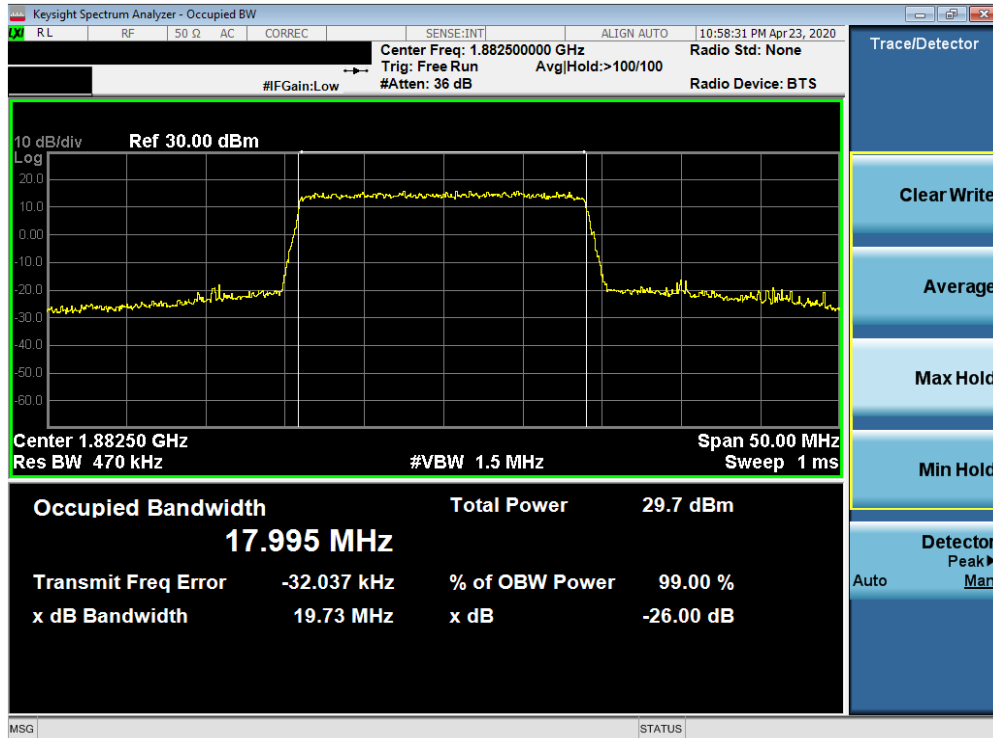
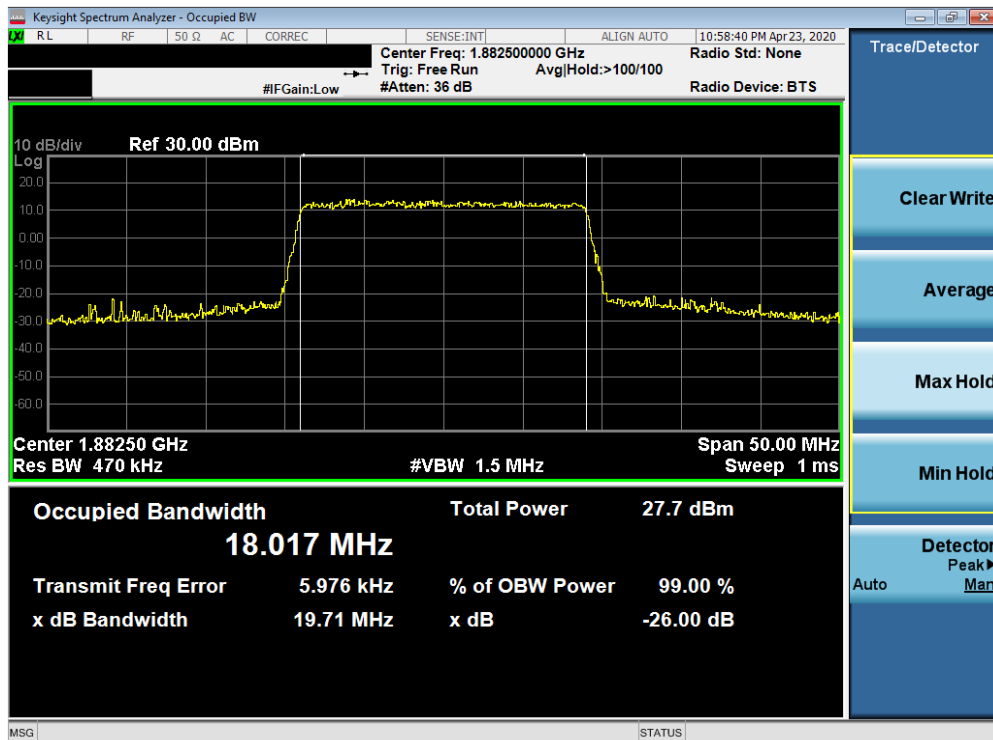




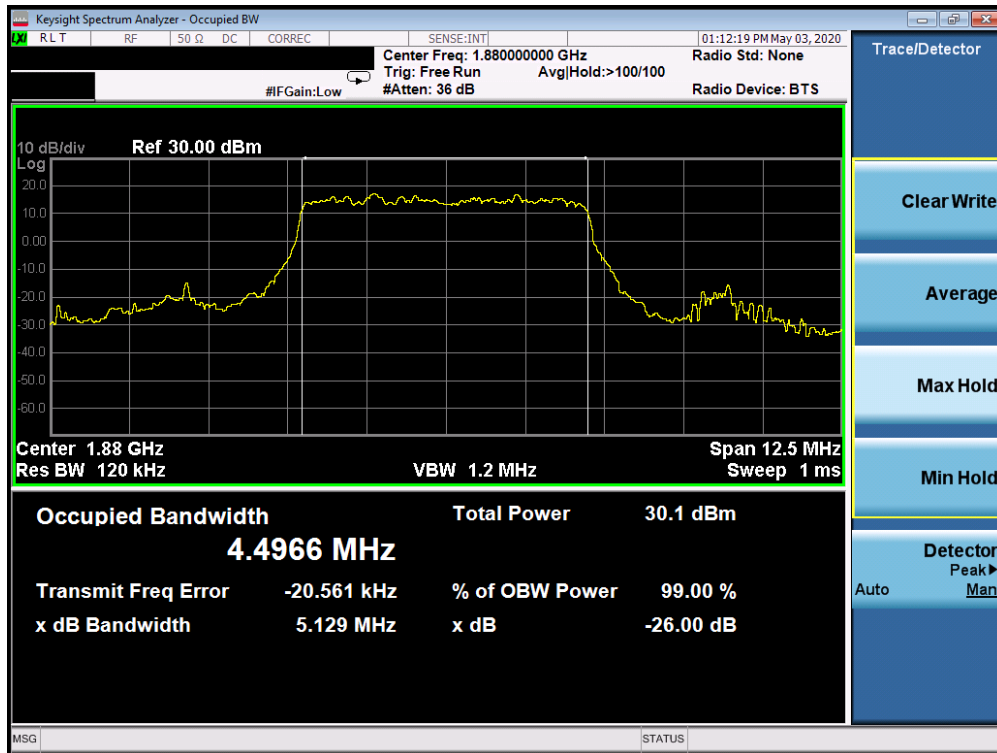
Plot 7-182. Occupied Bandwidth Plot (Band 25/2 - 20.0MHz 64-QAM - Full RB Configuration)



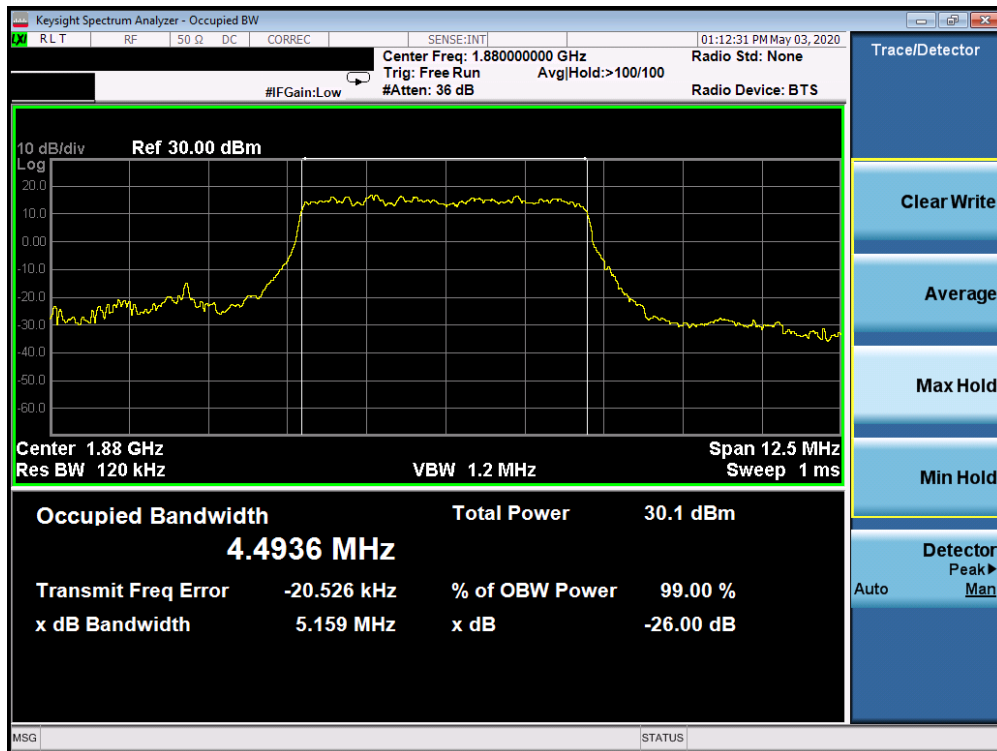
Plot 7-183. Occupied Bandwidth Plot (Band 25/2 - 20.0MHz 256-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 110 of 492                 |

## NR Band n25/2

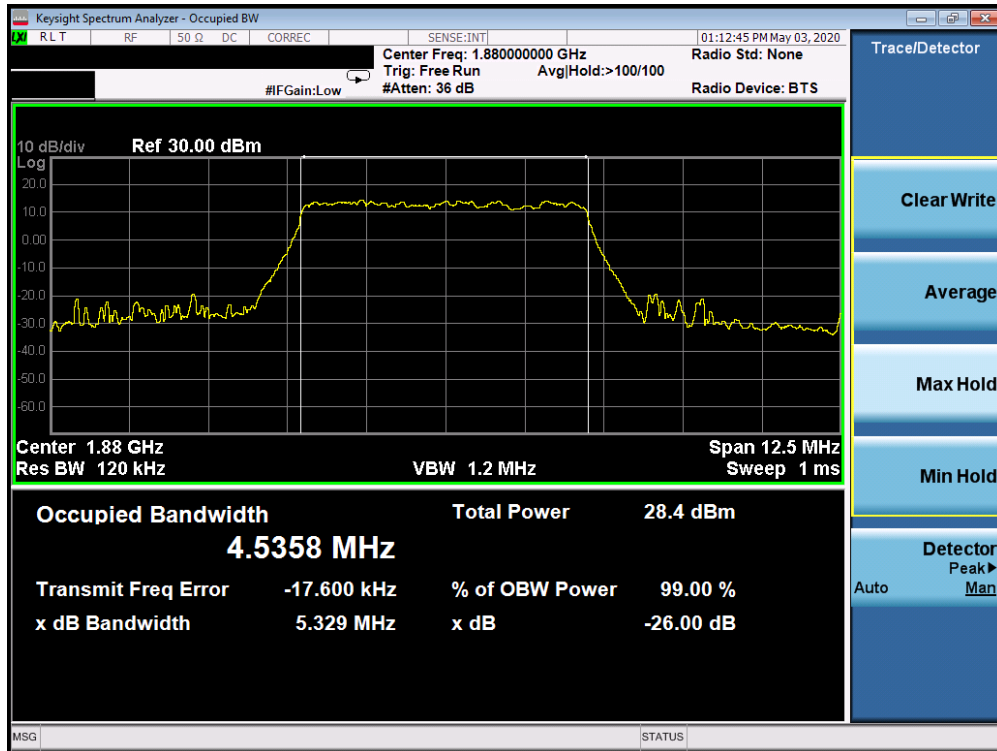


Plot 7-184. Occupied Bandwidth Plot (n25/2 5MHz BPSK-DFT-s-OFDM - Full RB Configuration)

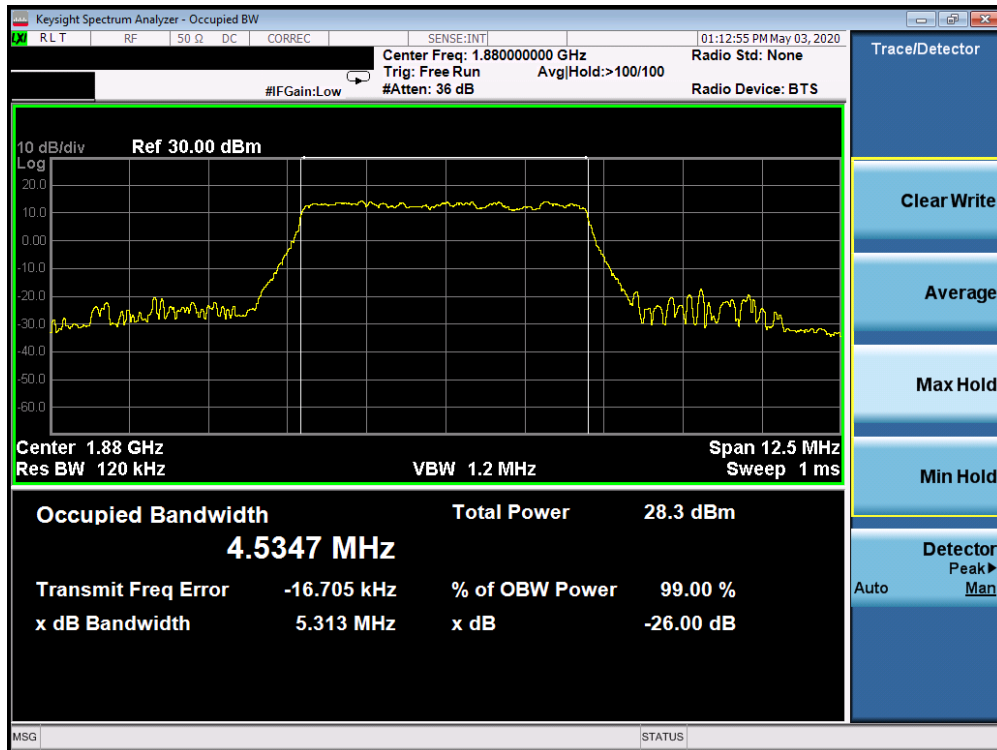


Plot 7-185. Occupied Bandwidth Plot (n25/2 5MHz QPSK-CP-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 111 of 492                 |

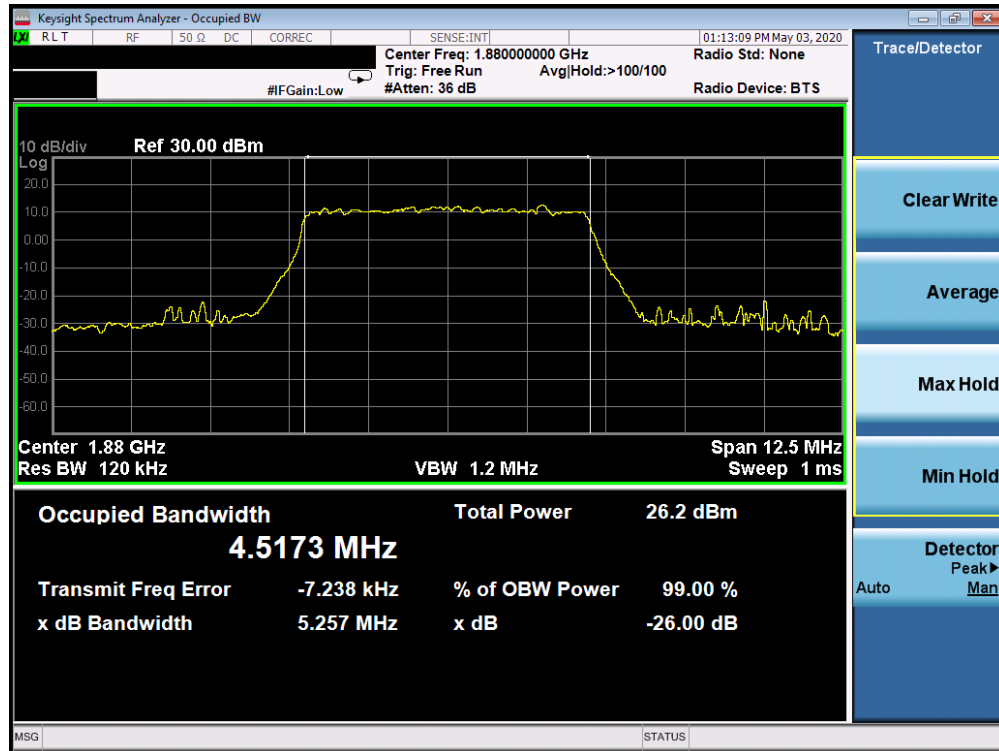


Plot 7-186. Occupied Bandwidth Plot (n25/2 5MHz 16QAM-CP-OFDM - Full RB Configuration)

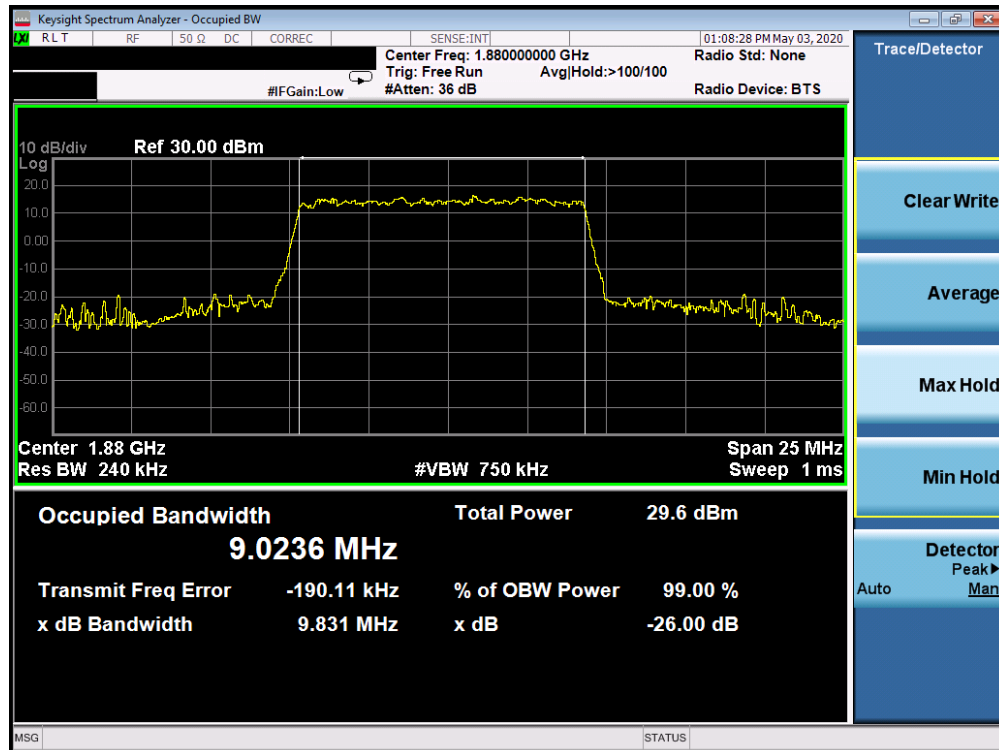


Plot 7-187. Occupied Bandwidth Plot (n25/2 5MHz 64QAM-CP-OFDM- Full RB Configuration)

|                                            |                                               |                               |  |                                 |
|--------------------------------------------|-----------------------------------------------|-------------------------------|--|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b> |                               |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020               | EUT Type:<br>Portable Handset |  | Page 112 of 492                 |

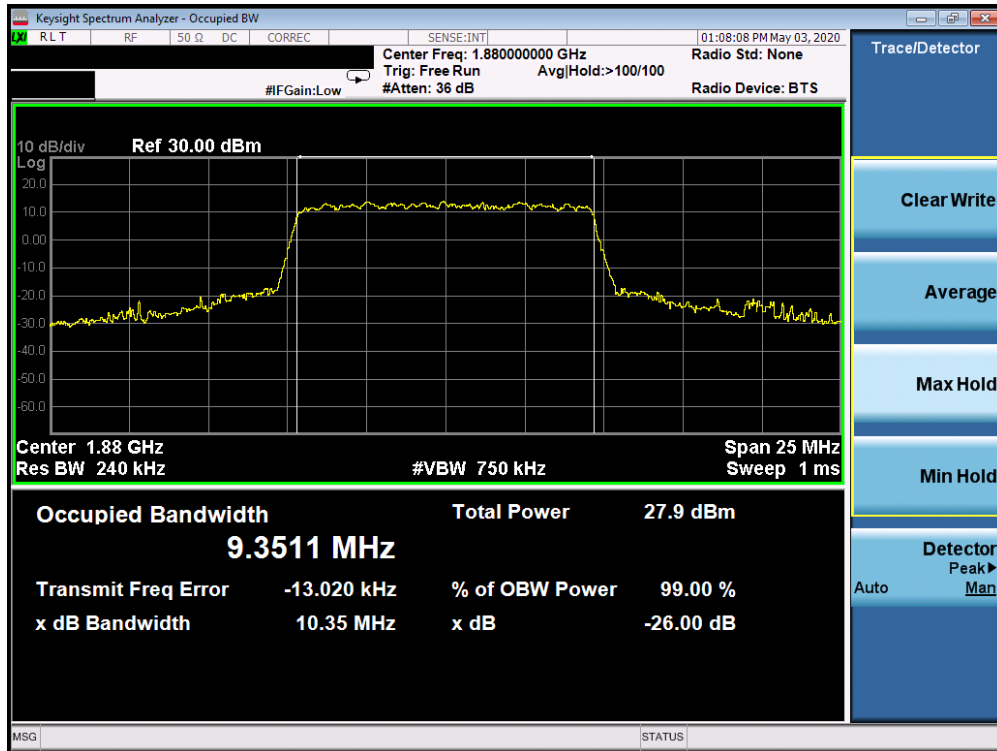


Plot 7-188. Occupied Bandwidth Plot (n25/2 5MHz 256QAM-CP-OFDM- Full RB Configuration)

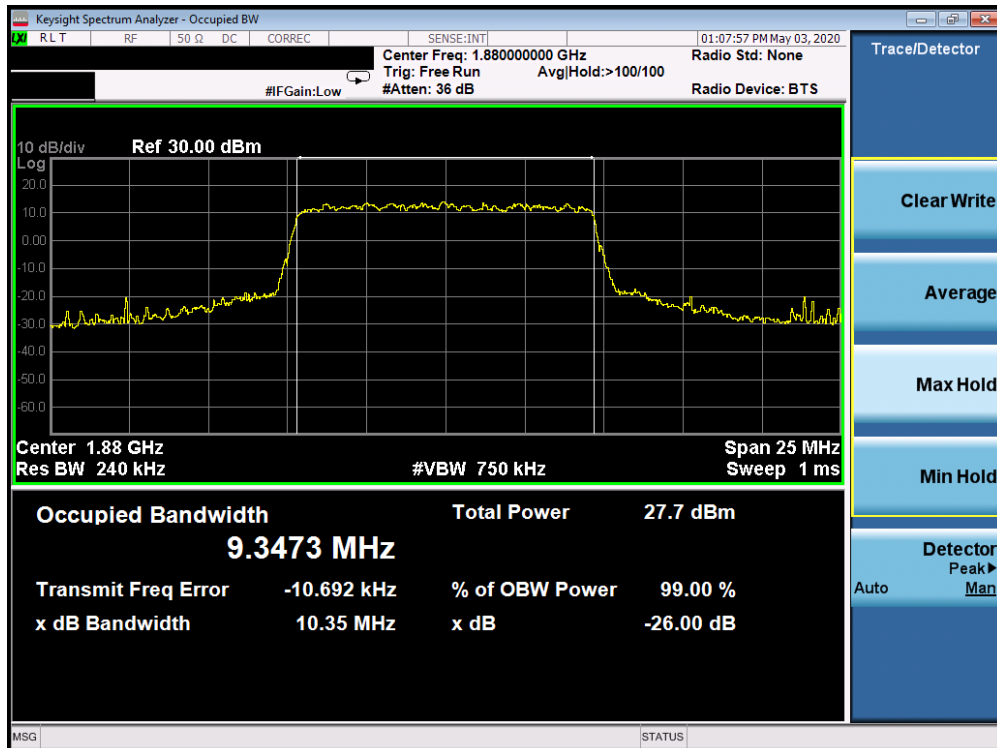


Plot 7-189. Occupied Bandwidth Plot (n25/2 10MHz BPSK-DFT-s-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 113 of 492                 |

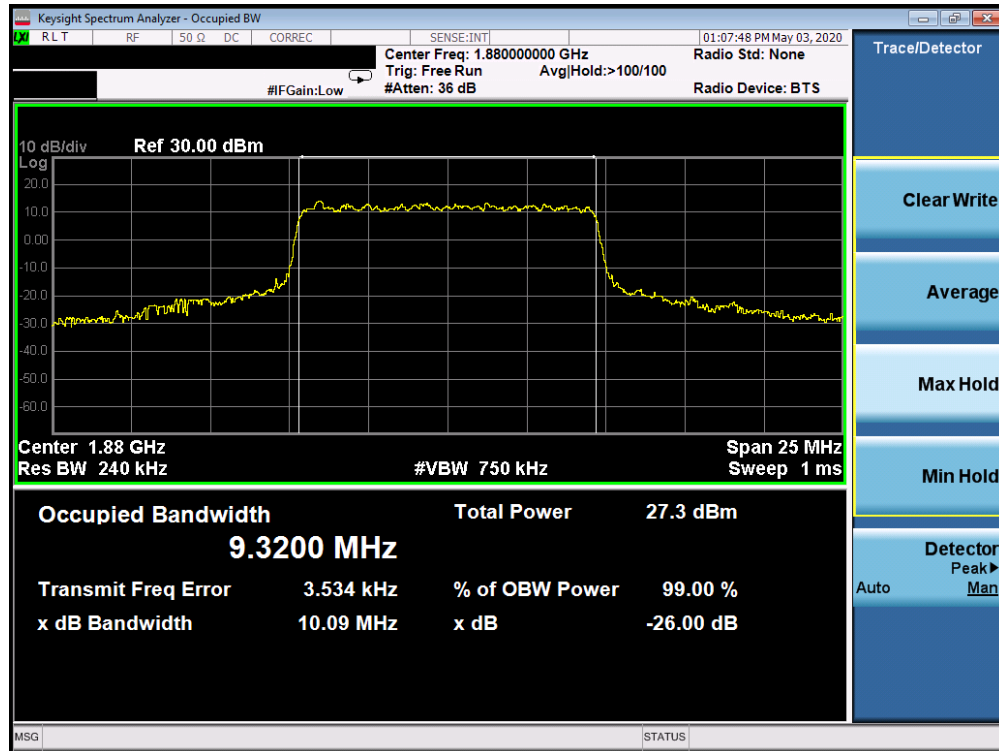


Plot 7-190. Occupied Bandwidth Plot (n25/2 10MHz QPSK-CP-OFDM - Full RB Configuration)

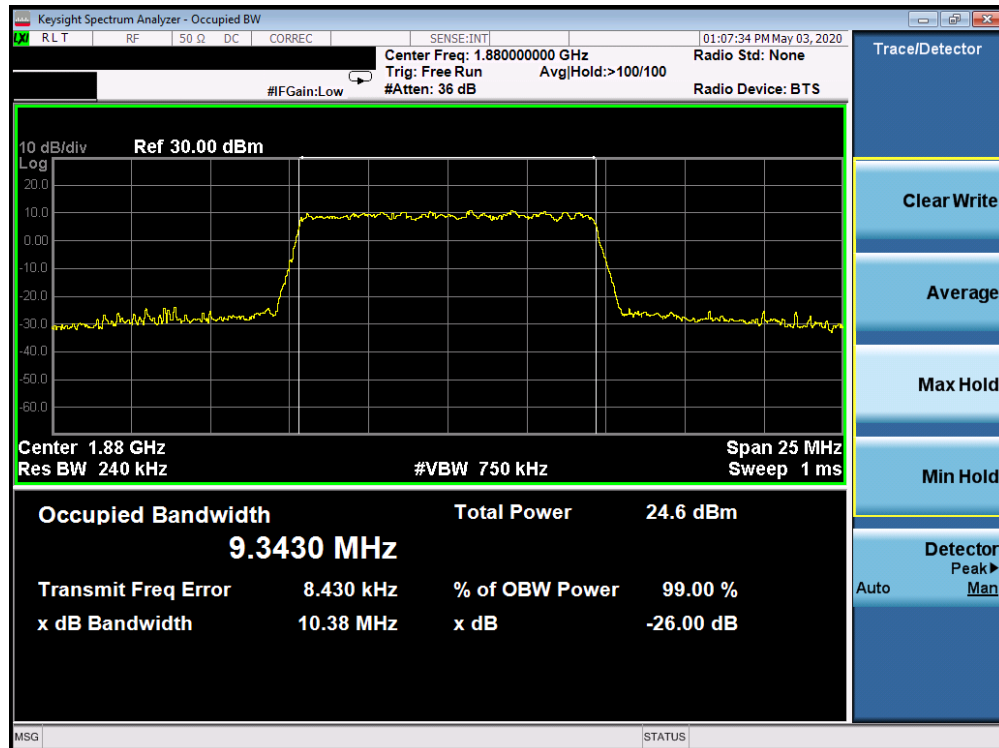


Plot 7-191. Occupied Bandwidth Plot (n25/2 10MHz 16QAM-CP-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 114 of 492                 |

