

Spectrum Analyzer 1 Channel Power	┢				<b>‡</b>	Frequency 🔻 🔆
KEYSIGHT    Input: RF      RL    Imput: RF      Align: Auto    Align: Auto	Input Ζ: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 36 dB #PNO: Fast	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq: 1.911500000 Gł Avg Hold: 100/100 Radio Std: None	Hz Center Fre 1.911500	equency 000 GHz
1 Graph 🔹					4.0000 M	IHz
Scale/Div 10.0 dB	······································	Ref Value 30.00			CF Step 400.000 l Auto Man Freq Offse 0 Hz	tHz
Center 1.911500 GHz Res BW 39.000 kHz 2 Metrics • Total Channel Power Total Power Spectral Density	-22.25 dBm / 1.00 -82.25 dB	Video BW 390.00 MHz im/Hz	kHz*	Spe Sweep 3.20 ms (1	an 4 MHz 1001 pts)	
	Jun 16, 2021 11:14:38 AM	$\mathbb{D}$				

Plot 7-142. Extended Upper Band Edge Plot (NR Band n2 – 5MHz QPSK – Full RB)

Spectrum Analy Channel Power	yzer 1	+				Frequency	/ 「影
RL PASS	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) NFE: Off	Atten: 36 dB #PNO: Fast	Trig: Free Run Gate: Off #IF Gain: Low	Center Freq: 1.916500000 GHz Avg Hold: 100/100 Radio Std: None	Center Frequency 1.916500000 GHz	Settings
1 Graph	•					Span 4.0000 MHz	
Scale/Div 10.0 Log 20.0 10.0 -10.0 -20.0 -30.0			Ref Value 30.00			CF Step 400.000 kHz Auto Man Freq Offset 0 Hz	
-40.0 -50.0 -60.0 Center 1.9165 Res BW 39.00	00 GHz 0 kHz		/ideo BW 390.00	kHz*	Span 4 M Sweep 3.20 ms (1001 p	Hz B)	
2 Metrics Total Chann Total Power	el Power Spectral Density	-20.92 dBm / 1.00 / -80.92 dB Jun 16, 2021 11:16:50 AM	mHz m/Hz			1	

Plot 7-143. Extended Upper Band Edge Plot (NR Band n25 – 5MHz QPSK – Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 01 of 150
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# **GSM/GPRS PCS**



Plot 7-144. Lower Band Edge Plot (GPRS PCS - Ch. 512)



Plot 7-145. Upper Band Edge Plot (GPRS PCS - Ch. 810)

FCC ID: C3K1995 IC: 3048A-1995	PCTEST Read to be part of @-diment	PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 02 of 150
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# WCDMA PCS



Plot 7-146. Lower Band Edge Plot (WCDMA PCS - Ch. 9262)



### Plot 7-147. Extended Lower Band Edge Plot (WCDMA PCS - Ch. 9262)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dago 02 of 150
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Plot 7-149. Extended Upper Band Edge Plot (WCDMA PCS – Ch. 9538)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 04 of 150
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# 7.6 Peak-Average Ratio

### **Test Overview**

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

### Test Procedure Used

KDB 971168 D01 v03r01 - Section 5.7.1

### **Test Settings**

- 1. The signal analyzer's CCDF measurement profile is enabled
- 2. Frequency = carrier center frequency
- 3. Measurement BW ≥ OBW or specified reference bandwidth
- 4. The signal analyzer was set to collect one million samples to generate the CCDF curve
- 5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-5. Test Instrument & Measurement Setup

### Test Notes

None.

FCC ID: C3K1995 IC: 3048A-1995	Read to be post of @ alassas	PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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# LTE Band 25/2







Plot 7-151. PAR Plot (LTE Band 25/2 - 20MHz 64-QAM - Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Plot 7-153. PAR Plot (LTE Band 25/2 - 15MHz 64-QAM - Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Plot 7-155. PAR Plot (LTE Band 25/2 - 10MHz 64-QAM - Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Plot 7-157. PAR Plot (LTE Band 25/2 - 5MHz 64-QAM - Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Plot 7-159. PAR Plot (LTE Band 25/2 - 3MHz 64-QAM - Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Plot 7-161. PAR Plot (LTE Band 25/2 - 1.4MHz 64-QAM - Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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# NR Band n25/2





Plot 7-163. PAR Plot (NR Band n25 - 40.0MHz CP-OFDM QPSK - Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Plot 7-164. PAR Plot (NR Band n25 - 30.0MHz DFT-s-OFDM BPSK - Full RB)



Plot 7-165. PAR Plot (NR Band n25 - 30.0MHz CP-OFDM QPSK - Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Plot 7-166. PAR Plot (NR Band n25 - 25.0MHz DFT-s-OFDM BPSK - Full RB)



Plot 7-167. PAR Plot (NR Band n25 - 25.0MHz CP-OFDM QPSK - Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Plot 7-168. PAR Plot (NR Band n25/2 - 20.0MHz DFT-s-OFDM BPSK - Full RB)





FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Plot 7-170. PAR Plot (NR Band n25/2 - 15.0MHz DFT-s-OFDM BPSK - Full RB)





FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Plot 7-172. PAR Plot (NR Band n25/2 - 10.0MHz DFT-s-OFDM BPSK - Full RB)



Plot 7-173. PAR Plot (NR Band n25/2 - 10.0MHz CP-OFDM QPSK - Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Plot 7-174. PAR Plot (NR Band n25/2 - 5.0MHz DFT-s-OFDM BPSK - Full RB)



Plot 7-175. PAR Plot (NR Band n25/2 - 5.0MHz CP-OFDM QPSK - Full RB)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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# **GSM/GPRS PCS**

