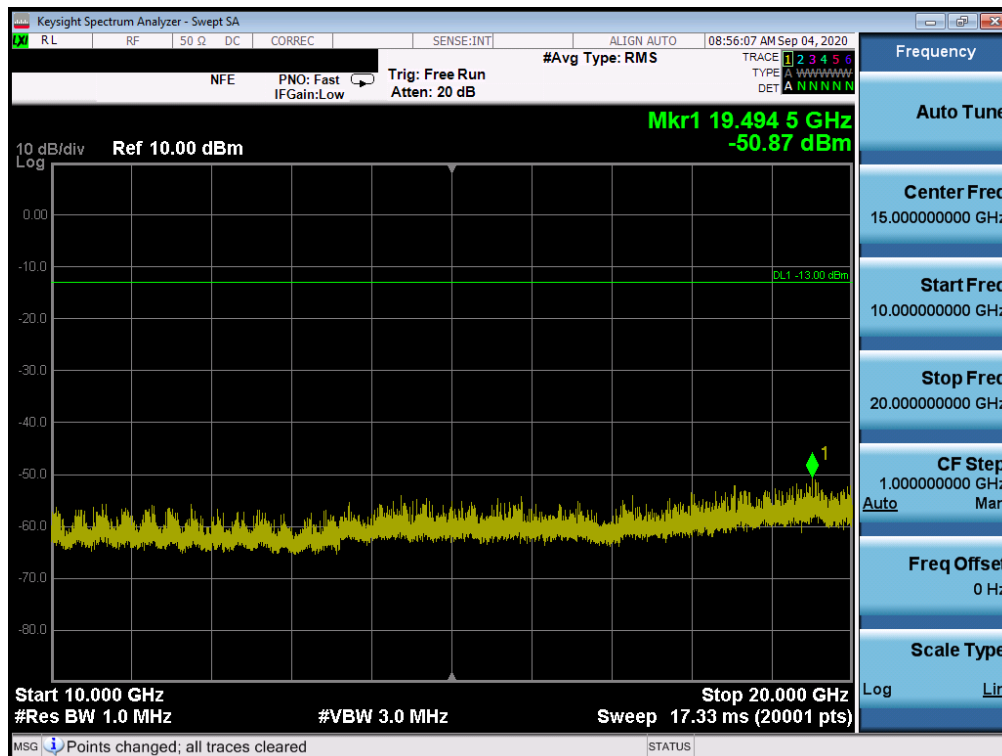


Plot 7-112. Conducted Spurious Plot (WCDMA Ch. 1413- Mid Channel)

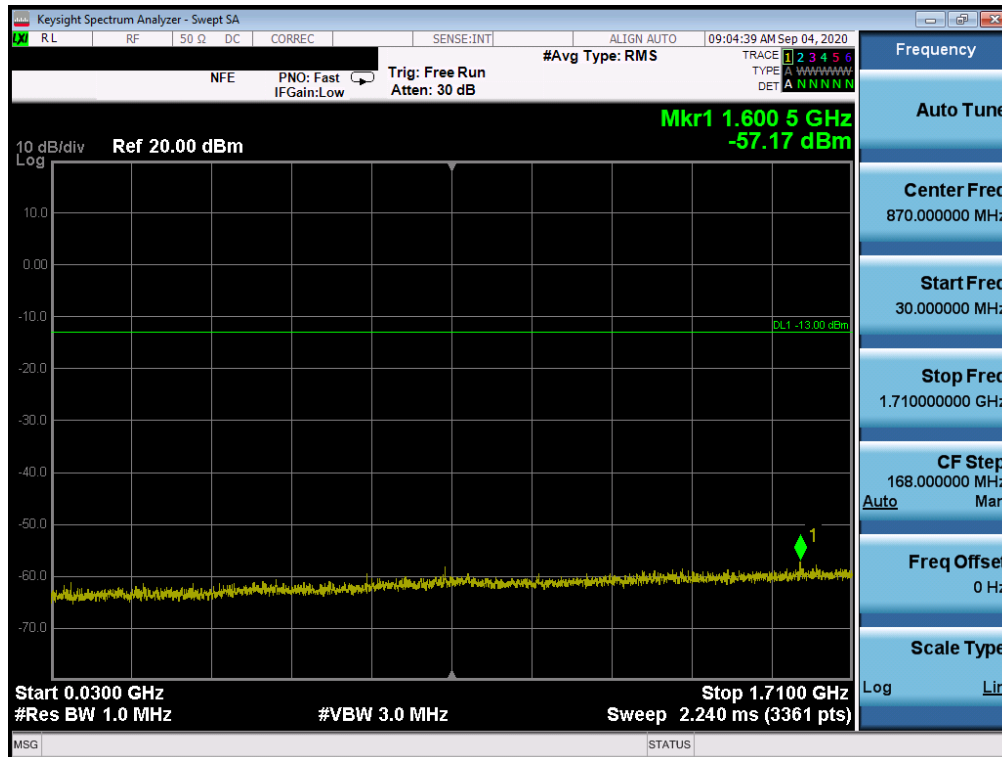


Plot 7-113. Conducted Spurious Plot (WCDMA Ch. 1413- Mid Channel)

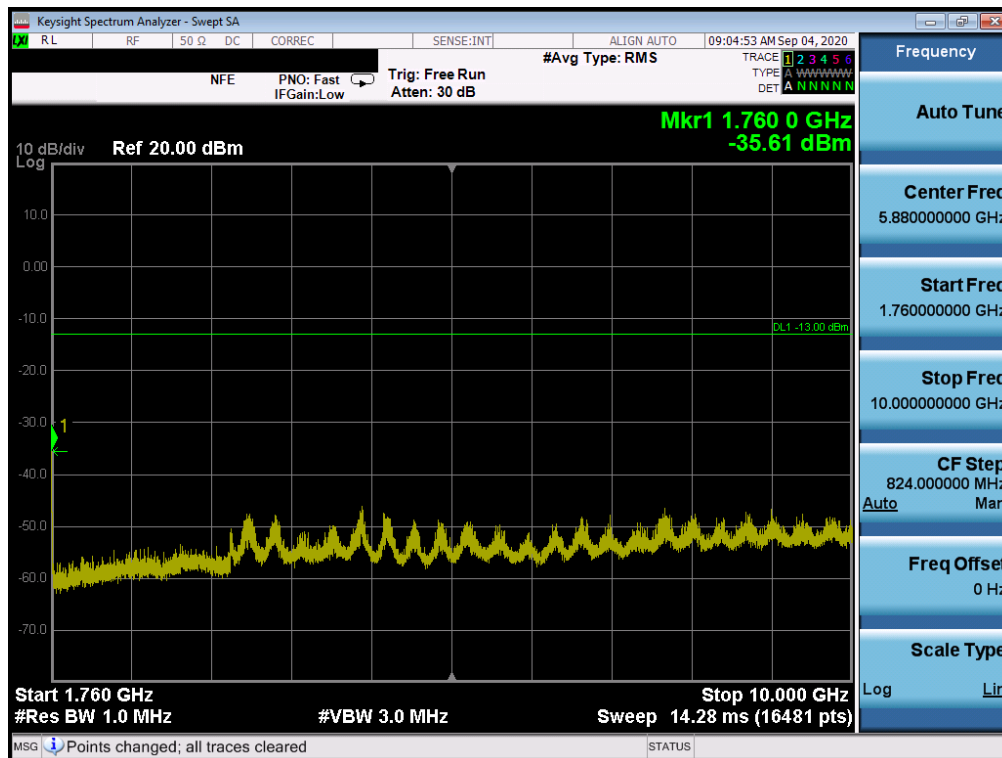
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 71 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-114. Conducted Spurious Plot (WCDMA Ch. 1513- High Channel)

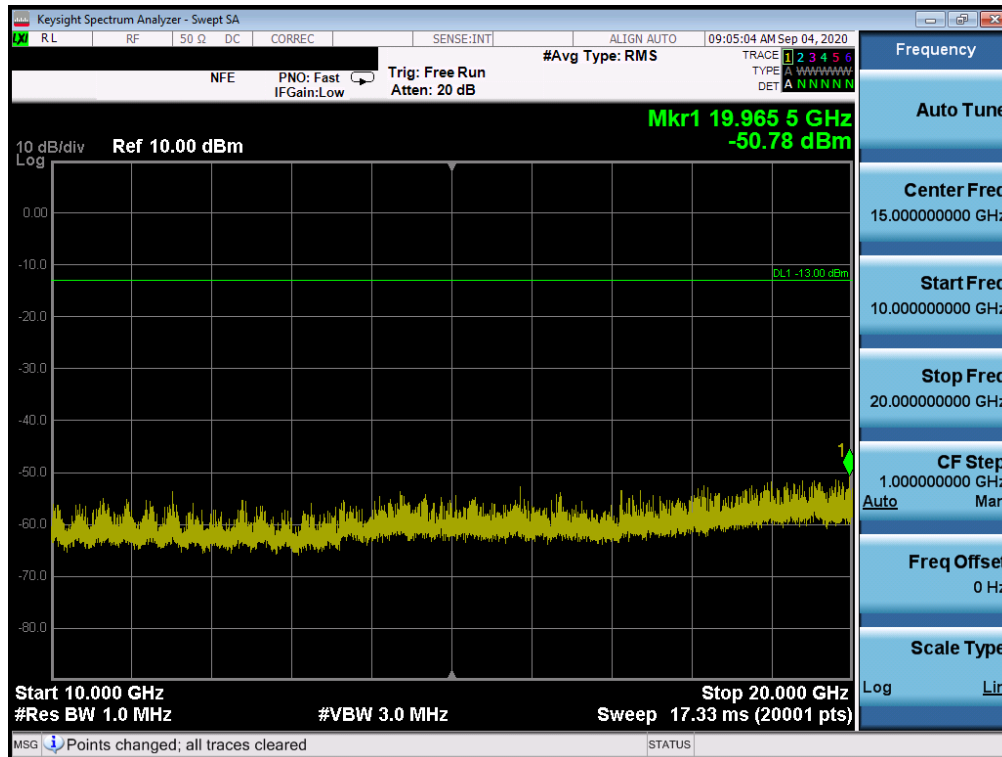


Plot 7-115. Conducted Spurious Plot (WCDMA Ch. 1513- High Channel)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 72 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



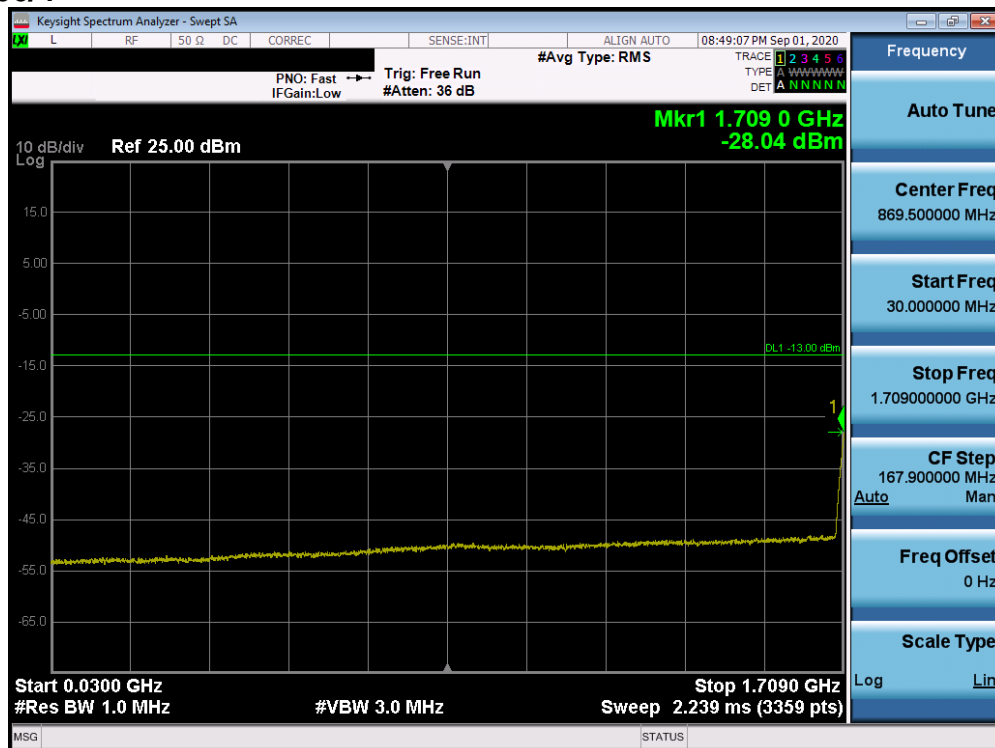
Plot 7-116. Conducted Spurious Plot (WCDMA Ch. 1513- High Channel)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 73 of 118

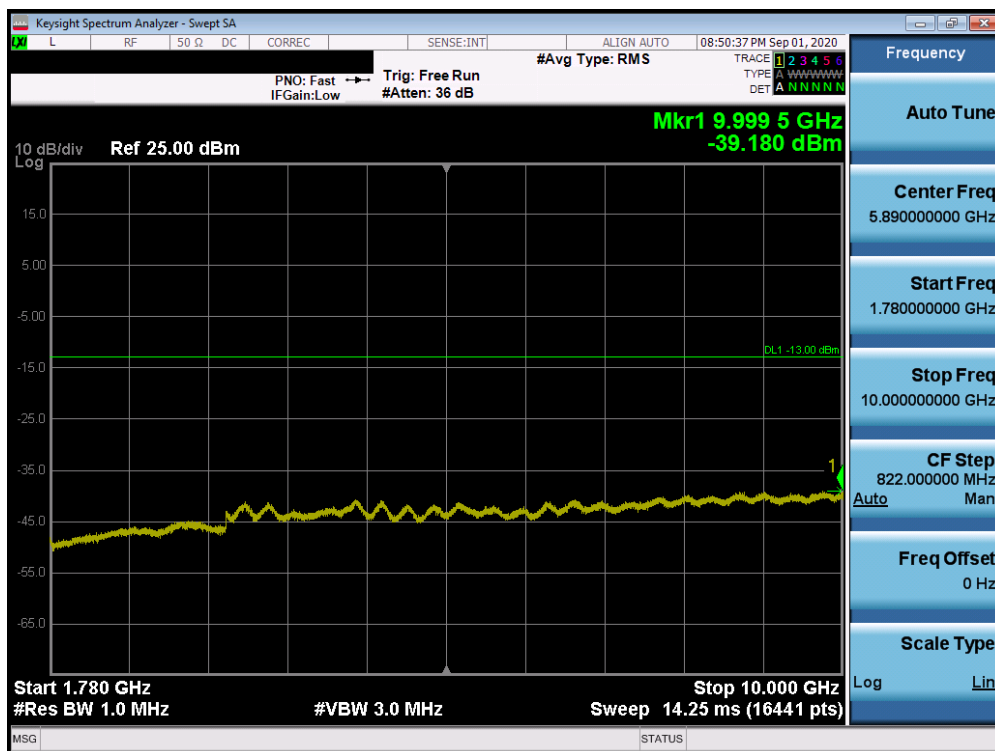
© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

LTE Band 66/4



Plot 7-117. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

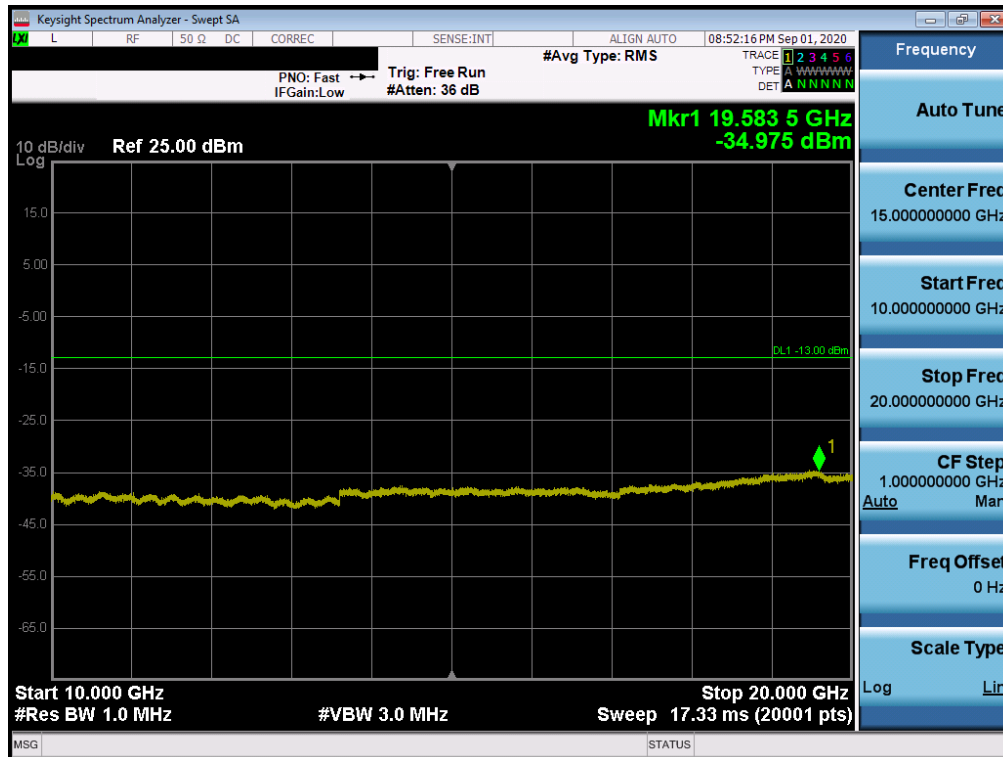


Plot 7-118. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 74 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-119. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

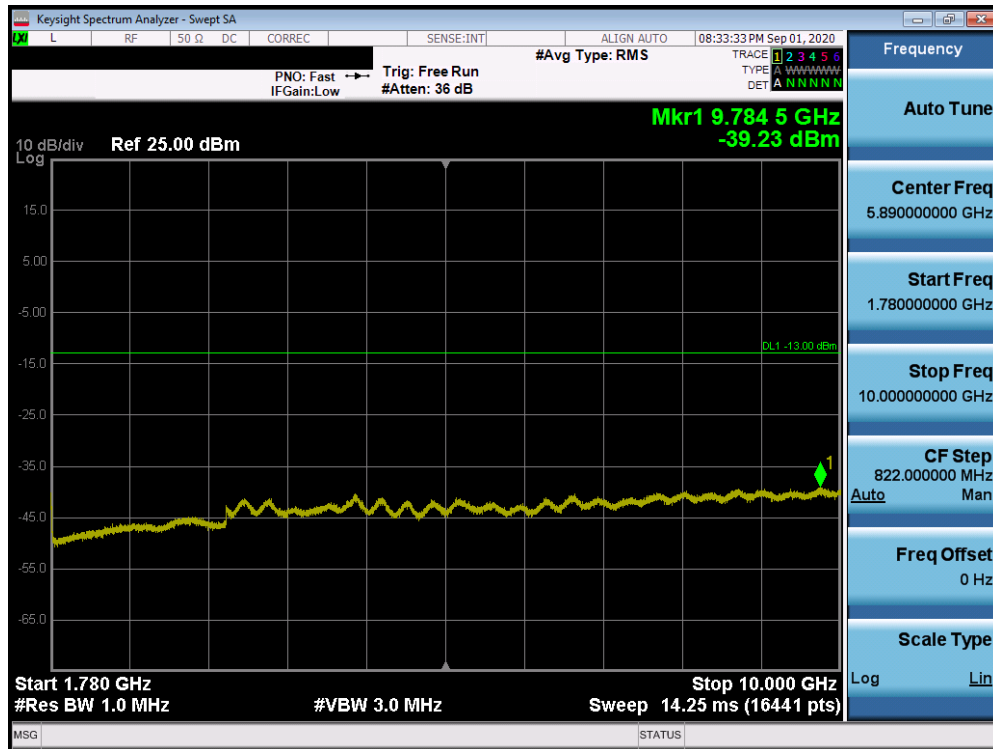


Plot 7-120. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

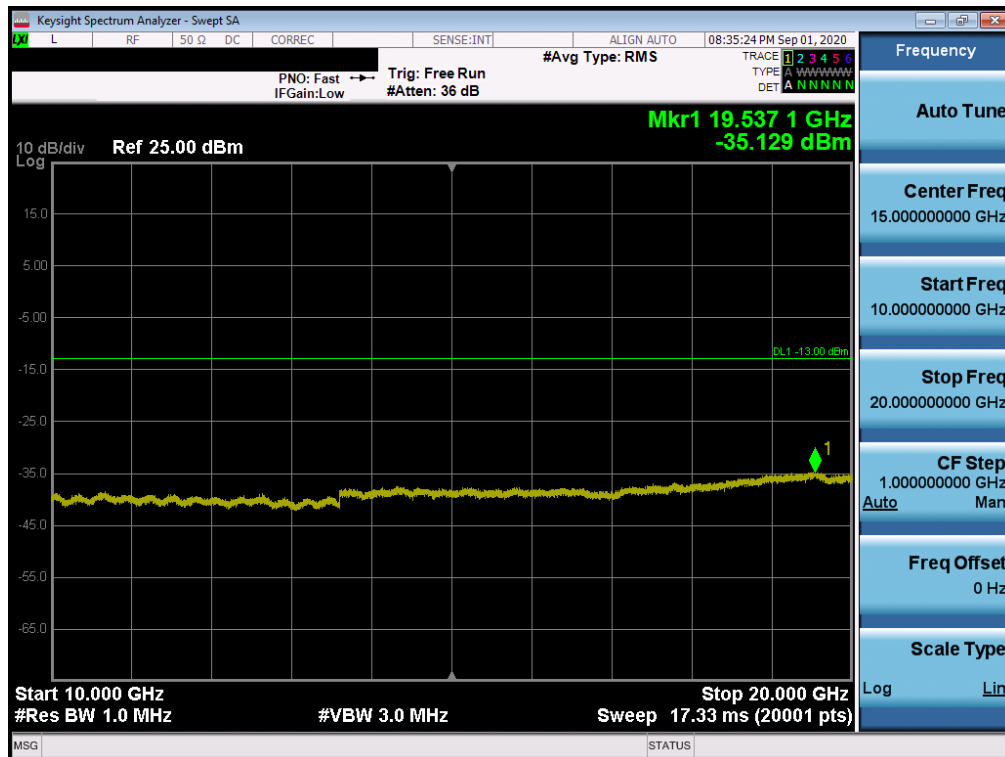
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 75 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-121. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

