	40	24.96		0
	1	77	25.02		0
	36	0	24.46	0-0.5	0.5
	36	22	24.89	0	0
	36	43	24.39	0-0.5	0.5
	75	0	24.47		0.5
DFT-s-OFDM QPSK	1	1	24.82	0	0
	1	40	24.72		0
	1	77	24.83		0
	36	0	23.87	0-1	1
	36	22	24.82	0	0
	36	43	23.78	0-1	1
	75	0	23.91		1
DFT-s-OFDM 16QAM	1	1	23.85	0-1	1
CP-OFDM QPSK	1	1	23.37	0-1.5	1.5




Note: NR Band n5 (Cell) at 15 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset		Page 11 of 30

**Table 3-7
NR Band n5 (Cell) Maximum Conducted Powers - 10 MHz Bandwidth**




NR Band n5 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			167300 (836.5 MHz)		
			Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.88	0	0
	1	26	24.97		0
	1	50	24.85		0
	25	0	24.32	0-0.5	0.5
	25	14	24.84	0	0
	25	27	24.32	0-0.5	0.5
	50	0	24.48		0.5
DFT-s-OFDM QPSK	1	1	24.85	0	0
	1	26	24.92		0
	1	50	24.78		0
	25	0	23.79	0-1	1
	25	14	24.87	0	0
	25	27	23.87	0-1	1
	50	0	23.86		1
DFT-s-OFDM 16QAM	1	1	23.88	0-1	1
CP-OFDM QPSK	1	1	23.47	0-1.5	1.5

Note: NR Band n5 (Cell) at 10 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset		Page 12 of 30

**Table 3-8
NR Band n5 (Cell) Maximum Conducted Powers - 5 MHz Bandwidth**

NR Band n5 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			165300 (826.5 MHz)	167300 (836.5 MHz)	169300 (846.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.74	24.87	24.82	0	0
	1	13	24.67	24.73	24.92		0
	1	23	24.63	24.95	24.84		0
	12	0	24.25	24.45	24.61	0-0.5	0.5
	12	7	24.63	24.85	24.86	0	0
	12	13	24.21	24.47	24.49	0-0.5	0.5
	25	0	24.16	24.43	24.48		0.5
DFT-s-OFDM QPSK	1	1	24.64	24.86	24.82	0	0
	1	13	24.57	24.80	24.81		0
	1	23	24.54	24.79	24.84		0
	12	0	23.69	23.84	23.83	0-1	1
	12	7	24.68	24.91	24.85	0	0
	12	13	23.62	23.83	23.92	0-1	1
	25	0	23.56	23.86	23.87		1
DFT-s-OFDM 16QAM	1	1	23.72	23.92	23.89	0-1	1
CP-OFDM QPSK	1	1	23.28	23.36	23.41	0-1.5	1.5

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 13 of 30	




3.1.3

NR Band n41

**Table 3-9
NR Band n41 Maximum Conducted Powers - 100 MHz Bandwidth**




NR Band n41 100 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.31	0	0
	1	137	24.45		0
	1	271	24.15		0
	135	0	23.79	0-0.5	0.5
	135	69	24.23	0	0
	135	138	23.49	0-0.5	0.5
	270	0	23.72		0.5
DFT-s-OFDM QPSK	1	1	24.39	0	0
	1	137	24.21		0
	1	271	24.12		0
	135	0	23.43	0-1	1
	135	69	24.20	0	0
	135	138	23.17	0-1	1
	270	0	23.27		1
DFT-s-OFDM 16QAM	1	1	23.55	0-1	1
CP-OFDM QPSK	1	1	23.23	0-1.5	1.5

Note: NR Band n41 at 100 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 14 of 30	