Keysight Spectrum Ar	alyzer - Power Stat CO	CDF							
L <mark>XU</mark> RL   RF	50 Ω AC	CORREC	Center Fre	e: 1.88000000	0 GHz	R	07:54:47 PM May adio Std: Nor	28, 2021 1e	Frequency
		⊶ #IFGain:Low	#Atten: 36	urst C dB	ounts:2.00 M	/2.00 Mpt			
A									
Average P	ower	100 %	Gaussian						
30.60 c	lBm								Center Freq
02 54 0	/ at 0dB	10 %							1.88000000 GHZ
93.31		10,0							
		1 %							
10.0 %	0.35 dB	0.1 %							
1.0 %	0.43 dB								
0.1 %	0.46 dB								CF Step 5.000000 MHz
0.01 %	0.47 dB	0.01 %							<u>Auto</u> Man
0.001 %	0.47 dB								Fred Offset
0.0001 %	0.47 dB	0.001 %							0 Hz
Peak	0.47 dB								
31	.07 dBm								
		0.0001 %	) dB					20 dB	
			nfo BW 50	0.00 kHz					
MSG						STATUS			

Plot 7-176. PAR Plot (GPRS, Ch. 661)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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# WCDMA PCS

keysight Spectrum Analyzer - Power Stat CCDF				
RL RF 50Ω AC	CORREC SENSE:INT ALIGN AU Center Freq: 1.880000000 GHz → Trig: Free Run Counts:2.00 M/2.0 #IFGain:Low #Atten: 36 dB	TO [09:55:48 PM May 28, 2021] Radio Std: None 20 Mpt		
Average Power	100 % Gaussian			
25.28 dBm		<b>Center Freq</b> 1.880000000 GHz		
52.45 % at 0dB				
	1 %			
10.0 % 1.67 dB	0.1 %			
0.1 % 2.87 dB	0.01 %	CF Step 5.00000 MHz <u>Auto</u> Man		
0.001 % 3.05 dB		Freq Offset		
Peak 3.08 dB	0.001 %	0 Hz		
20.00 0011	0.0001 % 0 dB Info BW 5.0000 MHz	20 dB		
MSG	ST	ATUS		

Plot 7-177. PAR Plot (WCDMA, Ch. 9400)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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# 7.7 Radiated Power (ERP/EIRP)

### Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally and horizontally polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

### Test Procedures Used

KDB 971168 D01 v03r01 - Section 5.2.1

ANSI/TIA-603-E-2016 – Section 2.2.17

### Test Settings

- 1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation. For signals with burst transmission, the signal analyzer's "time domain power" measurement capability is used
- 2. RBW = 1 5% of the expected OBW, not to exceed 1MHz
- 3. VBW  $\geq$  3 x RBW
- 4. Span = 1.5 times the OBW
- 5. No. of sweep points  $\geq$  2 x span / RBW
- 6. Detector = RMS
- 7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto". Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration
- 8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the "gating" function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
- 9. Trace mode = trace averaging (RMS) over 100 sweeps
- 10. The trace was allowed to stabilize

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### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-6. Radiated Test Setup >1GHz