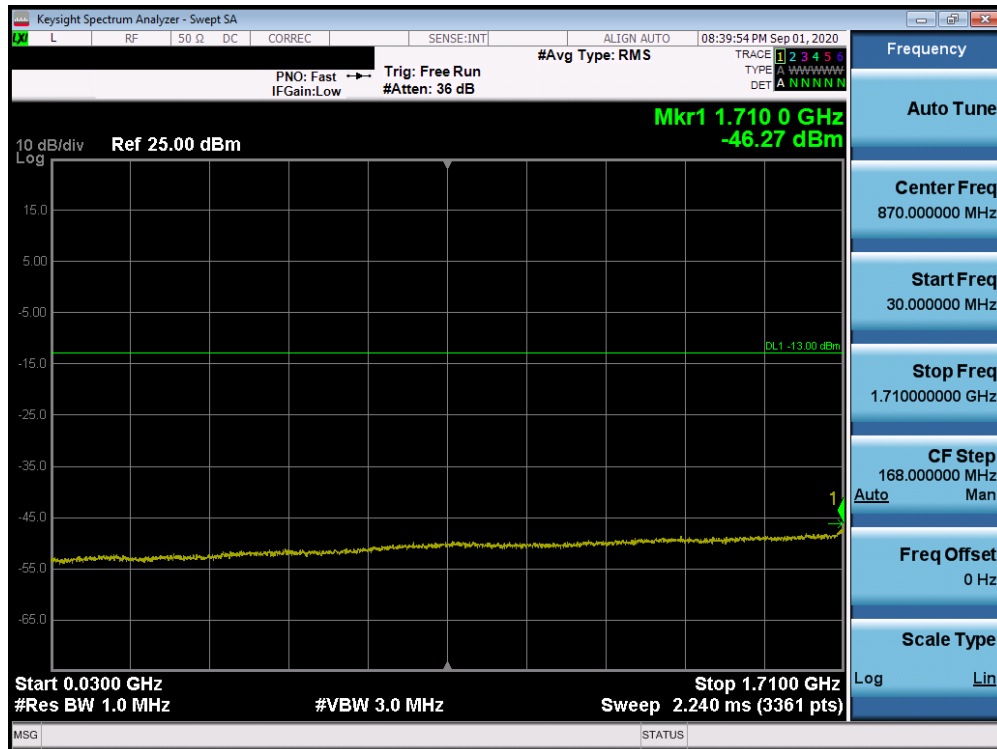


Plot 7-122. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

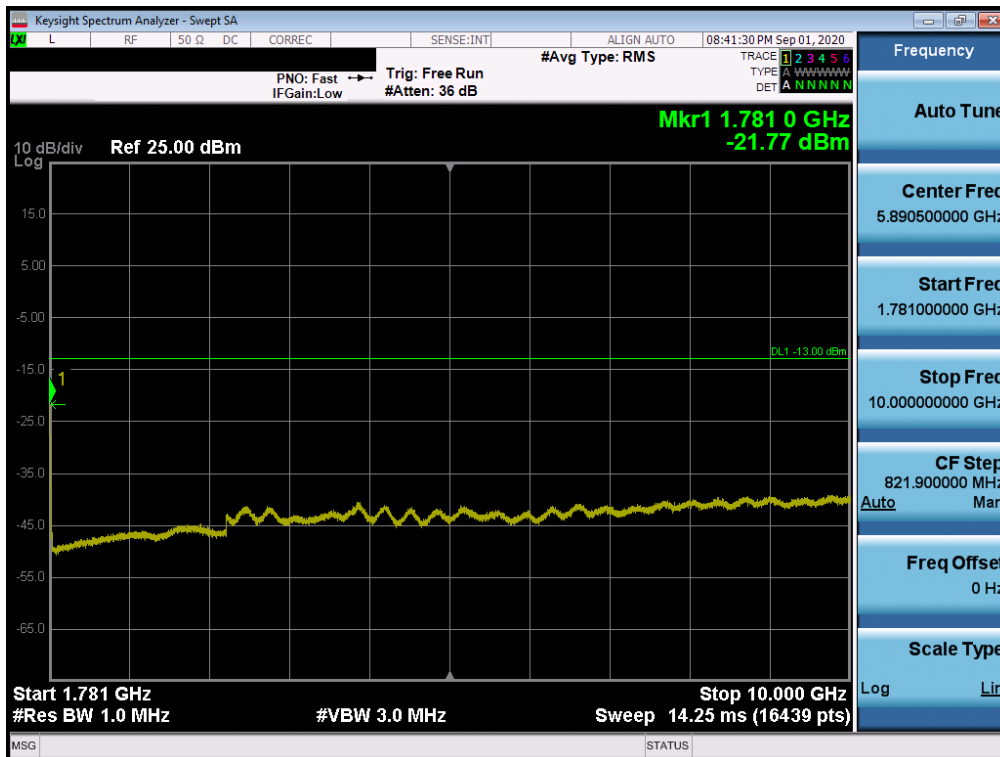
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 76 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-123. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

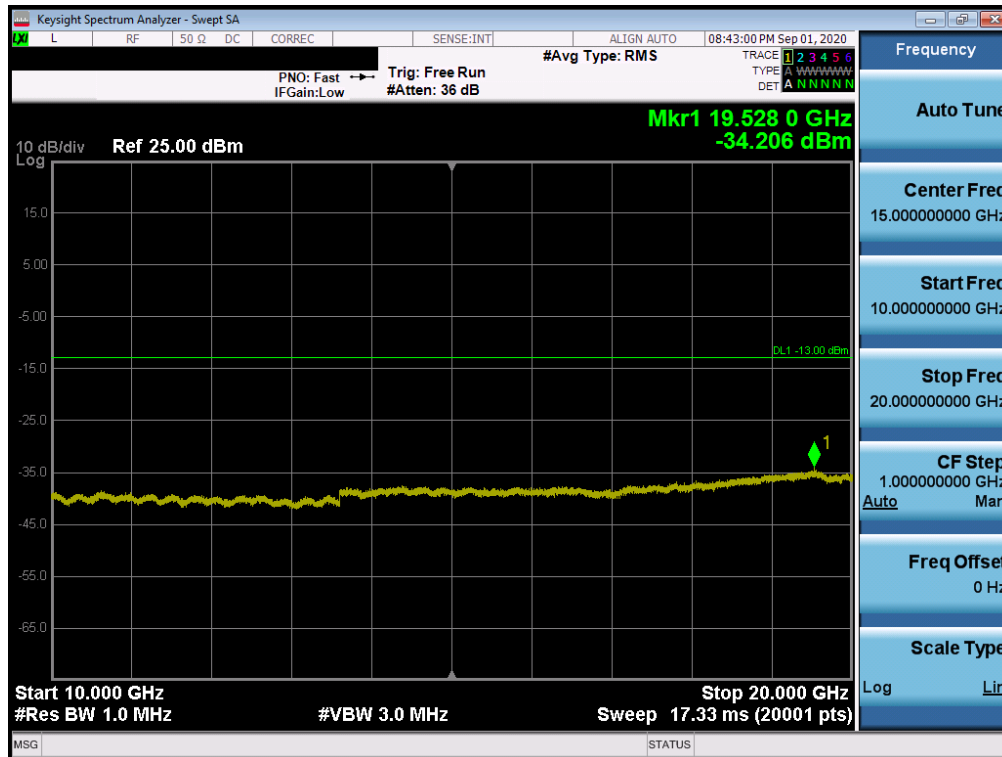


Plot 7-124. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 77 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-125. Conducted Spurious Plot (LTE Band 66/4 - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 78 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

7.5 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 \geq 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.

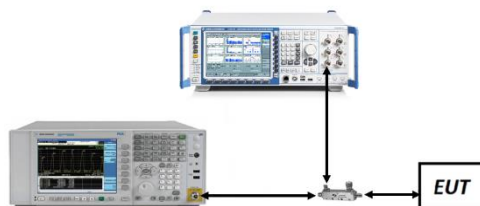


Figure 7-2. Test Instrument & Measurement Setup

Test Notes

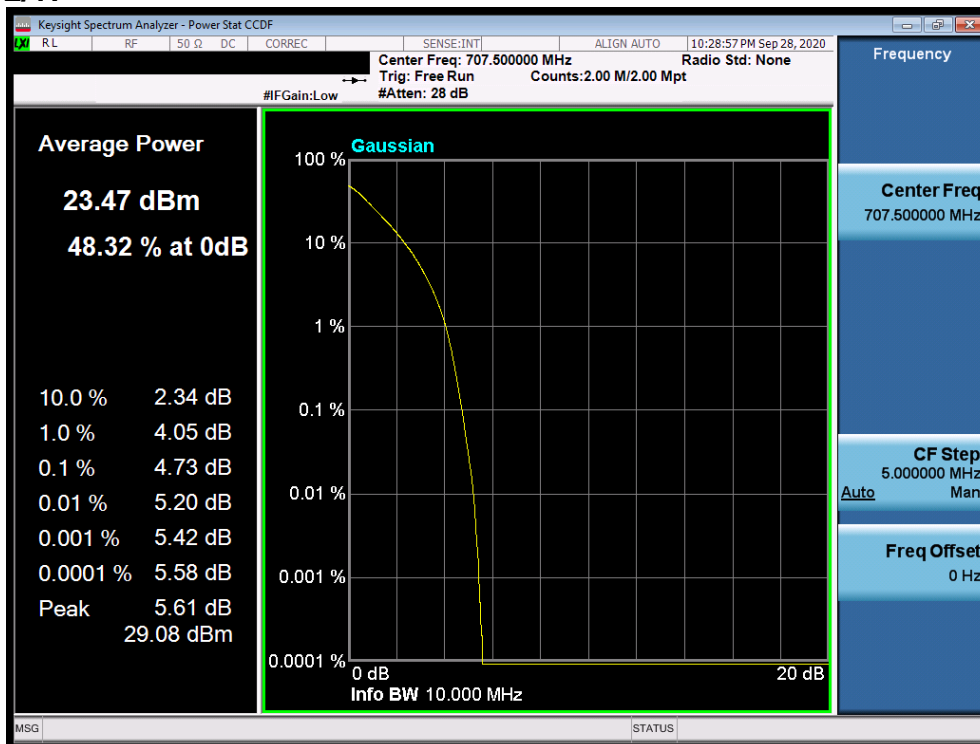
None.

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 79 of 118

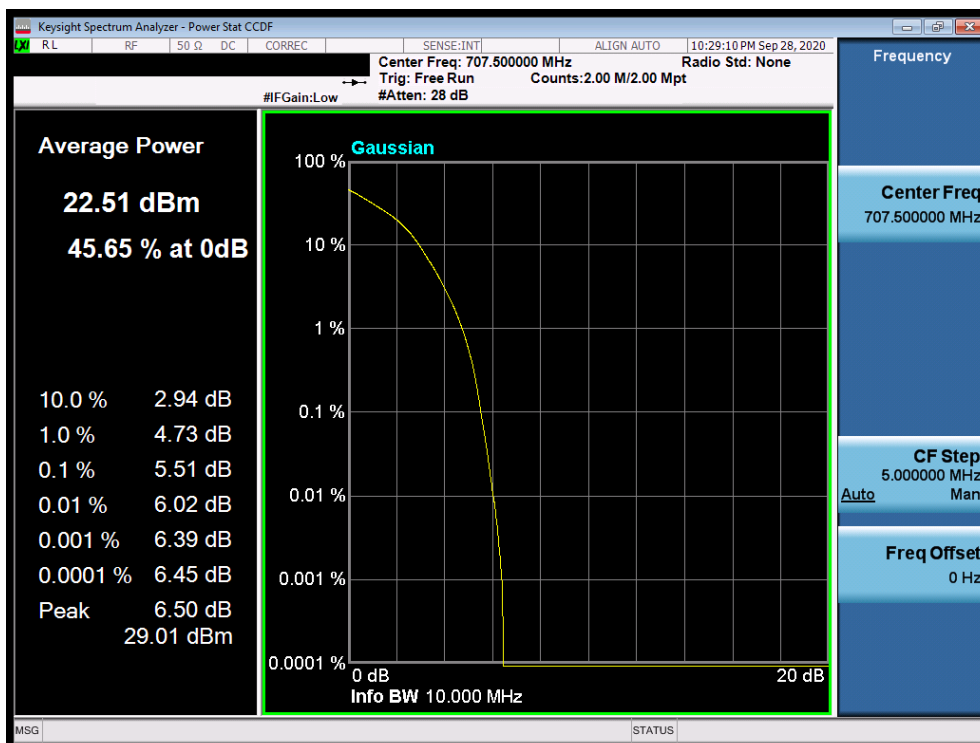
© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

LTE Band 12/17



Plot 7-126. PAR Plot (LTE Band 12/17 - 10MHz QPSK - Full RB Configuration)

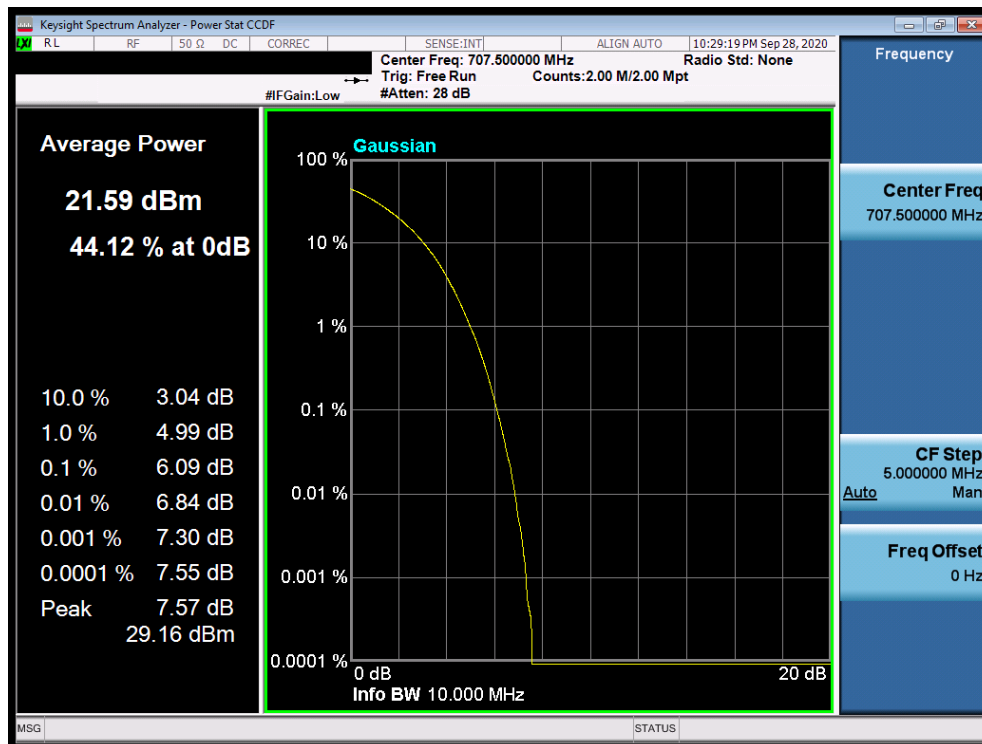


Plot 7-127. PAR Plot (LTE Band 12/17 - 10MHz 16-QAM - Full RB Configuration)

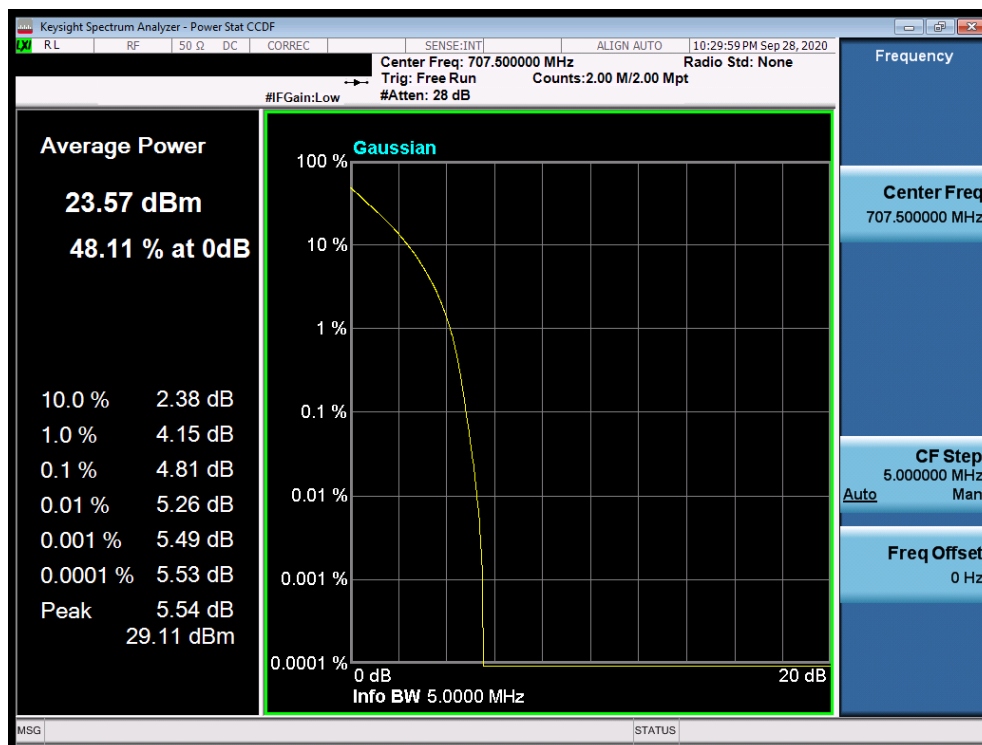
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 80 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-128. PAR Plot (LTE Band 12/17 - 10MHz 64-QAM - Full RB Configuration)

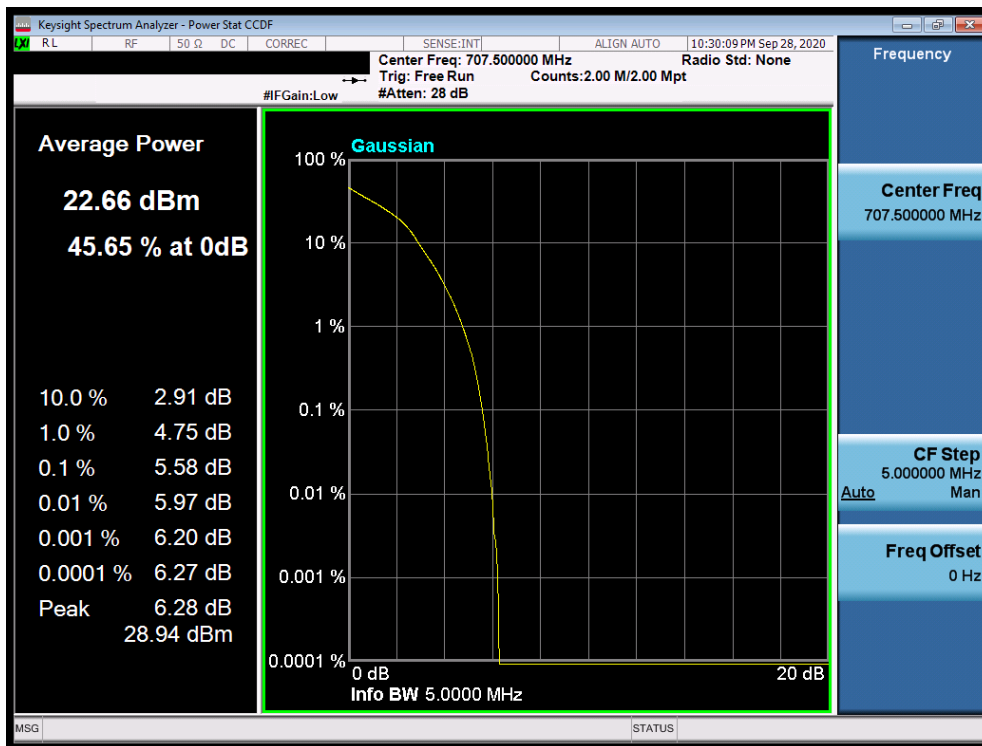


Plot 7-129. PAR Plot (LTE Band 12/17 - 5MHz QPSK - Full RB Configuration)

