Test Notes

Per 22.917(b), 24.238(a), 27.53(h), in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to demonstrate compliance with the out-of-band emissions limit. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

Per 27.53(g) for operations in the 698-746 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 7-94. Lower Band Edge Plot (Band 71 - 5.0MHz QPSK - Full RB Configuration)

Plot 7-95. Upper Band Edge Plot (Band 71 - 5.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 7-96. Lower Band Edge Plot (Band 71 - 10.0MHz QPSK - Full RB Configuration)

Plot 7-97. Upper Band Edge Plot (Band 71 - 10.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 7-98. Lower Band Edge Plot (Band 71 - 15.0MHz QPSK - Full RB Configuration)

Plot 7-99. Upper Band Edge Plot (Band 71 - 15.0MHz QPSK - Full RB Configuration)

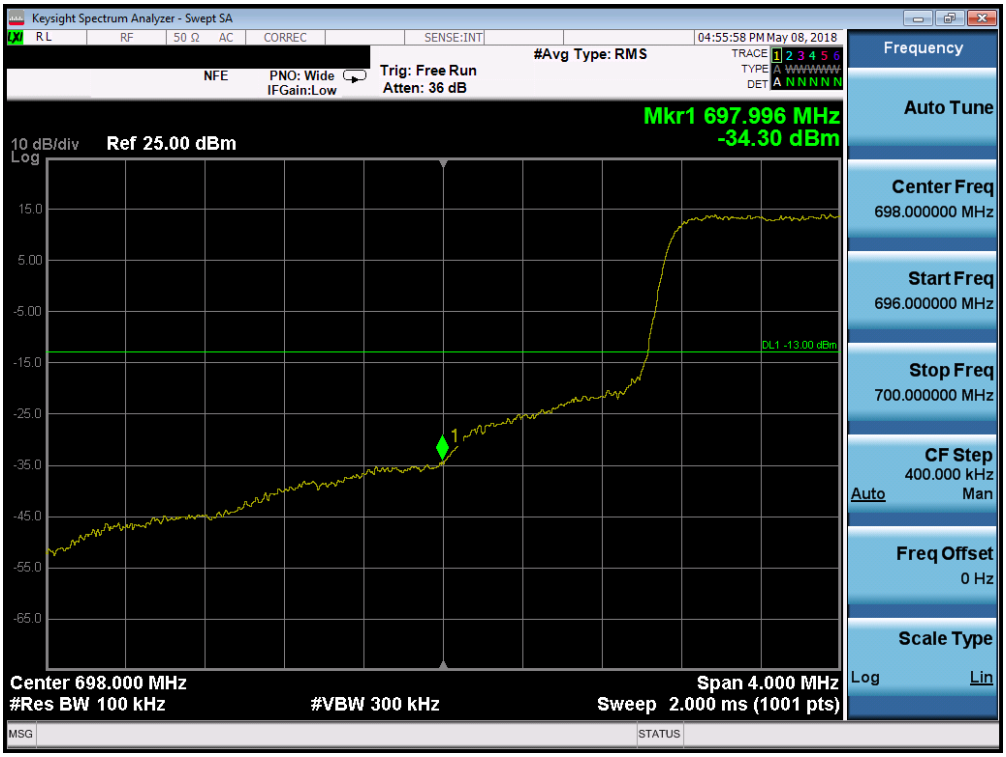
© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. 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 7-100. Lower Band Edge Plot (Band 71 - 20.0MHz QPSK - Full RB Configuration)

Plot 7-101. Upper Band Edge Plot (Band 71 - 20.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

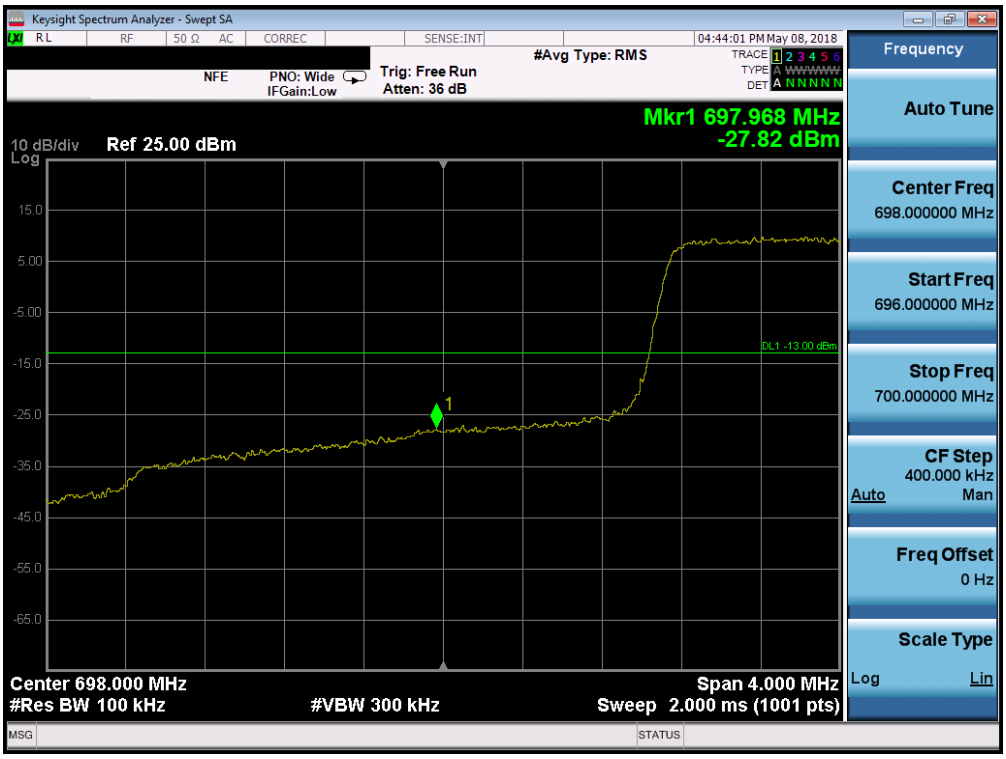
Band 12



Plot 7-102. Lower Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)

Plot 7-103. Upper Band Edge Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)

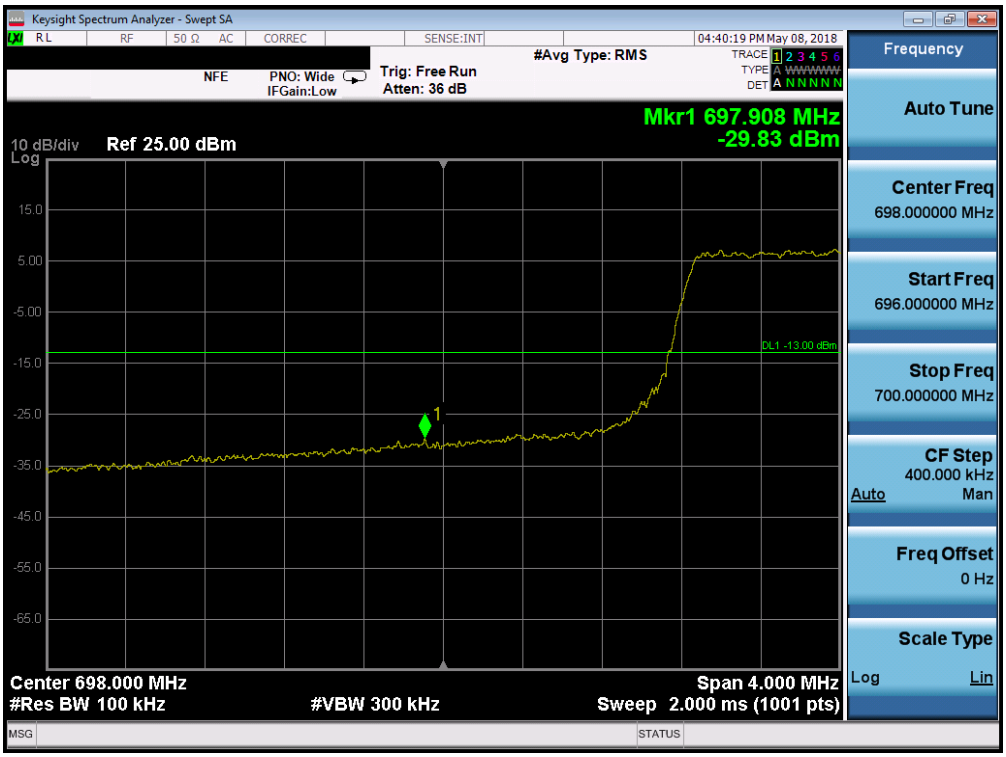
© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. 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 7-104. Lower Band Edge Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)

Plot 7-105. Upper Band Edge Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)

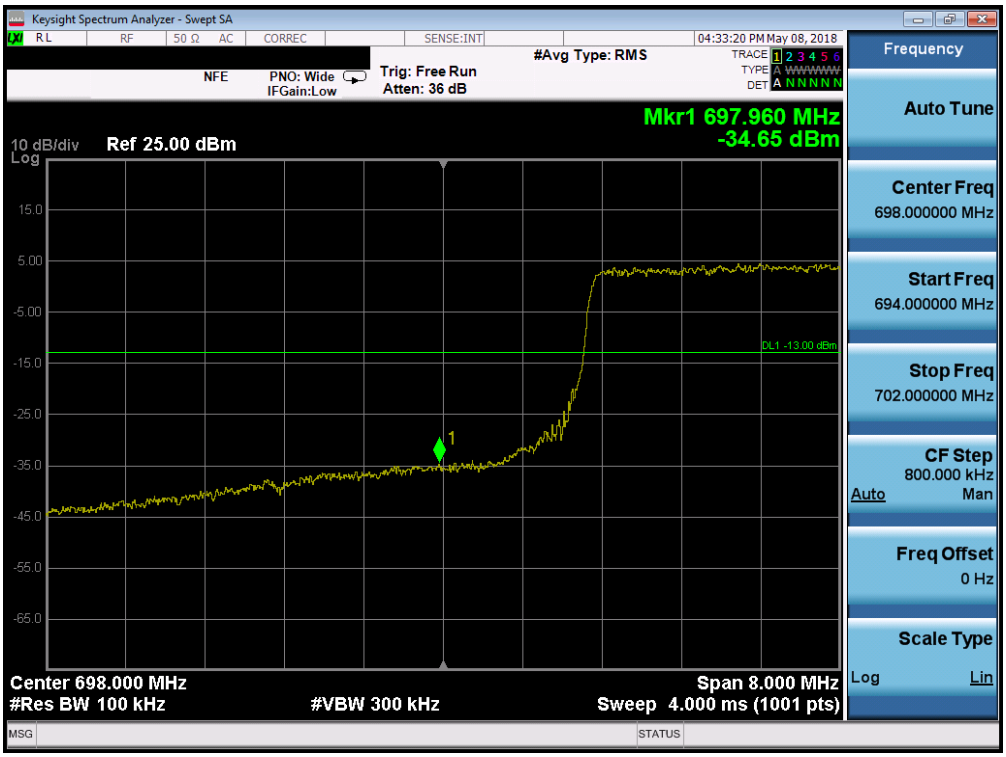
© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. 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.



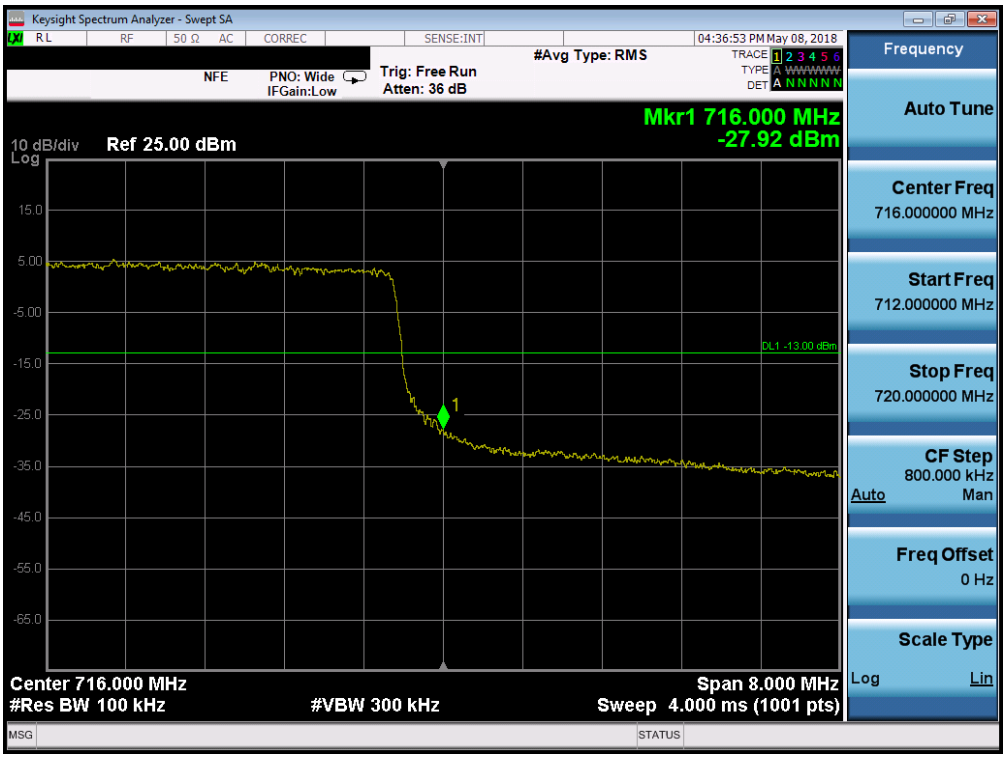
Plot 7-106. Lower Band Edge Plot (Band 12 - 5.0MHz QPSK - Full RB Configuration)

Plot 7-107. Upper Band Edge Plot (Band 12 - 5.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.



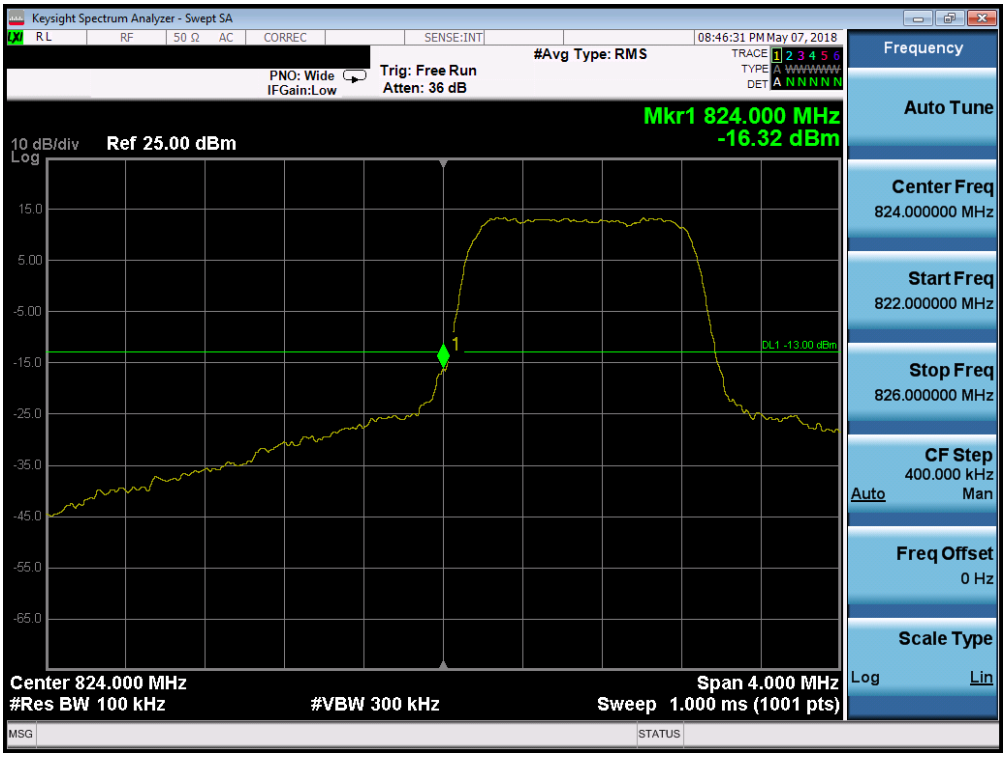
Plot 7-108. Lower Band Edge Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-109. Upper Band Edge Plot (Band 12 - 10.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

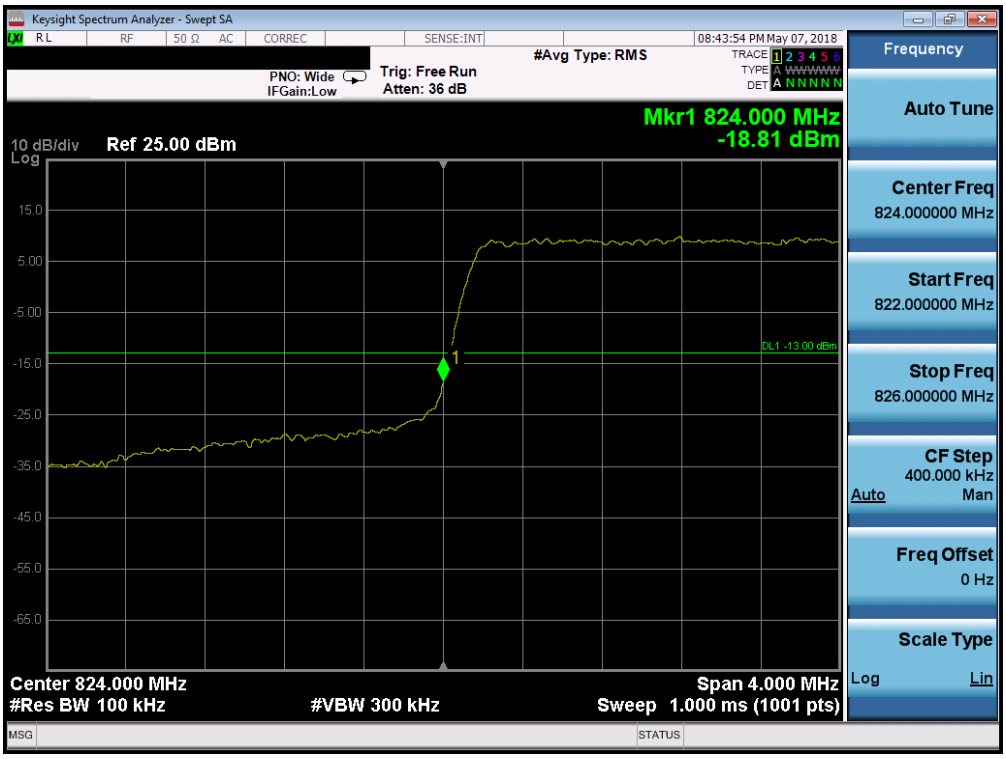
Band 5



Plot 7-110. Lower Band Edge Plot (Band 5 - 1.4MHz QPSK - Full RB Configuration)

Plot 7-111. Upper Band Edge Plot (Band 5 - 1.4MHz QPSK - Full RB Configuration)

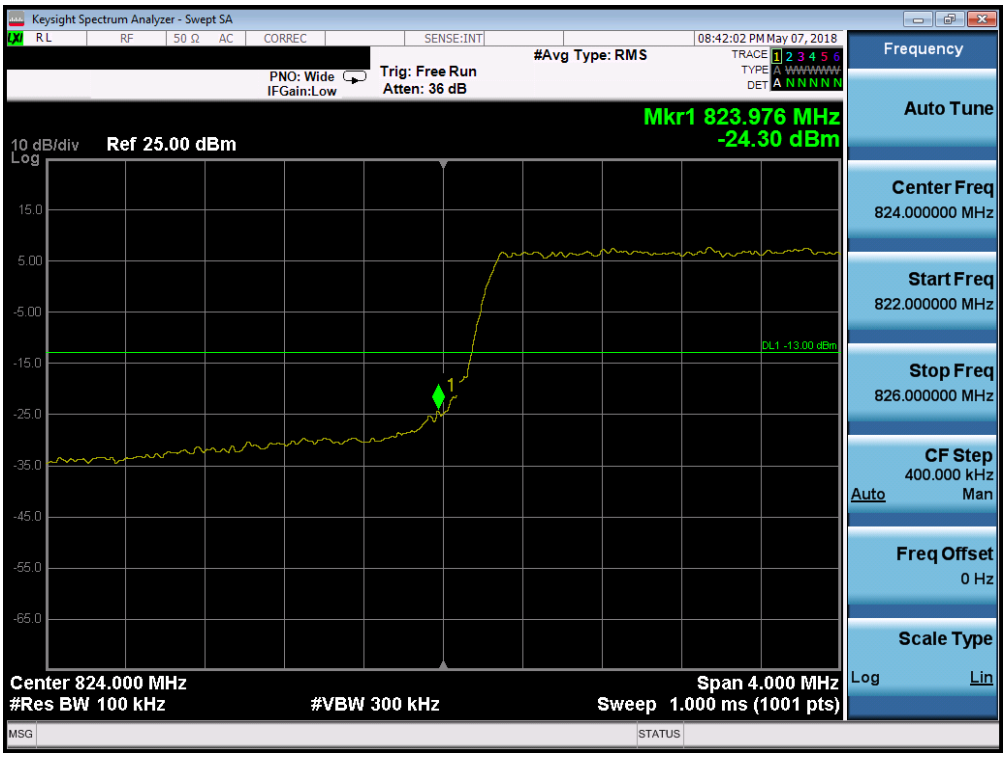
© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. 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 7-112. Lower Band Edge Plot (Band 5 - 3.0MHz QPSK - Full RB Configuration)

Plot 7-113. Upper Band Edge Plot (Band 5 - 3.0MHz QPSK - Full RB Configuration)

