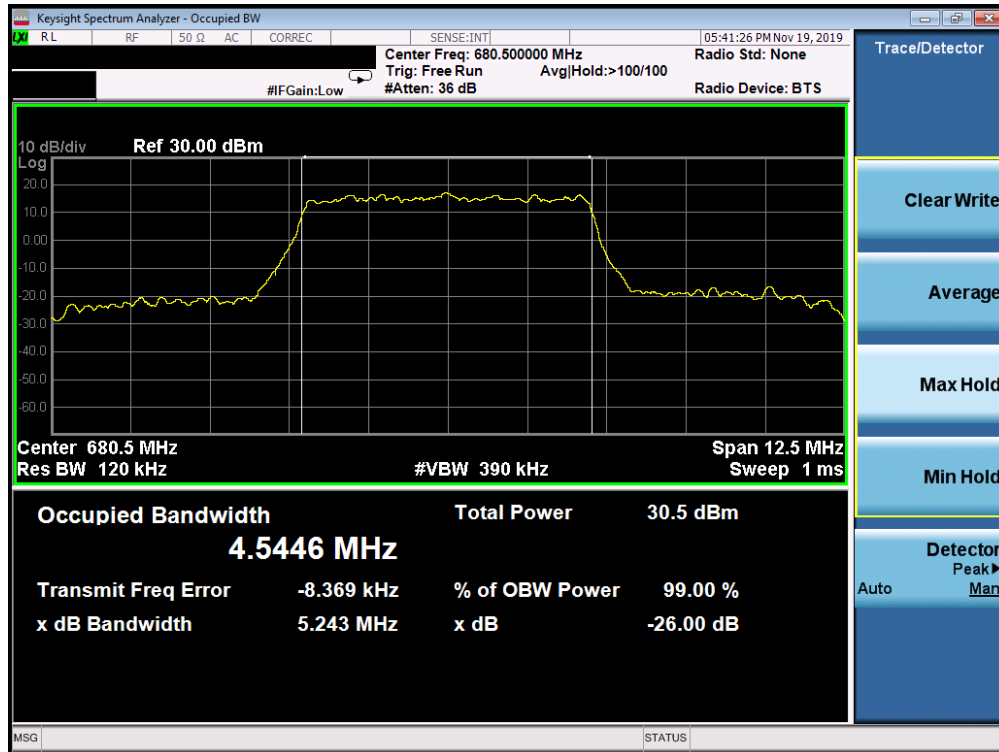
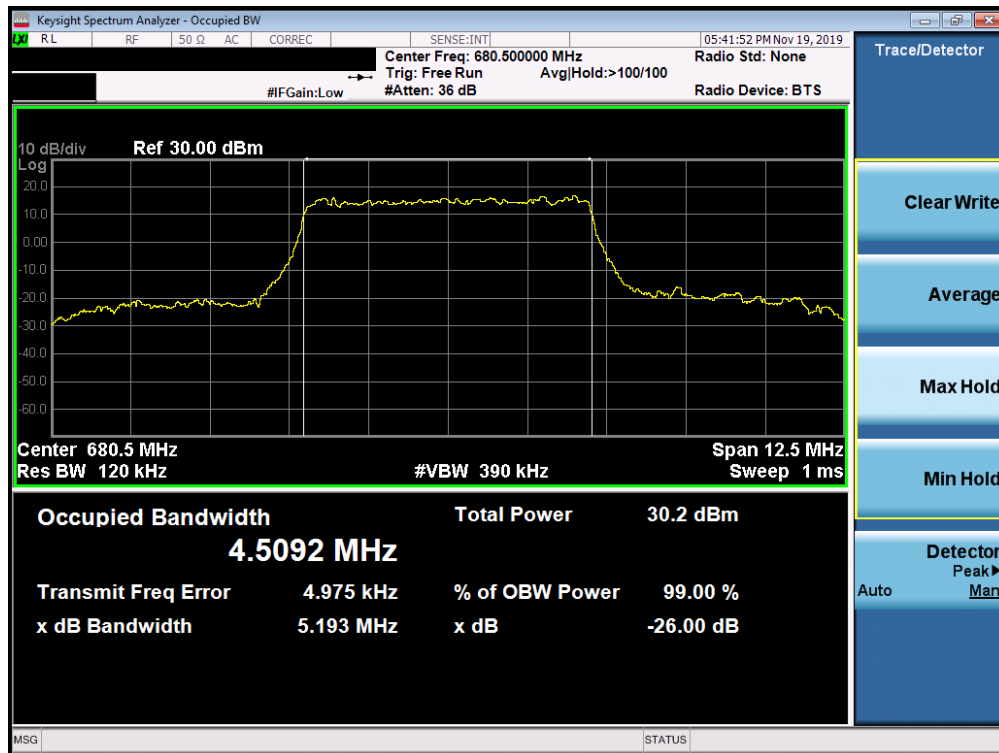


NR Band n71

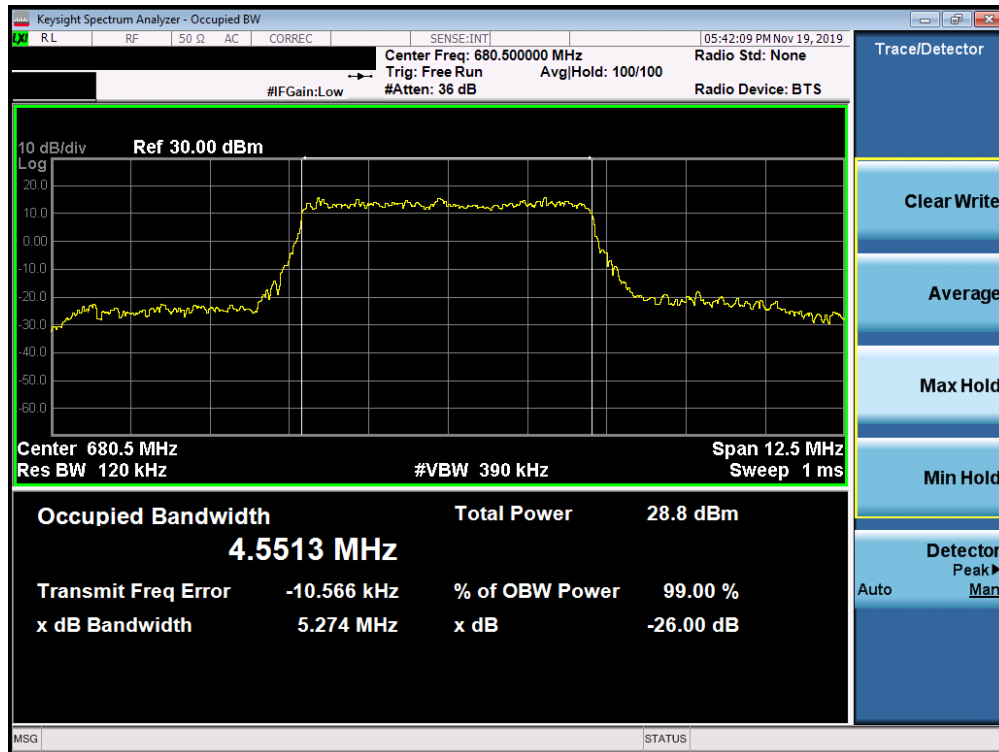


Plot 7-530. Occupied Bandwidth Plot (n71 5MHz QPSK-CP-OFDM - Full RB Configuration)

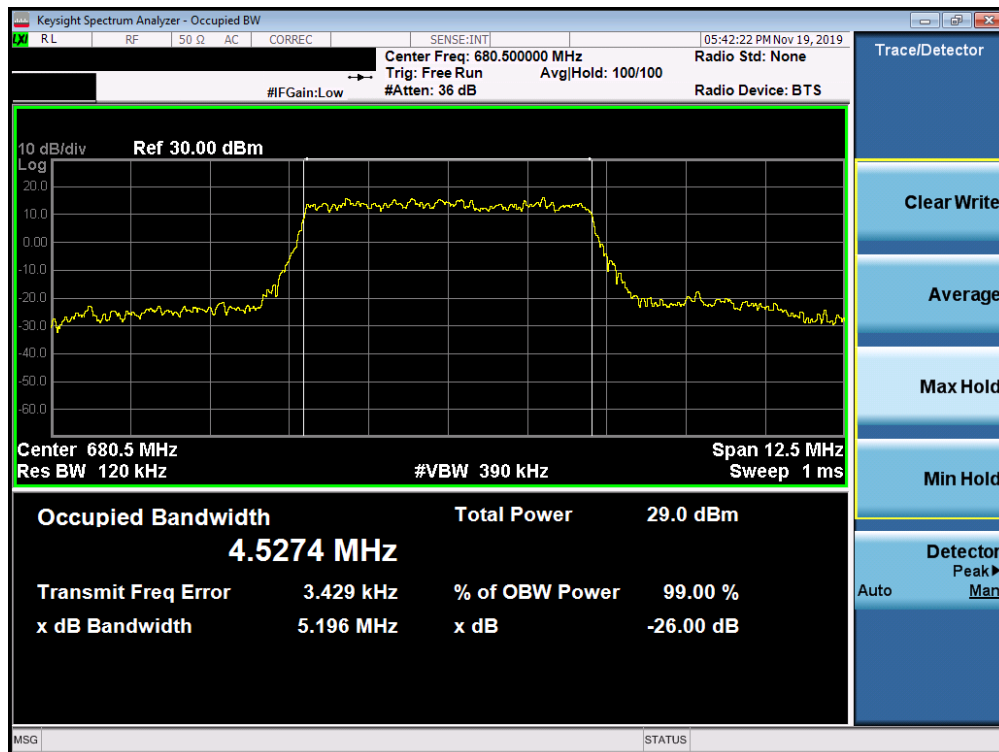


Plot 7-531. Occupied Bandwidth Plot (n71 5MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 355 of 487

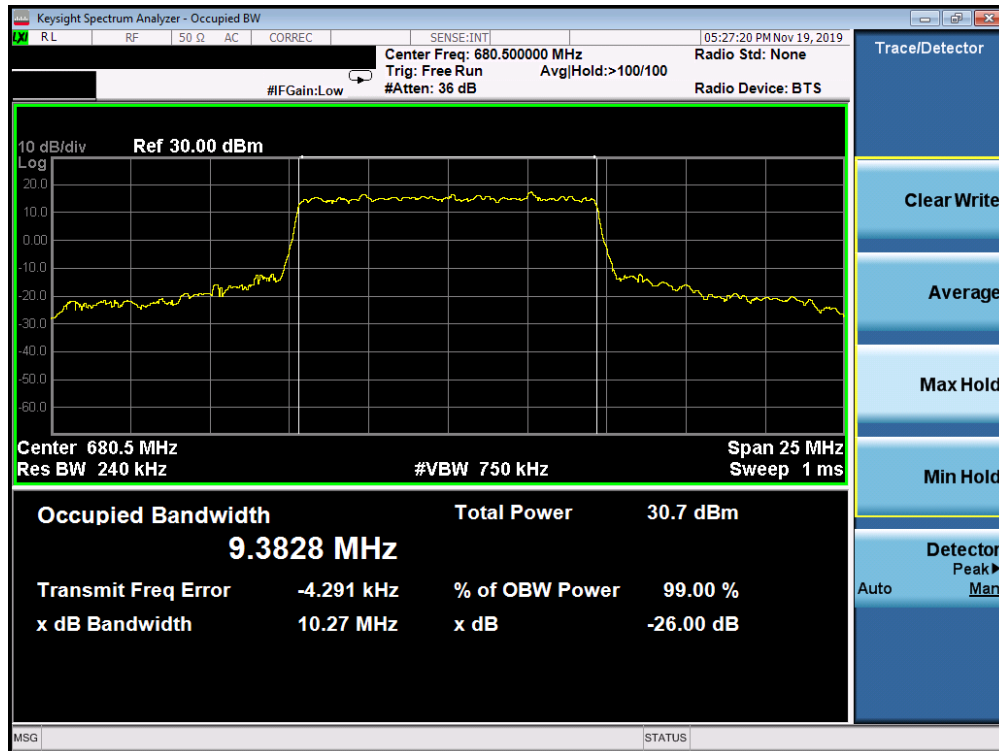


Plot 7-532. Occupied Bandwidth Plot (n71 5MHz 64QAM-CP-OFDM- Full RB Configuration)

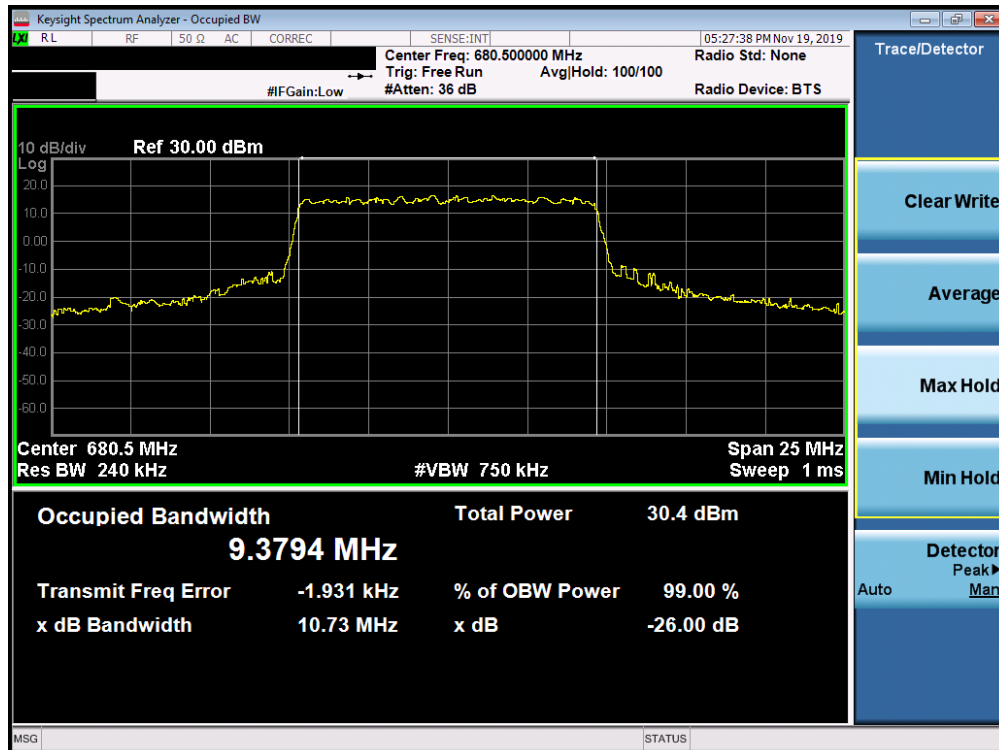


Plot 7-533. Occupied Bandwidth Plot (n71 5MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 356 of 487

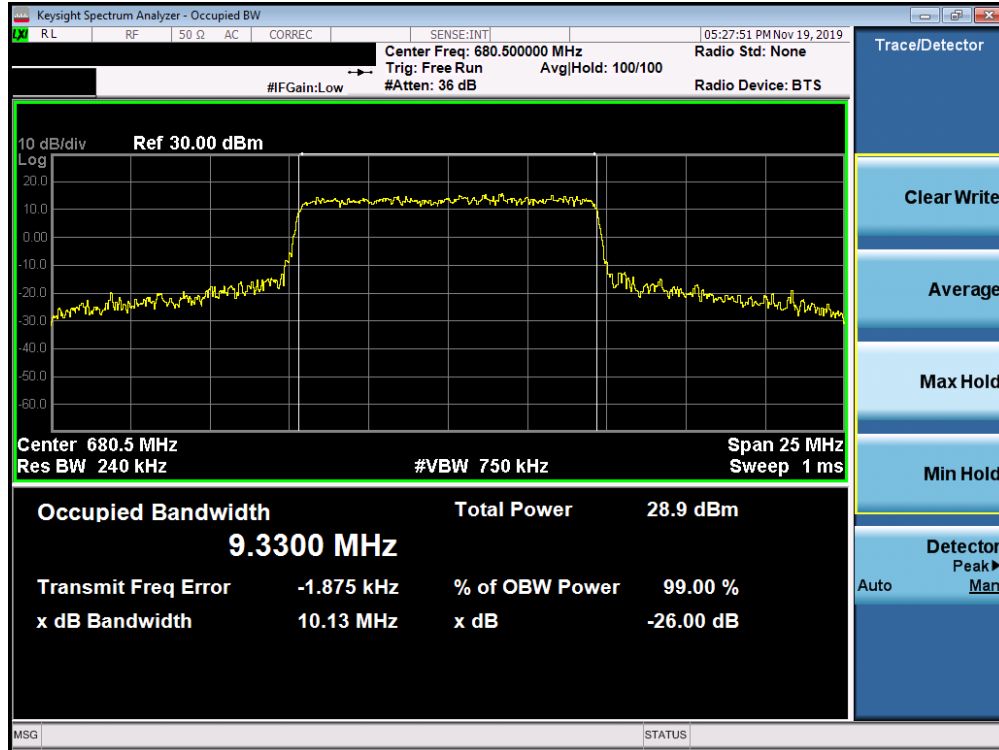


Plot 7-534. Occupied Bandwidth Plot (n71 10MHz QPSK-CP-OFDM - Full RB Configuration)

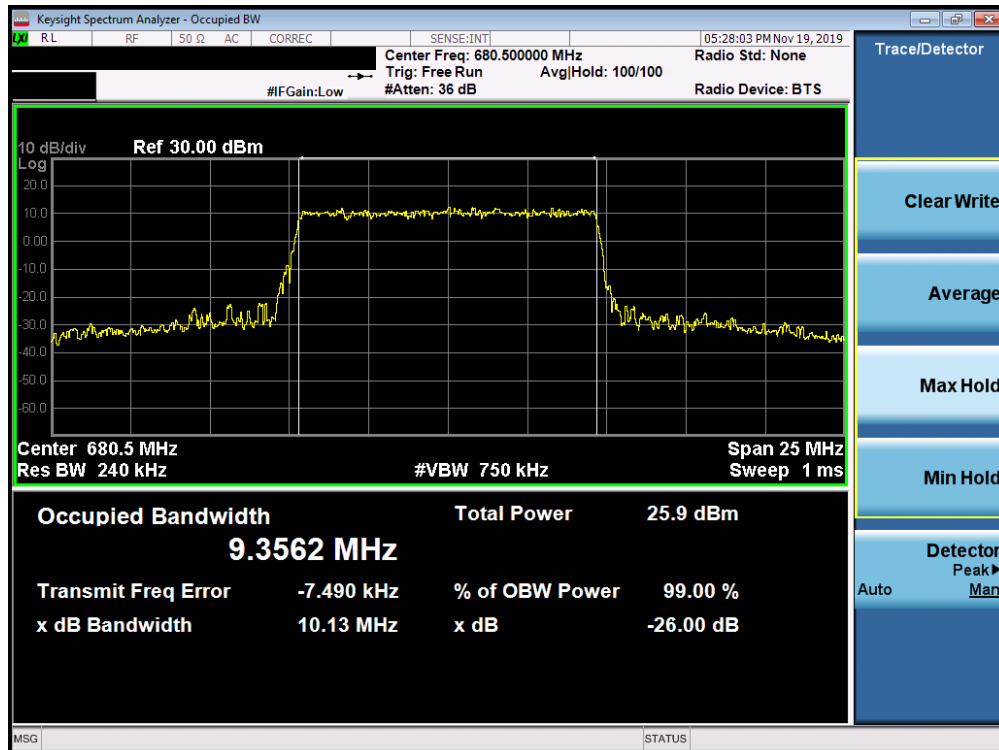


Plot 7-535. Occupied Bandwidth Plot (n71 10MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 357 of 487

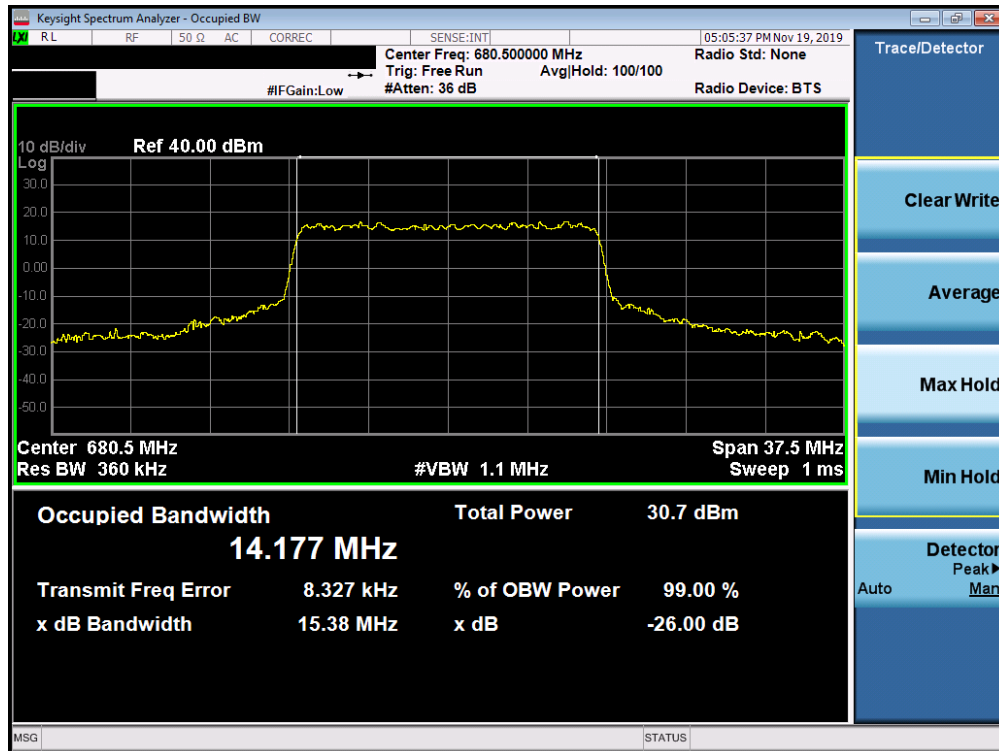


Plot 7-536. Occupied Bandwidth Plot (n71 10MHz 64QAM-CP-OFDM- Full RB Configuration)