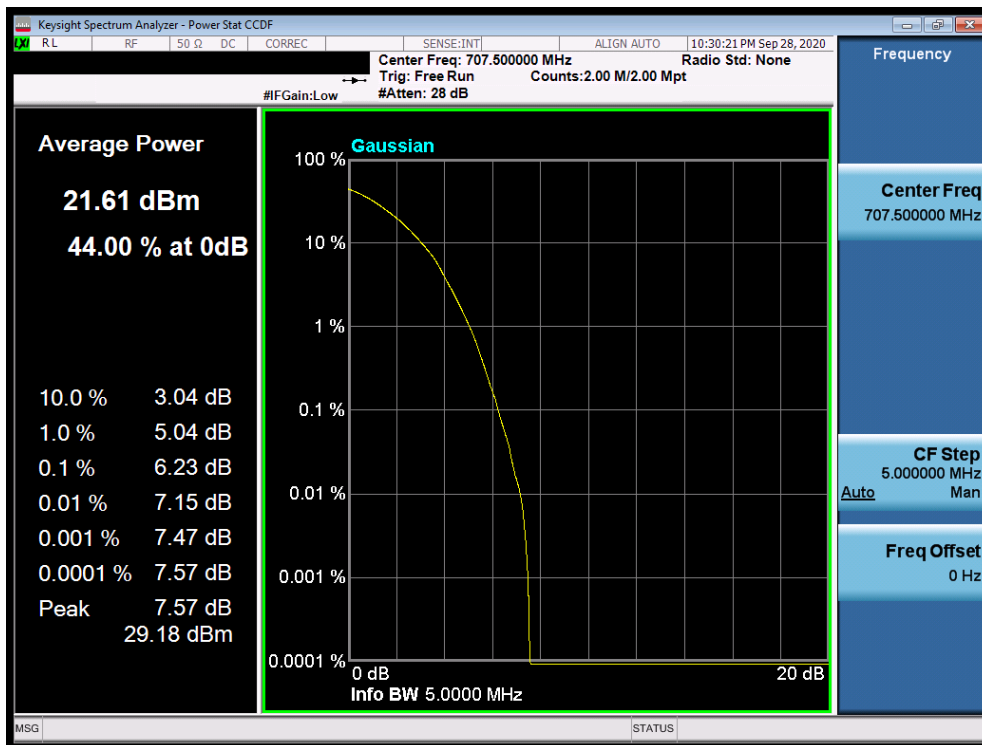
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 81 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-130. PAR Plot (LTE Band 12/17 - 5MHz 16-QAM - Full RB Configuration)

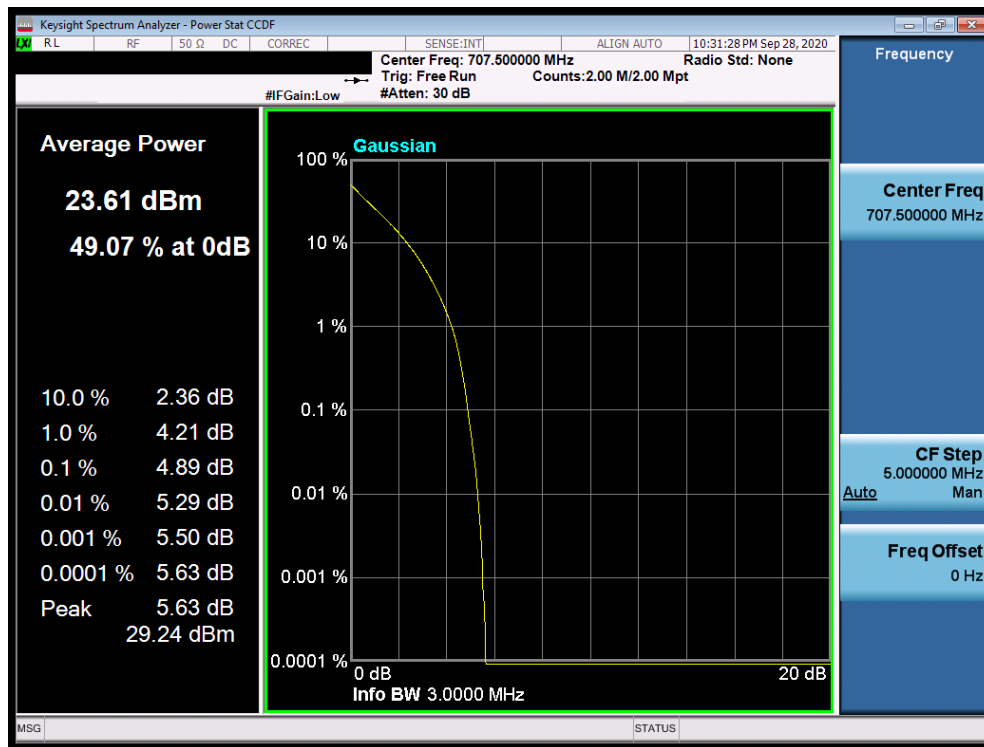


Plot 7-131. PAR Plot (LTE Band 12/17 - 5MHz 64-QAM - Full RB Configuration)

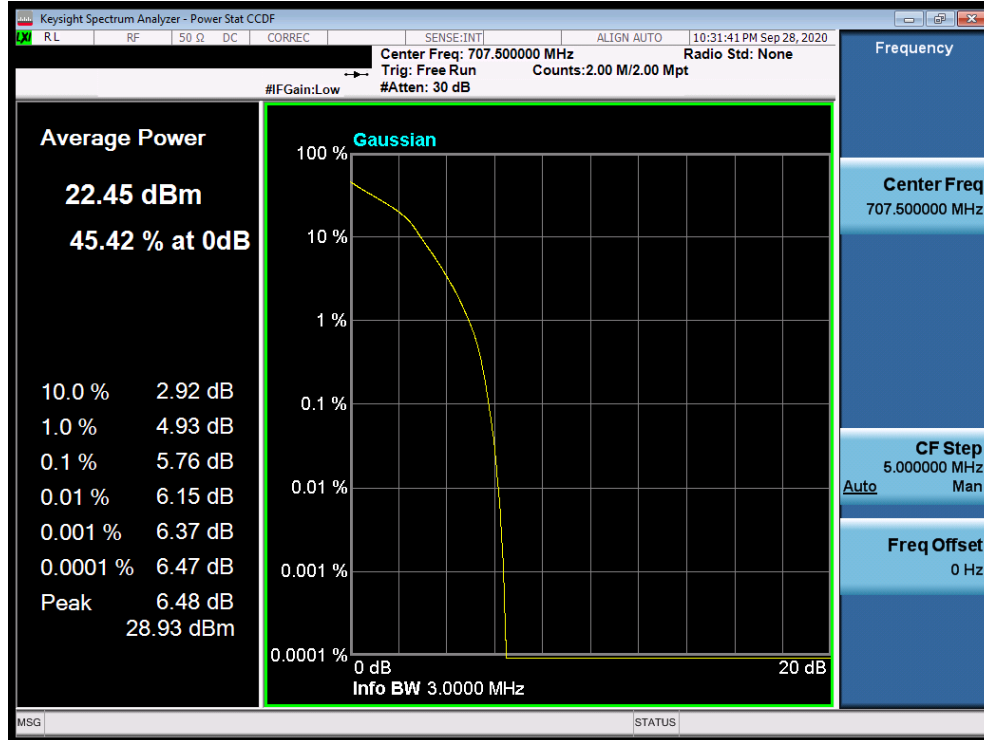
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 82 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-132. PAR Plot (LTE Band 12 - 3MHz QPSK - Full RB Configuration)

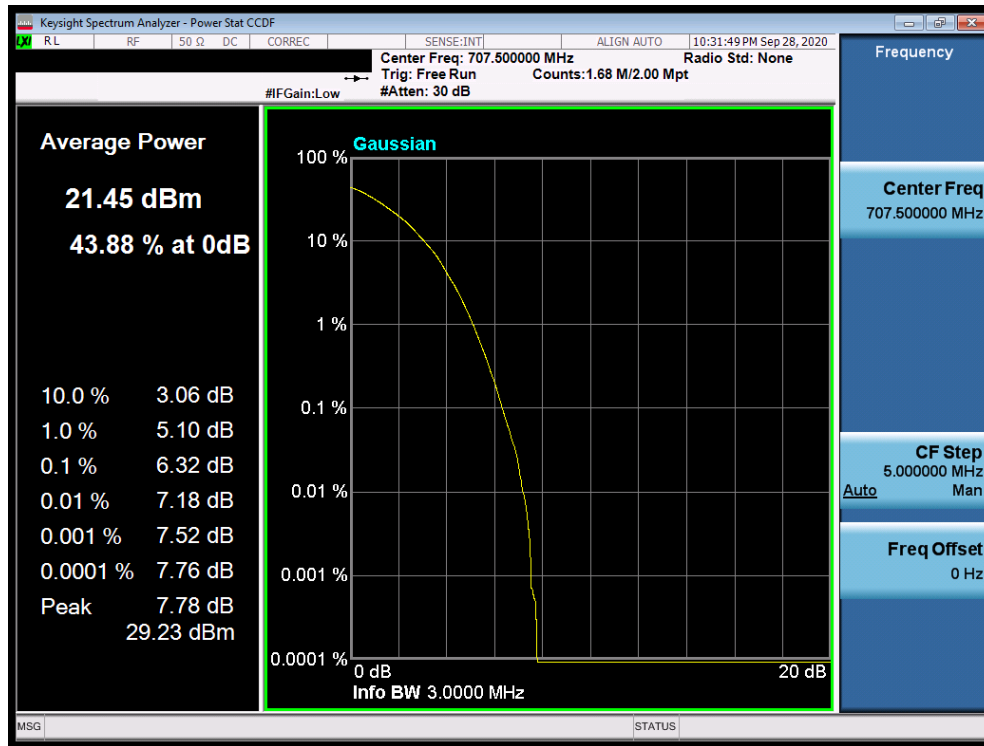


Plot 7-133. PAR Plot (LTE Band 12 - 3MHz 16-QAM - Full RB Configuration)

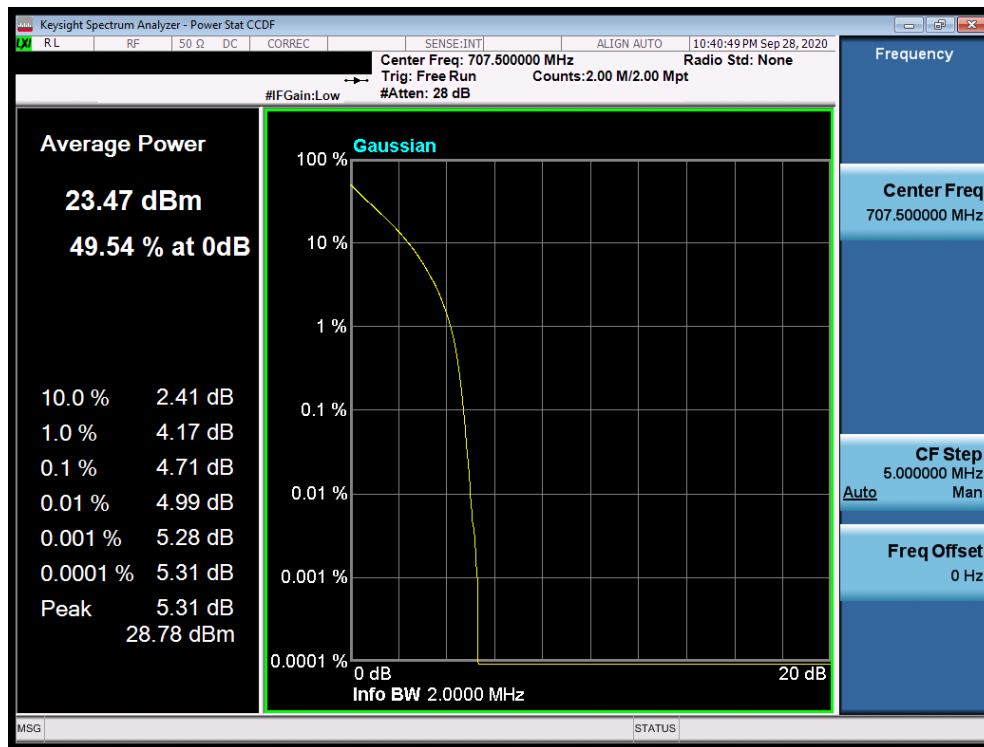
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 83 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-134. PAR Plot (LTE Band 12 - 3MHz 64-QAM - Full RB Configuration)

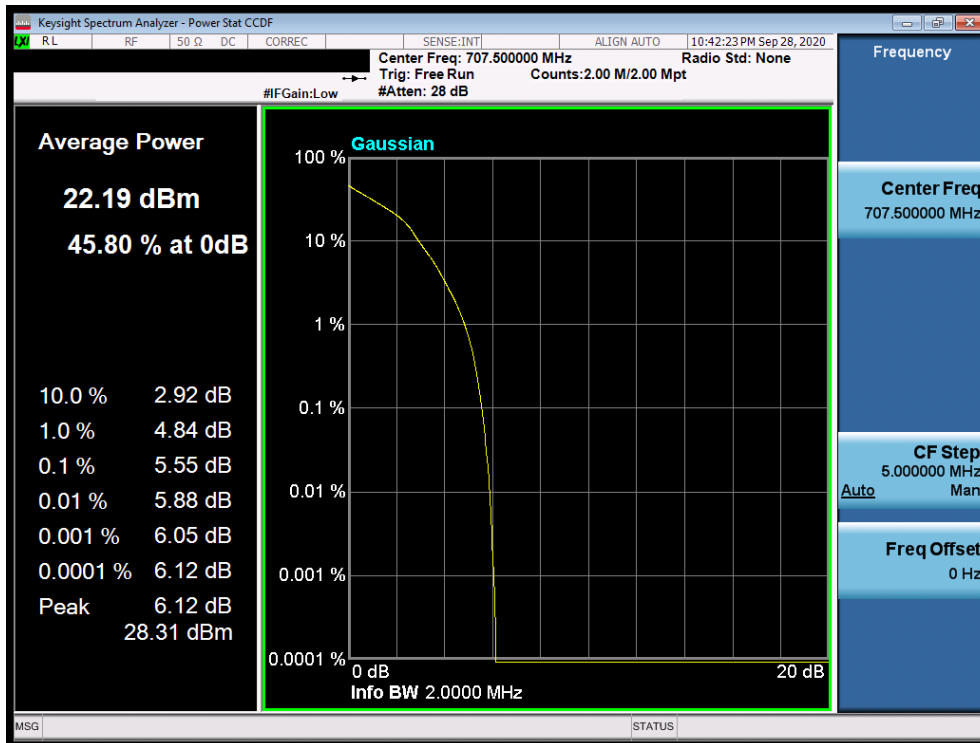


Plot 7-135. PAR Plot (LTE Band 12 - 1.4MHz QPSK - Full RB Configuration)

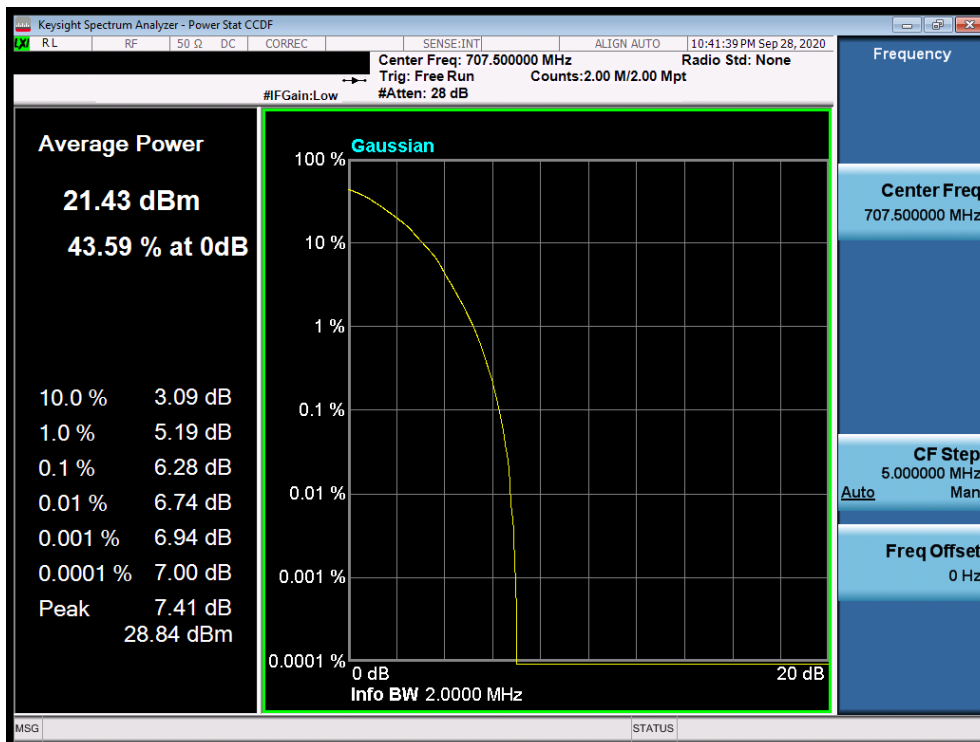
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 84 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-136. PAR Plot (LTE Band 12 – 1.4MHz 16-QAM - Full RB Configuration)



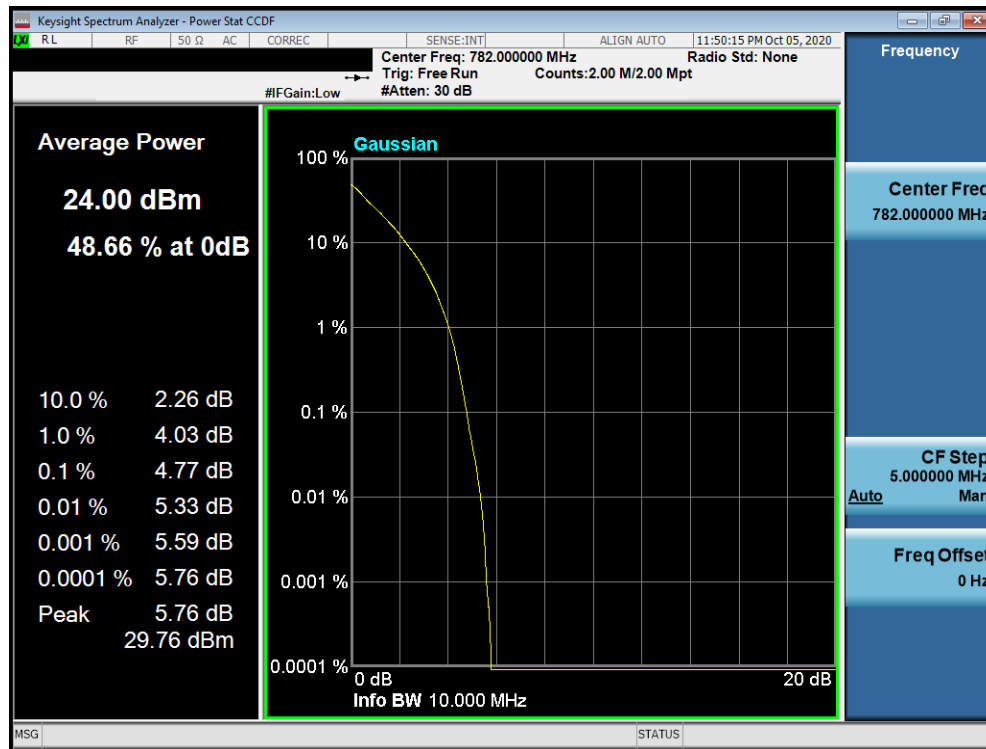
Plot 7-137. PAR Plot (LTE Band 12 – 1.4MHz 64-QAM - Full RB Configuration)

LTE Band 13

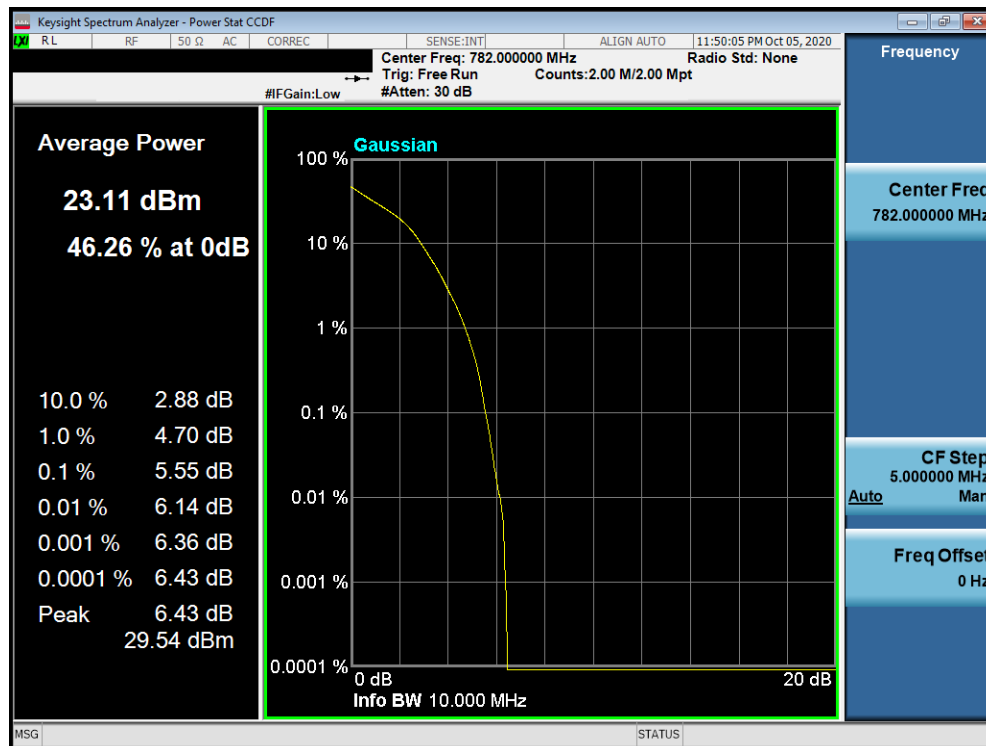
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 85 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-138. PAR Plot (LTE Band 13 – 10MHz QPSK - Full RB Configuration)