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### Test Notes

- 1) This device employs GSM and GPRS capabilities. The EUT was tested under all configurations and the highest powers is reported in GPRS mode while transmitting with one slot active.
- This device employs UMTS technology with WCDMA (AMR/RMC) and HSDPA capabilities. The EUT was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1".
- 3) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 4) This unit was tested with its standard battery.
- 5) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	EUT Pol.	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
N		1860.0	Н	Х	169.0	325.0	9.55	1 / 50	14.86	24.41	0.276	33.01	-8.60
H	QPSK	1882.5	Н	Х	162.0	236.0	9.83	1/0	14.93	24.76	0.299	33.01	-8.25
0		1905.0	Н	Х	154.0	277.0	10.16	1 / 50	13.72	23.88	0.244	33.01	-9.13
2	16-QAM	1882.5	Н	Х	162.0	236.0	9.83	1/0	14.34	24.17	0.261	33.01	-8.84
N		1857.5	Н	Х	169.0	325.0	9.51	1 / 37	14.95	24.46	0.279	33.01	-8.55
Ŧ	QPSK	1882.5	Н	Х	162.0	236.0	9.83	1/0	14.96	24.79	0.302	33.01	-8.22
2 4		1907.5	Н	Х	154.0	277.0	10.21	1 / 37	13.80	24.01	0.252	33.01	-9.00
~	16-QAM	1882.5	Н	Х	162.0	236.0	9.83	1 / 37	14.42	24.25	0.266	33.01	-8.76
N		1855.0	Н	Х	169.0	325.0	9.48	1 / 25	14.83	24.31	0.269	33.01	-8.71
H	QPSK	1882.5	Н	Х	162.0	236.0	9.83	1/0	14.89	24.72	0.297	33.01	-8.29
20		1910.0	н	Х	154.0	277.0	10.25	1/0	13.79	24.04	0.254	33.01	-8.97
-	16-QAM	1882.5	Н	Х	162.0	236.0	9.83	1/0	14.33	24.16	0.261	33.01	-8.85
		1852.5	Н	Х	169.0	325.0	9.44	1 / 24	14.97	24.42	0.276	33.01	-8.59
E E	QPSK	1882.5	Н	Х	162.0	236.0	9.83	1 / 12	14.91	24.74	0.298	33.01	-8.27
Z		1912.5	Н	Х	154.0	277.0	10.28	1/0	13.15	23.42	0.220	33.01	-9.59
47	16-QAM	1852.5	н	Х	169.0	325.0	9.44	1 / 12	14.64	24.09	0.256	33.01	-8.92
N		1851.5	Н	Х	169.0	325.0	9.43	1 / 14	14.98	24.41	0.276	33.01	-8.60
Ξ	QPSK	1882.5	Н	Х	162.0	236.0	9.83	1 / 14	15.02	24.86	0.306	33.01	-8.15
Σ		1913.5	н	Х	154.0	277.0	10.29	1/0	11.87	22.15	0.164	33.01	-10.86
	16-QAM	1882.5	Н	Х	162.0	236.0	9.83	1/7	14.30	24.13	0.259	33.01	-8.88
N		1850.7	Н	Х	169.0	325.0	9.42	1/5	14.98	24.39	0.275	33.01	-8.62
H	QPSK	1882.5	Н	Х	162.0	236.0	9.83	1/0	14.78	24.62	0.289	33.01	-8.39
4 4		1914.3	Н	Х	154.0	277.0	10.30	1/3	11.78	22.08	0.161	33.01	-10.93
÷	16-QAM	1882.5	Н	Х	162.0	236.0	9.83	1/5	14.10	23.93	0.247	33.01	-9.08
20 MU-	QPSK (Opposite Pol.)	1882.5	V	Y	186.0	127.0	9.99	1 / 50	13.02	23.01	0.200	33.01	-10.00
20 10172	QPSK (Half Open)	1882.5	Н	Х	127.0	236.0	9.83	1/0	14.66	24.49	0.281	33.01	-8.52
FCC ID: C34 IC: 3048A-1	D: C3K1995 PART 24 / RSS-133 MEASUREMENT Microsoft Microsoft			oft	Approve Technical	<b>d by:</b> Manager							
Test Report	t <b>S/N:</b> 8-03-R1.C3K	<b>Test</b> 5/25/2	Dates:	/2021	EUT Porta	Type: ble Handset						Page 113	of 150
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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	EUT Pol.	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
z		1860.0	н	Х	203.0	320.0	9.55	1 / 50	14.90	24.45	0.278	33.01	-8.56
Ŧ	QPSK	1882.5	Н	Х	162.0	273.0	9.83	1/0	14.49	24.32	0.271	33.01	-8.69
0 10		1905.0	Н	Х	150.0	278.0	10.16	1 / 50	13.18	23.34	0.216	33.01	-9.67
2	16-QAM	1860.0	Н	Х	203.0	320.0	9.55	1 / 50	14.45	24.00	0.251	33.01	-9.01
z		1857.5	Н	Х	203.0	320.0	9.51	1/0	14.92	24.43	0.277	33.01	-8.58
H	QPSK	1882.5	Н	Х	162.0	273.0	9.83	1 / 37	14.54	24.37	0.274	33.01	-8.64
2		1907.5	Н	Х	150.0	278.0	10.21	1 / 37	13.22	23.42	0.220	33.01	-9.59
1	16-QAM	1857.5	Н	Х	203.0	320.0	9.51	1/0	14.39	23.90	0.245	33.01	-9.11
z		1855.0	Н	Х	203.0	320.0	9.48	1 / 49	14.81	24.28	0.268	33.01	-8.73
H	QPSK	1882.5	н	Х	162.0	273.0	9.83	1 / 25	14.46	24.29	0.269	33.01	-8.72
0		1910.0	н	Х	150.0	278.0	10.25	1/0	13.16	23.41	0.219	33.01	-9.60
۱	16-QAM	1855.0	Н	Х	203.0	320.0	9.48	1 / 25	14.42	23.90	0.245	33.01	-9.11
N		1852.5	н	Х	203.0	320.0	9.44	1 / 12	14.89	24.33	0.271	33.01	-8.68
Ê	QPSK	1882.5	н	Х	162.0	273.0	9.83	1 / 12	14.76	24.59	0.288	33.01	-8.42
2 2		1912.5	н	Х	150.0	278.0	10.28	1/0	12.65	22.93	0.196	33.01	-10.08
7	16-QAM	1852.5	Н	Х	203.0	320.0	9.44	1 / 24	14.70	24.15	0.260	33.01	-8.86
N		1851.5	Н	Х	203.0	320.0	9.43	1 / 14	14.92	24.35	0.272	33.01	-8.66
Ë	QPSK	1882.5	н	Х	162.0	273.0	9.83	1/7	14.65	24.48	0.280	33.01	-8.53
2		1913.5	н	Х	150.0	278.0	10.29	1 / 14	11.67	21.96	0.157	33.01	-11.05
	16-QAM	1851.5	Н	Х	203.0	320.0	9.43	1 / 14	14.44	23.87	0.244	33.01	-9.14
z		1850.7	Н	Х	203.0	320.0	9.42	1/5	14.86	24.28	0.268	33.01	-8.73
Ч	QPSK	1882.5	н	Х	162.0	273.0	9.83	1/3	14.40	24.23	0.265	33.01	-8.78
4		1914.3	н	Х	150.0	278.0	10.30	1/5	11.75	22.04	0.160	33.01	-10.97
1	16-QAM	1850.7	Н	Х	203.0	320.0	9.42	1/3	14.37	23.79	0.239	33.01	-9.22
20 MHz	QPSK (Opposite Pol.)	1860.0	V	Y	304.0	122.0	9.68	1 / 50	14.42	24.10	0.257	33.01	-8.91
20 10112	QPSK (Half Open)	1860.0	н	Х	161.0	273.0	9.55	1 / 50	14.60	24.15	0.260	33.01	-8.86

Table 7-4. EIRP Data (LTE Band 25/2 – North)