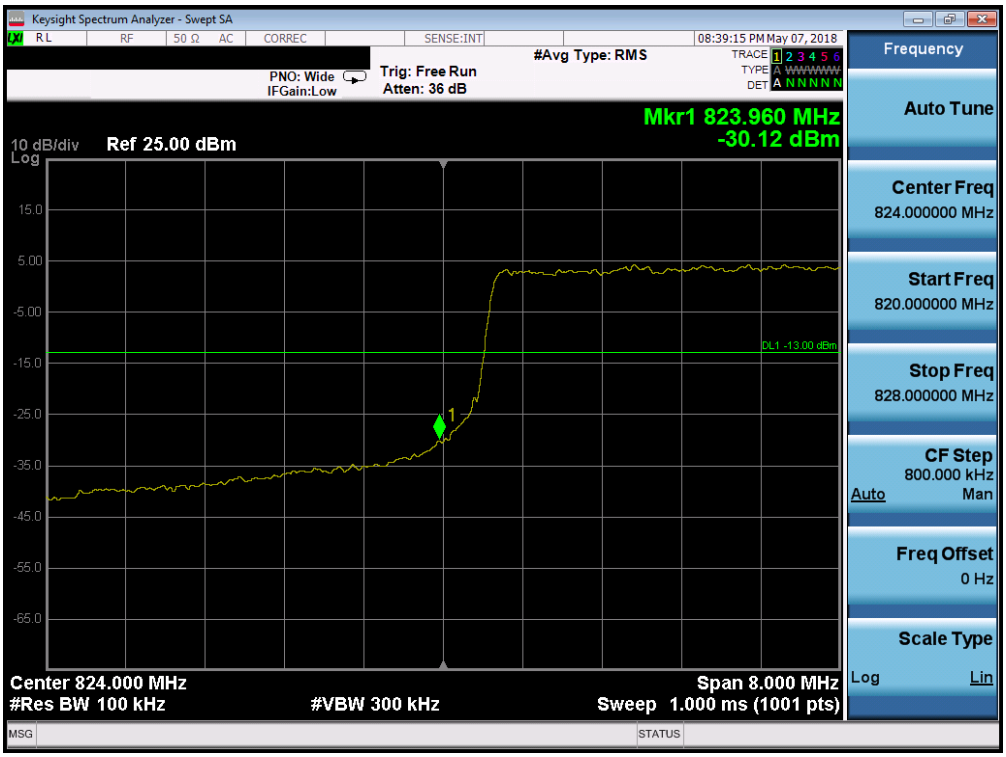
© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. 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. Lower Band Edge Plot (Band 5 - 5.0MHz QPSK - Full RB Configuration)

Plot 7-115. Upper Band Edge Plot (Band 5 - 5.0MHz QPSK - Full RB Configuration)

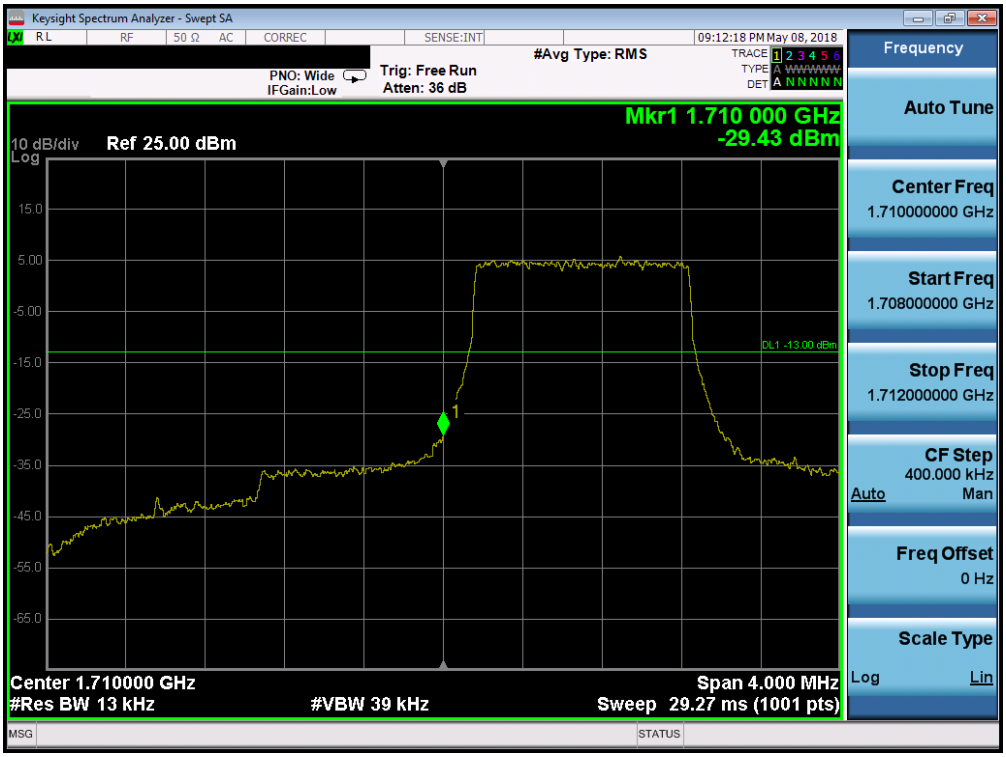
© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. 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.



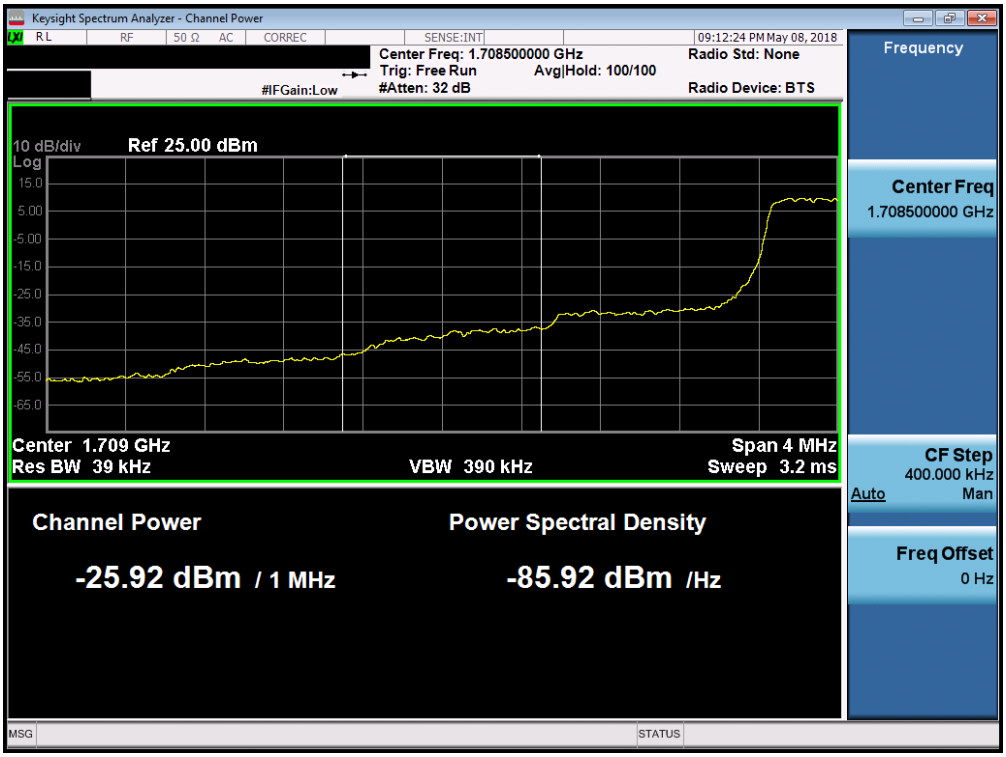
Plot 7-116. Lower Band Edge Plot (Band 5 - 10.0MHz QPSK - Full RB Configuration)

Plot 7-117. Upper Band Edge Plot (Band 5 - 10.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

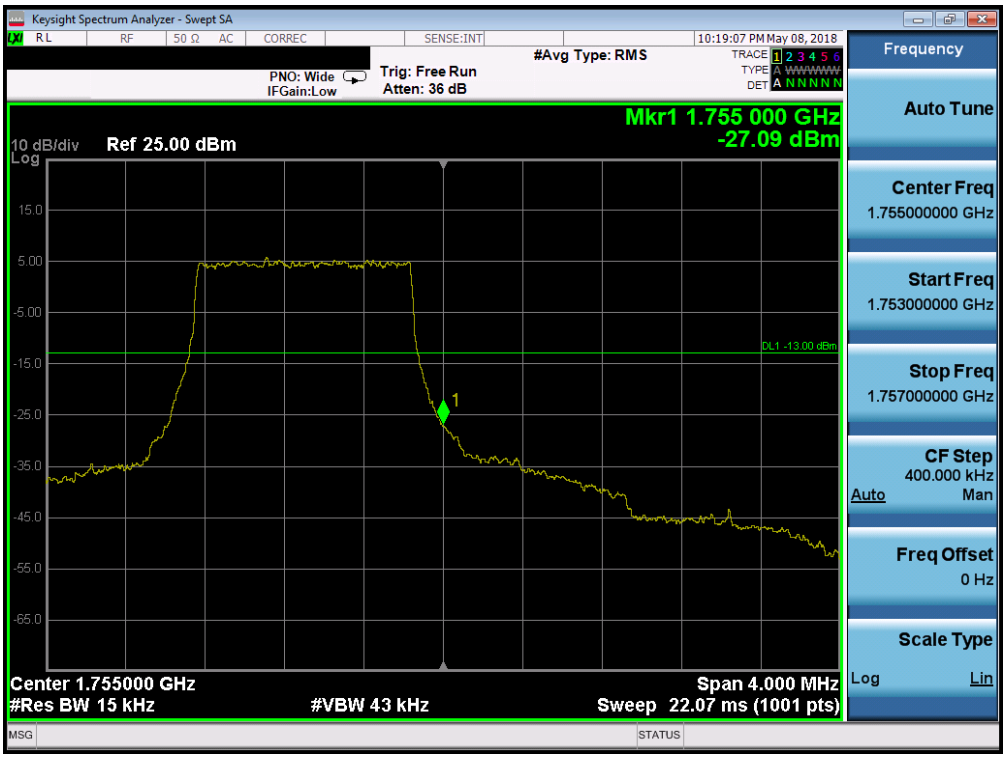


Plot 7-118. Lower Band Edge Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)

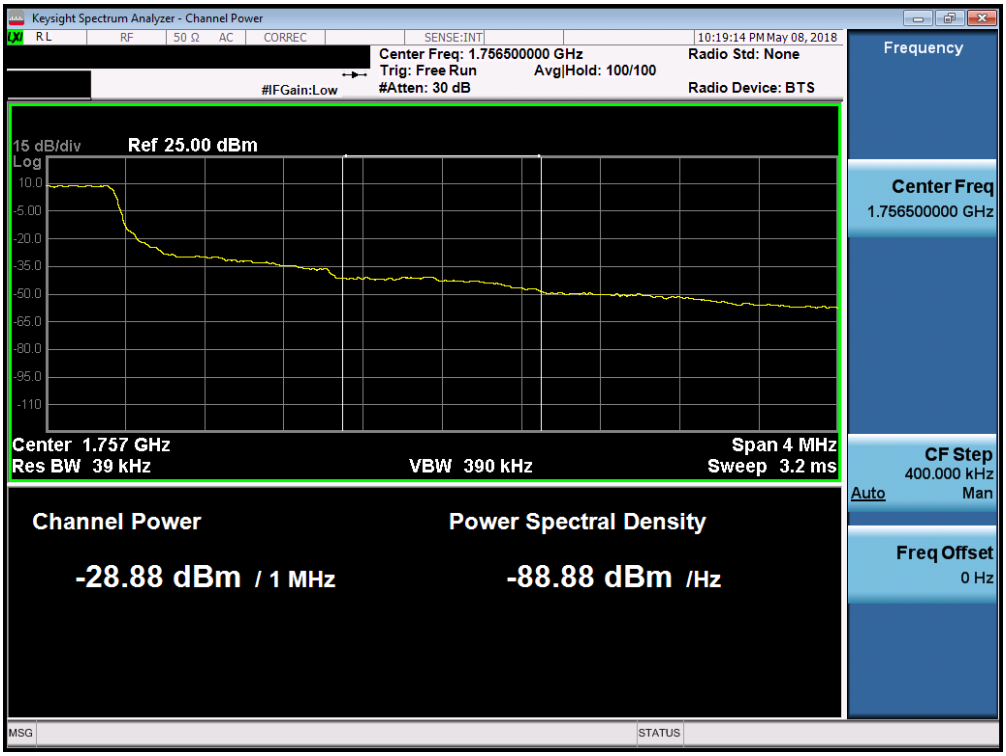


Plot 7-119. Lower Extended Band Edge Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

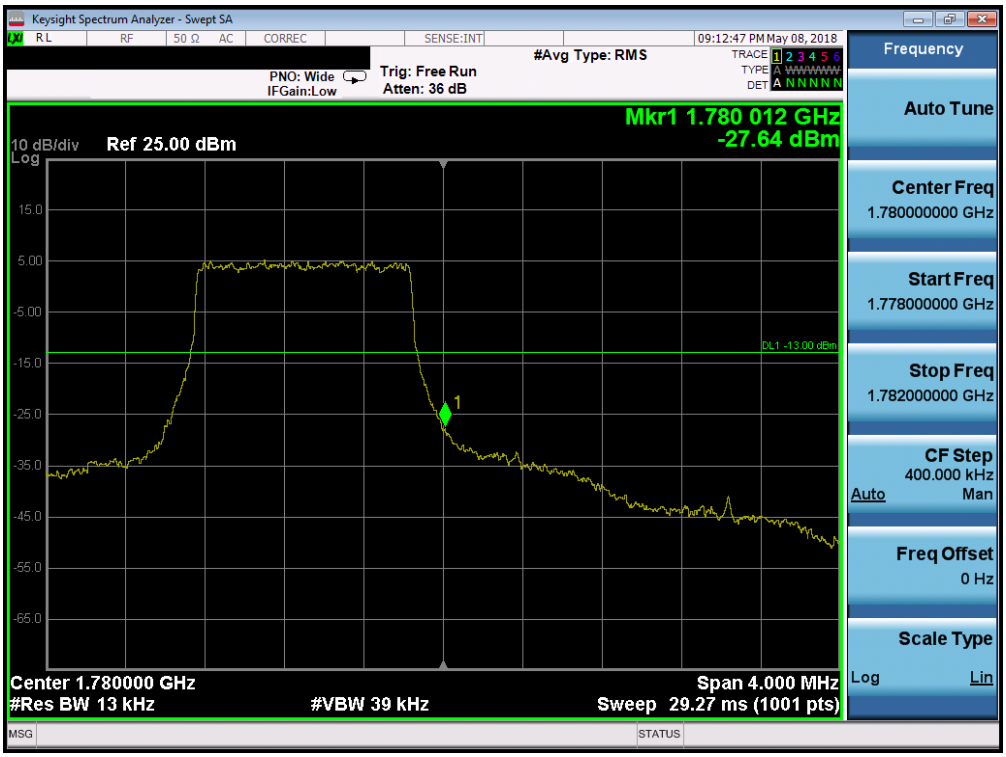


Plot 7-120. Upper Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

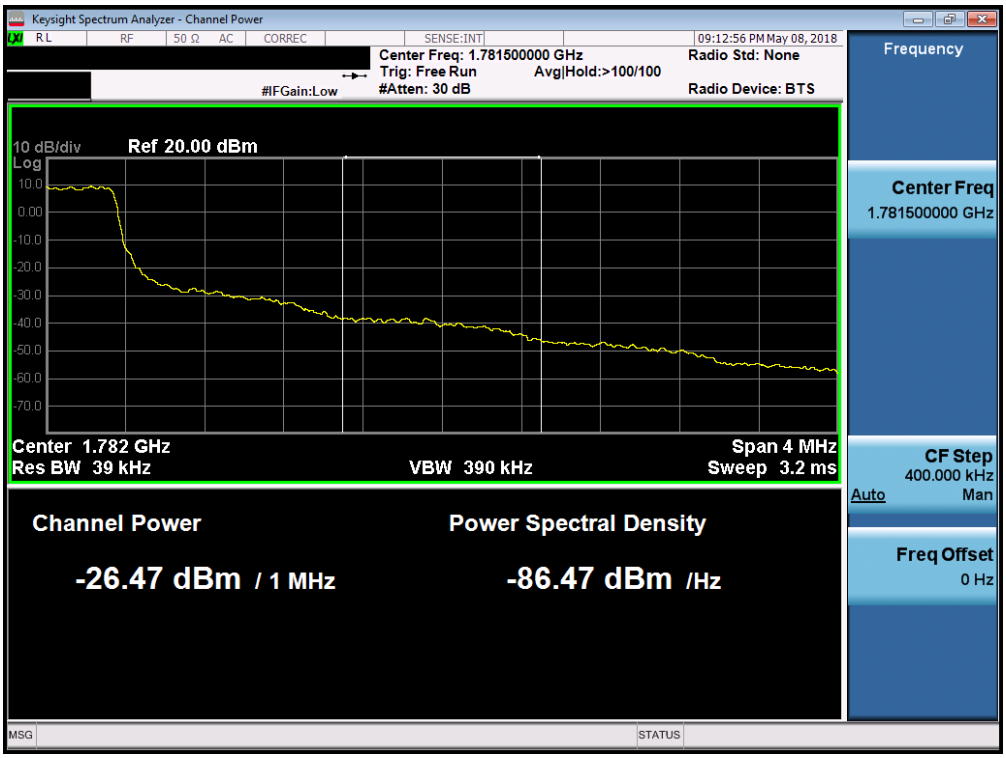


Plot 7-121. Upper Extended Band Edge Plot (Band 4 - 1.4MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

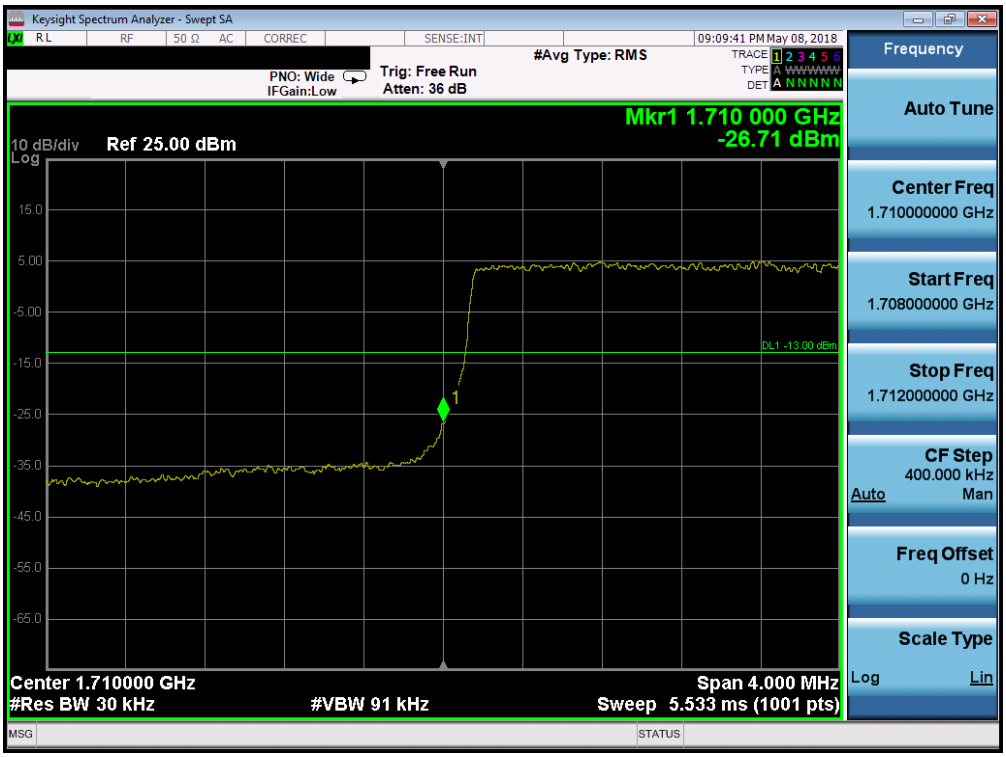


Plot 7-122. Upper Band Edge Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)

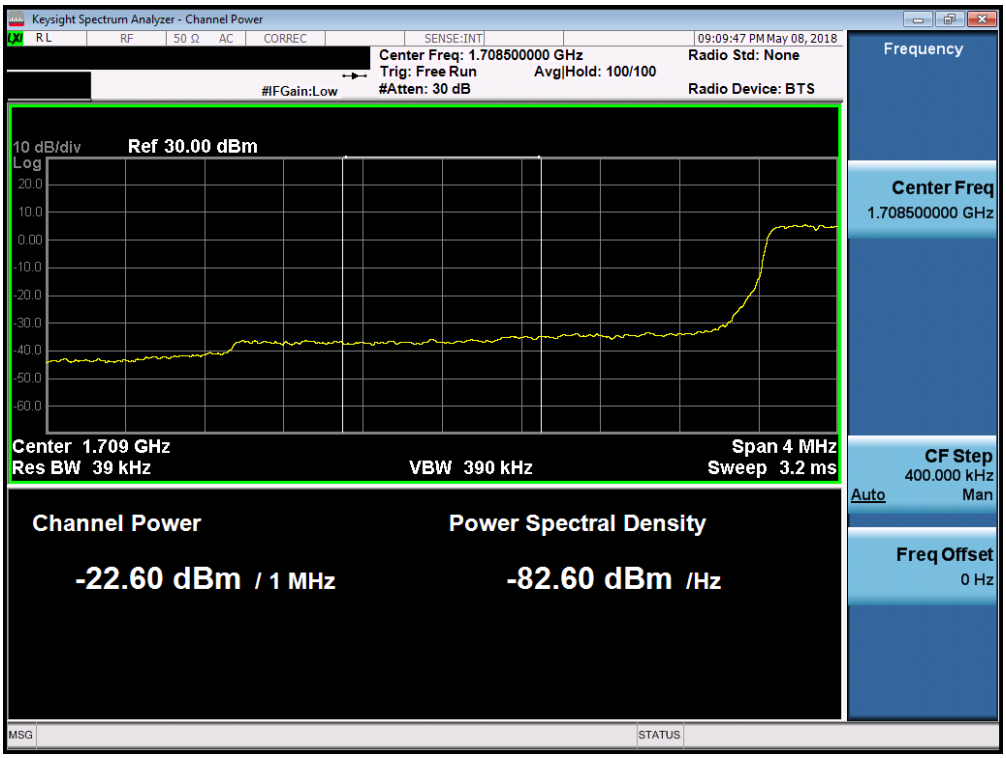


Plot 7-123. Upper Extended Band Edge Plot (Band 66 - 1.4MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