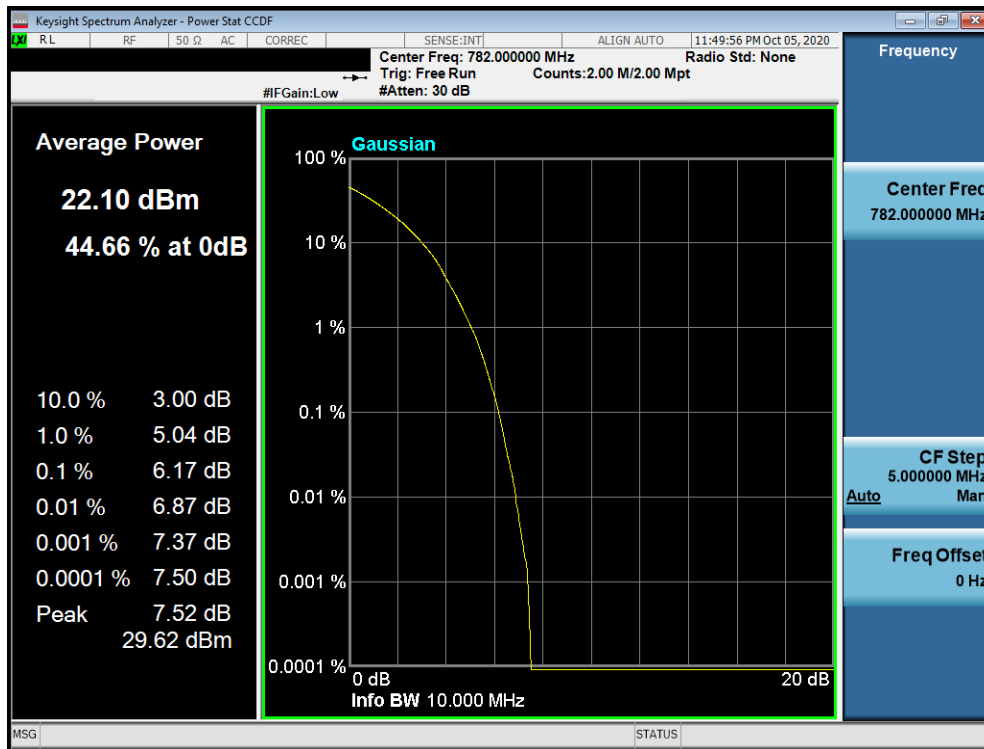


Plot 7-139. PAR Plot (LTE Band 13 – 10MHz 16-QAM - Full RB Configuration)

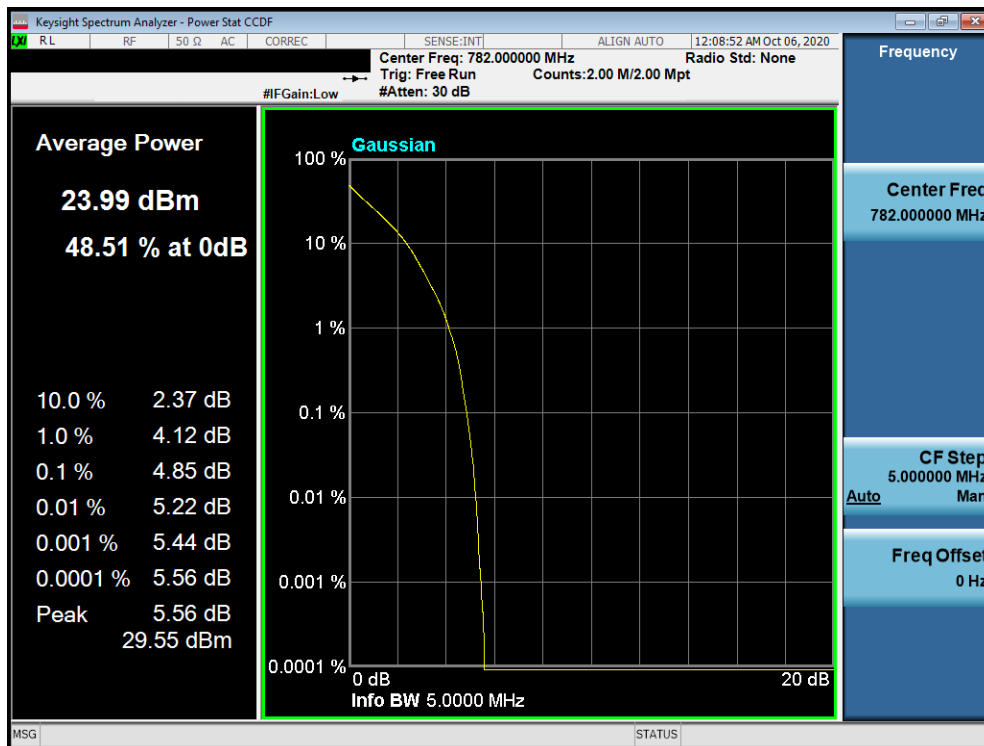
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 86 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-140. PAR Plot (LTE Band 13 – 10MHz 64-QAM - Full RB Configuration)

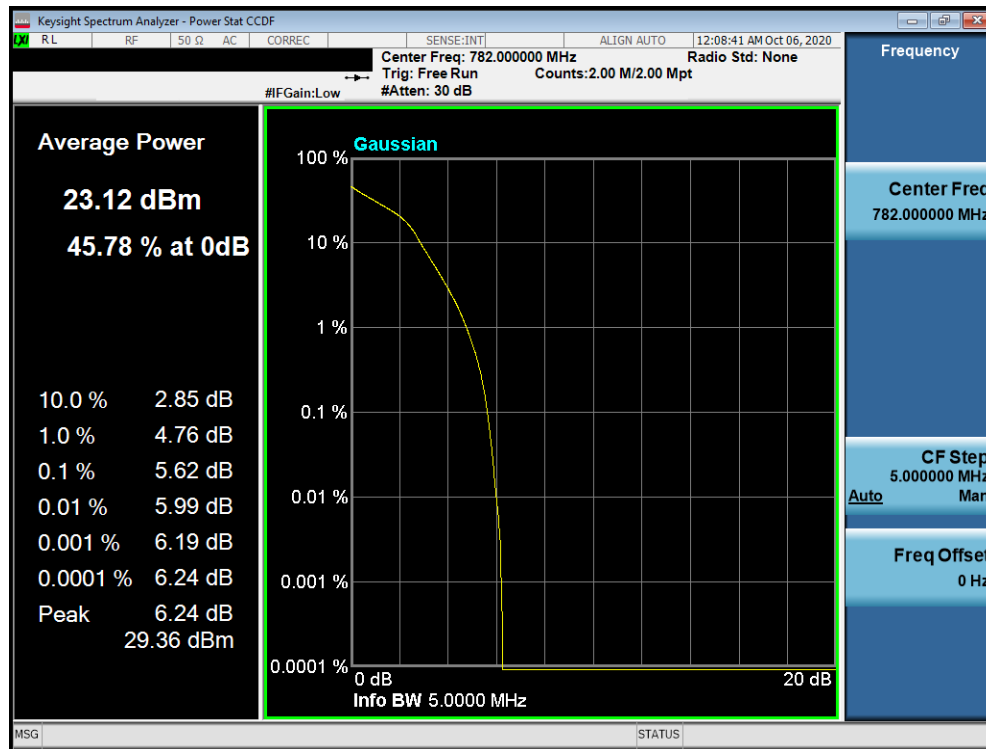


Plot 7-141. PAR Plot (LTE Band 13 – 5MHz QPSK - Full RB Configuration)

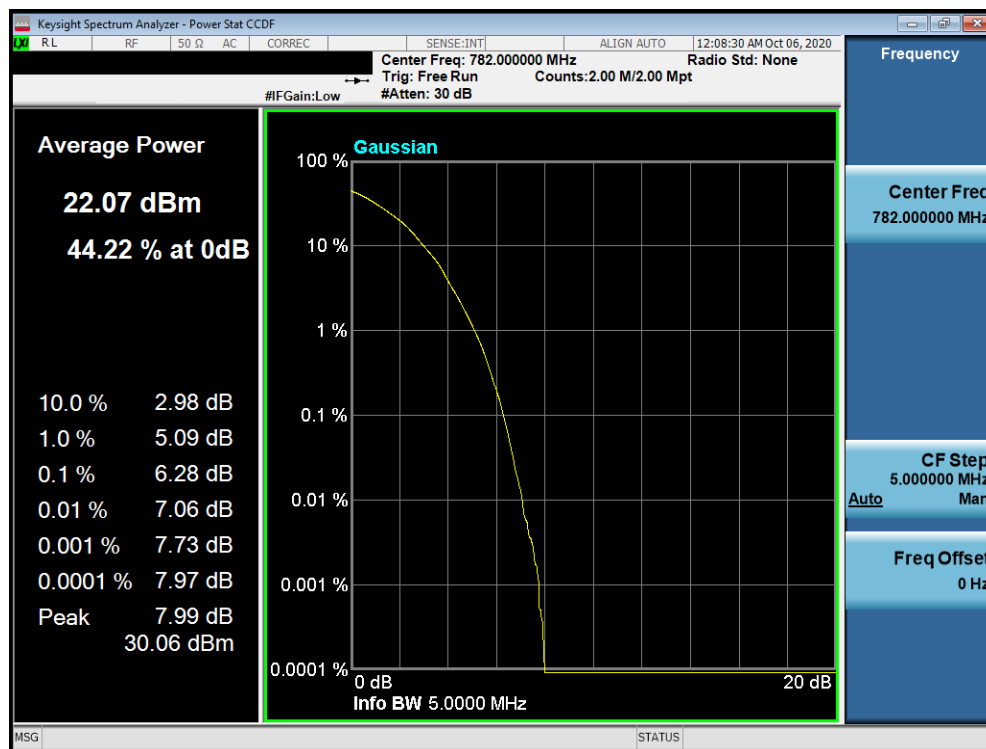
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 87 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-142. PAR Plot (LTE Band 13 – 5MHz 16-QAM - Full RB Configuration)



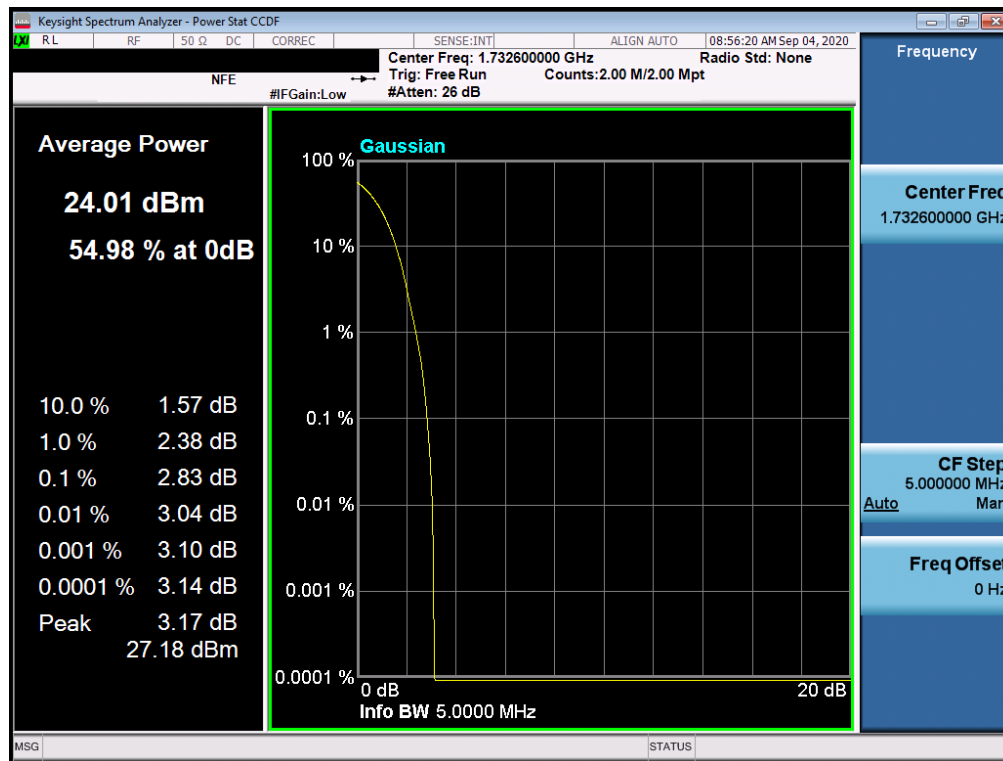
Plot 7-143. PAR Plot (LTE Band 13 – 5MHz 64-QAM - Full RB Configuration)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 88 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

WCDMA AWS



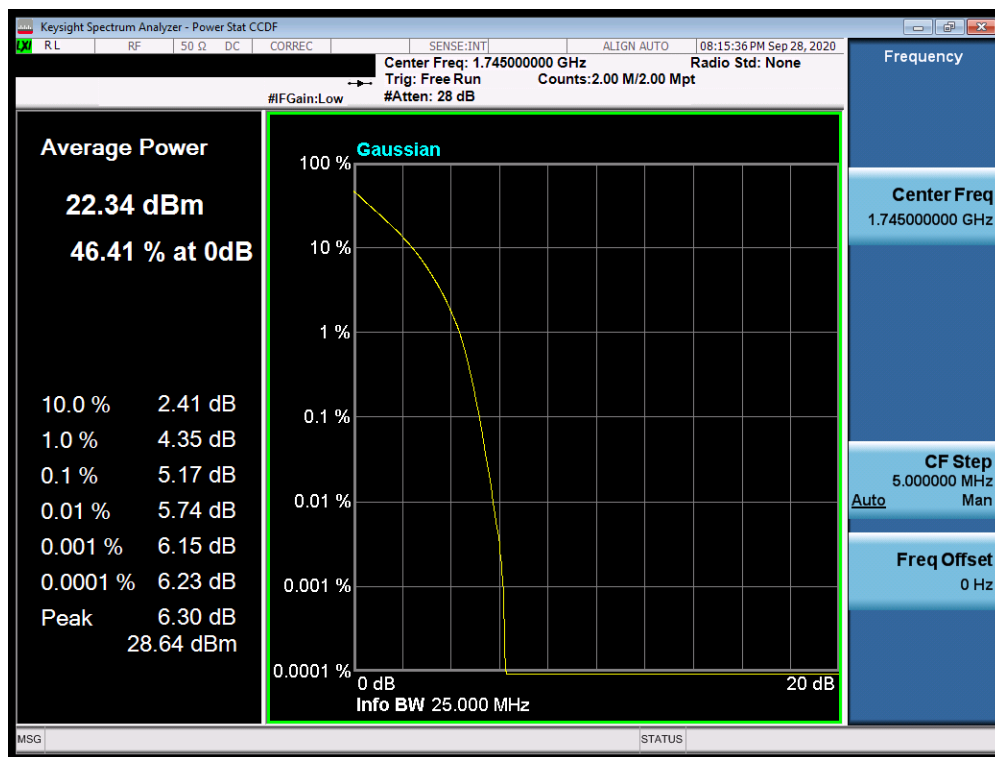
Plot 7-144. PAR Plot (WCDMA, Ch. 1413)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 89 of 118

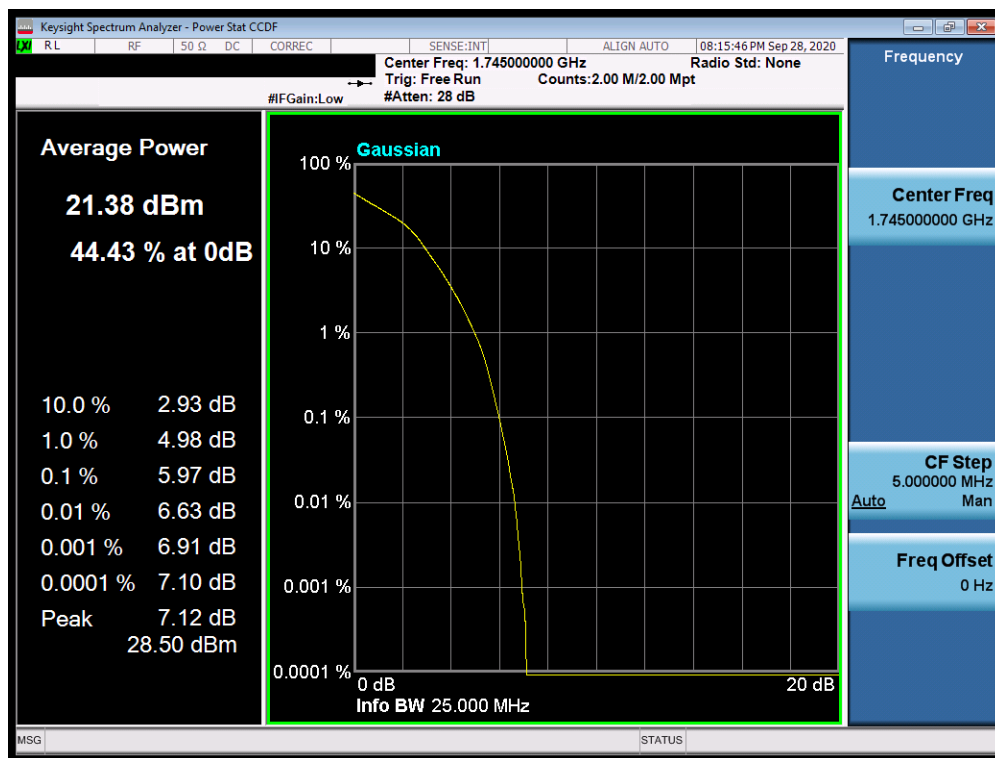
© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

LTE Band 66/4

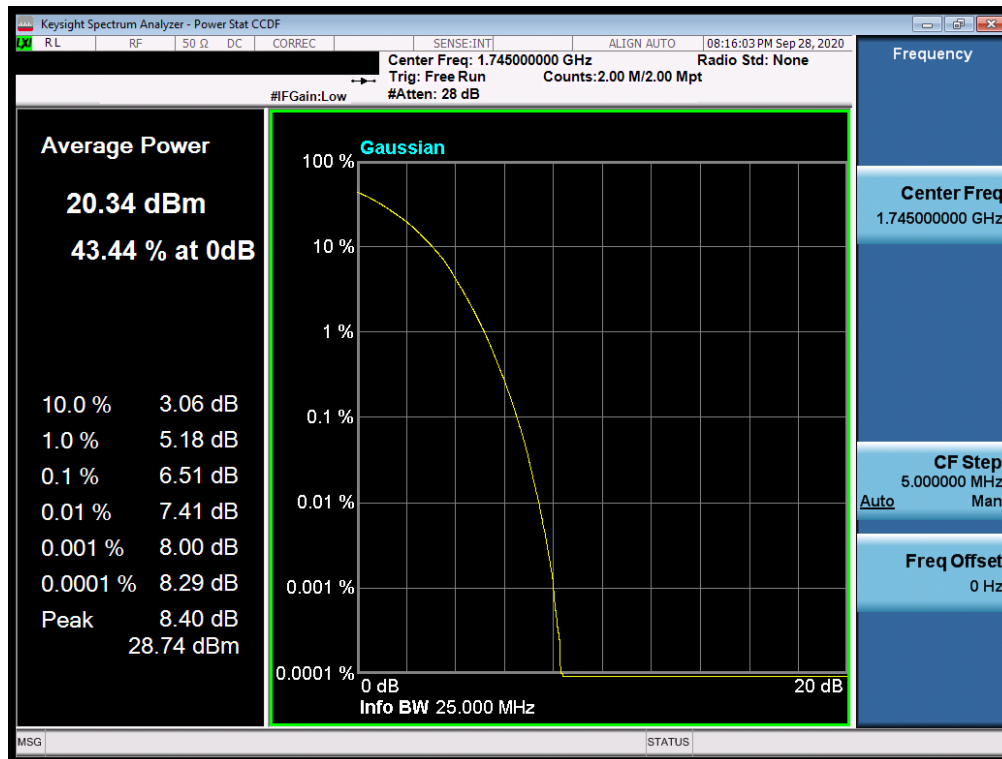


Plot 7-145. PAR Plot (LTE Band 66/4 - 20MHz QPSK - Full RB Configuration)