**Table 3-10
NR Band n41 Maximum Conducted Powers - 90 MHz Bandwidth**

NR Band n41 90 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			508200 (2541 MHz)	528996 (2644.98 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.11	24.17	0	0
	1	123	23.95	23.91		0
	1	243	24.02	24.00		0
	120	0	23.38	23.32	0-0.5	0.5
	120	63	23.67	23.84	0	0
	120	125	23.27	23.20	0-0.5	0.5
	243	0	23.23	23.21		0.5
DFT-s-OFDM QPSK	1	1	24.12	24.15	0	0
	1	123	24.12	24.12		0
	1	243	23.72	23.74		0
	120	0	23.19	23.28	0-1	1
	120	63	23.74	23.81	0	0
	120	125	23.25	23.38	0-1	1
	243	0	23.16	23.45		1
DFT-s-OFDM 16QAM	1	1	23.65	23.67	0-1	1
CP-OFDM QPSK	1	1	22.80	22.90	0-1.5	1.5

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset		Page 15 of 30




**Table 3-11
NR Band n41 Maximum Conducted Powers - 80 MHz Bandwidth**

NR Band n41 80 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			507204 (2536.02 MHz)	529998 (2649.99 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.17	24.15	0	0
	1	109	23.65	23.77		0
	1	215	23.80	23.92		0
	108	0	23.21	23.22	0-0.5	0.5
	108	55	23.66	23.66	0	0
	108	109	23.14	23.19	0-0.5	0.5
	216	0	23.35	23.15		0.5
DFT-s-OFDM QPSK	1	1	24.33	24.15	0	0
	1	109	24.03	24.02		0
	1	215	24.12	23.96		0
	108	0	23.18	23.27	0-1	1
	108	55	23.84	23.77	0	0
	108	109	23.51	23.33	0-1	1
	216	0	23.04	23.23		1
DFT-s-OFDM 16QAM	1	1	23.62	23.60	0-1	1
CP-OFDM QPSK	1	1	22.76	22.82	0-1.5	1.5

FCC ID: A3LSMN976U	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset		Page 16 of 30




**Table 3-12
NR Band n41 Maximum Conducted Powers - 60 MHz Bandwidth**

NR Band n41 60 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			505200 (2526 MHz)	518598 (2592.99 MHz)	531996 (2659.98 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.15	24.06	24.03	0	0
	1	81	24.00	24.04	23.98		0
	1	160	23.96	23.92	24.03		0
	81	0	23.31	23.32	23.31	0-0.5	0.5
	81	41	23.72	23.84	23.78	0	0
	81	81	23.13	23.14	23.24	0-0.5	0.5
	162	0	23.08	23.10	23.14		0.5
DFT-s-OFDM QPSK	1	1	24.35	24.22	24.11	0	0
	1	81	24.13	24.11	24.09		0
	1	160	23.95	23.97	24.06		0
	81	0	23.49	23.40	23.41	0-1	1
	81	41	23.67	23.75	23.79	0	0
	81	81	23.22	23.24	23.28	0-1	1
	162	0	23.35	23.38	23.47		1
DFT-s-OFDM 16QAM	1	1	23.50	23.58	23.59	0-1	1
CP-OFDM QPSK	1	1	22.82	22.64	22.72	0-1.5	1.5

FCC ID: A3LSMN976U	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 17 of 30	




**Table 3-13
NR Band n41 Maximum Conducted Powers - 50 MHz Bandwidth**

NR Band n41 50 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			504204 (2521.02 MHz)	518598 (2592.99 MHz)	532998 (2664.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.23	24.18	24.27	0	0
	1	67	24.01	24.02	23.98		0
	1	131	23.89	23.96	23.90		0
	64	0	23.37	23.33	23.27	0-0.5	0.5
	64	35	24.07	24.16	24.06	0	0
	64	69	23.12	23.30	23.25	0-0.5	0.5
	128	0	23.26	23.25	23.22		0.5
DFT-s-OFDM QPSK	1	1	24.38	24.36	24.40	0	0
	1	67	24.13	24.06	24.12		0
	1	131	24.14	24.09	24.00		0
	64	0	23.46	23.42	23.33	0-1	1
	64	35	23.85	23.77	23.72	0	0
	64	69	23.30	23.31	23.31	0-1	1
	128	0	23.30	23.26	23.32		1
DFT-s-OFDM 16QAM	1	1	23.55	23.50	23.60	0-1	1
CP-OFDM QPSK	1	1	22.37	22.37	22.43	0-1.5	1.5