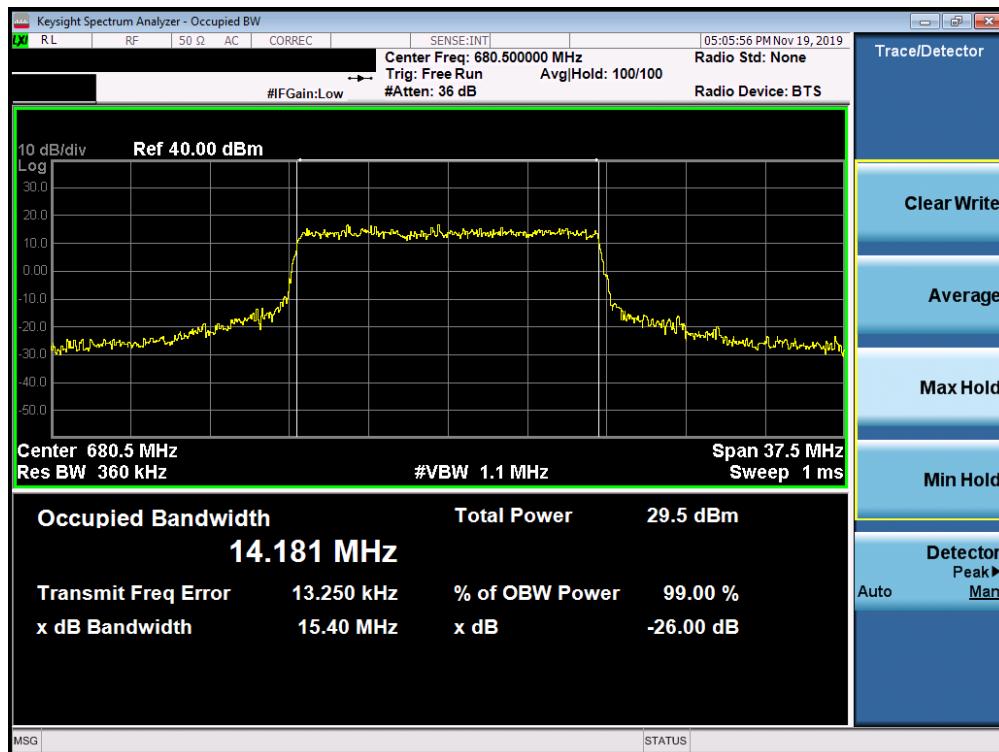


Plot 7-537. Occupied Bandwidth Plot (n71 10MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 358 of 487

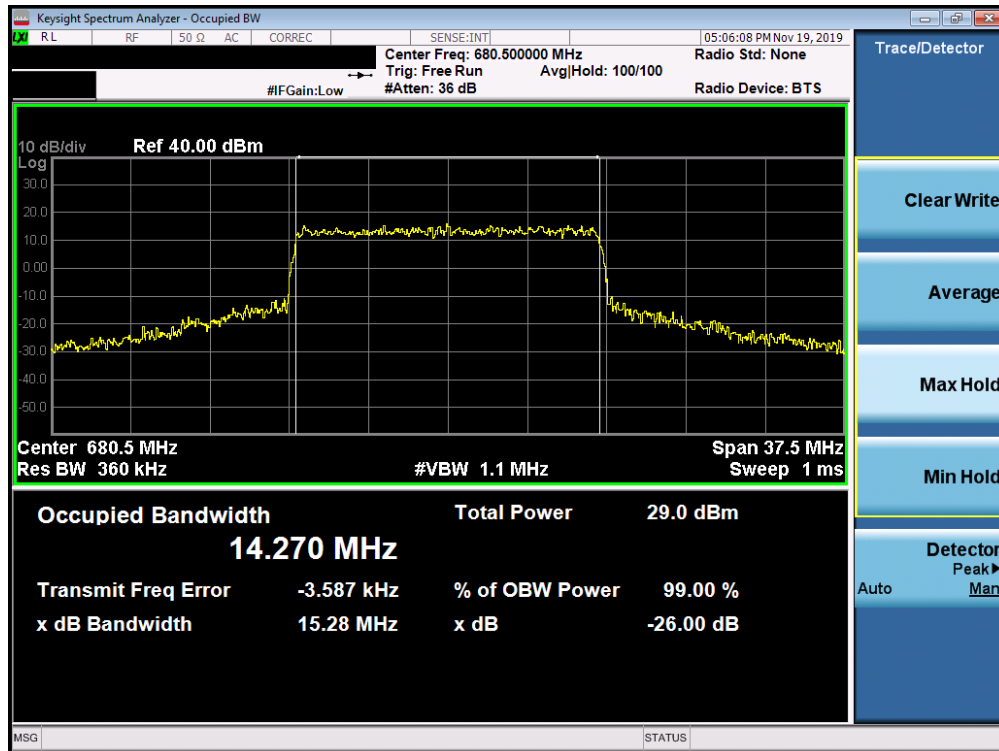


Plot 7-538. Occupied Bandwidth Plot (n71 15MHz QPSK-CP-OFDM - Full RB Configuration)

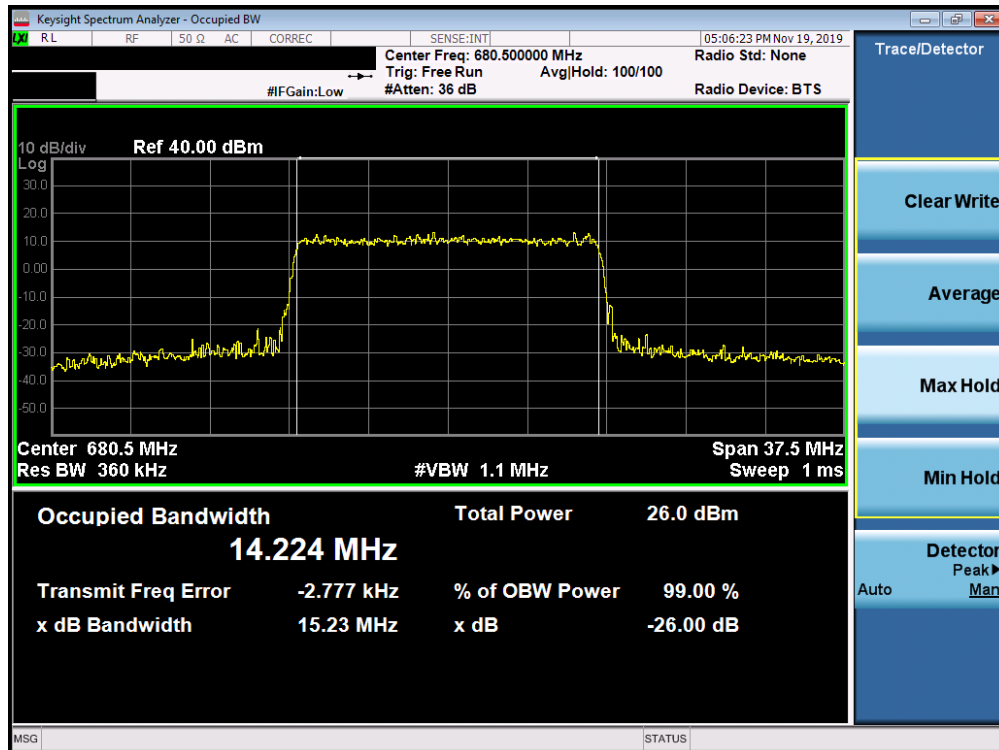


Plot 7-539. Occupied Bandwidth Plot (n71 15MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 359 of 487

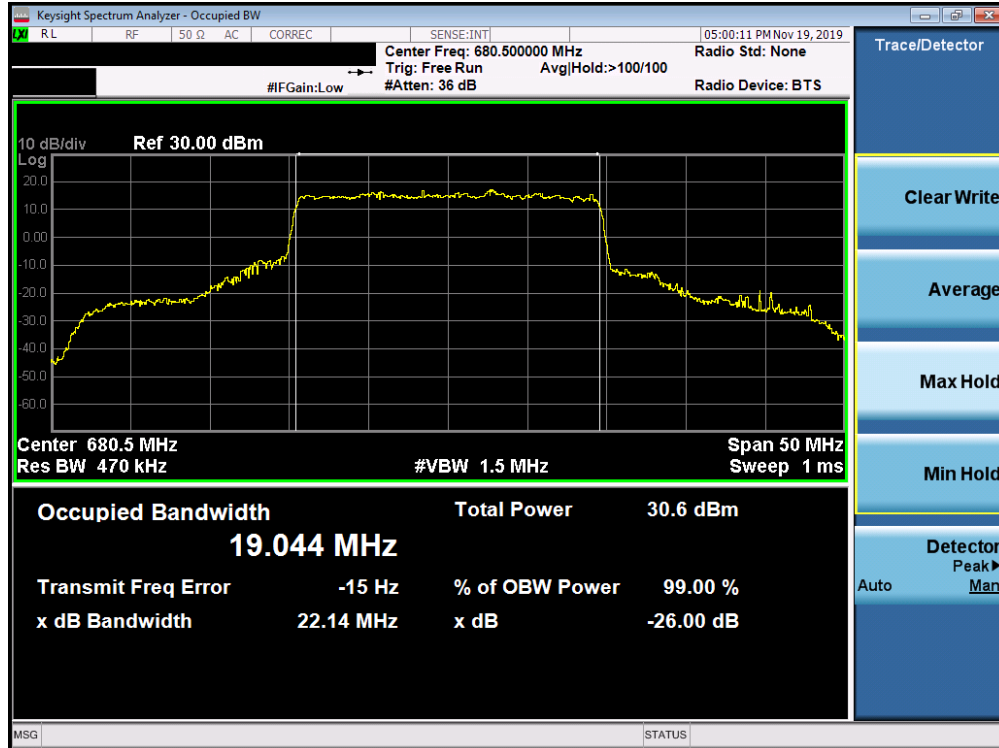


Plot 7-540. Occupied Bandwidth Plot (n71 15MHz 64QAM-CP-OFDM- Full RB Configuration)

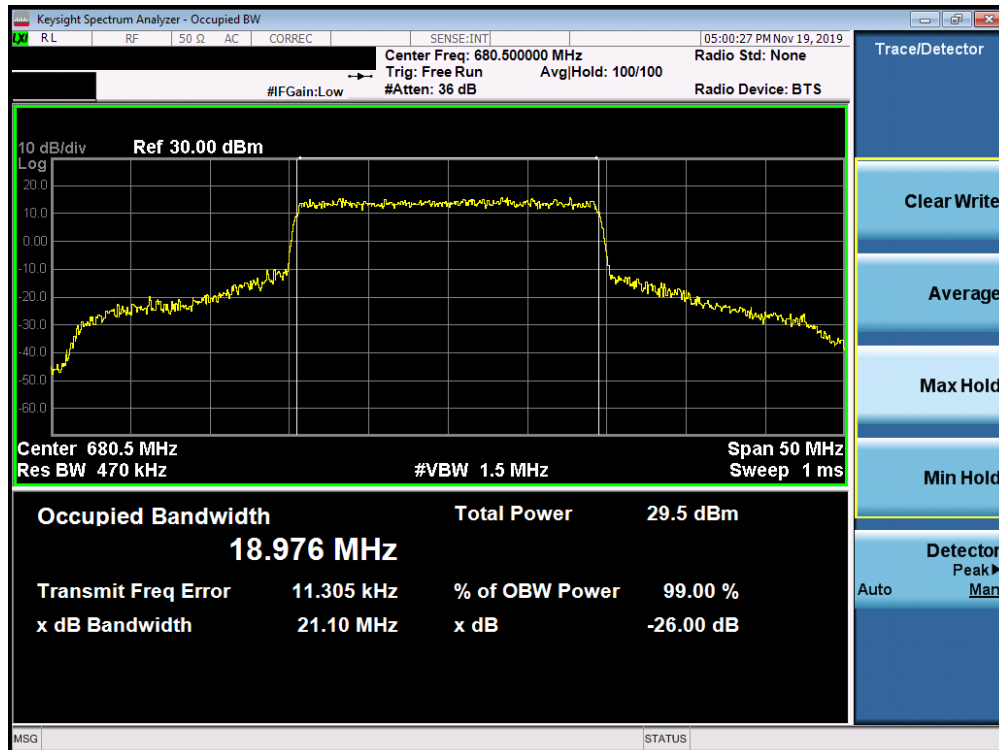


Plot 7-541. Occupied Bandwidth Plot (n71 15MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 360 of 487

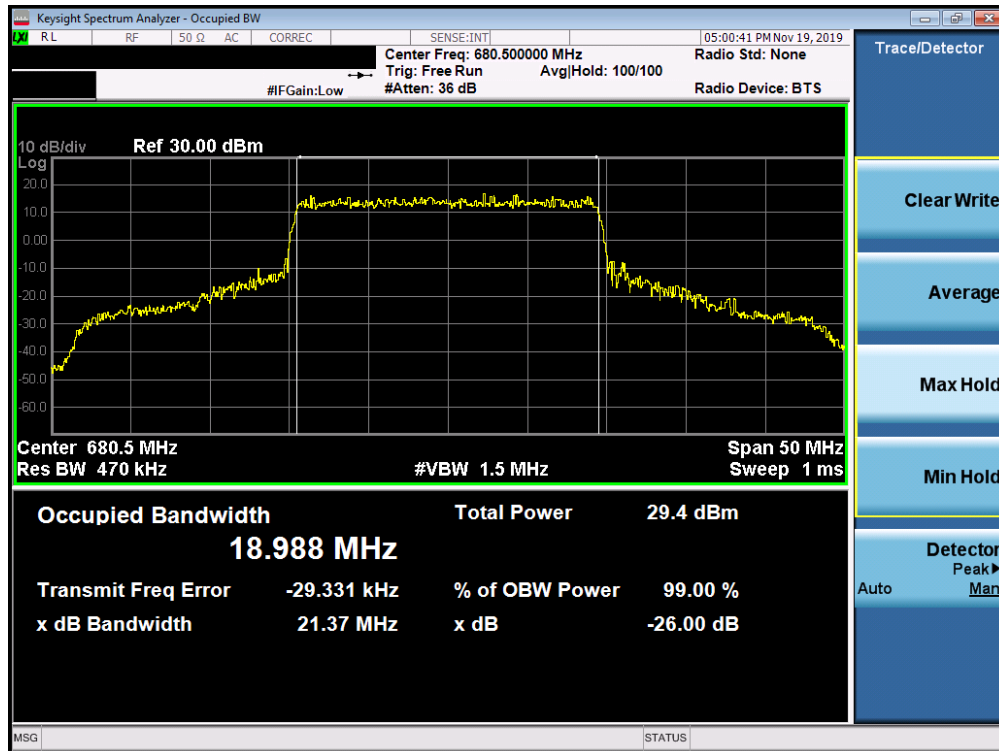


Plot 7-542. Occupied Bandwidth Plot (n71 20MHz QPSK-CP-OFDM - Full RB Configuration)

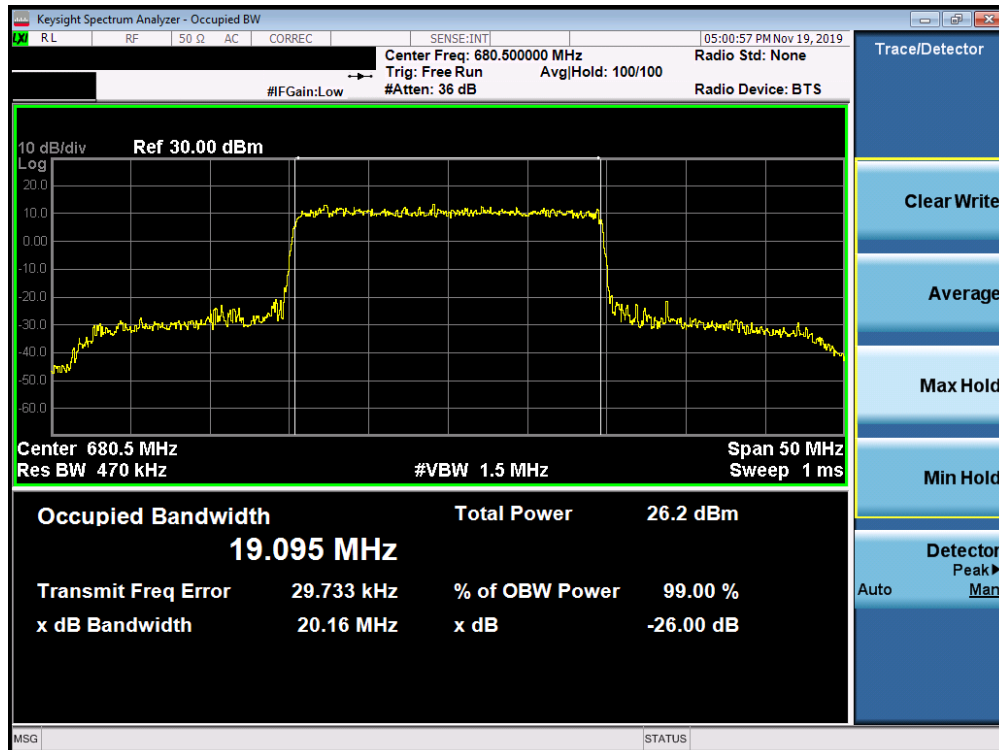


Plot 7-543. Occupied Bandwidth Plot (n71 20MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 361 of 487



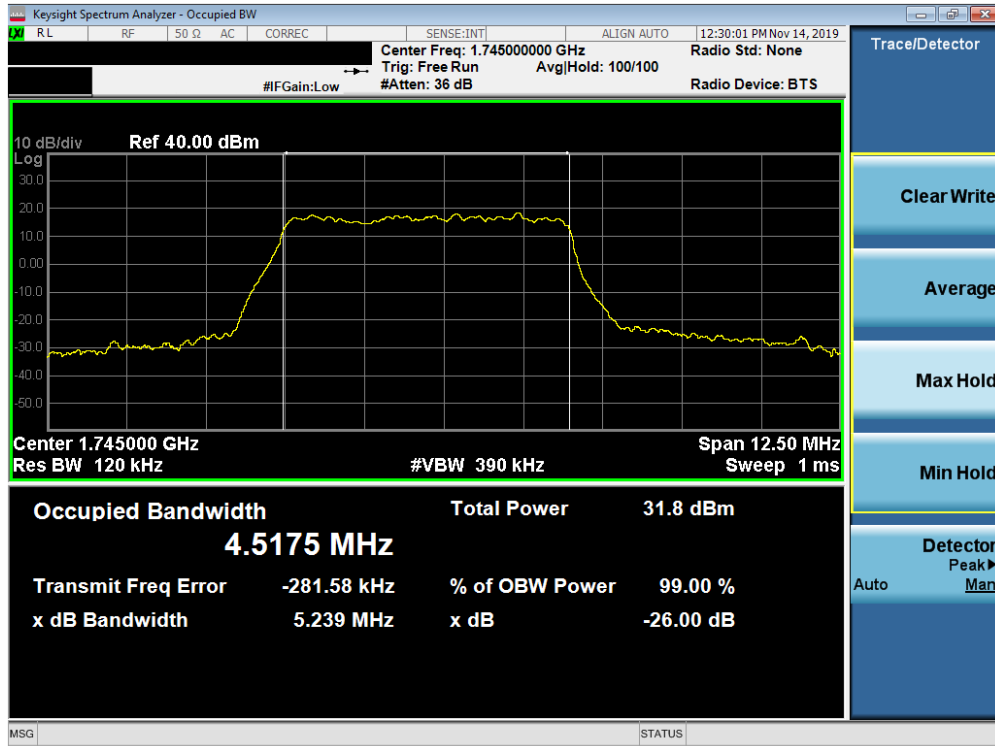
Plot 7-544. Occupied Bandwidth Plot (n71 20MHz 64QAM-CP-OFDM- Full RB Configuration)



Plot 7-545. Occupied Bandwidth Plot (n71 20MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 362 of 487

NR Band n66

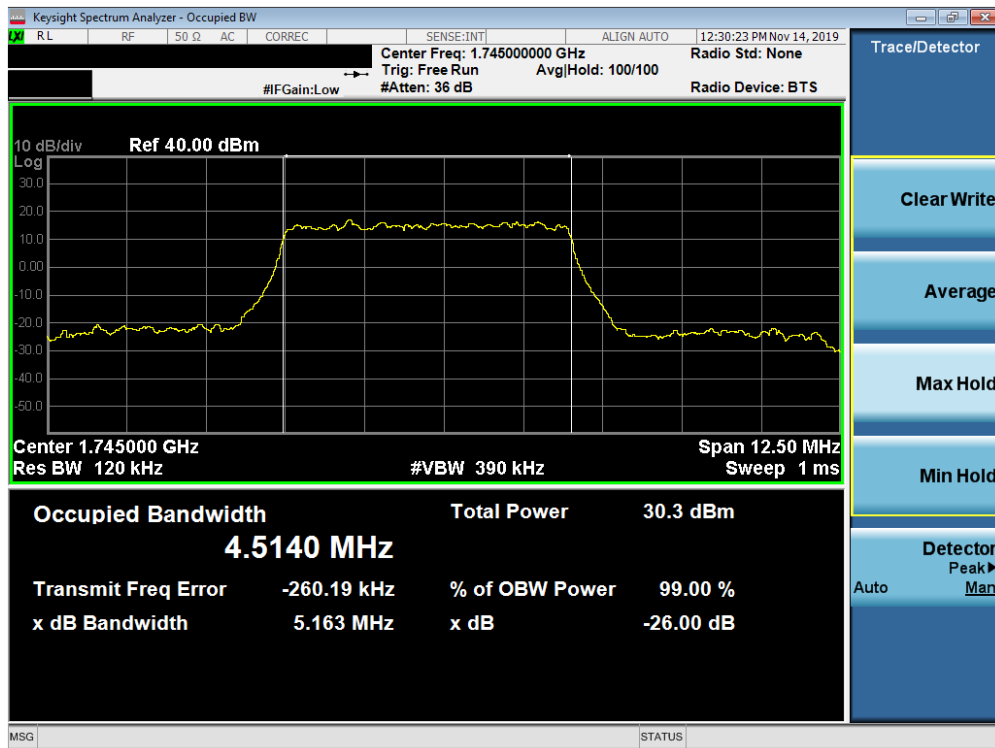


Plot 7-546. Occupied Bandwidth Plot (n66 5MHz QPSK-CP-OFDM - Full RB Configuration)

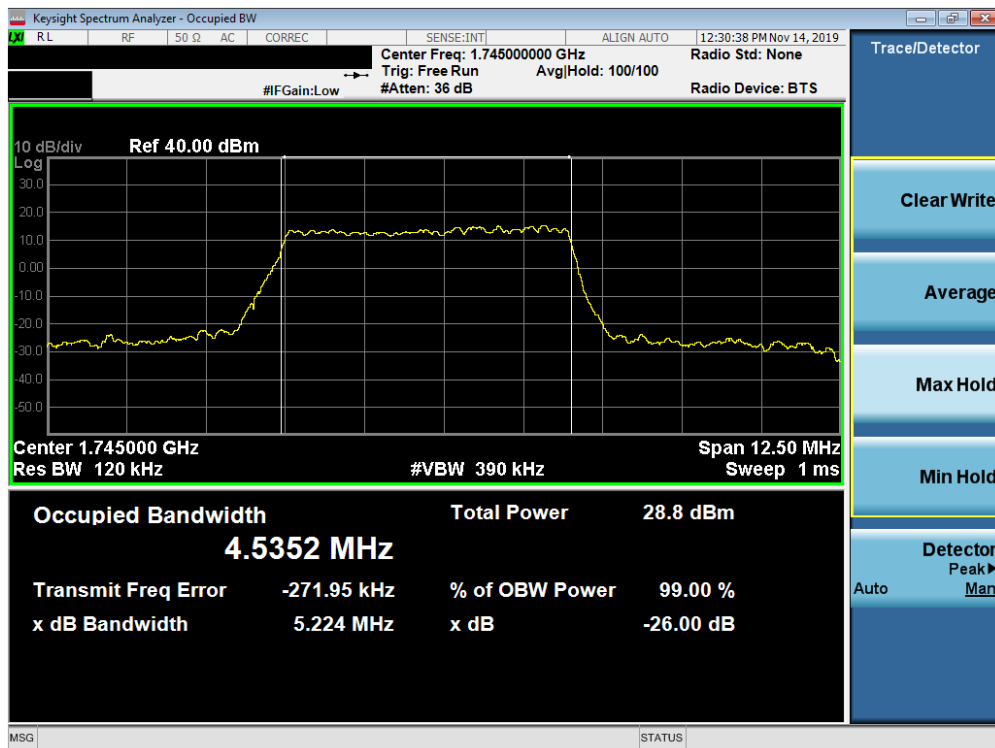


Plot 7-547. Occupied Bandwidth Plot (n66 5MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 363 of 487