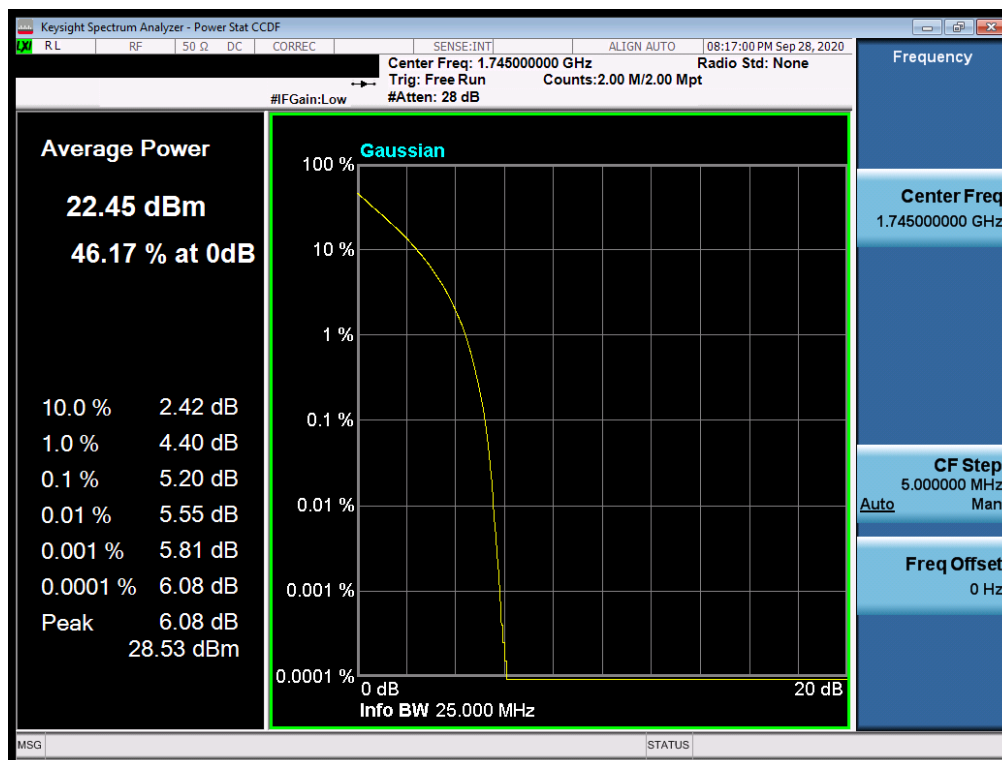


Plot 7-146. PAR Plot (LTE Band 66/4 - 20MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 90 of 118



Plot 7-147. PAR Plot (LTE Band 66/4 - 20MHz 64-QAM - Full RB Configuration)

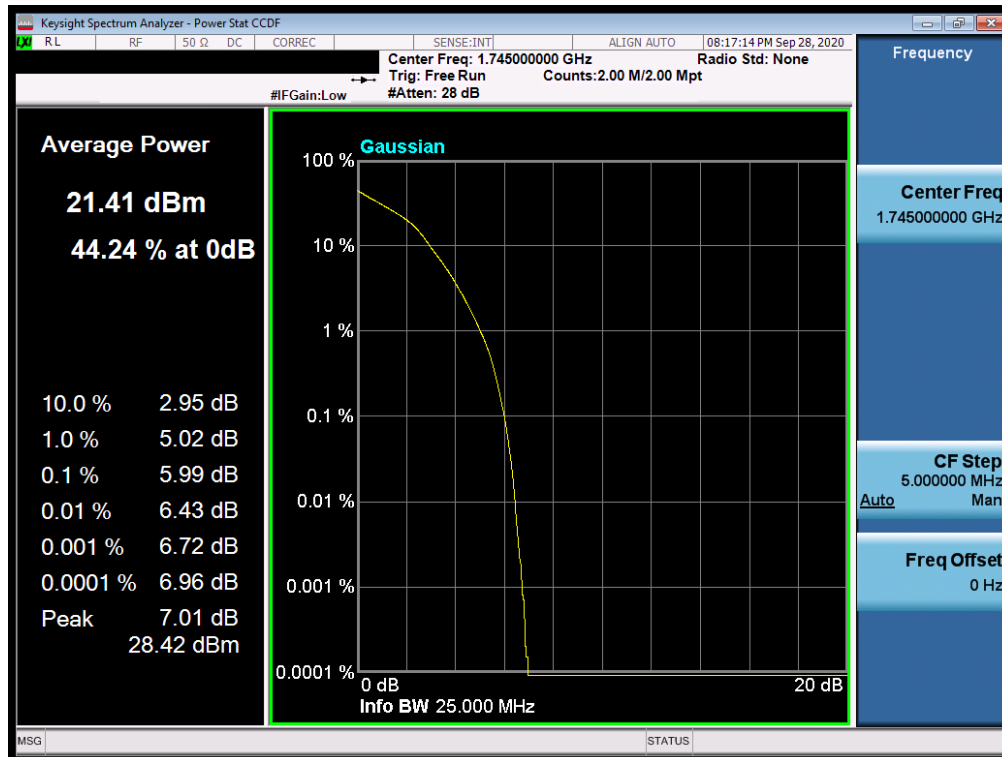


Plot 7-148. PAR Plot (LTE Band 66/4 - 15MHz QPSK - Full RB Configuration)

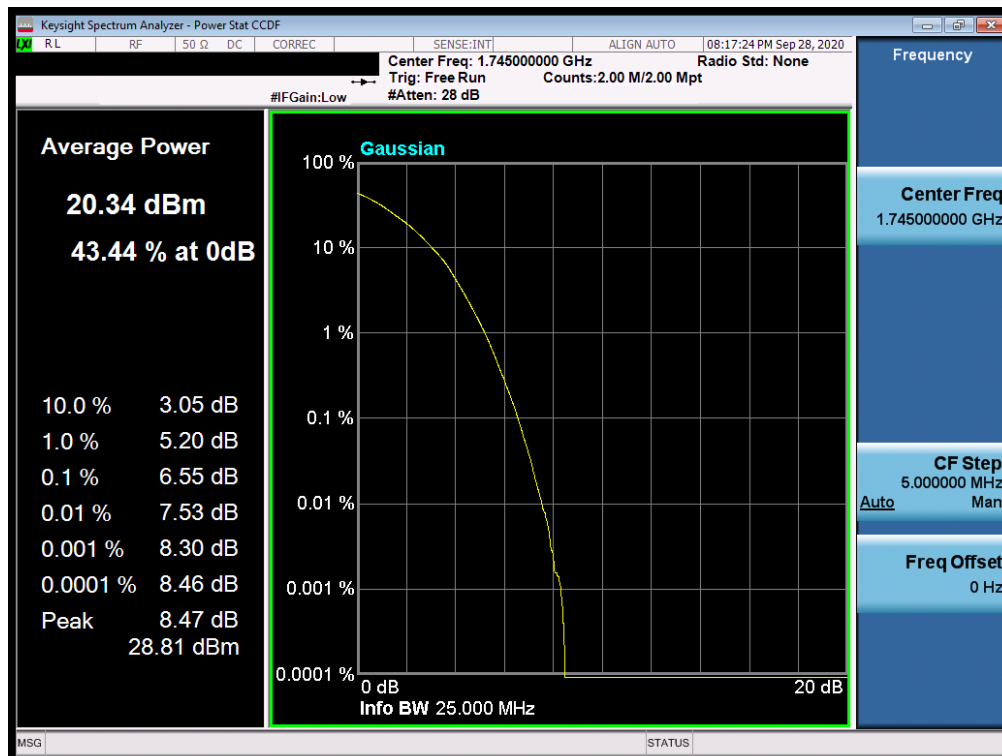
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 91 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-149. PAR Plot (LTE Band 66/4 - 15MHz 16-QAM - Full RB Configuration)

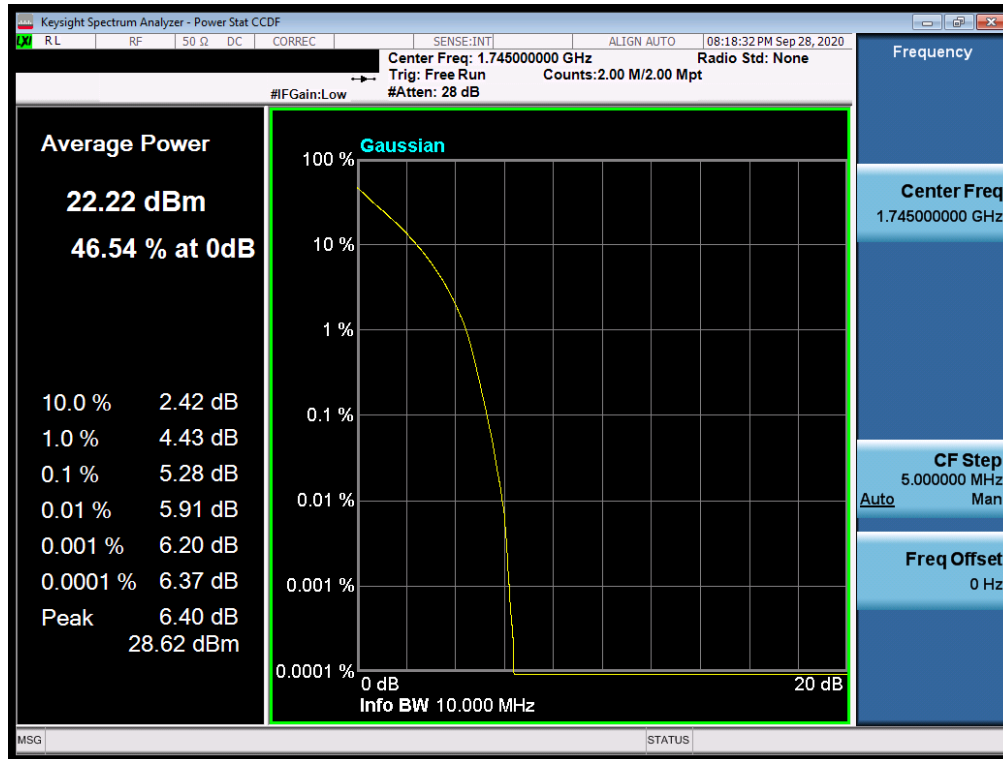


Plot 7-150. PAR Plot (LTE Band 66/4 - 15MHz 64-QAM - Full RB Configuration)

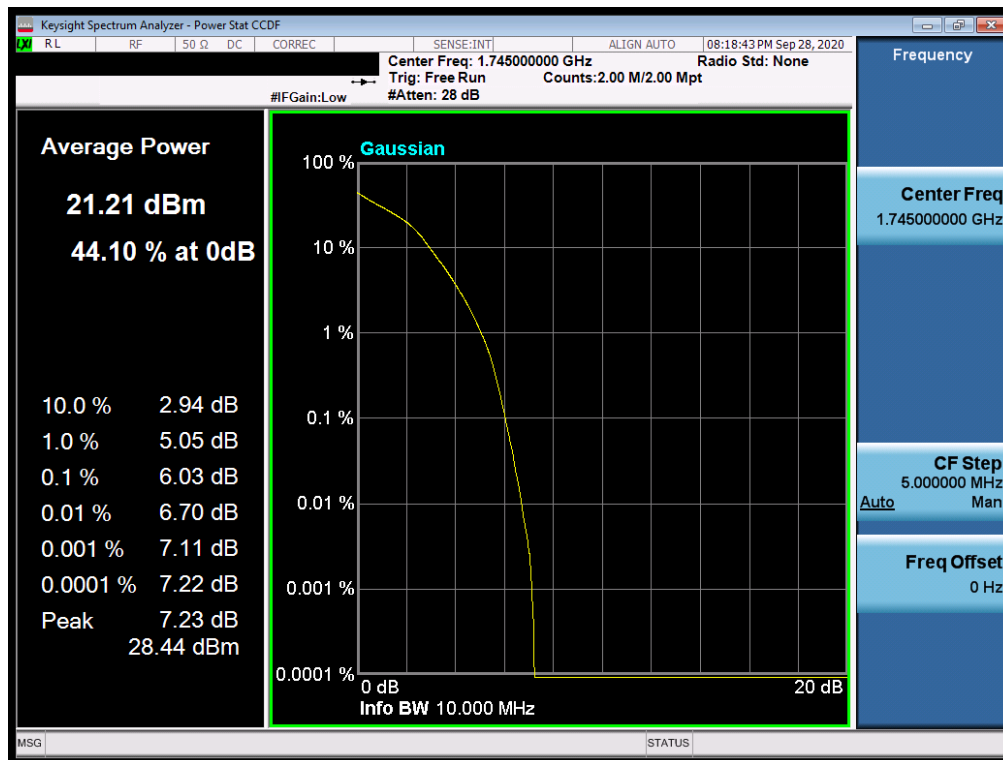
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 92 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-151. PAR Plot (LTE Band 66/4 - 10MHz QPSK - Full RB Configuration)

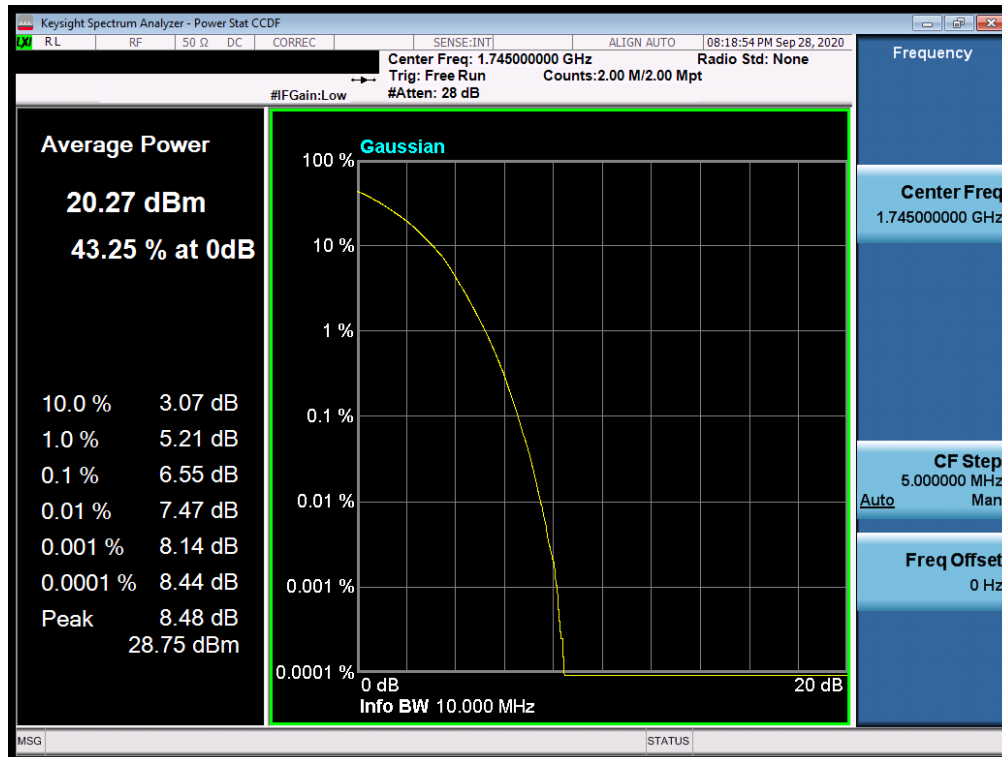


Plot 7-152. PAR Plot (LTE Band 66/4 - 10MHz 16-QAM - Full RB Configuration)

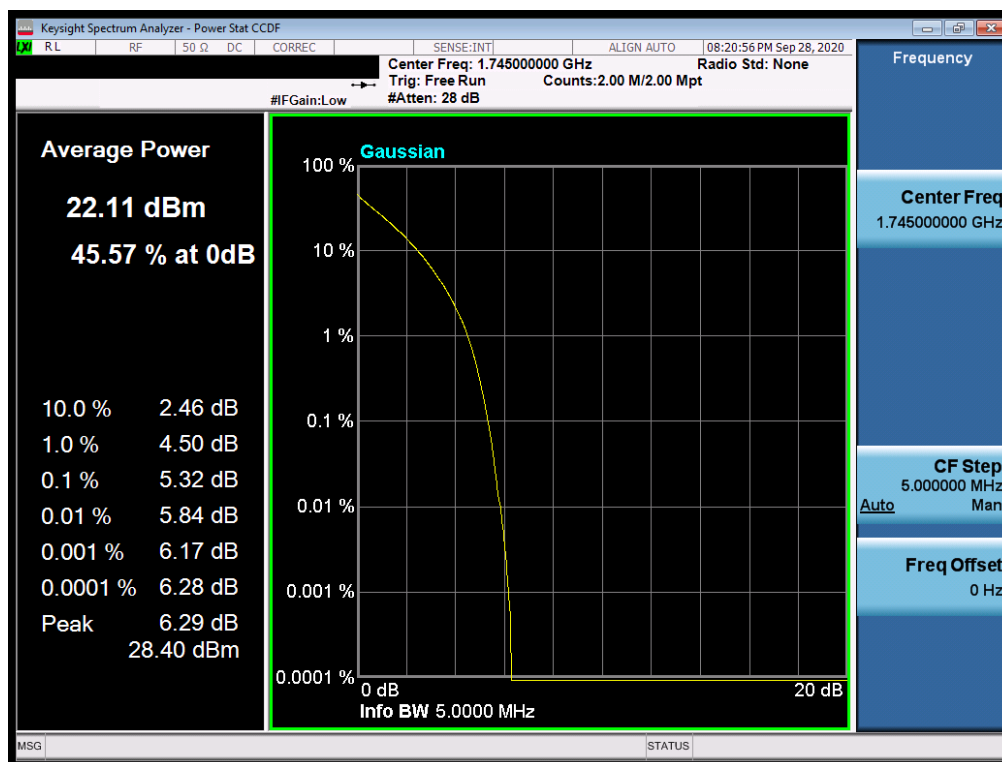
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 93 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-153. PAR Plot (LTE Band 66/4 - 10MHz 64-QAM - Full RB Configuration)

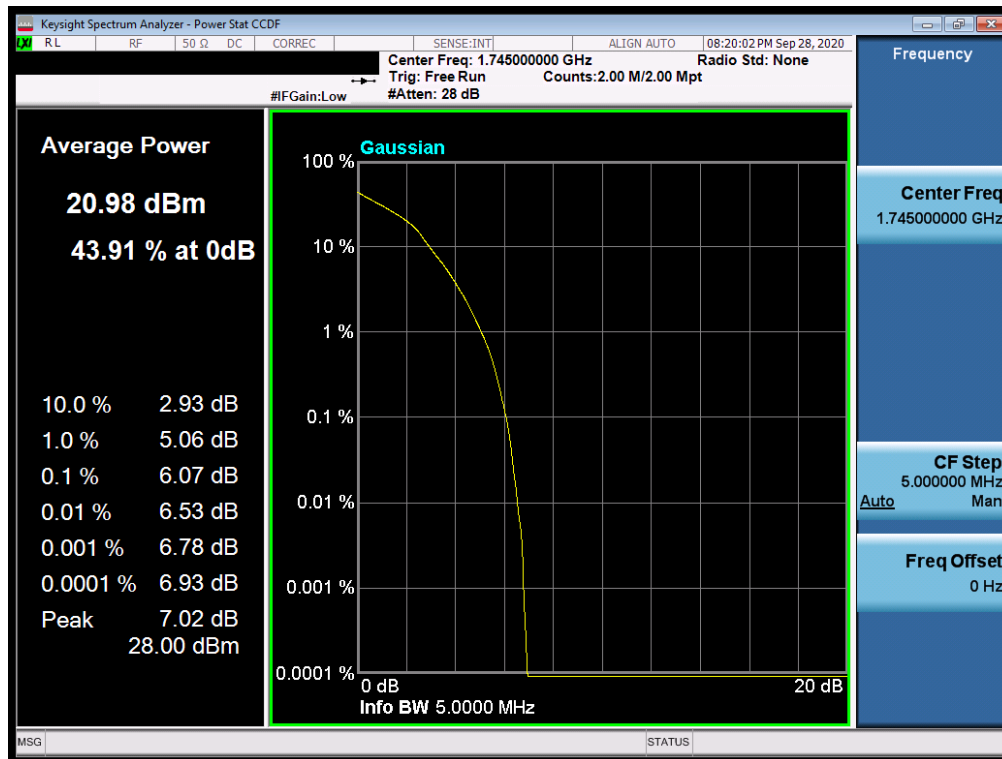


Plot 7-154. PAR Plot (LTE Band 66/4 - 5MHz QPSK - Full RB Configuration)

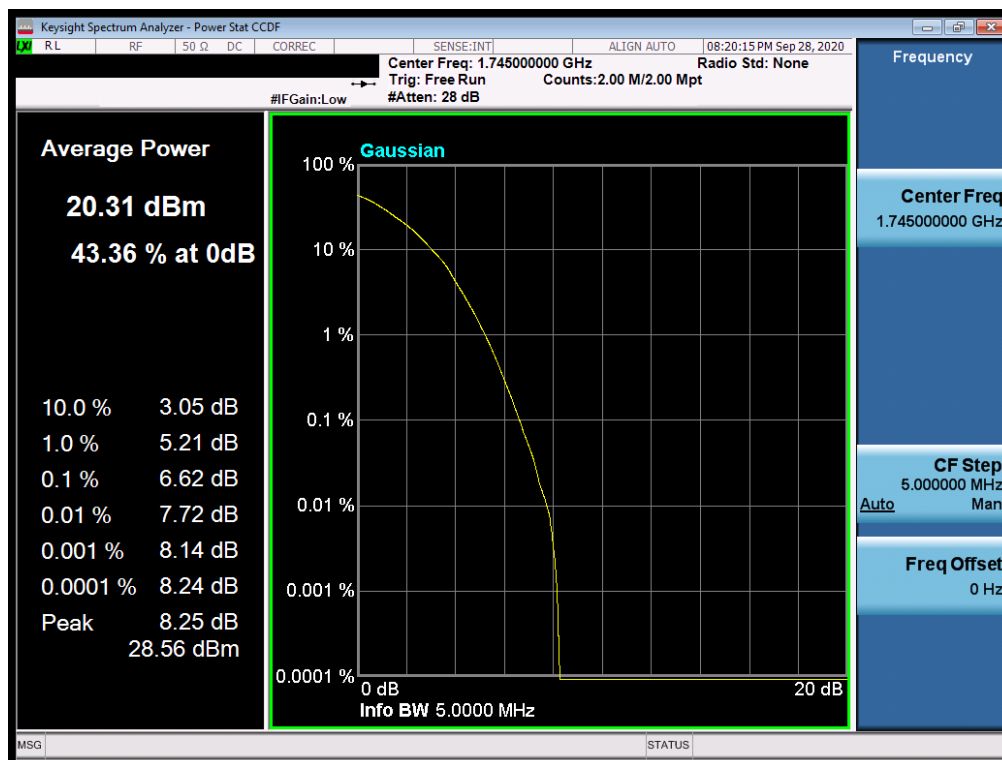
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 94 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-155. PAR Plot (LTE Band 66/4 - 5MHz 16-QAM - Full RB Configuration)