Table 7-5. EIRP Data (LTE Band 25/2 – South)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 114 of 150
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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
		1870.0	Н	107.0	315.0	9.66	1 / 54	14.81	24.47	0.280	33.01	-8.54
	π/2 BPSK	1882.5	Н	101.0	321.0	9.83	1 / 54	13.21	23.04	0.202	33.01	-9.97
		1895.0	Н	147.0	313.0	10.01	1 / 161	13.48	23.49	0.223	33.01	-9.52
40 MHz		1870.0	Н	107.0	315.0	9.66	1 / 54	14.88	24.54	0.285	33.01	-8.47
	QPSK	1882.5	Н	101.0	321.0	9.83	1 / 54	13.30	23.13	0.206	33.01	-9.88
		1895.0	Н	147.0	313.0	10.01	1 / 161	13.55	23.56	0.227	33.01	-9.45
	16-QAM	1870.0	Н	107.0	315.0	9.66	1 / 54	14.31	23.97	0.250	33.01	-9.04
		1865.0	Н	107.0	315.0	9.61	1 / 40	14.64	24.24	0.266	33.01	-8.77
	π/2 BPSK	1882.5	Н	101.0	321.0	9.83	1 / 40	13.30	23.13	0.206	33.01	-9.88
		1900.0	Н	147.0	313.0	10.07	1 / 80	13.14	23.21	0.209	33.01	-9.80
30 MHz		1865.0	Н	107.0	315.0	9.61	1 / 40	14.21	23.81	0.241	33.01	-9.20
	QPSK	1882.5	Н	101.0	321.0	9.83	1 / 40	13.51	23.34	0.216	33.01	-9.67
		1900.0	Н	147.0	313.0	10.07	1 / 80	12.33	22.40	0.174	33.01	-10.61
	16-QAM	1865.0	Н	107.0	315.0	9.61	1 / 40	13.27	22.87	0.194	33.01	-10.14
		1862.5	Н	107.0	315.0	9.58	1 / 99	15.65	25.22	0.333	33.01	-7.79
	π/2 BPSK	1882.5	Н	101.0	321.0	9.83	1 / 66	14.21	24.05	0.254	33.01	-8.96
		1902.5	Н	147.0	313.0	10.11	1 / 66	13.95	24.07	0.255	33.01	-8.94
25 MHz		1862.5	Н	107.0	315.0	9.58	1 / 99	15.59	25.16	0.328	33.01	-7.85
	QPSK	1882.5	Н	101.0	321.0	9.83	1 / 66	13.68	23.51	0.224	33.01	-9.50
		1902.5	Н	147.0	313.0	10.11	1 / 66	13.24	23.35	0.216	33.01	-9.66
	16-QAM	1862.5	Н	107.0	315.0	9.58	1 / 99	14.71	24.29	0.268	33.01	-8.72
		1860.0	Н	107.0	315.0	9.55	1 / 53	15.54	25.08	0.322	33.01	-7.93
	π/2 BPSK	1882.5	Н	101.0	321.0	9.83	1 / 79	14.04	23.87	0.244	33.01	-9.14
		1905.0	Н	147.0	313.0	10.16	1 / 79	13.82	23.98	0.250	33.01	-9.03
20 MHz		1860.0	Н	107.0	315.0	9.55	1 / 53	15.56	25.11	0.324	33.01	-7.90
	QPSK	1882.5	Н	101.0	321.0	9.83	1 / 79	13.43	23.26	0.212	33.01	-9.75
		1905.0	Н	147.0	313.0	10.16	1/79	13.84	24.00	0.251	33.01	-9.01
	16-QAM	1860.0	Н	107.0	315.0	9.55	1 / 53	15.00	24.54	0.285	33.01	-8.47
	IO-QAW	1857.5	Н	107.0	315.0	9.51	1 / 58	15.59	25.10	0.324	33.01	-7.91
	π/2 BPSK	1882.5	Н	101.0	321.0	9.83	1/39	14.12	23.95	0.249	33.01	-9.06
		1907.5	н	147.0	313.0	10.21	1/39	13.67	23.87	0.244	33.01	-9.14
15 MH7		1857.5	Н	107.0	315.0	9.51	1/58	15.40	24.92	0.310	33.01	-8.09
10 10112	QPSK	1882.5	Н	101.0	321.0	9.83	1/39	14.02	23.86	0.243	33.01	-9.15
		1907.5	Н	147.0	313.0	10.21	1/39	13.48	23.69	0.234	33.01	-9.32
	16-QAM	1857.5	Н	107.0	315.0	9.51	1/58	14.87	24.39	0 274	33.01	-8.62
		1855.0	Н	107.0	315.0	9.48	1/26	15.54	25.02	0.317	33.01	-7.99
	π/2 BPSK	1882.5	Н	101.0	321.0	9.83	1/38	13.93	23.76	0.238	33.01	-9.25
	102 51 611	1910.0	н	147.0	313.0	10.25	1/13	13.68	23.93	0.247	33.01	-9.08
10 MH-		1855.0	н	107.0	315.0	9.48	1/26	15.40	24.88	0.308	33.01	-8.13
10 10112	OPSK	1882.5	н	101.0	321.0	9.83	1/38	13.98	23.82	0.241	33.01	-9.19
	di on	1910.0	н	147.0	313.0	10.25	1/13	13.70	23.95	0.241	33.01	-9.06
	16-OAM	1855.0	н	107.0	315.0	9.48	1/26	15.08	24.56	0.240	33.01	-8.45
	10 00/101	1852.5	н	107.0	315.0	9.40	1/20	15.65	25.10	0.200	33.01	-7.91
	T/2 BPSK	1882.5	н	101.0	321.0	0.83	1/12	14.00	23.83	0.020	33.01	-9.18
		1002.5	н	147.0	313.0	10.28	1/12	13.40	23.68	0.241	33.01	-0.10
5 MH7		1852.5	Н	107.0	315.0	9.44	1/18	15 30	24.75	0.200	33.01	-8.26
5 1411 12	OPSK	1992.5		101.0	321.0	0.83	1/10	13.85	23.69	0.230	33.01	-0.20
	QFON	1002.3	 Ц	1/7 0	312.0	10.00	1/12	13.00	23.00	0.234	33.01	-9.55
	16 OAM	1912.0	17 L	147.0	315.0	0.44	1/10	15.00	23.34	0.210	33.01	-5.07
		1970.0	п И	101.0	315.0	9.44	1/54	13.09	24.04	0.204	33.01	-0.47
40 MU	OPSK (UP-UFUIN)	1070.0	- T1 - L1	101.0	320.U	9.00	1/04	13.52	23.10	0.200	22.04	-9.03
40 MHz		18/0.0	H	102.0	319.0	9.00	1/54	14.01	24.27	0.267	33.01	-8.74
	QPSK (Upposite Pol.)	1870.0	V	221.0	/1.0	9.99	1 / 108	13.25	23.24	0.211	33.01	-9.77