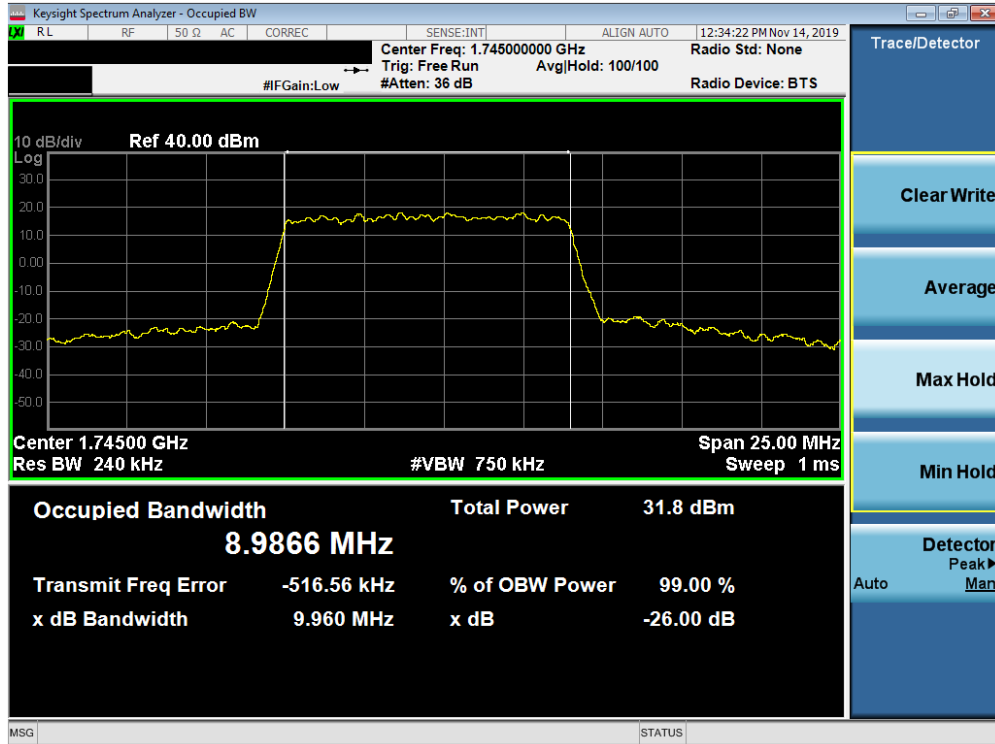


Plot 7-548. Occupied Bandwidth Plot (n66 5MHz 64QAM-CP-OFDM- Full RB Configuration)

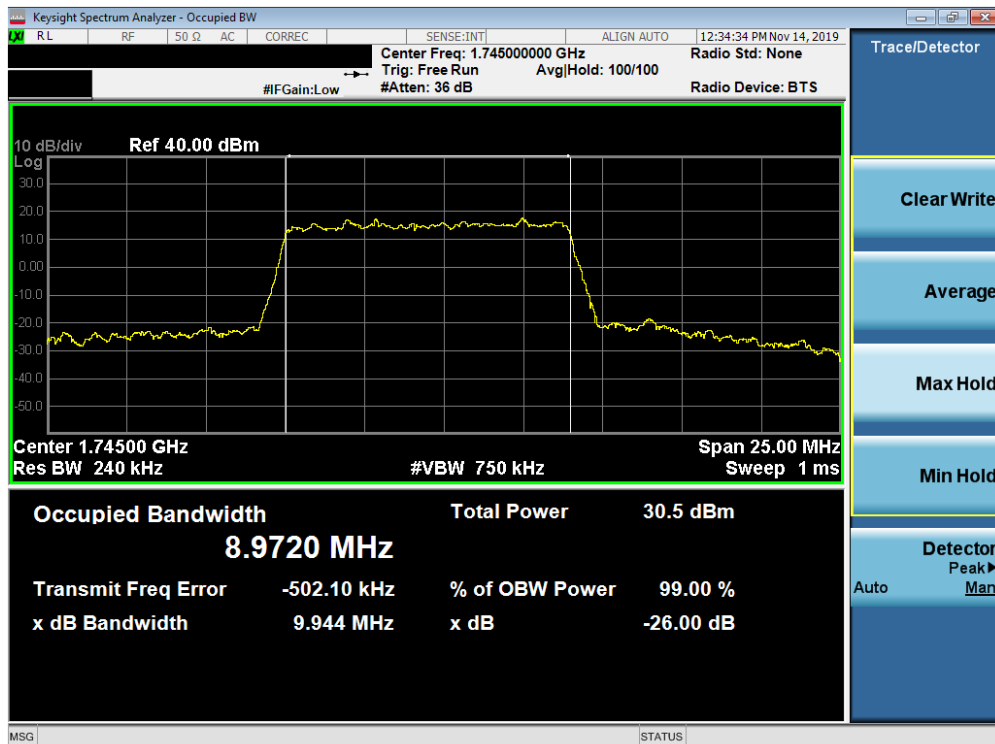


Plot 7-549. Occupied Bandwidth Plot (n66 5MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 364 of 487

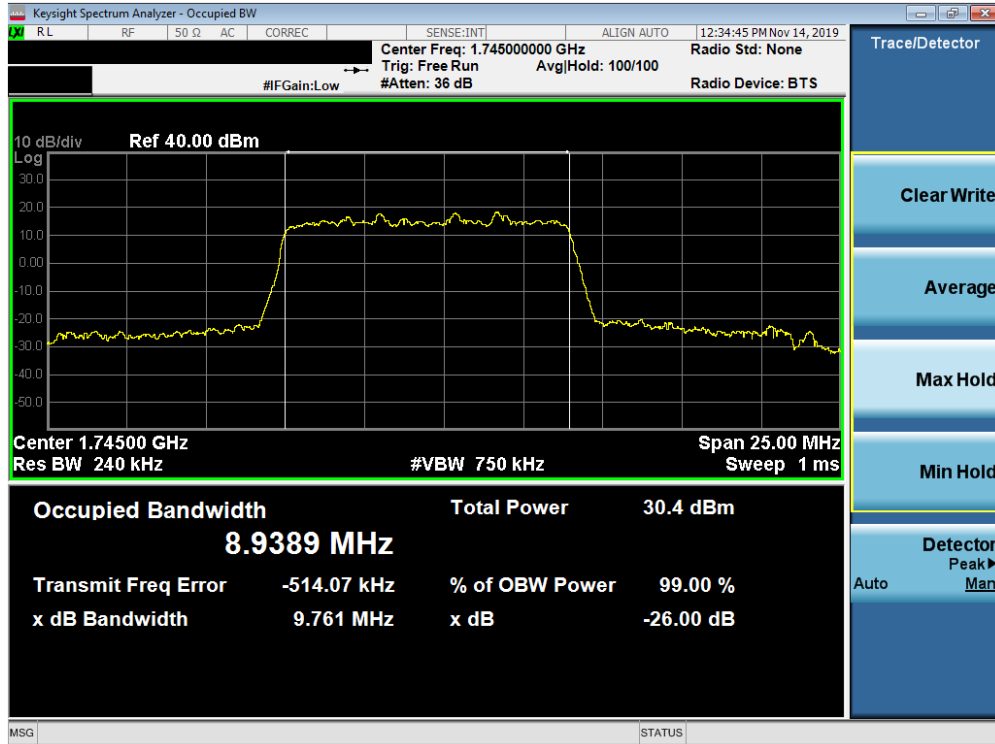


Plot 7-550. Occupied Bandwidth Plot (n66 10MHz QPSK-CP-OFDM - Full RB Configuration)

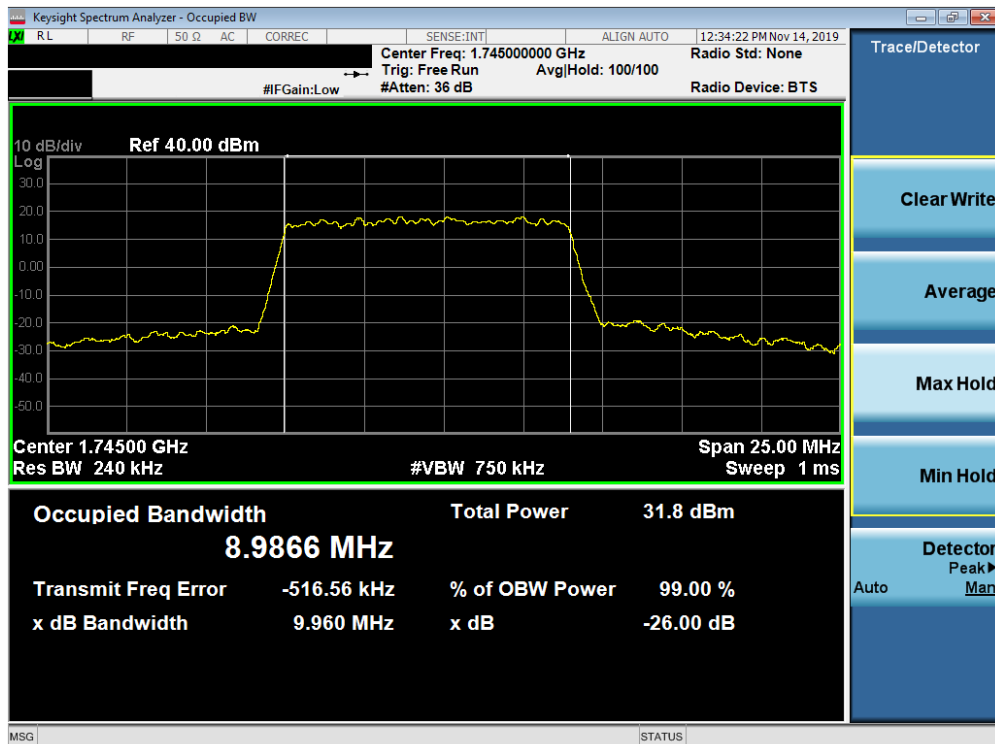


Plot 7-551. Occupied Bandwidth Plot (n66 10MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 365 of 487

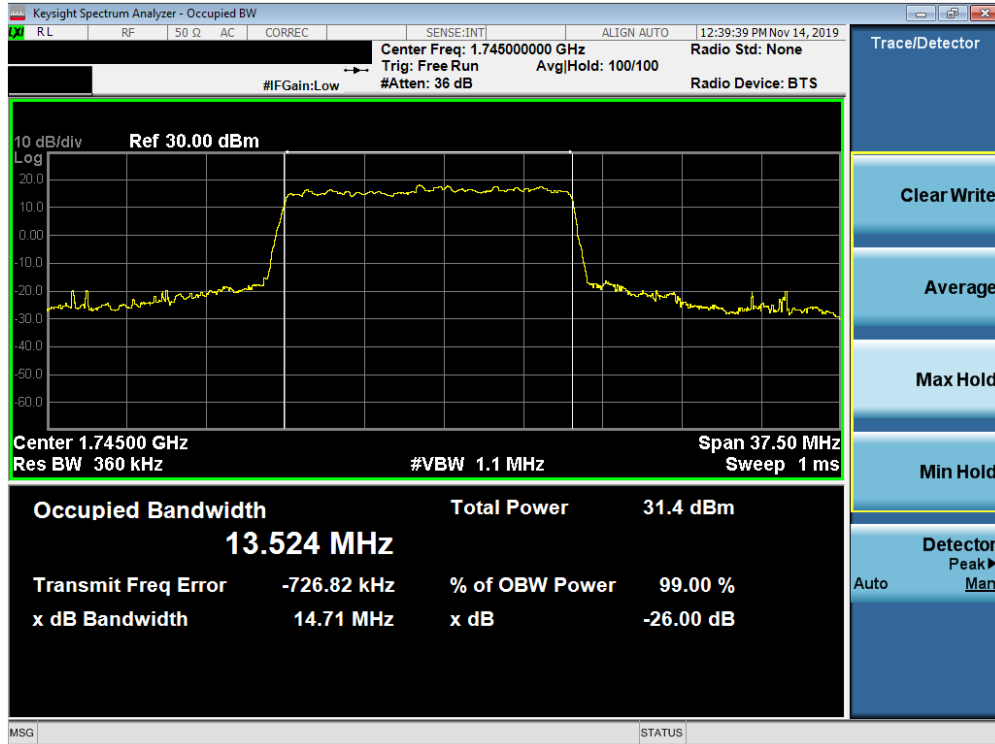


Plot 7-552. Occupied Bandwidth Plot (n66 10MHz 64QAM-CP-OFDM- Full RB Configuration)

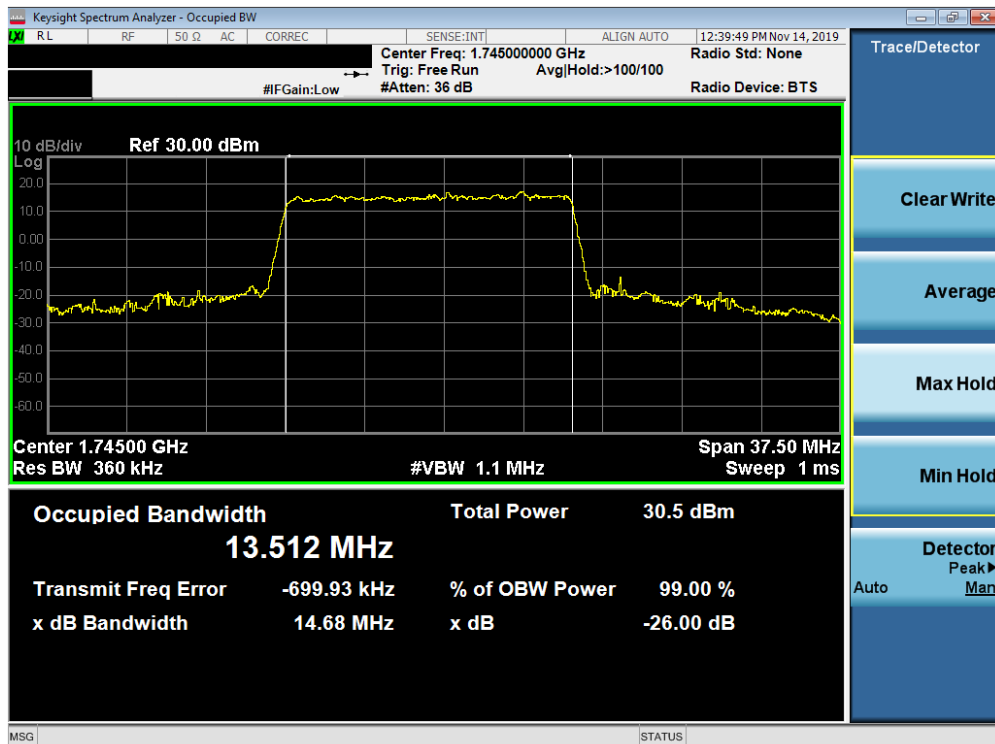


Plot 7-553. Occupied Bandwidth Plot (n66 10MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 366 of 487

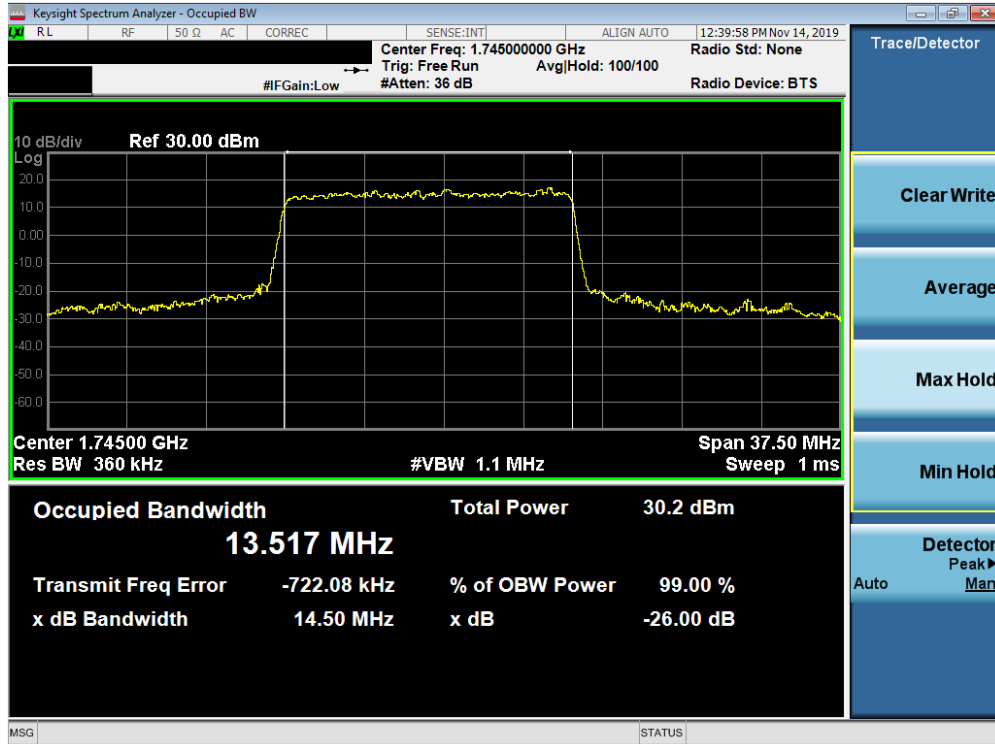


Plot 7-554. Occupied Bandwidth Plot (n66 15MHz QPSK-CP-OFDM - Full RB Configuration)

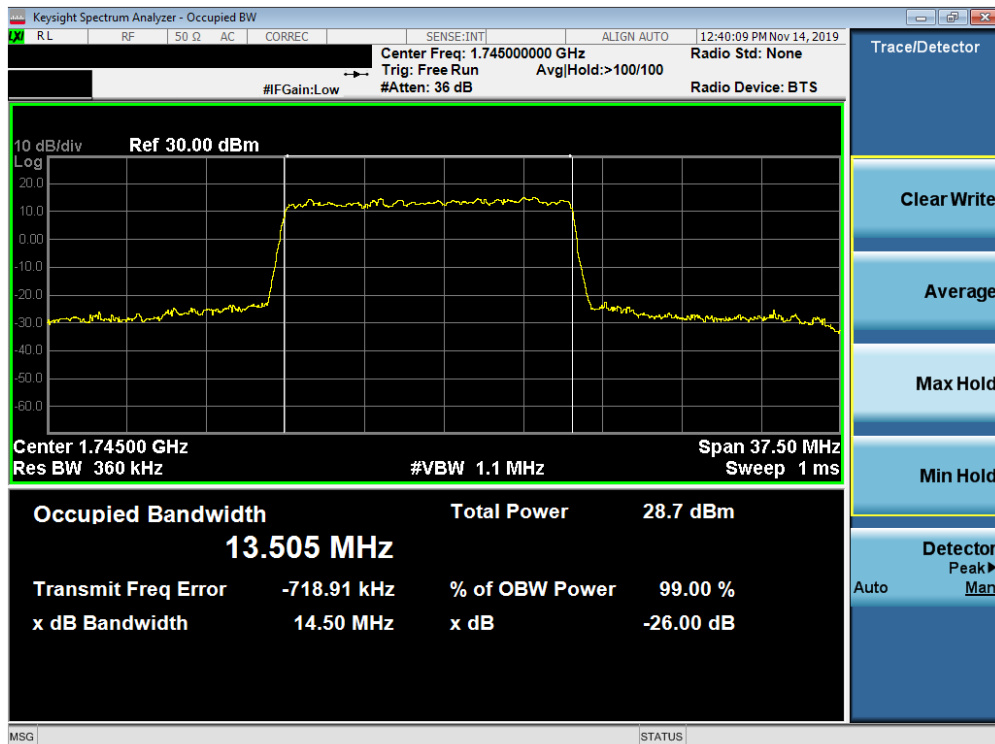


Plot 7-555. Occupied Bandwidth Plot (n66 15MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 367 of 487

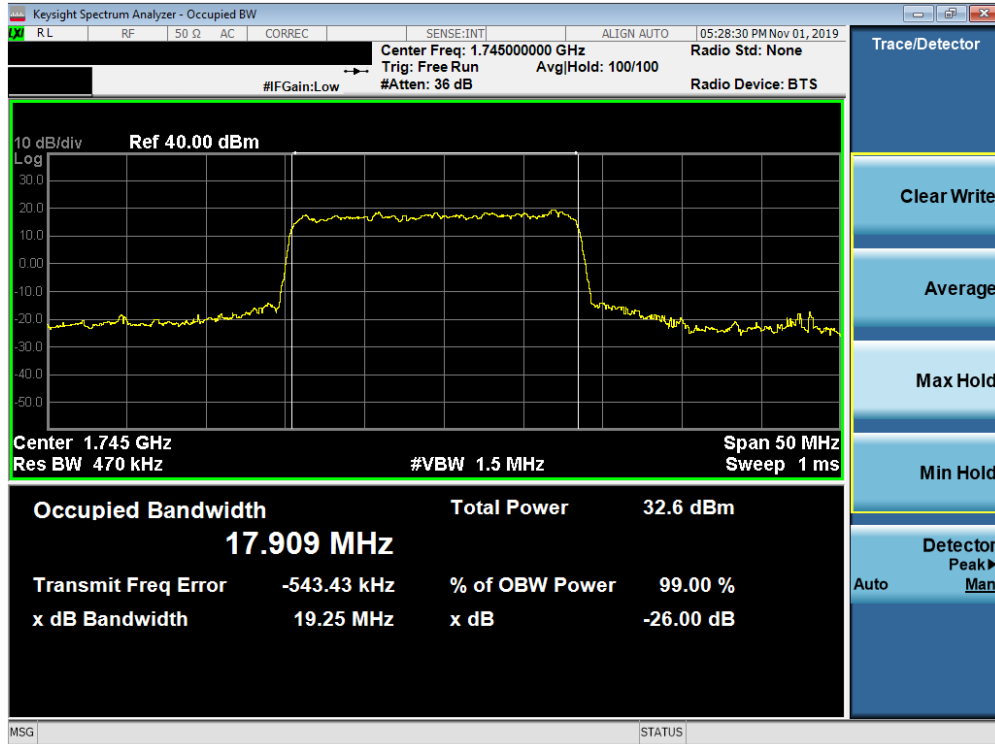


Plot 7-556. Occupied Bandwidth Plot (n66 15MHz 64QAM-CP-OFDM- Full RB Configuration)