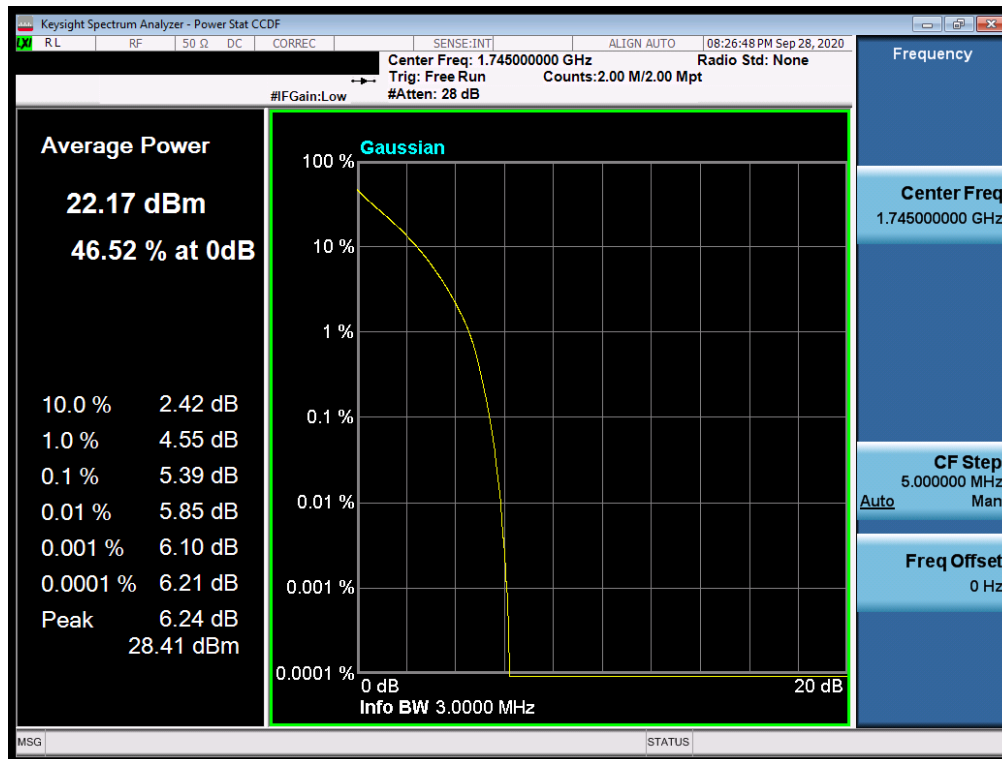


Plot 7-156. PAR Plot (LTE Band 66/4 - 5MHz 64-QAM - Full RB Configuration)

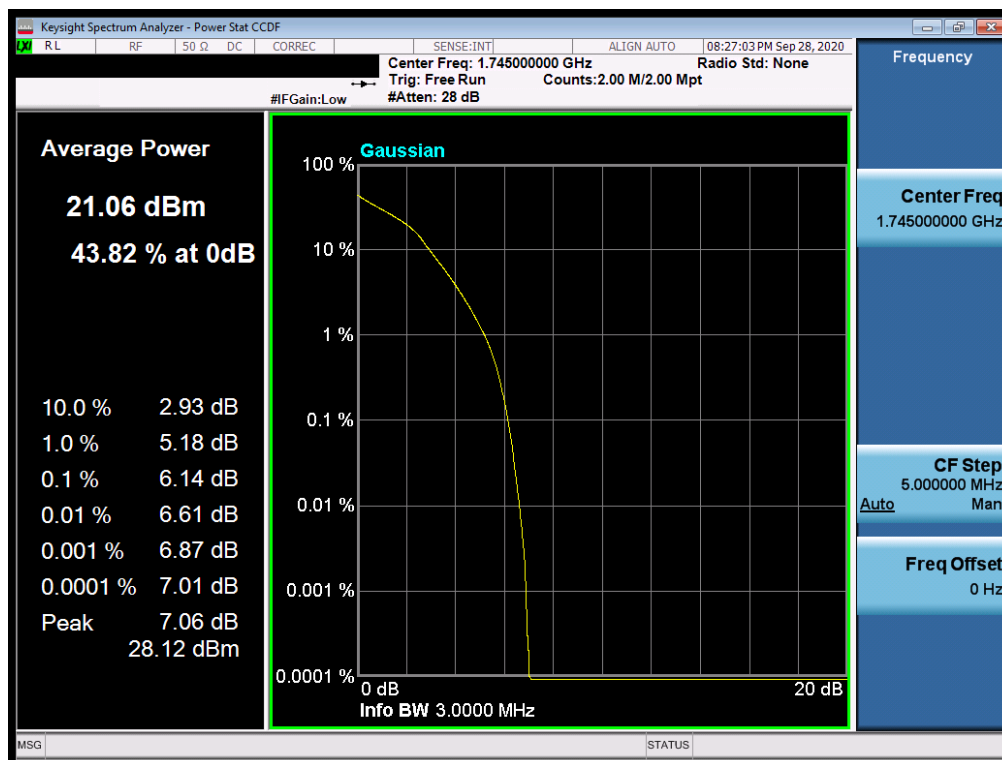
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 95 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-157. PAR Plot (LTE Band 66/4 - 3MHz QPSK - Full RB Configuration)

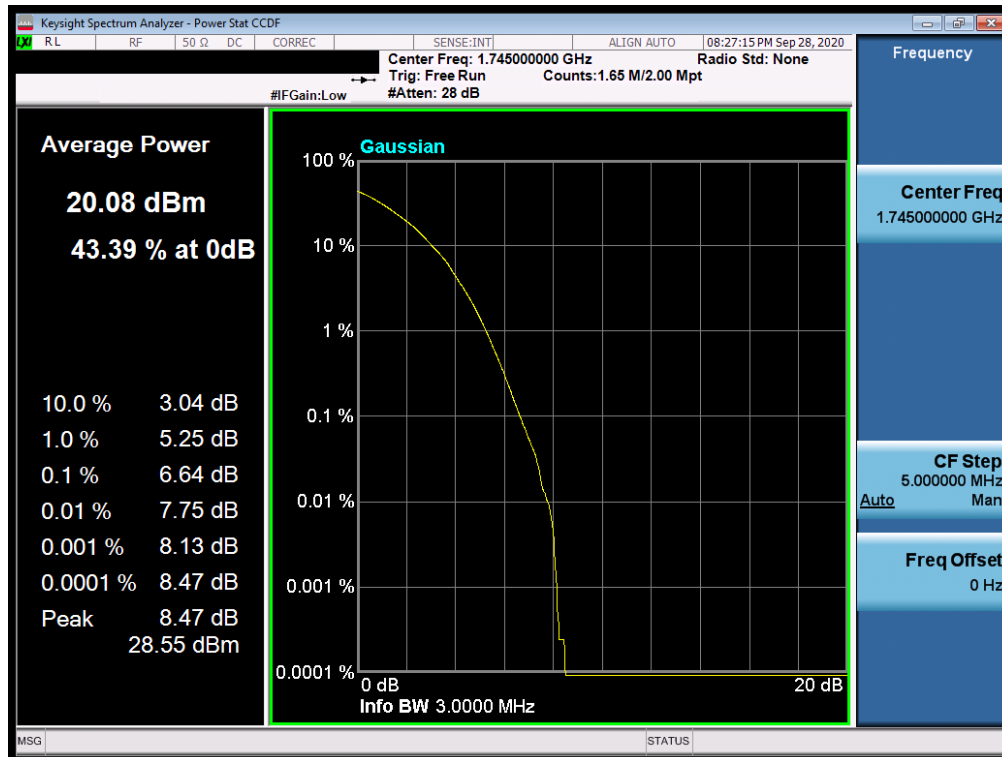


Plot 7-158. PAR Plot (LTE Band 66/4 - 3MHz 16-QAM - Full RB Configuration)

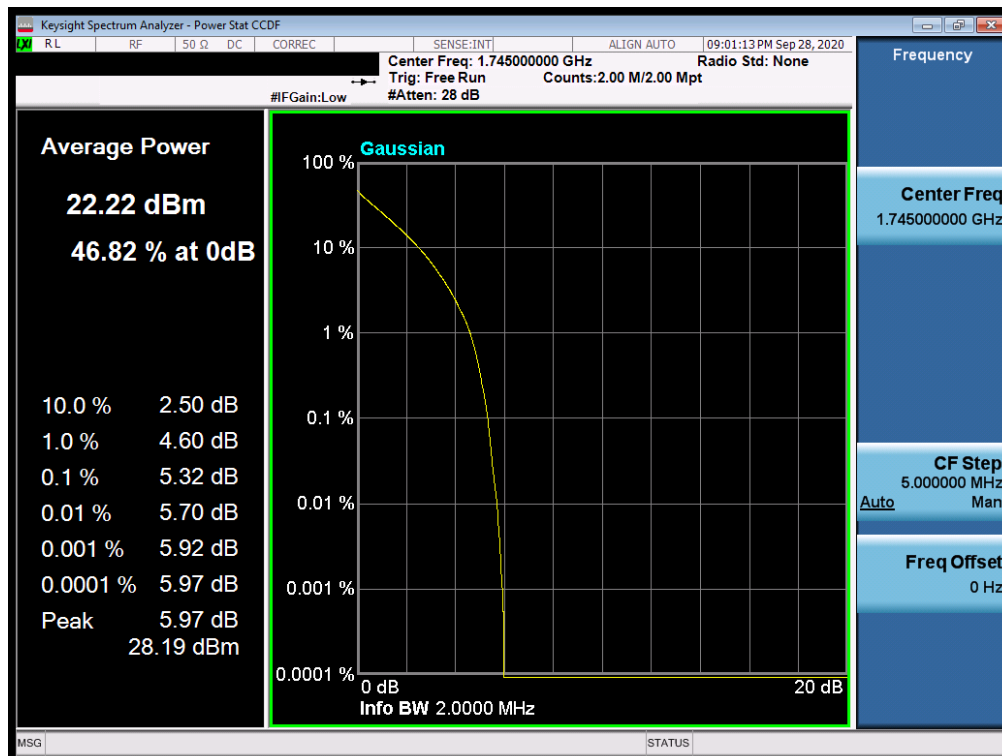
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 96 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-159. PAR Plot (LTE Band 66/4 - 3MHz 64-QAM - Full RB Configuration)

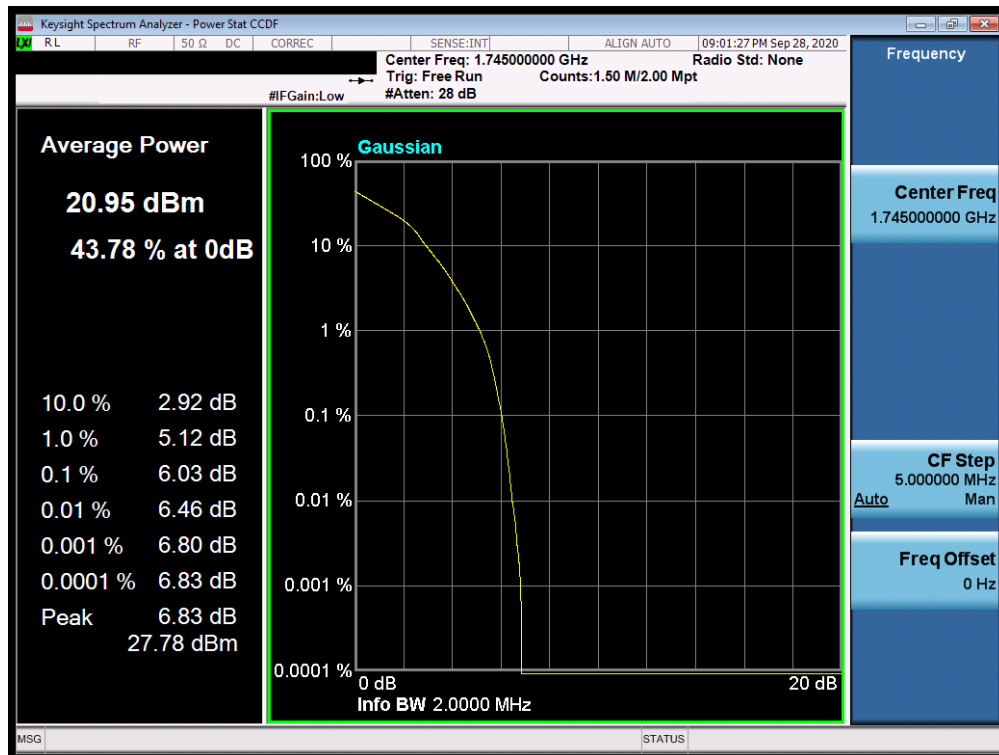


Plot 7-160. PAR Plot (LTE Band 66/4 - 1.4MHz QPSK - Full RB Configuration)

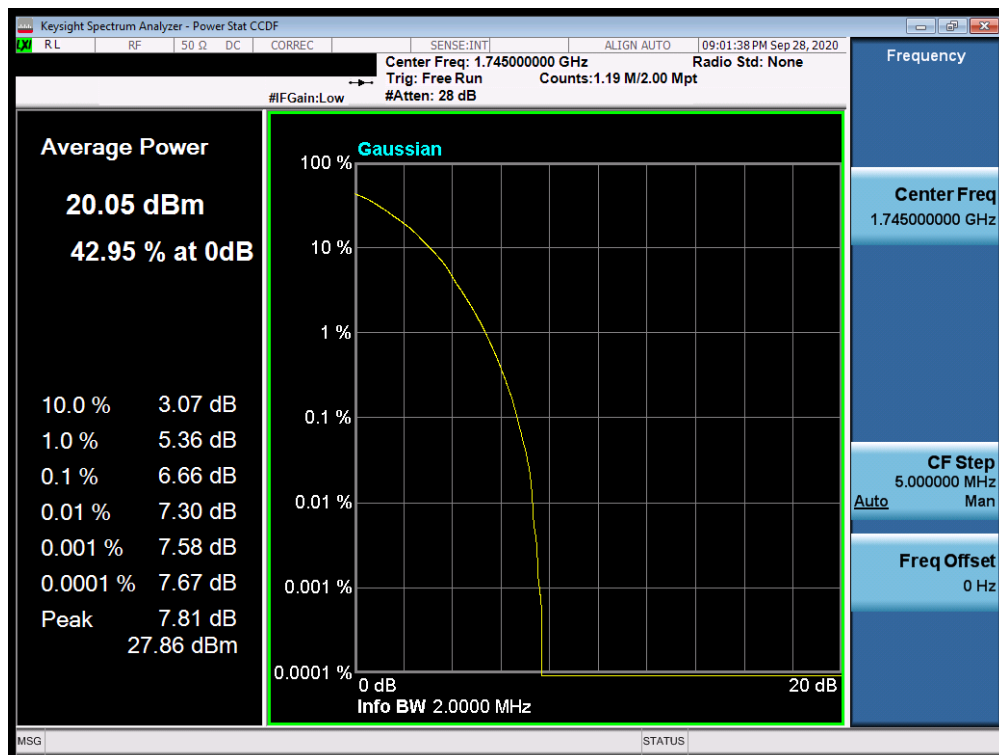
FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 97 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.



Plot 7-161. PAR Plot (LTE Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)



Plot 7-162. PAR Plot (LTE Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 98 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

7.6 Radiated Power (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. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, 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.
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW $\geq 3 \times$ RBW
4. Span = 1.5 times the OBW
5. No. of sweep points $\geq 2 \times$ span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

FCC ID: ZNFK200QM	 PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	 LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 99 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

Test Setup

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

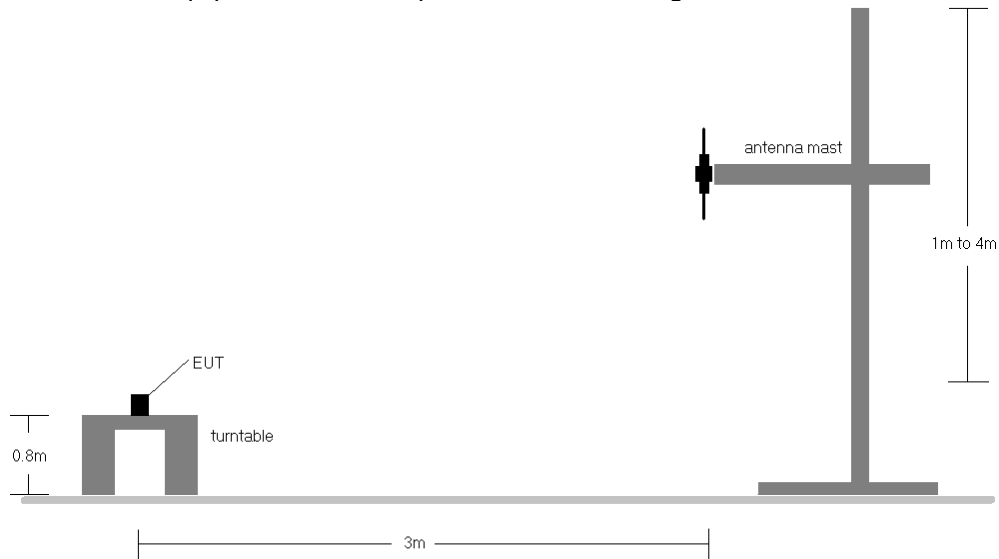


Figure 7-3. Radiated Test Setup <1GHz

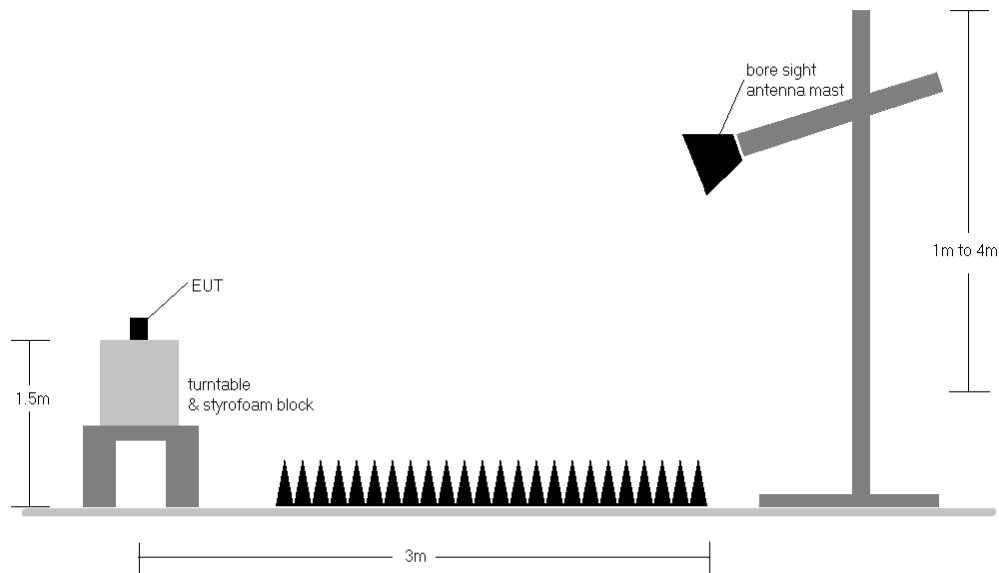


Figure 7-4. Radiated Test Setup >1GHz



FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 100 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

Test Notes

- 1) 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.
- 2) This unit was tested with its standard battery.
- 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 setup is reported in the tables below.