Table 7-6. EIRP Data (NR Band n25/2 – North)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 115 of 150
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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
		1870.0	Н	152.0	303.0	9.66	1 / 161	12.85	22.51	0.178	33.01	-10.50
	π/2 BPSK	1882.5	Ŧ	152.0	304.0	9.83	1 / 108	13.45	23.28	0.213	33.01	-9.73
		1895.0	Н	101.0	304.0	10.01	1 / 161	13.34	23.35	0.216	33.01	-9.66
40 MHz		1870.0	Н	152.0	303.0	9.66	1 / 161	12.89	22.55	0.180	33.01	-10.46
	QPSK	1882.5	H	152.0	304.0	9.83	1 / 108	13.49	23.32	0.215	33.01	-9.69
		1895.0	Н	101.0	304.0	10.01	1 / 161	13.38	23.39	0.218	33.01	-9.62
	16-QAM	1895.0	Н	101.0	304.0	10.01	1 / 161	12.66	22.67	0.185	33.01	-10.34
		1865.0	Н	152.0	303.0	9.61	1 / 40	12.85	22.45	0.176	33.01	-10.56
	π/2 BPSK	1882.5	H	152.0	304.0	9.83	1 / 80	13.45	23.28	0.213	33.01	-9.73
		1900.0	H	101.0	304.0	10.07	1 / 80	13.44	23.51	0.224	33.01	-9.50
30 MHz		1865.0	Н	152.0	303.0	9.61	1 / 119	12.82	22.42	0.175	33.01	-10.59
	QPSK	1882.5	Н	152.0	304.0	9.83	1 / 80	13.30	23.13	0.206	33.01	-9.88
		1900.0	Н	101.0	304.0	10.07	1 / 80	14.05	24.12	0.258	33.01	-8.89
	16-QAM	1900.0	Н	101.0	304.0	10.07	1 / 80	12.88	22.95	0.197	33.01	-10.06
		1862.5	Н	152.0	303.0	9.58	1 / 33	12.96	22.54	0.179	33.01	-10.47
	π/2 BPSK	1882.5	Н	152.0	304.0	9.83	1 / 66	13.27	23.10	0.204	33.01	-9.91
		1902.5	н	101.0	304.0	10.11	1 / 66	13.33	23.44	0.221	33.01	-9.57
25 MHz		1862.5	Н	152.0	303.0	9.58	1 / 33	12.87	22.45	0.176	33.01	-10.56
	QPSK	1882.5	Н	152.0	304.0	9.83	1 / 66	13.58	23.42	0.220	33.01	-9.59
		1902.5	Н	101.0	304.0	10.11	1 / 66	14.23	24.34	0.272	33.01	-8.67
	16-QAM	1902.5	Н	101.0	304.0	10.11	1 / 66	13.49	23.61	0.229	33.01	-9.40
		1860.0	Н	152.0	303.0	9.55	1 / 26	13.08	22.63	0.183	33.01	-10.38
	π/2 BPSK	1882.5	Н	152.0	304.0	9.83	1 / 26	13.52	23.35	0.216	33.01	-9.66
		1905.0	Н	101.0	304.0	10.16	1 / 79	13.18	23.34	0.216	33.01	-9.67
20 MHz		1860.0	Н	152.0	303.0	9.55	1 / 26	12.83	22.38	0.173	33.01	-10.63
	QPSK	1882.5	Н	152.0	304.0	9.83	1 / 26	13.72	23.55	0.227	33.01	-9.46
		1905.0	Н	101.0	304.0	10.16	1 / 79	13.41	23.57	0.228	33.01	-9.44
	16-QAM	1905.0	Н	101.0	304.0	10.16	1 / 79	12.69	22.85	0.193	33.01	-10.16
		1857.5	Н	152.0	303.0	9.51	1 / 58	12.98	22.50	0.178	33.01	-10.52
	π/2 BPSK	1882.5	Н	152.0	304.0	9.83	1 / 39	13.48	23.31	0.214	33.01	-9.70
		1907.5	Н	101.0	304.0	10.21	1 / 20	13.27	23.47	0.222	33.01	-9.54
15 MHz		1857.5	Н	152.0	303.0	9.51	1 / 58	12.91	22.42	0.175	33.01	-10.59
	QPSK	1882.5	Н	152.0	304.0	9.83	1 / 39	13.47	23.30	0.214	33.01	-9.71
		1907.5	Н	101.0	304.0	10.21	1 / 20	14.20	24.41	0.276	33.01	-8.60
	16-QAM	1907.5	Н	101.0	304.0	10.21	1 / 20	13.52	23.73	0.236	33.01	-9.28
		1855.0	Н	152.0	303.0	9.48	1 / 26	12.98	22.46	0.176	33.01	-10.55
	π/2 BPSK	1882.5	Н	152.0	304.0	9.83	1 / 38	13.59	23.42	0.220	33.01	-9.59
		1910.0	Н	101.0	304.0	10.25	1 / 13	13.01	23.27	0.212	33.01	-9.74
10 MHz		1855.0	Н	152.0	303.0	9.48	1 / 26	12.89	22.37	0.172	33.01	-10.64
	QPSK	1882.5	Н	152.0	304.0	9.83	1 / 38	13.07	22.90	0.195	33.01	-10.11
		1910.0	Н	101.0	304.0	10.25	1 / 13	14.01	24.26	0.267	33.01	-8.75
	16-QAM	1910.0	Н	101.0	304.0	10.25	1 / 13	13.25	23.50	0.224	33.01	-9.51
		1852.5	Н	152.0	303.0	9.44	1 / 18	13.21	22.65	0.184	33.01	-10.36
	π/2 BPSK	1882.5	Н	152.0	304.0	9.83	1 / 18	13.66	23.50	0.224	33.01	-9.51
		1912.5	Н	101.0	304.0	10.28	1 / 18	12.76	23.04	0.201	33.01	-9.97
5 MHz		1852.5	Н	152.0	303.0	9.44	1 / 18	12.98	22.43	0.175	33.01	-10.58
	QPSK	1882.5	Н	152.0	304.0	9.83	1 / 18	13.21	23.04	0.201	33.01	-9.97
		1912.5	Н	101.0	304.0	10.28	1 / 18	12.60	22.88	0.194	33.01	-10.13
	16-QAM	1912.5	Н	101.0	304.0	10.28	1 / 18	11.89	22.17	0.165	33.01	-10.84
	QPSK (CP-OFDM)	1895.0	Н	155.0	304.0	10.01	1 / 108	12.74	22.75	0.188	33.01	-10.26
40 MHz	QPSK (OPEN)	1895.0	Н	109.0	303.0	10.01	1 / 54	13.15	23.16	0.207	33.01	-9.85
	QPSK (Opposite Pol.)	1895.0	V	381.0	274.0	9.99	1 / 54	10.77	20.76	0.119	33.01	-12.25
								_				