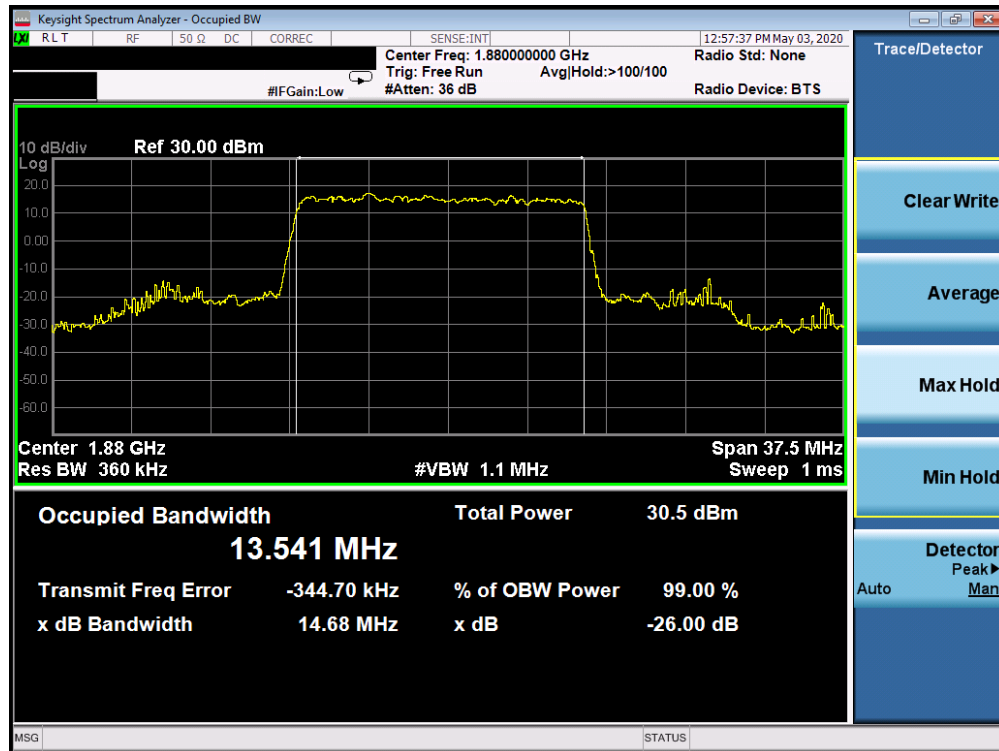


Plot 7-192. Occupied Bandwidth Plot (n25/2 10MHz 64QAM-CP-OFDM- Full RB Configuration)

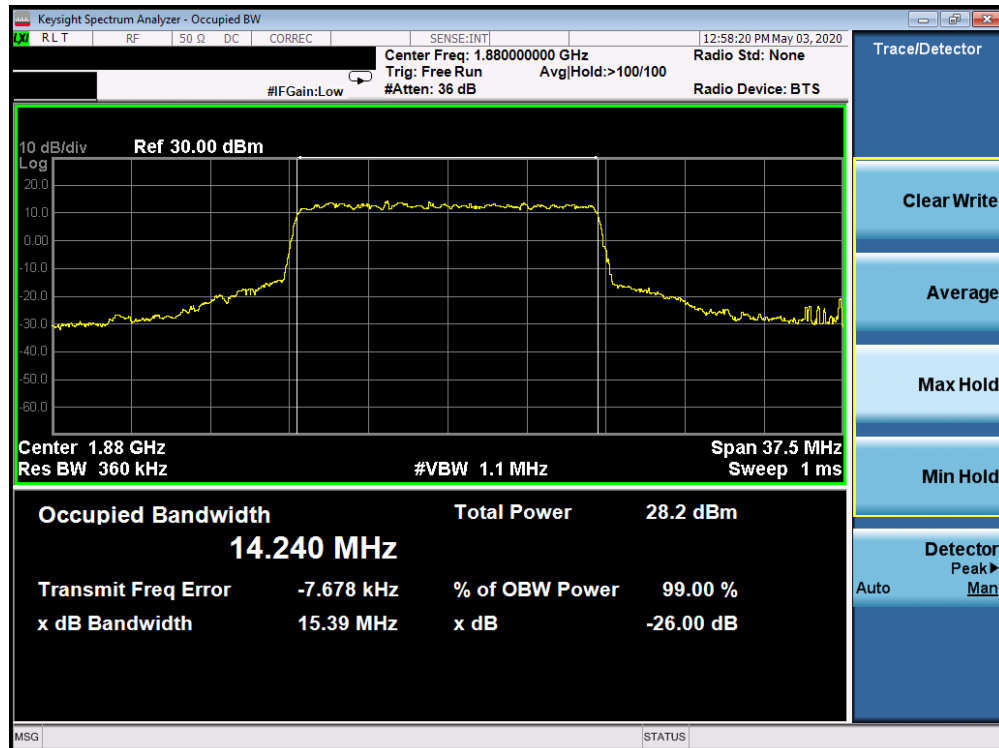


Plot 7-193. Occupied Bandwidth Plot (n25/2 10MHz 256QAM-CP-OFDM- Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 115 of 492                 |

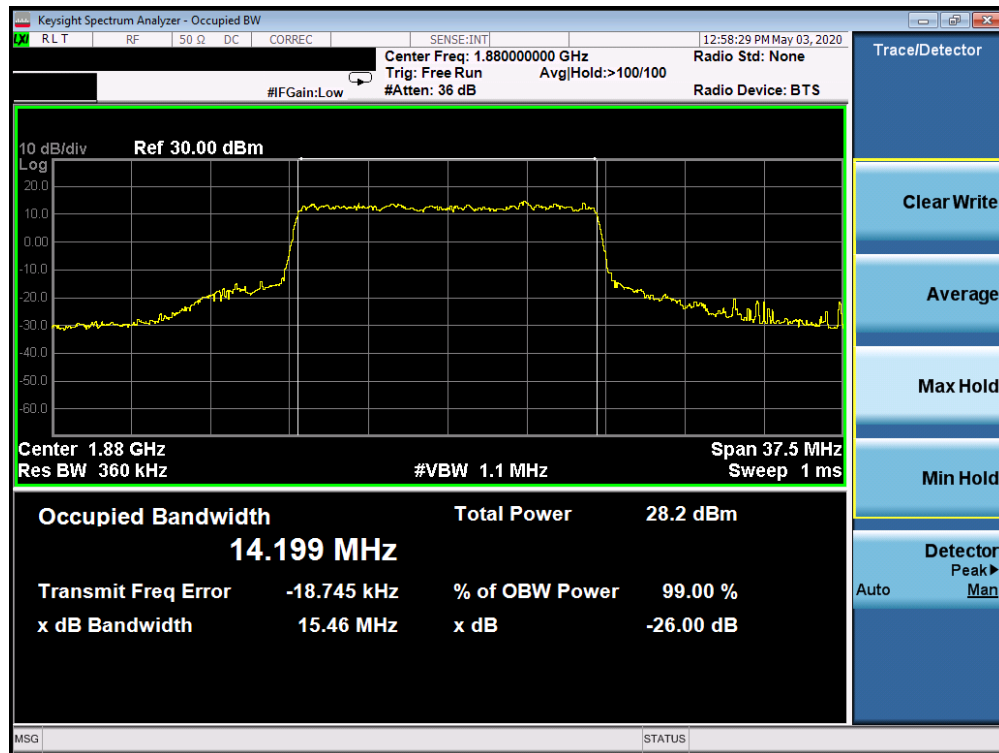


Plot 7-194. Occupied Bandwidth Plot (n25/2 15MHz BPSK-DFT-s-OFDM - Full RB Configuration)

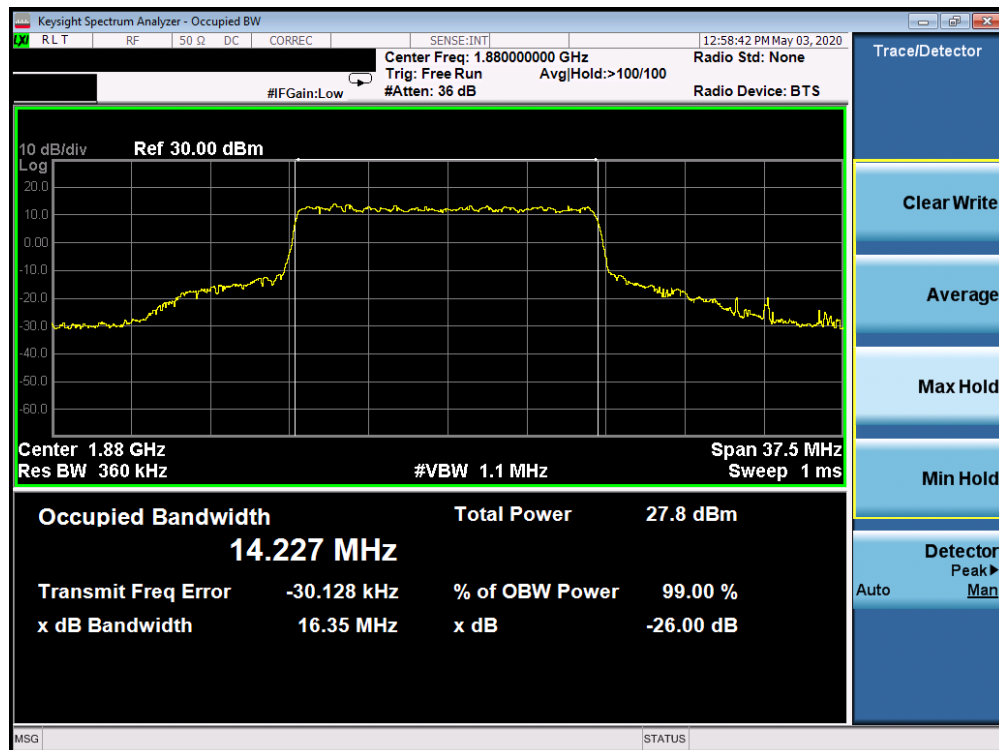


Plot 7-195. Occupied Bandwidth Plot (n25/2 15MHz QPSK-CP-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 116 of 492                 |

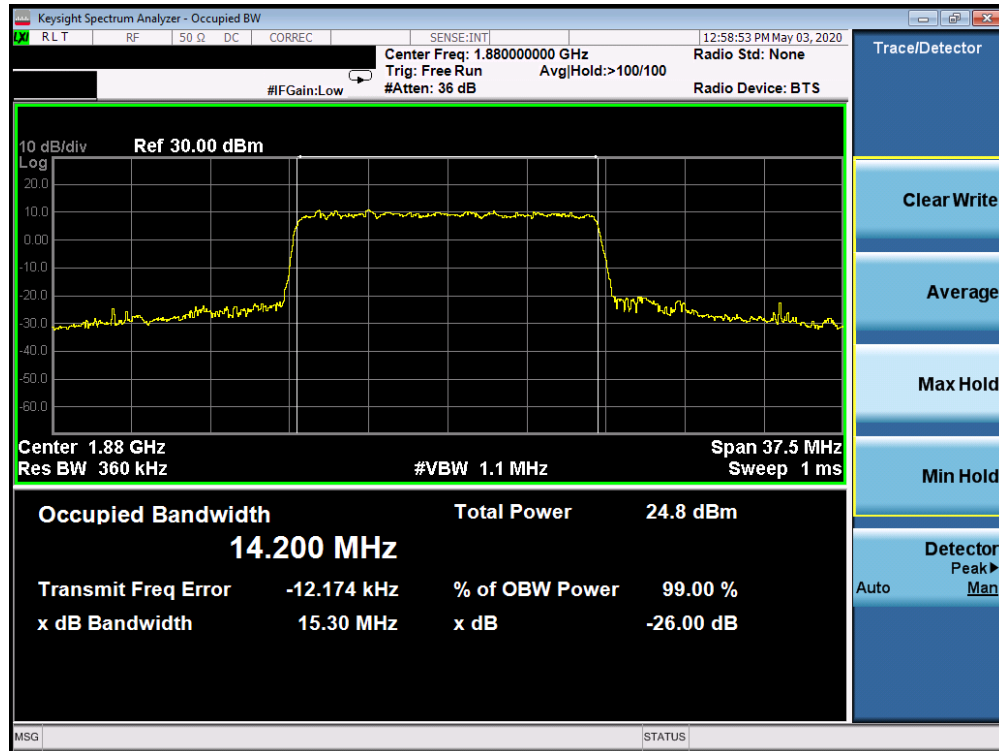


Plot 7-196. Occupied Bandwidth Plot (n25/2 15MHz 16QAM-CP-OFDM - Full RB Configuration)

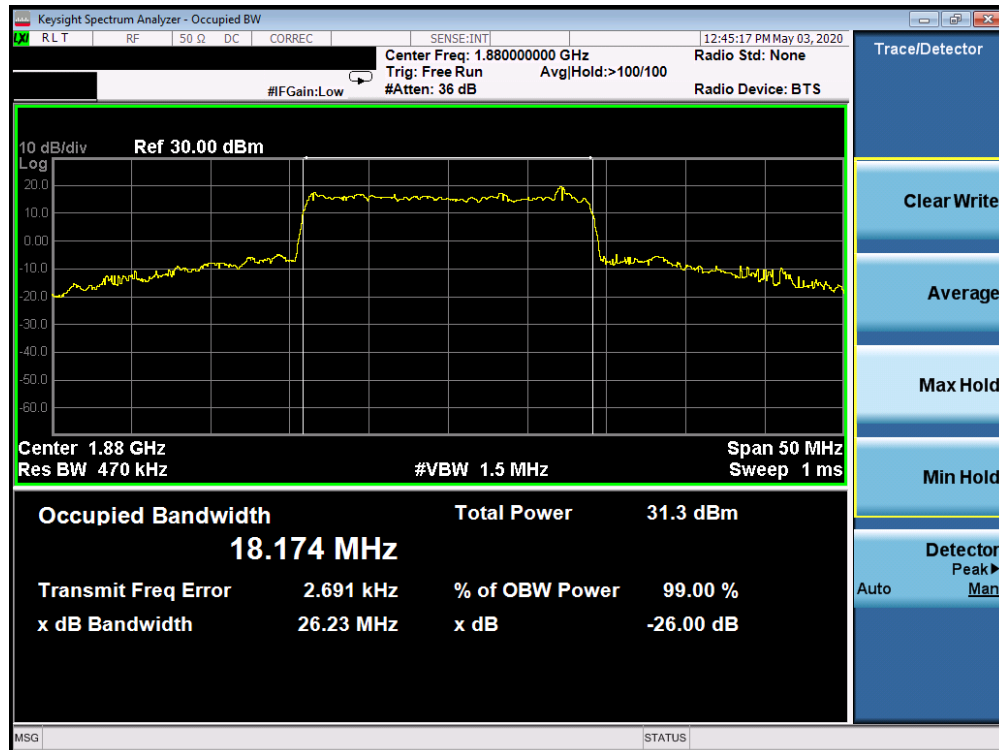


Plot 7-197. Occupied Bandwidth Plot (n25/2 15MHz 64QAM-CP-OFDM- Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 117 of 492                 |

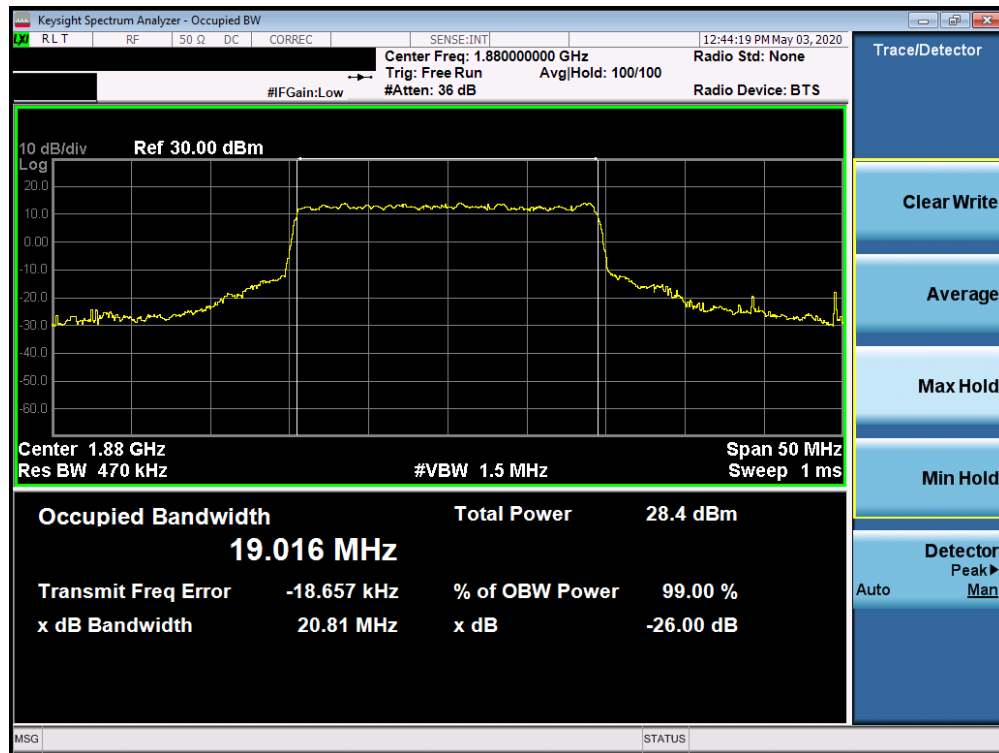


Plot 7-198. Occupied Bandwidth Plot (n25/2 15MHz 256QAM-CP-OFDM- Full RB Configuration)

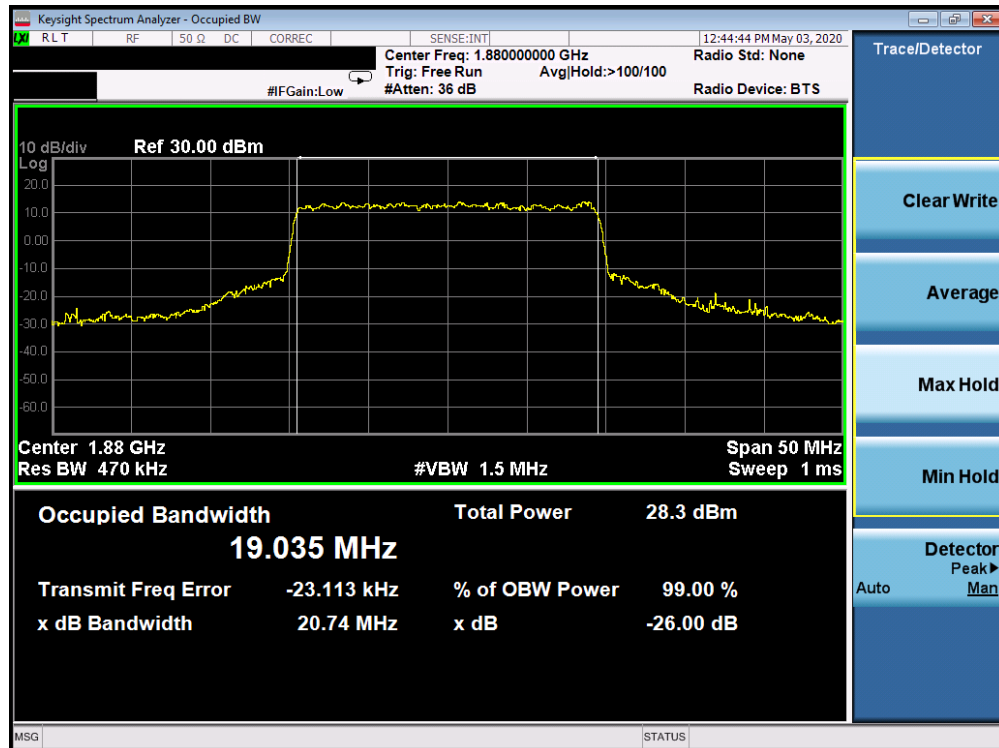


Plot 7-199. Occupied Bandwidth Plot (n25/2 20MHz BPSK-DFT-s-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 118 of 492                 |

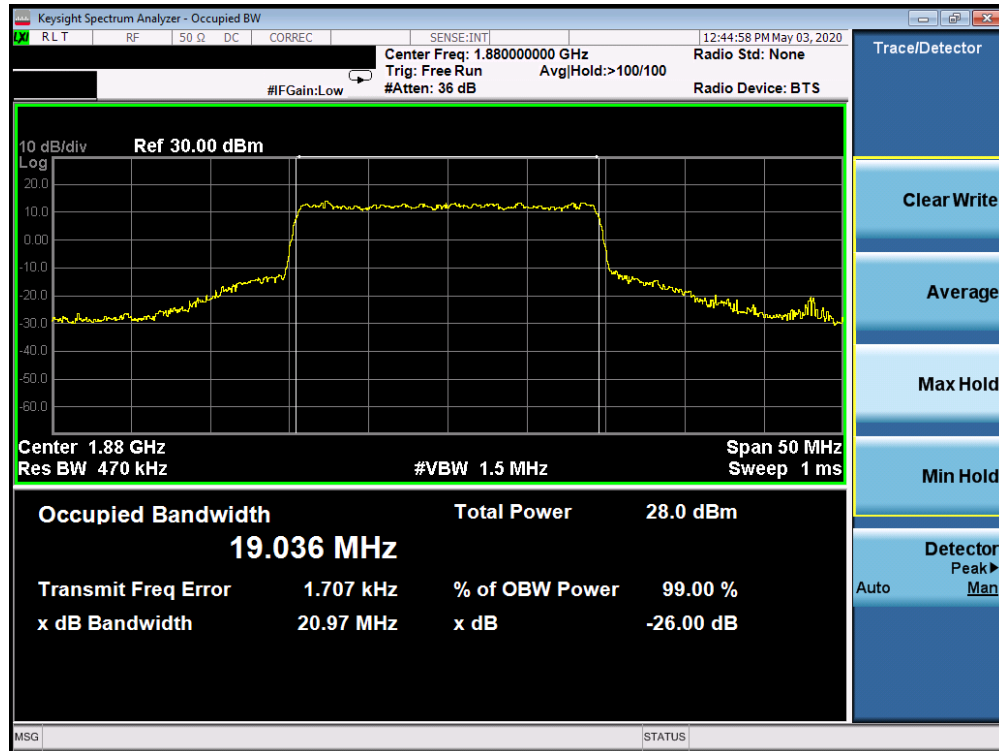


Plot 7-200. Occupied Bandwidth Plot (n25/2 20MHz QPSK-CP-OFDM - Full RB Configuration)

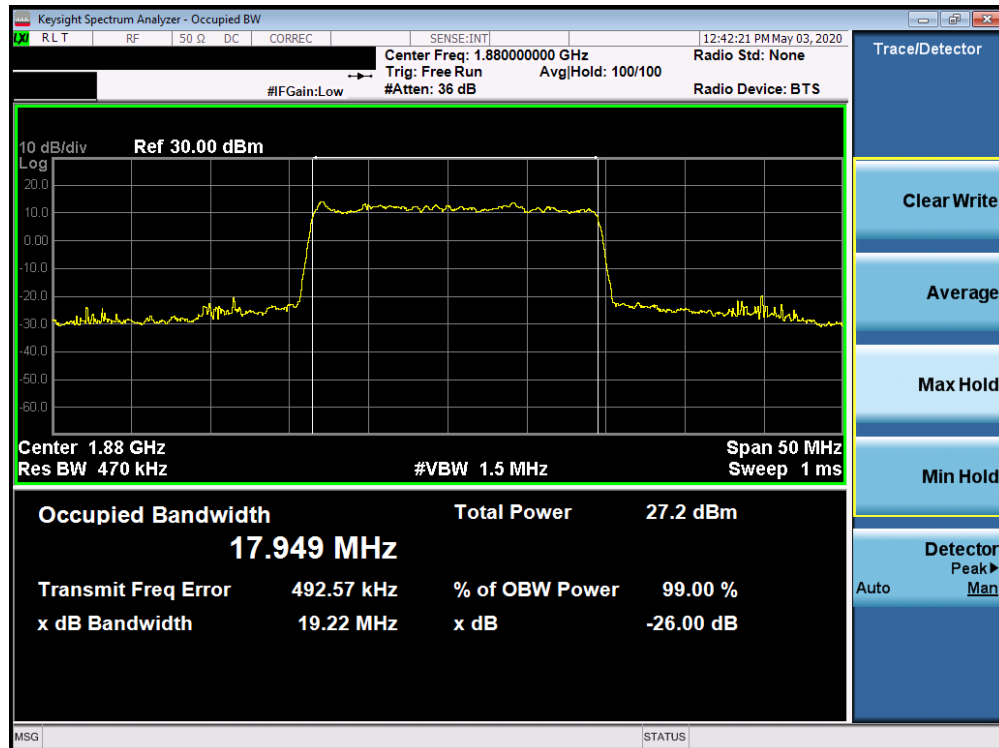


Plot 7-201. Occupied Bandwidth Plot (n25/2 20MHz 16QAM-CP-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 119 of 492                 |



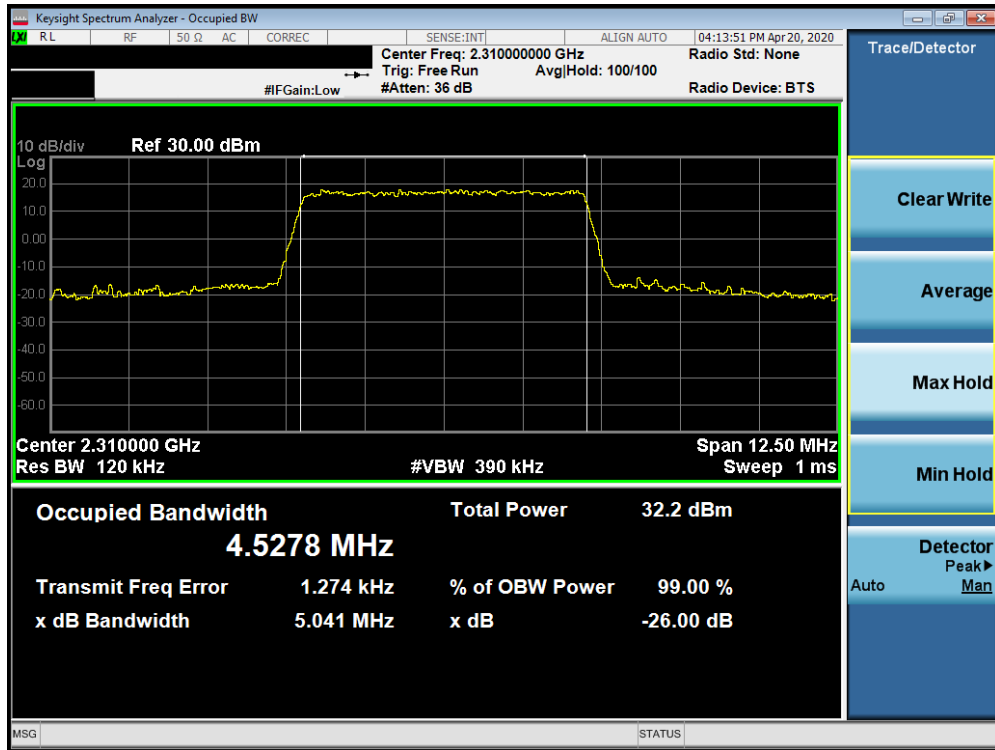
Plot 7-202. Occupied Bandwidth Plot (n25/2 20MHz 64QAM-CP-OFDM- Full RB Configuration)



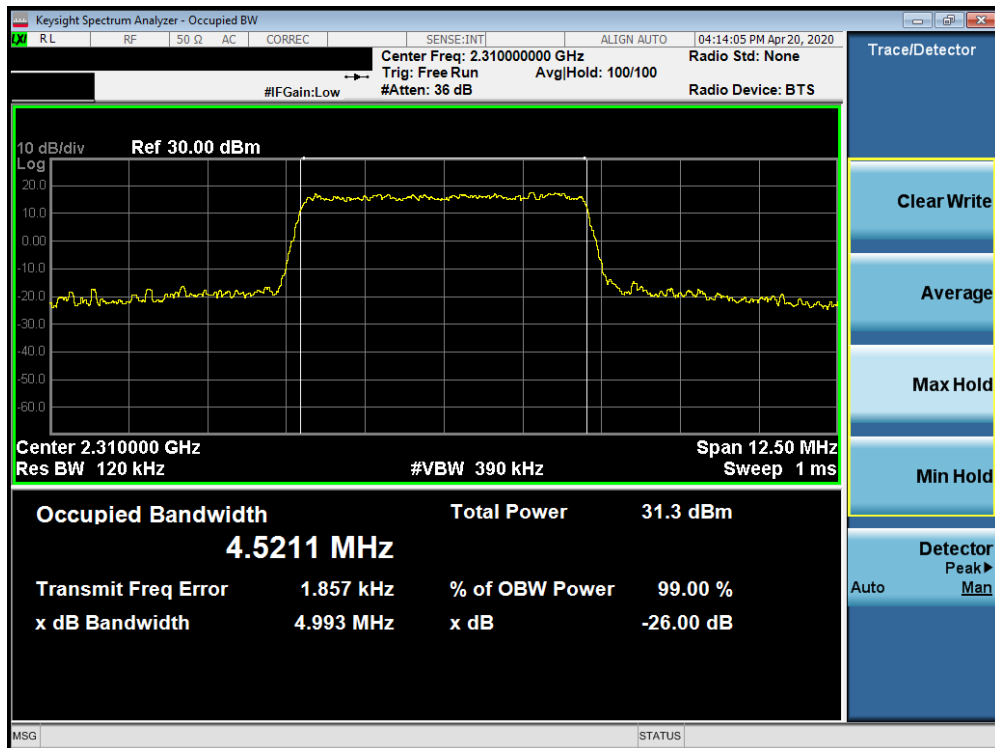
Plot 7-203. Occupied Bandwidth Plot (n25/2 20MHz 256QAM-CP-OFDM- Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 120 of 492                 |