FCC ID: ZNFK200QM	 PCTEST® Proud to be part of element	PART 27 MEASUREMENT REPORT	 LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 101 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

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]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	QPSK	704.0	V	172.0	152.0	4.58	1 / 0	17.82	22.40	0.174	36.99	-14.59	20.25	0.106	34.77	-14.52
		707.5	V	157.0	158.0	4.62	1 / 0	17.11	21.73	0.149	36.99	-15.26	19.58	0.091	34.77	-15.19
		711.0	V	157.0	153.0	4.67	1 / 0	16.92	21.59	0.144	36.99	-15.40	19.44	0.088	34.77	-15.33
	16-QAM	704.0	V	172.0	152.0	4.58	1 / 0	16.25	20.83	0.121	36.99	-16.16	18.68	0.074	34.77	-16.09
	64-QAM	704.0	V	172.0	152.0	4.58	1 / 0	16.05	20.63	0.116	36.99	-16.36	18.48	0.070	34.77	-16.29
5 MHz	QPSK	701.5	V	172.0	152.0	4.60	1/49	17.85	22.45	0.176	36.99	-14.54	20.30	0.107	34.77	-14.47
		707.5	V	157.0	158.0	4.62	1/25	17.31	21.93	0.156	36.99	-15.06	19.78	0.095	34.77	-14.99
		713.5	V	157.0	153.0	4.70	1/49	16.71	21.41	0.138	36.99	-15.58	19.26	0.084	34.77	-15.51
	16-QAM	701.5	V	172.0	152.0	4.60	1/25	16.26	20.86	0.122	36.99	-16.13	18.71	0.074	34.77	-16.06
	64-QAM	701.5	V	172.0	152.0	4.60	1/0	16.03	20.63	0.116	36.99	-16.36	18.48	0.070	34.77	-16.29
3 MHz	QPSK	700.5	V	172.0	152.0	4.59	1/0	17.69	22.28	0.169	36.99	-14.71	20.13	0.103	34.77	-14.64
		707.5	V	157.0	158.0	4.62	1/25	17.03	21.65	0.146	36.99	-15.34	19.50	0.089	34.77	-15.27
		714.5	V	157.0	153.0	4.71	1/25	17.06	21.77	0.150	36.99	-15.22	19.62	0.092	34.77	-15.15
	16-QAM	700.5	V	172.0	152.0	4.59	1/25	16.44	21.03	0.127	36.99	-15.96	18.88	0.077	34.77	-15.89
	64-QAM	700.5	V	172.0	152.0	4.59	1/0	15.79	20.38	0.109	36.99	-16.61	18.23	0.067	34.77	-16.54
1.4 MHz	QPSK	699.7	V	172.0	152.0	4.56	1/49	17.88	22.44	0.175	36.99	-14.55	20.29	0.107	34.77	-14.48
		707.5	V	157.0	158.0	4.62	1/25	16.92	21.54	0.143	36.99	-15.45	19.39	0.087	34.77	-15.38
		715.3	V	157.0	153.0	4.72	1/49	17.20	21.92	0.155	36.99	-15.07	19.77	0.095	34.77	-15.00
	16-QAM	699.7	V	172.0	152.0	4.56	1/25	16.57	21.13	0.130	36.99	-15.86	18.98	0.079	34.77	-15.79
	64-QAM	699.7	V	172.0	152.0	4.56	1/25	15.77	20.33	0.108	36.99	-16.66	18.18	0.066	34.77	-16.59
	Opposite Pol.	704.0	H	150.0	266.0	3.58	1 / 0	13.80	17.38	0.055	36.99	-19.61	15.23	0.033	34.77	-19.54



Table 7-163. ERP Data (LTE Band 12/17)

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]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	QPSK	782.0	H	230.0	182.0	5.89	1 / 25	19.14	25.03	0.319	36.99	-11.96	22.88	0.194	34.77	-11.89
	16-QAM	782.0	H	230.0	182.0	5.89	1 / 0	17.88	23.77	0.238	36.99	-13.22	21.62	0.145	34.77	-13.15
	64-QAM	782.0	H	230.0	182.0	5.89	1 / 0	17.40	23.29	0.213	36.99	-13.70	21.14	0.130	34.77	-13.63
5 MHz	QPSK	779.5	H	230.0	182.0	5.82	1 / 12	19.69	25.51	0.355	36.99	-11.48	23.36	0.217	34.77	-11.42
		782.0	H	230.0	182.0	5.89	1 / 12	19.49	25.38	0.345	36.99	-11.61	23.23	0.211	34.77	-11.54
		784.5	H	230.0	182.0	5.92	1 / 12	19.22	25.14	0.327	36.99	-11.85	22.99	0.199	34.77	-11.78
	16-QAM	782.0	H	230.0	182.0	5.89	1 / 12	18.06	23.95	0.249	36.99	-13.04	21.80	0.151	34.77	-12.97
	64-QAM	782.0	H	230.0	182.0	5.89	1 / 0	17.29	23.18	0.208	36.99	-13.81	21.03	0.127	34.77	-13.74
	Opposite Pol.	779.5	V	100.0	195.0	5.77	1 / 12	18.59	24.36	0.273	36.99	-12.63	22.21	0.166	34.77	-12.57

Table 7-164. ERP Data (LTE Band 13)

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]
1712.40	WCDMA1700	H	149	34	13.42	9.46	22.88	0.194	30.00	-7.12
1732.60	WCDMA1700	H	176	235	13.88	9.34	23.22	0.210	30.00	-6.78
1752.60	WCDMA1700	H	178	29	13.57	9.24	22.81	0.191	30.00	-7.19
1732.60	WCDMA1700	V	367	236	12.15	9.22	21.37	0.137	30.00	-8.63

Table 7-165. EIRP Data (WCDMA AWS)



FCC ID: ZNFK200QM	 PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset	Page 102 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

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]
20 MHz	QPSK	1720.0	H	150.0	27.0	9.41	1 / 99	14.29	23.70	0.235	30.00	-6.30
		1745.0	H	141.0	29.0	9.26	1 / 0	13.78	23.04	0.201	30.00	-6.96
		1770.0	H	142.0	28.0	9.27	1 / 0	12.63	21.90	0.155	30.00	-8.10
	16-QAM	1720.0	H	150.0	27.0	9.41	1 / 0	13.67	23.08	0.203	30.00	-6.92
15 MHz	QPSK	1720.0	H	150.0	27.0	9.41	1 / 99	12.69	22.10	0.162	30.00	-7.90
		1717.5	H	150.0	27.0	9.43	1/36	14.29	23.72	0.236	30.00	-6.28
		1745.0	H	141.0	29.0	9.26	1/0	13.29	22.55	0.180	30.00	-7.45
		1772.5	H	142.0	28.0	9.27	1/74	12.56	21.83	0.152	30.00	-8.17
10 MHz	QPSK	1717.5	H	150.0	27.0	9.43	1/36	13.18	22.61	0.183	30.00	-7.39
		1715.0	H	150.0	27.0	9.43	1/36	12.14	21.57	0.144	30.00	-8.43
		1715.0	H	150.0	27.0	9.44	1/0	14.28	23.72	0.236	30.00	-6.28
		1745.0	H	141.0	29.0	9.26	1/0	13.49	22.75	0.188	30.00	-7.25
5 MHz	QPSK	1775.0	H	142.0	28.0	9.28	1/25	12.88	22.16	0.164	30.00	-7.84
		1715.0	H	150.0	27.0	9.44	1/25	13.24	22.68	0.186	30.00	-7.32
		1715.0	H	150.0	27.0	9.44	1/25	12.39	21.83	0.153	30.00	-8.17
	16-QAM	1715.0	H	150.0	27.0	9.44	1/25	12.39	21.83	0.153	30.00	-8.17
3 MHz	QPSK	1712.5	H	150.0	27.0	9.46	1/12	14.53	23.99	0.251	30.00	-6.01
		1745.0	H	141.0	29.0	9.26	1/12	13.59	22.85	0.193	30.00	-7.15
		1777.5	H	142.0	28.0	9.28	1/12	12.23	21.51	0.142	30.00	-8.49
	16-QAM	1745.0	H	141.0	29.0	9.26	1/24	13.52	22.78	0.190	30.00	-7.22
1.4 MHz	QPSK	1712.5	H	150.0	27.0	9.46	1/12	12.73	22.19	0.166	30.00	-7.81
		1711.5	H	150.0	27.0	9.47	1/7	14.28	23.74	0.237	30.00	-6.26
		1745.0	H	141.0	29.0	9.26	1/7	13.46	22.72	0.187	30.00	-7.28
		1778.5	H	142.0	28.0	9.28	1/14	12.43	21.72	0.149	30.00	-8.28
1.4 MHz	QPSK	1711.5	H	150.0	27.0	9.47	1/0	13.33	22.79	0.190	30.00	-7.21
		1711.5	H	150.0	27.0	9.47	1/7	12.09	21.55	0.143	30.00	-8.45
		1710.7	H	150.0	27.0	9.47	1/2	14.32	23.79	0.240	30.00	-6.21
		1745.0	H	141.0	29.0	9.26	1/5	13.30	22.56	0.180	30.00	-7.44
1.4 MHz	QPSK	1779.3	H	142.0	28.0	9.29	1/2	12.50	21.79	0.151	30.00	-8.21
		1710.7	H	150.0	27.0	9.47	1/5	13.21	22.68	0.186	30.00	-7.32
		1710.7	H	150.0	27.0	9.47	1/2	12.20	21.67	0.147	30.00	-8.33
	64-QAM	1710.7	H	150.0	27.0	9.47	1/2	12.20	21.67	0.147	30.00	-8.33
	Opposite Pol.	1720.0	V	136.0	42.0	9.41	1 / 0	12.66	22.07	0.161	30.00	-7.93

Table 7-166. EIRP Data (LTE Band 66/4)

FCC ID: ZNFK200QM	 PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset	Page 103 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

7.7 Radiated Spurious Emissions Measurements

Test Overview

Radiated spurious emissions 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 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 peak measurements while the EUT is operating at maximum power, and at the appropriate frequencies.



Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.8

ANSI/TIA-603-E-2016 – Section 2.2.12

Test Settings

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

FCC ID: ZNFK200QM	 PCTEST [®] Proud to be part of element	PART 27 MEASUREMENT REPORT	 LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 104 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

Test Setup

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

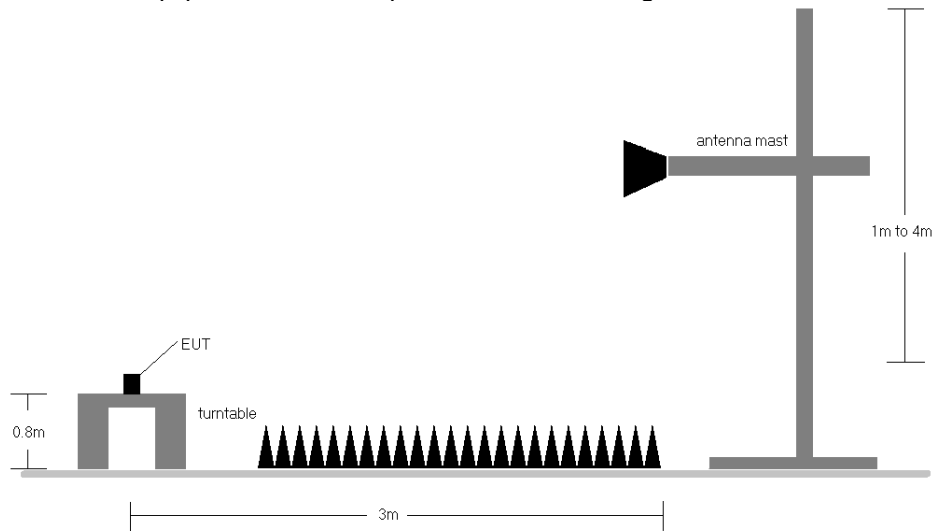


Figure 7-5. Test Instrument & Measurement Setup

Test Notes

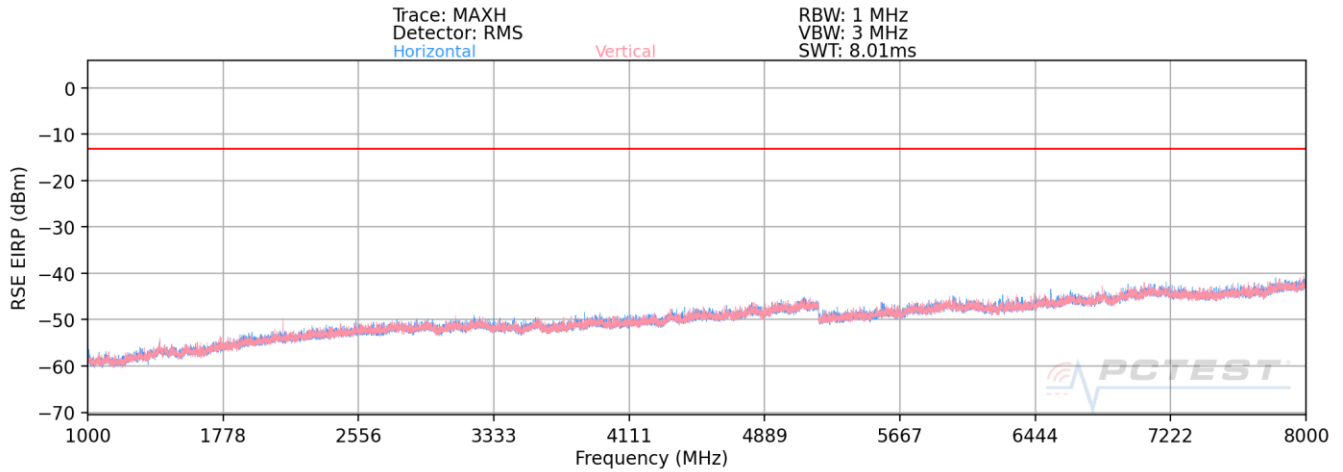
- 1) Field strengths are calculated using the Measurement quantity conversions in KDB 971168 Section 5.8.4.
 - b) $E(\text{dB}\mu\text{V/m}) = \text{Measured amplitude level (dB)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$
 - d) $\text{EIRP (dBm)} = E(\text{dB}\mu\text{V/m}) + 20\log D - 104.8$; where D is the measurement distance in meters.
- 2) 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.
- 3) This unit was tested with its standard battery.
- 4) 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".
- 5) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case setup is reported in the tables below.
- 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.

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 105 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

LTE Band 12/17



Plot 7-167. Radiated Spurious Plot (LTE Band 12/17)

Bandwidth (MHz):	10								
Frequency (MHz):	704.0								
RB / Offset:	1 / 25								
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]
1408.0	H	357	146	-71.19	0.55	36.36	-58.90	-13.00	-45.90
2112.0	H	128	43	-72.50	3.67	38.17	-57.08	-13.00	-44.08
2816.0	H	-	-	-79.17	5.59	33.42	-61.84	-13.00	-48.84
3520.0	H	-	-	-79.81	6.96	34.15	-61.11	-13.00	-48.11
4224.0	H	-	-	-80.34	8.08	34.74	-60.52	-13.00	-47.52

Table 7-2. Radiated Spurious Data (LTE Band 12/17 – Low Channel)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset	Page 106 of 118	

© 2020 PCTEST



All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

Bandwidth (MHz):	10								
Frequency (MHz):	707.5								
RB / Offset:	1 / 25								
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]
1415.0	H	127	94	-78.06	0.61	29.55	-65.71	-13.00	-52.71
2122.5	H	384	122	-72.87	3.64	37.77	-57.49	-13.00	-44.49
2830.0	H	-	-	-78.88	5.63	33.75	-61.50	-13.00	-48.50
3537.5	H	-	-	-80.18	7.34	34.16	-61.10	-13.00	-48.10
4245.0	H	-	-	-80.11	7.75	34.64	-60.62	-13.00	-47.62

Table 7-3. Radiated Spurious Data (LTE Band 12/17 – Mid Channel)

Bandwidth (MHz):	10								
Frequency (MHz):	711.0								
RB / Offset:	1 / 25								
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]
1422.0	H	6	23	-73.88	0.31	33.43	-61.83	-13.00	-48.83
2133.0	H	165	137	-73.32	3.60	37.28	-57.97	-13.00	-44.97
2844.0	H	-	-	-78.99	5.55	33.56	-61.70	-13.00	-48.70
3555.0	H	-	-	-80.31	7.80	34.49	-60.77	-13.00	-47.77
4266.0	H	-	-	-80.17	7.86	34.69	-60.57	-13.00	-47.57

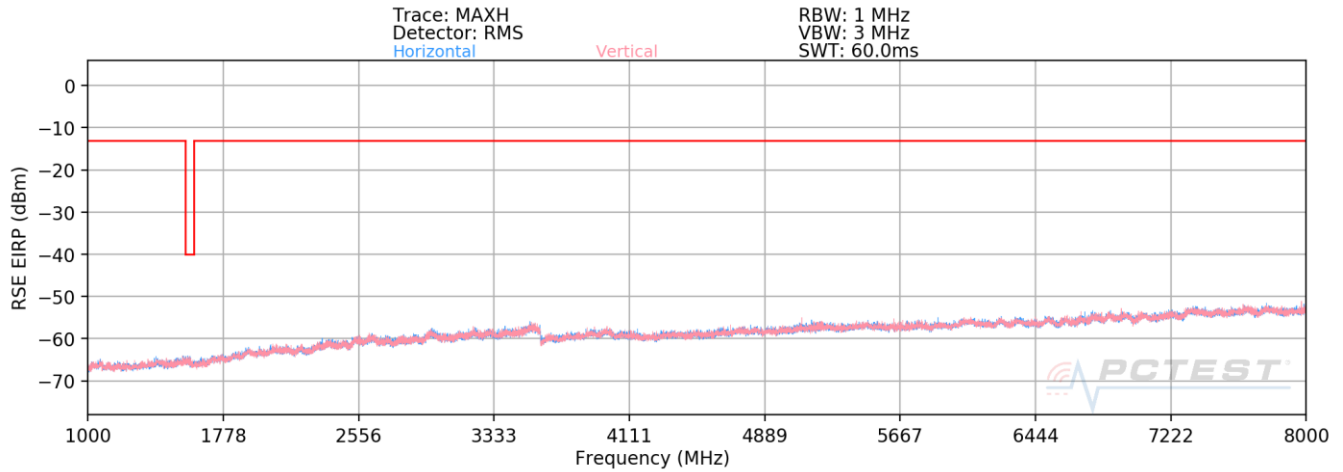
Table 7-4. Radiated Spurious Data (LTE Band 12/17 – High Channel)

FCC ID: ZNFK200QM	 PCTEST <small>Proud to be part of element</small>		PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset			Page 107 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

LTE Band 13



Plot 7-168. Radiated Spurious Plot (LTE Band 13)

Bandwidth (MHz):	10								
Frequency (MHz):	782.0								
RB / Offset:	1 / 25								
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]
1564.0	H	243	332	-75.38	-5.03	26.59	-68.67	-40.00	-28.67
2346.0	H	114	55	-74.41	-2.56	30.03	-65.23	-13.00	-52.23
3128.0	H	122	145	-72.96	-0.17	33.87	-61.39	-13.00	-48.39
3910.0	H	1	349	-77.66	2.71	32.05	-63.21	-13.00	-50.21
4692.0	H	118	152	-73.52	2.65	36.13	-59.12	-13.00	-46.12
5474.0	H	-	-	-79.03	5.76	33.73	-61.52	-13.00	-48.52
6256.0	H	-	-	-79.31	6.07	33.76	-61.50	-13.00	-48.50
7038.0	H	-	-	-79.60	6.87	34.27	-60.99	-13.00	-47.99

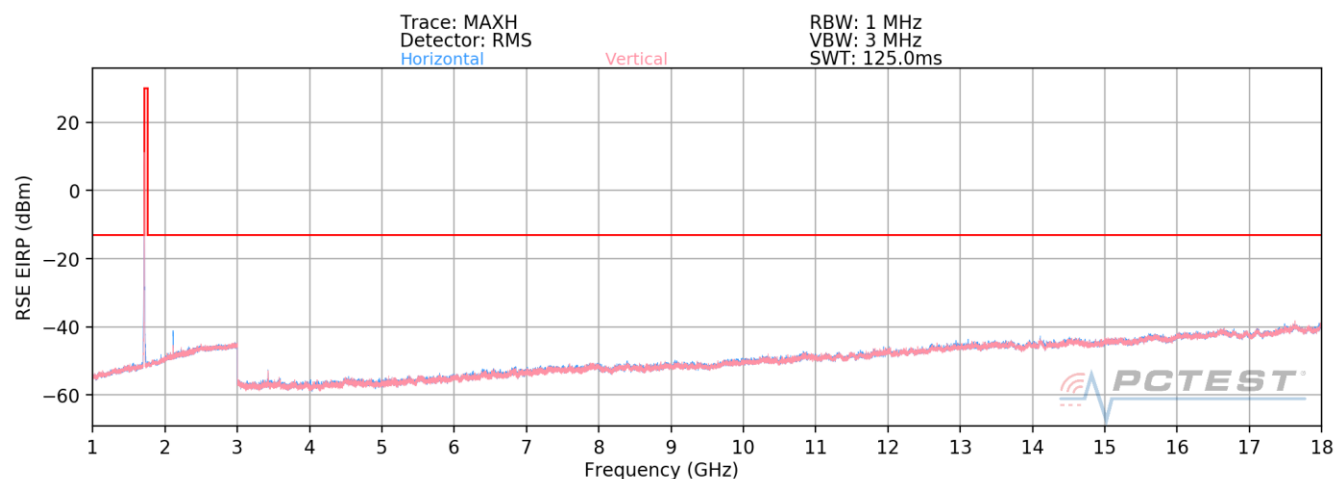
Plot 7-169. Radiated Spurious Data (LTE Band 13)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset	Page 108 of 118	

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

WCDMA AWS



Plot 7-170. Radiated Spurious Plot (WCDMA AWS)

Mode:	WCDMA RMC								
Channel:	1312								
Frequency (MHz):	1712.4								

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]
3424.8	H	190	20	-64.94	1.47	43.53	-51.73	-13.00	-38.73
5137.2	H	147	30	-76.01	4.07	35.06	-60.20	-13.00	-47.20
6849.6	H	163	328	-78.03	7.77	36.74	-58.51	-13.00	-45.51
8562.0	H	-	-	-81.32	10.40	36.08	-59.17	-13.00	-46.17
10274.4	H	228	321	-74.97	11.74	43.77	-51.49	-13.00	-38.49
11986.8	H	-	-	-81.65	14.06	39.41	-55.85	-13.00	-42.85
13699.2	H	-	-	-82.17	15.75	40.58	-54.68	-13.00	-41.68
15411.6	H	-	-	-81.96	13.62	38.66	-56.60	-13.00	-43.60