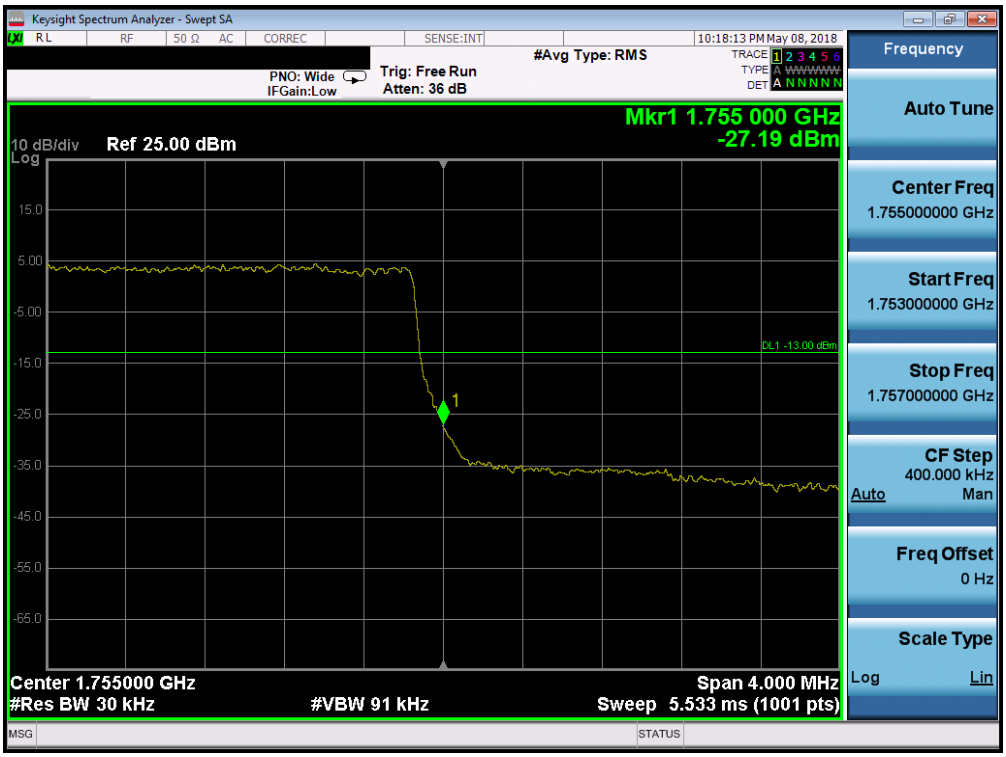


Plot 7-124. Lower Band Edge Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

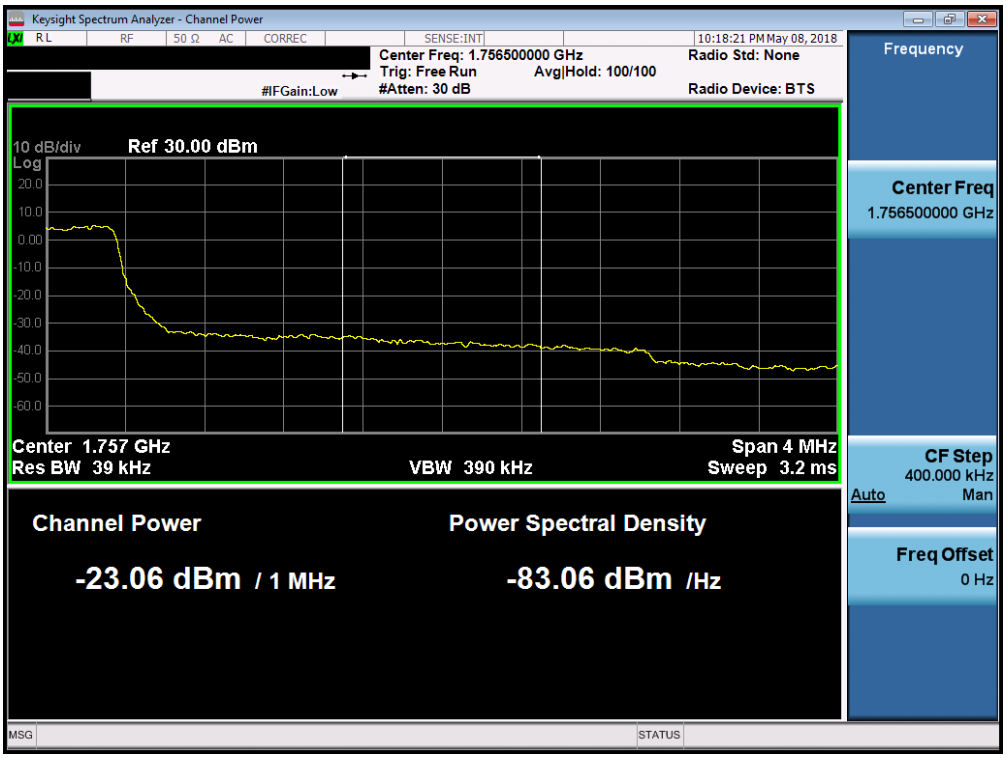


Plot 7-125. Lower Extended Band Edge Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

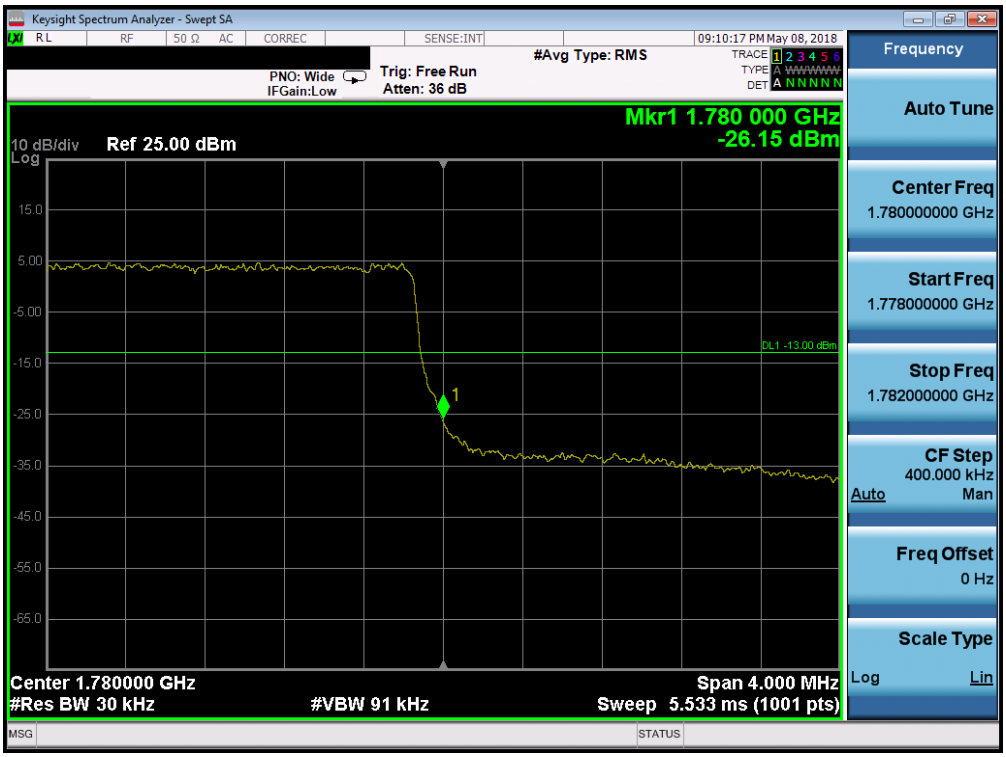


Plot 7-126. Upper Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

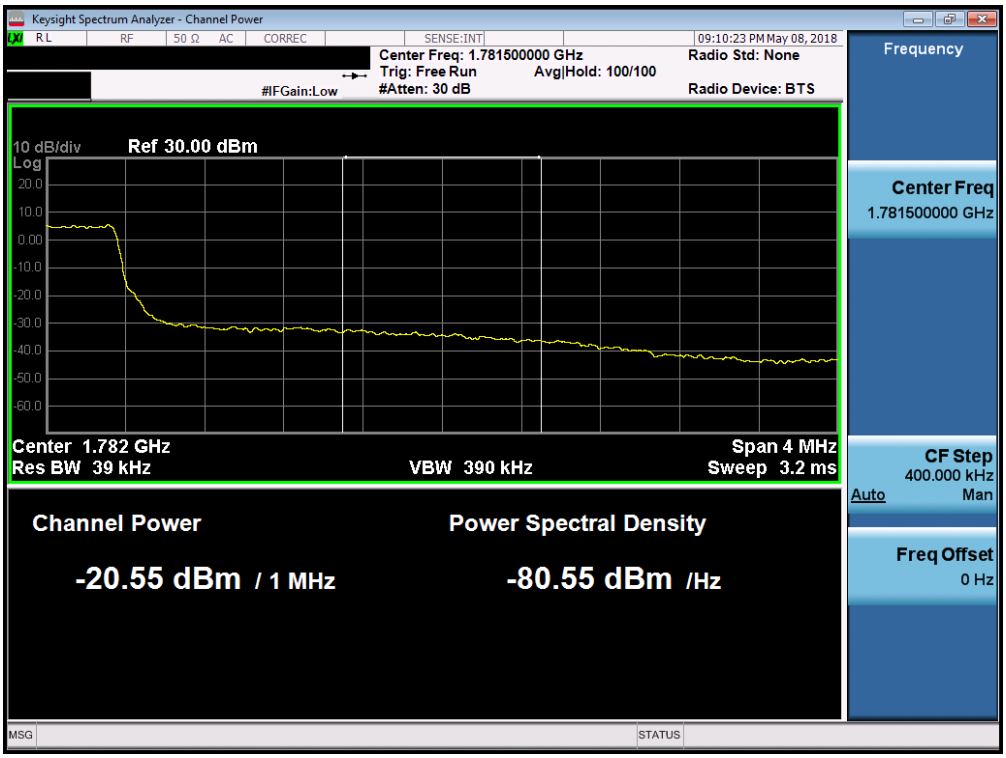


Plot 7-127. Upper Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

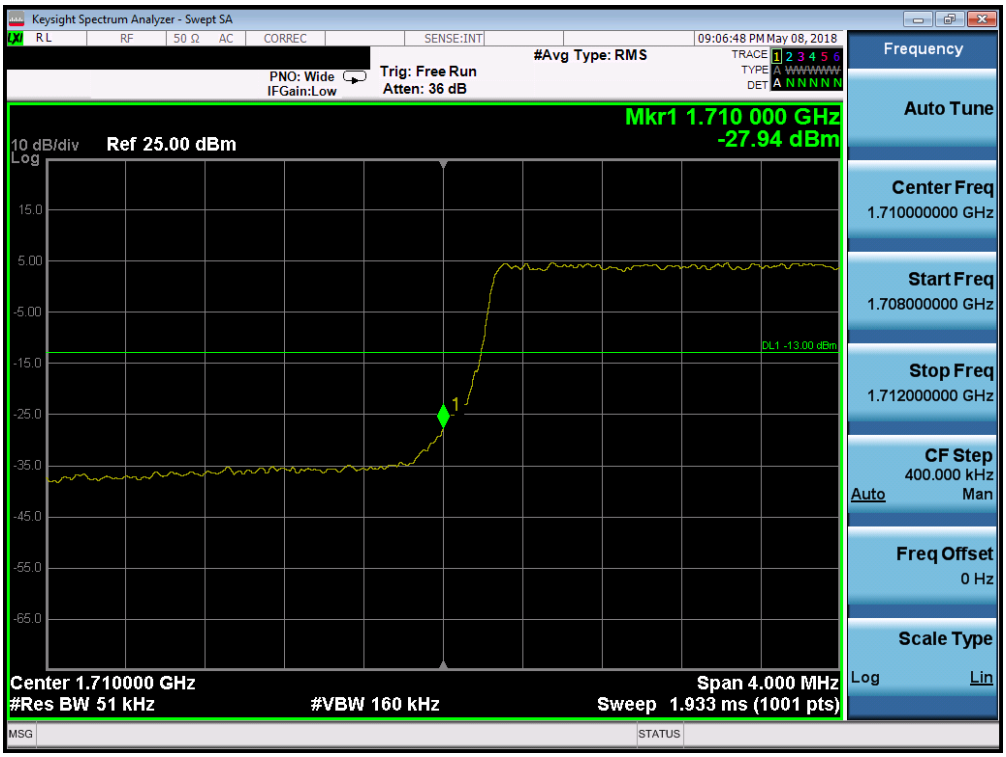


Plot 7-128. Upper Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)

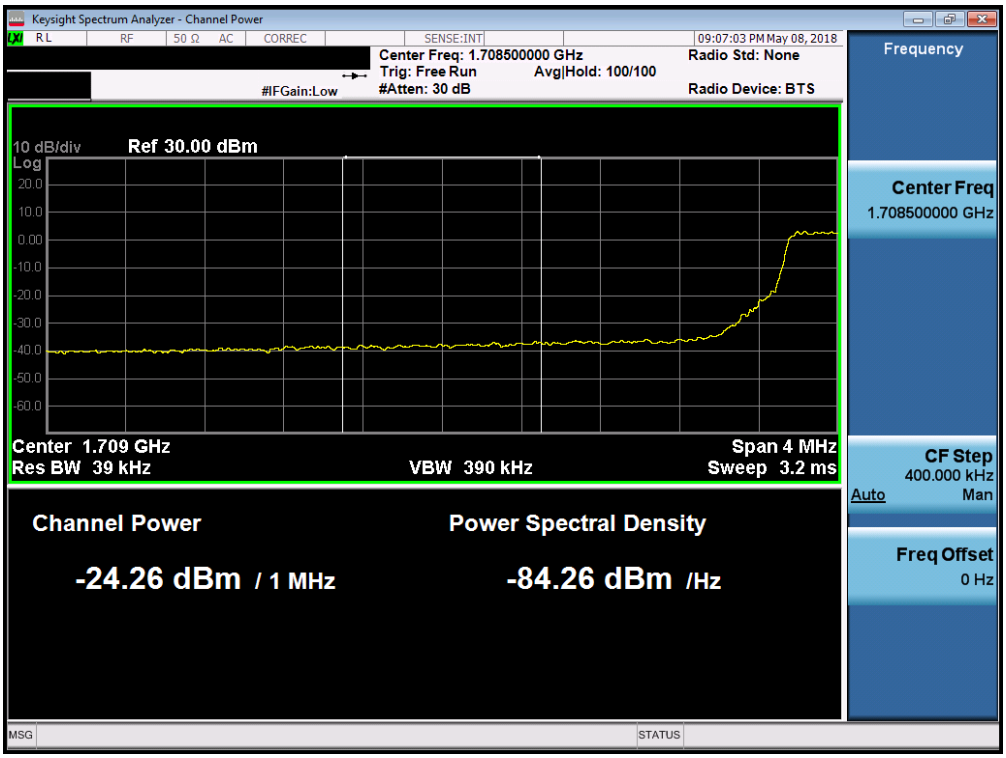


Plot 7-129. Upper Extended Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

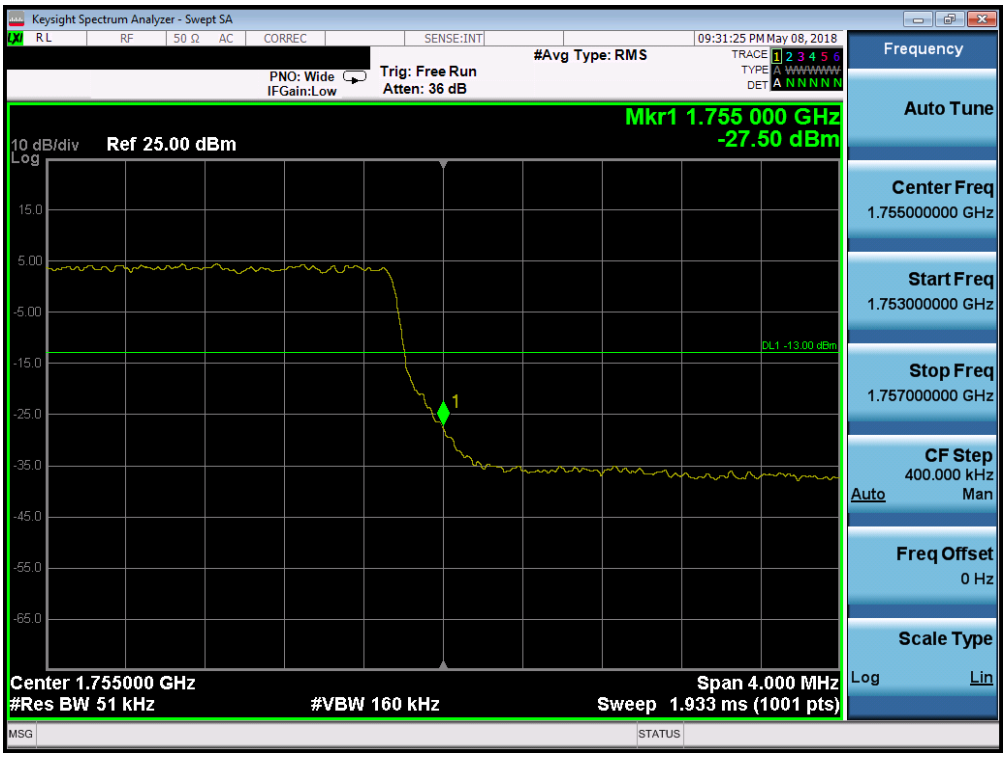


Plot 7-130. Lower Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)

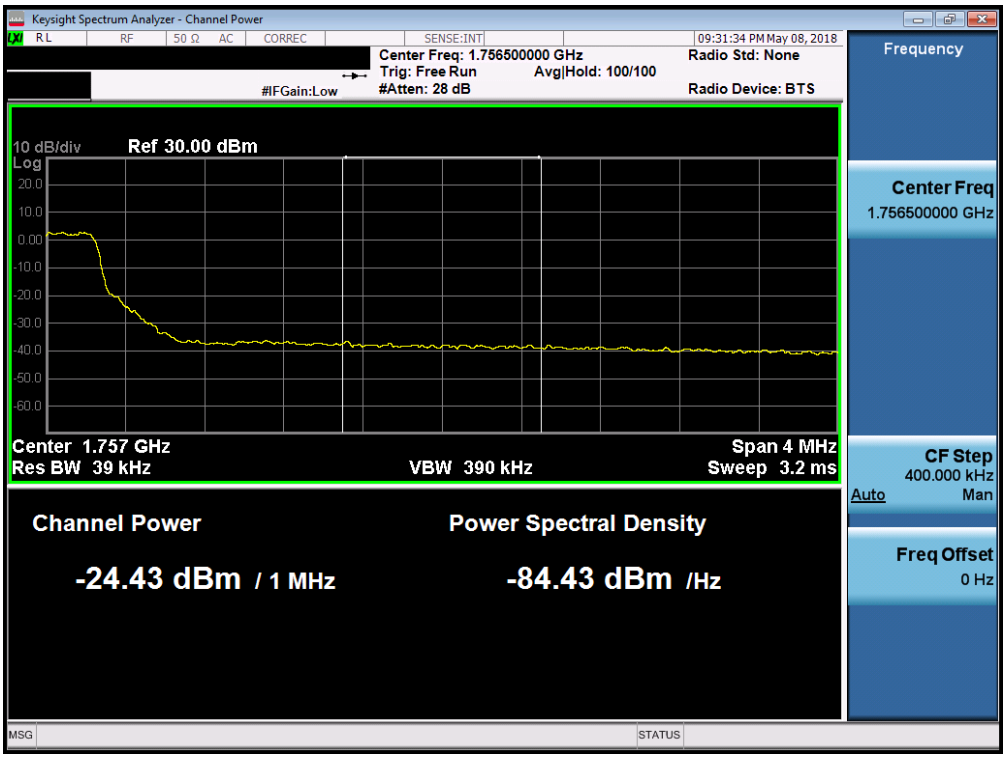


Plot 7-131. Lower Extended Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.



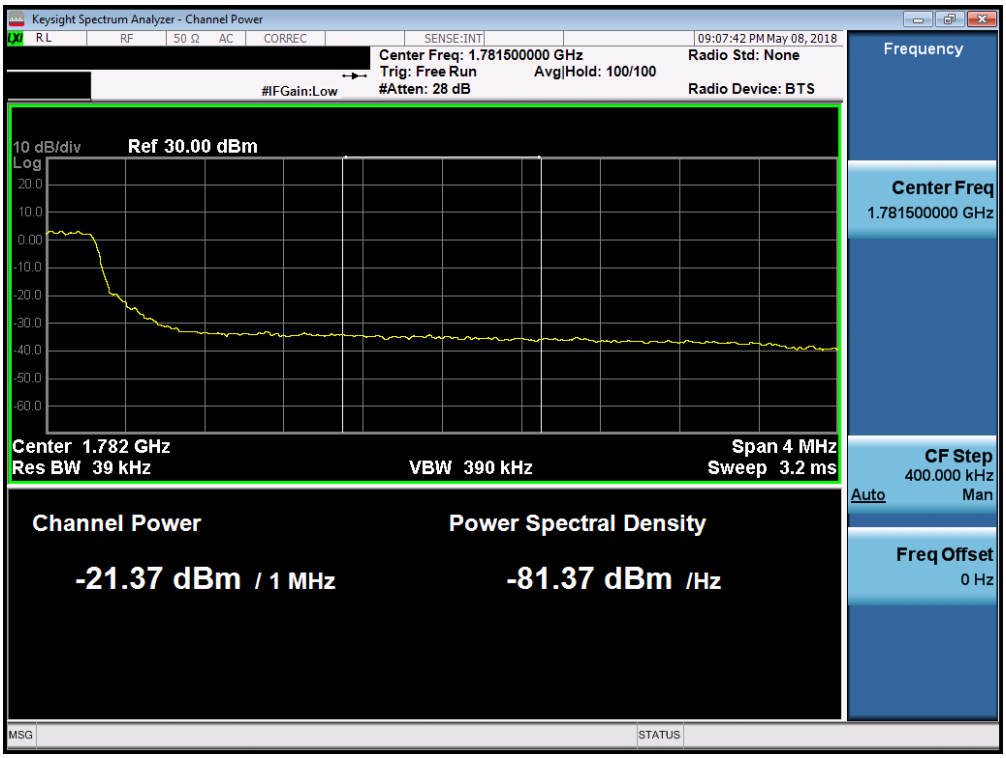
Plot 7-132. Upper Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-133. Upper Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

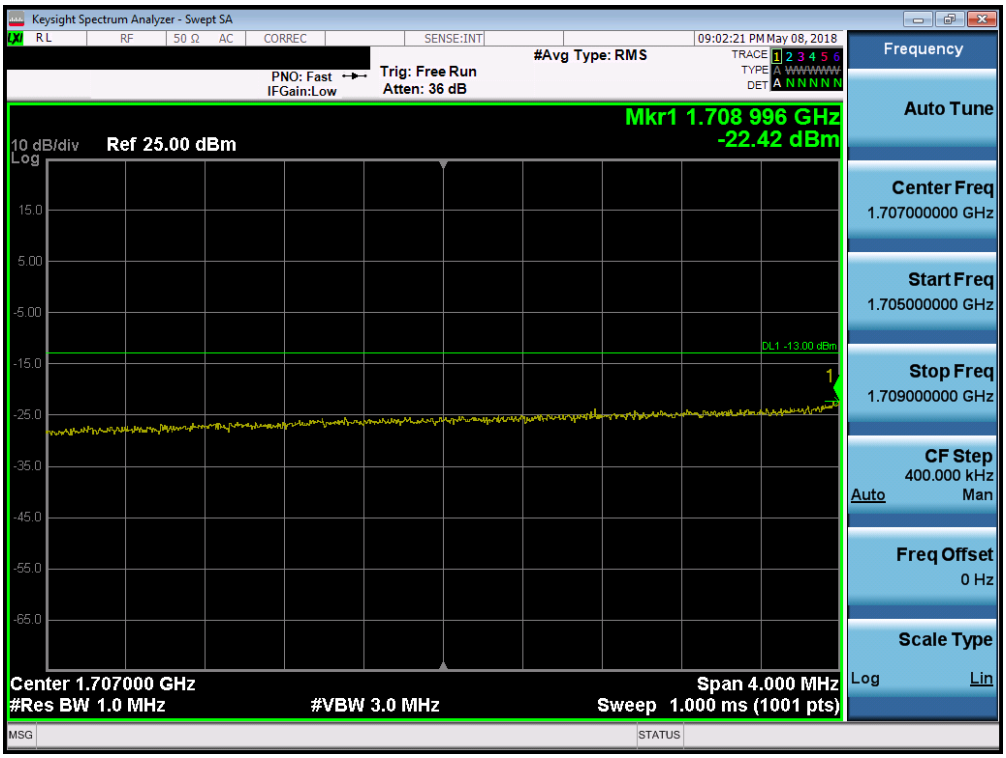
Plot 7-134. Upper Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-135. Upper Extended Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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. Lower Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-137. Lower Extended Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