## Band 30

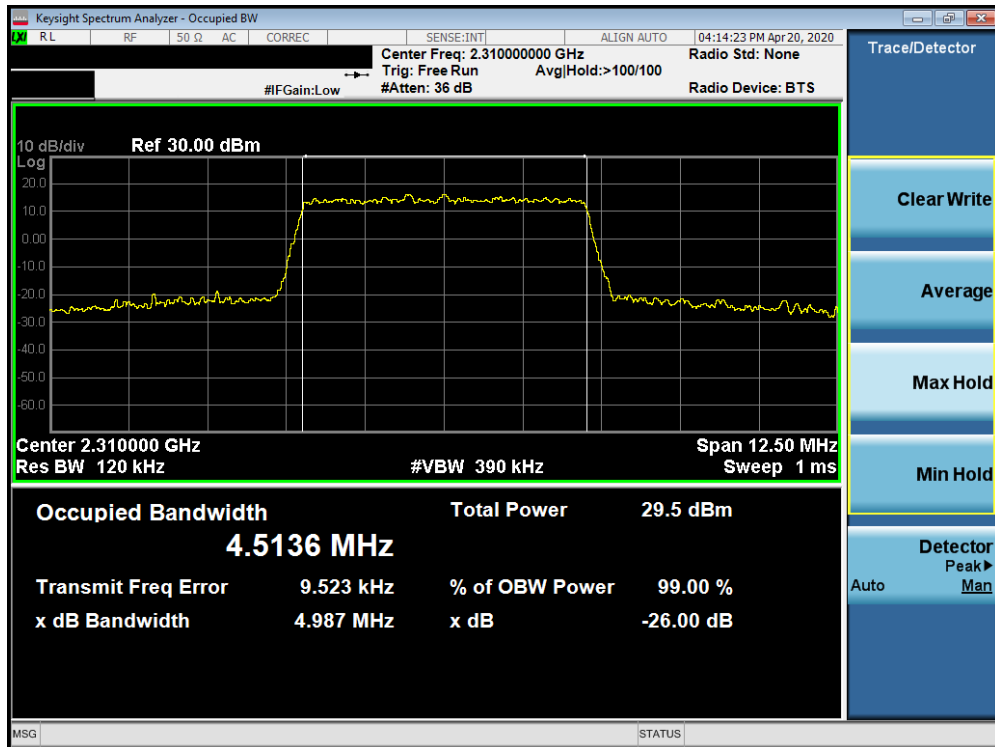


Plot 7-204. Occupied Bandwidth Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)

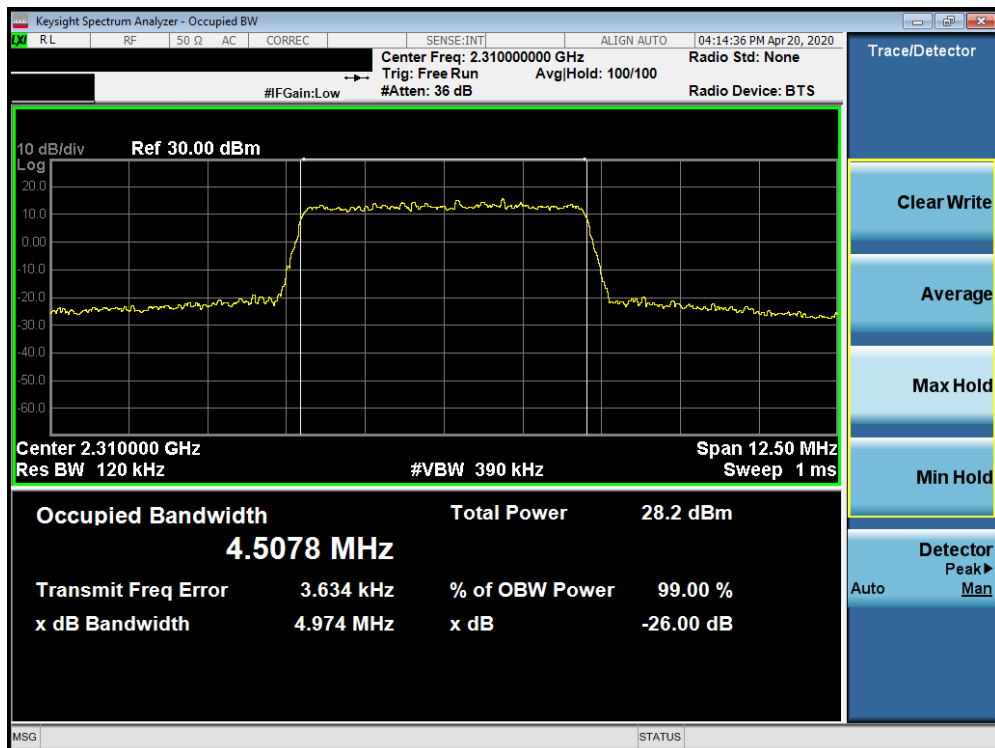


Plot 7-205. Occupied Bandwidth Plot (Band 30 - 5.0MHz 16-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 121 of 492                 |

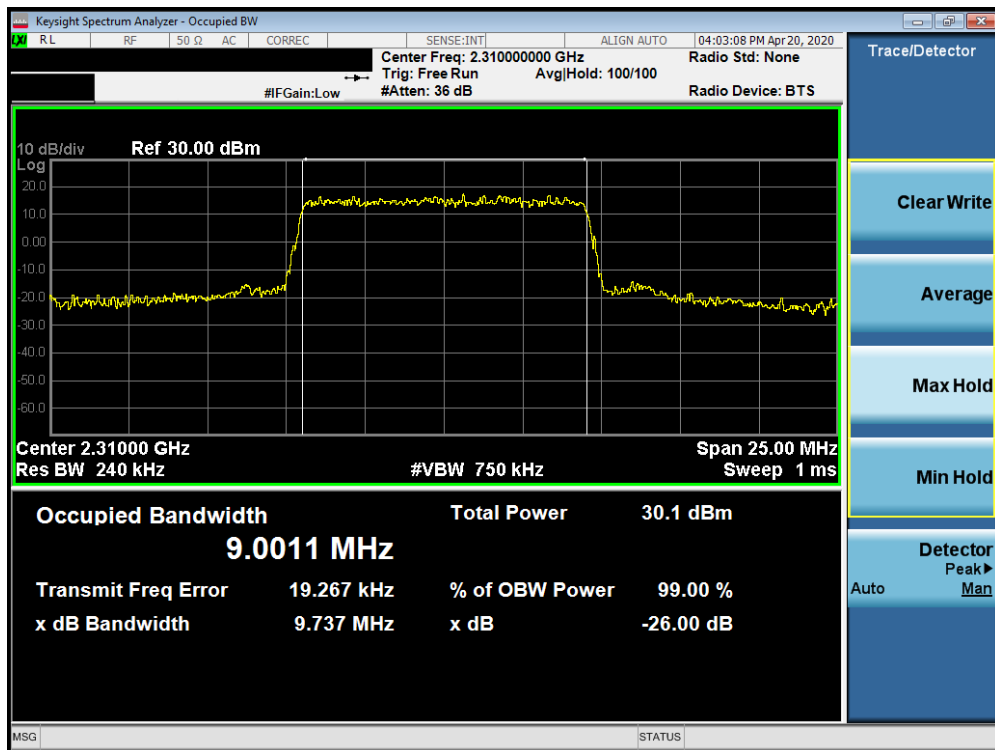


Plot 7-206. Occupied Bandwidth Plot (Band 30 - 5.0MHz 64-QAM - Full RB Configuration)

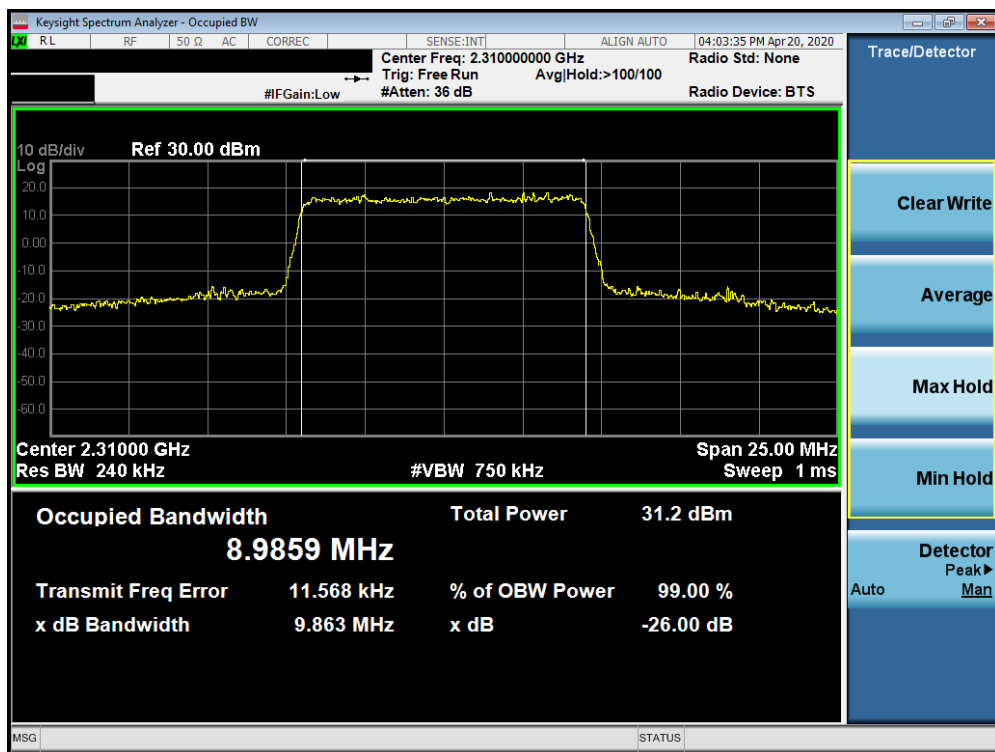


Plot 7-207. Occupied Bandwidth Plot (Band 30 - 5.0MHz 256-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 122 of 492                 |

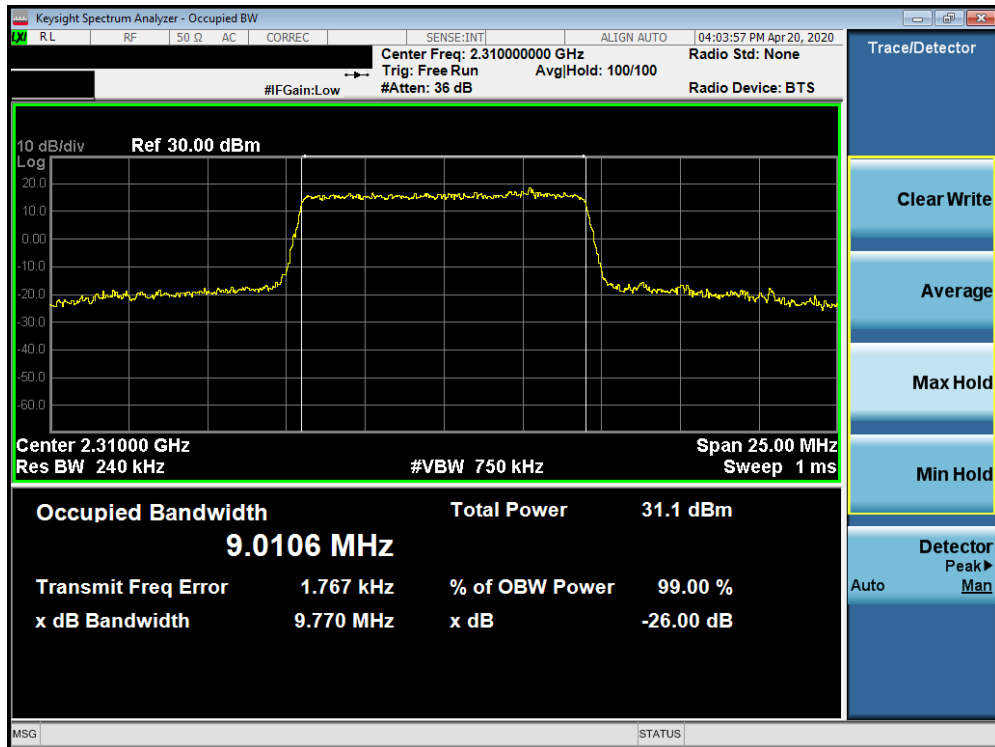


Plot 7-208. Occupied Bandwidth Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)

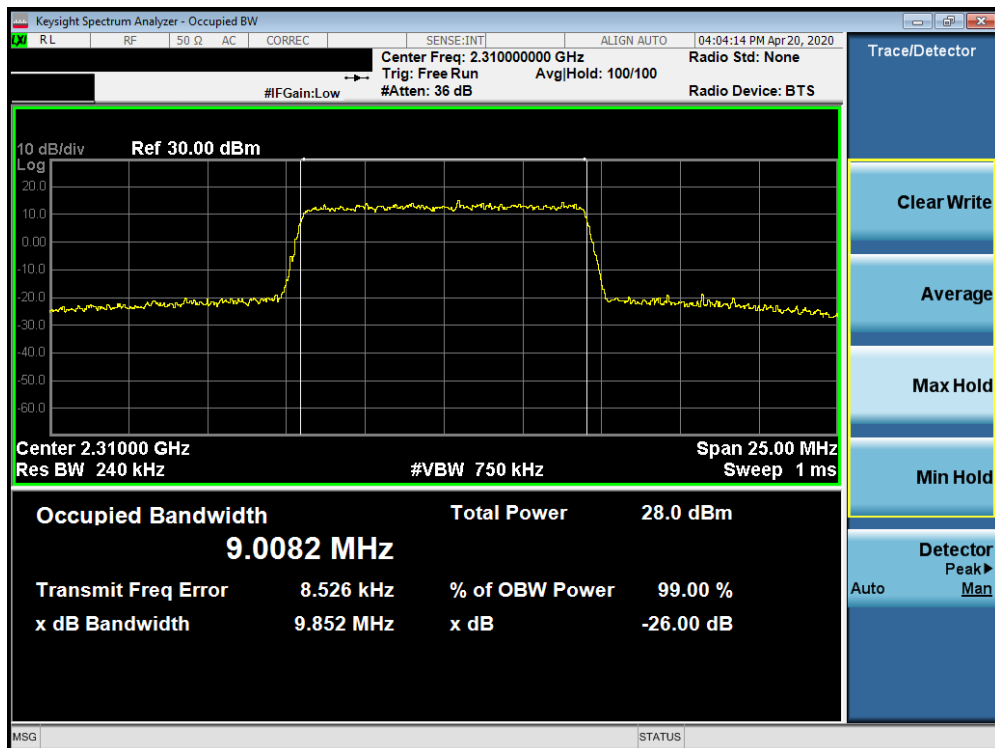


Plot 7-209. Occupied Bandwidth Plot (Band 30 - 10.0MHz 16-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 123 of 492                 |



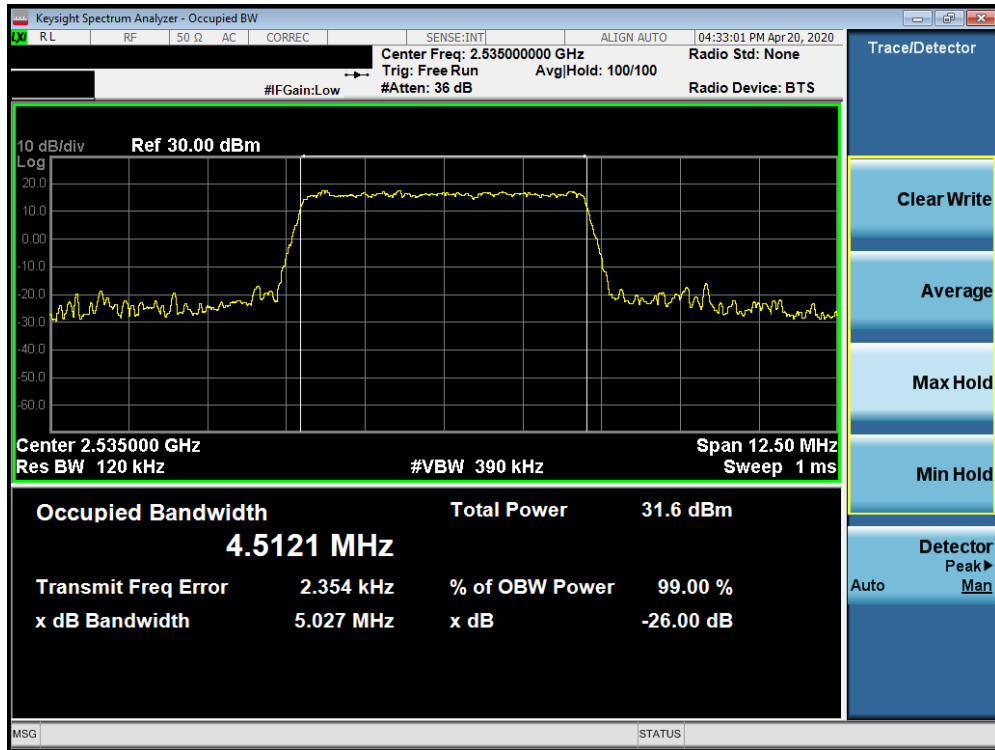
Plot 7-210. Occupied Bandwidth Plot (Band 30 - 10.0MHz 64-QAM - Full RB Configuration)



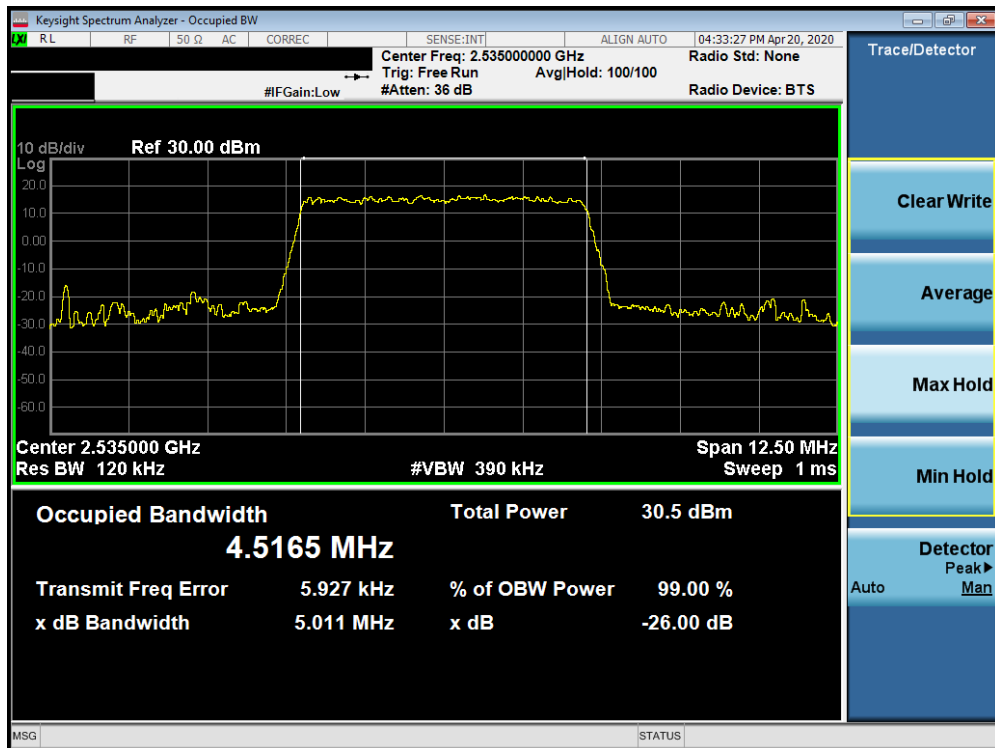
Plot 7-211. Occupied Bandwidth Plot (Band 30 - 10.0MHz 256-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 124 of 492                 |

## Band 7

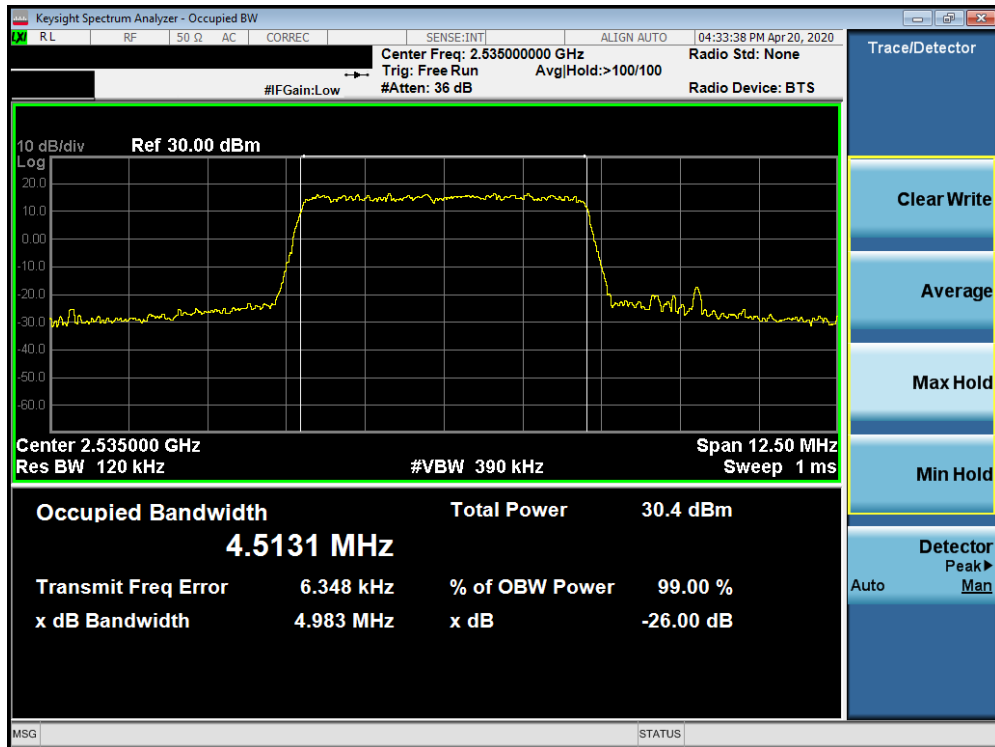


Plot 7-212. Occupied Bandwidth Plot (Band 7 - 5.0MHz QPSK - Full RB Configuration)

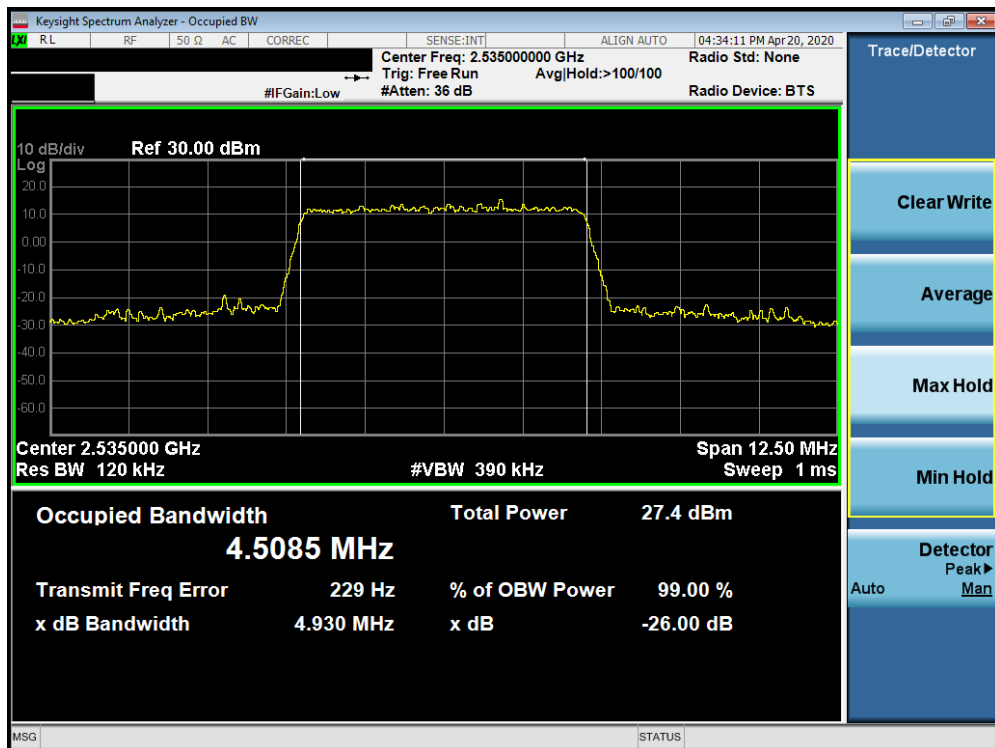


Plot 7-213. Occupied Bandwidth Plot (Band 7 - 5.0MHz 16-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 125 of 492                 |

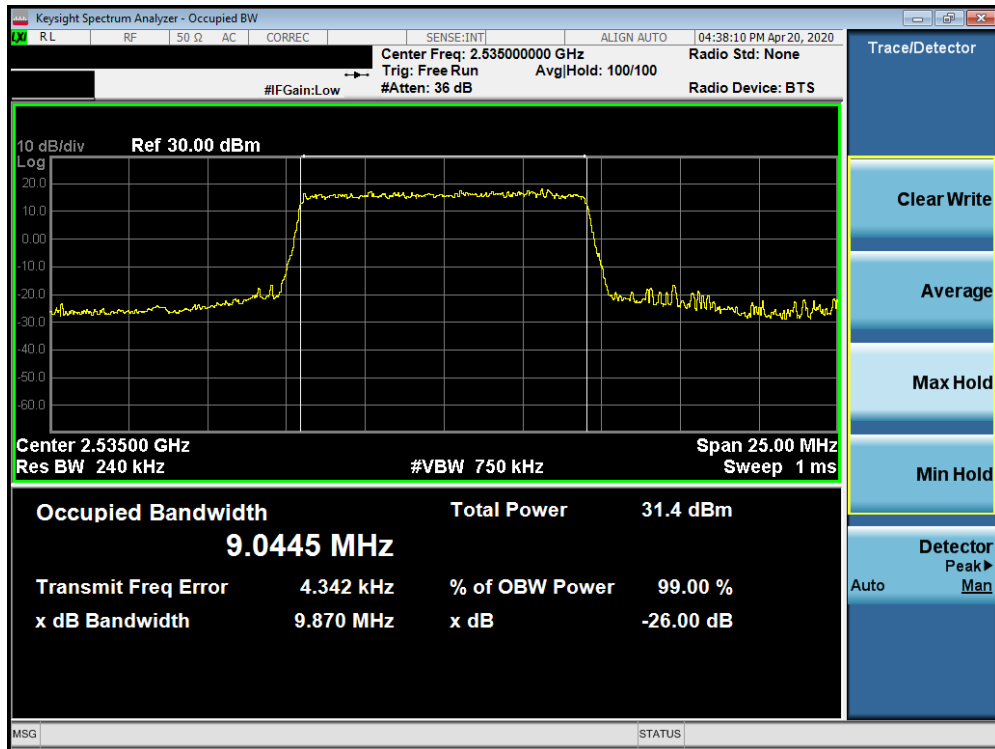


Plot 7-214. Occupied Bandwidth Plot (Band 7 - 5.0MHz 64-QAM - Full RB Configuration)

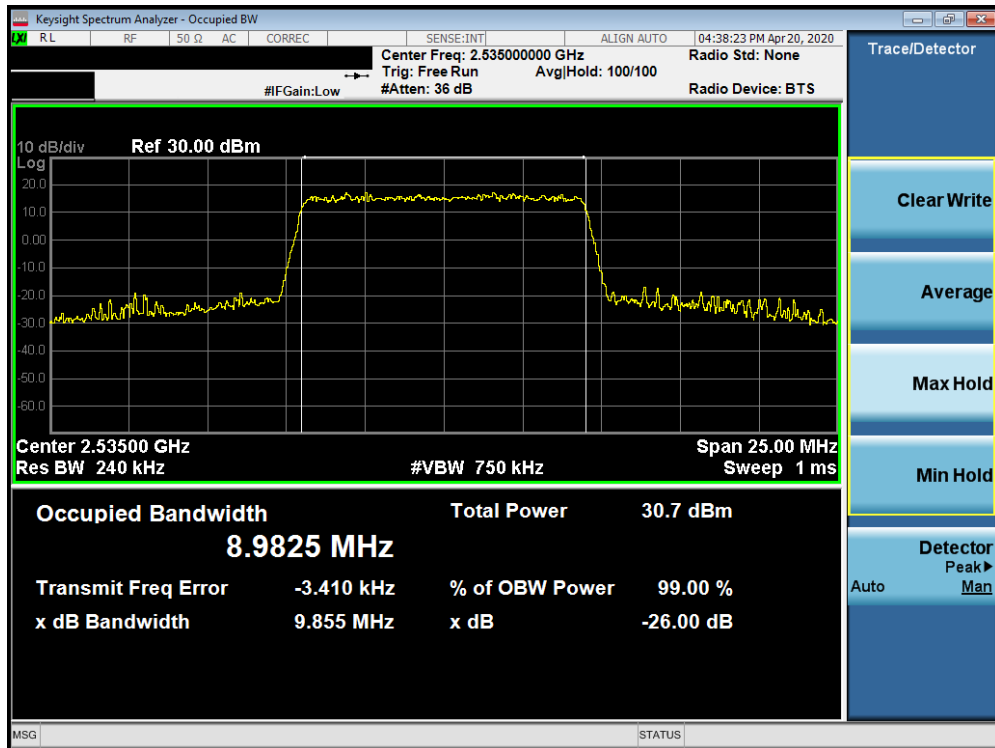


Plot 7-215. Occupied Bandwidth Plot (Band 7 - 5.0MHz 256-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 126 of 492                 |

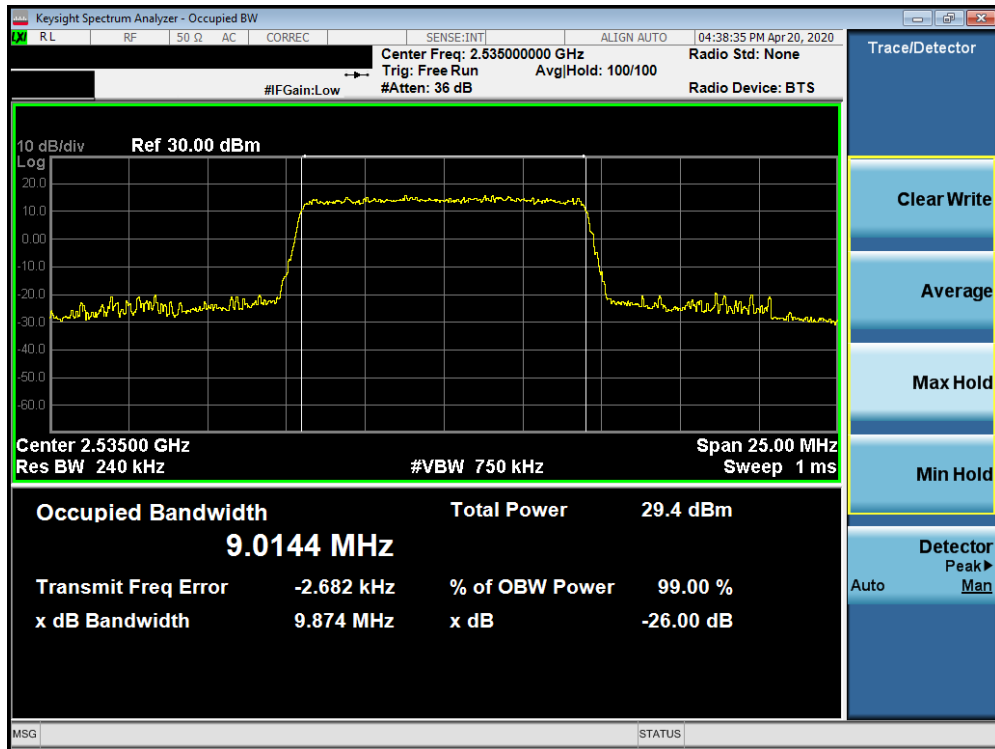


Plot 7-216. Occupied Bandwidth Plot (Band 7 - 10.0MHz QPSK - Full RB Configuration)