Table 7-7. EIRP Data (NR Band n25/2 – South)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 116 of 150
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Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.20	GPRS1900	н	161	172	19.15	9.41	28.56	0.718	33.01	-4.45
1880.00	GPRS1900	н	153	358	18.90	9.79	28.69	0.740	33.01	-4.32
1909.80	GPRS1900	н	149	315	17.42	10.25	27.67	0.585	33.01	-5.34
1880.00	GPRS1900	V	360	300	17.05	9.79	26.84	0.484	33.01	-6.17
1880.00	GPRS1900 (Open)	V	361	271	17.65	9.79	27.44	0.555	33.01	-5.57

### Table 7-8. EIRP Data (GPRS PCS – South)

Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1852.40	WCDMA1900	Н	154	322	12.89	9.44	22.33	0.171	33.01	-10.68
1880.00	WCDMA1900	Н	154	319	14.48	9.79	24.27	0.268	33.01	-8.74
1907.60	WCDMA1900	Н	145	313	13.42	10.21	23.63	0.231	33.01	-9.38
1880.00	WCDMA1900	V	280	86	13.51	9.96	23.47	0.222	33.01	-9.54
1880.00	WCDMA1900 (Open)	Н	154	360	14.35	9.79	24.14	0.260	33.01	-8.87

Table 7-9. EIRP Data (WCDMA PCS – South)

FCC ID: C3K1995 IC: 3048A-1995	Real to be post of the mean	PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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# 7.8 Radiated Spurious Emissions Measurements

### **Test Overview**

Radiated spurious emissions measurements are performed using the field strength conversion method described in KDB 971168 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

### **Test Procedures Used**

KDB 971168 D01 v03r01 - Section 5.8

### **Test Settings**

- 1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
- 2. VBW  $\ge$  3 x RBW
- 3. Span = 1.5 times the OBW
- 4. No. of sweep points  $\geq$  2 x span / RBW
- 5. Detector = RMS
- 6. Trace mode = Average (Max Hold for pulsed emissions)
- 7. The trace was allowed to stabilize

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### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-8. Test Instrument & Measurement Setup >1 GHz

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### Test Notes

- Field strengths are calculated using the Measurement quantity conversions in KDB 971168 Section 5.8.4.
  b) E(dBµV/m) = Measured amplitude level (dBm) + 107 + Cable Loss (dB) + Antenna Factor (dB/m)
  d) EIRP (dBm) = E(dBµV/m) + 20logD 104.8; where D is the measurement distance in meters.
- 2) This device employs GSM and GPRS capabilities. The EUT was tested under all configurations and the highest powers is reported in GPRS mode while transmitting with one slot active.
- 3) This device employs UMTS technology with WCDMA (AMR/RMC) and HSDPA capabilities. The EUT was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps RMC and TPC bits all set to "1".
- 4) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 5) This unit was tested with its standard battery.
- 6) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 7) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 8) The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 9) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.
- 10) Spurious emissions shown in this section are measured while operating in EN-DC mode with Sub 6GHz NR carrier as well as an LTE carrier (anchor). Spurious emissions from the NR carrier device, is subject to the rules under which the NR carrier operates. Spurious emission caused by the LTE carrier must meet the requirements of the rules under which the LTE carrier operates.

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# LTE Band 25/2 – North



Plot 7-179. Radiated Spurious Plot (LTE Band 25/2 - North - Flip)

Bandwidth (MHz):	20
Frequency (MHz):	1860.0
RB / Offset:	1 / 50

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3720.0	Н	-	-	-78.02	2.44	31.42	-63.83	-13.00	-50.83
5580.0	Н	-	-	-78.00	5.41	34.41	-60.85	-13.00	-47.85
7440.0	Н	-	-	-78.93	8.71	36.78	-58.47	-13.00	-45.47
9300.0	Н	-	-	-83.54	19.05	42.51	-52.74	-13.00	-39.74
11160.0	Н	-	-	-84.28	20.64	43.36	-51.90	-13.00	-38.90
13020.0	Н	-	-	-85.01	25.59	47.58	-47.68	-13.00	-34.68

Table 7-10. Radiated Spurious Data (LTE Band 25/2 – Low Channel - North - Half)