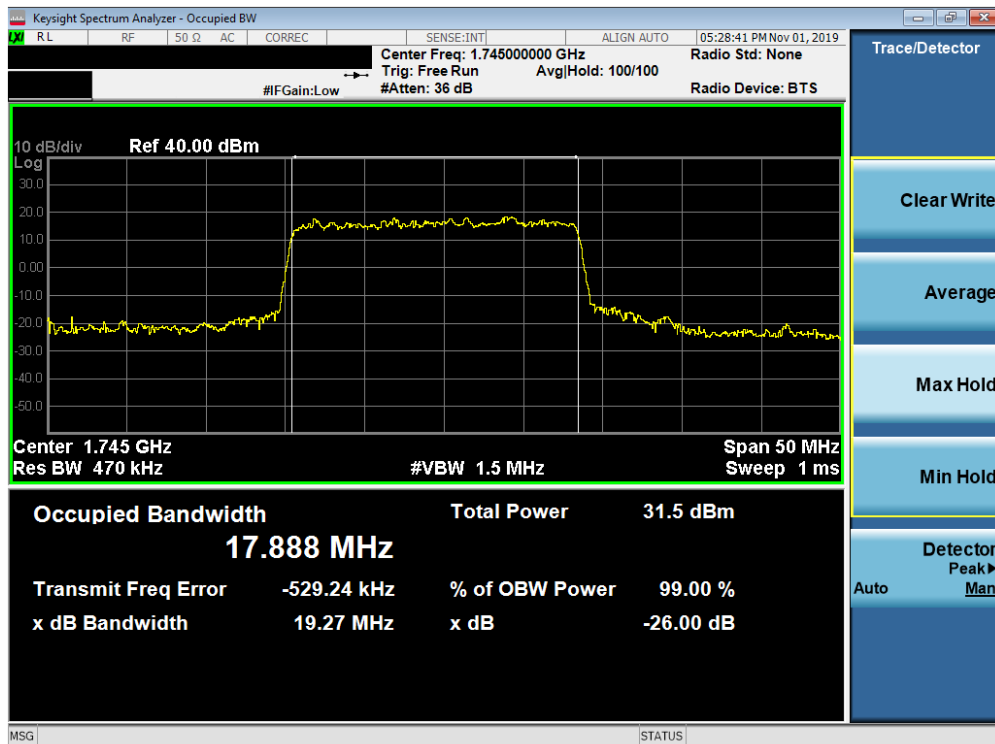


Plot 7-557. Occupied Bandwidth Plot (n66 15MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 368 of 487

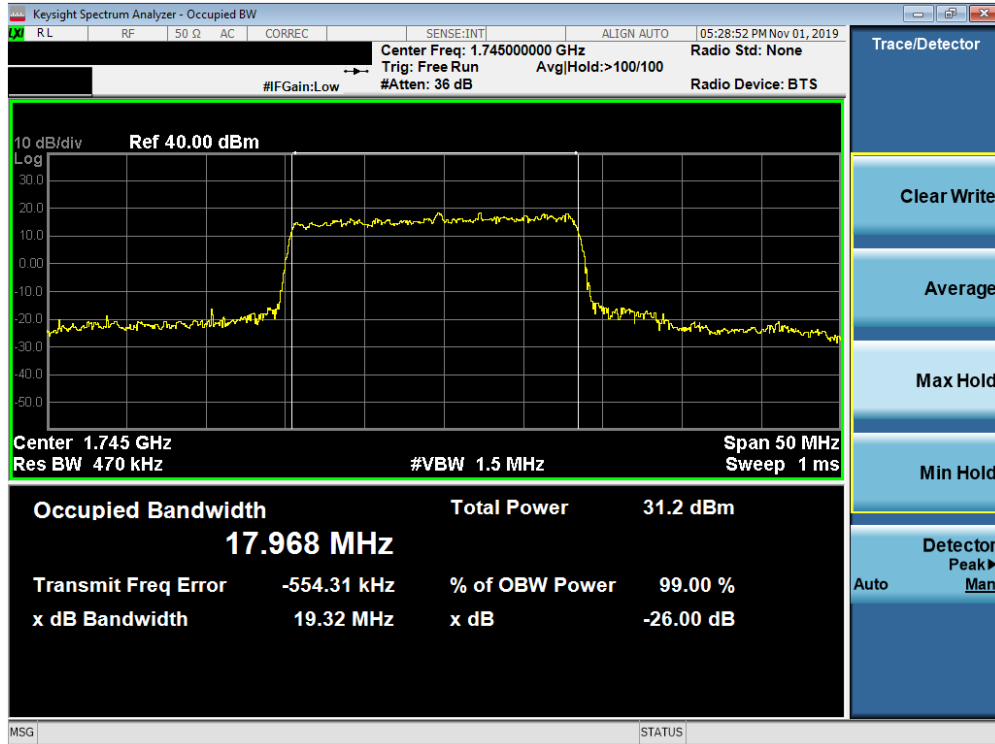


Plot 7-558. Occupied Bandwidth Plot (n66 20MHz QPSK-CP-OFDM - Full RB Configuration)

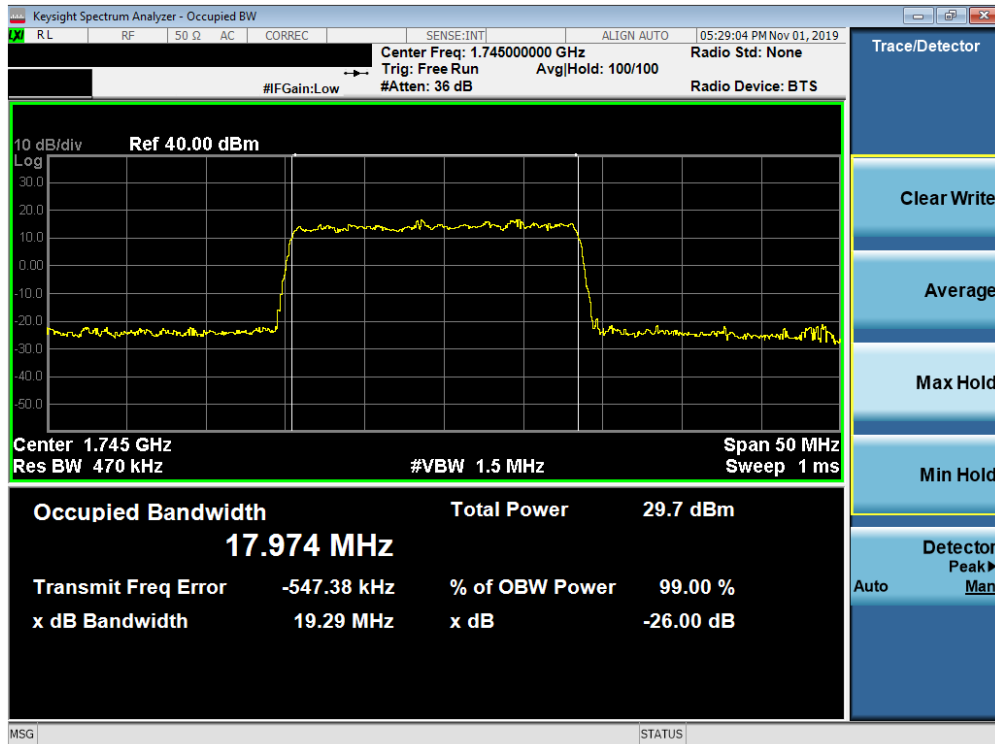


Plot 7-559. Occupied Bandwidth Plot (n66 20MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 369 of 487



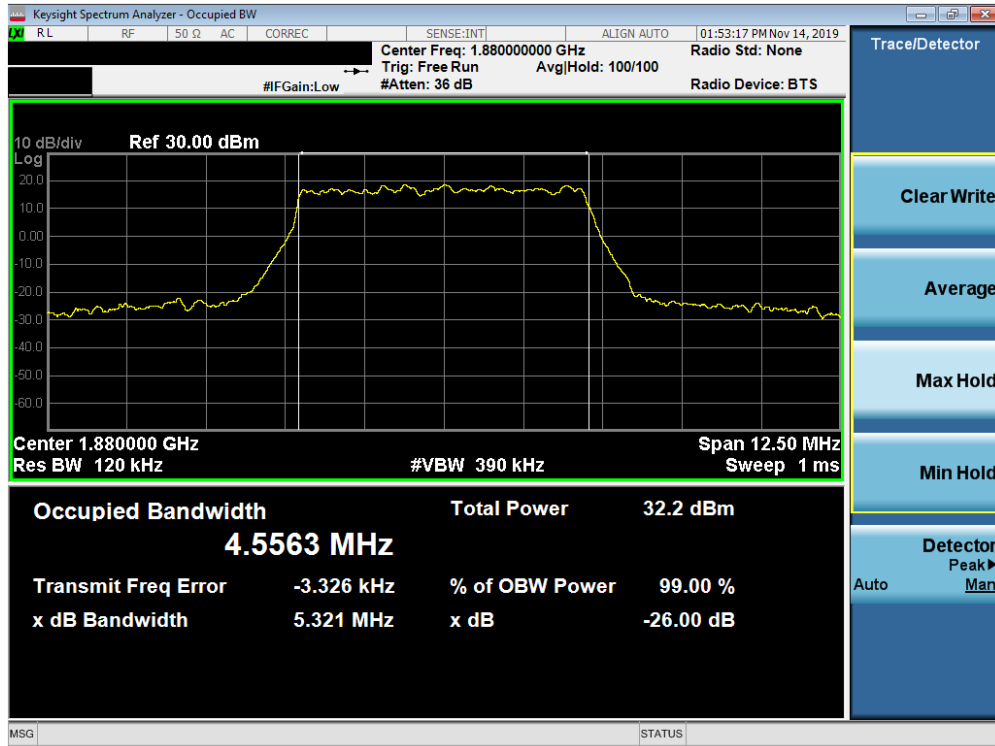
Plot 7-560. Occupied Bandwidth Plot (n66 20MHz 64QAM-CP-OFDM- Full RB Configuration)



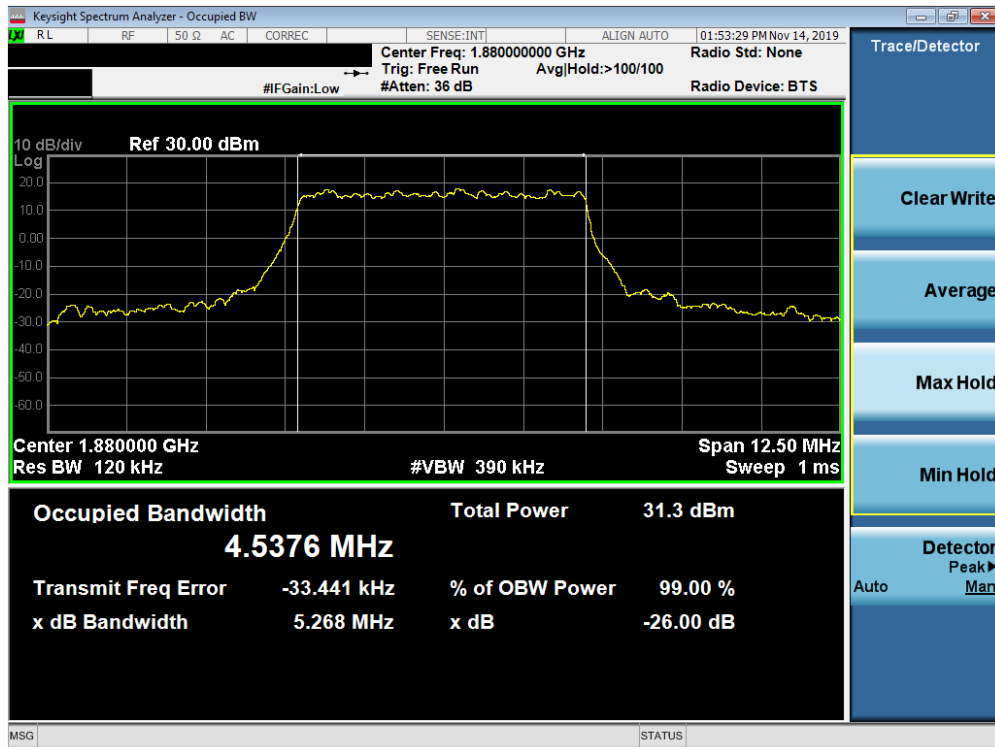
Plot 7-561. Occupied Bandwidth Plot (n66 20MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 370 of 487

NR Band n2

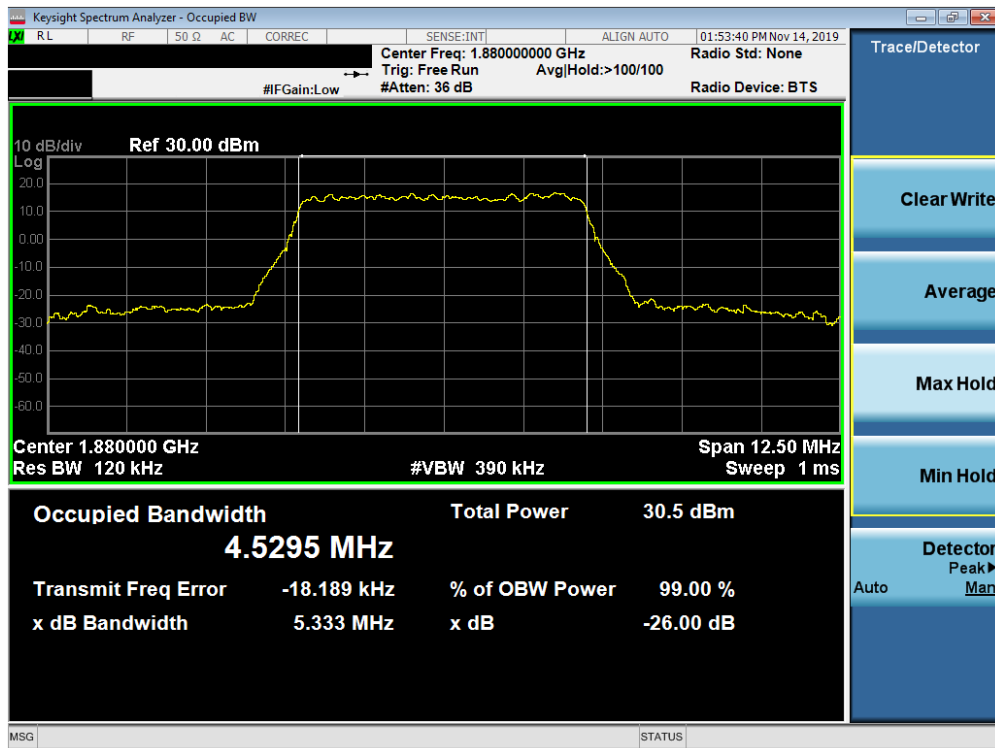


Plot 7-562. Occupied Bandwidth Plot (n2 5MHz QPSK-CP-OFDM - Full RB Configuration)

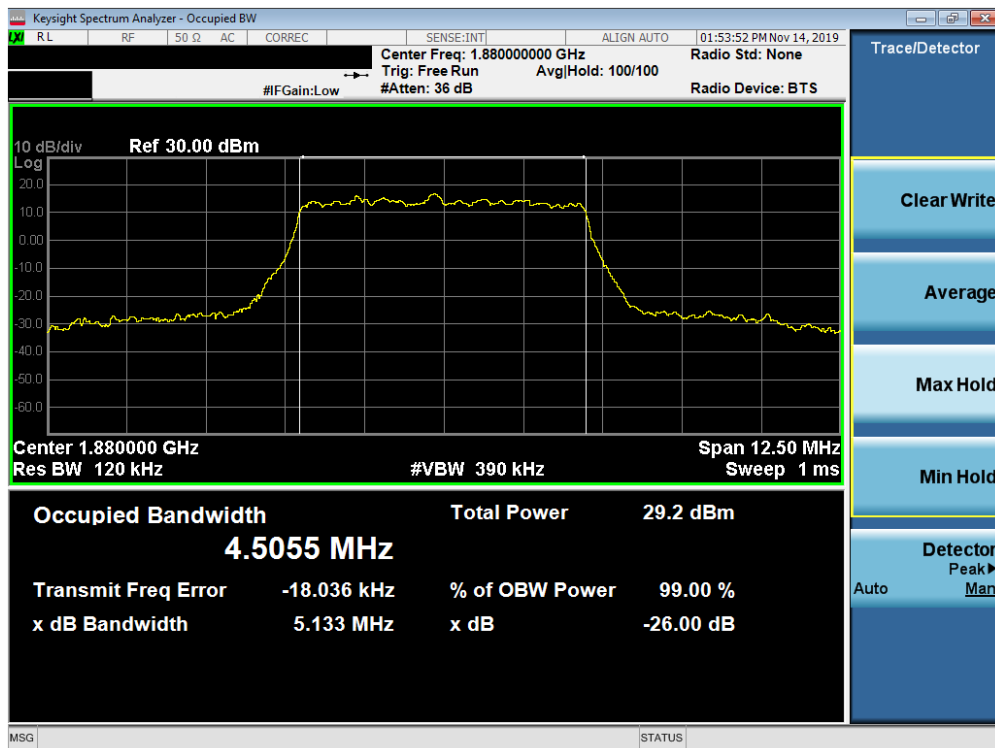


Plot 7-563. Occupied Bandwidth Plot (n2 5MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 371 of 487

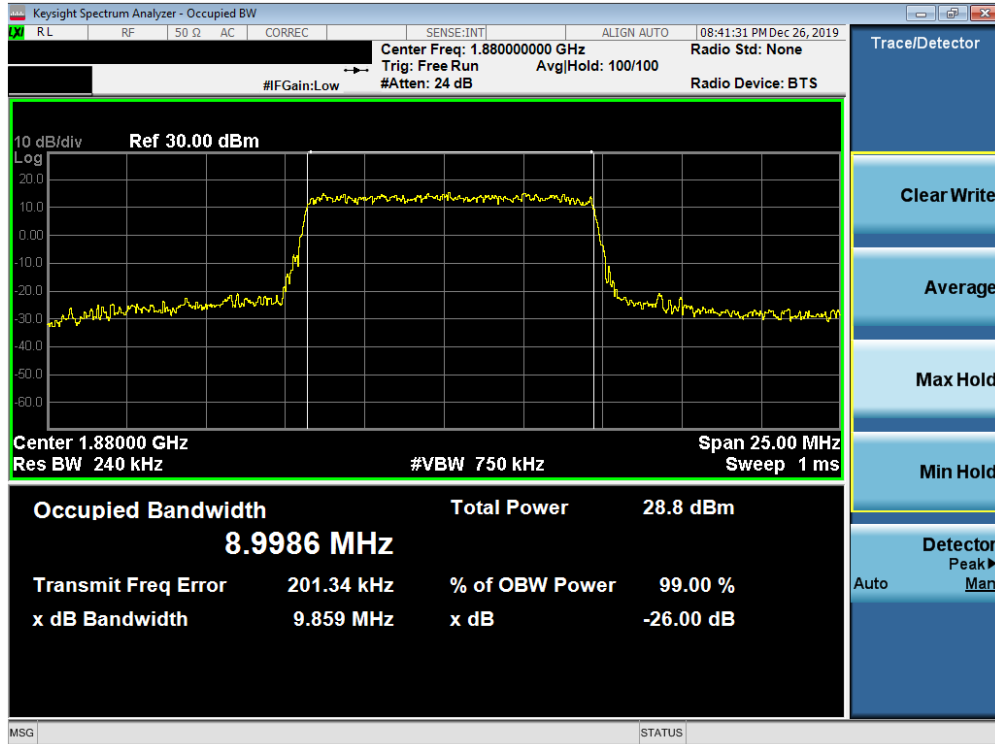


Plot 7-564. Occupied Bandwidth Plot (n2 5MHz 64QAM-CP-OFDM- Full RB Configuration)

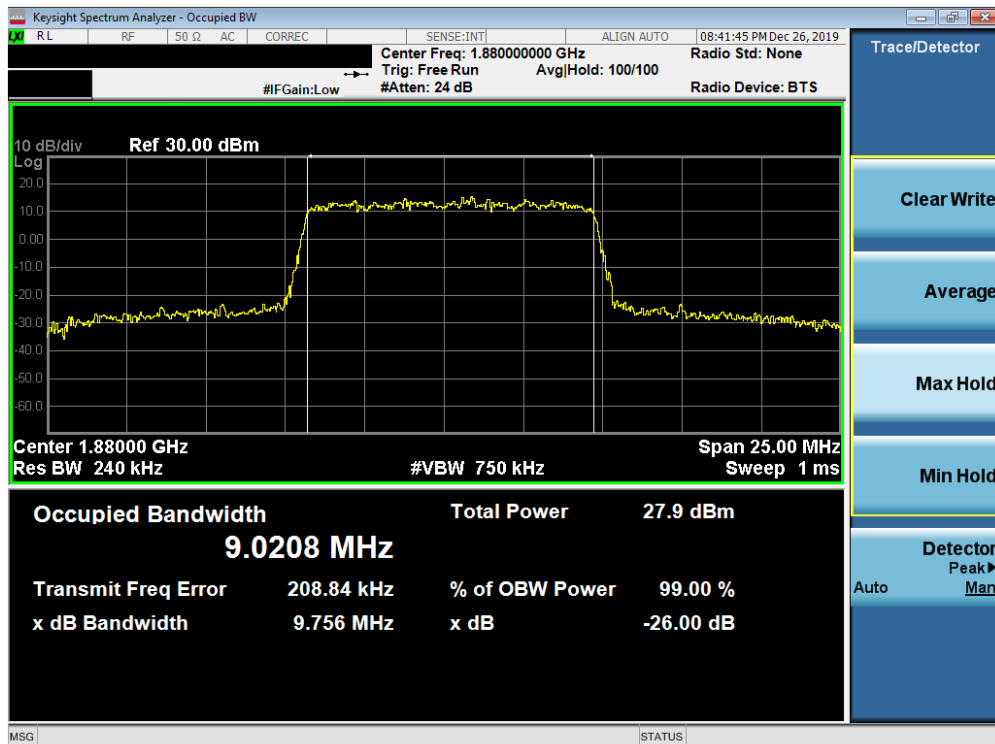


Plot 7-565. Occupied Bandwidth Plot (n2 5MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 372 of 487