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 18 of 30	




**Table 3-14
NR Band n41 Maximum Conducted Powers - 40 MHz Bandwidth**

NR Band n41 40 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR Allowed per 3GPP [dB]
			503202 (2516.01 MHz)	513468 (2567.34 MHz)	523734 (2618.67 MHz)	534000 (2670 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.57	24.61	24.62	24.45	0	0
	1	53	24.67	24.61	24.52	24.63		0
	1	104	24.40	24.65	24.68	24.51		0
	50	0	23.78	23.94	23.77	23.77	0-0.5	0.5
	50	28	24.57	24.67	24.63	24.56	0	0
	50	56	23.49	23.62	23.50	23.48	0-0.5	0.5
	100	0	23.25	23.68	23.51	23.57		0.5
DFT-s-OFDM QPSK	1	1	24.60	24.71	24.88	24.85	0	0
	1	53	24.73	24.80	24.74	24.71		0
	1	104	24.45	24.80	24.72	24.40		0
	50	0	23.40	23.53	23.40	23.31	0-1	1
	50	28	24.47	24.31	24.14	24.12	0	0
	50	56	23.54	23.68	23.61	23.16	0-1	1
	100	0	23.26	23.43	23.28	23.32		1
DFT-s-OFDM 16QAM	1	1	23.33	23.43	23.36	23.55	0-1	1
CP-OFDM QPSK	1	1	23.01	23.04	22.92	23.34	0-1.5	1.5

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset		Page 19 of 30

**Table 3-15
NR Band n41 Maximum Conducted Powers - 20 MHz Bandwidth**




NR Band n41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			501204 (2506.02 MHz)	509898 (2549.49 MHz)	518598 (2592.99 MHz)	527298 (2636.49 MHz)	535998 (2679.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.63	24.57	24.75	24.54	24.54	0	0
	1	26	24.61	24.49	24.65	24.48	24.52		0
	1	49	24.91	24.52	24.82	24.82	24.77		0
	25	0	23.49	23.42	23.37	23.43	23.43	0-0.5	0.5
	25	13	24.24	24.13	24.09	24.17	24.14	0	0
	25	26	23.66	23.59	23.34	23.35	23.39	0-0.5	0.5
	50	0	23.70	23.62	23.64	23.69	23.67		0.5
DFT-s-OFDM QPSK	1	1	24.39	24.22	24.33	24.25	24.25	0	0
	1	26	23.91	23.81	23.89	23.85	23.84		0
	1	49	24.11	24.06	24.25	24.16	24.09		0
	25	0	23.24	23.21	23.13	23.14	23.13	0-1	1
	25	13	24.27	24.14	24.07	24.17	24.28	0	0
	25	26	23.22	23.09	23.23	23.20	23.20	0-1	1
	50	0	23.35	23.15	23.29	23.24	23.20		1
DFT-s-OFDM 16QAM	1	1	23.45	23.46	23.37	23.35	23.45	0-1	1
CP-OFDM QPSK	1	1	22.47	22.44	22.47	22.40	22.50	0-1.5	1.5

FCC ID: A3LSMN976U	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 20 of 30	

**Table 3-16
NR Band n41 Conducted Powers - 100 MHz Bandwidth - Receiver Mode Active**




NR Band n41 100 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	20.38	0	0
	1	137	20.43		0
	1	271	20.16		0
	135	0	20.49	0-0.5	0
	135	69	20.33	0	0
	135	138	20.09	0-0.5	0
	270	0	20.30		0
DFT-s-OFDM QPSK	1	1	20.45	0	0
	1	137	20.20		0
	1	271	20.14		0
	135	0	20.45	0-1	0
	135	69	20.20	0	0
	135	138	20.08	0-1	0
	270	0	20.21		0
DFT-s-OFDM 16QAM	1	1	20.68	0-1	0
CP-OFDM QPSK	1	1	20.82	0-1.5	0

Note: NR Band n41 at 100 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

FCC ID: A3LSMN976U	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset		Page 21 of 30