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Bandwidth (MHz):	20
Frequency (MHz):	1882.5
RB / Offset:	1 / 50

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3765.0	Н	-	-	-78.29	2.88	31.59	-63.67	-13.00	-50.67
5647.5	Н	146	333	-67.40	5.56	45.16	-50.10	-13.00	-37.10
7530.0	Н	-	-	-79.41	8.99	36.58	-58.68	-13.00	-45.68
9412.5	Н	-	-	-80.04	11.54	38.50	-56.76	-13.00	-43.76
11295.0	Н	-	-	-80.67	12.43	38.76	-56.50	-13.00	-43.50
13177.5	Н	-	-	-84.98	25.40	47.42	-47.84	-13.00	-34.84

Table 7-11. Radiated Spurious Data (LTE Band 25/2 – Mid Channel - North - Half)

Bandwidth (MHz):	20
Frequency (MHz):	1905.0
RB / Offset:	1 / 50

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3810.00	Н	149	143	-76.41	2.30	32.89	-62.37	-13.00	-49.37
5715.00	Н	135	330	-70.97	5.47	41.50	-53.75	-13.00	-40.75
7620.00	Н	-	-	-79.17	8.88	36.71	-58.55	-13.00	-45.55
9525.00	Н	-	-	-80.05	11.06	38.01	-57.24	-13.00	-44.24
11430.00	Н	-	-	-80.51	13.50	39.99	-55.27	-13.00	-42.27
13335.00	Н	-	-	-85.08	26.13	48.05	-47.21	-13.00	-34.21

Table 7-12. Radiated Spurious Data (LTE Band 25/2 – High Channel - North - Half)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager	
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# LTE Band 25/2 – South





Bandwidth (MHz):	20
Frequency (MHz):	1860.0
RB / Offset:	1 / 50

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3720.0	Н	394	301	-77.33	3.18	32.85	-62.41	-13.00	-49.41
5580.0	Н	-	-	-78.94	6.25	34.31	-60.95	-13.00	-47.95
7440.0	Н	-	-	-80.19	7.58	34.39	-60.87	-13.00	-47.87
9300.0	Н	-	-	-83.54	19.05	42.51	-52.74	-13.00	-39.74
11160.0	Н	-	-	-84.23	20.64	43.41	-51.85	-13.00	-38.85
13020.0	Н	-	-	-85.02	25.59	47.57	-47.69	-13.00	-34.69

Table 7-13. Radiated Spurious Data (LTE Band 25/2 – Low Channel - South - Half)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Bandwidth (MHz):	20
Frequency (MHz):	1882.5
RB / Offset:	1 / 50

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3765.0	Н	176	342	-78.44	4.19	32.75	-62.50	-13.00	-49.50
5647.5	Н	-	-	-79.47	5.94	33.47	-61.79	-13.00	-48.79
7530.0	Н	-	-	-80.63	7.95	34.32	-60.93	-13.00	-47.93
9412.5	Н	-	-	-84.12	18.71	41.59	-53.67	-13.00	-40.67
11295.0	Н	-	-	-84.45	21.26	43.81	-51.44	-13.00	-38.44
13177.5	Н	-	-	-85.00	25.40	47.40	-47.86	-13.00	-34.86

Table 7-14. Radiated Spurious Data (LTE Band 25/2 – Mid Channel - South - Half)

20
1905.0
1 / 50

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3810.00	Н	-	-	-78.62	3.25	31.63	-63.63	-13.00	-50.63
5715.00	Н	-	-	-79.22	6.17	33.95	-61.31	-13.00	-48.31
7620.00	Н	-	-	-80.40	7.99	34.59	-60.67	-13.00	-47.67
9525.00	Н	-	-	-84.02	18.58	41.56	-53.70	-13.00	-40.70
11430.00	Н	-	-	-84.58	23.13	45.55	-49.70	-13.00	-36.70
13335.00	Н	-	-	-84.98	26.13	48.15	-47.11	-13.00	-34.11

Table 7-15. Radiated Spurious Data (LTE Band 25/2 – High Channel - South - Half)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager	
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# NR Band n25/2 – North





Bandwidth (MHz):	40
Frequency (MHz):	1870.0
RB / Offset:	1 / 108
Mode:	Standalone
Mode:	Standalone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3740.0	Н	212	35	-73.05	3.64	37.59	-57.67	-13.00	-44.67
5610.0	Н	168	216	-78.33	6.46	35.13	-60.12	-13.00	-47.12
7480.0	Н	-	-	-80.51	8.01	34.50	-60.75	-13.00	-47.75
9350.0	Н	-	-	-80.17	10.23	37.06	-58.20	-13.00	-45.20
11220.0	Н	-	-	-81.67	13.96	39.29	-55.96	-13.00	-42.96
13090.0	Н		-	-84.51	25.26	47.75	-47.51	-13.00	-34.51

Table 7-16. Radiated Spurious Data (NR Band n25/2 – Low Channel - North - Half)

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Bandwidth (MHz):	40
Frequency (MHz):	1882.5
RB / Offset:	1 / 108
Mode:	Standalone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3765.0	Н	208	26	-77.17	4.19	34.02	-61.23	-13.00	-48.23
5647.5	Н	-	-	-79.54	5.94	33.40	-61.86	-13.00	-48.86
7530.0	Н	-	-	-80.59	7.95	34.36	-60.89	-13.00	-47.89
9412.5	Н	-	-	-81.68	10.32	35.64	-59.62	-13.00	-46.62
11295.0	Н	-	-	-84.31	21.26	43.95	-51.30	-13.00	-38.30
13177.5	Н	-	-	-84.65	25.40	47.75	-47.51	-13.00	-34.51

Table 7-17. Radiated Spurious Data (NR Band n25/2 – Mid Channel - North - Half)