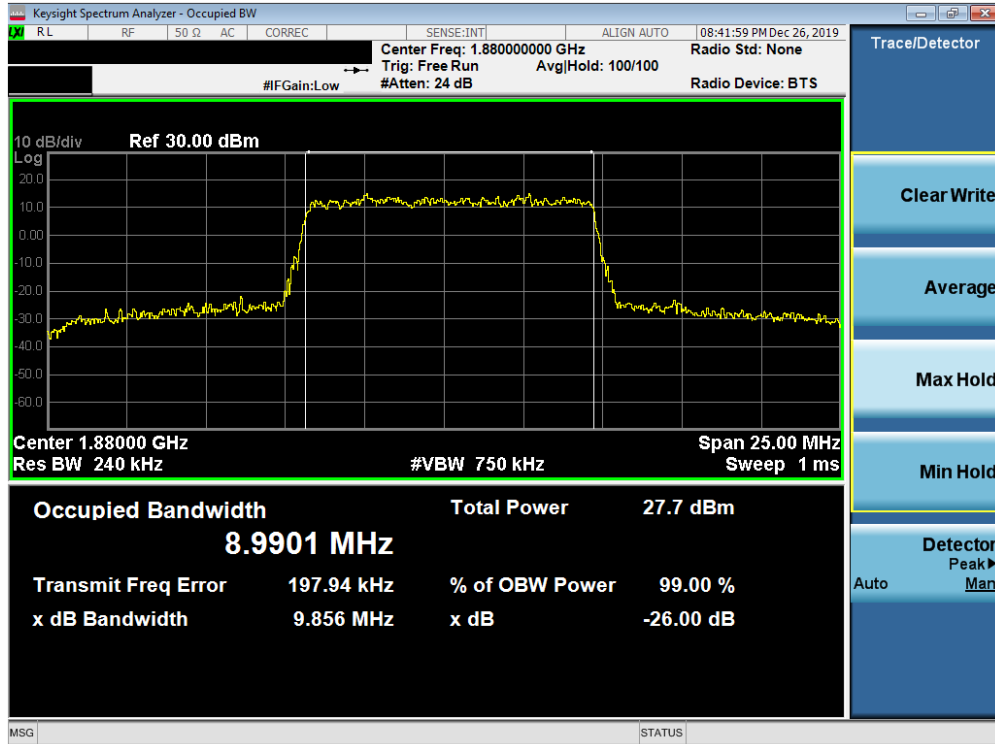


Plot 7-566. Occupied Bandwidth Plot (n2 10MHz QPSK-CP-OFDM - Full RB Configuration)

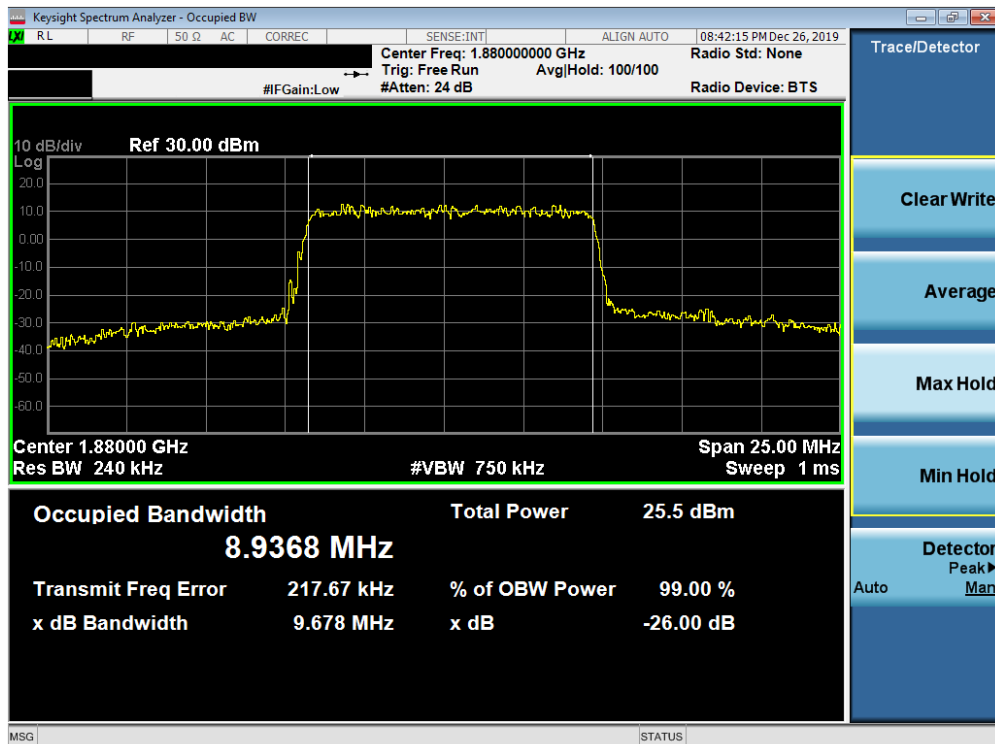


Plot 7-567. Occupied Bandwidth Plot (n2 10MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 373 of 487

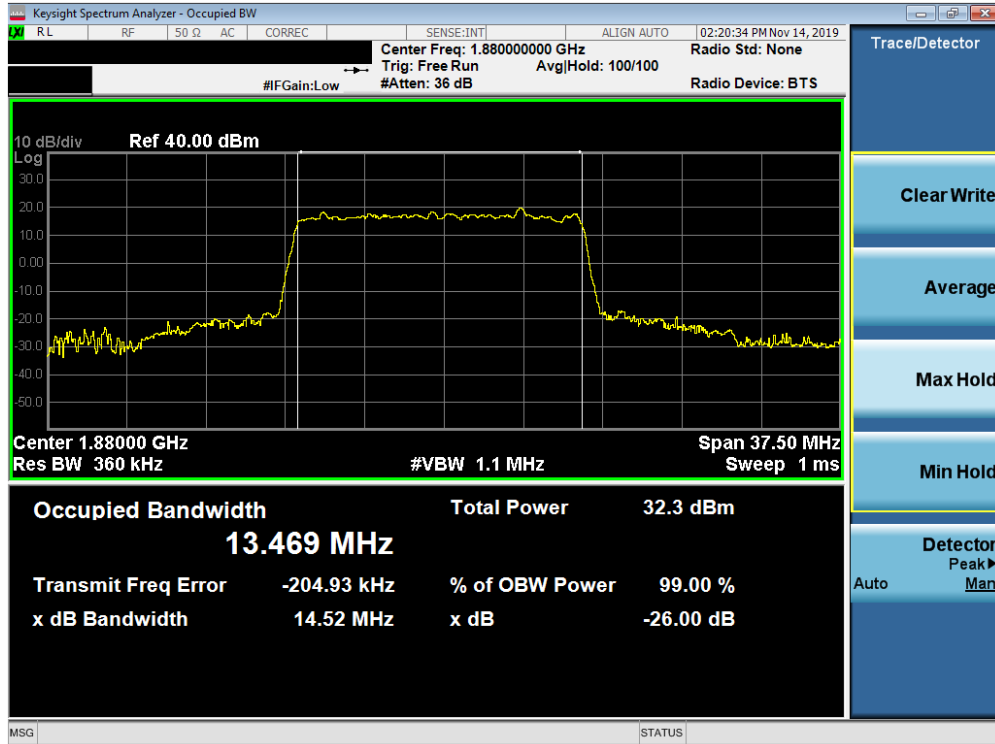


Plot 7-568. Occupied Bandwidth Plot (n2 10MHz 64QAM-CP-OFDM- Full RB Configuration)

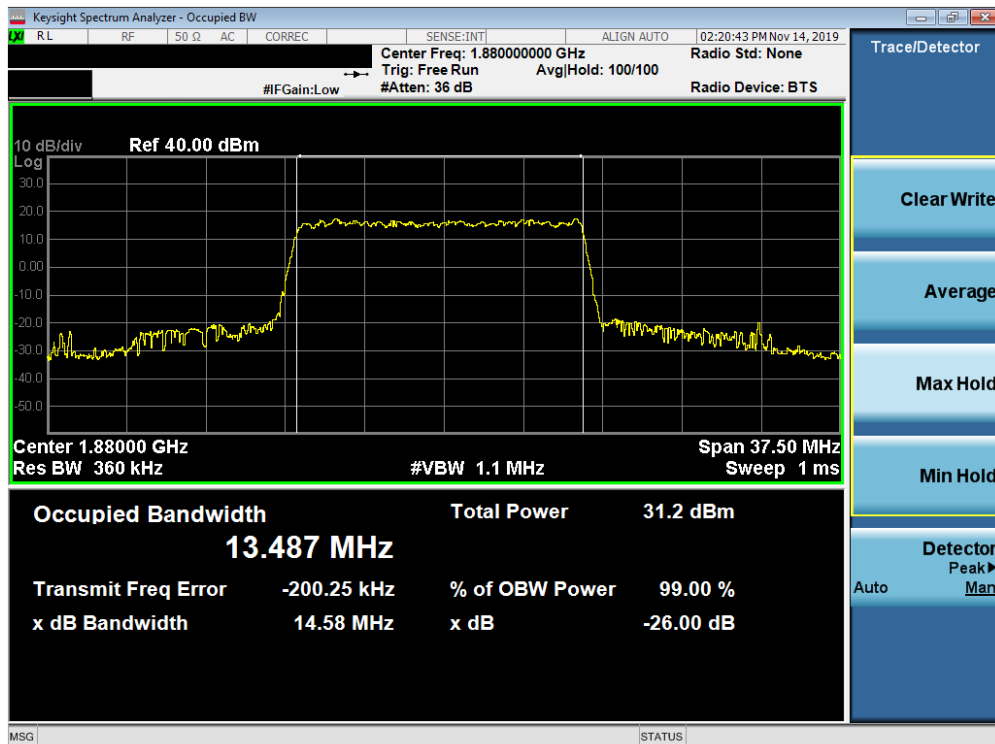


Plot 7-569. Occupied Bandwidth Plot (n2 10MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 374 of 487

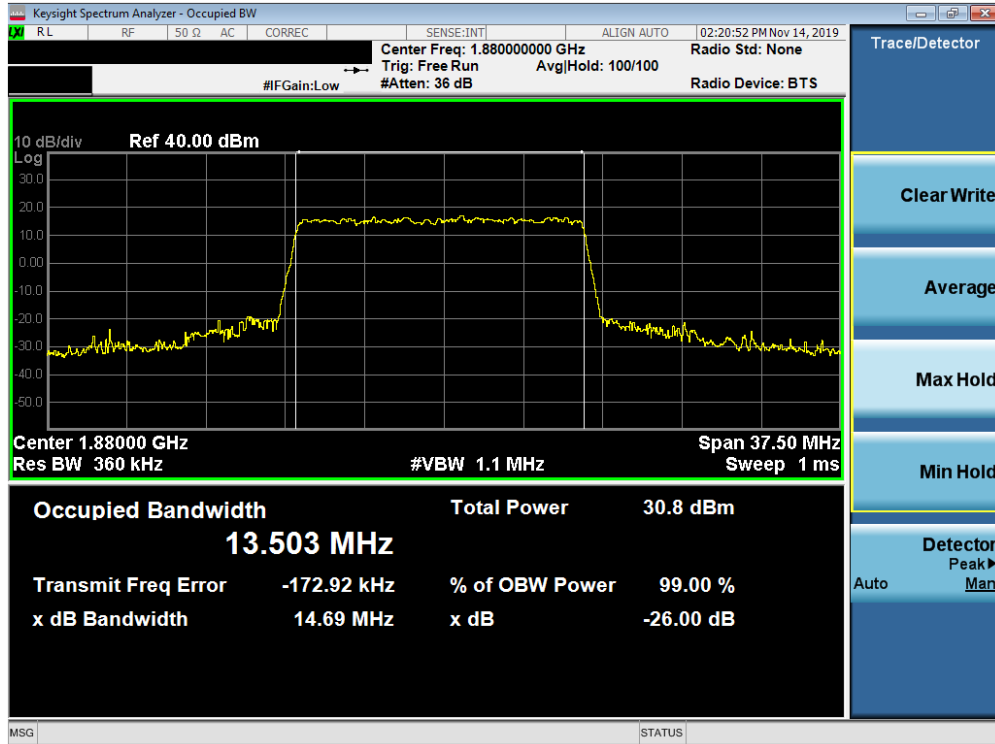


Plot 7-570. Occupied Bandwidth Plot (n2 15MHz QPSK-CP-OFDM - Full RB Configuration)

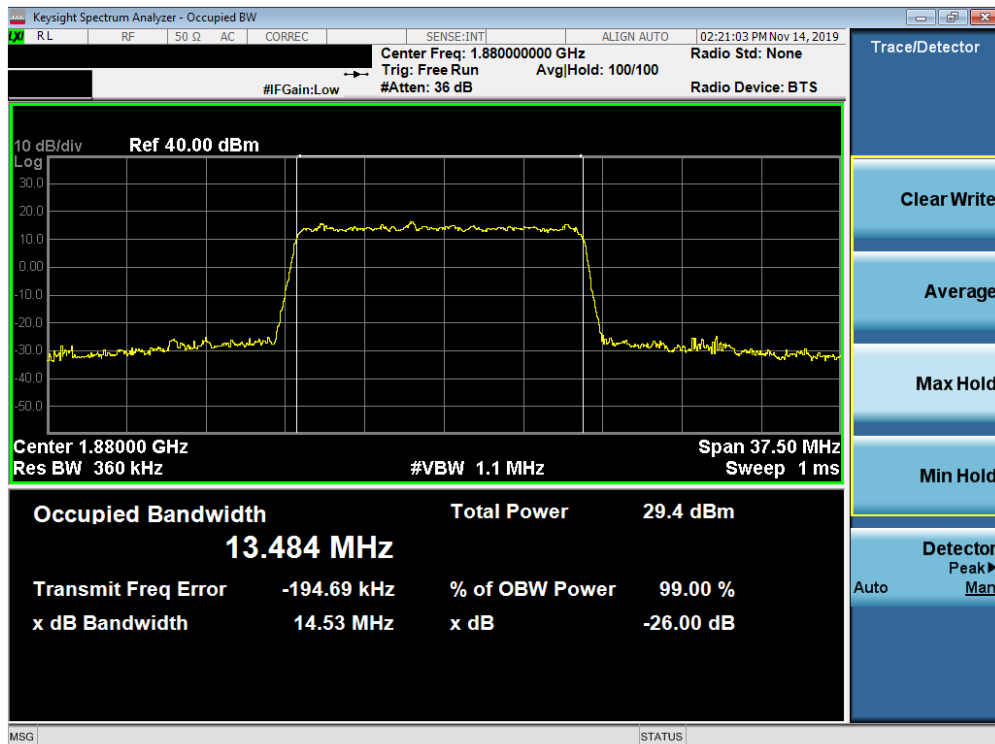


Plot 7-571. Occupied Bandwidth Plot (n2 15MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 375 of 487

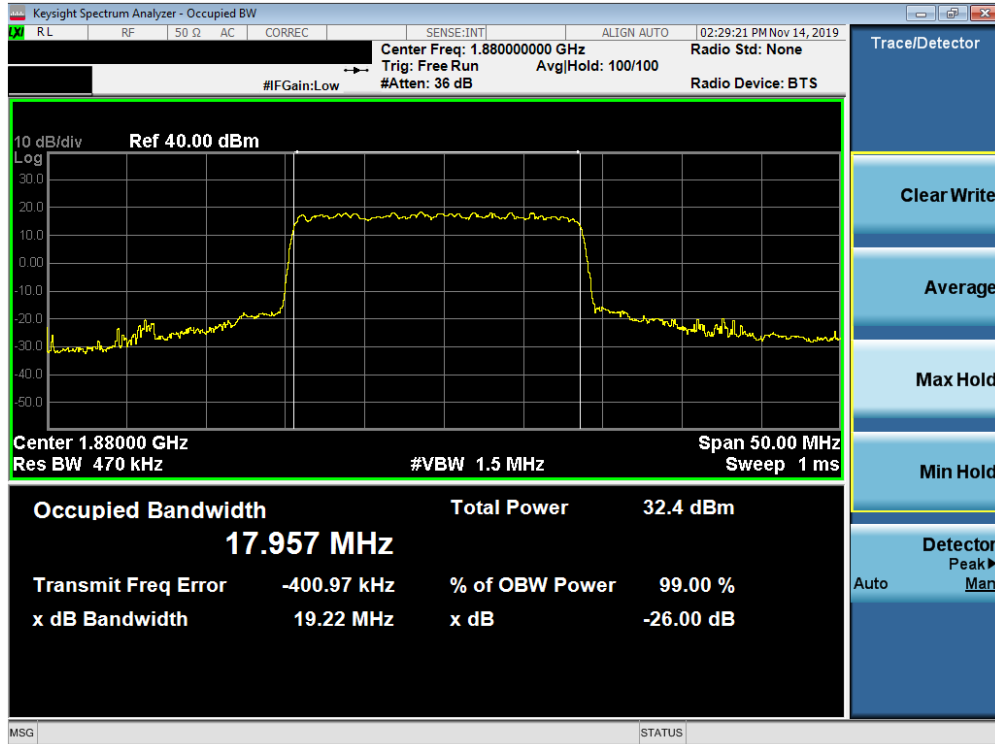


Plot 7-572. Occupied Bandwidth Plot (n2 15MHz 64QAM-CP-OFDM- Full RB Configuration)

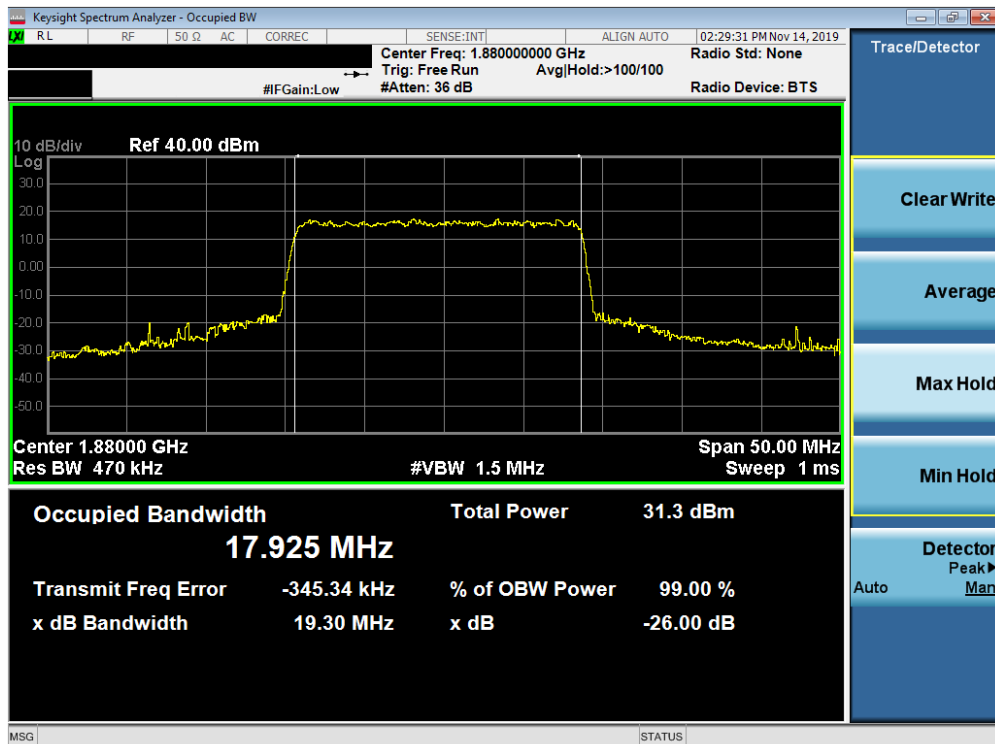


Plot 7-573. Occupied Bandwidth Plot (n2 15MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 376 of 487

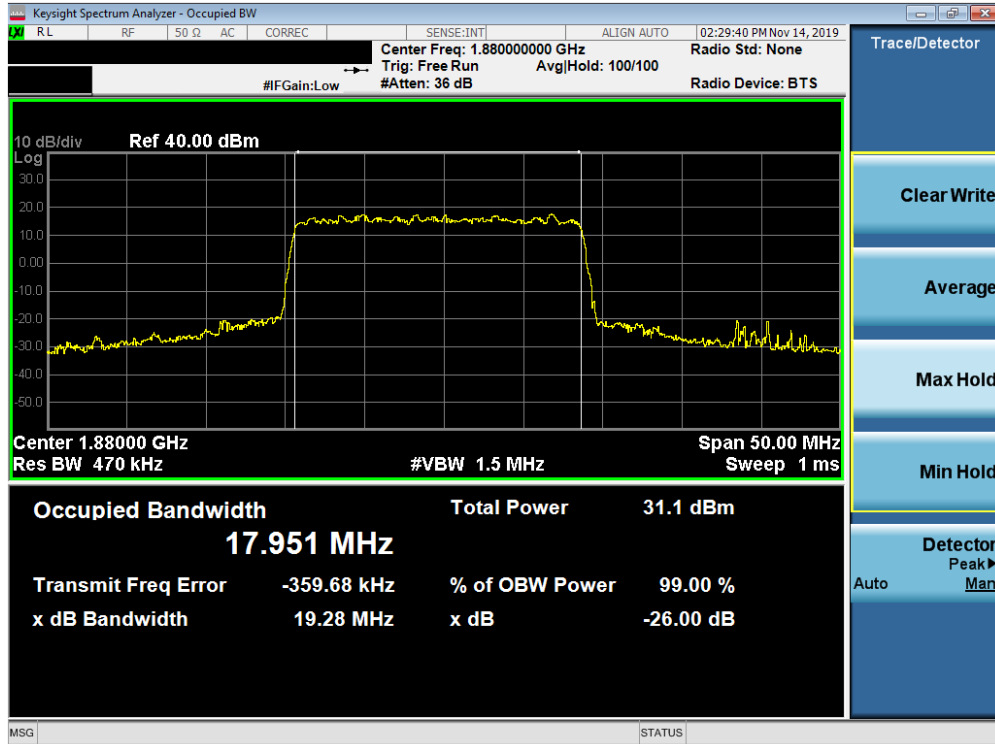


Plot 7-574. Occupied Bandwidth Plot (n2 20MHz QPSK-CP-OFDM - Full RB Configuration)