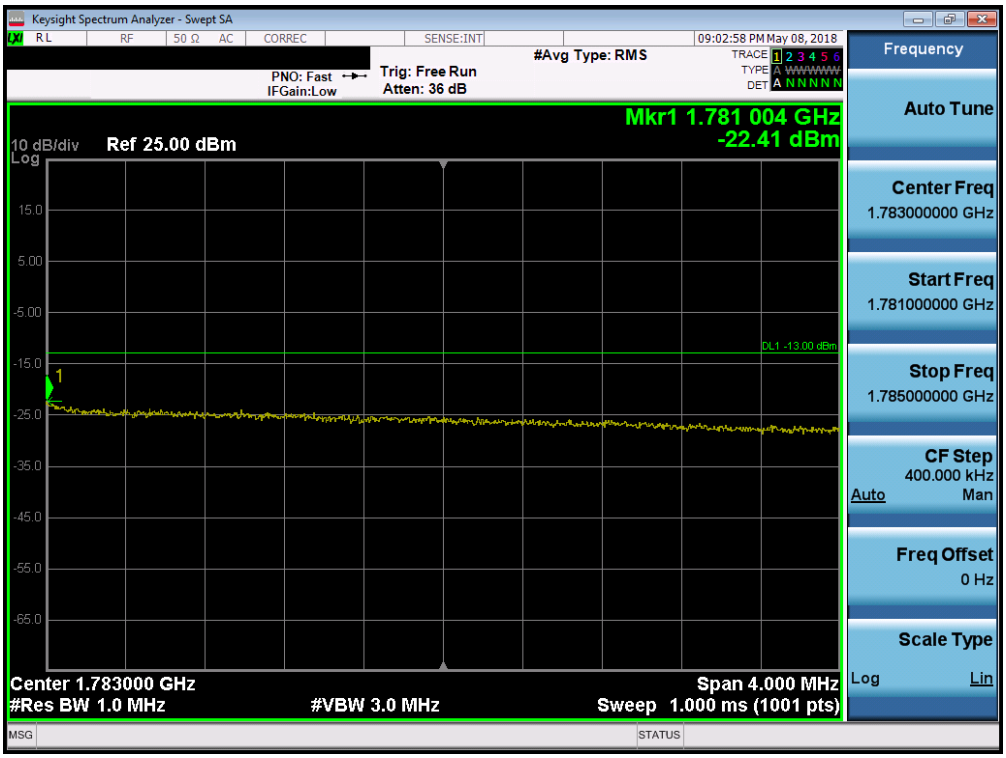
© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. 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. Upper Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

Plot 7-139. Upper Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

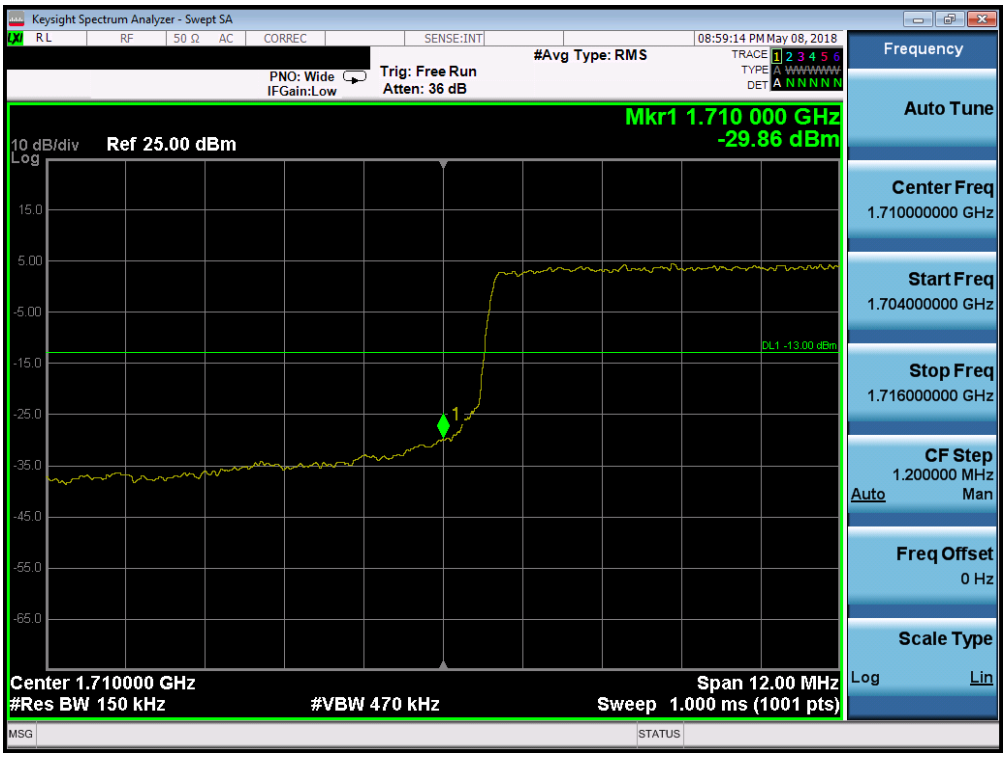
© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. 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. Upper Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)

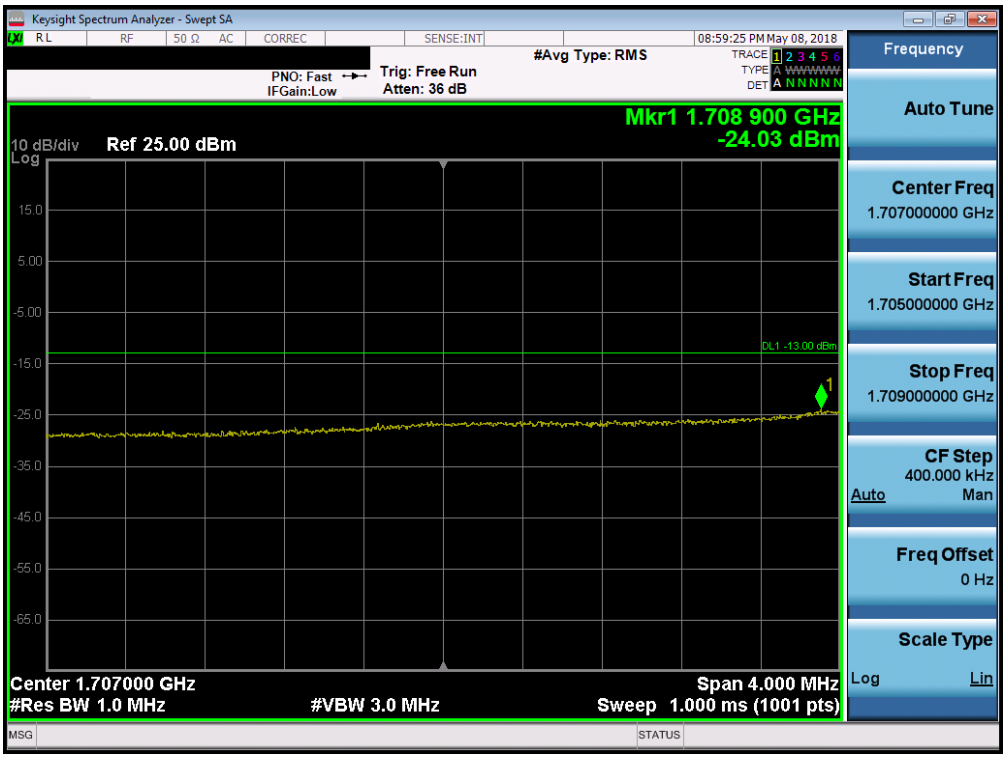


Plot 7-141. Upper Extended Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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. Lower Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-143. Lower Extended Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 7-144. Upper Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

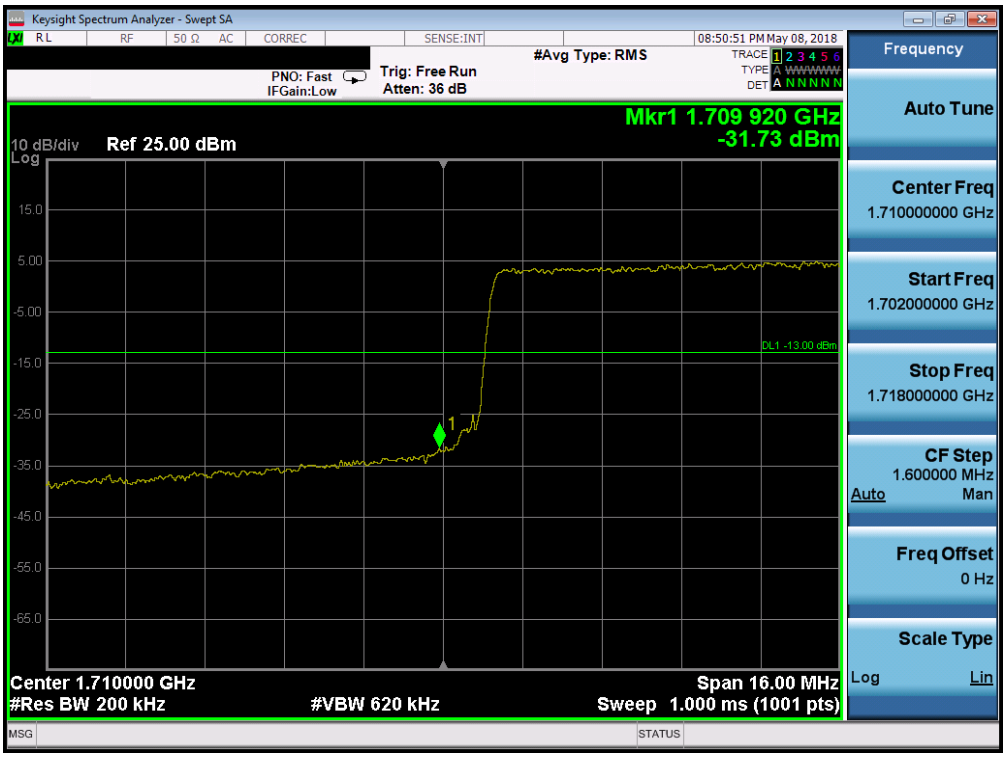
Plot 7-145. Upper Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 7-146. Upper Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)

Plot 7-147. Upper Extended Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)

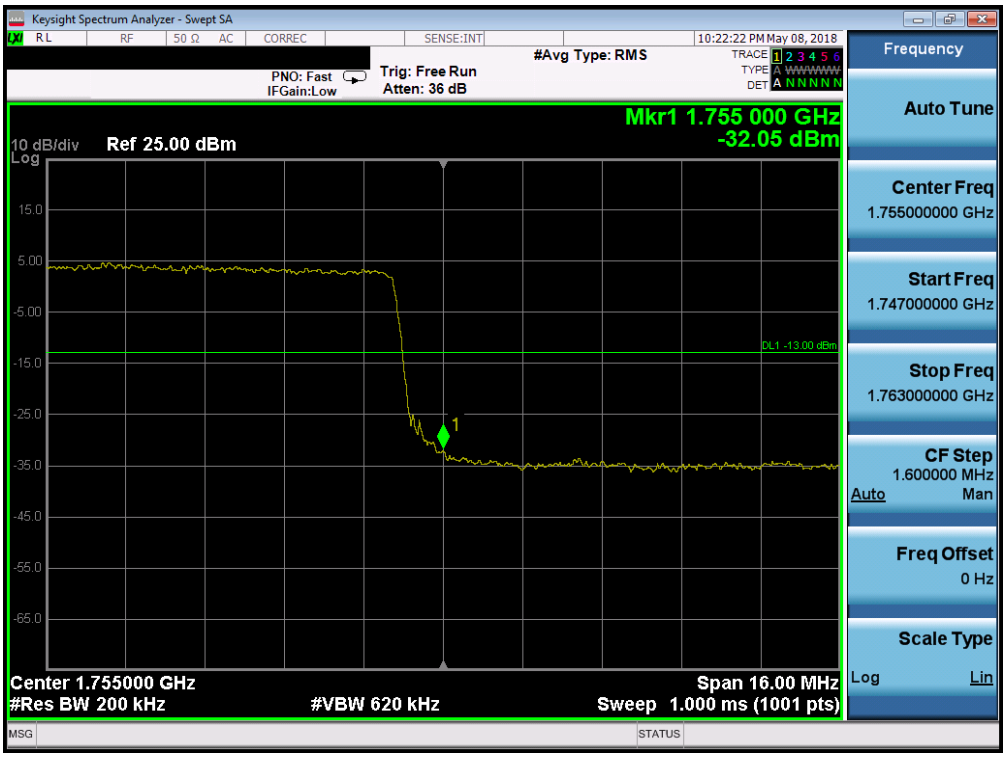
© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. 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.



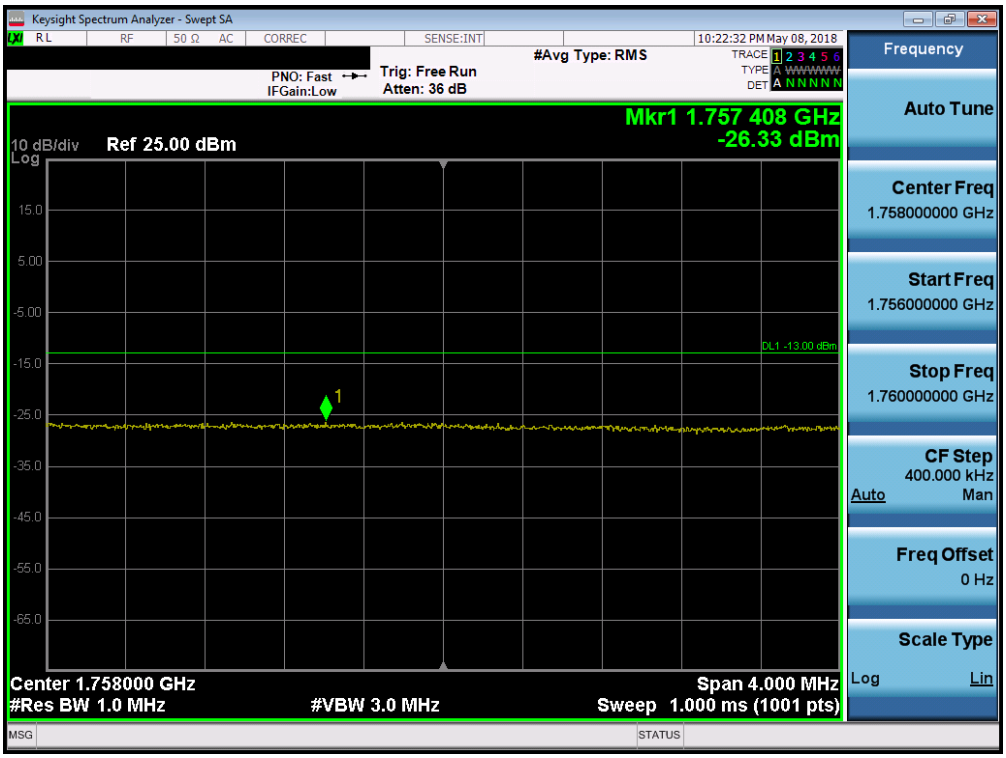
Plot 7-148. Lower Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

Plot 7-149. Lower Extended Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

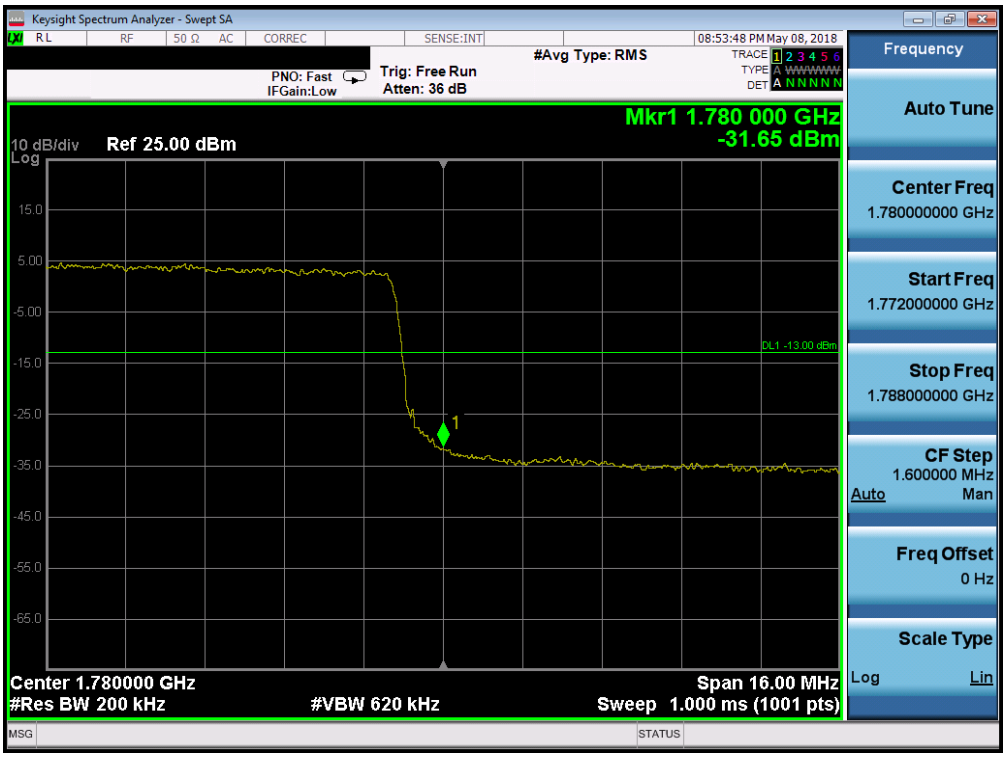


Plot 7-150. Upper Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-151. Upper Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

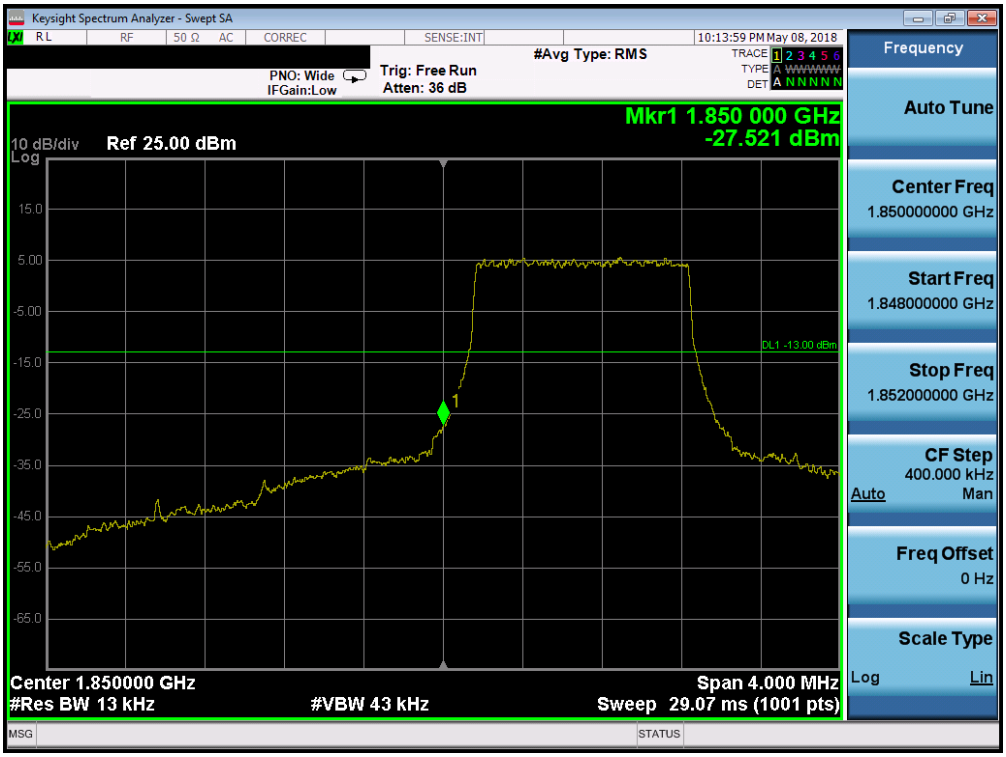
© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. 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.