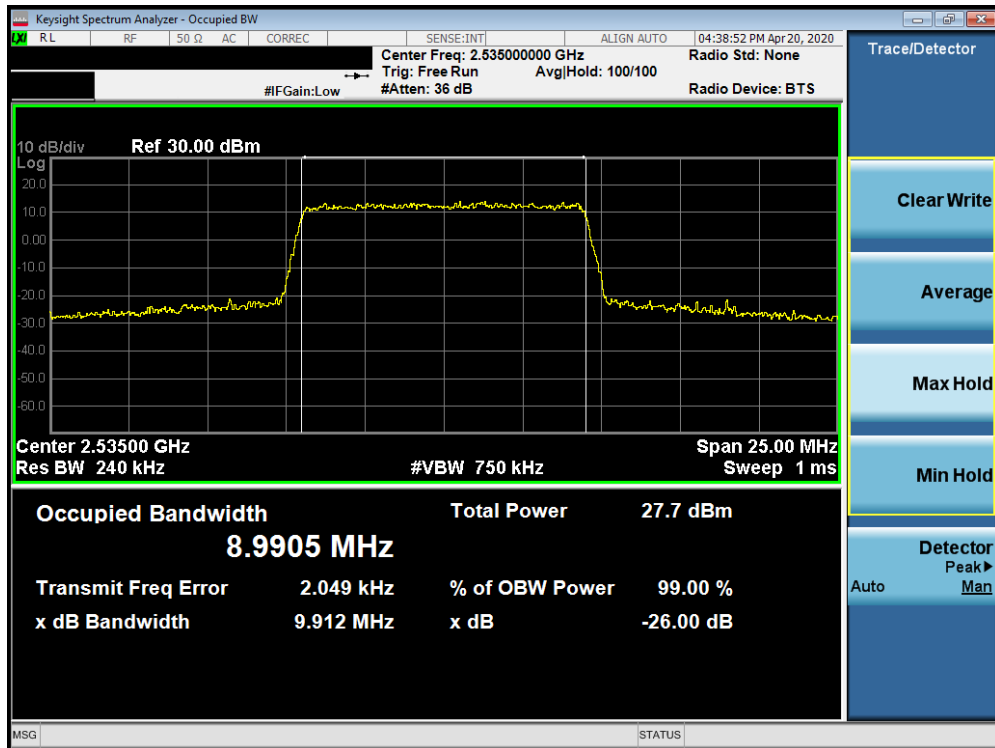


Plot 7-217. Occupied Bandwidth Plot (Band 7 - 10.0MHz 16-QAM - Full RB Configuration)

|                                            |                                               |                               |  |                                 |
|--------------------------------------------|-----------------------------------------------|-------------------------------|--|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b> |                               |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020               | EUT Type:<br>Portable Handset |  | Page 127 of 492                 |

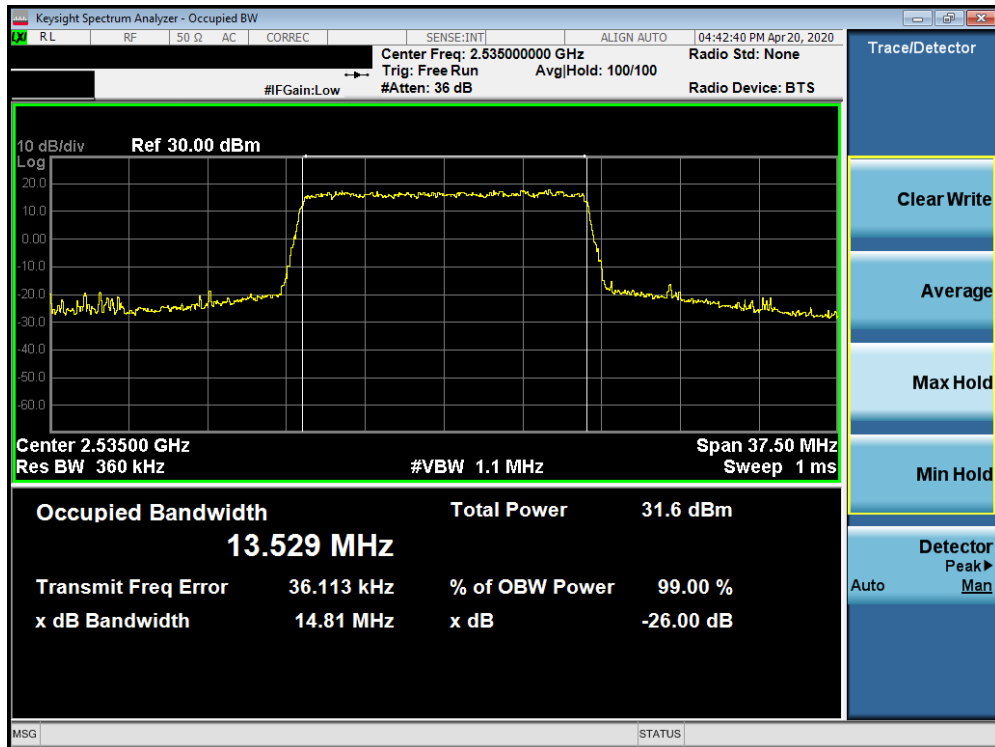


Plot 7-218. Occupied Bandwidth Plot (Band 7 - 10.0MHz 64-QAM - Full RB Configuration)

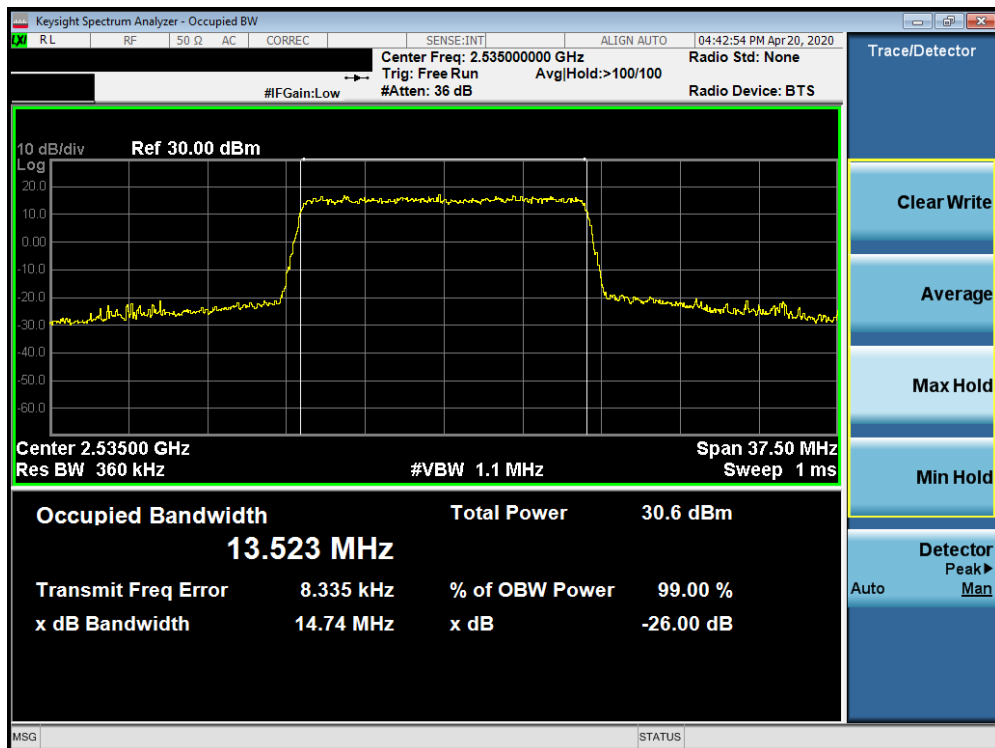


Plot 7-219. Occupied Bandwidth Plot (Band 7 - 10.0MHz 256-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 128 of 492                 |

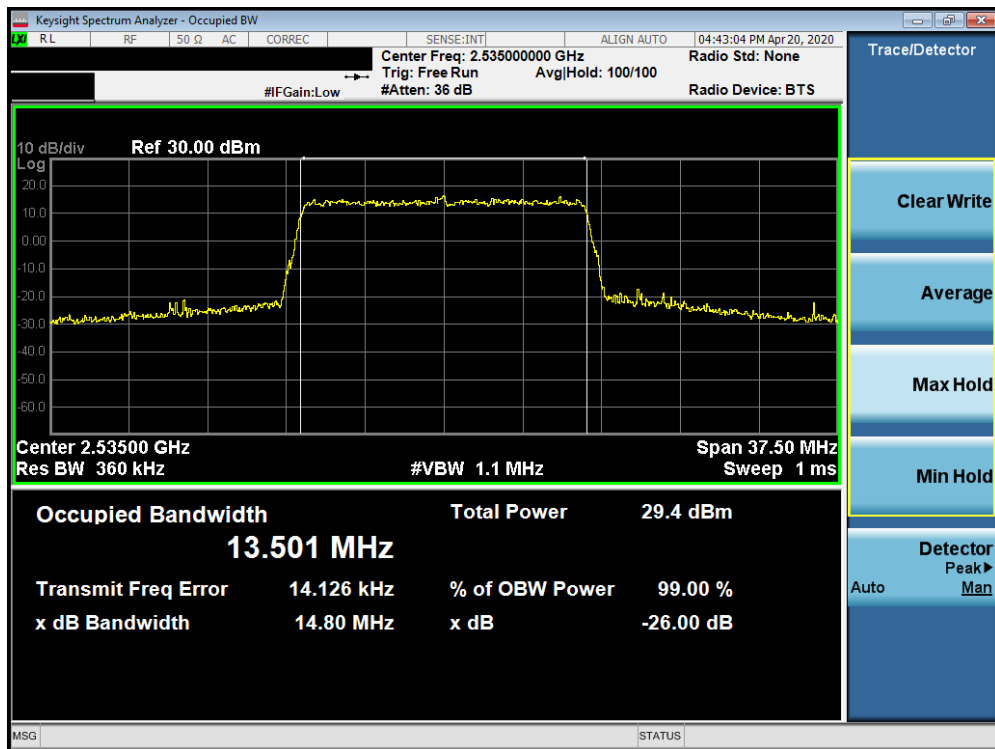


Plot 7-220. Occupied Bandwidth Plot (Band 7 - 15.0MHz QPSK - Full RB Configuration)

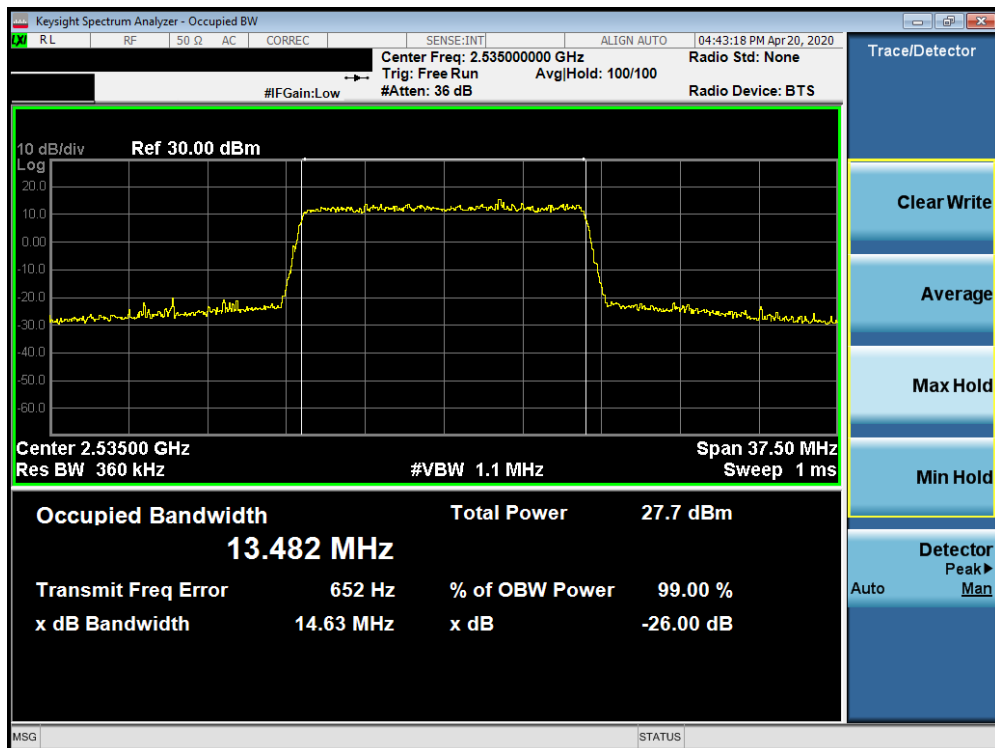


Plot 7-221. Occupied Bandwidth Plot (Band 7 - 15.0MHz 16-QAM - Full RB Configuration)

|                                            |                                                                                     |                                       |                                                                                       |                                 |
|--------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSMN986U                         |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020                                                     | EUT Type:<br>Portable Handset         |                                                                                       | Page 129 of 492                 |

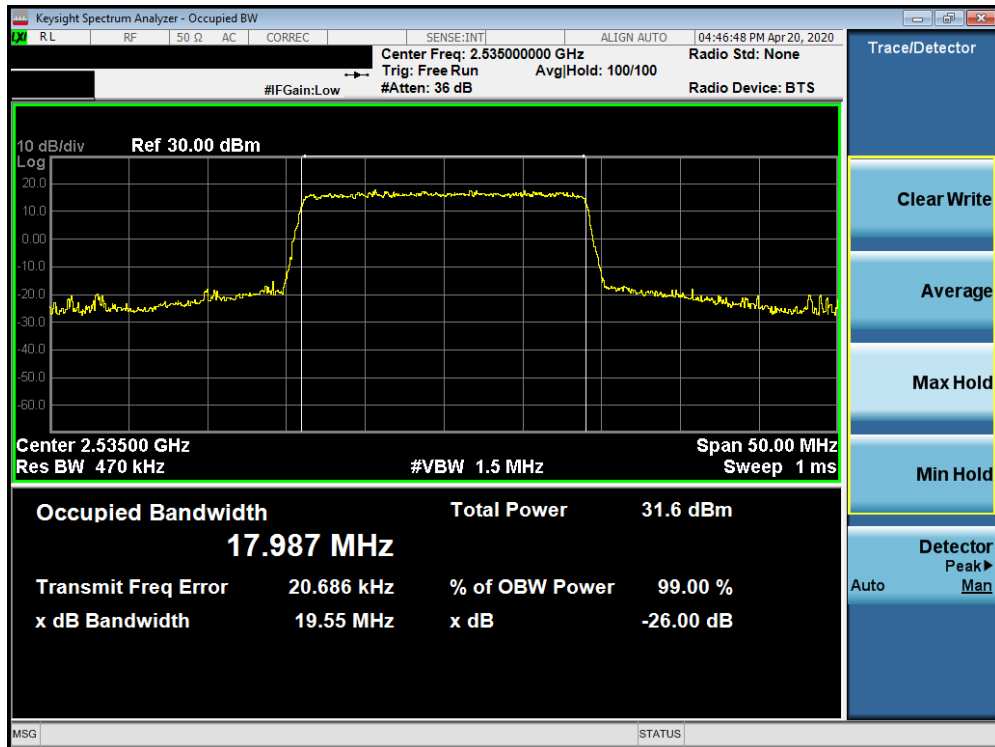


Plot 7-222. Occupied Bandwidth Plot (Band 7 - 15.0MHz 64-QAM - Full RB Configuration)

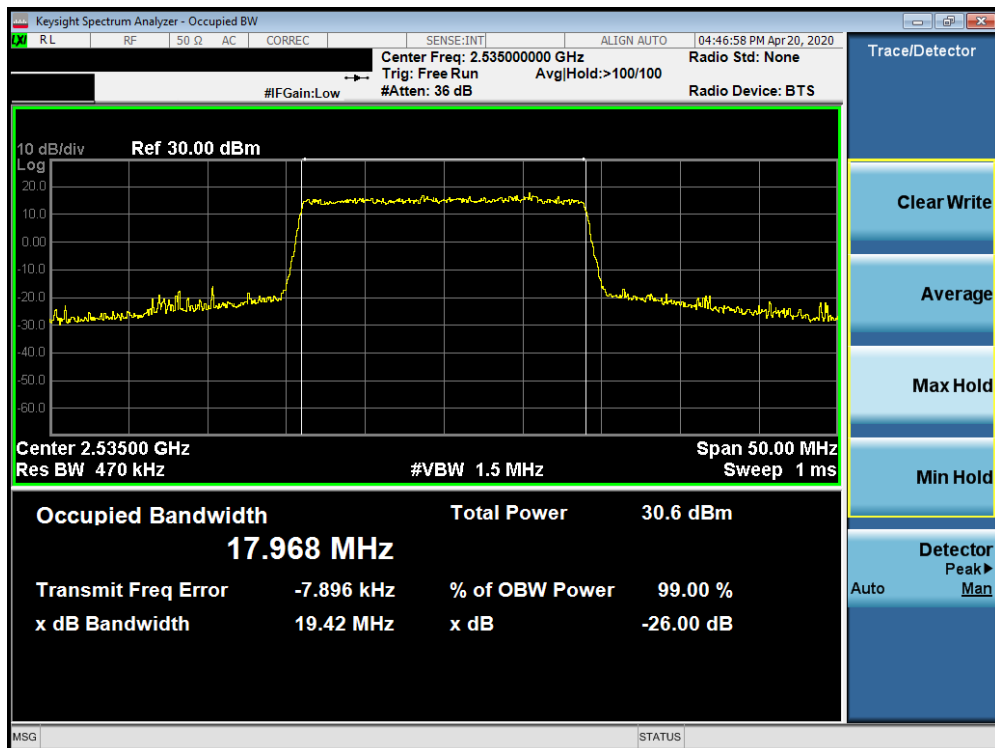


Plot 7-223. Occupied Bandwidth Plot (Band 7 - 15.0MHz 256-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 130 of 492                 |

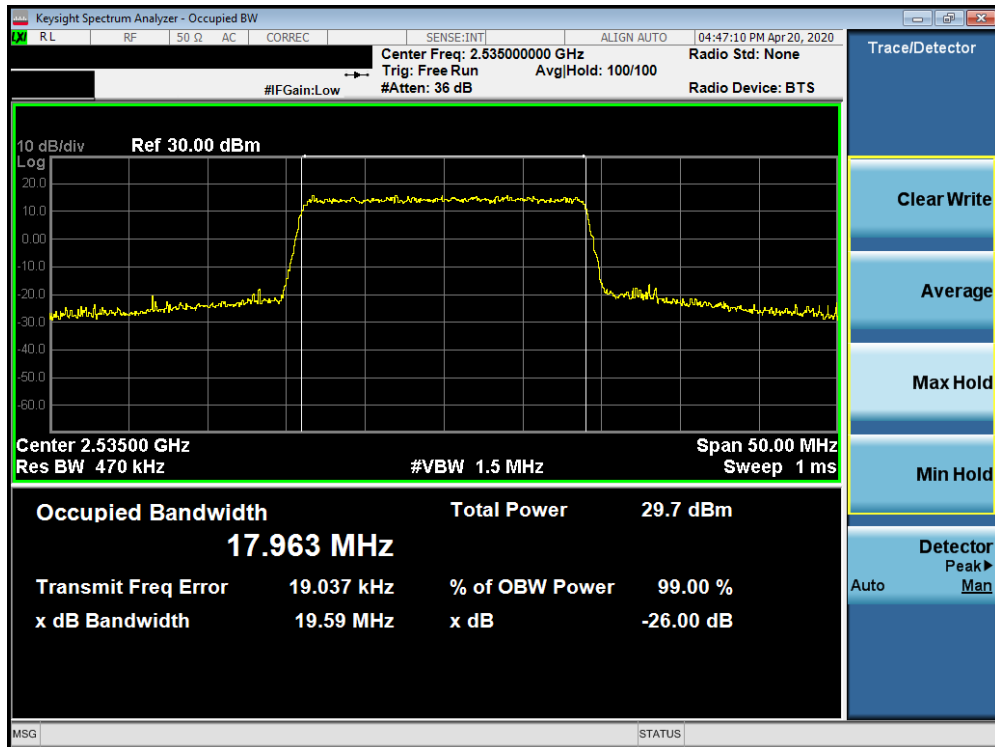


Plot 7-224. Occupied Bandwidth Plot (Band 7 - 20.0MHz QPSK - Full RB Configuration)

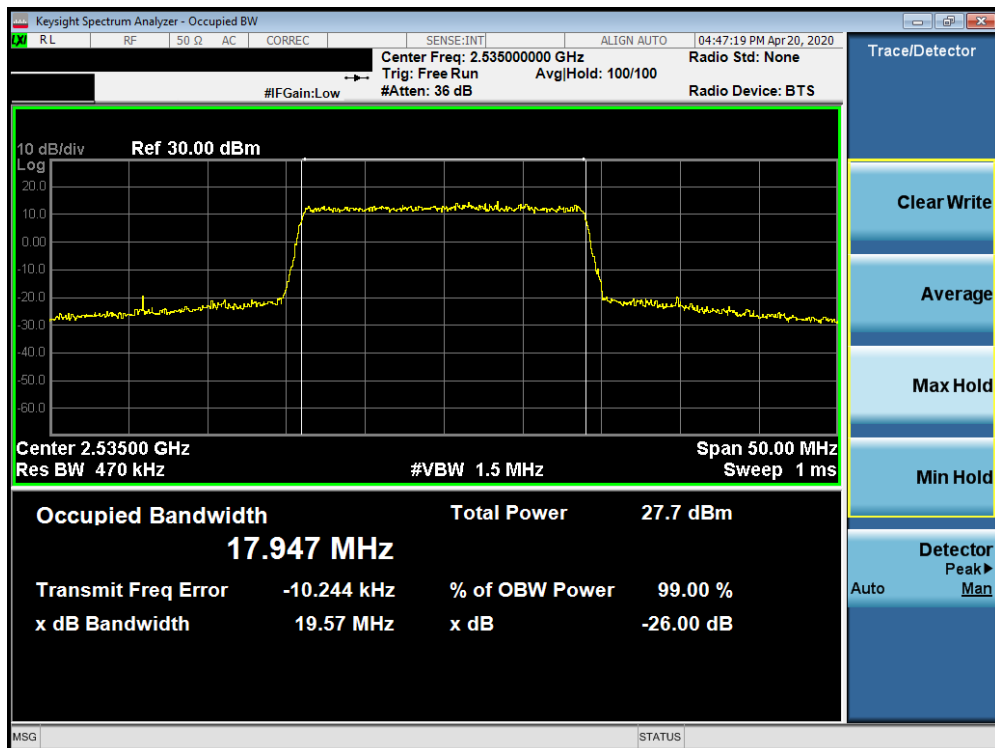


Plot 7-225. Occupied Bandwidth Plot (Band 7 - 20.0MHz 16-QAM - Full RB Configuration)

|                                            |                                                                                     |                                       |                                                                                       |                                 |
|--------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSMN986U                         |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020                                                     | EUT Type:<br>Portable Handset         |                                                                                       | Page 131 of 492                 |



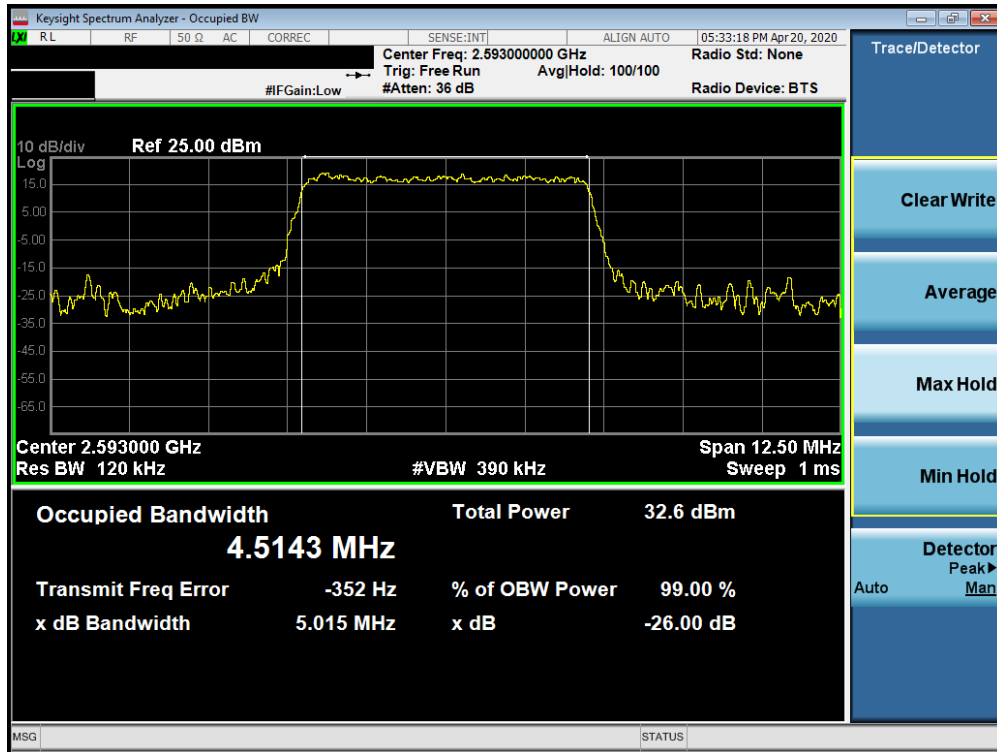
Plot 7-226. Occupied Bandwidth Plot (Band 7 - 20.0MHz 64-QAM - Full RB Configuration)



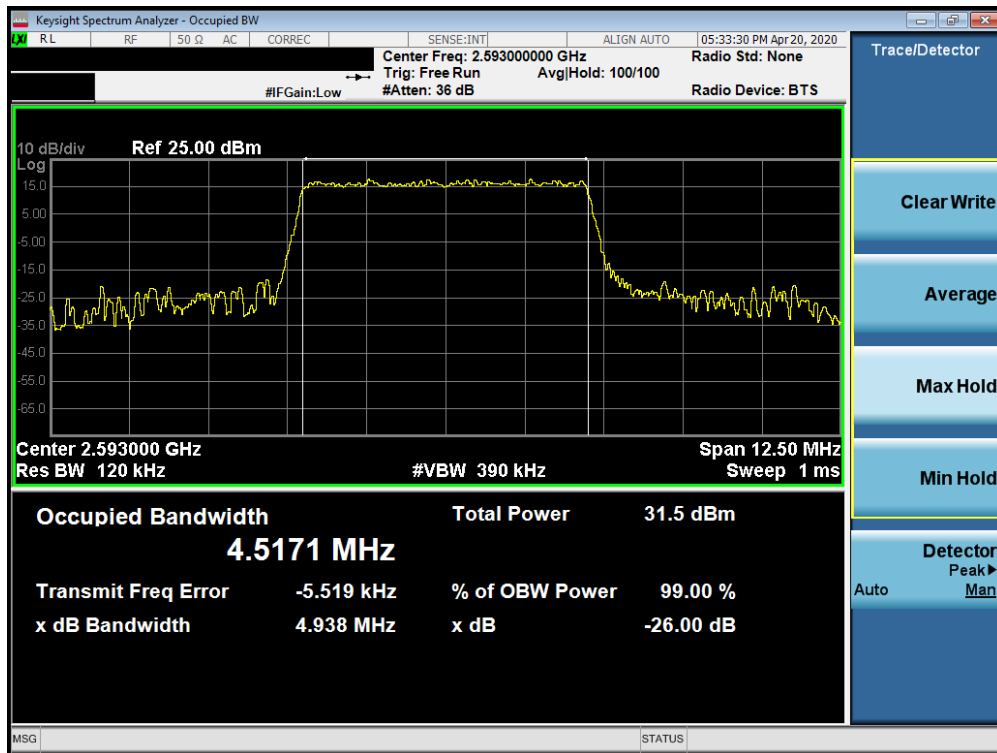
Plot 7-227. Occupied Bandwidth Plot (Band 7 - 20.0MHz 256-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 132 of 492                 |