Bandwidth (MHz):	40
Frequency (MHz):	1895.0
RB / Offset:	1 / 108
Mode:	Standalone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3790.0	Н	-	-	-78.65	3.22	31.57	-63.69	-13.00	-50.69
5685.0	Н	-	-	-79.20	5.82	33.62	-61.64	-13.00	-48.64
7580.0	Н	-	-	-80.23	8.45	35.22	-60.04	-13.00	-47.04
9475.0	Н	-	-	-83.98	19.26	42.28	-52.97	-13.00	-39.97
11370.0	Н	-	-	-84.40	23.56	46.16	-49.10	-13.00	-36.10
13265.0	Н	-	-	-85.56	27.67	49.11	-46.15	-13.00	-33.15

Table 7-18. Radiated Spurious Data (NR Band n25/2 – High Channel - North - Half)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT		Approved by: Technical Manager
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# NR Band n25/2 - South



Plot 7-185. Radiated Spurious Plot (NR Band n25/2 - South - Half)

Bandwidth (MHz):	40
Frequency (MHz):	1870.0
RB / Offset:	1 / 108
Mode:	Standalone
Mode:	Standalone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3740.0	Н	276	349	-76.91	3.64	33.73	-61.53	-13.00	-48.53
5610.0	Н	-	-	-79.43	6.46	34.03	-61.22	-13.00	-48.22
7480.0	Н	-	-	-80.33	8.01	34.68	-60.57	-13.00	-47.57
9350.0	Н	-	-	-83.57	19.05	42.48	-52.78	-13.00	-39.78
11220.0	Н	-	-	-84.05	22.40	45.35	-49.90	-13.00	-36.90
13090.0	н	-	-	-84.63	25.26	47.63	-47.63	-13.00	-34.63

Table 7-19. Radiated Spurious Data (NR Band n25/2 - Low Channel - South - Open)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth (MHz):	40
Frequency (MHz):	1882.5
RB / Offset:	1 / 108
Mode:	Standalone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3765.0	Н	394	238	-78.33	4.19	32.86	-62.39	-13.00	-49.39
5647.5	Н	-	-	-79.30	5.94	33.64	-61.62	-13.00	-48.62
7530.0	Н	-	-	-80.52	7.95	34.43	-60.82	-13.00	-47.82
9412.5	Н	-	-	-83.85	18.71	41.86	-53.40	-13.00	-40.40
11295.0	Н	-	-	-84.28	21.26	43.98	-51.27	-13.00	-38.27
13177.5	Н	-	-	-84.62	25.40	47.78	-47.48	-13.00	-34.48

Table 7-20. Radiated Spurious Data (NR Band n25/2 – Mid Channel - South - Open)

Bandwidth (MHz):	40
Frequency (MHz):	1895.0
RB / Offset:	1 / 108
Mode:	Standalone

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3790.0	Н	298	294	-77.29	3.22	32.93	-62.33	-13.00	-49.33
5685.0	Н	-	-	-79.37	5.82	33.45	-61.81	-13.00	-48.81
7580.0	Н	-	-	-80.21	8.45	35.24	-60.02	-13.00	-47.02
9475.0	Н	-	-	-84.23	19.26	42.03	-53.22	-13.00	-40.22
11370.0	Н	-	-	-84.62	23.56	45.94	-49.32	-13.00	-36.32
13265.0	Н	-	-	-85.91	27.67	48.76	-46.50	-13.00	-33.50

Table 7-21. Radiated Spurious Data (NR Band n25/2 – High Channel - South - Open)

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# EN-DC NR Band n25/2 - North & LTE Band 12 - South

FCC ID: C3K1995 Approved by: PART 24 / RSS-133 MEASUREMENT Microsoft IC: 3048A-1995 REPORT **Technical Manager** Test Report S/N: EUT Type: Test Dates: Page 129 of 150 1M2105060048-03-R1.C3K 5/25/2021 - 8/31/2021 Portable Handset © 2021 PCTEST V2 3/15/2021







Bandwidth (MHz):	40
Frequency (MHz):	1880.0
RB / Offset:	1 / 106
Mode:	EN-DC
Anchor Band:	B12

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1637.5	Н	-	-	-76.88	6.60	36.72	-58.53	-13.00	-45.53
2810.0	Н	-	-	-77.50	11.06	40.56	-54.70	-13.00	-41.70
3760.0	Н	376	210	-78.48	12.95	41.47	-53.79	-13.00	-40.79
5640.0	Н	300	321	-78.54	15.42	43.88	-51.38	-13.00	-38.38
6570.0	Н	-	-	-79.71	16.91	44.20	-51.06	-13.00	-38.06

Table 7-22. Radiated Spurious Data (EN-DC n25/2 (North) & B12 (South) - Open)

FCC ID: C3K1995 IC: 3048A-1995	PCTEST Post to be post of @ advance	PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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# EN-DC NR Band n25/2 – South & LTE Band 12 – North

Plot 7-192. Radiated Spurious Plot (EN-DC n25/2 (South) & B12 (North) - 1 – 6 GHz - Closed)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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Bandwidth (MHz):	40
Frequency (MHz):	1880.0
RB / Offset:	1 / 106
Mode:	EN-DC
Anchor Band:	B12

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1637.5	Н	-	-	-77.09	6.60	36.51	-58.74	-13.00	-45.74
2810.0	Н	-	-	-77.75	11.06	40.31	-54.95	-13.00	-41.95
3052.5	Н	-	-	-77.59	12.02	41.43	-53.83	-13.00	-40.83

Table 7-23. Radiated Spurious Data (EN-DC n25/2 (South) & B12 (North) - Open)

FCC ID: C3K1995 IC: 3048A-1995		PART 24 / RSS-133 MEASUREMENT REPORT	Microsoft	Approved by: Technical Manager
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# EN-DC NR Band n25/2 - North & LTE Band 66 - South



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