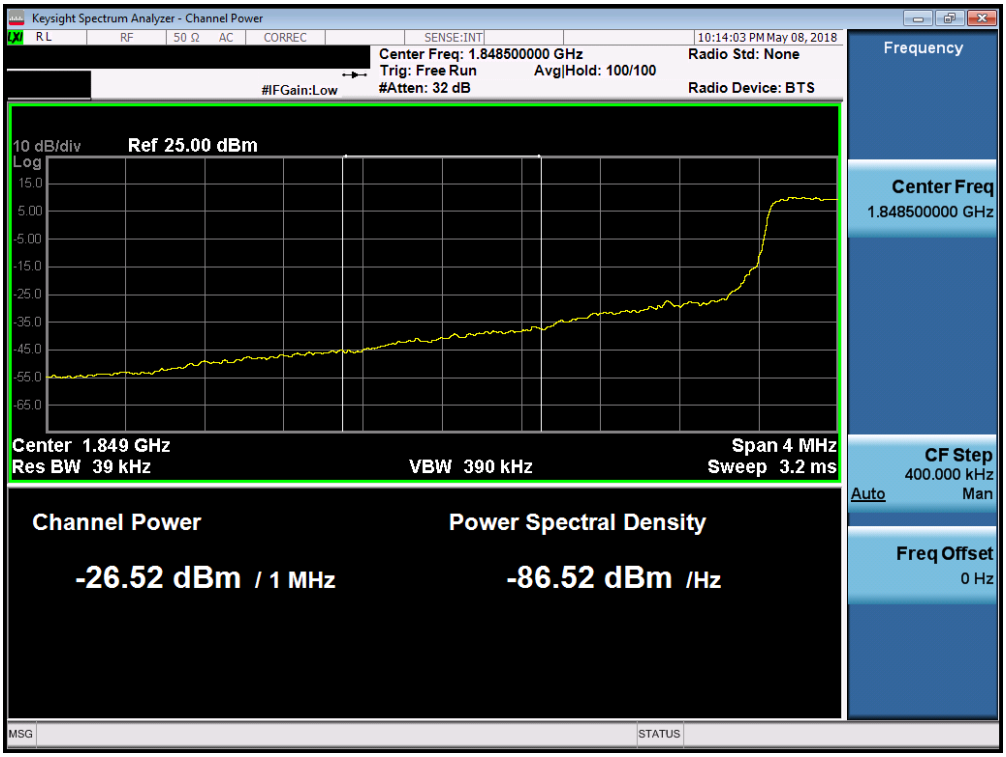
Plot 7-152. Upper Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

Plot 7-153. Upper Extended Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

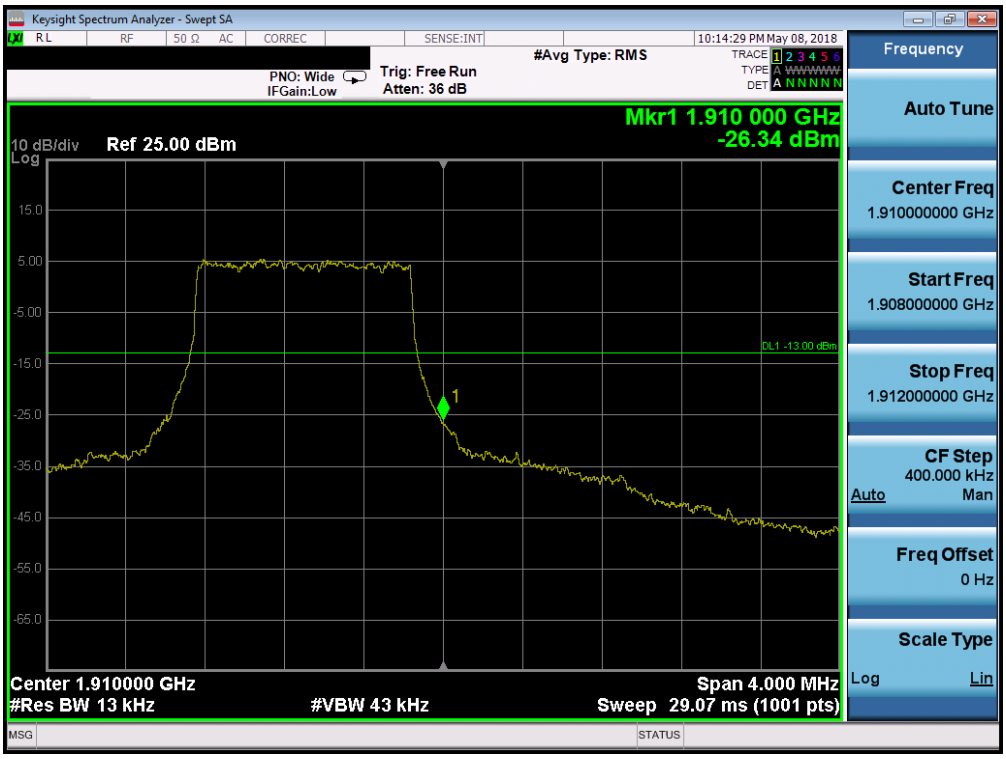


Plot 7-154. Lower Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

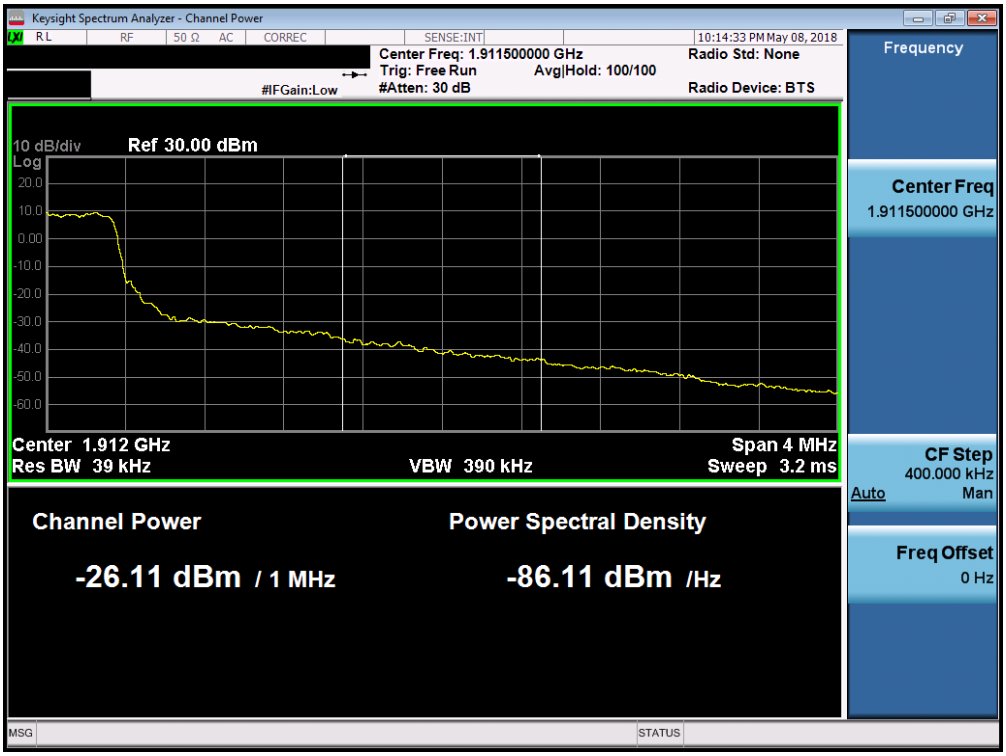


Plot 7-155. Lower Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

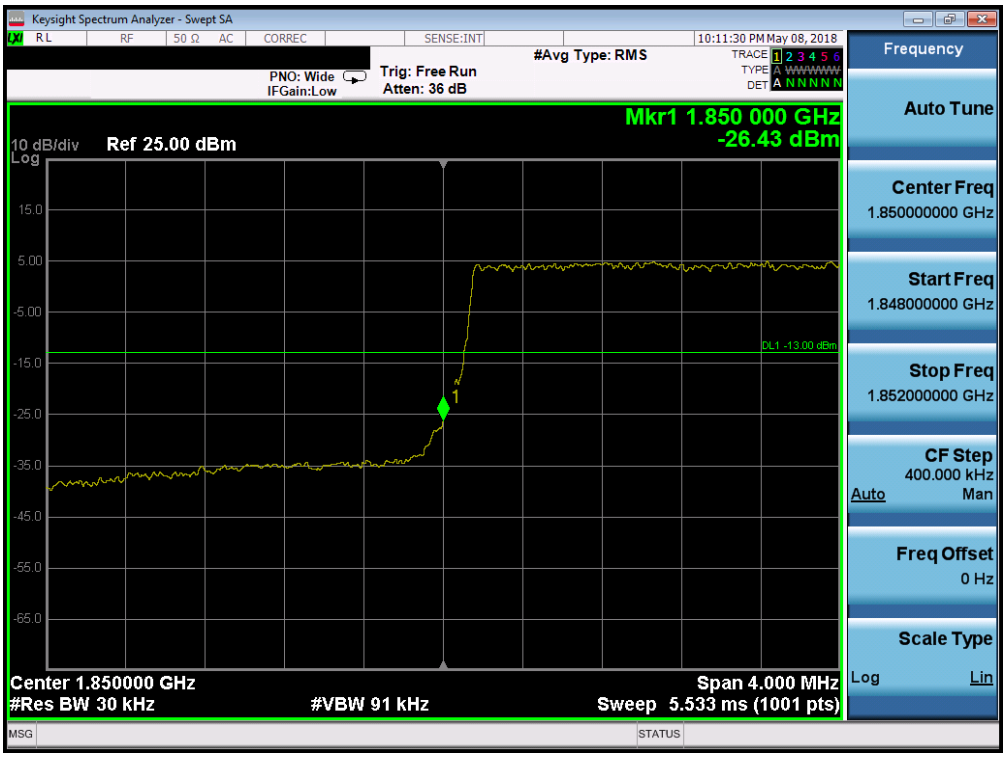


Plot 7-156. Upper Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

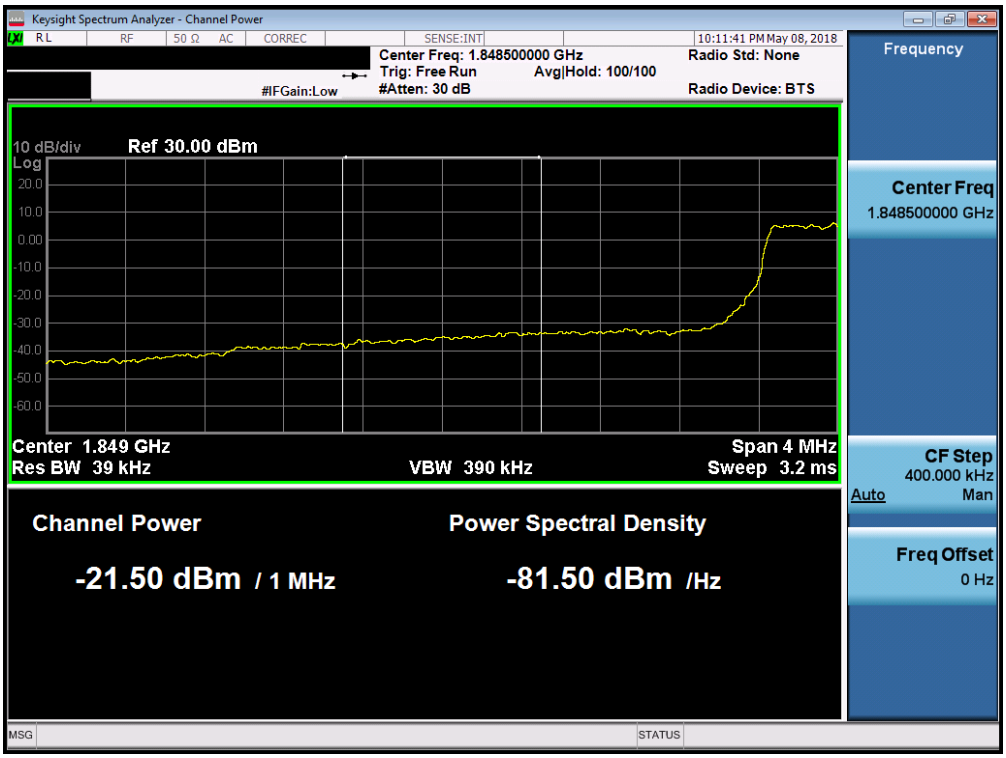


Plot 7-157. Upper Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.



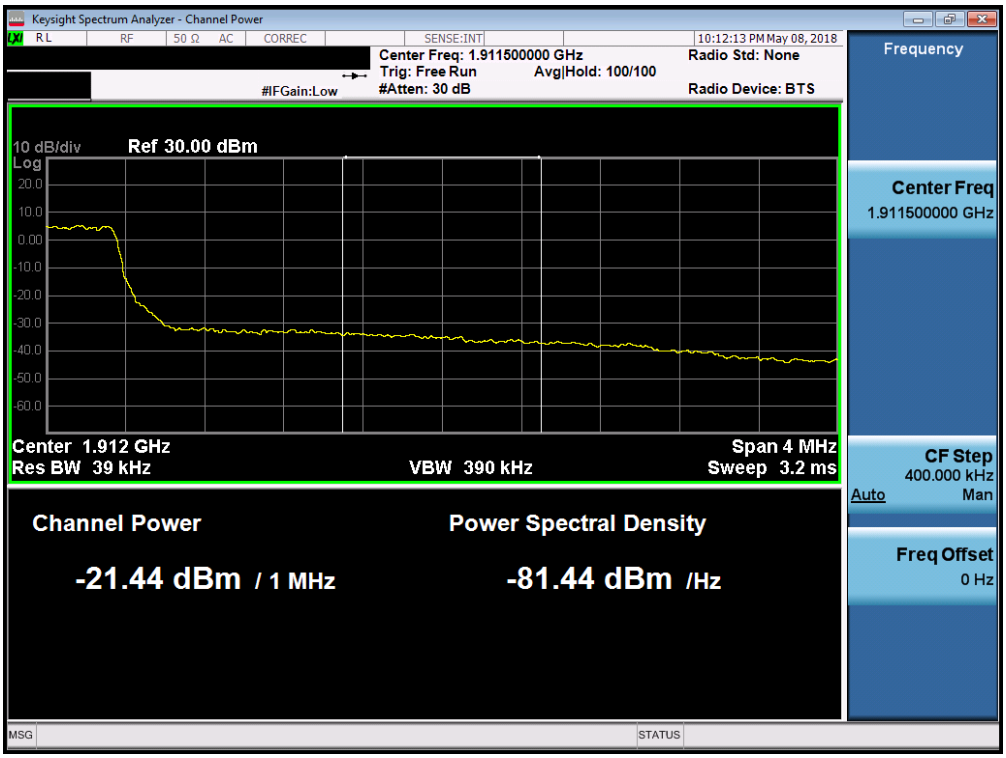
Plot 7-158. Lower Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)



Plot 7-159. Lower Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

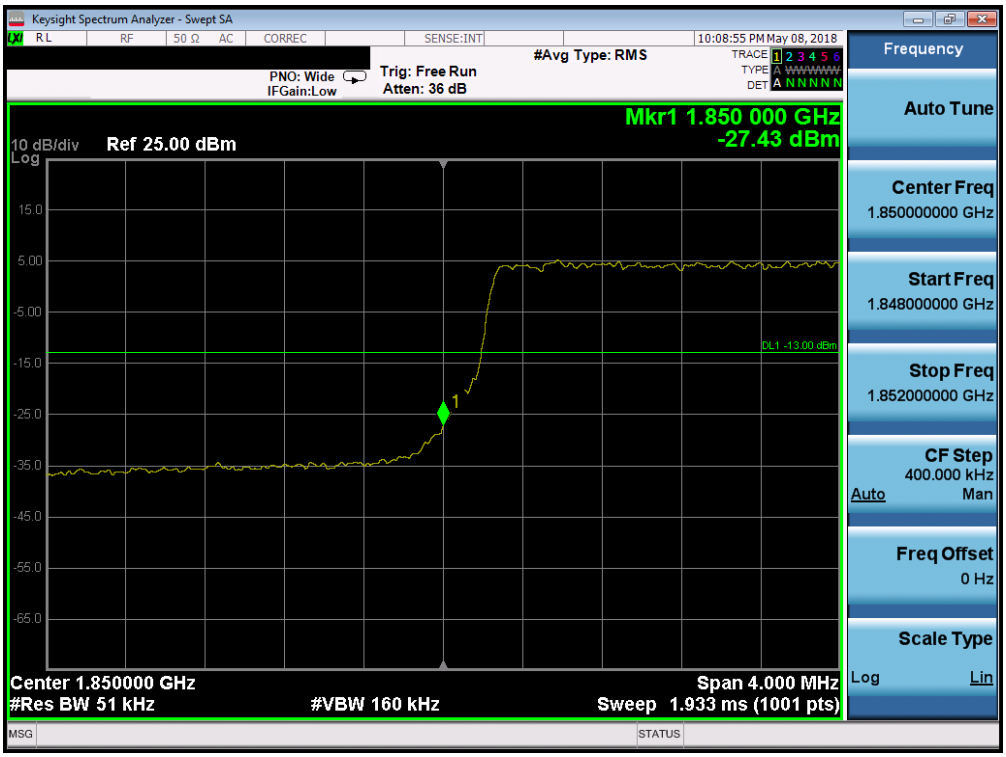
© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. 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 7-160. Upper Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

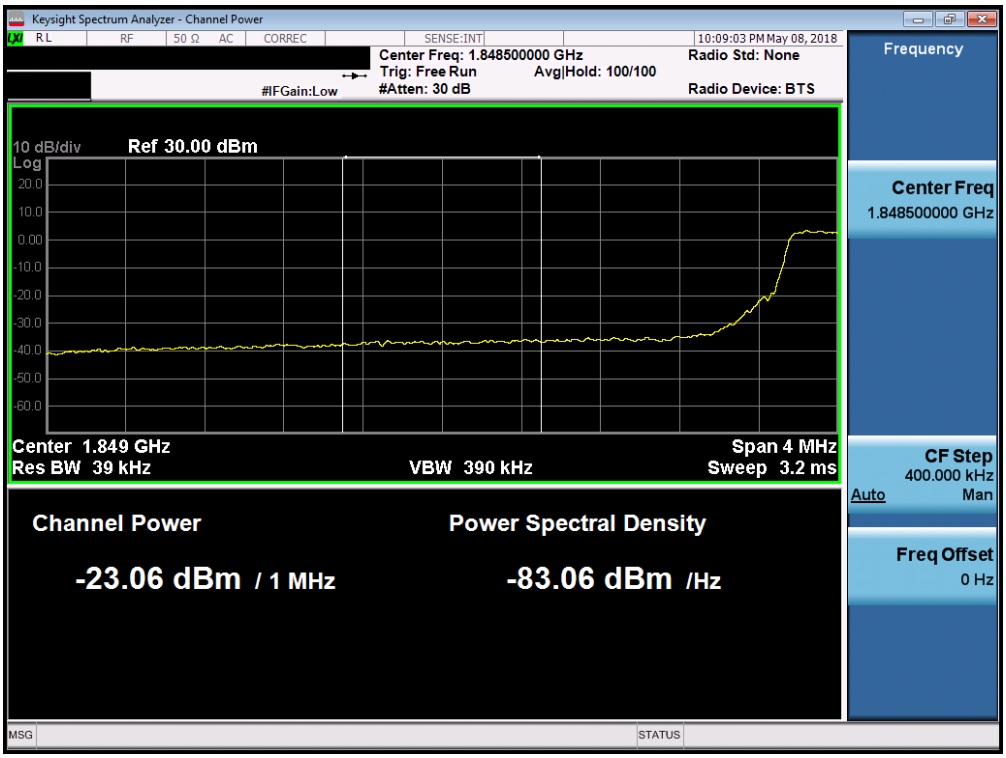


Plot 7-161. Upper Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

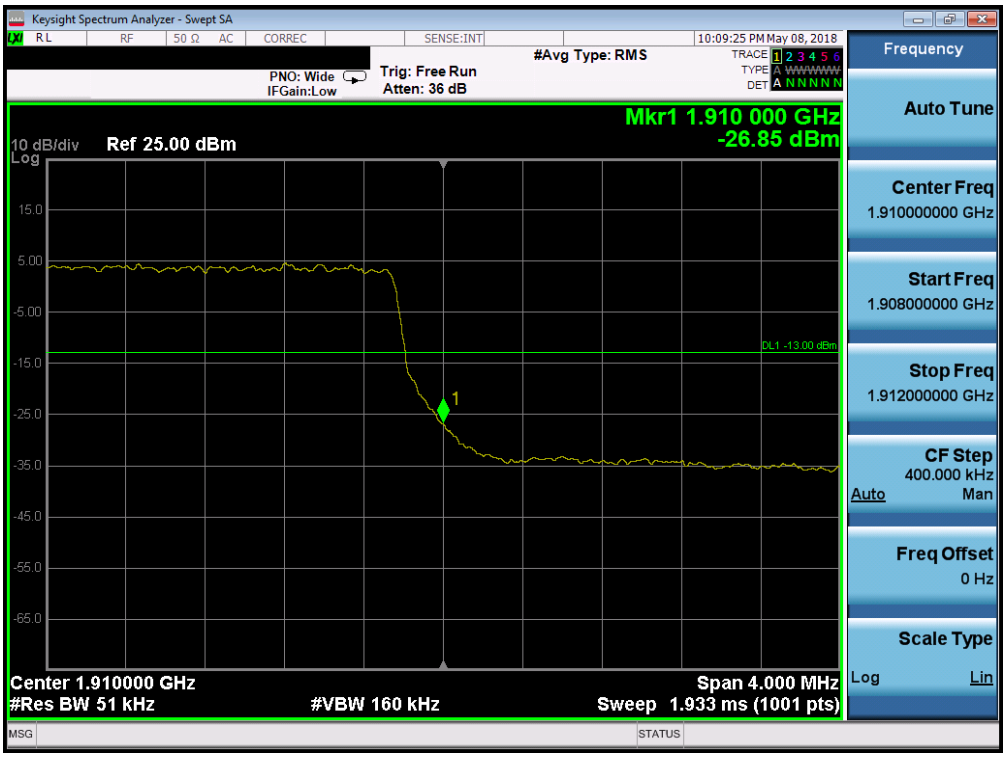


Plot 7-162. Lower Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

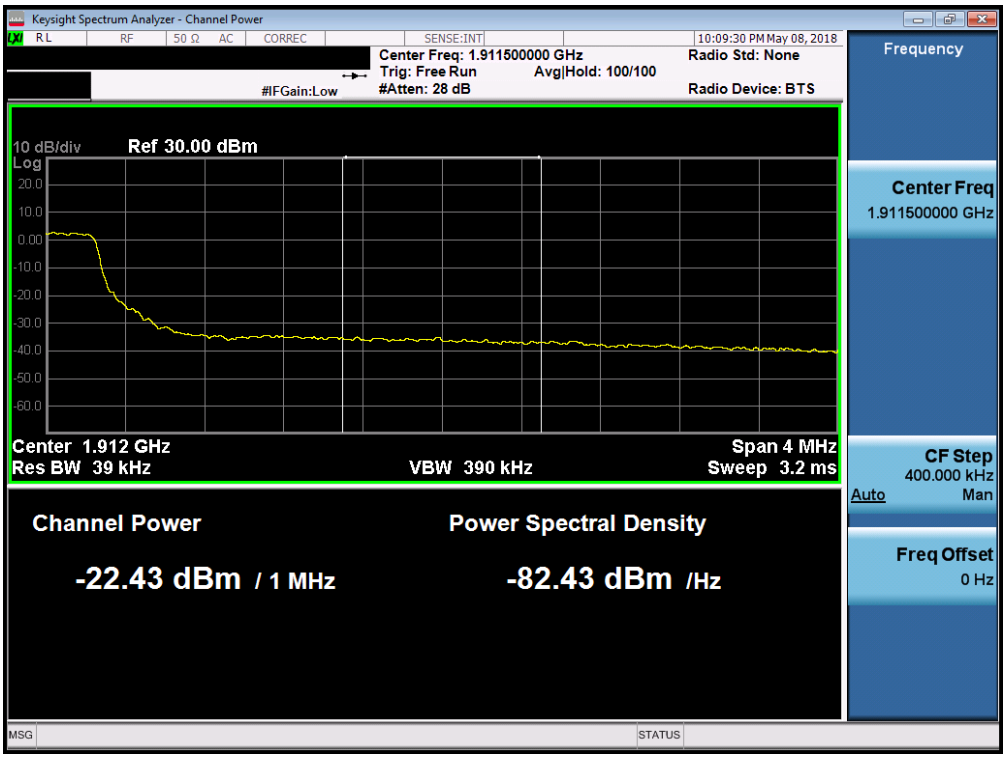


Plot 7-163. Lower Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

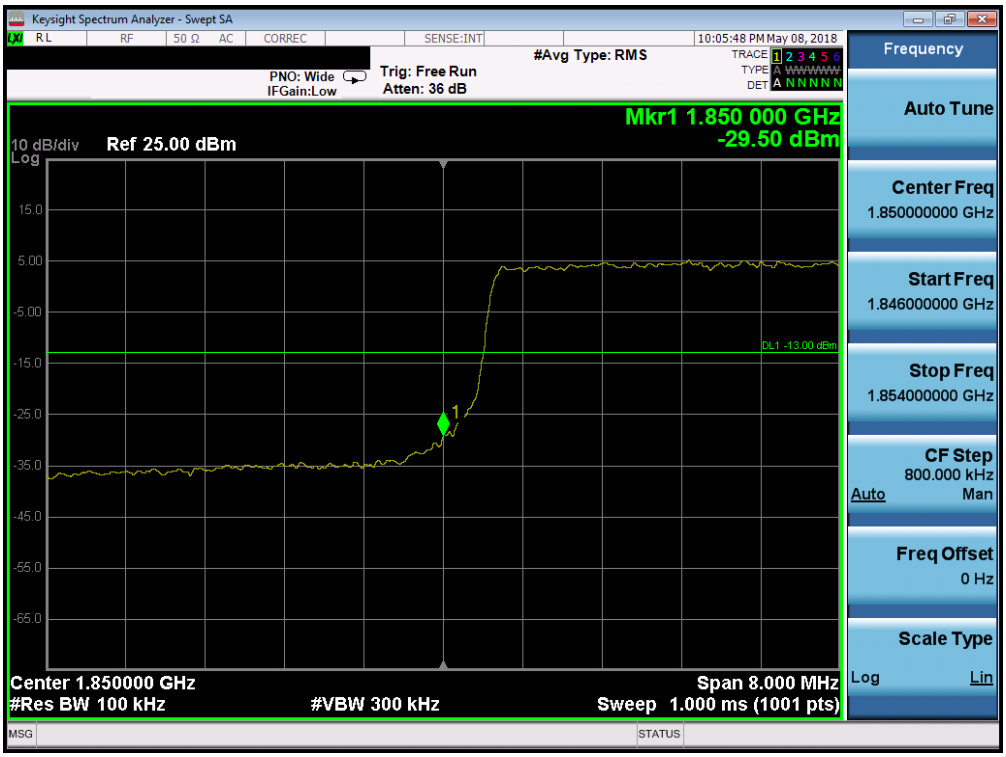


Plot 7-164. Upper Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-165. Upper Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