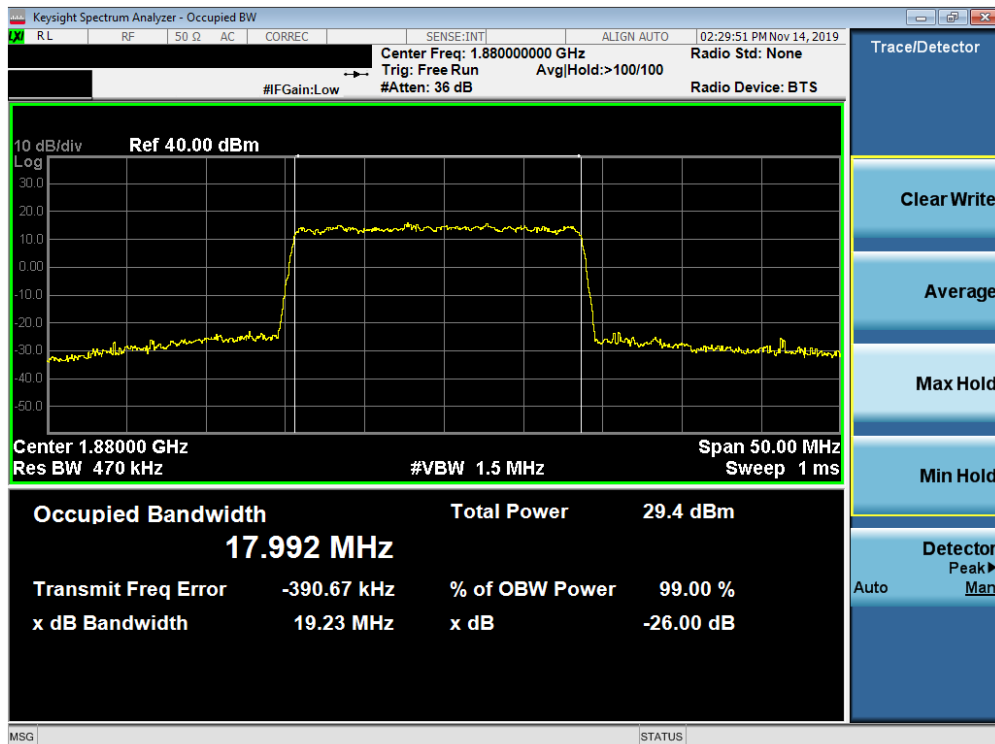


Plot 7-575. Occupied Bandwidth Plot (n2 20MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 377 of 487



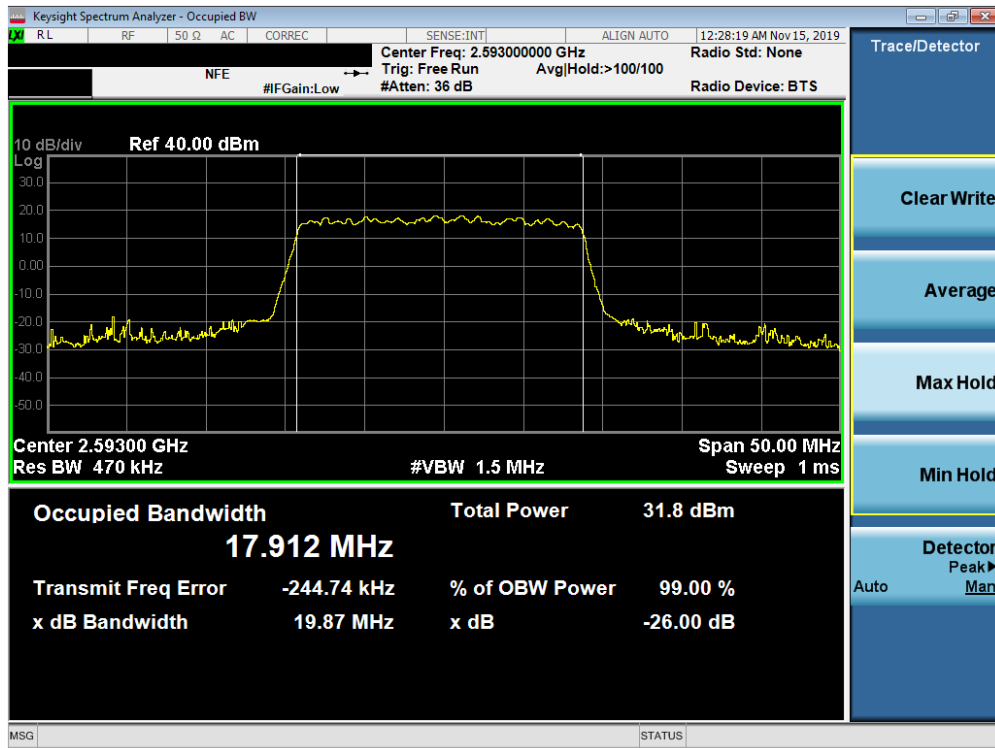
Plot 7-576. Occupied Bandwidth Plot (n2 20MHz 64QAM-CP-OFDM- Full RB Configuration)



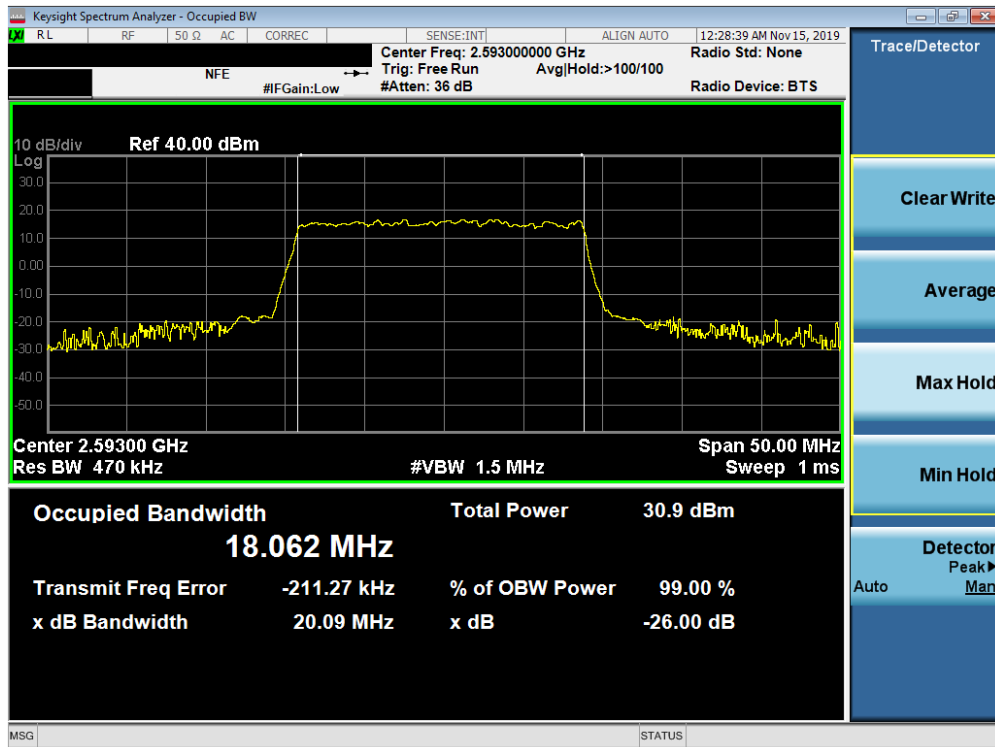
Plot 7-577. Occupied Bandwidth Plot (n2 20MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 378 of 487

NR Band n41

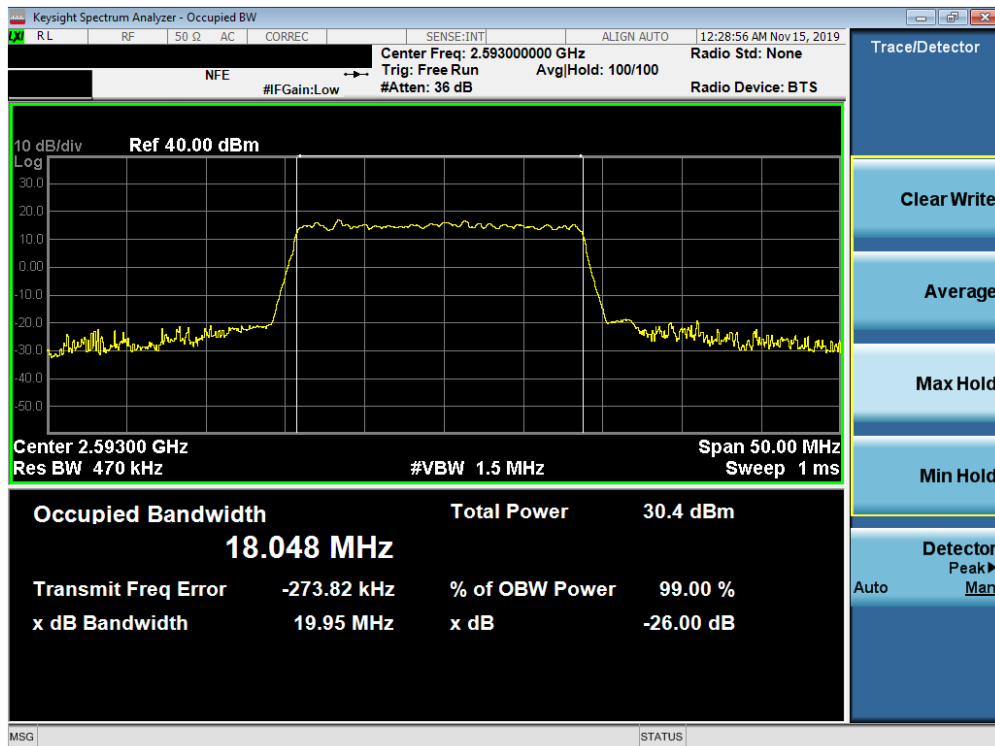


Plot 7-578. Occupied Bandwidth Plot (n41 20MHz QPSK-CP-OFDM - Full RB Configuration)

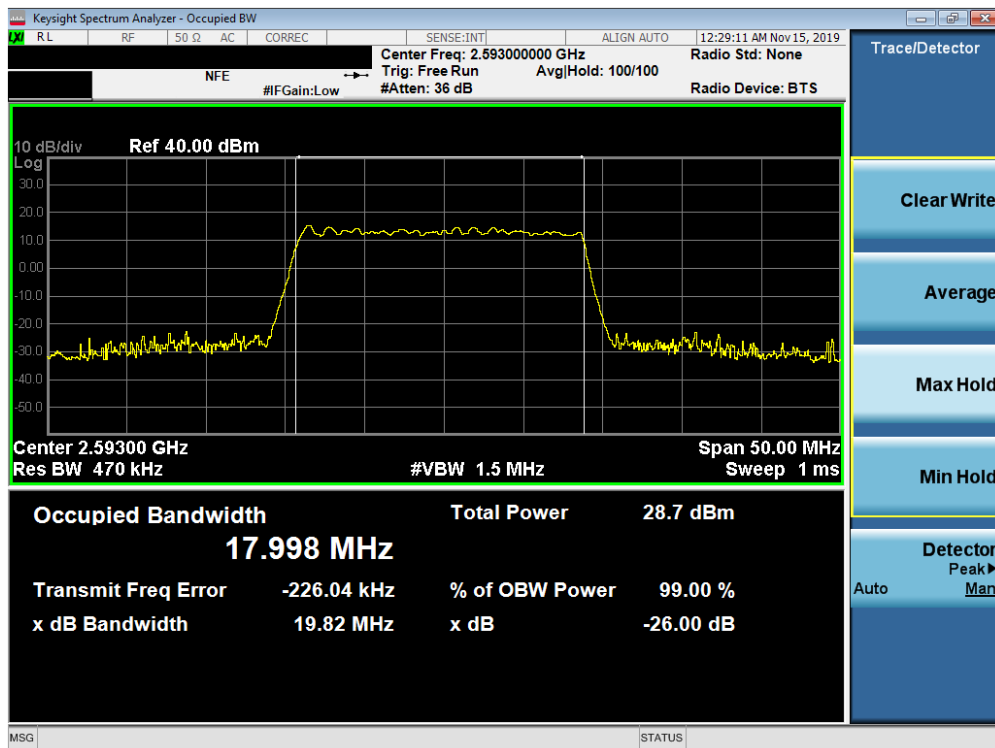


Plot 7-579. Occupied Bandwidth Plot (n41 20MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 379 of 487

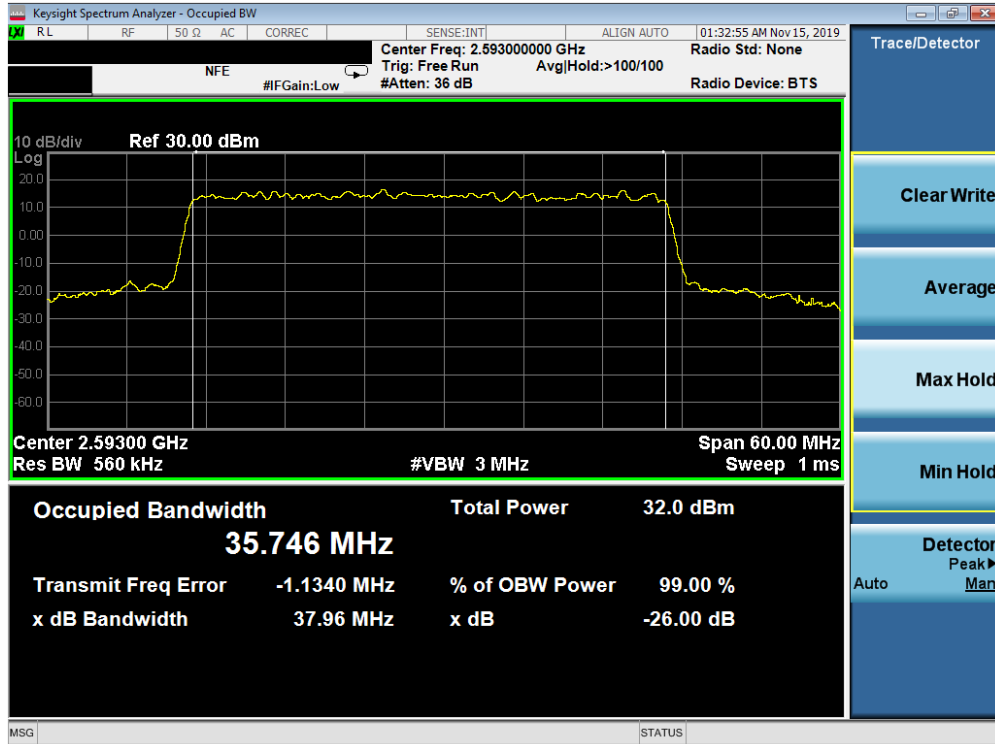


Plot 7-580. Occupied Bandwidth Plot (n41 20MHz 64QAM-CP-OFDM- Full RB Configuration)

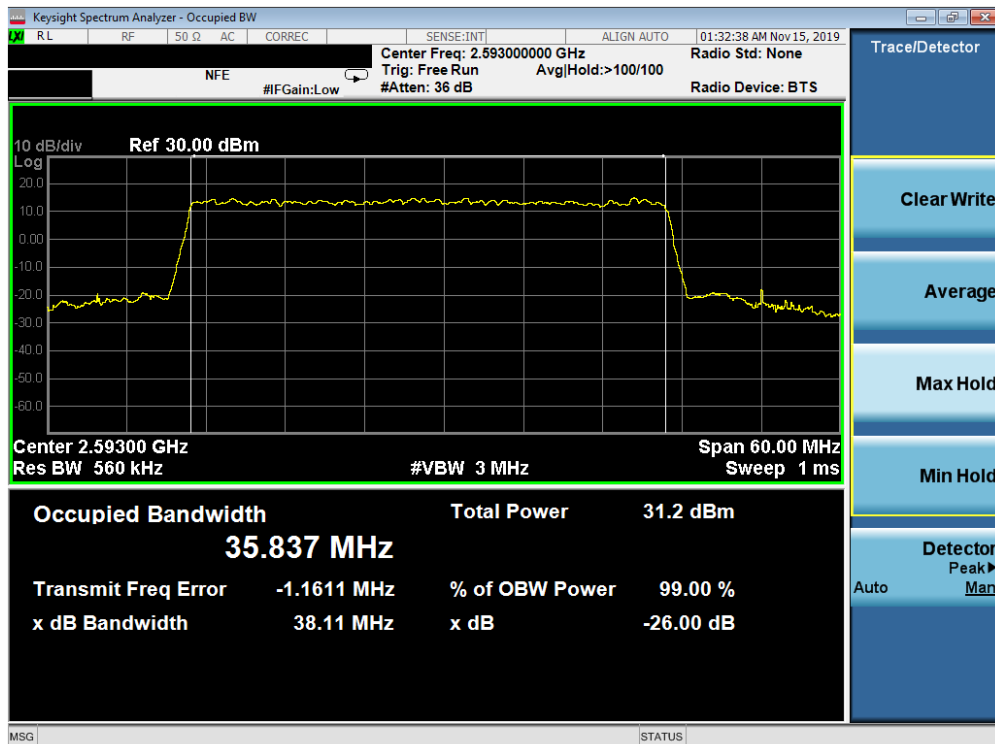


Plot 7-581. Occupied Bandwidth Plot (n41 20MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 380 of 487

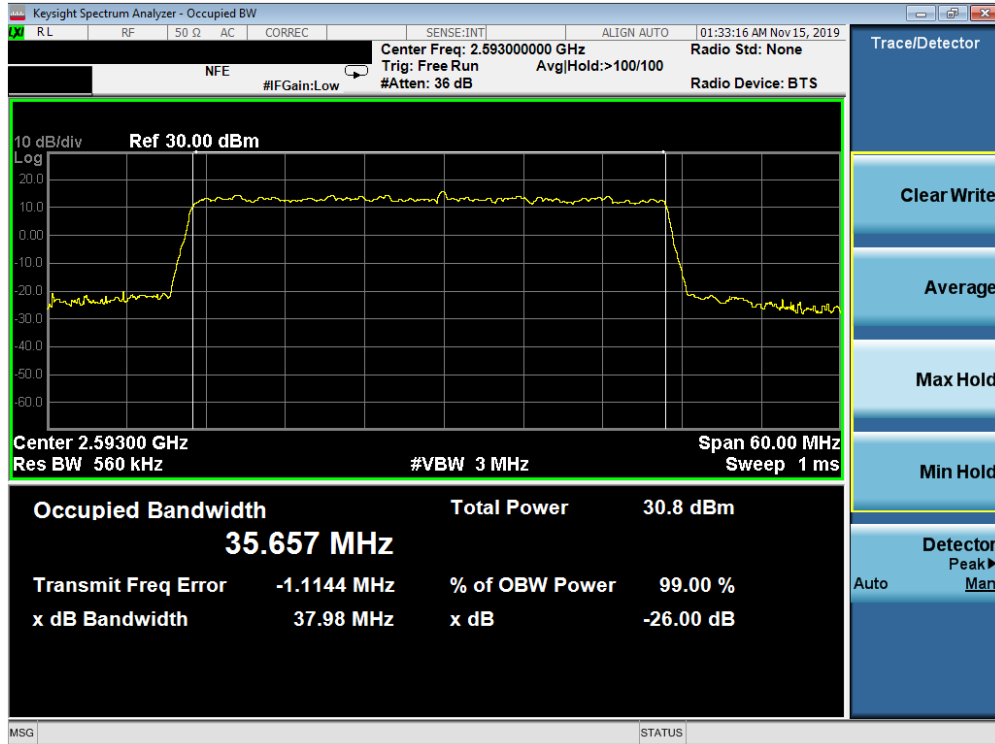


Plot 7-582. Occupied Bandwidth Plot (n41 40MHz QPSK-CP-OFDM - Full RB Configuration)

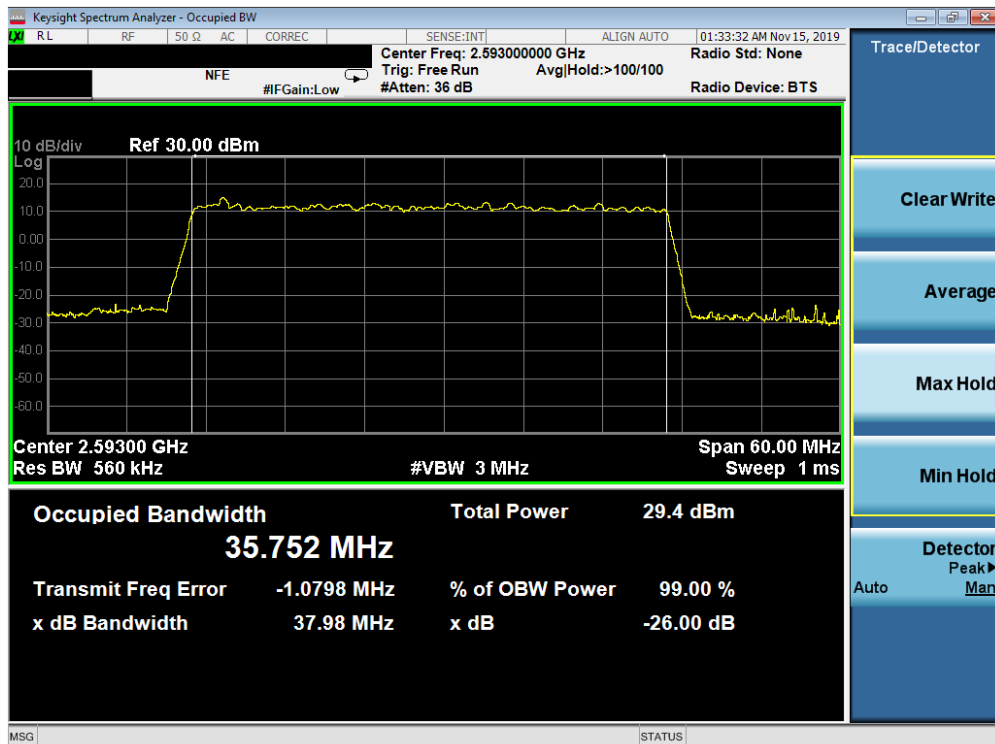


Plot 7-583. Occupied Bandwidth Plot (n41 40MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 381 of 487

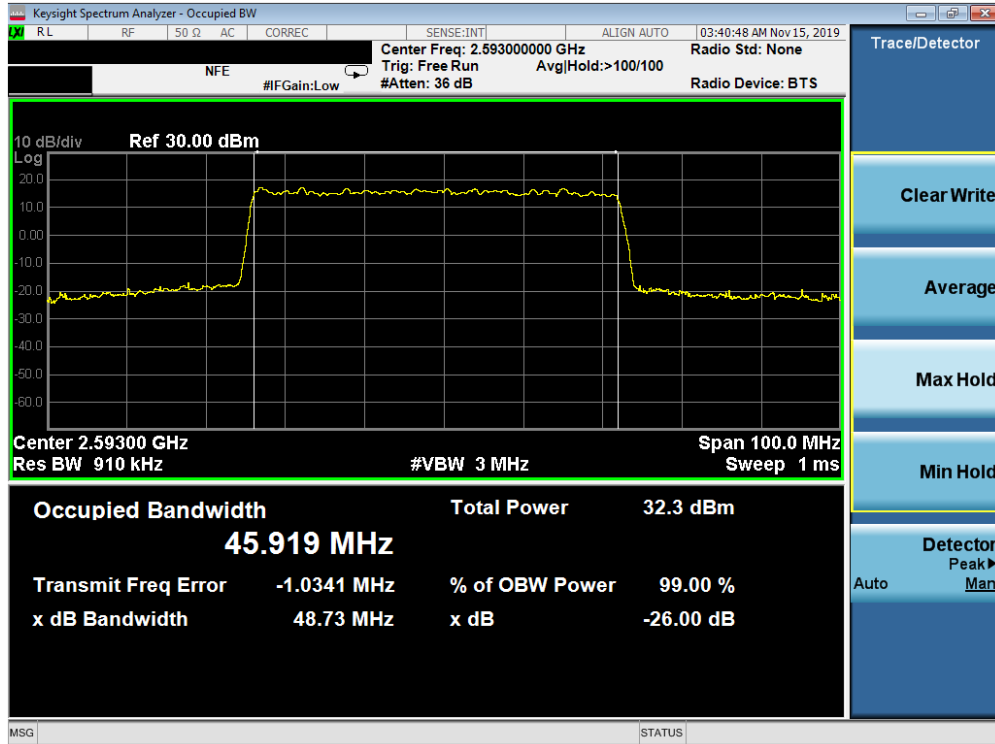


Plot 7-584. Occupied Bandwidth Plot (n41 40MHz 64QAM-CP-OFDM- Full RB Configuration)