## Band 41 (PC2)

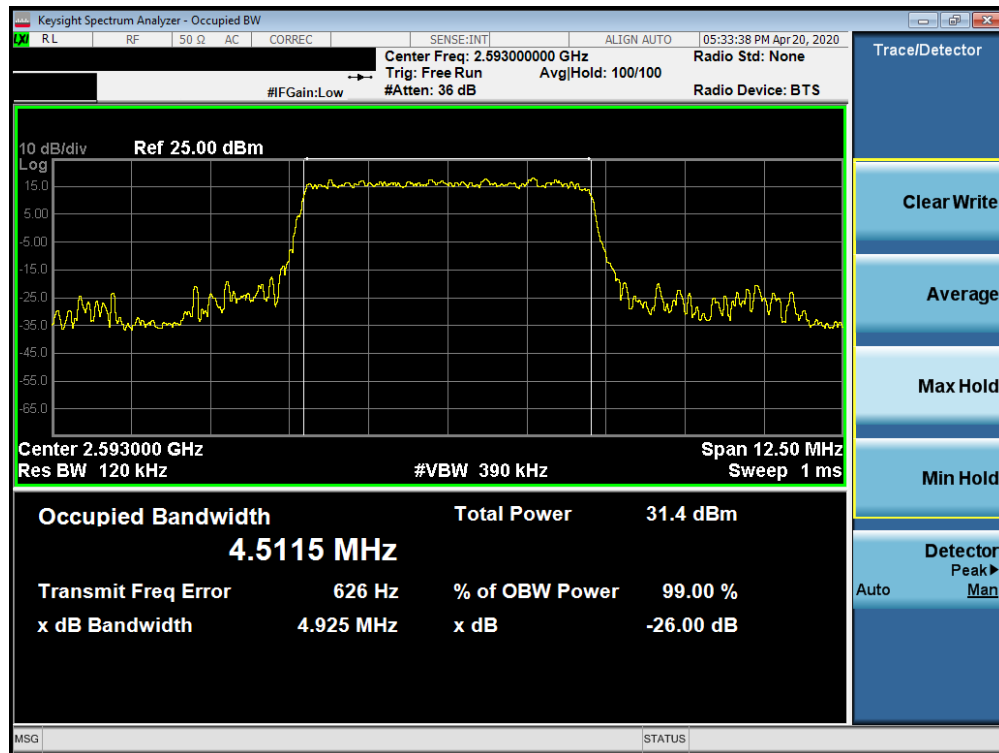


Plot 7-228. Occupied Bandwidth Plot (Band 41 (PC2) - 5.0MHz QPSK - Full RB Configuration)

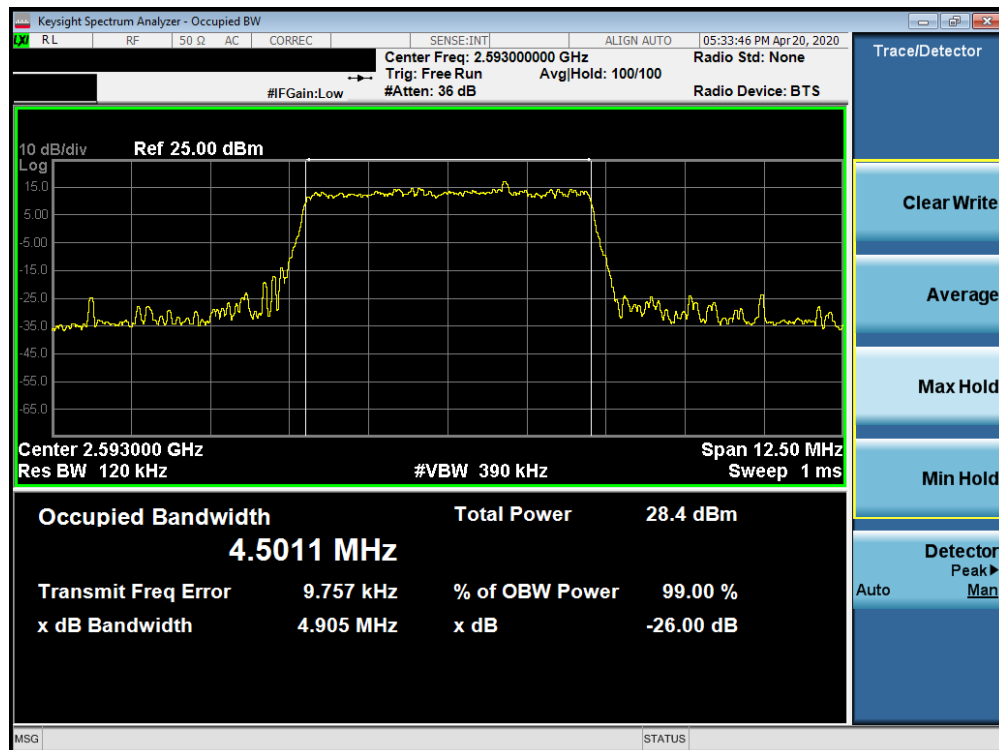


Plot 7-229. Occupied Bandwidth Plot (Band 41 (PC2) - 5.0MHz 16-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 133 of 492                 |

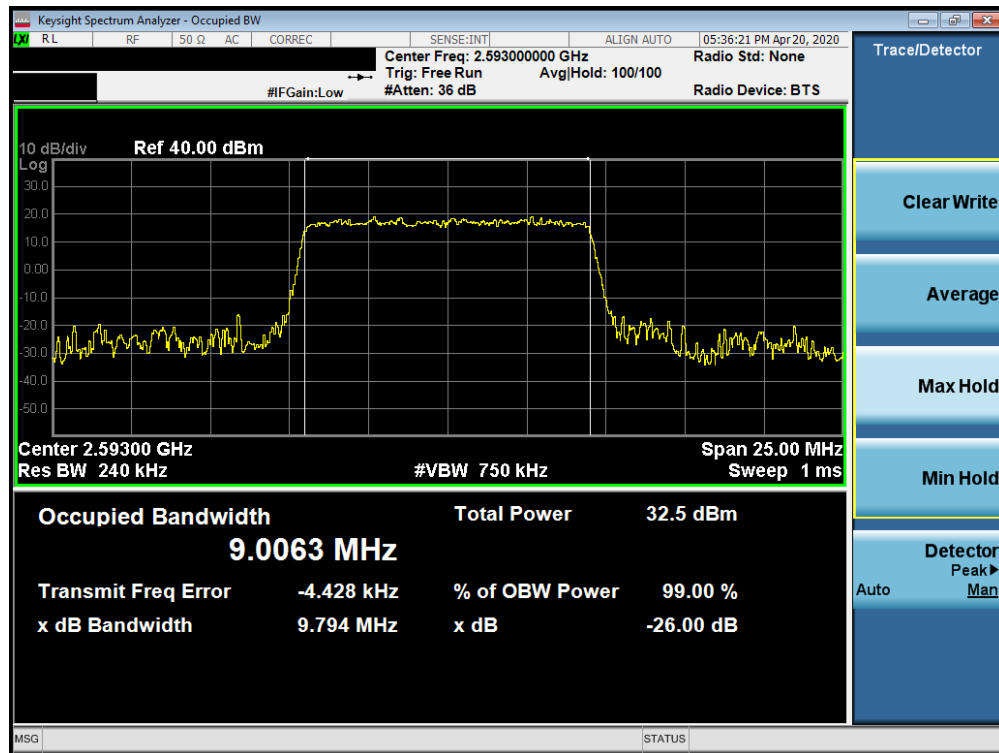


Plot 7-230. Occupied Bandwidth Plot (Band 41 (PC2) - 5.0MHz 64-QAM - Full RB Configuration)

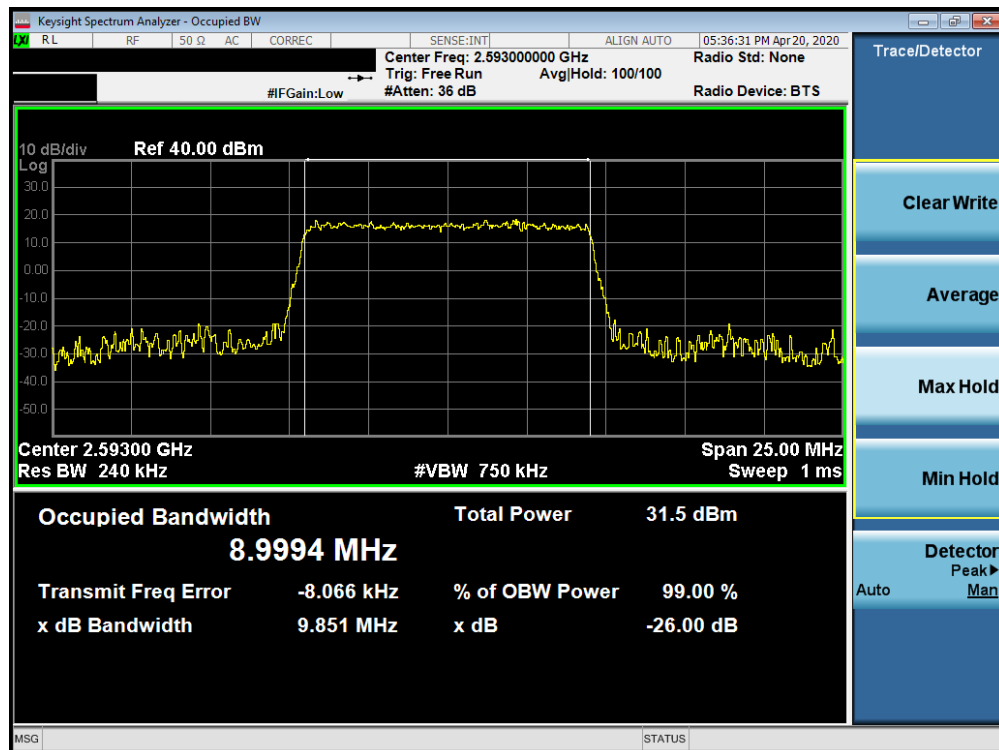


Plot 7-231. Occupied Bandwidth Plot (Band 41 (PC2) - 5.0MHz 256-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 134 of 492                 |

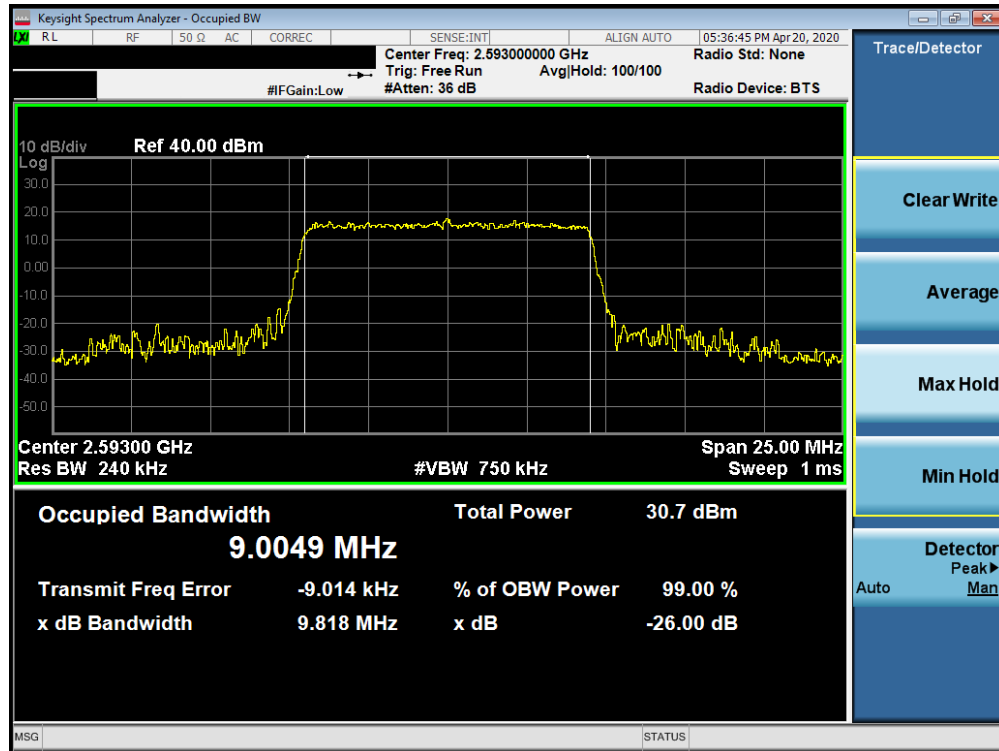


Plot 7-232. Occupied Bandwidth Plot (Band 41 (PC2) - 10.0MHz QPSK - Full RB Configuration)

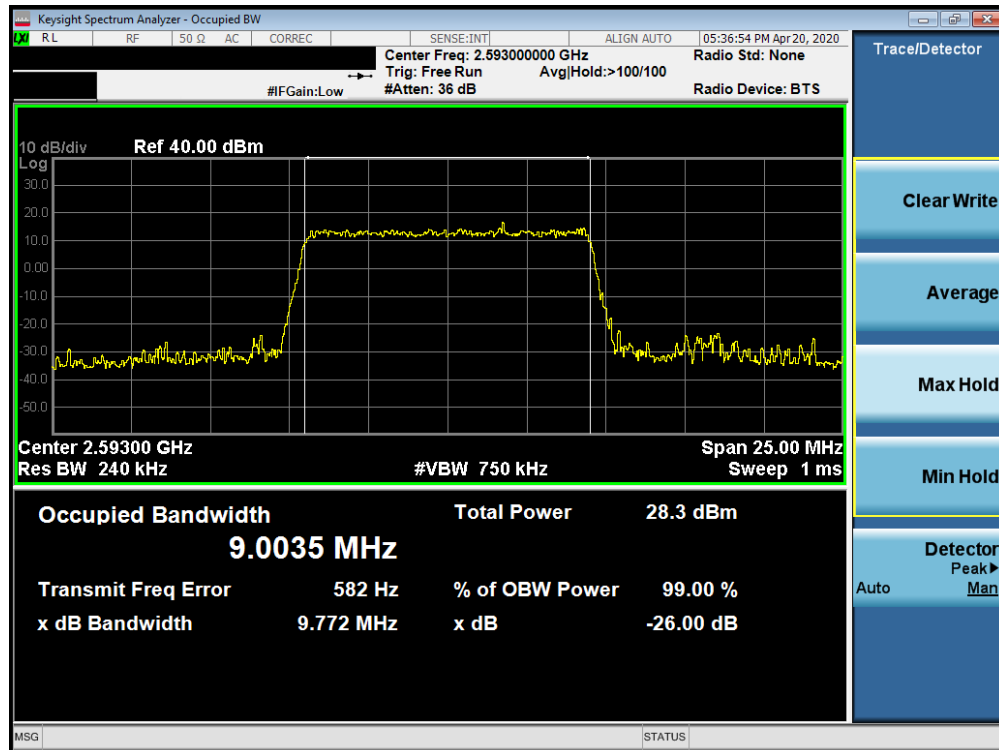


Plot 7-233. Occupied Bandwidth Plot (Band 41 (PC2) - 10.0MHz 16-QAM - Full RB Configuration)

|                                            |                                               |                               |                                 |
|--------------------------------------------|-----------------------------------------------|-------------------------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b> |                               | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020               | EUT Type:<br>Portable Handset | Page 135 of 492                 |

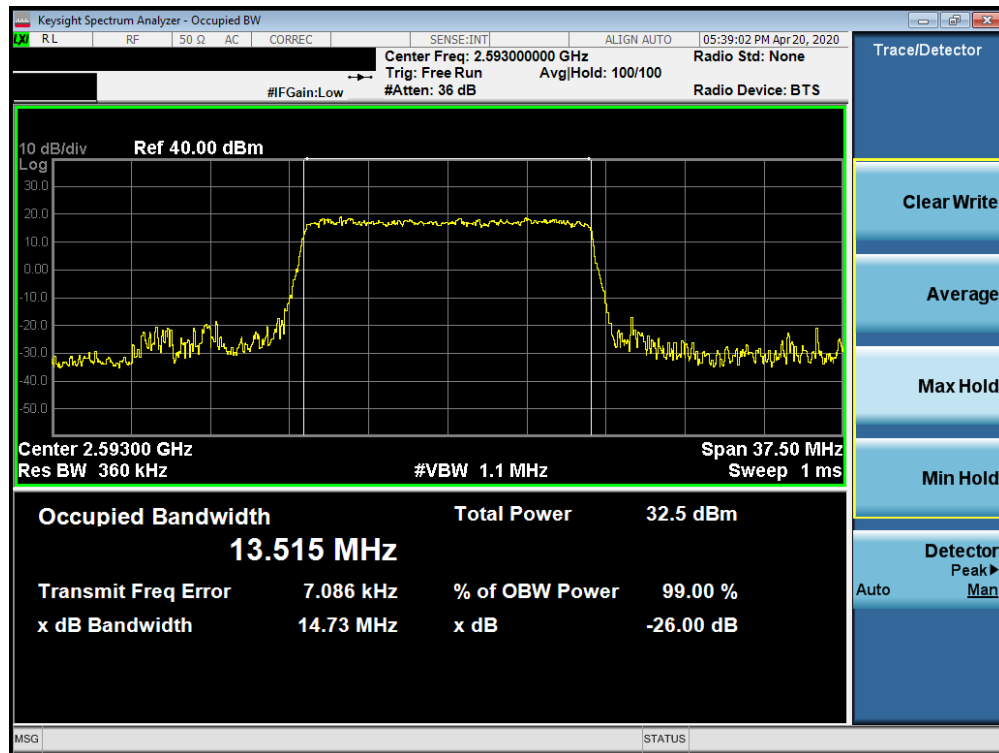


Plot 7-234. Occupied Bandwidth Plot (Band 41 (PC2) - 10.0MHz 64-QAM - Full RB Configuration)

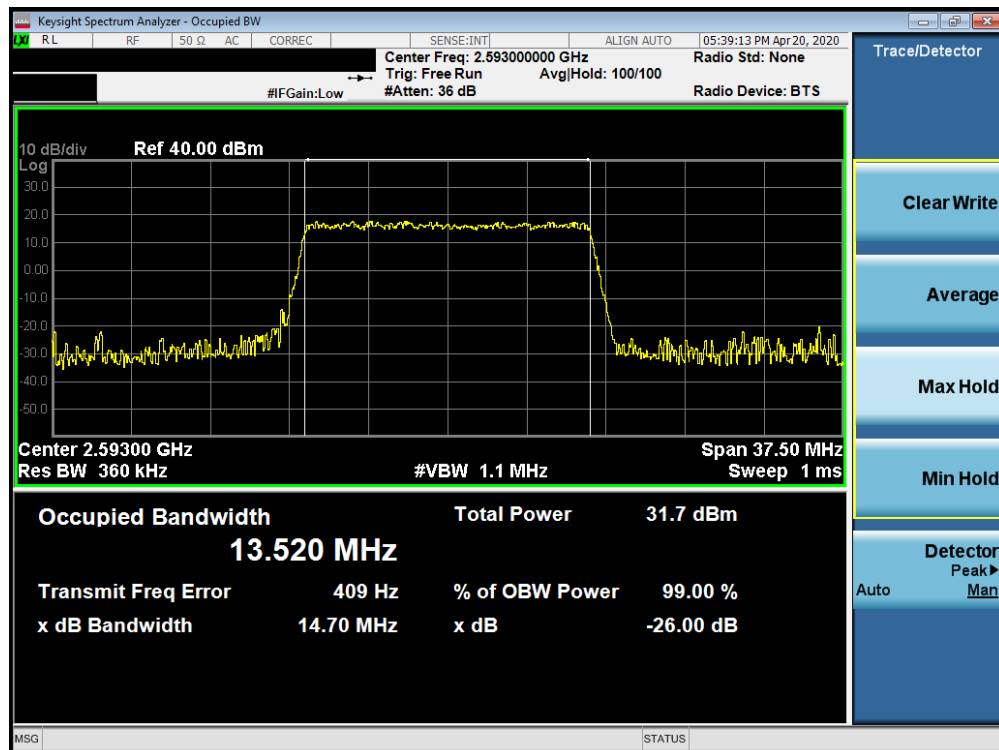


Plot 7-235. Occupied Bandwidth Plot (Band 41 (PC2) - 10.0MHz 256-QAM - Full RB Configuration)

|                                            |                                               |                               |  |                                 |
|--------------------------------------------|-----------------------------------------------|-------------------------------|--|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b> |                               |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020               | EUT Type:<br>Portable Handset |  | Page 136 of 492                 |

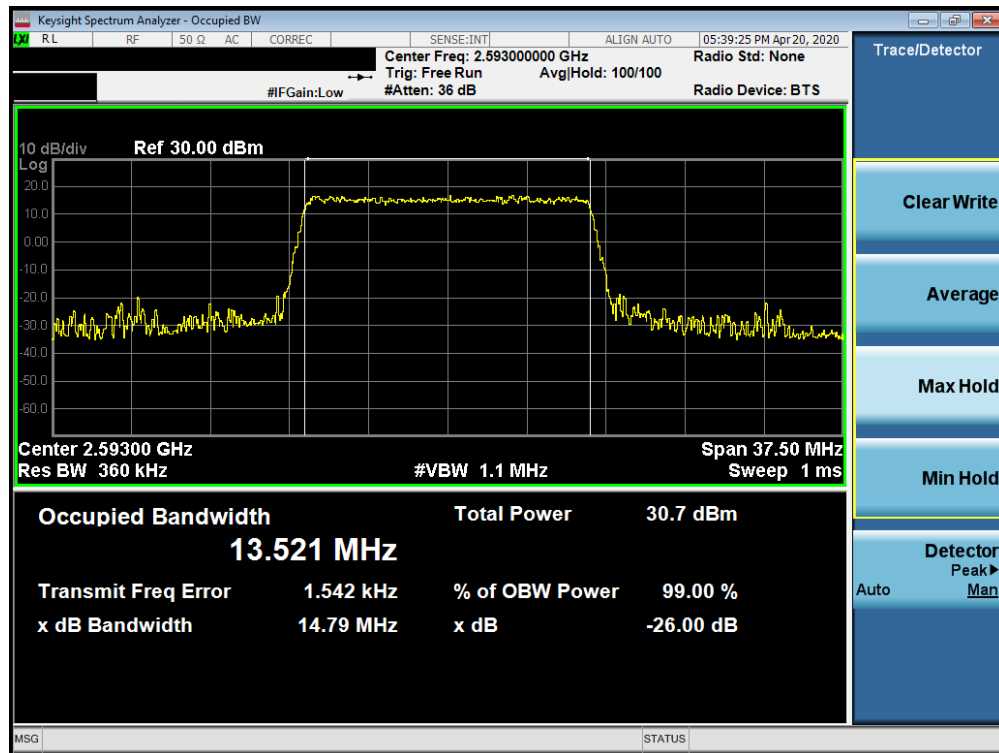


Plot 7-236. Occupied Bandwidth Plot (Band 41 (PC2) - 15.0MHz QPSK - Full RB Configuration)

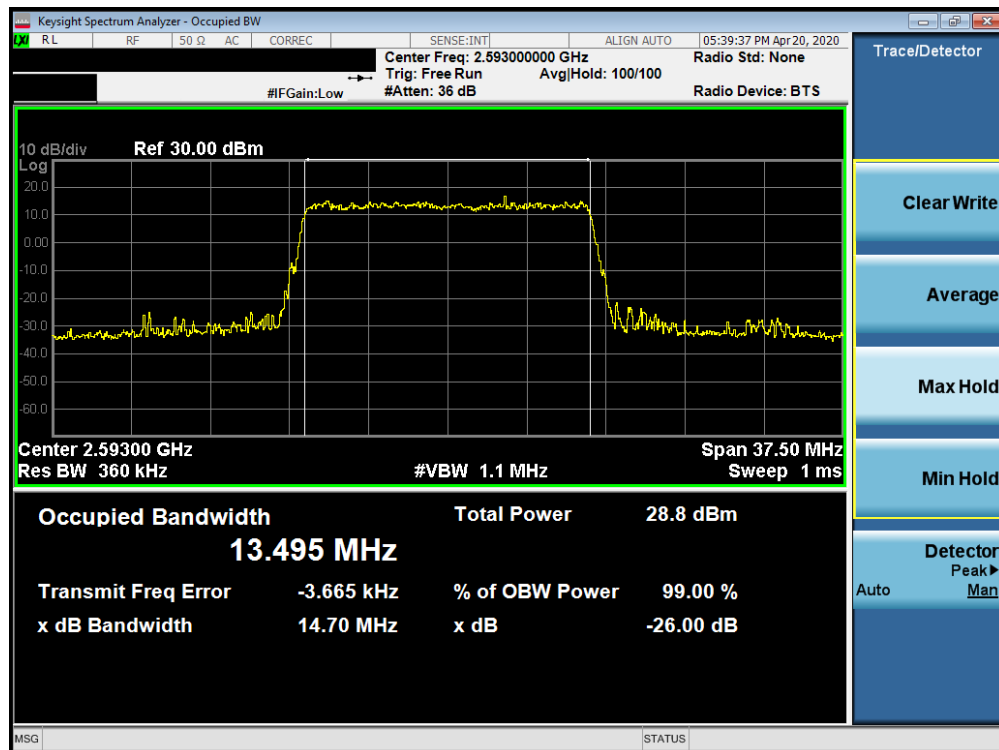


Plot 7-237. Occupied Bandwidth Plot (Band 41 (PC2) - 15.0MHz 16-QAM - Full RB Configuration)

|                                            |                                               |                               |                                 |
|--------------------------------------------|-----------------------------------------------|-------------------------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b> |                               | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020               | EUT Type:<br>Portable Handset | Page 137 of 492                 |

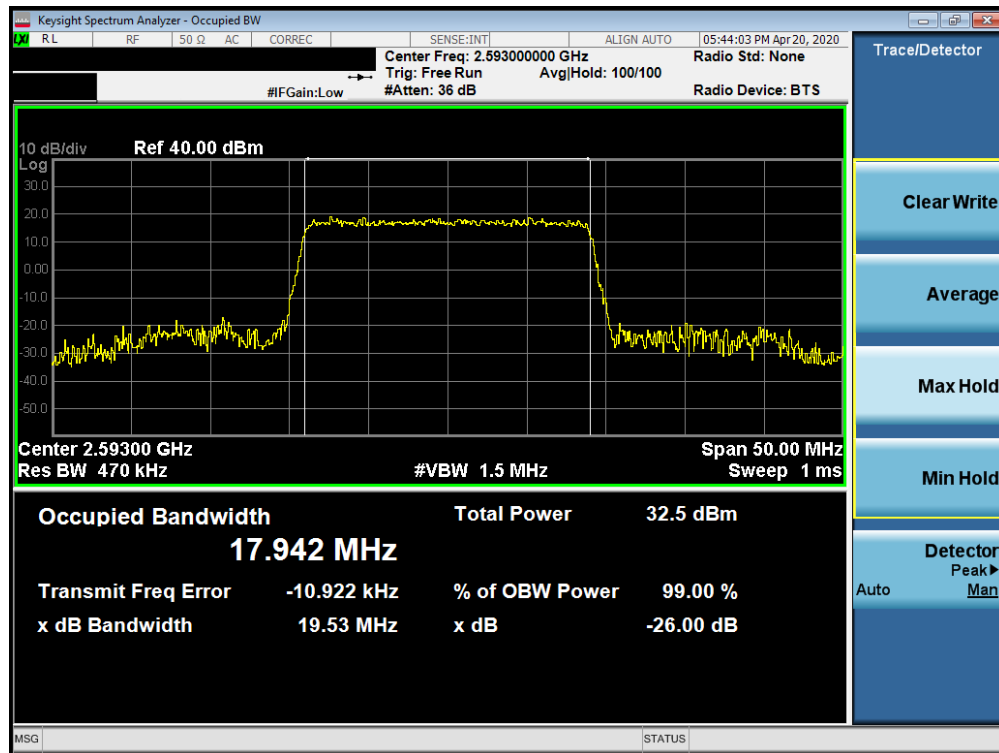


Plot 7-238. Occupied Bandwidth Plot (Band 41 (PC2) - 15.0MHz 64-QAM - Full RB Configuration)

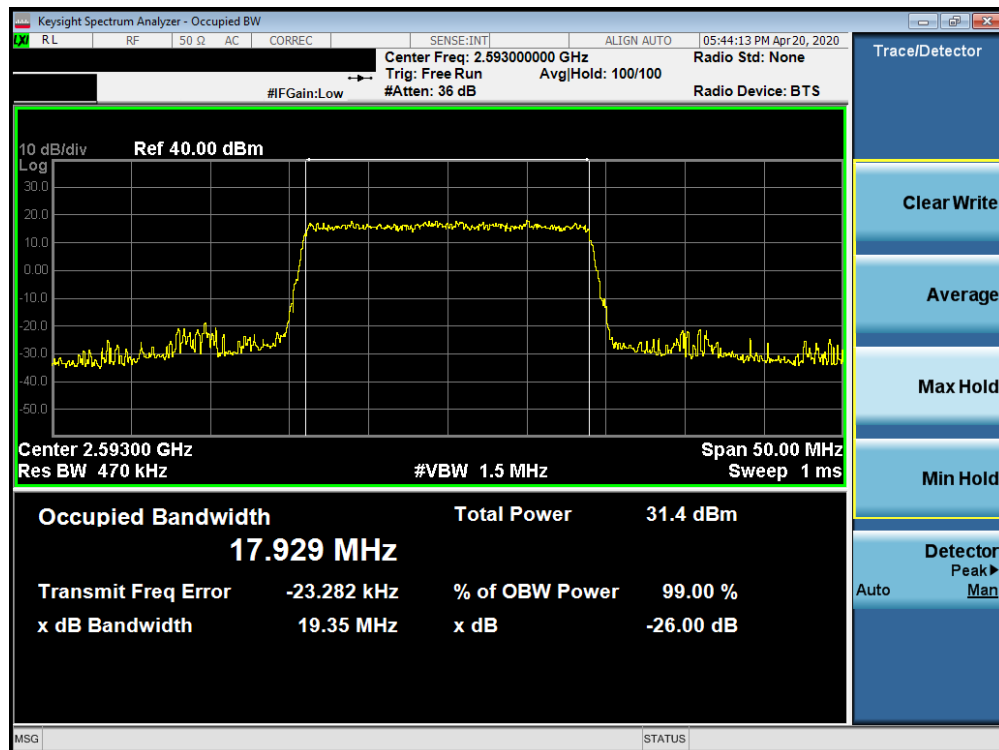


Plot 7-239. Occupied Bandwidth Plot (Band 41 (PC2) - 15.0MHz 256-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 138 of 492                 |