7-5. Radiated Spurious Data (WCDMA AWS – Low Channel)

FCC ID: ZNFK200QM			PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset			Page 109 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

Mode:		WCDMA RMC							
Channel:		1413							
Frequency (MHz):		1732.6							



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]
3465.2	H	229	27	-65.72	0.73	42.01	-53.24	-13.00	-40.24
5197.8	H	22	28	-78.71	4.52	32.81	-62.45	-13.00	-49.45
6930.4	H	170	339	-77.84	6.67	35.83	-59.42	-13.00	-46.42
8663.0	H	-	-	-80.06	10.67	37.61	-57.65	-13.00	-44.65
10395.6	H	133	318	-75.85	11.89	43.04	-52.22	-13.00	-39.22
12128.2	H	-	-	-81.78	13.43	38.65	-56.61	-13.00	-43.61
13860.8	H	-	-	-83.05	17.29	41.24	-54.02	-13.00	-41.02
15593.4	H	-	-	-82.14	13.42	38.28	-56.97	-13.00	-43.97

Table 7-6. Radiated Spurious Data (WCDMA AWS – Mid Channel)

Mode:		WCDMA RMC							
Channel:		1513							
Frequency (MHz):		1752.6							

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]
3505.2	H	253	29	-62.26	1.21	45.95	-49.31	-13.00	-36.31
5257.8	H	167	297	-77.61	4.13	33.52	-61.74	-13.00	-48.74
7010.4	H	193	333	-77.69	6.39	35.70	-59.56	-13.00	-46.56
8763.0	H	-	-	-80.51	10.57	37.06	-58.20	-13.00	-45.20
10515.6	H	215	320	-75.14	11.83	43.69	-51.57	-13.00	-38.57
12268.2	H	-	-	-81.24	12.99	38.75	-56.51	-13.00	-43.51
14020.8	H	-	-	-82.01	16.12	41.11	-54.15	-13.00	-41.15
15773.4	H	-	-	-83.35	14.83	38.48	-56.78	-13.00	-43.78

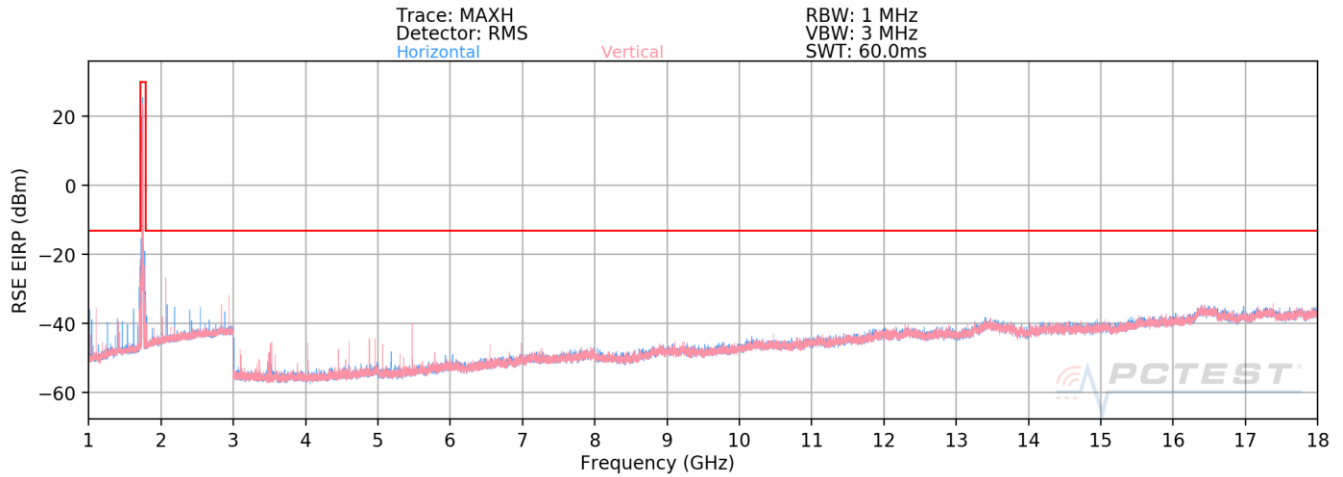
Table 7-7. Radiated Spurious Data (WCDMA AWS – High Channel)

FCC ID: ZNFK200QM	 PART 27 MEASUREMENT REPORT 		Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset	Page 110 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

LTE Band 66/4



Plot 7-171. Radiated Spurious Plot (LTE Band 66/4)

Bandwidth (MHz):	20								
Frequency (MHz):	1720.0								
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]
3440.0	H	145	163	-64.38	7.45	50.07	-45.19	-13.00	-32.19
5160.0	H	155	185	-75.53	10.05	41.52	-53.74	-13.00	-40.74
6880.0	H	112	174	-78.11	13.39	42.28	-52.98	-13.00	-39.98
8600.0	H	-	-	-83.35	16.37	40.02	-55.24	-13.00	-42.24
10320.0	H	100	197	-77.49	19.46	48.97	-46.29	-13.00	-33.29
12040.0	H	-	-	-83.21	22.07	45.86	-49.40	-13.00	-36.40
13760.0	H	-	-	-84.16	25.63	48.47	-46.78	-13.00	-33.78
15480.0	H	-	-	-84.17	27.15	49.98	-45.28	-13.00	-32.28

Table 7-8. Radiated Spurious Data (LTE Band 66/4 – Low Channel)

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset	Page 111 of 118	

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

Bandwidth (MHz):	20
Frequency (MHz):	1745.0
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]
3490.0	H	100	152	-65.00	7.19	49.19	-46.06	-13.00	-33.06
5235.0	H	102	183	-74.72	10.02	42.30	-52.96	-13.00	-39.96
6980.0	H	126	323	-77.92	14.36	43.44	-51.81	-13.00	-38.81
8725.0	H	-	-	-82.86	16.59	40.73	-54.52	-13.00	-41.52
10470.0	H	101	194	-77.94	19.77	48.83	-46.43	-13.00	-33.43
12215.0	H	-	-	-83.67	21.79	45.12	-50.13	-13.00	-37.13
13960.0	H	-	-	-84.66	24.37	46.71	-48.55	-13.00	-35.55
15705.0	H	-	-	-84.89	27.81	49.92	-45.34	-13.00	-32.34

Table 7-9. Radiated Spurious Data (LTE Band 66/4 – Mid Channel)

Bandwidth (MHz):	20
Frequency (MHz):	1770.0
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]
3540.00	H	1126	101	-64.49	7.78	50.29	-44.97	-13.00	-31.97
5310.00	H	115	183	-70.24	10.44	47.20	-48.06	-13.00	-35.06
7080.00	H	328	331	-80.31	14.58	41.27	-53.98	-13.00	-40.98
8850.00	H	-	-	-82.83	16.79	40.96	-54.30	-13.00	-41.30
10620.00	H	104	12	-80.40	19.88	46.48	-48.77	-13.00	-35.77
12390.00	H	-	-	-83.64	22.67	46.03	-49.23	-13.00	-36.23
14160.00	H	-	-	-84.62	25.67	48.05	-47.21	-13.00	-34.21
15930.00	H	-	-	-84.75	27.77	50.02	-45.24	-13.00	-32.24

Table 7-10. Radiated Spurious Data (LTE Band 66/4 – High Channel)

FCC ID: ZNFK200QM	 PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset	Page 112 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

7.8 Frequency Stability / Temperature Variation

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI/TIA-603-E-2016

Test Settings



1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

Test Notes

None

FCC ID: ZNFK200QM	 PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset	Page 113 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

Frequency Stability / Temperature Variation

LTE Band 12/17

Operating Frequency (Hz):	707,500,000
Ref. Voltage (VDC):	3.79
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.79	- 30	707,500,144	144	0.0000204
		- 20	707,499,944	-56	-0.0000079
		- 10	707,500,121	121	0.0000171
		0	707,499,986	-14	-0.0000020
		+ 10	707,499,906	-94	-0.0000133
		+ 20 (Ref)	707,500,137	137	0.0000194
		+ 30	707,500,255	255	0.0000360
		+ 40	707,500,168	168	0.0000237
		+ 50	707,500,224	224	0.0000317
Battery Endpoint	3.04	+ 20	707,499,997	-3	-0.0000004

Table 7-9. LTE Band 12/17 Frequency Stability Data

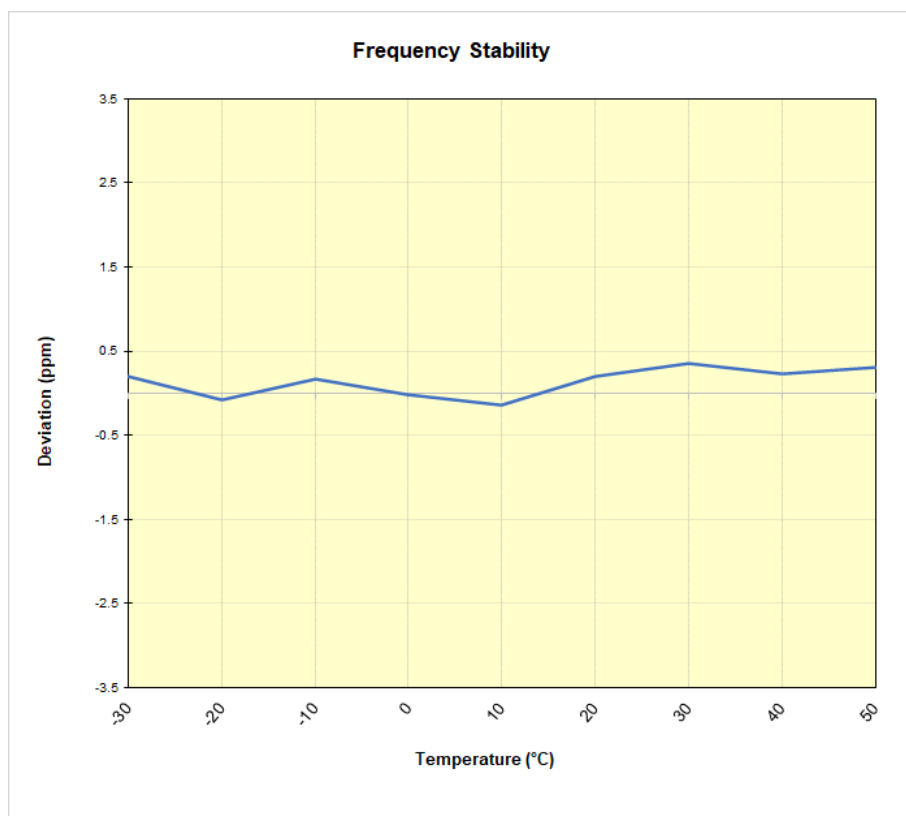


Table 7-9. LTE Band 12/17 Frequency Stability Chart

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 114 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

Frequency Stability / Temperature Variation

LTE Band 13

Operating Frequency (Hz):	782,000,000
Ref. Voltage (VDC):	3.79
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.79	- 30	782,000,190	190	0.0000243
		- 20	781,999,707	-293	-0.0000375
		- 10	781,999,769	-231	-0.0000295
		0	782,000,336	336	0.0000430
		+ 10	781,999,999	-1	-0.0000001
		+ 20 (Ref)	781,999,892	-108	-0.0000138
		+ 30	782,000,240	240	0.0000307
		+ 40	781,999,814	-186	-0.0000238
Battery Endpoint	3.04	+ 50	781,999,713	-287	-0.0000367
		+ 20	782,000,153	153	0.0000196

Table 7-9. LTE Band 13 Frequency Stability Data

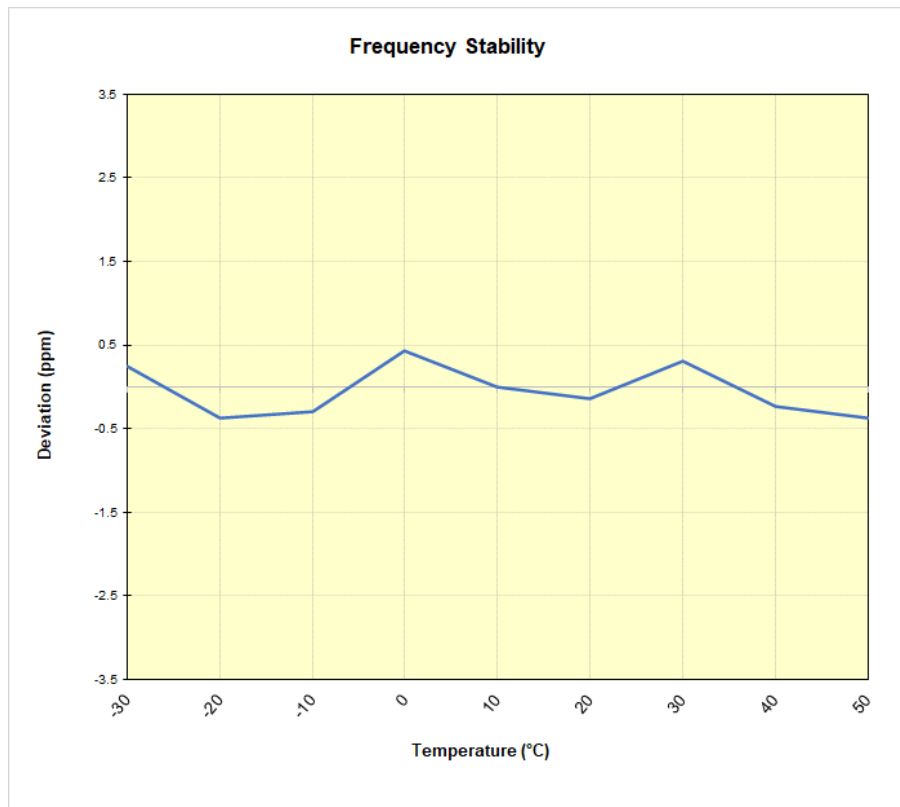


Table 7-9. LTE Band 13 Frequency Stability Chart

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 115 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

Frequency Stability / Temperature Variation

WCDMA AWS

Operating Frequency (Hz):	1,732,600,000
Ref. Voltage (VDC):	3.79
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.79	- 30	1,732,600,046	46	0.0000027
		- 20	1,732,599,834	-166	-0.0000096
		- 10	1,732,600,077	77	0.0000044
		0	1,732,600,128	128	0.0000074
		+ 10	1,732,600,072	72	0.0000042
		+ 20 (Ref)	1,732,600,082	82	0.0000047
		+ 30	1,732,600,008	8	0.0000005
		+ 40	1,732,600,197	197	0.0000114
		+ 50	1,732,599,686	-314	-0.0000181
Battery Endpoint	3.04	+ 20	1,732,599,720	-280	-0.0000162

Table 7-9. WCDMA AWS Frequency Stability Data

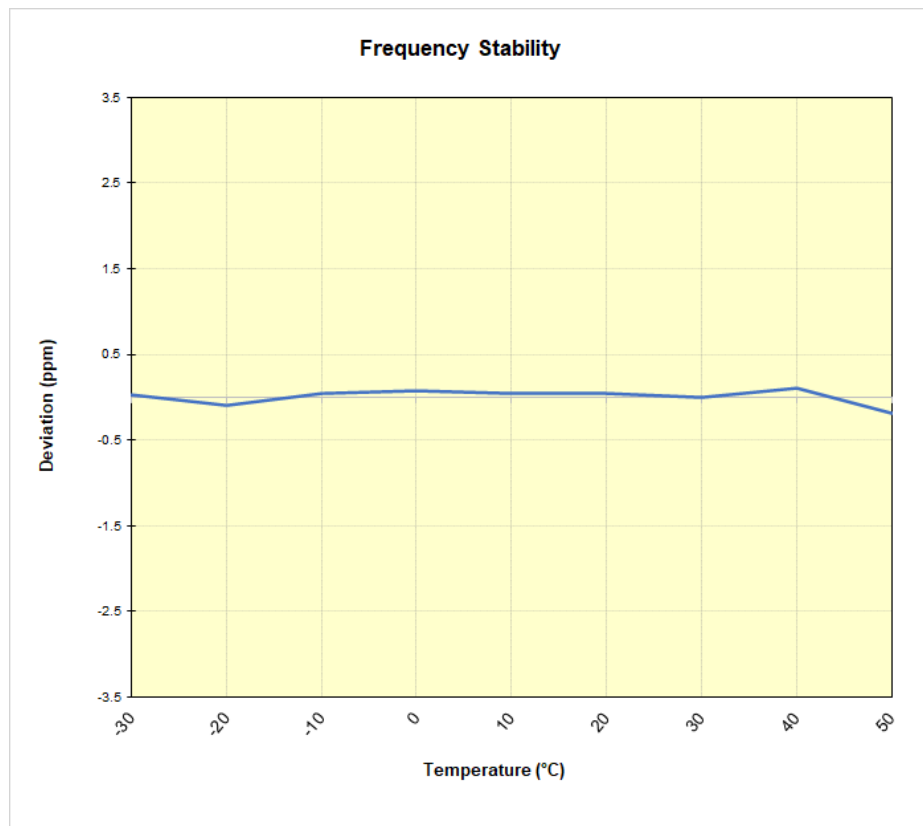


Table 7-9. WCDMA AWS Frequency Stability Chart

FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 116 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

Frequency Stability / Temperature Variation

LTE Band 66/4

Operating Frequency (Hz):	1,745,000,000
Ref. Voltage (VDC):	3.79
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.79	- 30	1,745,000,002	2	0.0000001
		- 20	1,744,999,831	-169	-0.0000097
		- 10	1,745,000,130	130	0.0000074
		0	1,745,000,147	147	0.0000084
		+ 10	1,745,000,083	83	0.0000048
		+ 20 (Ref)	1,744,999,870	-130	-0.0000074
		+ 30	1,744,999,836	-164	-0.0000094
		+ 40	1,745,000,372	372	0.0000213
		+ 50	1,745,000,282	282	0.0000162
Battery Endpoint	3.04	+ 20	1,744,999,978	-22	-0.0000013

Table 7-9. LTE Band 66/4 Frequency Stability Data

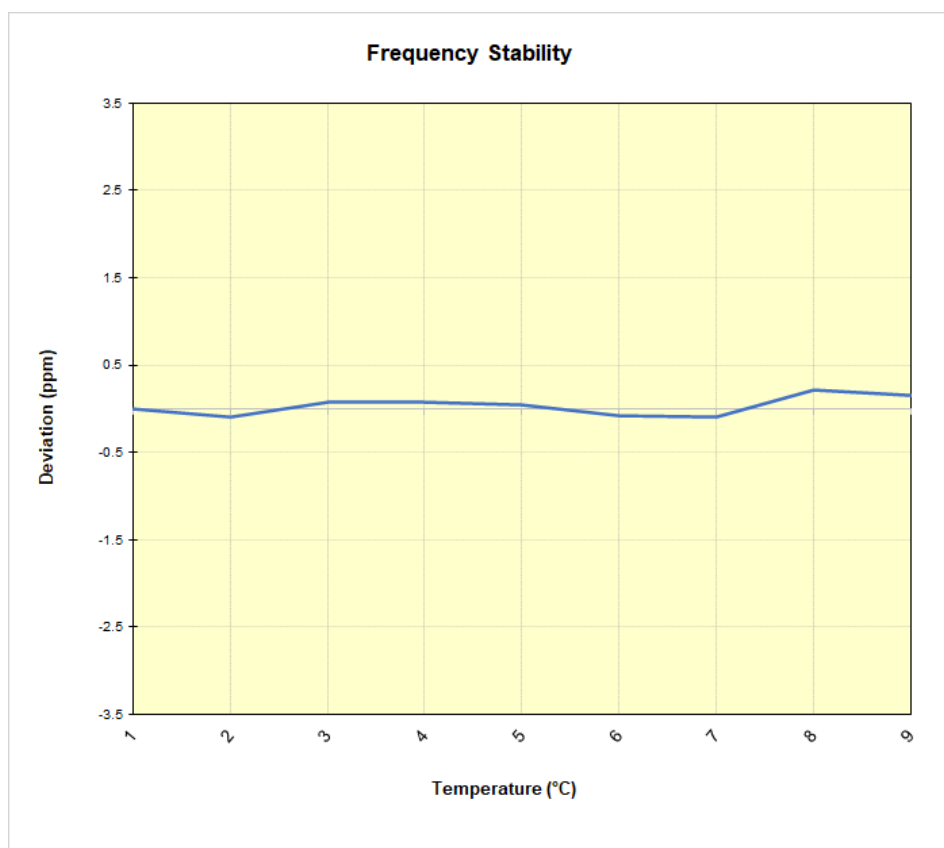


Table 7-9. LTE Band 66/4 Frequency Stability Chart



FCC ID: ZNFK200QM	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 117 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **LG Portable Handset FCC ID: ZNFK200QM** complies with all the requirements of Part 27 of the FCC rules RSS-130, RSS-139, and RSS-Gen of the Innovation, Science and Economic Development Canada Rules.

FCC ID: ZNFK200QM	 PCTEST® Proud to be part of element	PART 27 MEASUREMENT REPORT	 LG	Approved by: Technical Manager
Test Report S/N: 1M2009230153-13.ZNF	Test Dates: 8/26/2020 - 10/30/2020	EUT Type: Portable Handset		Page 118 of 118

© 2020 PCTEST

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.