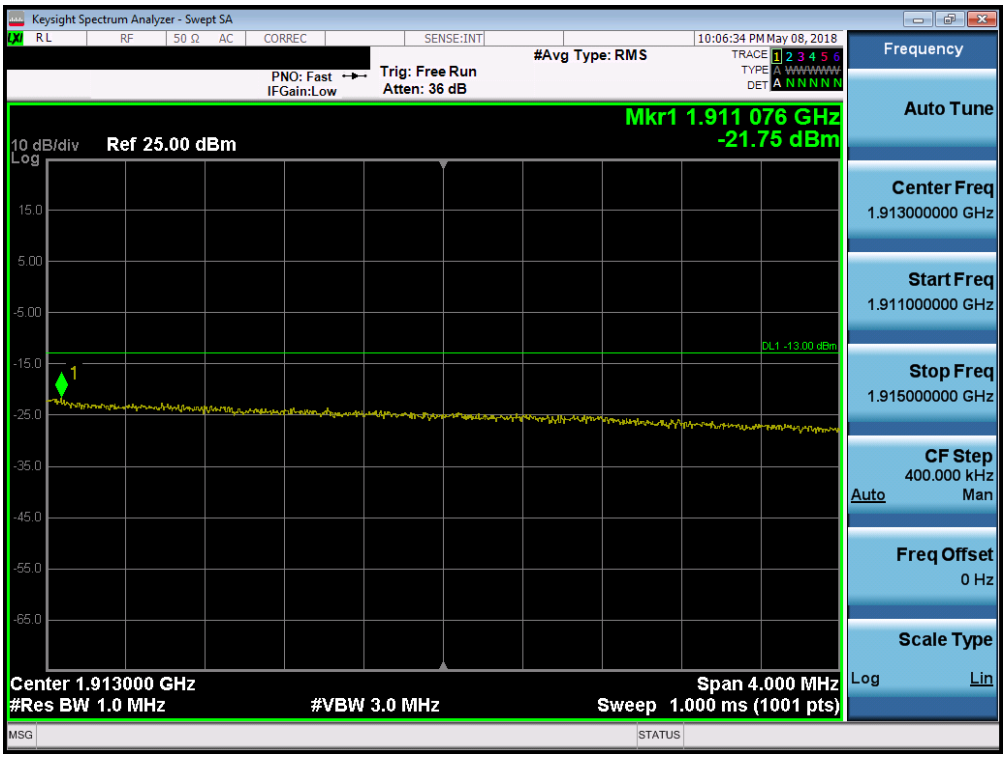


Plot 7-166. Lower Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

Plot 7-167. Lower Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 7-168. Upper Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-169. Upper Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 7-170. Lower Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

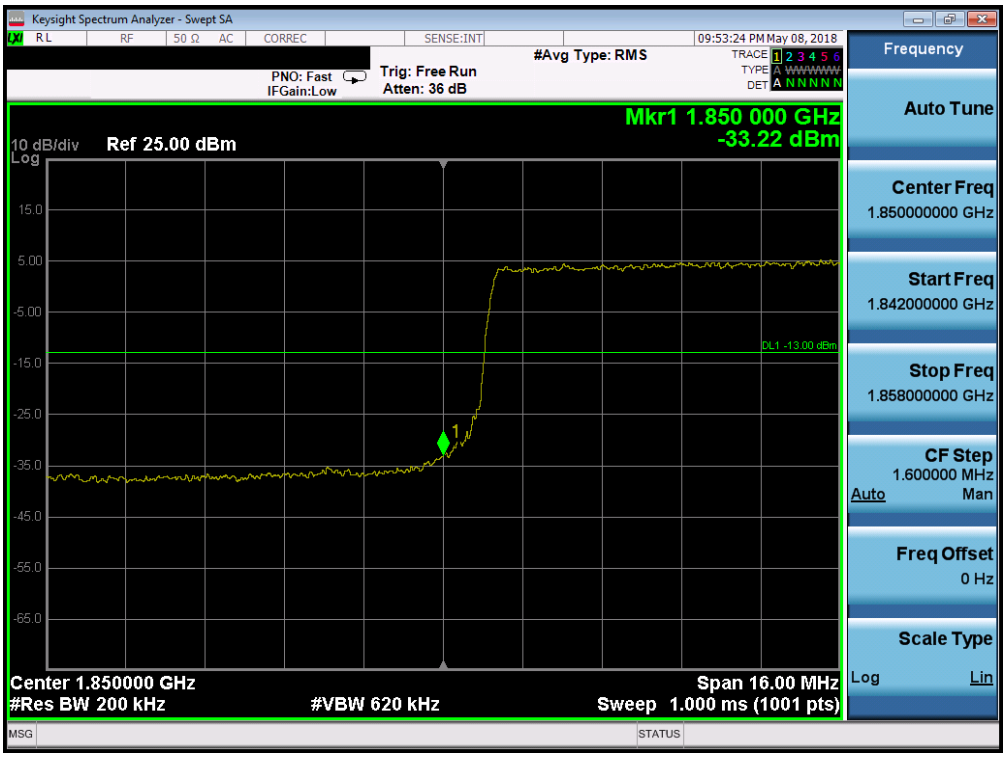
Plot 7-171. Lower Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

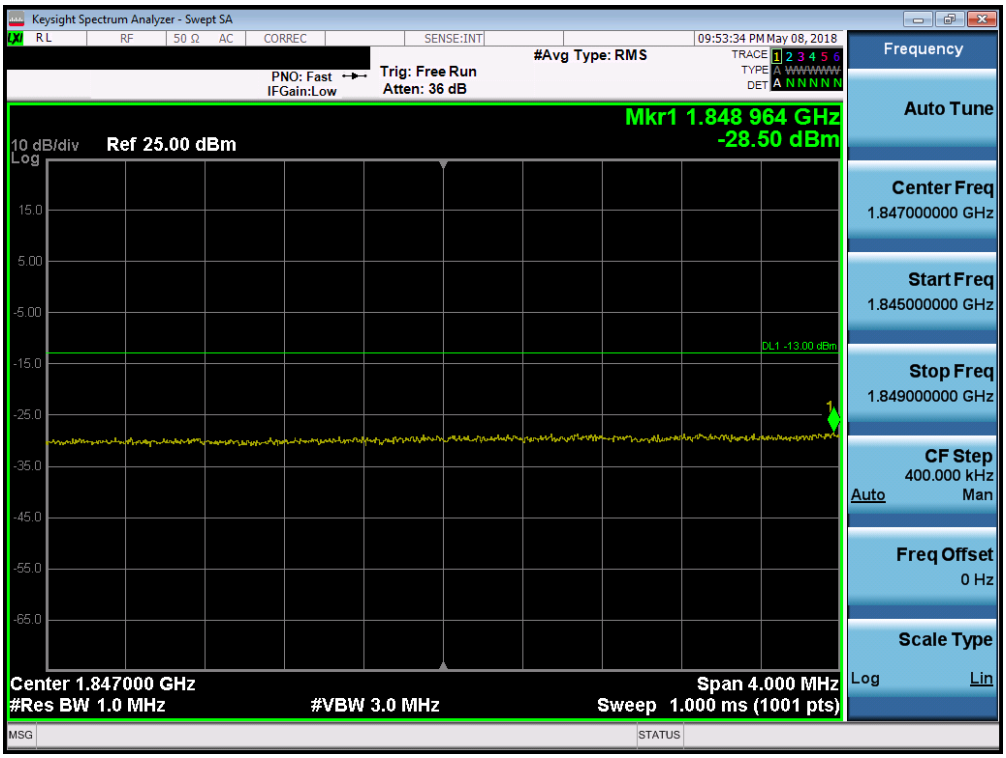
Plot 7-172. Upper Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

Plot 7-173. Upper Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

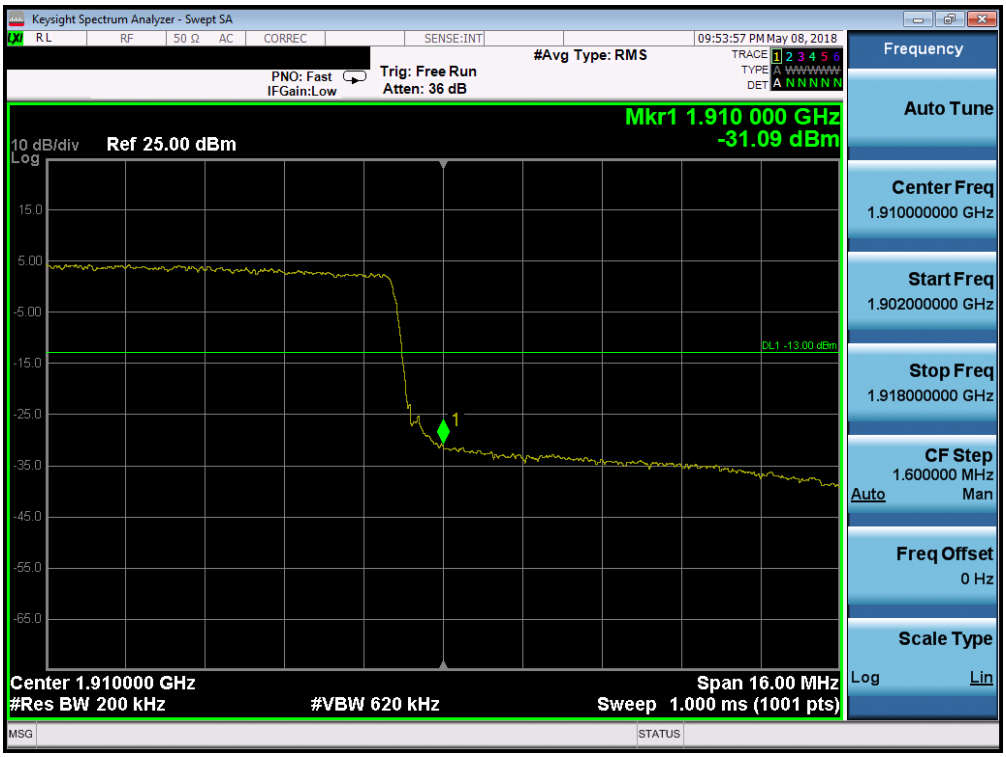


Plot 7-174. Lower Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

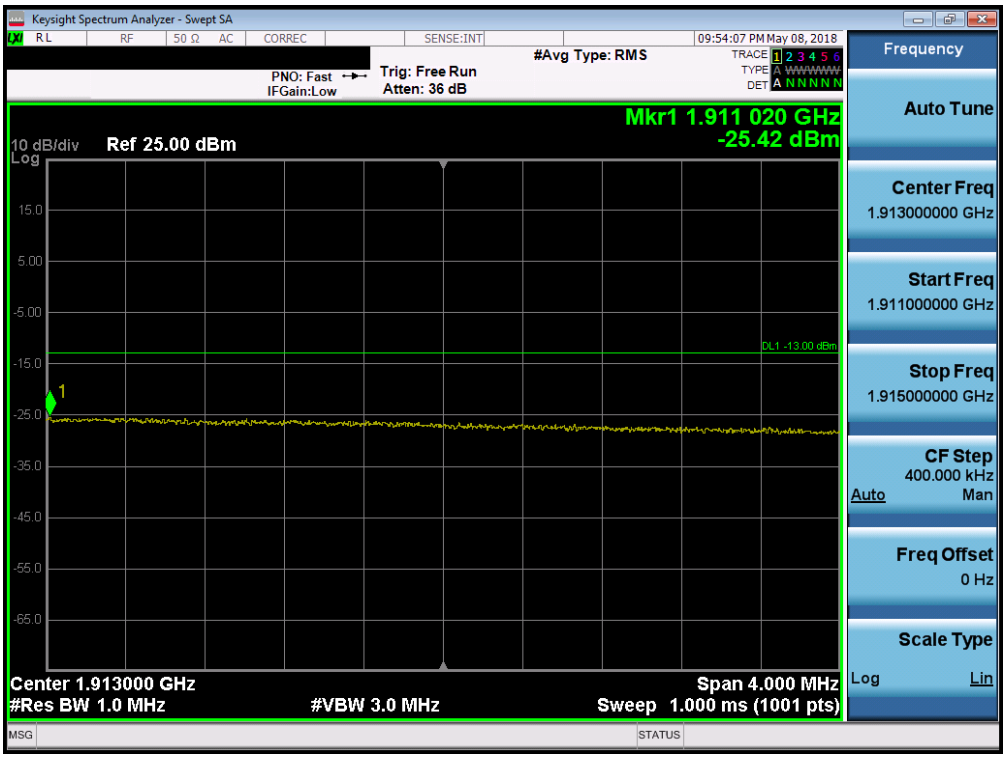


Plot 7-175. Lower Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 7-176. Upper Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-177. Upper Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 > Emission bandwidth of signal
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.

Test Setup

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

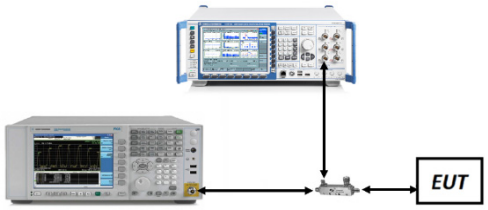
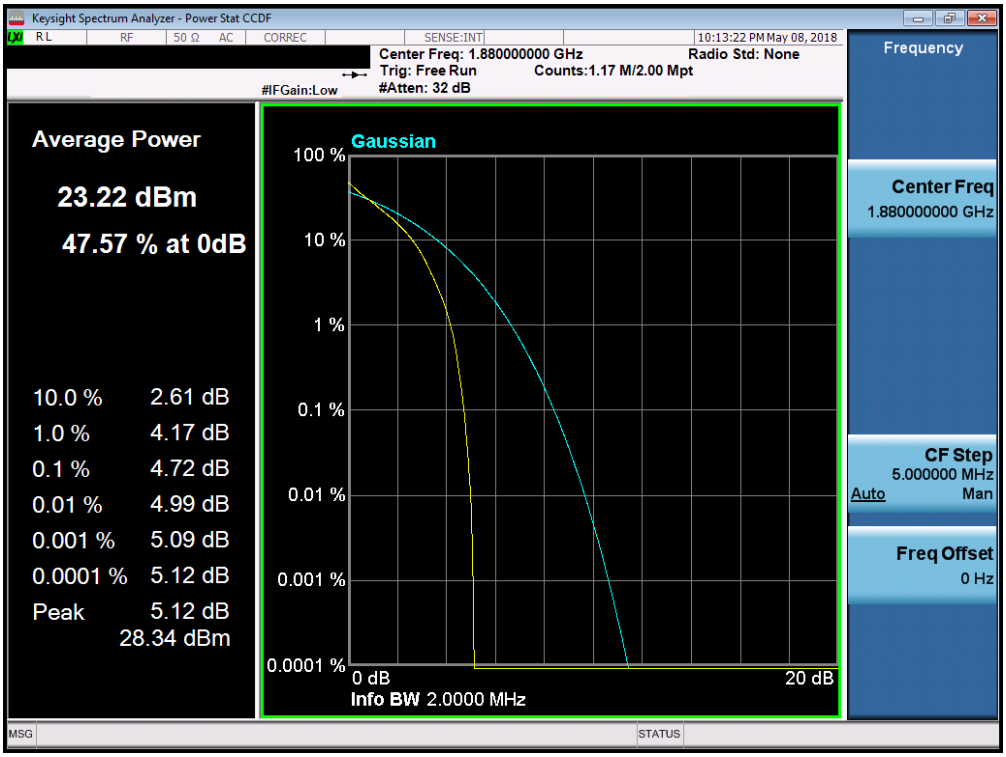


Figure 7-4. Test Instrument & Measurement Setup

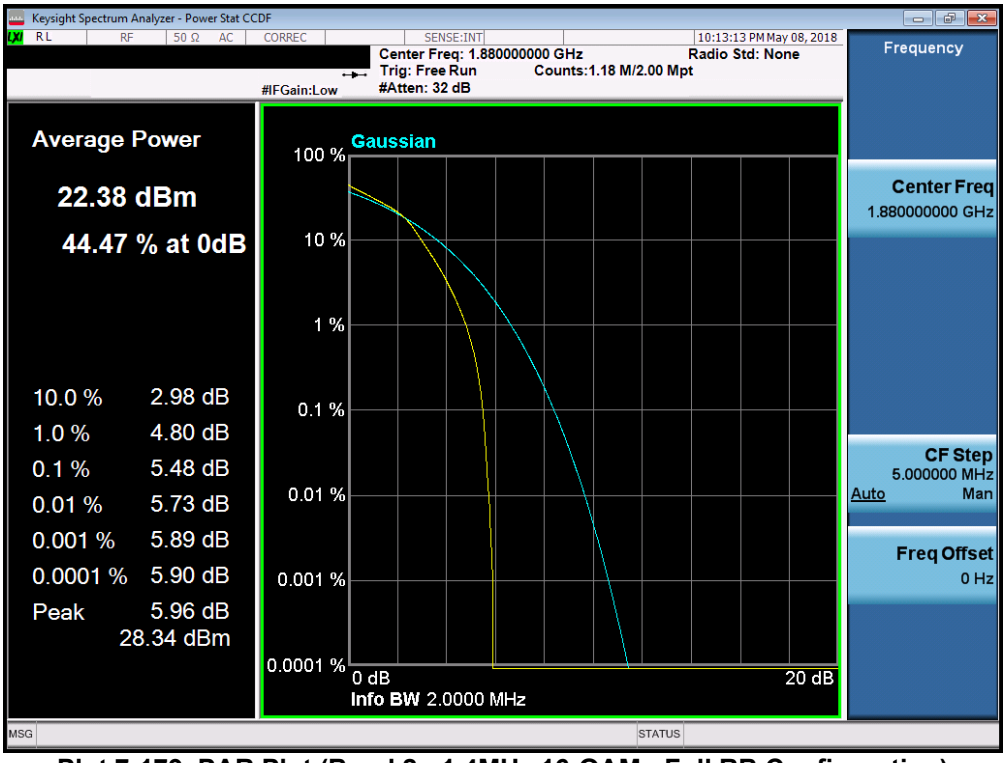
Test Notes

None.