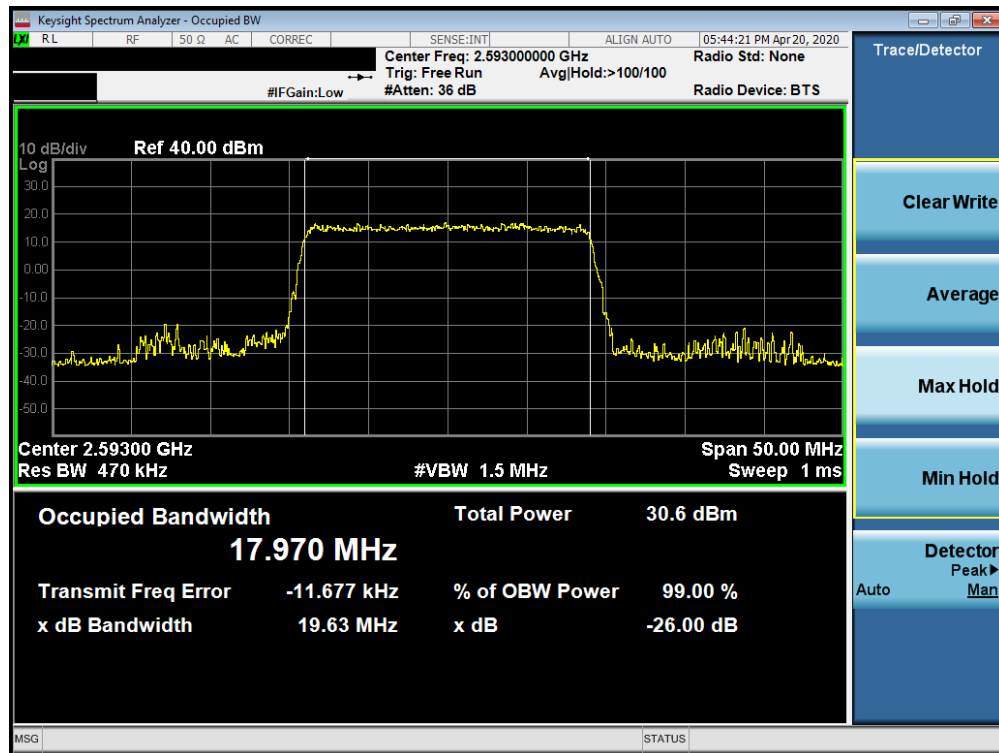


Plot 7-240. Occupied Bandwidth Plot (Band 41 (PC2) - 20.0MHz QPSK - Full RB Configuration)

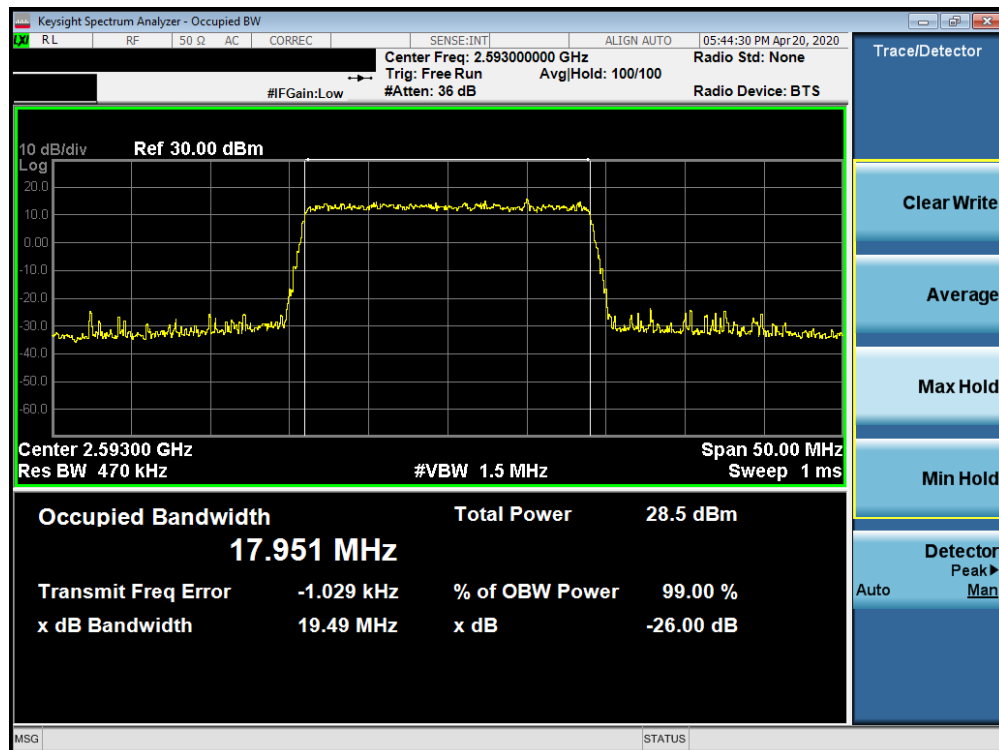


Plot 7-241. Occupied Bandwidth Plot (Band 41 (PC2) - 20.0MHz 16-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 139 of 492                 |



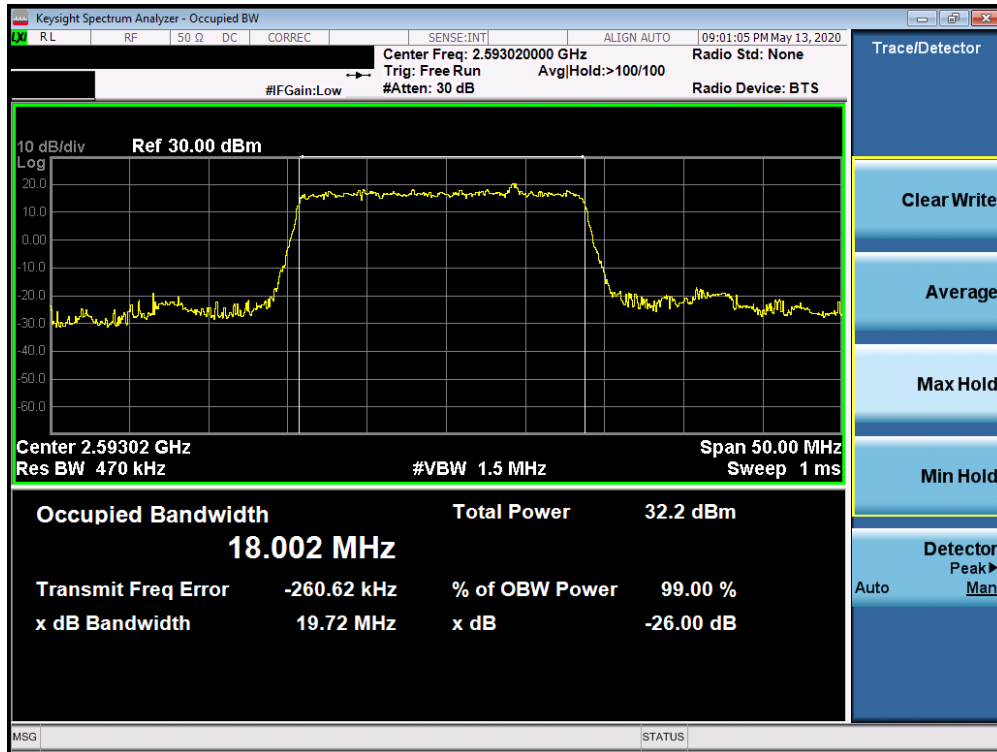
Plot 7-242. Occupied Bandwidth Plot (Band 41 (PC2) - 20.0MHz 64-QAM - Full RB Configuration)



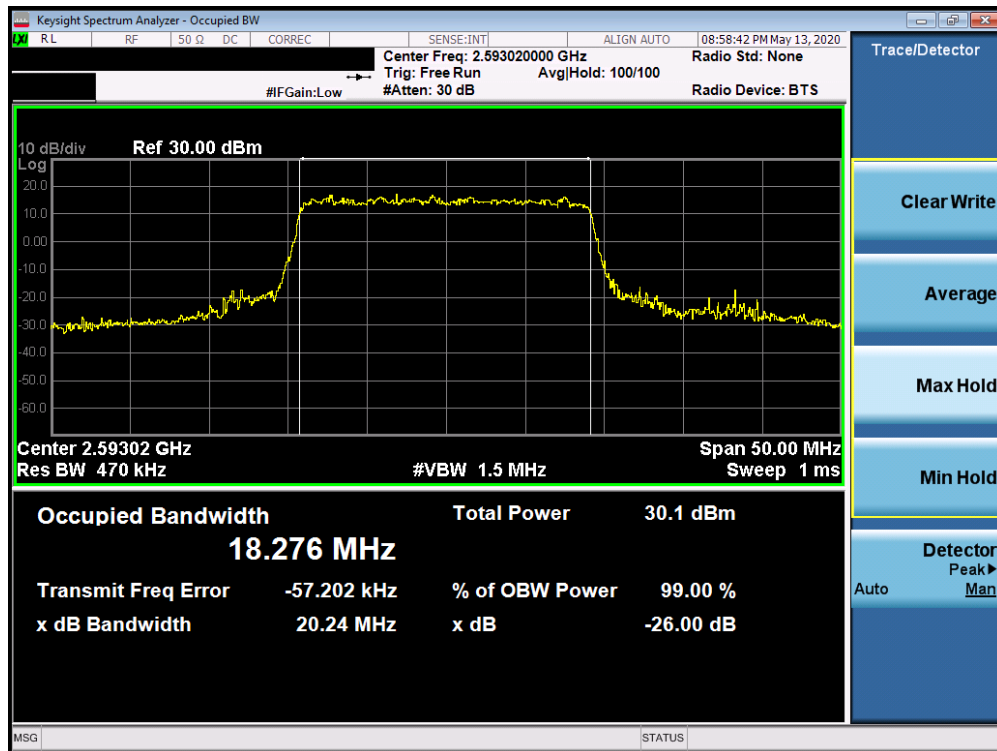
Plot 7-243. Occupied Bandwidth Plot (Band 41 (PC2) - 20.0MHz 256-QAM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 140 of 492                 |

## NR Band n41

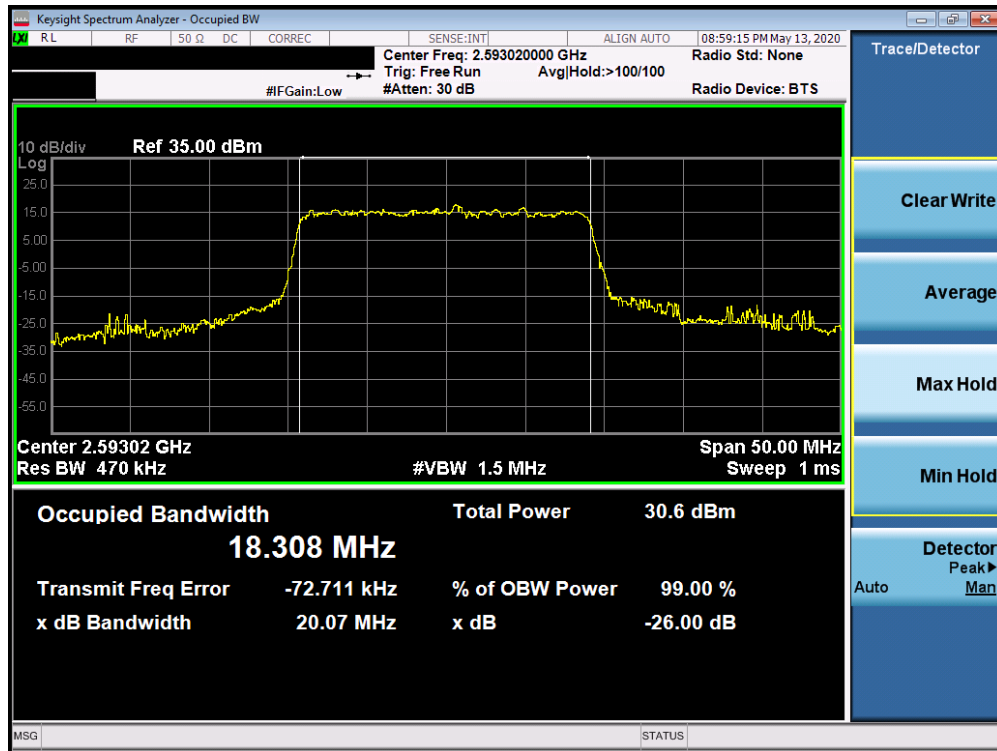


Plot 7-244. Occupied Bandwidth Plot (n41 20MHz BPSK-DFT-s-OFDM - Full RB Configuration)

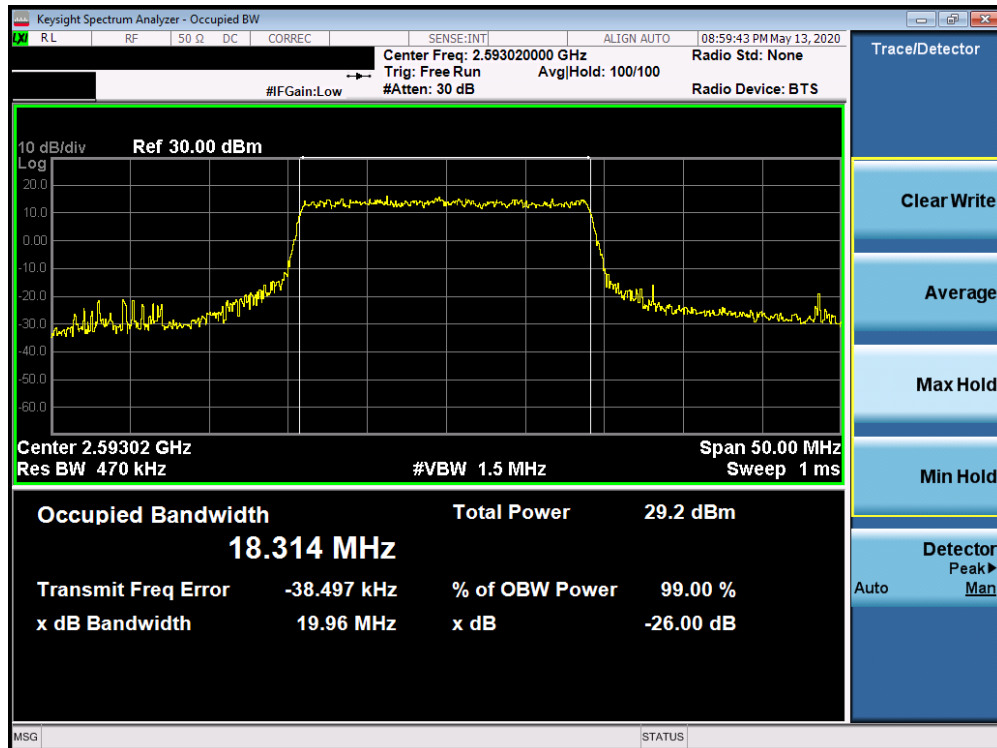


Plot 7-245. Occupied Bandwidth Plot (n41 20MHz QPSK-CP-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1-A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 141 of 492                 |

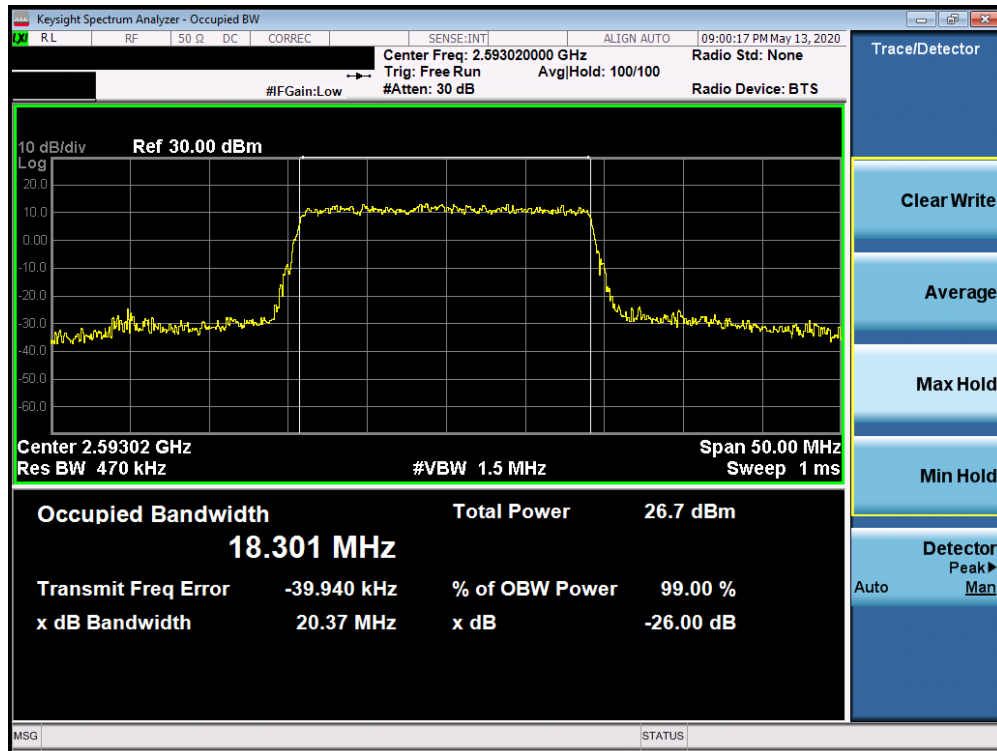


Plot 7-246. Occupied Bandwidth Plot (n41 20MHz 16QAM-CP-OFDM - Full RB Configuration)

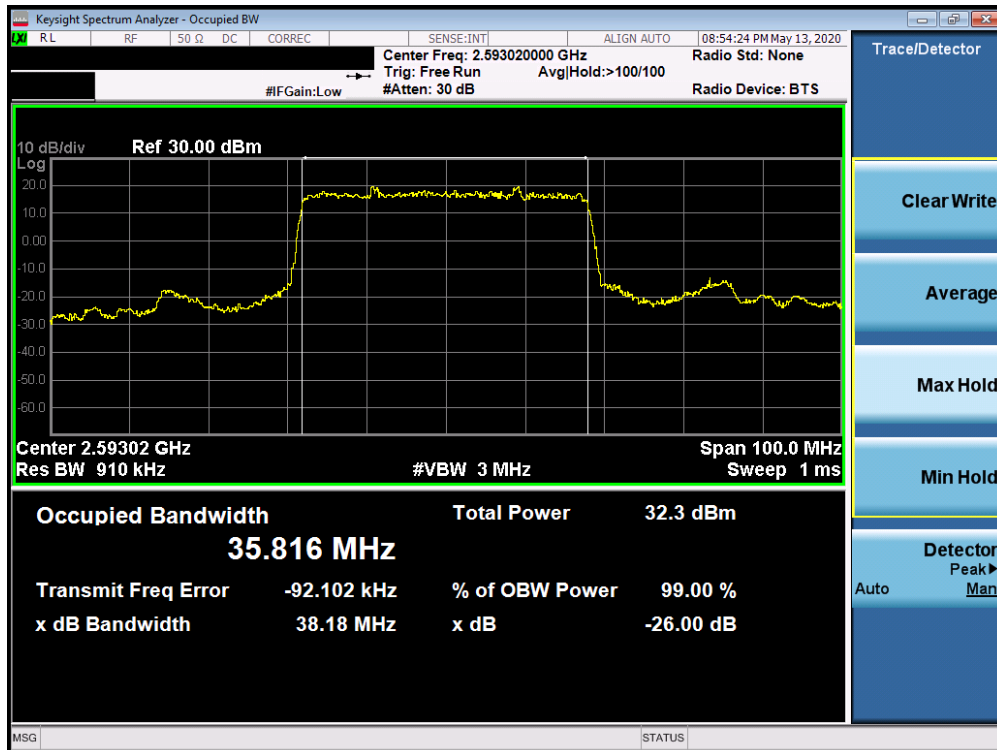


Plot 7-247. Occupied Bandwidth Plot (n41 20MHz 64QAM-CP-OFDM- Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 142 of 492                 |

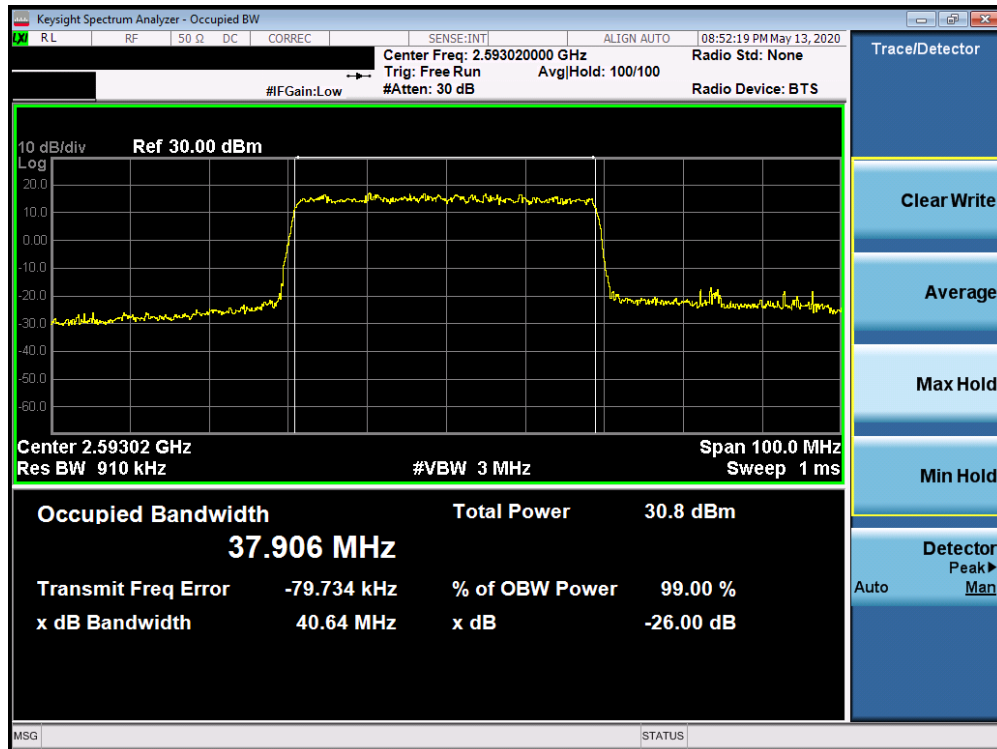


Plot 7-248. Occupied Bandwidth Plot (n41 20MHz 256QAM-CP-OFDM- Full RB Configuration)

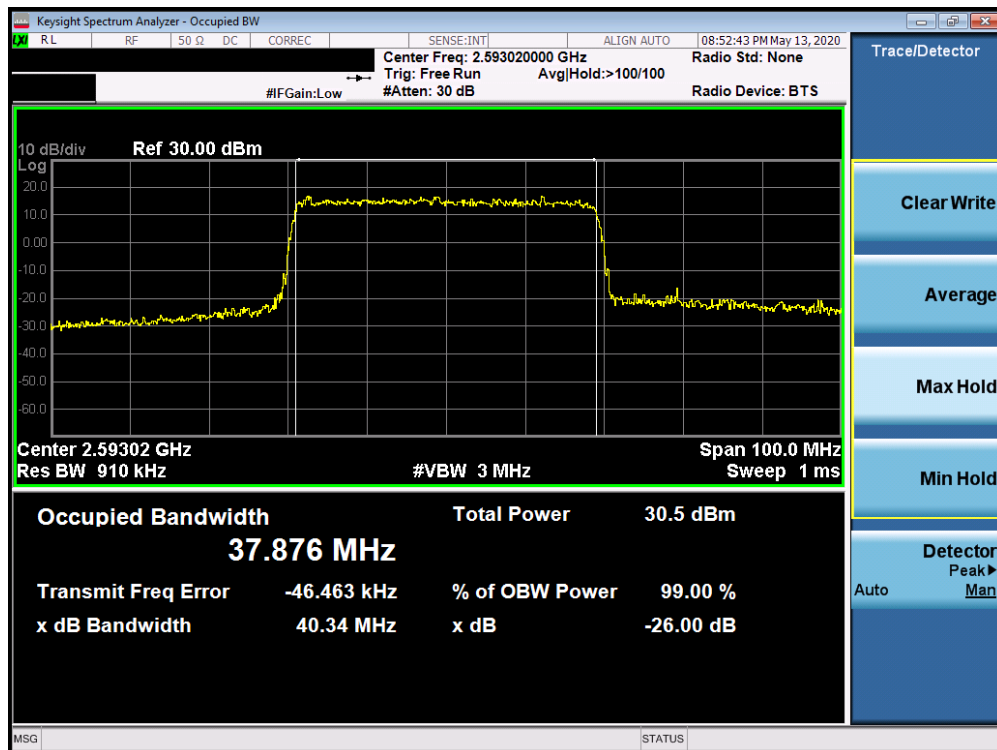


Plot 7-249. Occupied Bandwidth Plot (n41 40MHz BPSK-DFT-s-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 143 of 492                 |

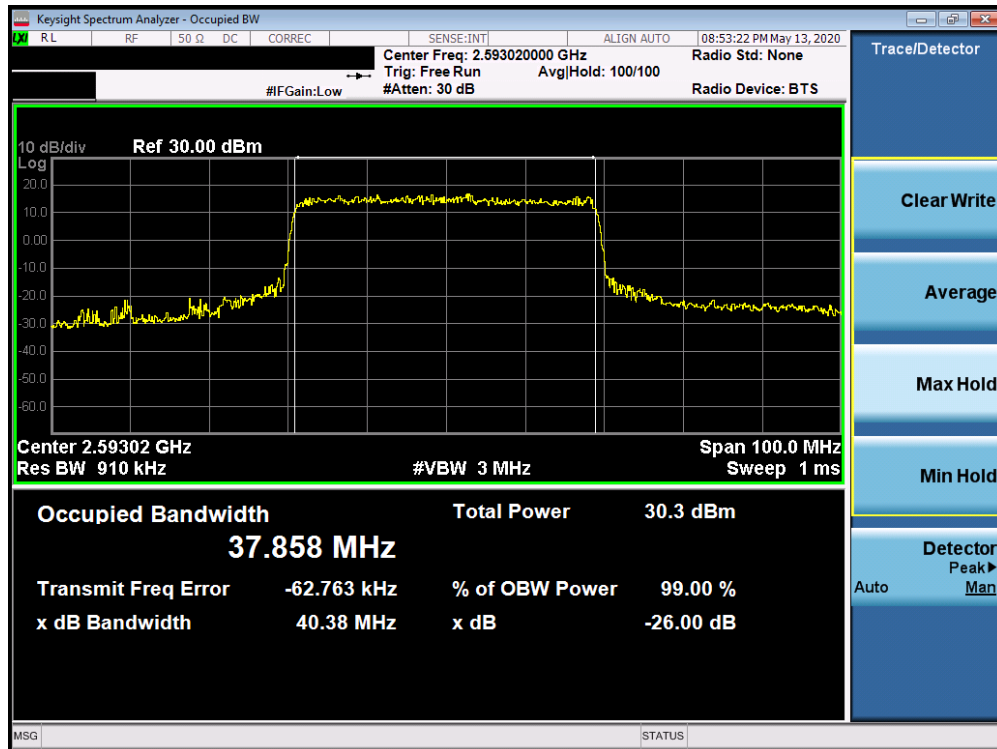


Plot 7-250. Occupied Bandwidth Plot (n41 40MHz QPSK-CP-OFDM - Full RB Configuration)



Plot 7-251. Occupied Bandwidth Plot (n41 40MHz 16QAM-CP-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 144 of 492                 |

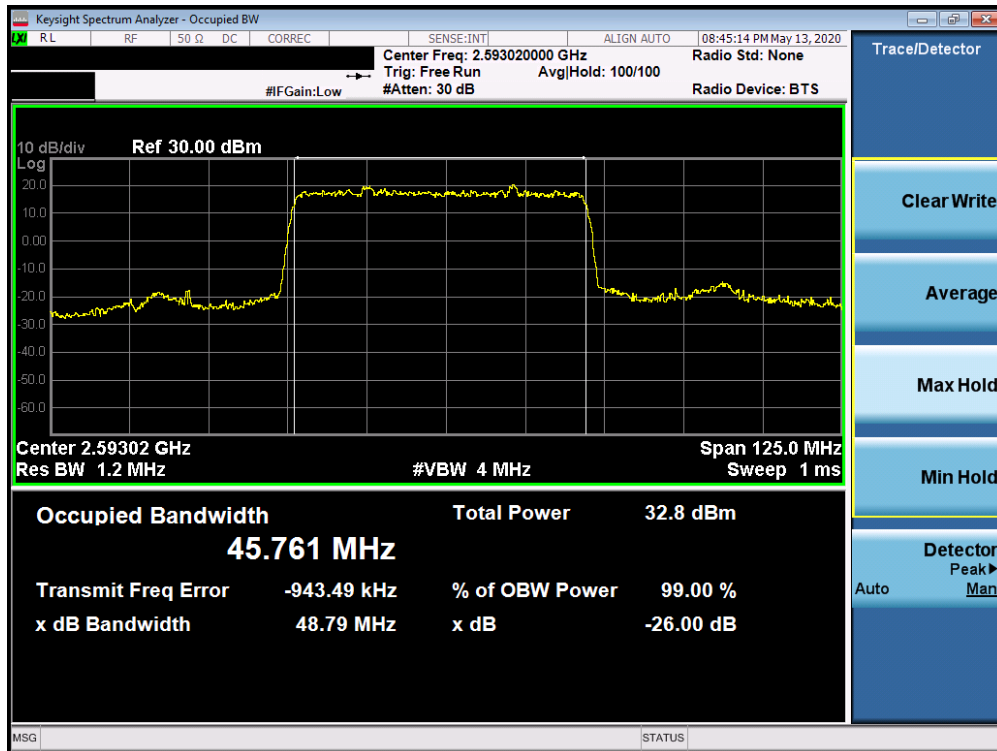


Plot 7-252. Occupied Bandwidth Plot (n41 40MHz 64QAM-CP-OFDM- Full RB Configuration)