**Table 3-17
NR Band n41 Conducted Powers - 90 MHz Bandwidth - Receiver Mode Active**

NR Band n41 90 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			508200 (2541 MHz)	528996 (2644.98 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	20.19	20.09	0	0
	1	123	19.91	19.96		0
	1	243	19.68	19.90		0
	120	0	19.85	19.83	0-0.5	0
	120	63	19.84	19.91	0	0
	120	125	19.74	19.83	0-0.5	0
	243	0	19.82	19.91		0
DFT-s-OFDM QPSK	1	1	20.20	20.20	0	0
	1	123	19.94	20.05		0
	1	243	19.80	19.98		0
	120	0	19.95	19.94	0-1	0
	120	63	19.77	19.84	0	0
	120	125	19.81	20.12	0-1	0
	243	0	19.81	19.96		0
DFT-s-OFDM 16QAM	1	1	20.65	20.66	0-1	0
CP-OFDM QPSK	1	1	20.01	19.89	0-1.5	0

FCC ID: A3LSMN976U	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset		Page 22 of 30

**Table 3-18
NR Band n41 Conducted Powers - 80 MHz Bandwidth - Receiver Mode Active**

NR Band n41 80 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			507204 (2536.02 MHz)	529998 (2649.99 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	20.32	20.57	0	0
	1	109	19.92	20.15		0
	1	215	19.94	20.02		0
	108	0	20.08	20.08	0-0.5	0
	108	55	19.89	19.92	0	0
	108	109	19.83	19.96	0-0.5	0
	216	0	19.94	20.03		0
DFT-s-OFDM QPSK	1	1	20.37	20.23	0	0
	1	109	19.93	19.92		0
	1	215	20.01	19.91		0
	108	0	20.05	19.95	0-1	0
	108	55	19.85	19.94	0	0
	108	109	19.96	19.99	0-1	0
	216	0	19.88	20.05		0
DFT-s-OFDM 16QAM	1	1	20.24	20.14	0-1	0
CP-OFDM QPSK	1	1	20.66	20.56	0-1.5	0

FCC ID: A3LSMN976U	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset		Page 23 of 30

**Table 3-19
NR Band n41 Conducted Powers - 60 MHz Bandwidth - Receiver Mode Active**

NR Band n41 60 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			505200 (2526 MHz)	518598 (2592.99 MHz)	531996 (2659.98 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	20.60	20.53	20.11	0	0
	1	81	20.73	20.64	20.12		0
	1	160	19.87	19.79	19.85		0
	81	0	20.20	20.12	19.91	0-0.5	0
	81	41	19.96	19.95	19.89	0	0
	81	81	19.98	19.93	20.07	0-0.5	0
	162	0	19.99	20.04	19.93		0
DFT-s-OFDM QPSK	1	1	20.22	20.03	20.38	0	0
	1	81	20.06	19.80	20.49		0
	1	160	19.88	19.83	19.68		0
	81	0	20.17	20.09	20.04	0-1	0
	81	41	19.88	19.92	19.93	0	0
	81	81	20.02	19.97	20.02	0-1	0
	162	0	20.00	19.91	20.12		0
DFT-s-OFDM 16QAM	1	1	20.81	20.74	20.13	0-1	0
CP-OFDM QPSK	1	1	20.34	20.25	19.77	0-1.5	0




FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 24 of 30	

Table 3-20
NR Band n41 Conducted Powers - 50 MHz Bandwidth - Receiver Mode Active

NR Band n41 50 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			504204 (2521.02 MHz)	518598 (2592.99 MHz)	532998 (2664.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	20.59	20.50	20.56	0	0
	1	67	20.26	20.14	20.20		0
	1	131	20.08	19.87	19.88		0
	64	0	20.00	19.89	20.08	0-0.5	0
	64	35	20.05	20.03	20.00	0	0
	64	69	19.97	19.98	19.95	0-0.5	0
128	0	19.96	19.93	19.93	0		
DFT-s-OFDM QPSK	1	1	20.07	20.06	20.40	0	0
	1	67	20.27	20.17	20.28		0
	1	131	20.07	19.94	20.37		0
	64	0	20.00	19.93	20.14	0-1	0
	64	35	20.02	19.98	20.13	0	0
	64	69	19.91	19.83	19.99	0-1	0
128	0	19.97	19.85	20.00	0		
DFT-s-OFDM 16QAM	1	1	20.89	20.79	20.82	0-1	0
CP-OFDM QPSK	1	1	20.31	20.31	20.47	0-1.5	0




FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 25 of 30	

Table 3-21
NR Band n41 Conducted Powers - 40 MHz Bandwidth - Receiver Mode Active

NR Band n41 40 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR Allowed per 3GPP [dB]
			503202 (2516.01 MHz)	513468 (2567.34 MHz)	523734 (2618.67 MHz)	534000 (2670 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	20.76	20.68	20.60	20.57	0	0
	1	53	20.75	20.45	20.33	20.54		0
	1	104	20.42	20.48	20.43	20.42		0
	50	0	20.68	20.60	20.47	20.55	0-0.5	0
	50	28	20.56	20.47	20.30	20.40	0	0
	50	56	20.45	20.45	20.34	20.20	0-0.5	0
	100	0	20.46	20.39	20.20	20.32		0
DFT-s-OFDM QPSK	1	1	20.77	20.70	20.63	20.58	0	0
	1	53	20.40	20.35	20.09	20.41		0
	1	104	20.31	20.51	20.40	20.49		0
	50	0	20.51	20.41	20.24	20.41	0-1	0
	50	28	20.23	20.19	20.14	20.13	0	0
	50	56	20.31	20.25	20.21	20.22	0-1	0
	100	0	20.40	20.36	20.29	20.37		0
DFT-s-OFDM 16QAM	1	1	20.99	20.91	20.88	20.87	0-1	0
CP-OFDM QPSK	1	1	20.84	20.82	20.80	20.62	0-1.5	0




FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 26 of 30	

Table 3-22
NR Band n41 Conducted Powers - 20 MHz Bandwidth - Receiver Mode Active

NR Band n41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			501204 (2506.02 MHz)	509898 (2549.49 MHz)	518598 (2592.99 MHz)	527298 (2636.49 MHz)	535998 (2679.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	20.86	20.87	20.52	20.63	20.89	0	0
	1	26	20.61	20.43	20.43	20.36	20.50		0
	1	49	20.30	20.62	20.34	20.49	20.29		0
	25	0	20.17	20.32	20.05	20.18	20.11	0-0.5	0
	25	13	20.20	20.13	20.07	20.07	20.19	0	0
	25	26	20.14	20.54	20.18	20.51	20.22	0-0.5	0
50	0	20.20	20.19	20.26	20.18	20.20	0		
DFT-s-OFDM QPSK	1	1	21.00	20.54	20.94	20.46	20.99	0	0
	1	26	20.11	20.33	20.37	20.22	20.07		0
	1	49	20.81	20.17	20.84	20.12	20.75		0
	25	0	20.13	20.33	20.35	20.23	20.03	0-1	0
	25	13	20.18	20.27	20.42	20.17	20.15	0	0
	25	26	20.07	20.21	20.12	20.26	20.05	0-1	0
50	0	20.25	20.05	20.11	19.99	20.11	0		
DFT-s-OFDM 16QAM	1	1	20.59	20.76	20.53	20.55	20.57	0-1	0
CP-OFDM QPSK	1	1	20.34	20.44	20.17	20.03	20.22	0-1.5	0

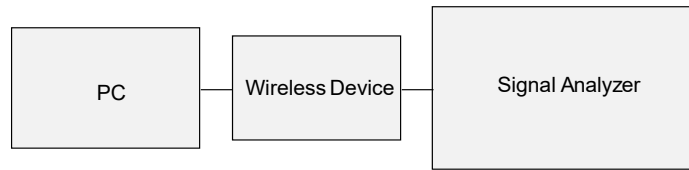





Figure 3-1
Power Measurement Setup

FCC ID: A3LSMN976U	 <small>Proud to be part of element</small>	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 27 of 30	

4 EQUIPMENT LIST




Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	N9020A	MXA Signal Analyzer	4/20/2019	Annual	4/20/2020	US46470561
Pasternack	NC-100	Torque Wrench	5/23/2018	Biennial	5/23/2020	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406

Note: 1) CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.



FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 28 of 30	

5 REFERENCES

- [1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Aug. 1996.
- [2] ANSI/IEEE C95.1-2005, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, 2006.
- [3] ANSI/IEEE C95.1-1992, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, Sept. 1992.
- [4] ANSI/IEEE C95.3-2002, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, New York: IEEE, December 2002.
- [5] IEEE Standards Coordinating Committee 39 –Standards Coordinating Committee 34 – IEEE Std. 1528-2013, IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.
- [6] NCRP, National Council on Radiation Protection and Measurements, Biological Effects and Exposure Criteria for RadioFrequency Electromagnetic Fields, NCRP Report No. 86, 1986. Reprinted Feb. 1995.
- [7] T. Schmid, O. Egger, N. Kuster, Automated E-field scanning system for dosimetric assessments, IEEE Transaction on Microwave Theory and Techniques, vol. 44, Jan. 1996, pp. 105-113.
- [8] K. Pokovic, T. Schmid, N. Kuster, Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies, ICECOM97, Oct. 1997, pp. 1 -124.
- [9] K. Pokovic, T. Schmid, and N. Kuster, E-field Probe with improved isotropy in brain simulating liquids, Proceedings of the ELMAR, Zadar, Croatia, June 23-25, 1996, pp. 172-175.
- [10] Schmid & Partner Engineering AG, Application Note: Data Storage and Evaluation, June 1998, p2.
- [11] V. Hombach, K. Meier, M. Burkhardt, E. Kuhn, N. Kuster, The Dependence of EM Energy Absorption upon Human Modeling at 900 MHz, IEEE Transaction on Microwave Theory and Techniques, vol. 44 no. 10, Oct. 1996, pp. 1865-1873.
- [12] N. Kuster and Q. Balzano, Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300MHz, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.
- [13] G. Hartsgrove, A. Kraszewski, A. Surowiec, Simulated Biological Materials for Electromagnetic Radiation Absorption Studies, University of Ottawa, Bioelectromagnetics, Canada: 1987, pp. 29-36.
- [14] Q. Balzano, O. Garay, T. Manning Jr., Electromagnetic Energy Exposure of Simulated Users of Portable Cellular Telephones, IEEE Transactions on Vehicular Technology, vol. 44, no.3, Aug. 1995.
- [15] W. Gander, Computermathematick, Birkhaeuser, Basel, 1992.
- [16] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second edition, Cambridge University Press, 1992.
- [17] N. Kuster, R. Kastle, T. Schmid, Dosimetric evaluation of mobile communications equipment with known precision, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.

FCC ID: A3LSMN976U	 PCTEST Proud to be part of  element	SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset	Page 29 of 30	

- [18] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), Human Exposure to Electromagnetic Fields High-frequency: 10kHz-300GHz, Jan. 1995.
- [19] Prof. Dr. Niels Kuster, ETH, Eidgenössische Technische Hochschule Zürich, Dosimetric Evaluation of the Cellular Phone.
- [20] IEC 62209-1, Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1: Devices used next to the ear (Frequency range of 300 MHz to 6 GHz), July 2016.
- [21] Innovation, Science, Economic Development Canada RSS-102 Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) Issue 5, March 2015.
- [22] Health Canada Safety Code 6 Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz – 300 GHz, 2015
- [23] FCC SAR Test Procedures for 2G-3G Devices, Mobile Hotspot and UMPC Devices KDB Publications 941225, D01-D07
- [24] SAR Measurement Guidance for IEEE 802.11 Transmitters, KDB Publication 248227 D01
- [25] FCC SAR Considerations for Handsets with Multiple Transmitters and Antennas, KDB Publications 648474 D03-D04
- [26] FCC SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers, FCC KDB Publication 616217 D04
- [27] FCC SAR Measurement and Reporting Requirements for 100MHz – 6 GHz, KDB Publications 865664 D01-D02
- [28] FCC General RF Exposure Guidance and SAR Procedures for Dongles, KDB Publication 447498, D01-D02
- [29] Anexo à Resolução No. 533, de 10 de Setembro de 2009.
- [30] IEC 62209-2, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz), Mar. 2010.

FCC ID: A3LSMN976U	 PCTEST <small>Proud to be part of element</small>		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2003230050-01.A3L	Test Dates: 03/24/20 – 04/08/20	DUT Type: Portable Handset		Page 30 of 30	