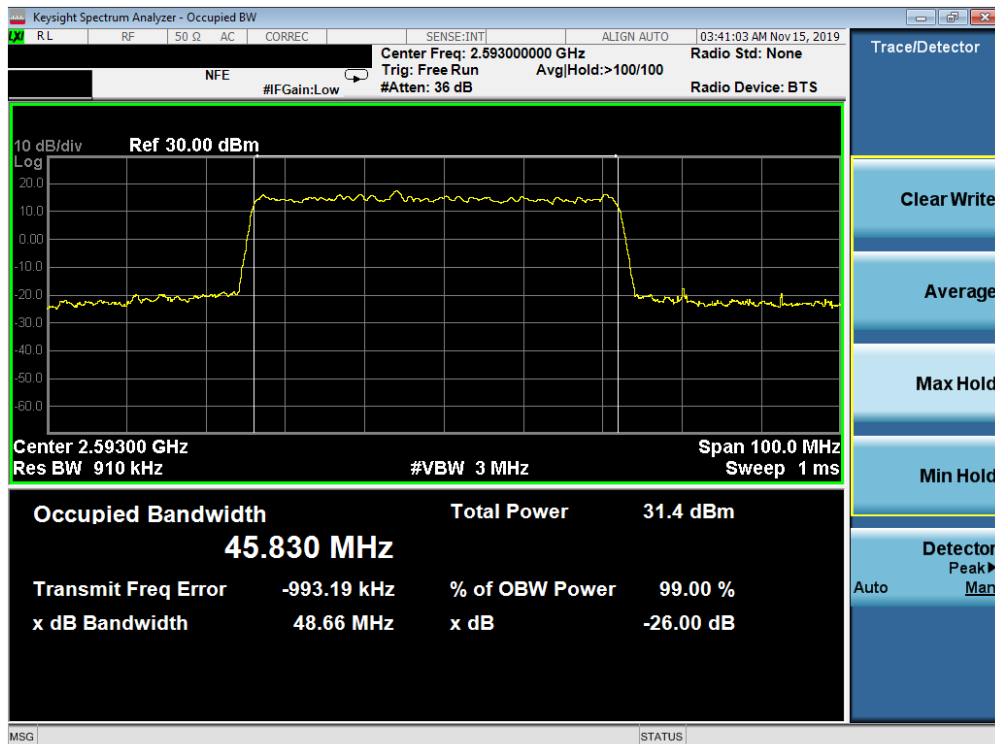


Plot 7-585. Occupied Bandwidth Plot (n41 40MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 382 of 487

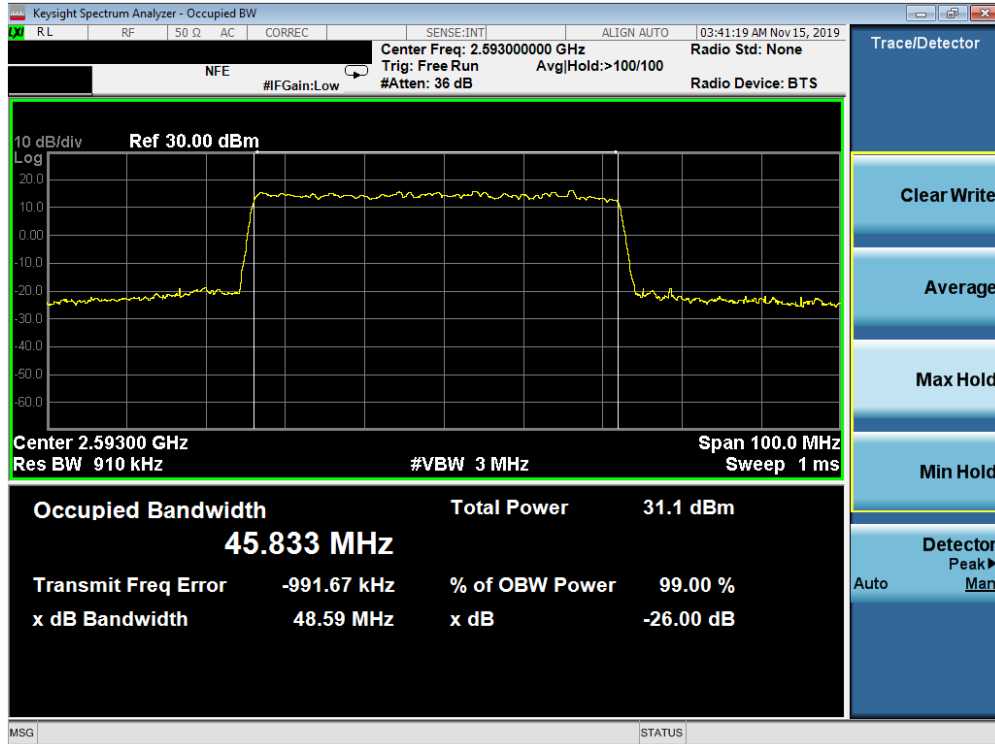


Plot 7-586. Occupied Bandwidth Plot (n41 50MHz QPSK-CP-OFDM - Full RB Configuration)

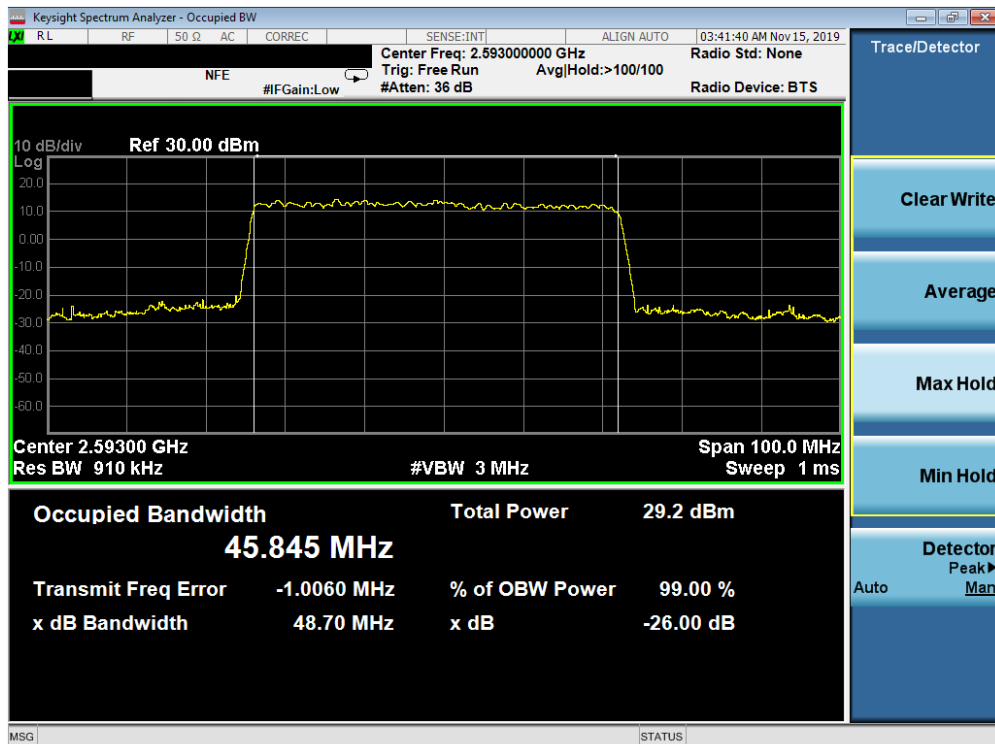


Plot 7-587. Occupied Bandwidth Plot (n41 50MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset	Page 383 of 487

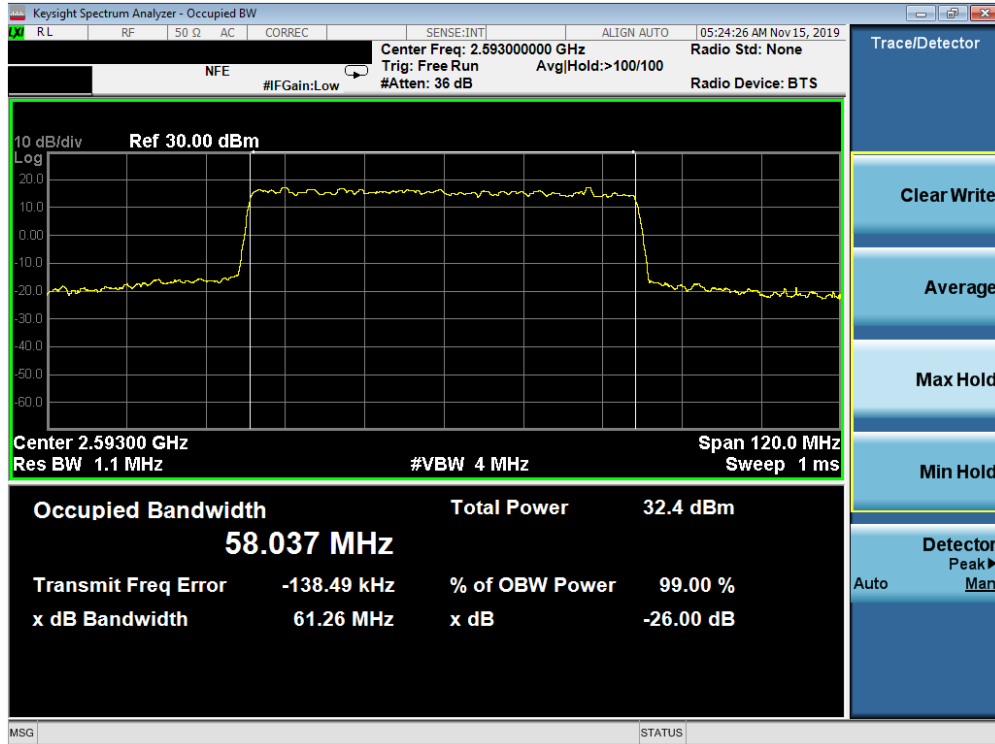


Plot 7-588. Occupied Bandwidth Plot (n41 50MHz 64QAM-CP-OFDM- Full RB Configuration)

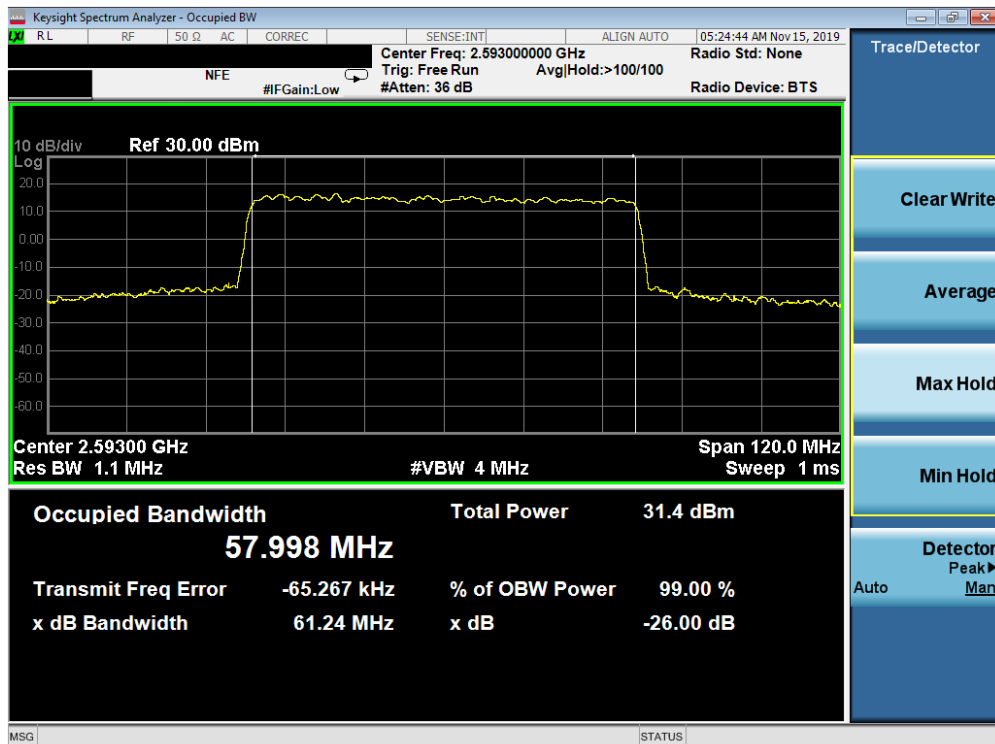


Plot 7-589. Occupied Bandwidth Plot (n41 50MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 384 of 487

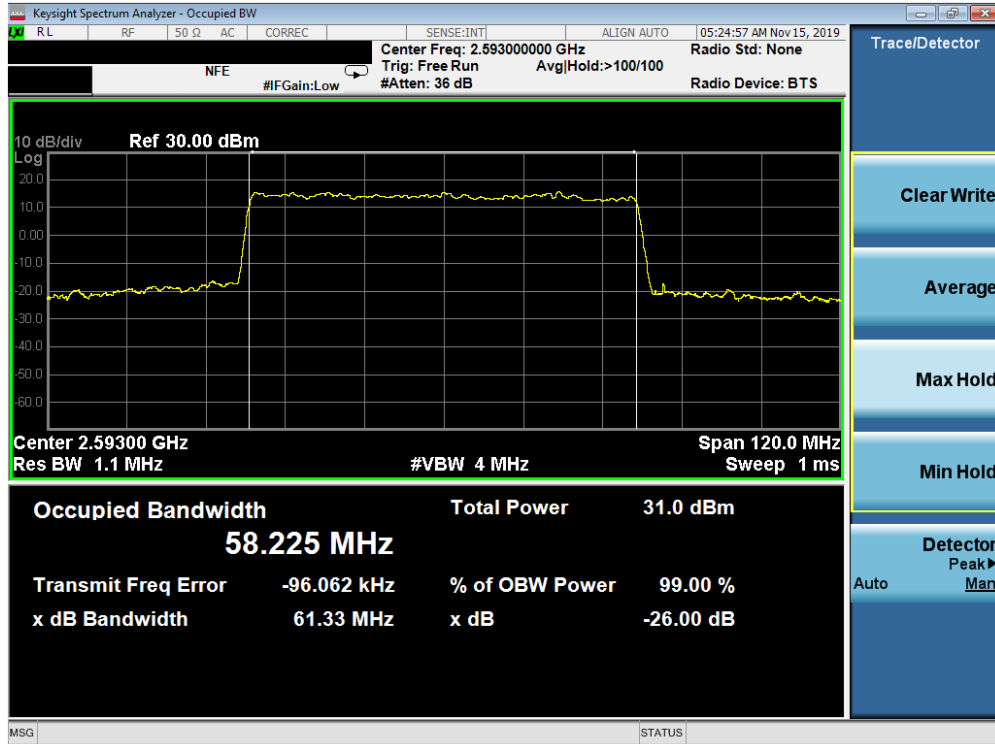


Plot 7-590. Occupied Bandwidth Plot (n41 60MHz QPSK-CP-OFDM - Full RB Configuration)

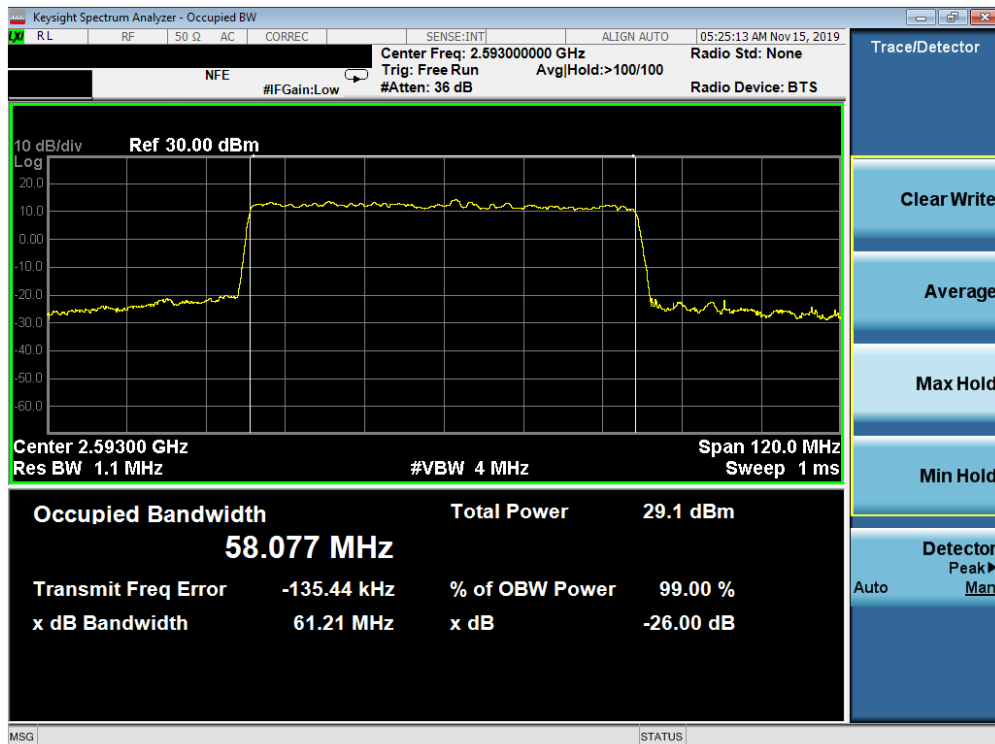


Plot 7-591. Occupied Bandwidth Plot (n41 60MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 385 of 487

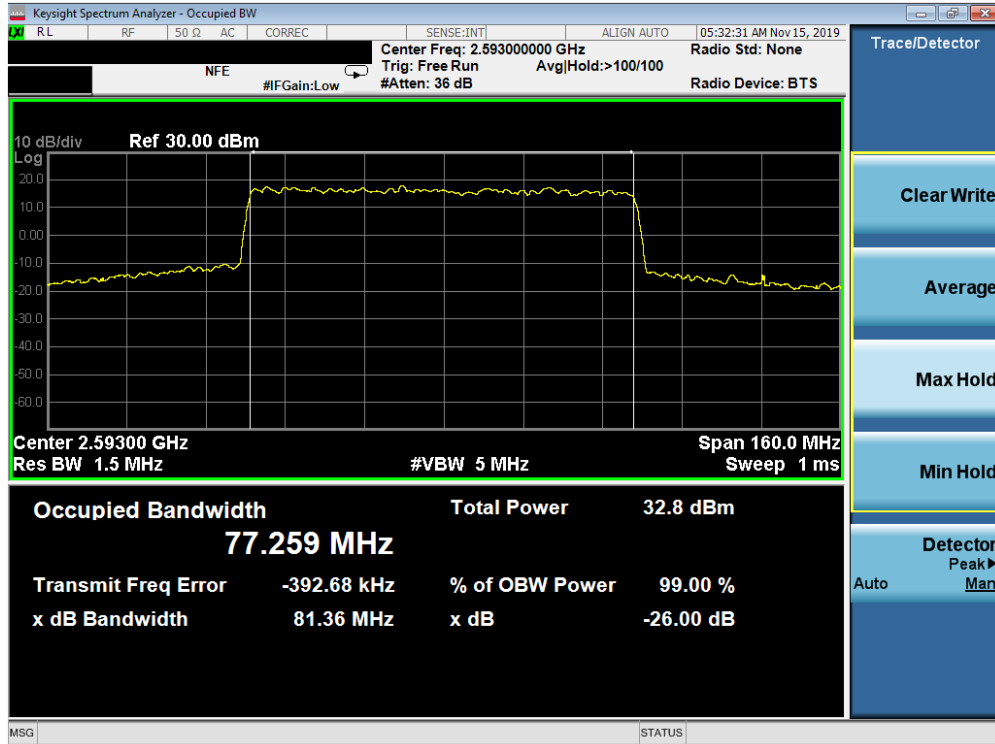


Plot 7-592. Occupied Bandwidth Plot (n41 60MHz 64QAM-CP-OFDM- Full RB Configuration)

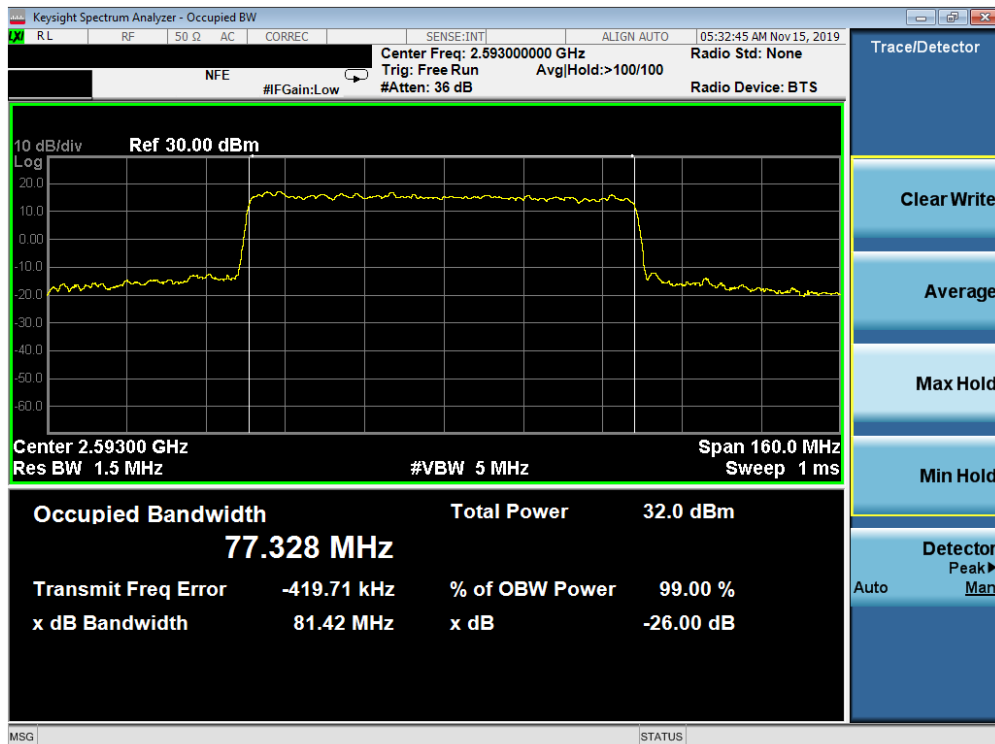


Plot 7-593. Occupied Bandwidth Plot (n41 60MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 386 of 487