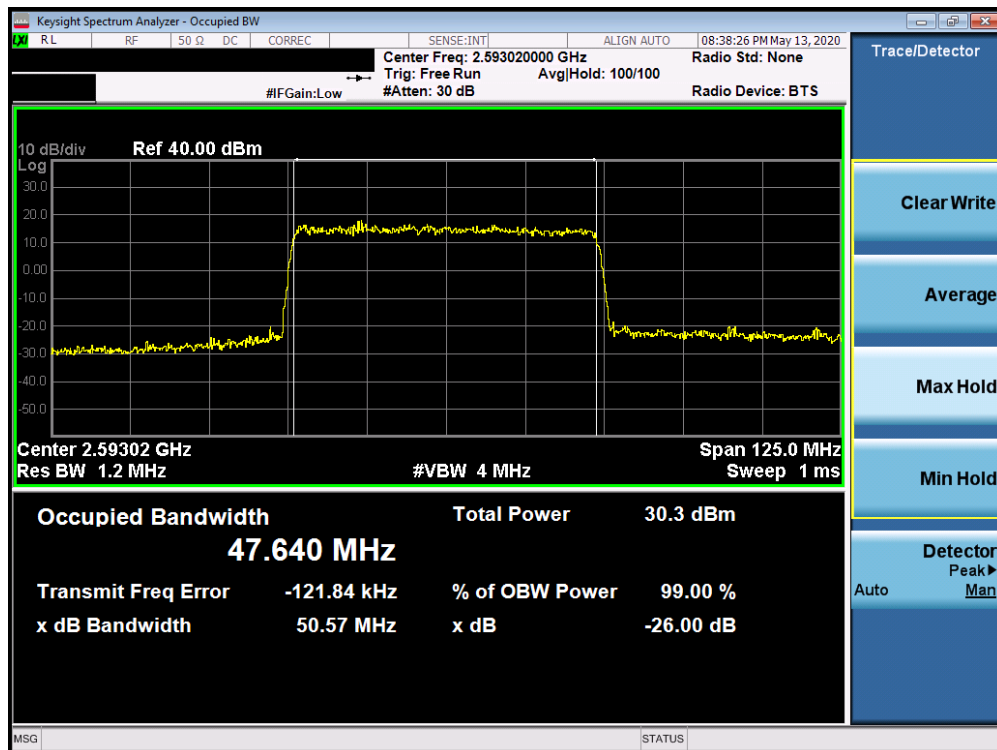


Plot 7-253. Occupied Bandwidth Plot (n41 40MHz 256QAM-CP-OFDM- Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 145 of 492                 |

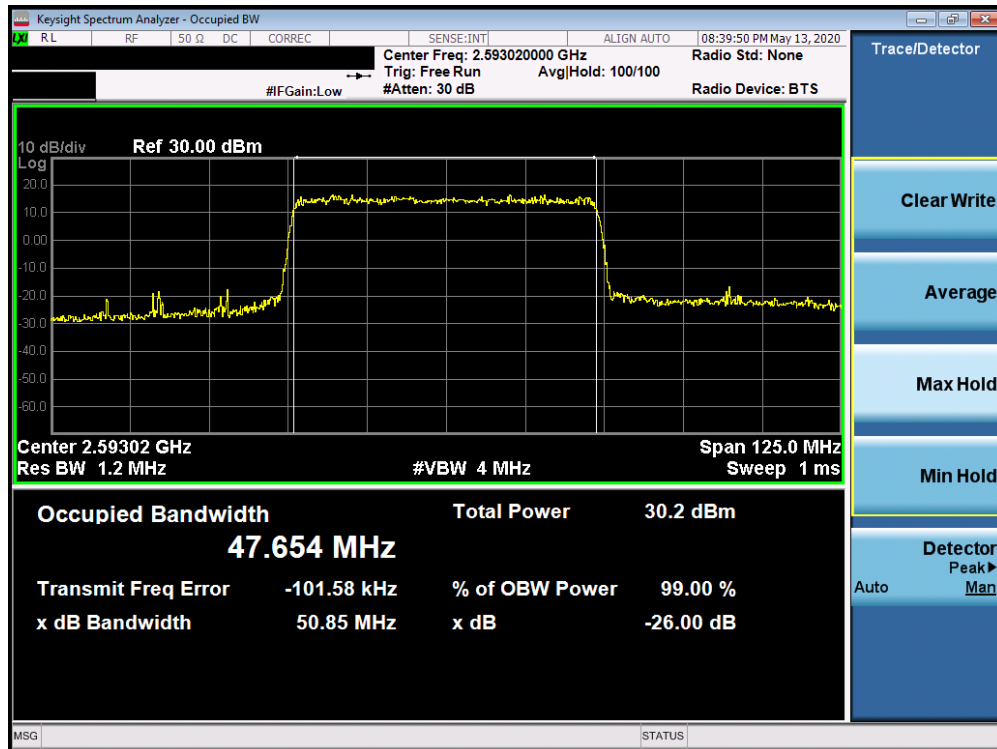


Plot 7-254. Occupied Bandwidth Plot (n41 50MHz BPSK-DFT-s-OFDM - Full RB Configuration)

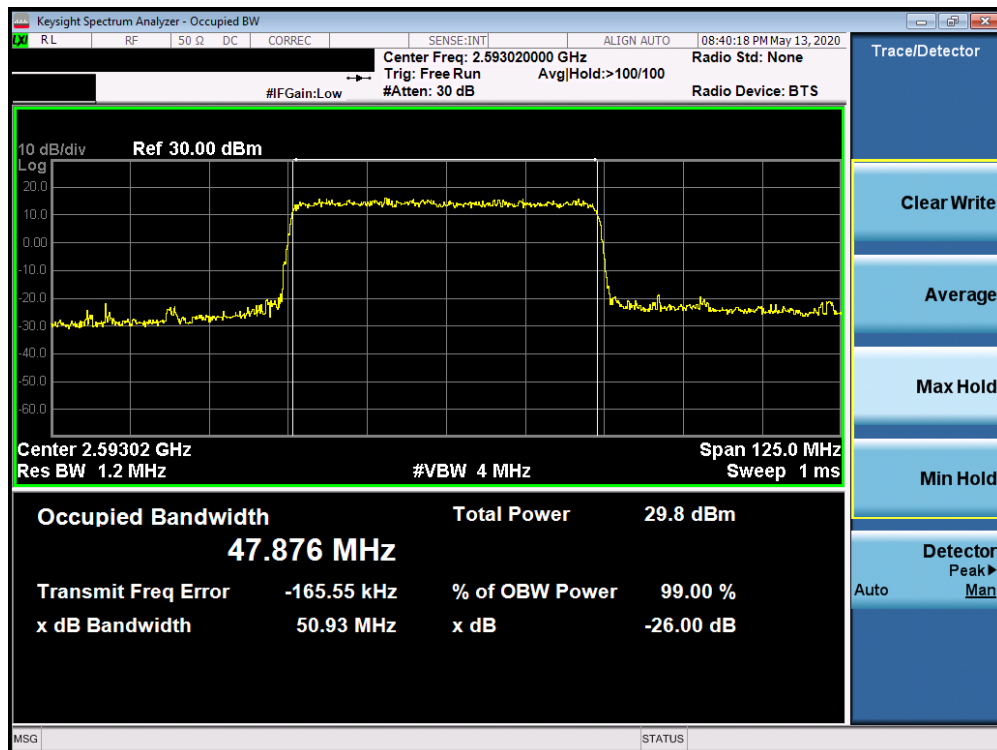


Plot 7-255. Occupied Bandwidth Plot (n41 50MHz QPSK-CP-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 146 of 492                 |

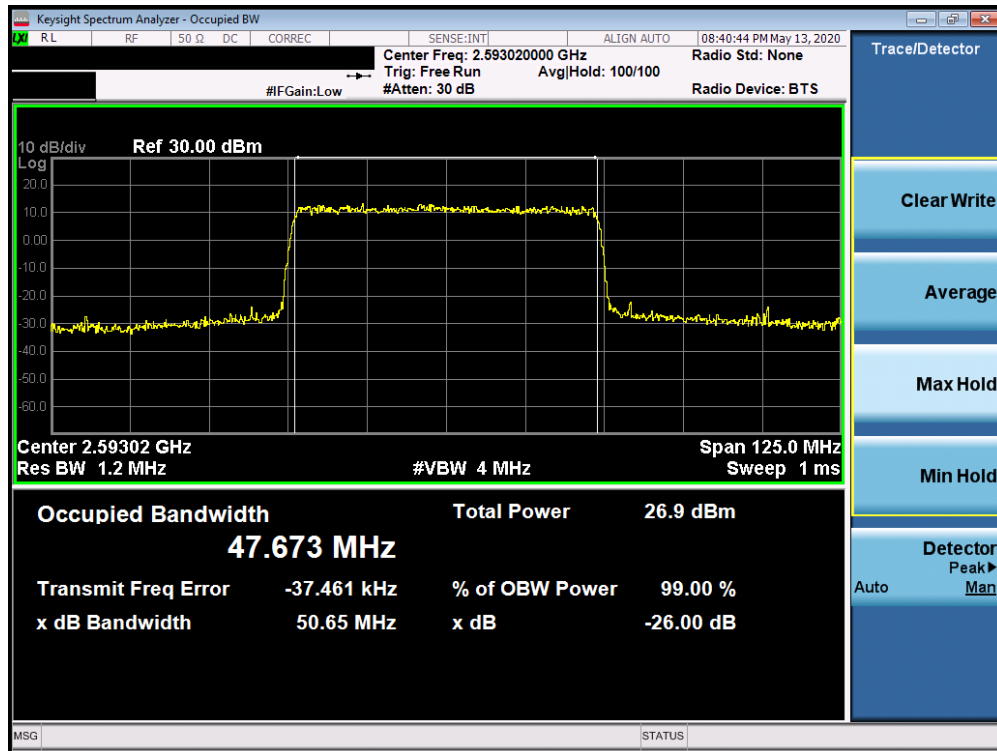


Plot 7-256. Occupied Bandwidth Plot (n41 50MHz 16QAM-CP-OFDM - Full RB Configuration)

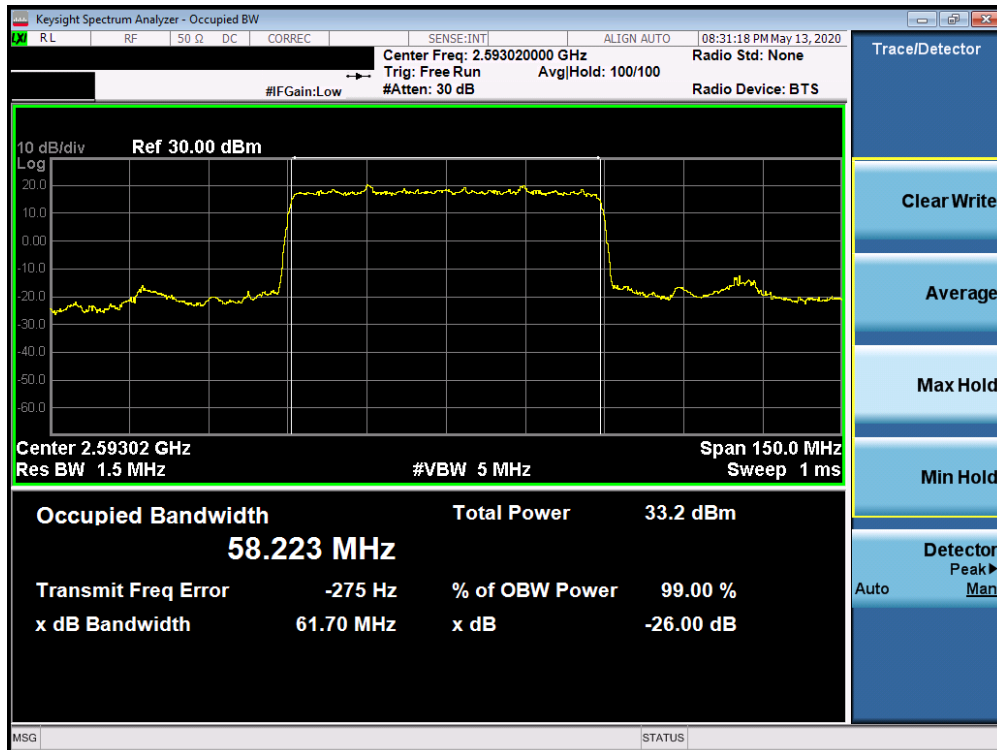


Plot 7-257. Occupied Bandwidth Plot (n41 50MHz 64QAM-CP-OFDM- Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 147 of 492                 |

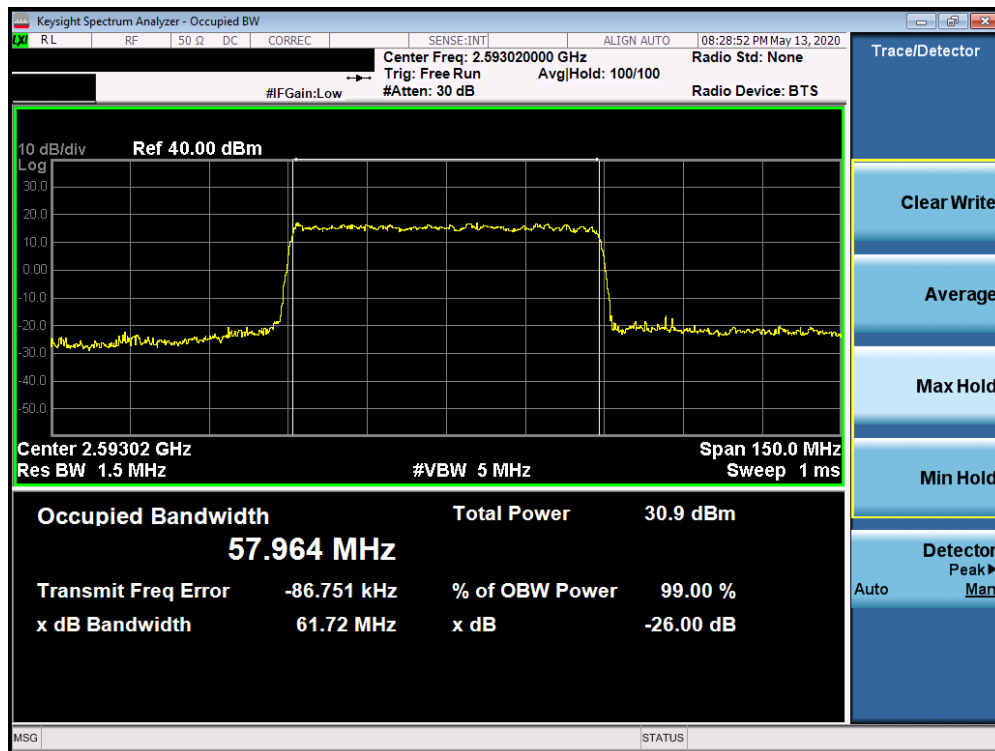


Plot 7-258. Occupied Bandwidth Plot (n41 50MHz 256QAM-CP-OFDM- Full RB Configuration)

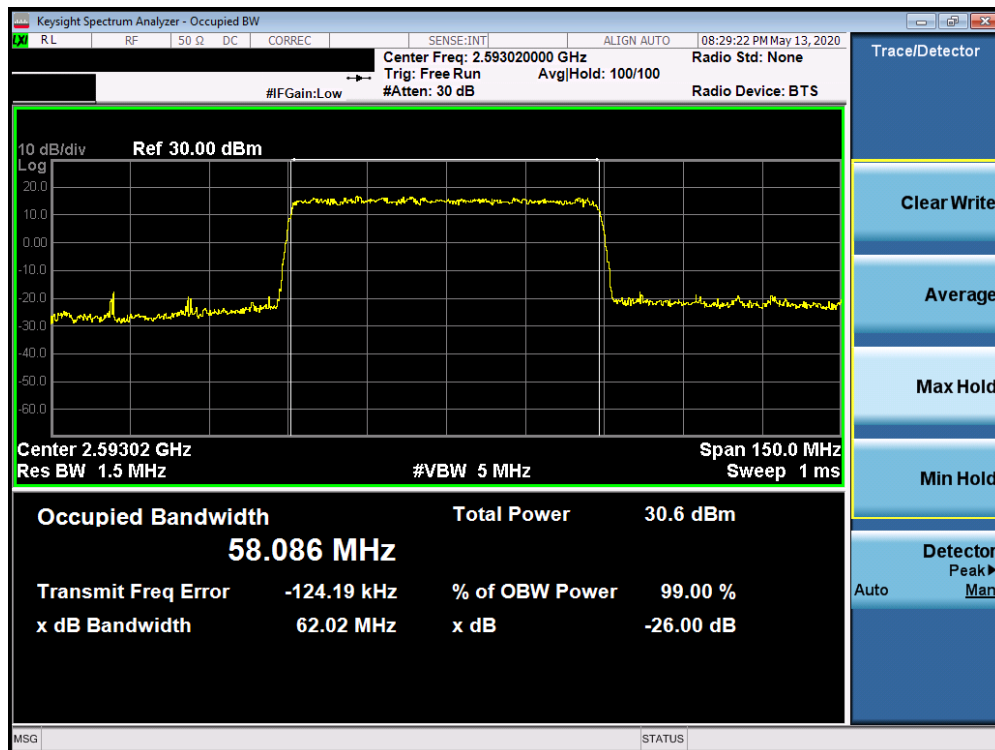


Plot 7-259. Occupied Bandwidth Plot (n41 60MHz BPSK-DFT-s-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 148 of 492                 |

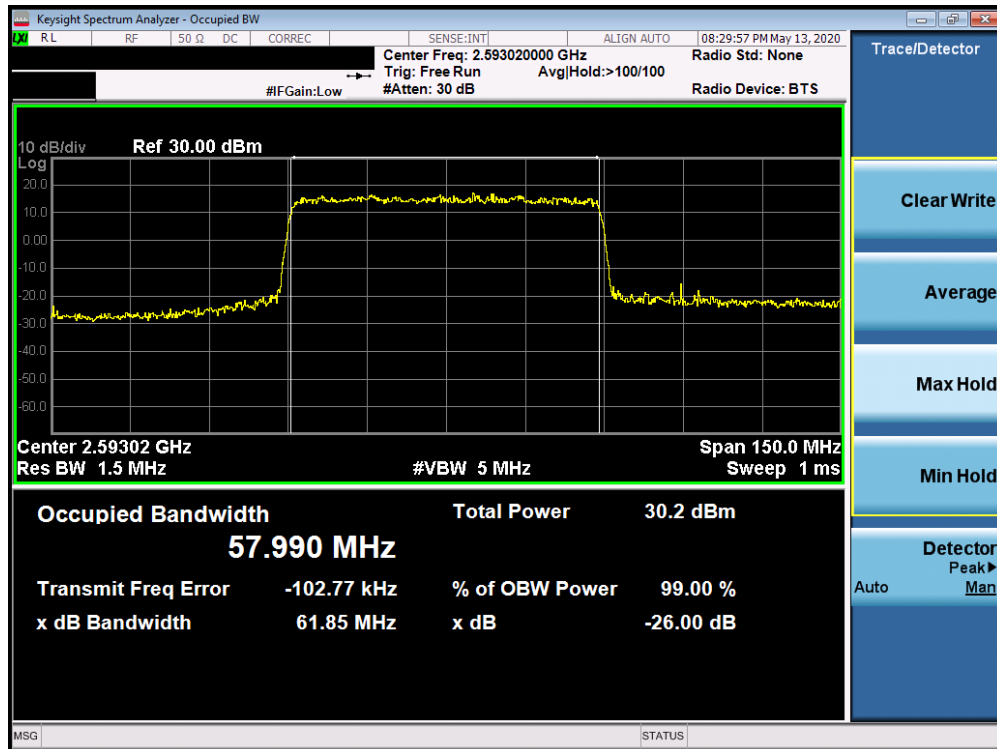


Plot 7-260. Occupied Bandwidth Plot (n41 60MHz QPSK-CP-OFDM - Full RB Configuration)

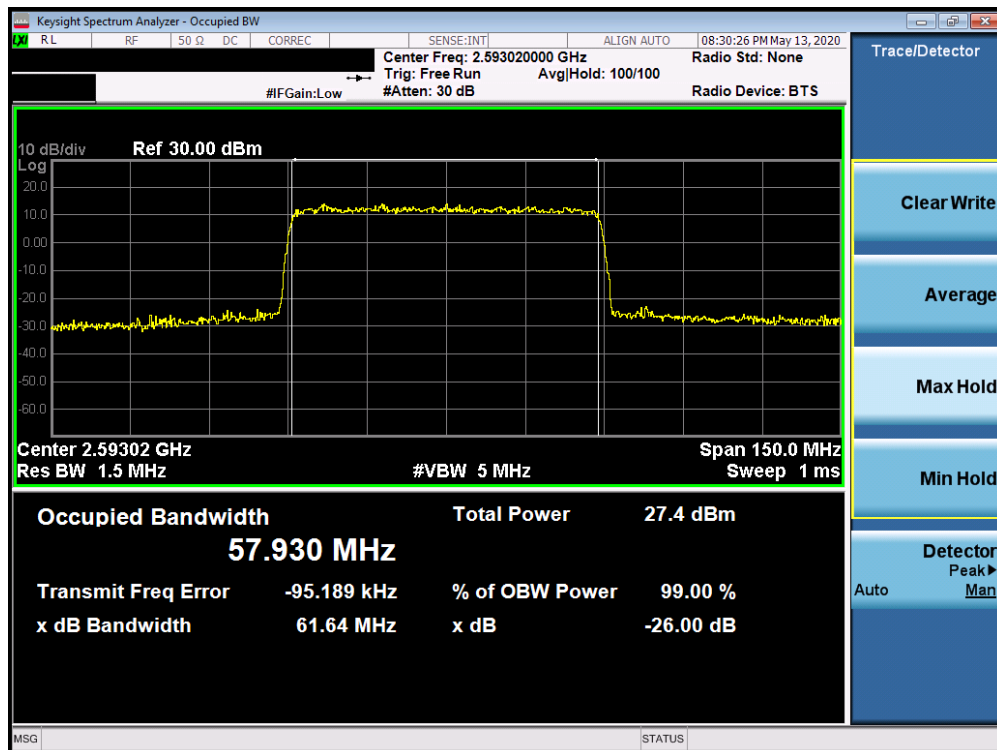


Plot 7-261. Occupied Bandwidth Plot (n41 60MHz 16QAM-CP-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 149 of 492                 |

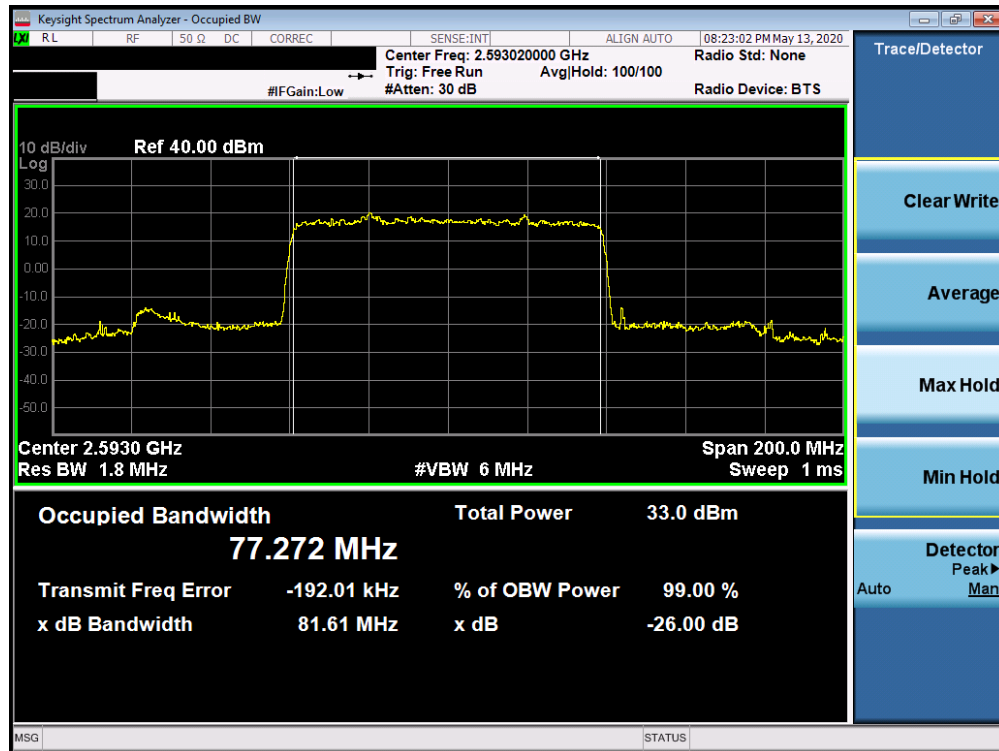


Plot 7-262. Occupied Bandwidth Plot (n41 60MHz 64QAM-CP-OFDM- Full RB Configuration)

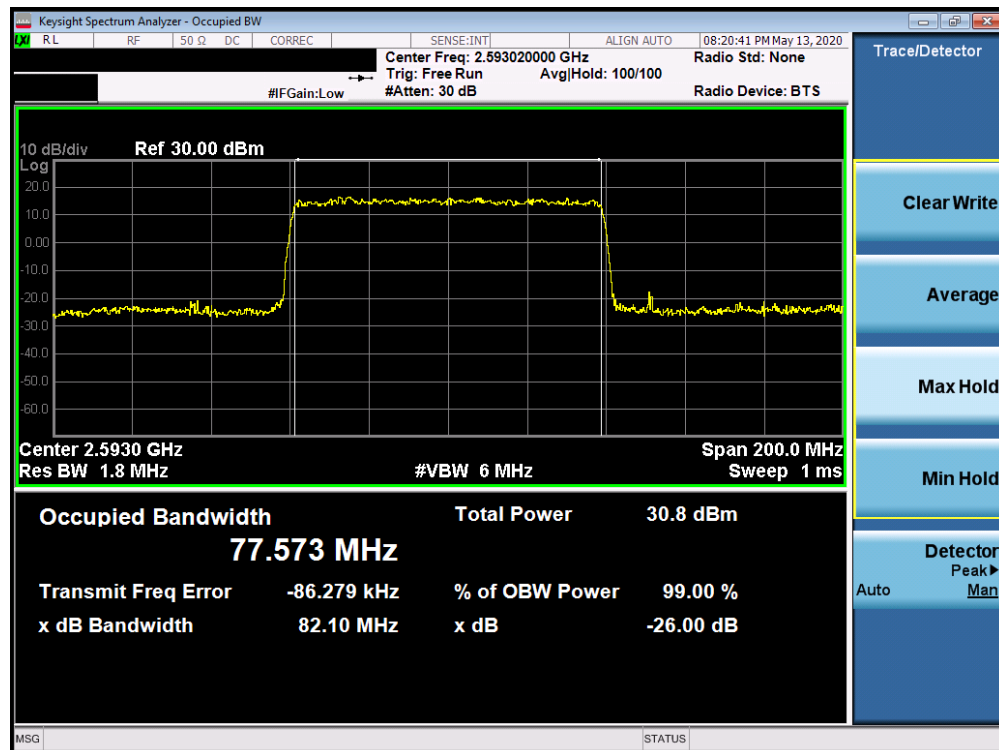


Plot 7-263. Occupied Bandwidth Plot (n41 60MHz 256QAM-CP-OFDM- Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 150 of 492                 |

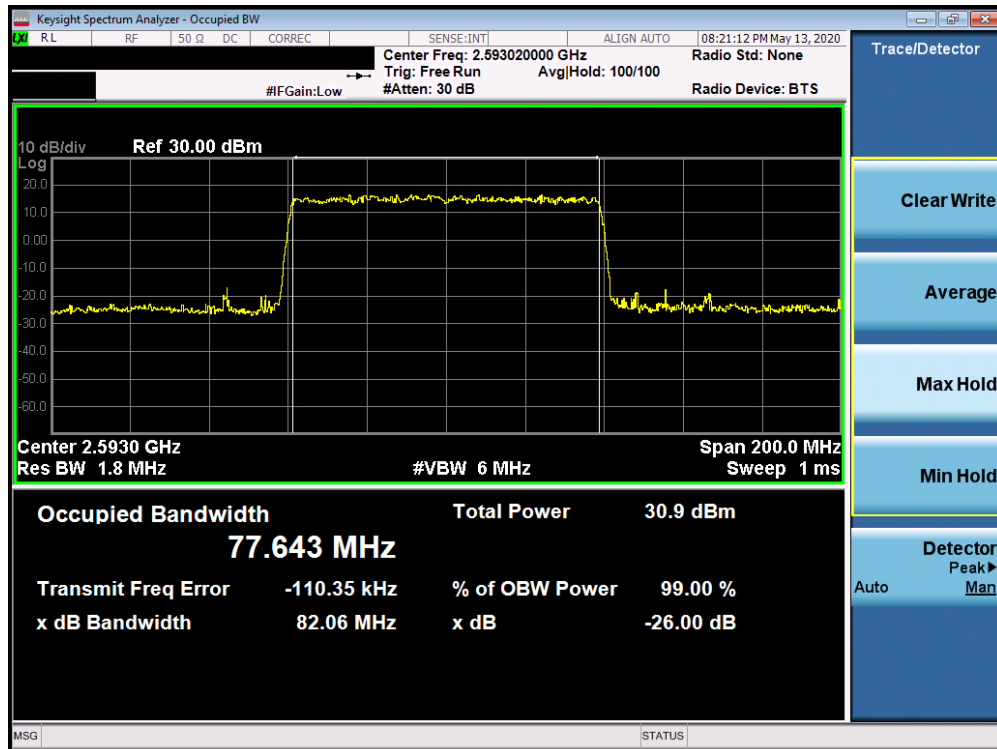


Plot 7-264. Occupied Bandwidth Plot (n41 80MHz BPSK-DFT-s-OFDM - Full RB Configuration)

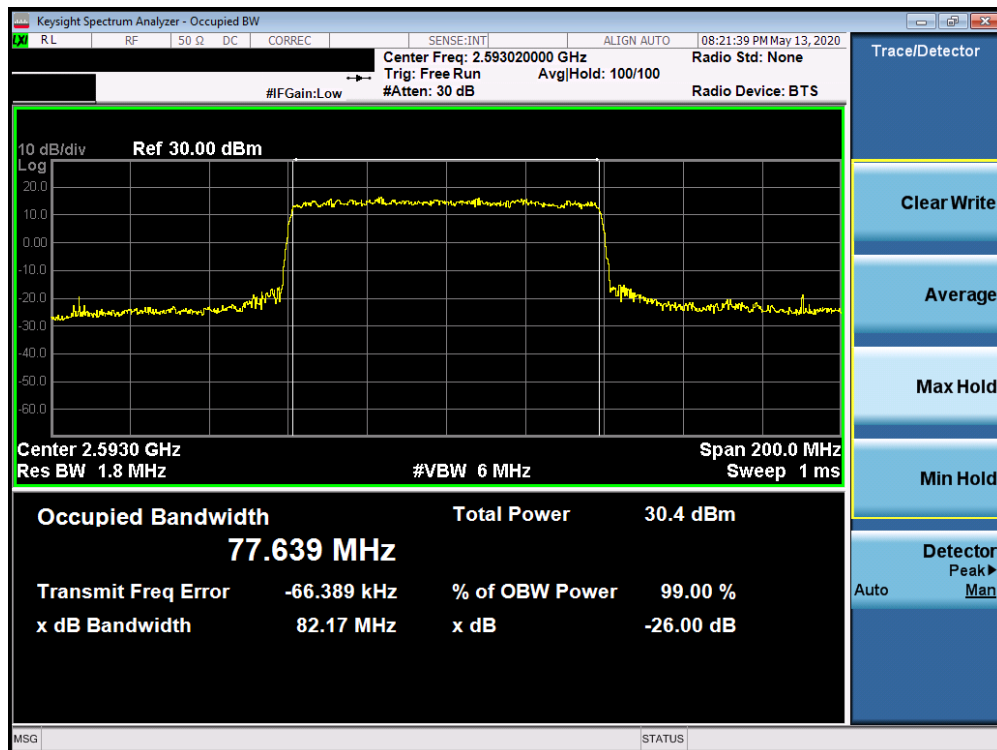


Plot 7-265. Occupied Bandwidth Plot (n41 80MHz QPSK-CP-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 151 of 492                 |