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

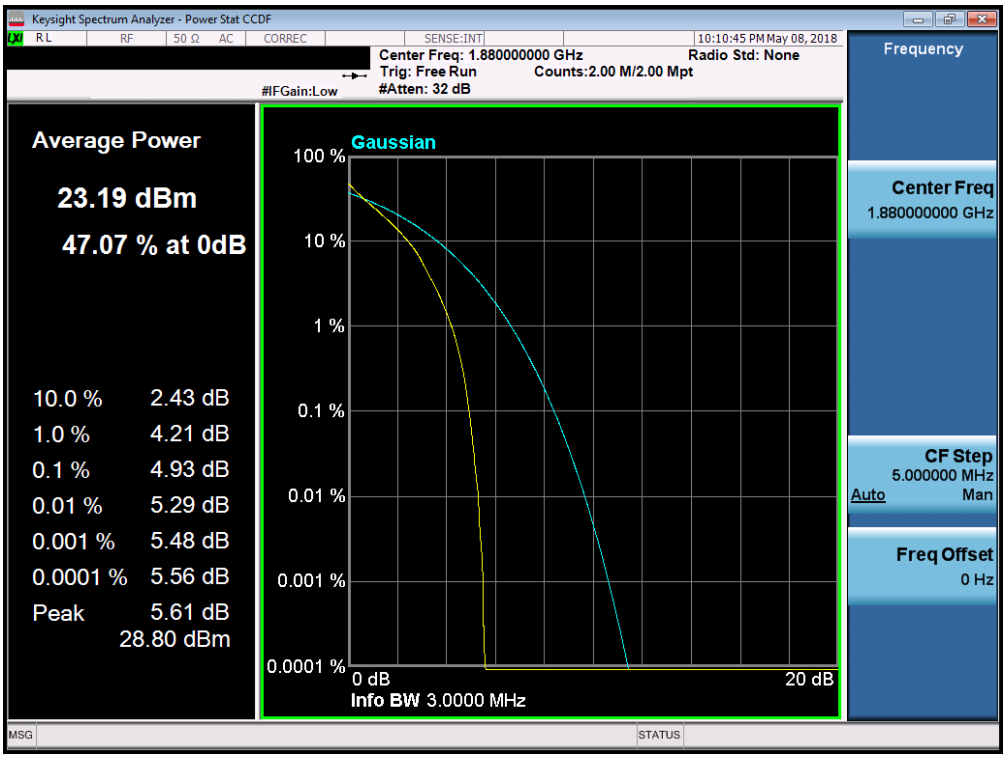


Plot 7-178. PAR Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

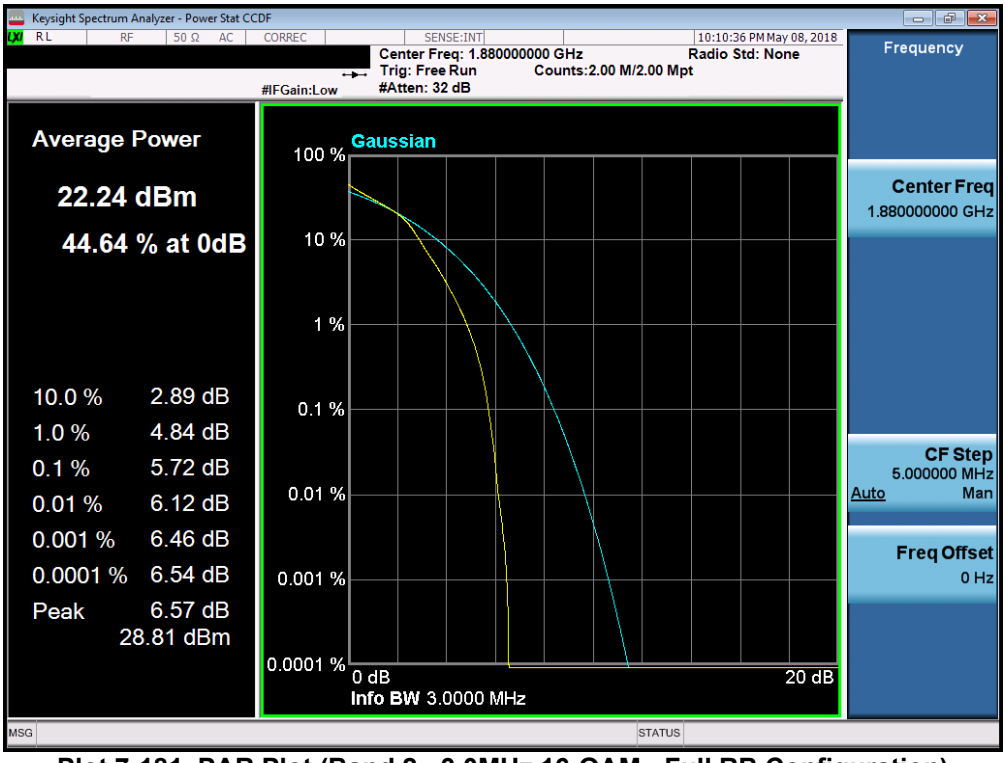


Plot 7-179. PAR Plot (Band 2 - 1.4MHz 16-QAM - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

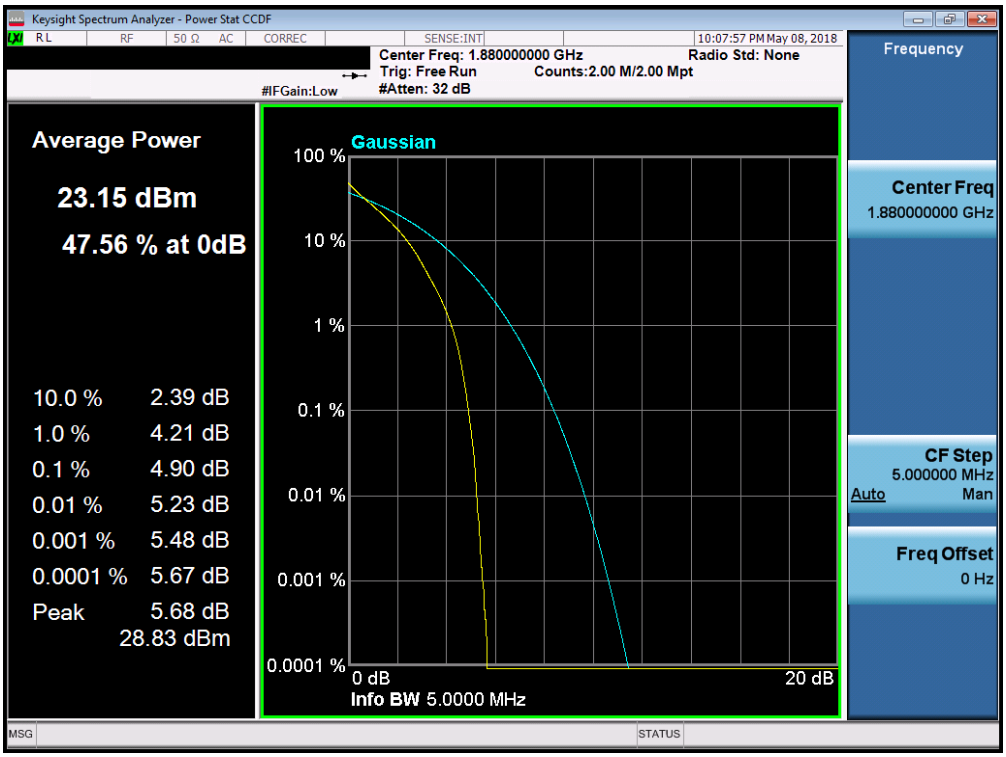


Plot 7-180. PAR Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

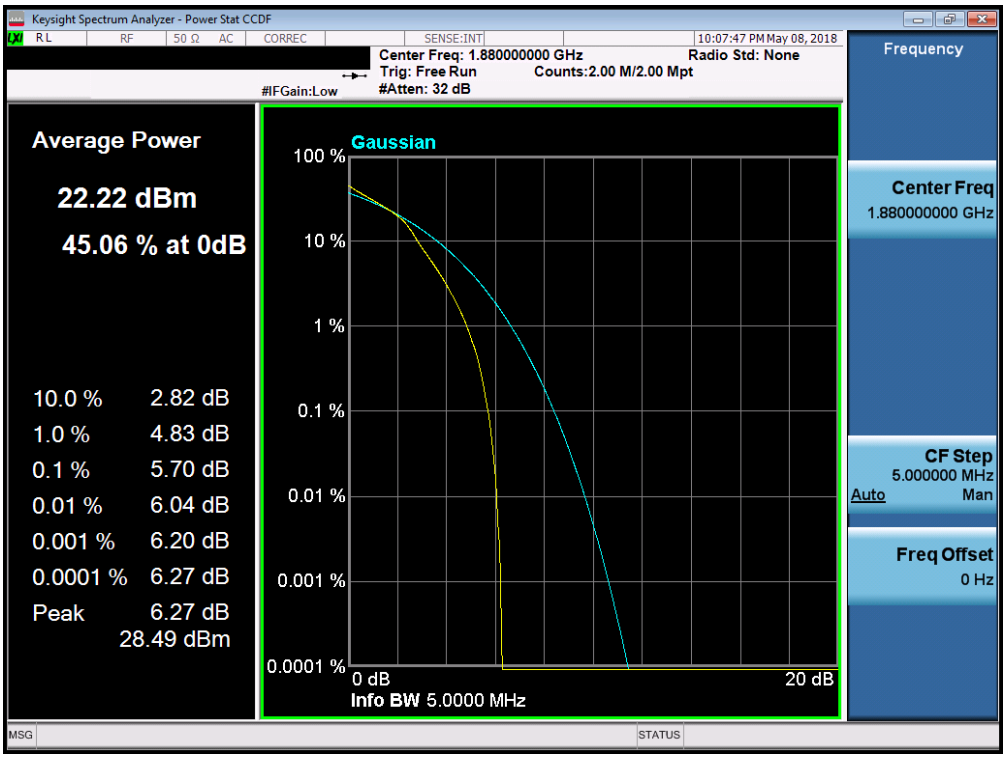


Plot 7-181. PAR Plot (Band 2 - 3.0MHz 16-QAM - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

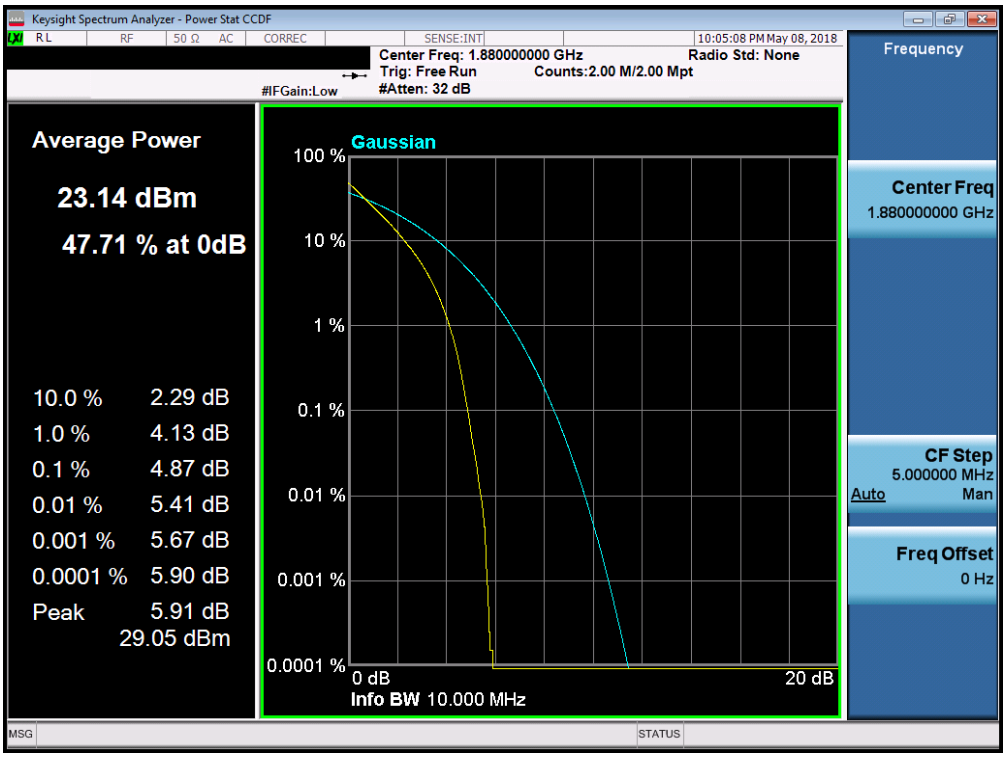


Plot 7-182. PAR Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

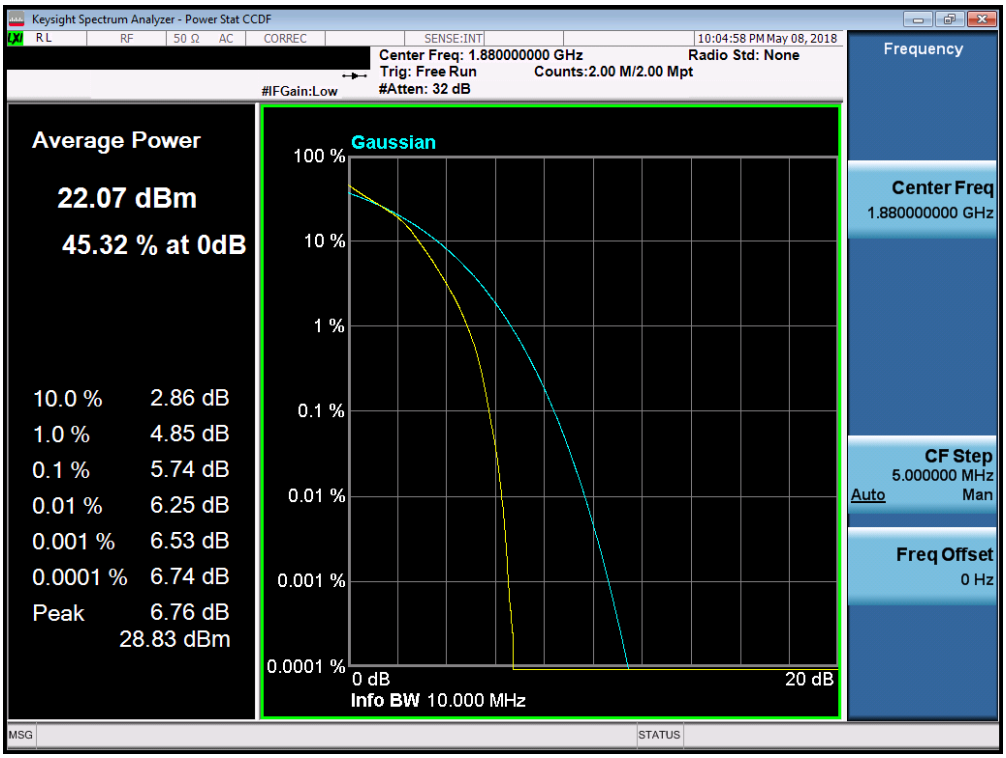


Plot 7-183. PAR Plot (Band 2 - 5.0MHz 16-QAM - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

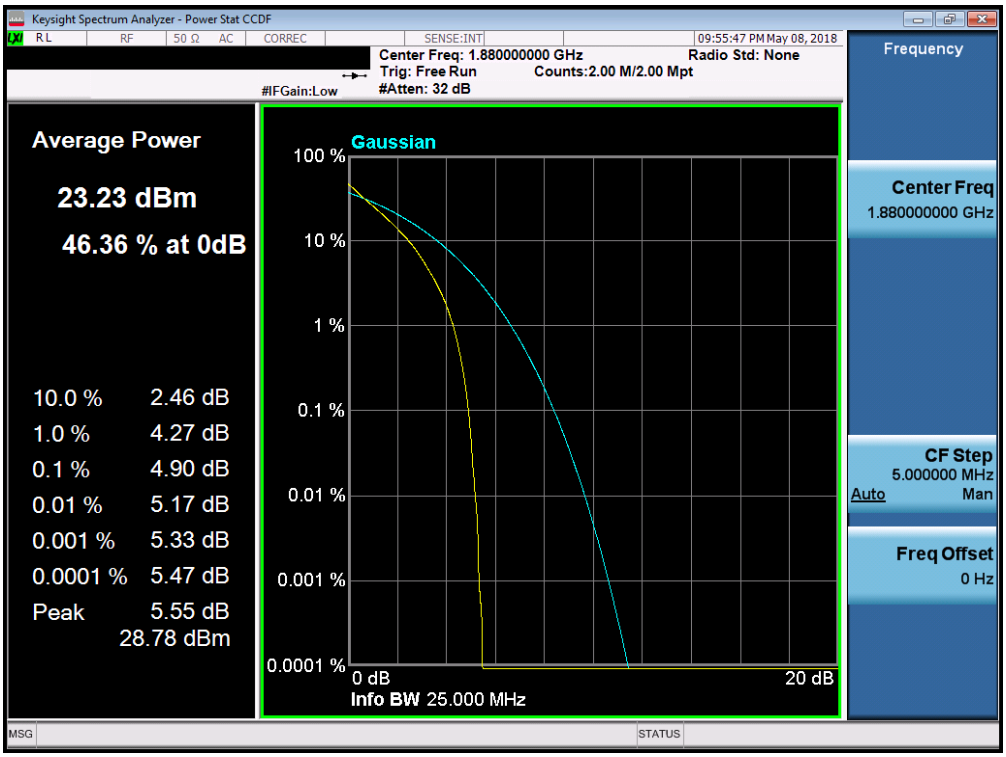


Plot 7-184. PAR Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

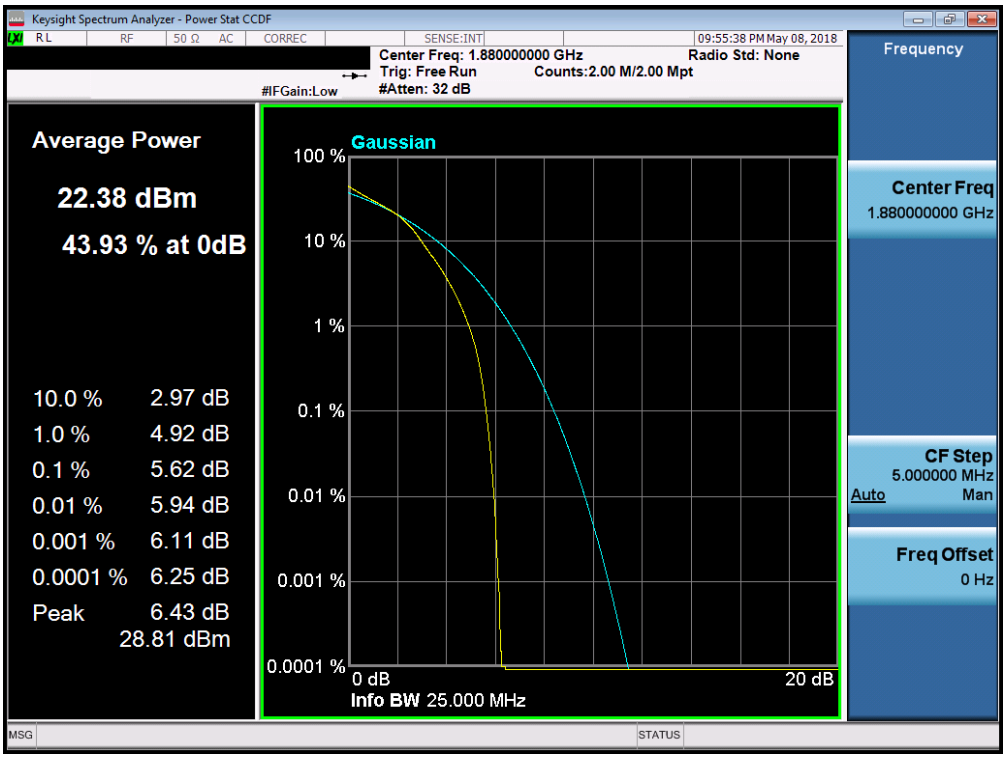


Plot 7-185. PAR Plot (Band 2 - 10.0MHz 16-QAM - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

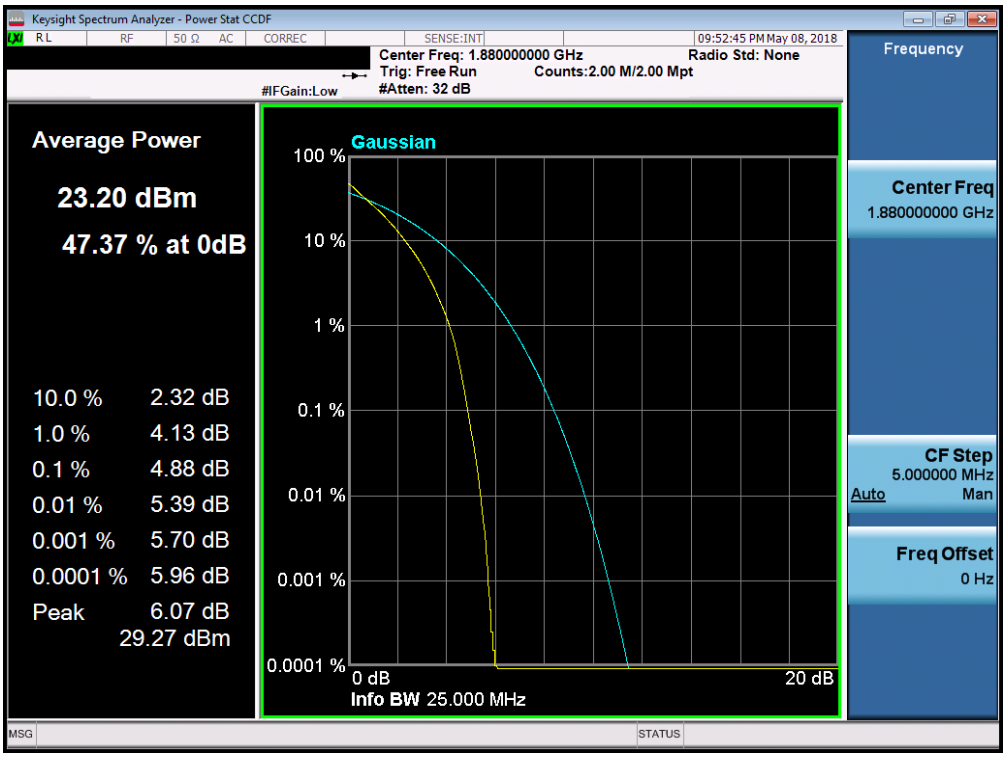


Plot 7-186. PAR Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

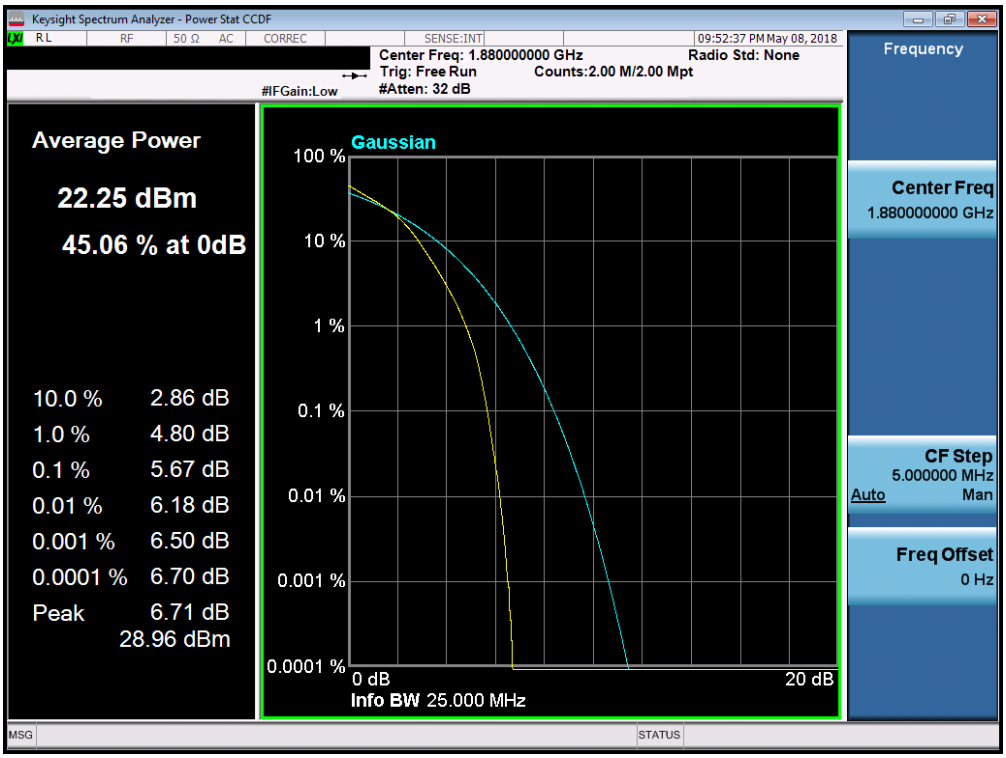


Plot 7-187. PAR Plot (Band 2 - 15.0MHz 16-QAM - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 7-188. PAR Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-189. PAR Plot (Band 2 - 20.0MHz 16-QAM - Full RB Configuration)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 (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 polarized broadband horn 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 ≥ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points ≥ 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".
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