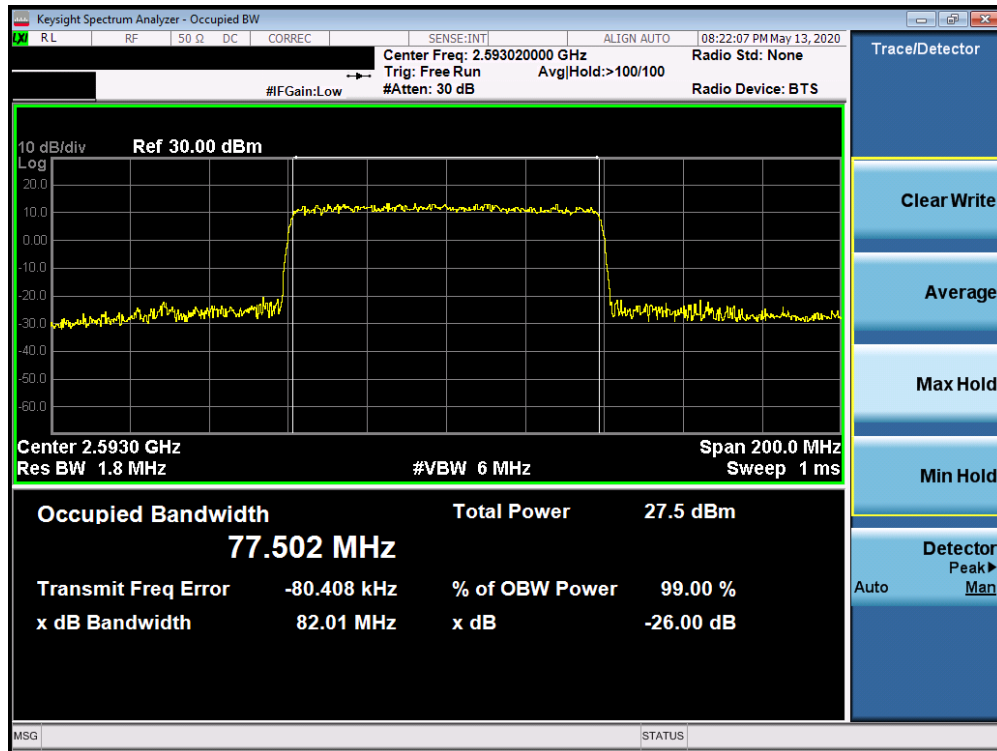


Plot 7-266. Occupied Bandwidth Plot (n41 80MHz 16QAM-CP-OFDM - Full RB Configuration)

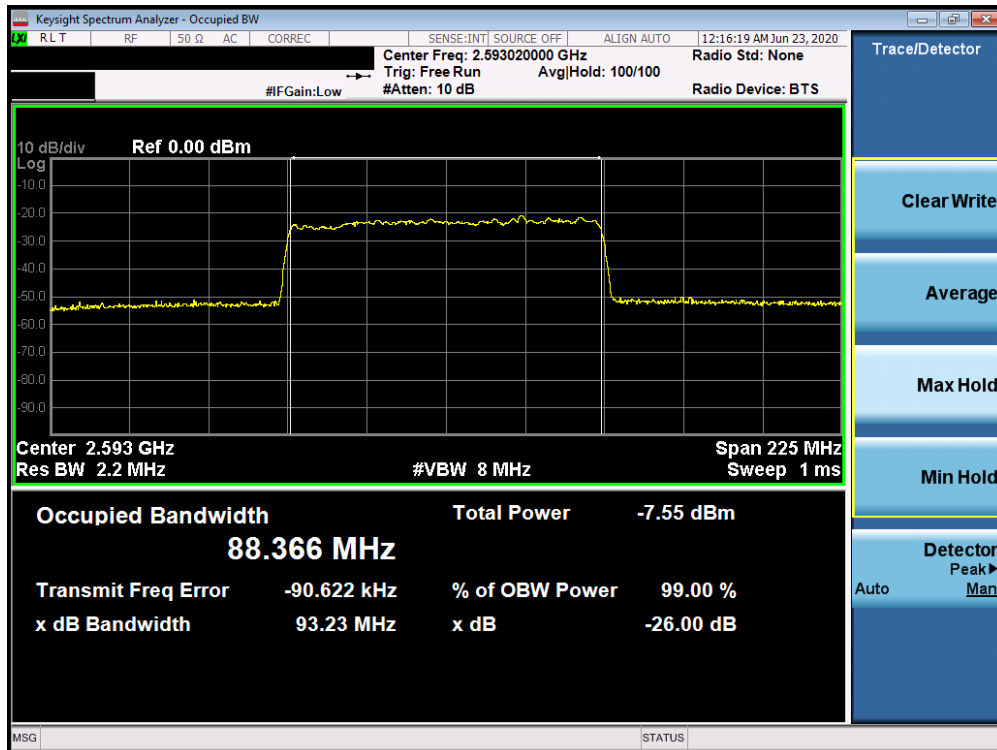


Plot 7-267. Occupied Bandwidth Plot (n41 80MHz 64QAM-CP-OFDM- Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 152 of 492                 |

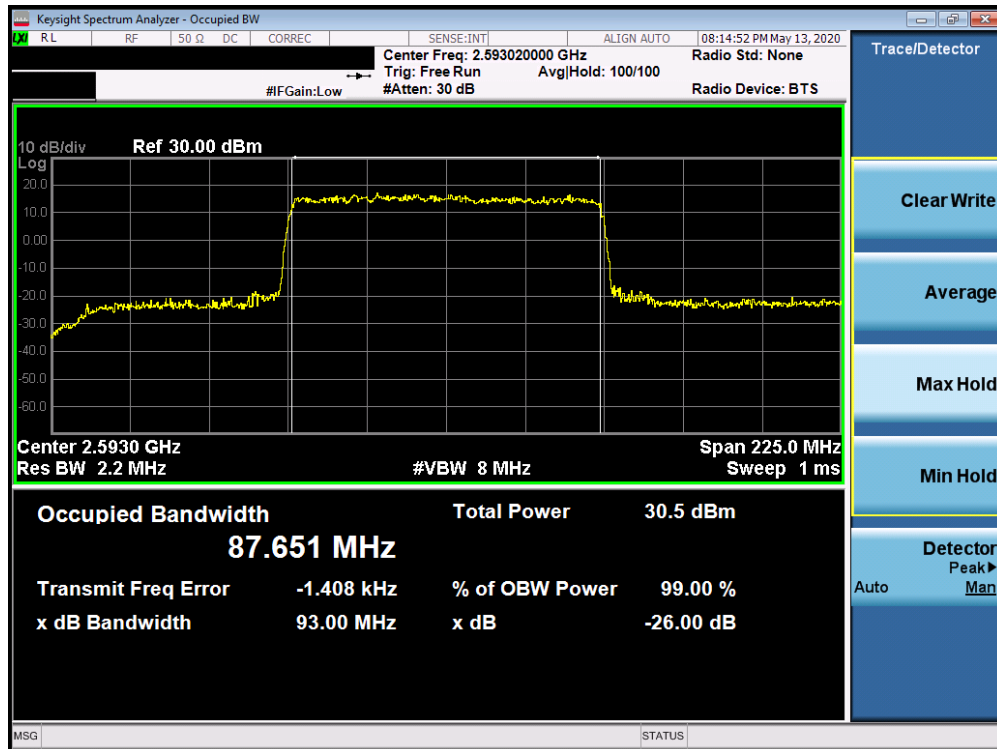


Plot 7-268. Occupied Bandwidth Plot (n41 80MHz 256QAM-CP-OFDM- Full RB Configuration)

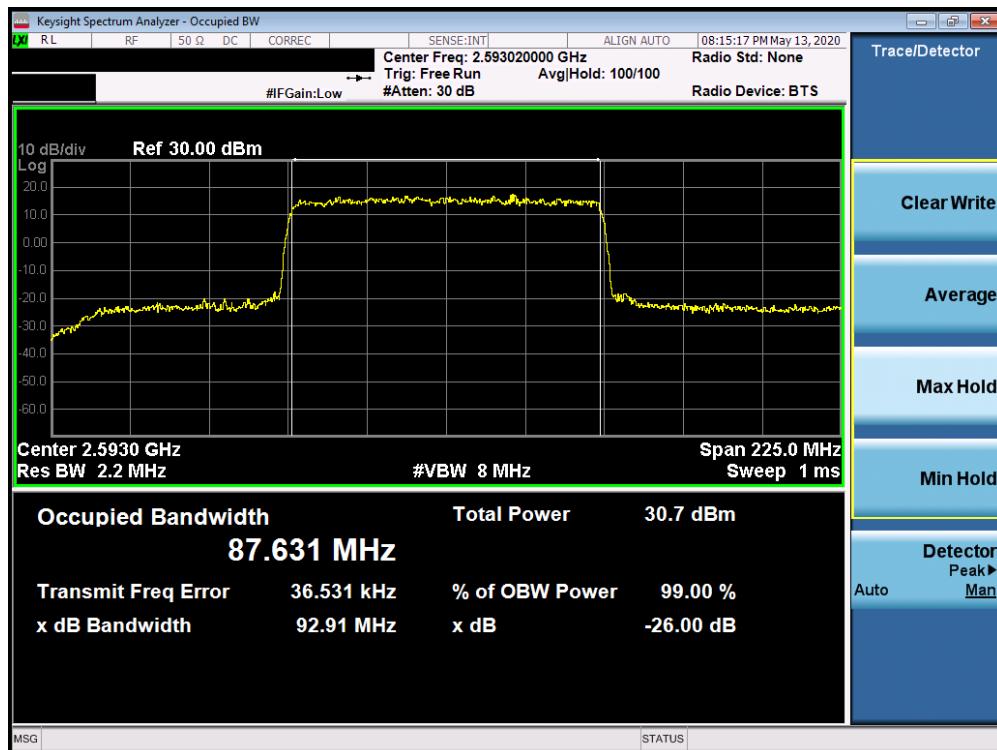


Plot 7-269. Occupied Bandwidth Plot (n41 90MHz BPSK-DFT-s-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 153 of 492                 |

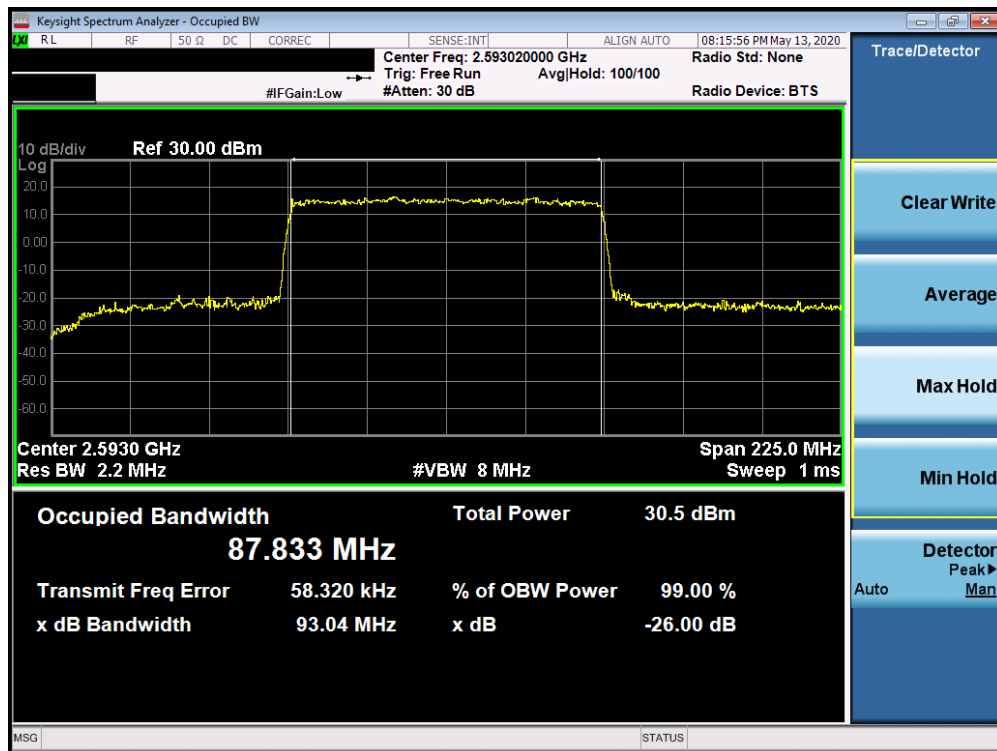


Plot 7-270. Occupied Bandwidth Plot (n41 90MHz QPSK-CP-OFDM - Full RB Configuration)

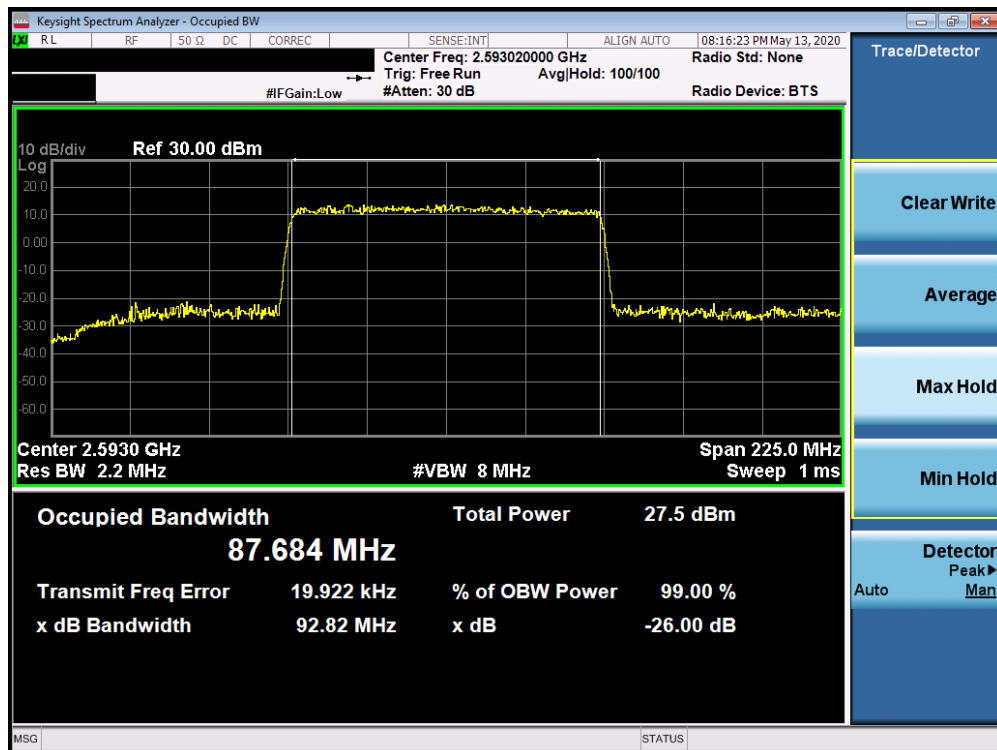


Plot 7-271. Occupied Bandwidth Plot (n41 90MHz 16QAM-CP-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 154 of 492                 |

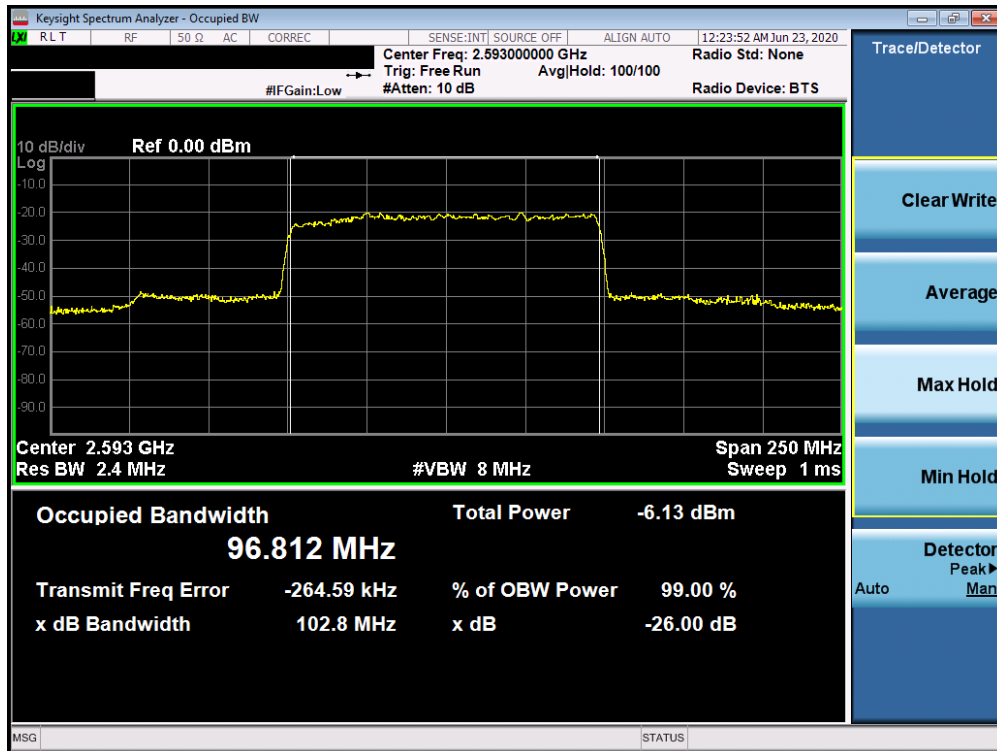


Plot 7-272. Occupied Bandwidth Plot (n41 90MHz 64QAM-CP-OFDM- Full RB Configuration)

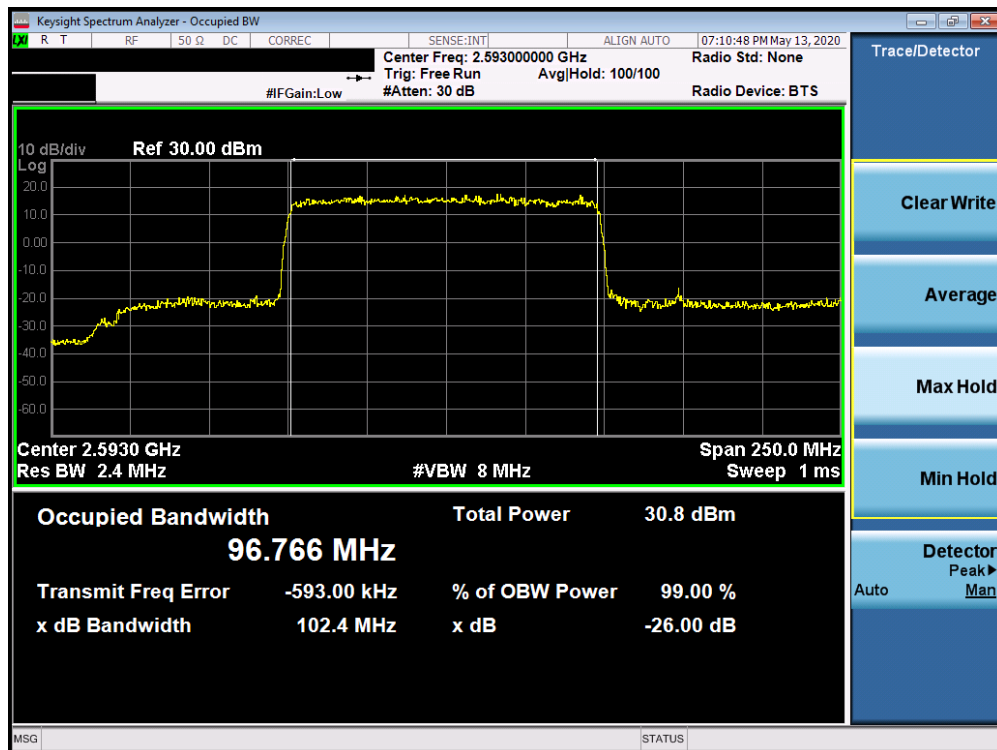


Plot 7-273. Occupied Bandwidth Plot (n41 90MHz 256QAM-CP-OFDM- Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 155 of 492                 |

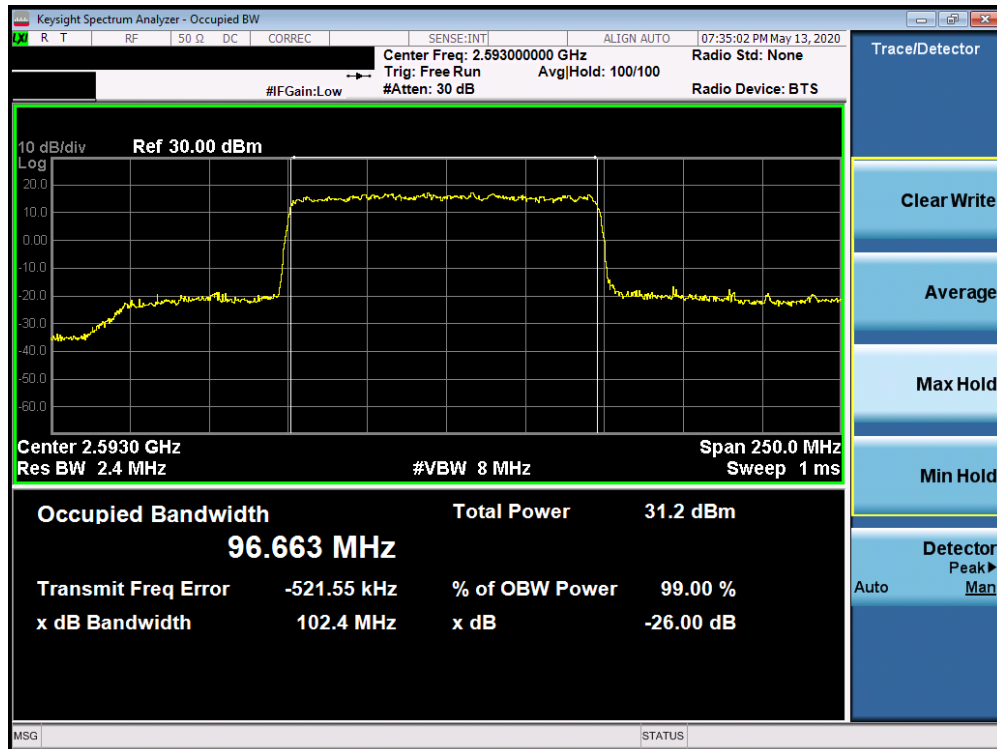


Plot 7-274. Occupied Bandwidth Plot (n41 100MHz BPSK-DFT-s-OFDM - Full RB Configuration)

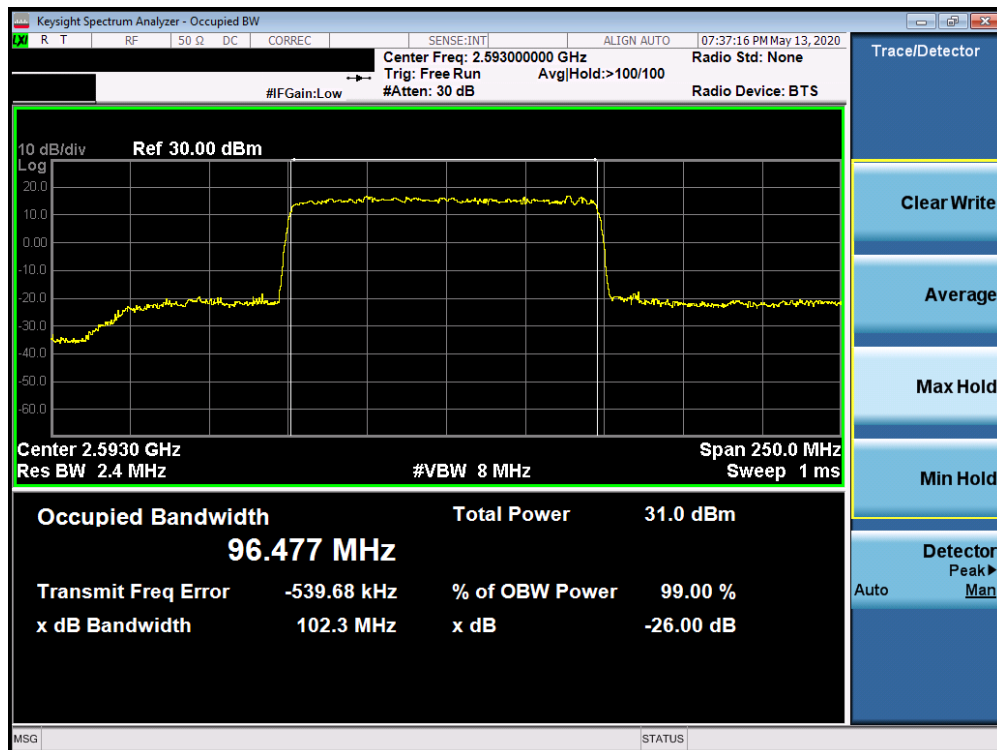


Plot 7-275. Occupied Bandwidth Plot (n41 100MHz QPSK-CP-OFDM - Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 156 of 492                 |

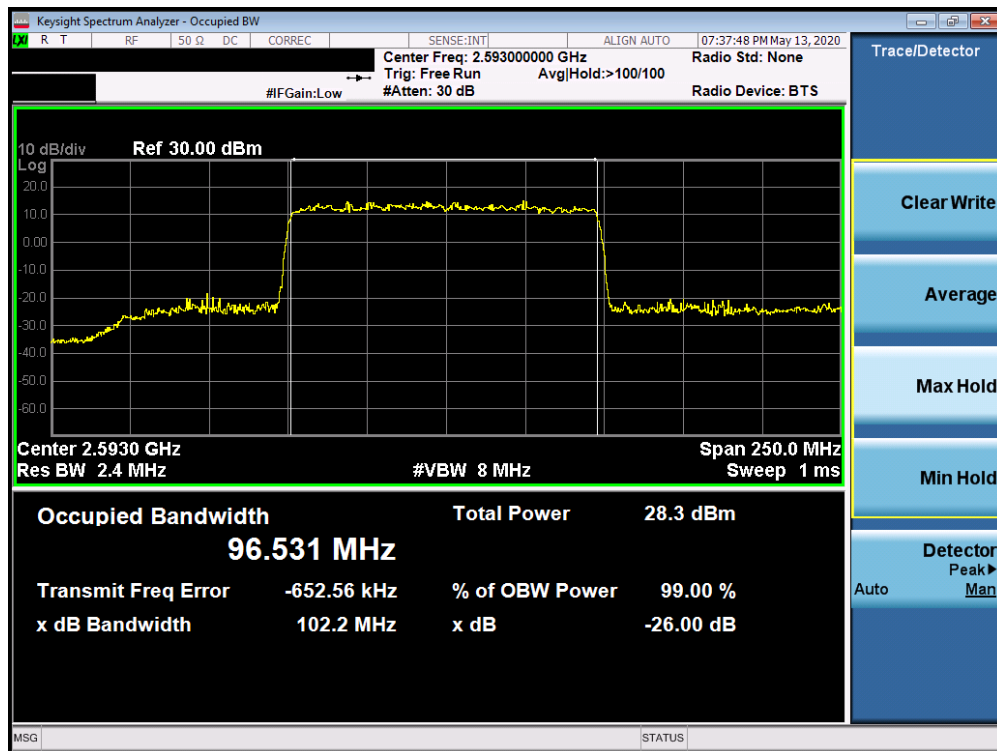


Plot 7-276. Occupied Bandwidth Plot (n41 100MHz 16QAM-CP-OFDM - Full RB Configuration)



Plot 7-277. Occupied Bandwidth Plot (n41 100MHz 64QAM-CP-OFDM- Full RB Configuration)

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 157 of 492                 |



Plot 7-278. Occupied Bandwidth Plot (n41 100MHz 256QAM-CP-OFDM- Full RB Configuration)

|                                            |                                               |                               |  |                                 |
|--------------------------------------------|-----------------------------------------------|-------------------------------|--|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b> |                               |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020               | EUT Type:<br>Portable Handset |  | Page 158 of 492                 |

## 7.3 Spurious and Harmonic Emissions at Antenna Terminal

### Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10<sup>th</sup> harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

***The minimum permissible attenuation level of any spurious emission is  $43 + 10 \log_{10}(P_{[Watts]})$ , where  $P$  is the transmitter power in Watts.***

### Test Procedure Used

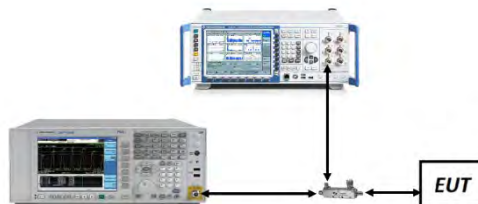
KDB 971168 D01 v03r01 – Section 6.0

### Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to at least 10 \* the fundamental frequency (separated into at least two plots per channel)
2. Detector = RMS
3. Trace mode = trace average
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

### 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

Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz. However, 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. 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.

|                                            |                                              |                                       |                |                                 |
|--------------------------------------------|----------------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMN986U                         | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M2004170065-03-R1.A3L | Test Dates:<br>4/17 - 6/22/2020              | EUT Type:<br>Portable Handset         |                | Page 159 of 492                 |