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

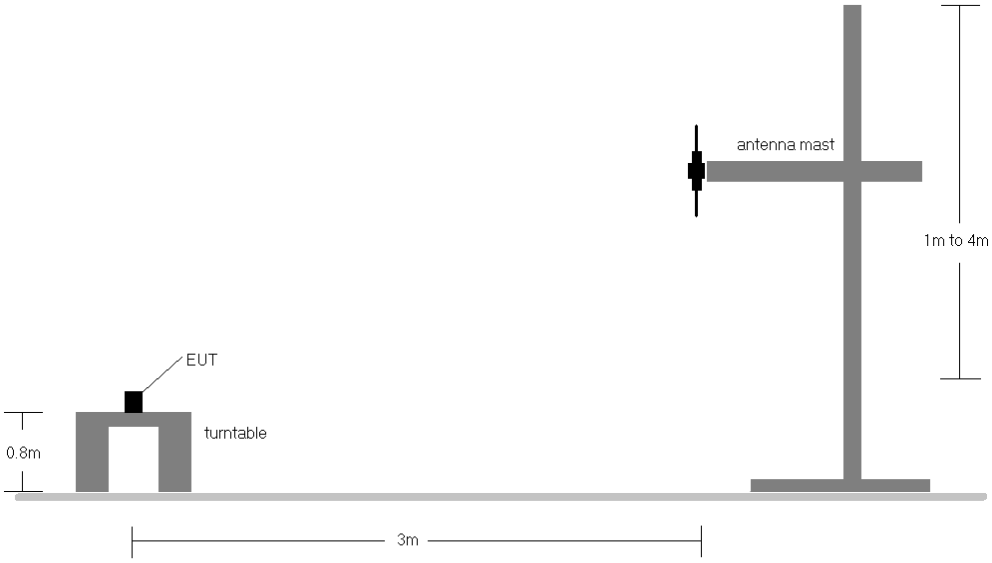


Figure 7-5. Radiated Test Setup <1GHz

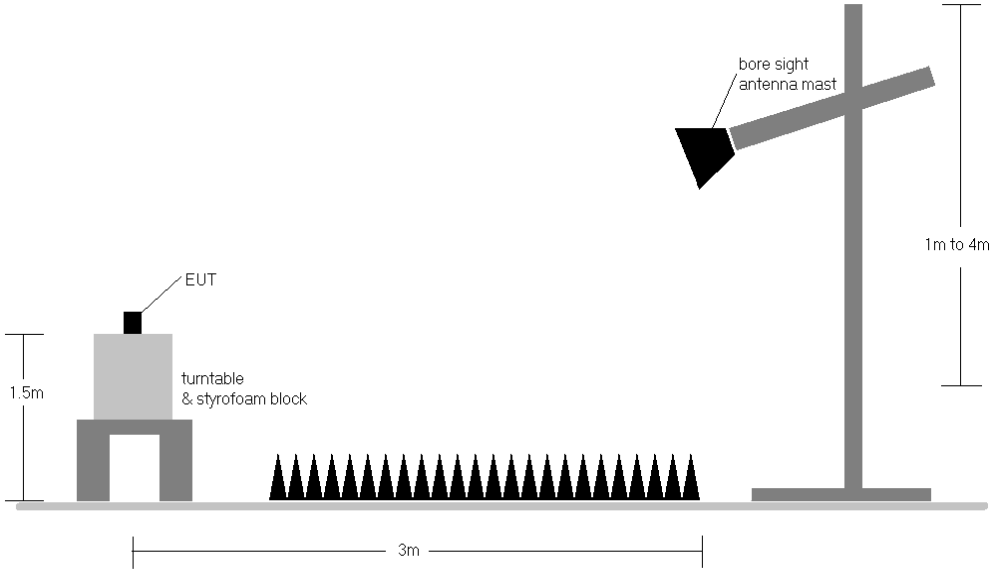


Figure 7-6. Radiated Test Setup >1GHz

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.

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
665.50	5	QPSK	H	150	248	1 / 0	19.02	1.10	17.97	0.063	34.77	-16.80
680.50	5	QPSK	H	150	291	1 / 0	19.67	1.10	**18.62**	0.073	34.77	-16.15
695.50	5	QPSK	H	150	286	1 / 0	18.66	1.10	17.61	0.058	34.77	-17.16
665.50	5	16-QAM	H	150	248	1 / 0	18.26	1.10	**17.21**	0.053	34.77	-17.56
668.00	10	QPSK	H	150	32	1 / 0	19.83	1.10	18.78	0.076	34.77	-15.99
680.50	10	QPSK	H	150	85	1 / 0	20.34	1.10	**19.29**	**0.085**	34.77	-15.48
693.00	10	QPSK	H	150	98	1 / 0	19.06	1.10	18.01	0.063	34.77	-16.76
680.50	10	16-QAM	H	150	85	1 / 0	19.16	1.10	**18.11**	0.065	34.77	-16.66
670.50	15	QPSK	H	150	2	1 / 0	19.50	1.10	**18.45**	0.070	34.77	-16.32
680.50	15	QPSK	H	150	287	1 / 0	19.48	1.10	18.43	0.070	34.77	-16.34
690.50	15	QPSK	H	150	238	1 / 0	19.41	1.10	18.36	0.069	34.77	-16.41
680.50	15	16-QAM	H	150	287	1 / 0	18.90	1.10	**17.85**	0.061	34.77	-16.92
673.00	20	QPSK	H	150	289	1 / 0	19.00	1.10	17.95	0.062	34.77	-16.82
680.50	20	QPSK	H	150	238	1 / 0	19.52	1.10	**18.47**	0.070	34.77	-16.30
688.00	20	QPSK	H	150	298	1 / 0	19.44	1.10	18.39	0.069	34.77	-16.38
688.00	20	16-QAM	H	150	298	1 / 0	18.69	1.10	**17.64**	0.058	34.77	-17.13
680.50	10	QPSK	V	150	217	1 / 0	18.18	1.10	17.13	0.052	34.77	-17.64

Table 7-3. ERP Data (Band 71)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	H	150	282	1 / 0	19.45	1.10	18.40	0.069	34.77	-16.37	20.55	0.114	36.99	-16.44
707.50	1.4	QPSK	H	150	195	1 / 0	19.90	1.13	**18.88**	0.077	34.77	-15.89	**21.03**	0.127	36.99	-15.96
715.30	1.4	QPSK	H	150	270	1 / 0	19.80	1.16	18.81	0.076	34.77	-15.96	20.96	0.125	36.99	-16.03
715.30	1.4	16-QAM	H	150	270	1 / 0	19.06	1.16	**18.07**	0.064	34.77	-16.70	**20.22**	0.105	36.99	-16.77
700.50	3	QPSK	H	150	9	1 / 14	19.39	1.10	18.34	0.068	34.77	-16.43	20.49	0.112	36.99	-16.50
707.50	3	QPSK	H	150	108	1 / 14	19.89	1.13	**18.87**	0.077	34.77	-15.90	**21.02**	0.126	36.99	-15.97
714.50	3	QPSK	H	150	275	1 / 14	19.66	1.16	18.67	0.074	34.77	-16.10	20.82	0.121	36.99	-16.17
714.50	3	16-QAM	H	150	275	1 / 14	19.13	1.16	**18.14**	0.065	34.77	-16.63	**20.29**	0.107	36.99	-16.70
701.50	5	QPSK	H	150	279	1 / 24	19.31	1.11	18.27	0.067	34.77	-16.51	20.42	0.110	36.99	-16.57
707.50	5	QPSK	H	150	105	1 / 24	20.37	1.13	**19.35**	0.086	34.77	-15.42	**21.50**	0.141	36.99	-15.49
713.50	5	QPSK	H	150	121	1 / 24	19.95	1.15	18.95	0.079	34.77	-15.82	21.10	0.129	36.99	-15.89
707.50	5	16-QAM	H	150	105	1 / 24	19.33	1.13	**18.31**	0.068	34.77	-16.46	**20.46**	0.111	36.99	-16.53
704.00	10	QPSK	H	150	108	1 / 49	20.24	1.12	19.21	0.083	34.77	-15.56	21.36	0.137	36.99	-15.63
707.50	10	QPSK	H	150	108	1 / 49	20.50	1.13	**19.48**	**0.089**	34.77	-15.29	**21.63**	**0.146**	36.99	-15.36
711.00	10	QPSK	H	150	109	1 / 49	20.16	1.14	19.15	0.082	34.77	-15.62	21.30	0.135	36.99	-15.69
711.00	10	16-QAM	H	150	109	1 / 49	19.64	1.14	**18.63**	0.073	34.77	-16.14	**20.78**	0.120	36.99	-16.21
707.50	10	QPSK	V	150	37	1 / 49	18.50	1.13	17.48	0.056	34.77	-17.29	19.63	0.092	36.99	-17.36

Table 7-4. ERP Data (Band 12)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	H	150	309	1 / 0	19.65	1.50	19.00	0.079	38.45	-19.45	21.15	0.130	40.61	-19.46
836.50	1.4	QPSK	H	150	320	1 / 0	19.90	1.50	**19.25**	0.084	38.45	-19.20	**21.40**	0.138	40.61	-19.21
848.30	1.4	QPSK	H	150	306	1 / 0	19.68	1.50	19.03	0.080	38.45	-19.42	21.18	0.131	40.61	-19.43
836.50	1.4	16-QAM	H	150	320	1 / 0	19.05	1.50	**18.40**	0.069	38.45	-20.05	**20.55**	0.114	40.61	-20.06
825.50	3	QPSK	H	150	93	1 / 14	19.83	1.50	19.18	0.083	38.45	-19.27	21.33	0.136	40.61	-19.28
836.50	3	QPSK	H	150	296	1 / 14	20.17	1.50	**19.52**	**0.090**	38.45	-18.93	**21.67**	**0.147**	40.61	-18.94
847.50	3	QPSK	H	150	307	1 / 14	19.21	1.50	18.56	0.072	38.45	-19.89	20.71	0.118	40.61	-19.90
836.50	3	16-QAM	H	150	296	1 / 14	18.84	1.50	**18.19**	0.066	38.45	-20.26	**20.34**	0.108	40.61	-20.27
826.50	5	QPSK	H	150	305	1 / 0	19.42	1.50	18.77	0.075	38.45	-19.68	20.92	0.124	40.61	-19.69
836.50	5	QPSK	H	150	321	1 / 0	20.14	1.50	**19.49**	0.089	38.45	-18.96	**21.64**	0.146	40.61	-18.97
846.50	5	QPSK	H	150	346	1 / 0	19.52	1.50	18.87	0.077	38.45	-19.58	21.02	0.126	40.61	-19.59
836.50	5	16-QAM	H	150	321	1 / 0	18.56	1.50	**17.91**	0.062	38.45	-20.54	**20.06**	0.101	40.61	-20.55
829.00	10	QPSK	H	150	317	1 / 0	19.57	1.50	18.92	0.078	38.45	-19.53	21.07	0.128	40.61	-19.54
836.50	10	QPSK	H	150	316	1 / 0	19.94	1.50	**19.29**	0.085	38.45	-19.16	**21.44**	0.139	40.61	-19.17
844.00	10	QPSK	H	150	318	1 / 0	19.43	1.50	18.78	0.076	38.45	-19.67	20.93	0.124	40.61	-19.68
836.50	10	16-QAM	H	150	316	1 / 0	18.96	1.50	**18.31**	0.068	38.45	-20.14	**20.46**	0.111	40.61	-20.15
836.50	3	QPSK	V	150	102	1 / 14	18.63	1.50	17.98	0.063	38.45	-20.47	20.13	0.103	40.61	-20.48

Table 7-5. ERP Data (Band 5)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	H	150	39	1 / 0	19.14	5.56	**24.70**	0.295	30.00	-5.30
1745.00	1.4	QPSK	H	150	35	1 / 0	18.62	5.32	23.94	0.248	30.00	-6.06
1779.30	1.4	QPSK	H	150	324	1 / 0	17.82	5.09	22.91	0.196	30.00	-7.09
1710.70	1.4	16-QAM	H	150	39	1 / 0	18.22	5.56	**23.78**	0.239	30.00	-6.22
1711.50	3	QPSK	H	150	284	1 / 0	19.12	5.55	**24.67**	0.293	30.00	-5.33
1745.00	3	QPSK	H	150	258	1 / 0	17.67	5.32	22.99	0.199	30.00	-7.01
1778.50	3	QPSK	H	150	364	1 / 0	17.61	5.10	22.71	0.187	30.00	-7.29
1711.50	3	16-QAM	H	150	284	1 / 0	18.22	5.55	**23.77**	0.238	30.00	-6.23
1712.50	5	QPSK	H	150	357	1 / 0	19.95	5.55	**25.50**	0.354	30.00	-4.50
1745.00	5	QPSK	H	150	6	1 / 0	18.99	5.32	24.31	0.270	30.00	-5.69
1777.50	5	QPSK	H	150	9	1 / 0	17.82	5.10	22.92	0.196	30.00	-7.08
1712.50	5	16-QAM	H	150	357	1 / 0	19.04	5.55	**24.59**	0.287	30.00	-5.41
1715.00	10	QPSK	H	150	10	1 / 0	19.53	5.53	**25.06**	0.320	30.00	-4.94
1745.00	10	QPSK	H	150	353	1 / 0	18.95	5.32	24.27	0.267	30.00	-5.73
1775.00	10	QPSK	H	150	3	1 / 0	18.23	5.12	23.35	0.216	30.00	-6.65
1715.00	10	16-QAM	H	150	10	1 / 0	19.90	5.53	**25.43**	0.349	30.00	-4.57
1717.50	15	QPSK	H	150	9	1 / 0	20.12	5.51	**25.63**	**0.366**	30.00	-4.37
1745.00	15	QPSK	H	150	14	1 / 0	18.95	5.32	24.27	0.267	30.00	-5.73
1772.50	15	QPSK	H	150	5	1 / 0	17.31	5.14	22.45	0.176	30.00	-7.55
1717.50	15	16-QAM	H	150	9	1 / 0	19.17	5.51	**24.68**	0.294	30.00	-5.32
1720.00	20	QPSK	H	150	9	1 / 0	19.87	5.49	**25.36**	0.344	30.00	-4.64
1745.00	20	QPSK	H	150	257	1 / 0	19.24	5.32	24.56	0.286	30.00	-5.44
1770.00	20	QPSK	H	150	359	1 / 0	18.27	5.15	23.42	0.220	30.00	-6.58
1720.00	20	16-QAM	H	150	9	1 / 0	18.68	5.49	**24.17**	0.261	30.00	-5.83
1717.50	15	QPSK	V	150	219	1 / 0	18.08	5.32	23.40	0.219	30.00	-6.60

Table 7-6. EIRP Data (Band 4/66)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	H	150	9	1 / 0	20.28	4.82	**25.10**	0.323	33.01	-7.91
1880.00	1.4	QPSK	H	150	3	1 / 0	19.69	4.74	24.43	0.277	33.01	-8.58
1909.30	1.4	QPSK	H	150	8	1 / 0	17.52	4.68	22.20	0.166	33.01	-10.81
1850.70	1.4	16-QAM	H	150	9	1 / 0	19.76	4.82	**24.58**	0.287	33.01	-8.43
1851.50	3	QPSK	H	150	3	1 / 0	20.37	4.82	**25.19**	0.330	33.01	-7.82
1880.00	3	QPSK	H	150	178	1 / 0	20.43	4.74	25.17	0.329	33.01	-7.84
1908.50	3	QPSK	H	150	3	1 / 0	17.53	4.68	22.21	0.166	33.01	-10.80
1851.50	3	16-QAM	H	150	3	1 / 0	19.48	4.82	**24.30**	0.269	33.01	-8.71
1852.50	5	QPSK	H	150	196	1 / 0	20.16	4.81	**24.97**	0.314	33.01	-8.04
1880.00	5	QPSK	H	150	188	1 / 0	20.17	4.74	24.91	0.310	33.01	-8.10
1907.50	5	QPSK	H	150	9	1 / 0	18.20	4.68	22.88	0.194	33.01	-10.13
1852.50	5	16-QAM	H	150	196	1 / 0	19.18	4.81	**23.99**	0.251	33.01	-9.02
1855.00	10	QPSK	H	150	187	1 / 0	20.41	4.81	25.22	0.332	33.01	-7.79
1880.00	10	QPSK	H	150	208	1 / 0	20.57	4.74	**25.31**	**0.340**	33.01	-7.70
1905.00	10	QPSK	H	150	179	1 / 0	19.91	4.68	24.59	0.288	33.01	-8.42
1880.00	10	16-QAM	H	150	208	1 / 0	19.42	4.74	**24.16**	0.261	33.01	-8.85
1857.50	15	QPSK	H	150	10	1 / 0	20.38	4.80	**25.18**	0.330	33.01	-7.83
1880.00	15	QPSK	H	150	175	1 / 0	20.42	4.74	25.16	0.328	33.01	-7.85
1902.50	15	QPSK	H	150	10	1 / 0	19.64	4.69	24.33	0.271	33.01	-8.68
1857.50	15	16-QAM	H	150	10	1 / 0	19.63	4.80	**24.43**	0.277	33.01	-8.58
1860.00	20	QPSK	H	150	10	1 / 0	19.48	4.79	24.27	0.267	33.01	-8.74
1880.00	20	QPSK	H	150	175	1 / 0	20.04	4.74	**24.78**	0.301	33.01	-8.23
1900.00	20	QPSK	H	150	10	1 / 0	18.78	4.69	23.47	0.222	33.01	-9.54
1880.00	20	16-QAM	H	150	175	1 / 0	19.45	4.74	**24.19**	0.262	33.01	-8.82
1880.00	10	QPSK	V	150	217	1 / 0	16.27	4.81	21.08	0.128	33.01	-11.93

Table 7-7. EIRP Data (Band 2)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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 vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas.

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 ≥ 3 x RBW
3. Span = 1.5 times the OBW
4. No. of sweep points ≥ 2 x span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

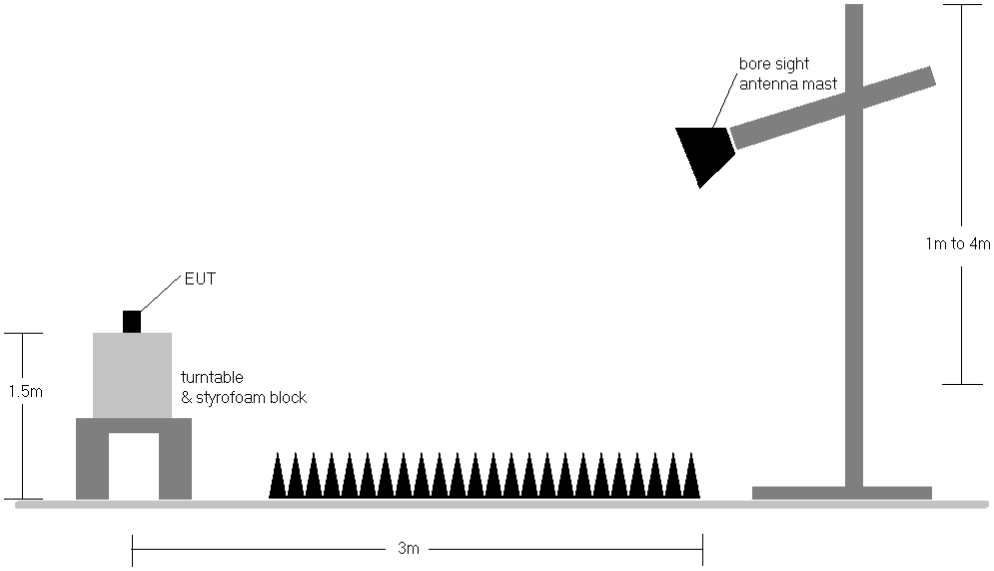


Figure 7-7. Test Instrument & Measurement Setup

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.

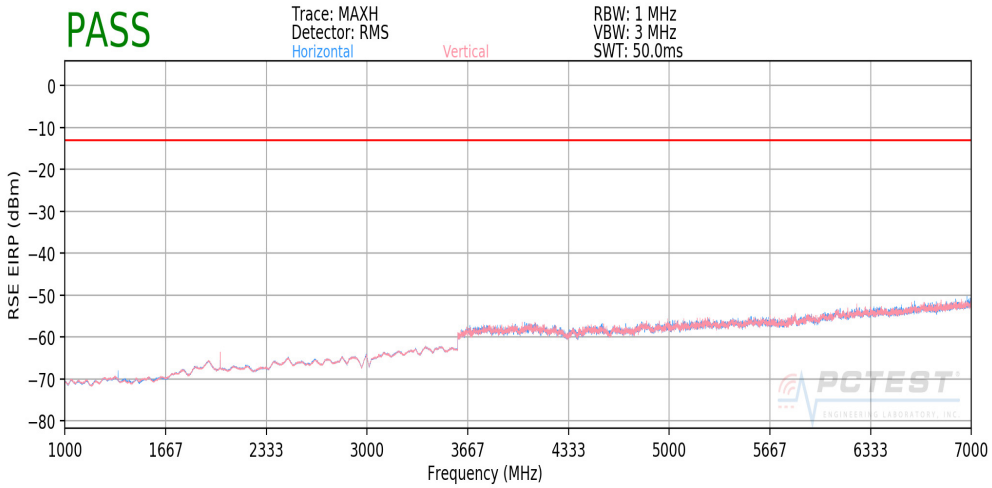
3) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.

4) 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.

5) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

Band 71



Plot 7-190. Radiated Spurious Plot above 1GHz (Band 71)

OPERATING FREQUENCY:	668.00	MHz
CHANNEL:	133172	
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1336.00	V	121	55	-77.69	7.94	-69.75	-56.7
2004.00	V	163	121	-78.82	8.53	-70.29	-57.3
2672.00	V	-	-	-78.53	9.46	-69.07	-56.1

Table 7-8. Radiated Spurious Data (Band 71 – Low Channel)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.

OPERATING FREQUENCY:	680.50	MHz
CHANNEL:	133297	
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1361.00	V	130	85	-78.75	8.00	-70.75	-57.8
2041.50	V	173	143	-77.64	8.75	-68.89	-55.9
2722.00	V	-	-	-79.43	9.73	-69.70	-56.7

Table 7-9. Radiated Spurious Data (Band 71 – Mid Channel)

OPERATING FREQUENCY:	692.00	MHz
CHANNEL:	133422	
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1384.00	V	-	-	-81.96	7.95	-74.01	-61.0
2076.00	V	130	121	-78.43	8.86	-69.57	-56.6
2768.00	V	-	-	-78.74	9.95	-68.79	-55.8

Table 7-10. Radiated Spurious Data (Band 71 – High Channel)

© 2018 PCTEST Engineering Laboratory, Inc. V 8.0 04/05/2018
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 Engineering Laboratory, Inc. 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.