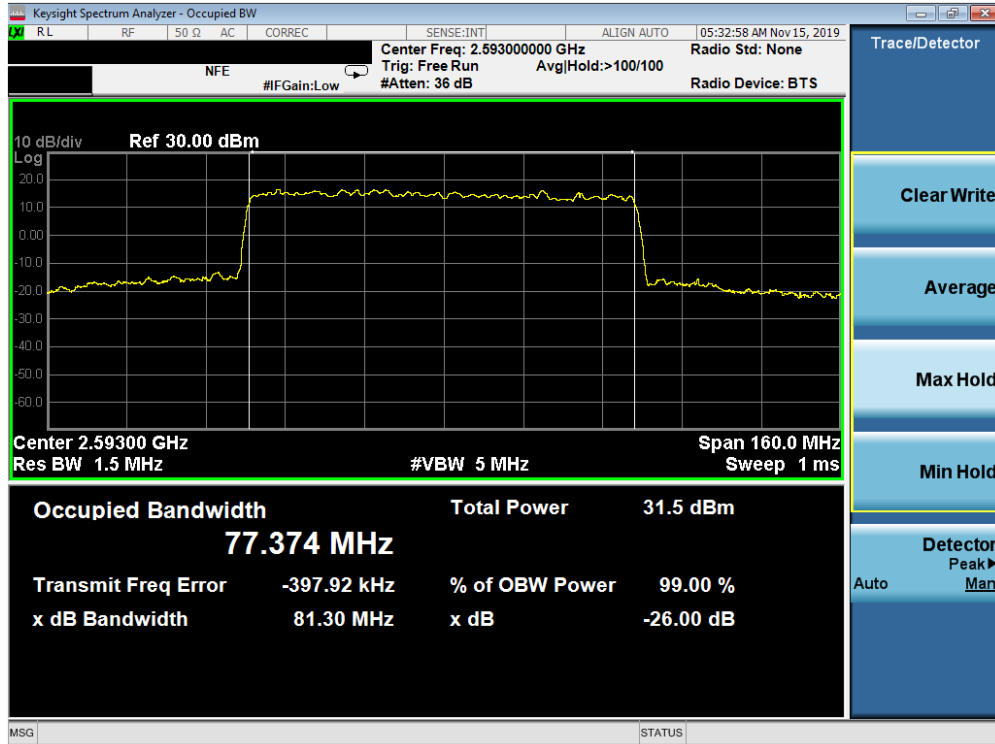


Plot 7-594. Occupied Bandwidth Plot (n41 80MHz QPSK-CP-OFDM - Full RB Configuration)

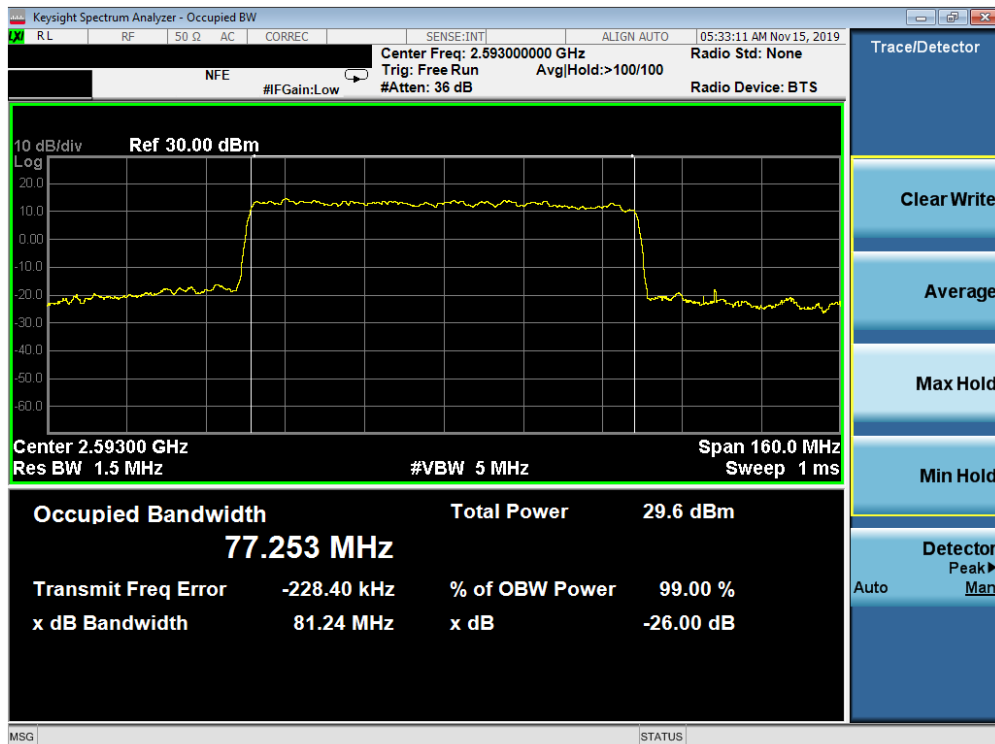


Plot 7-595. Occupied Bandwidth Plot (n41 80MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 387 of 487

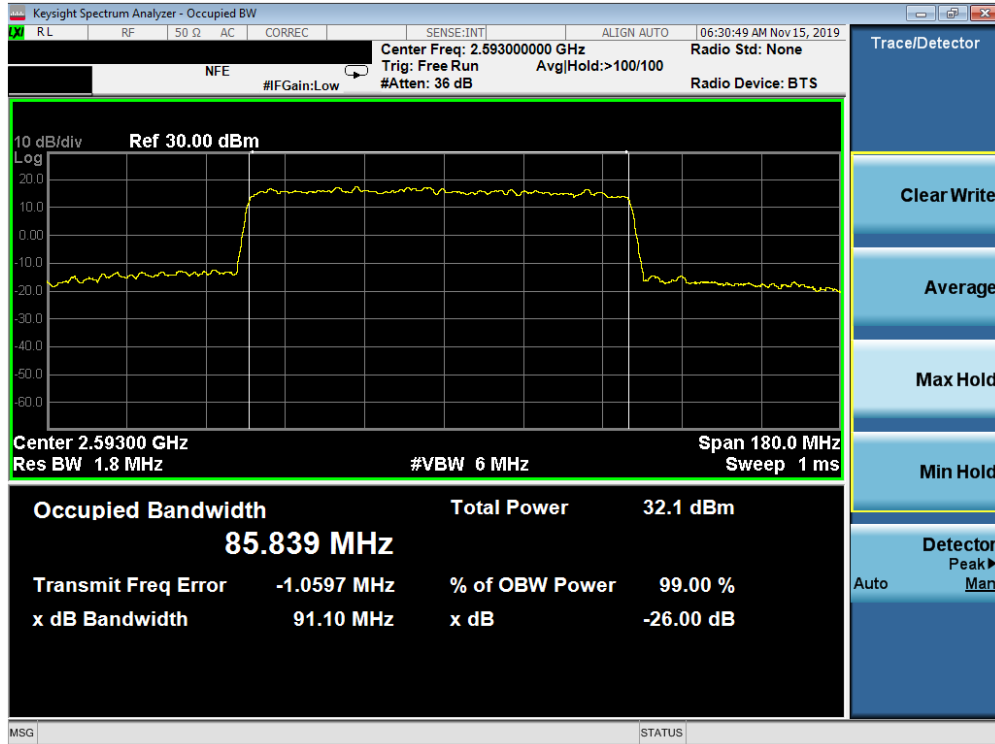


Plot 7-596. Occupied Bandwidth Plot (n41 80MHz 64QAM-CP-OFDM- Full RB Configuration)

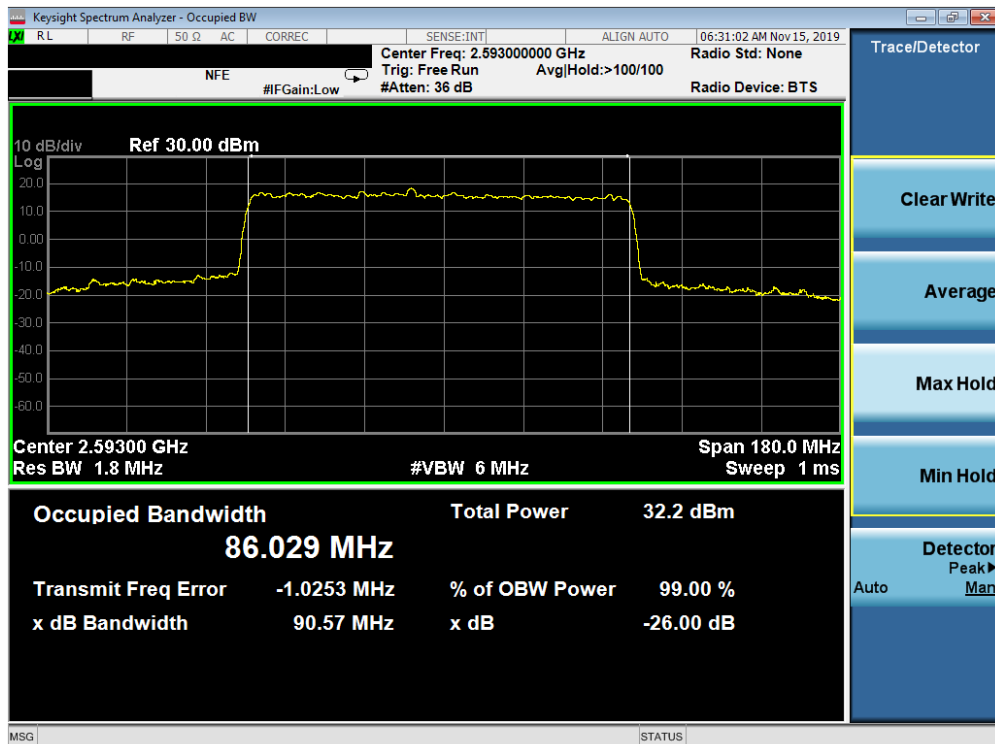


Plot 7-597. Occupied Bandwidth Plot (n41 80MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 388 of 487

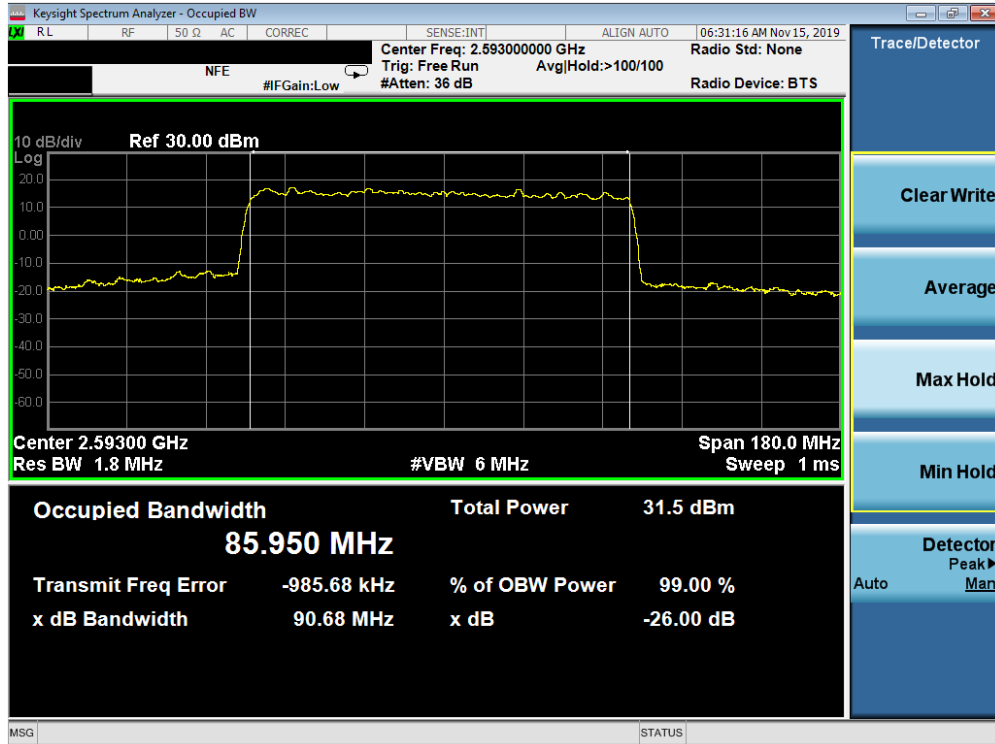


Plot 7-598. Occupied Bandwidth Plot (n41 90MHz QPSK-CP-OFDM - Full RB Configuration)

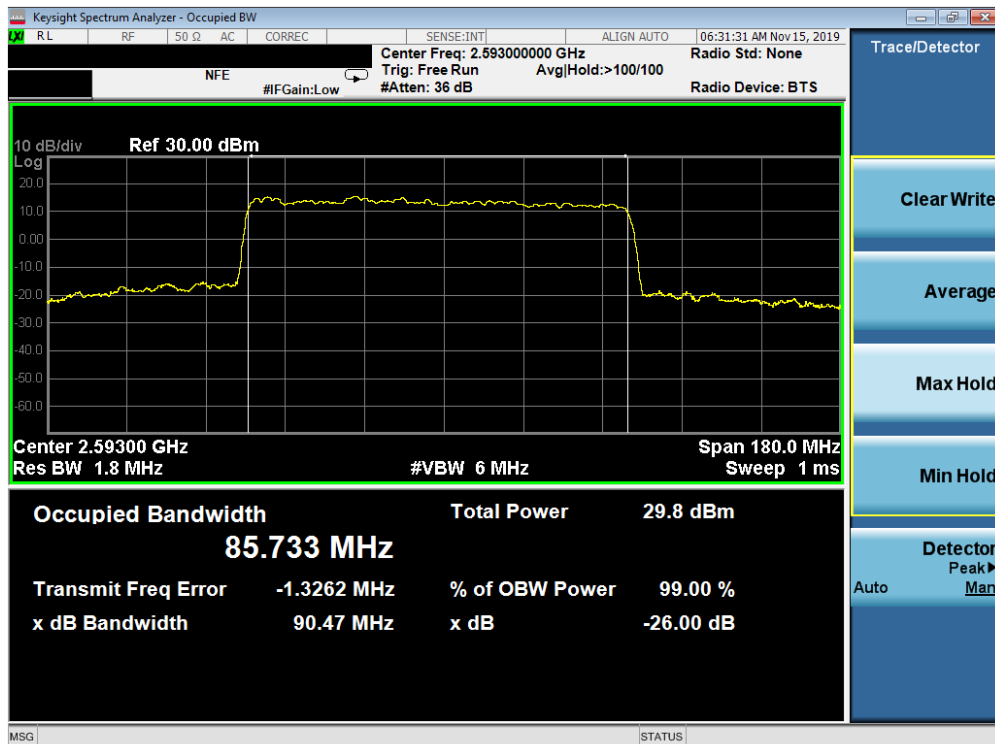


Plot 7-599. Occupied Bandwidth Plot (n41 90MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 389 of 487

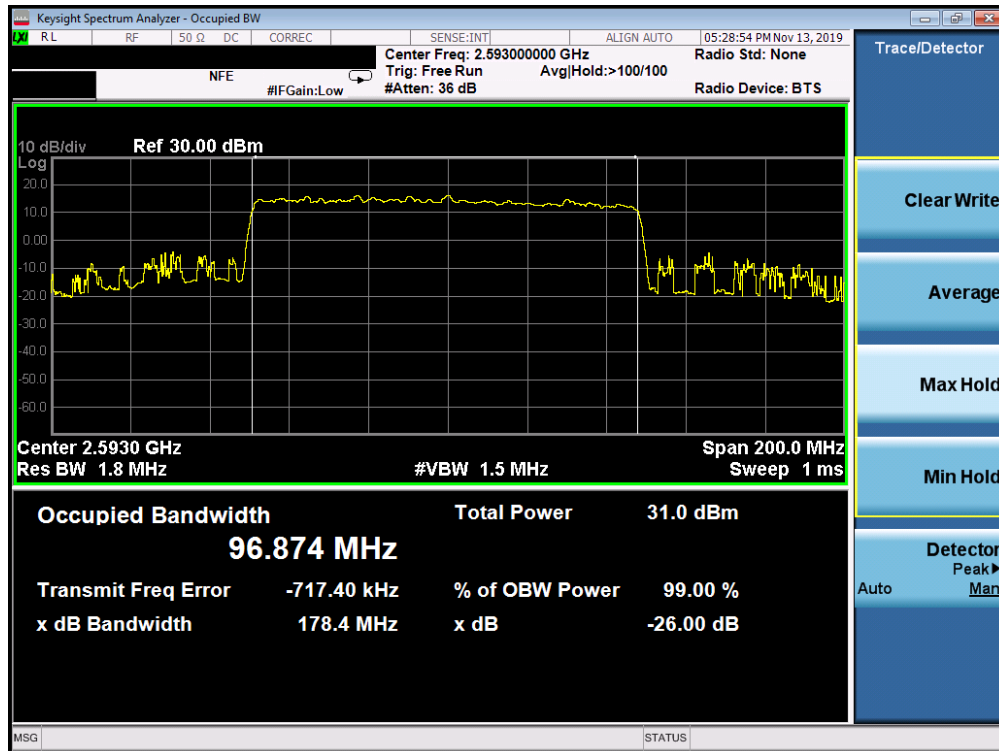


Plot 7-600. Occupied Bandwidth Plot (n41 90MHz 64QAM-CP-OFDM- Full RB Configuration)

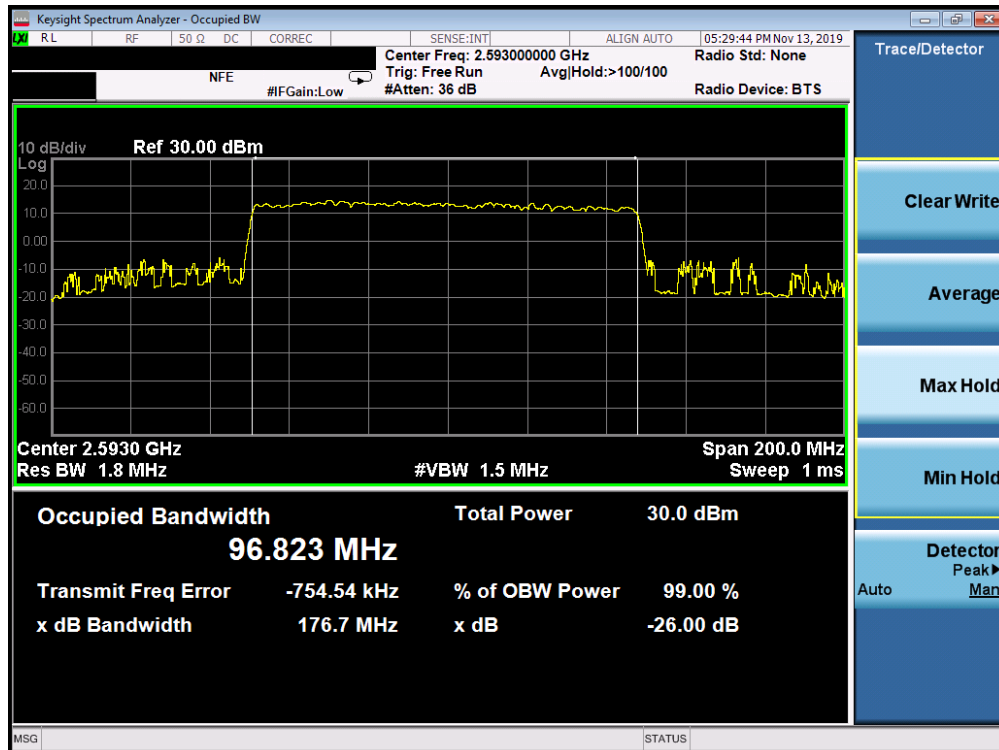


Plot 7-601. Occupied Bandwidth Plot (n41 90MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 390 of 487

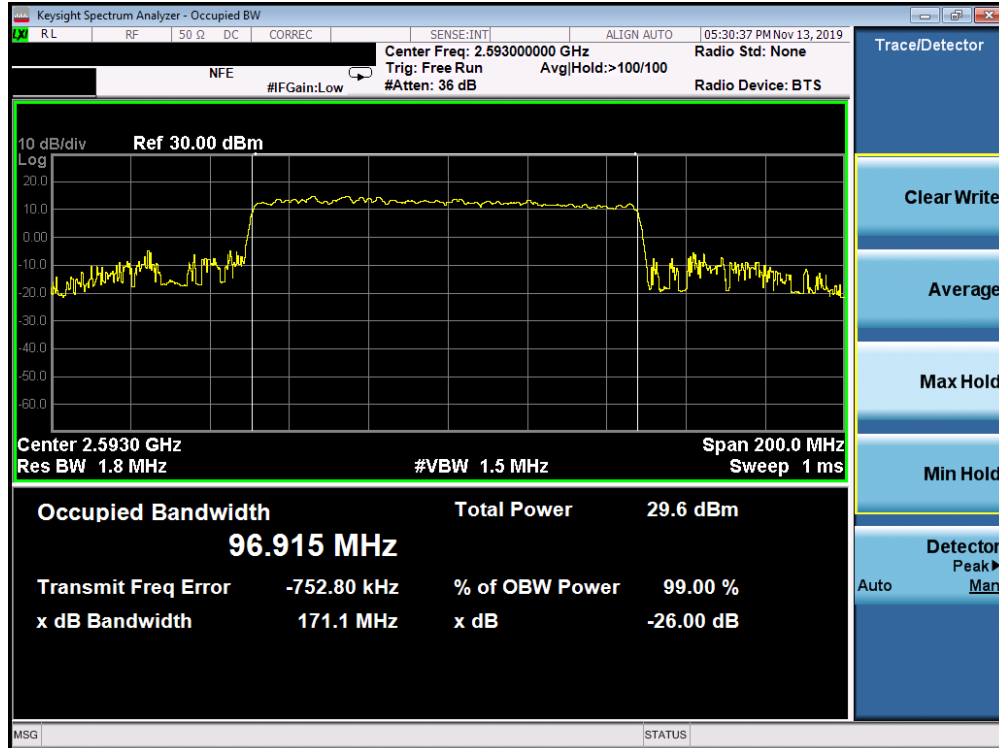


Plot 7-602. Occupied Bandwidth Plot (n41 100MHz QPSK-CP-OFDM - Full RB Configuration)

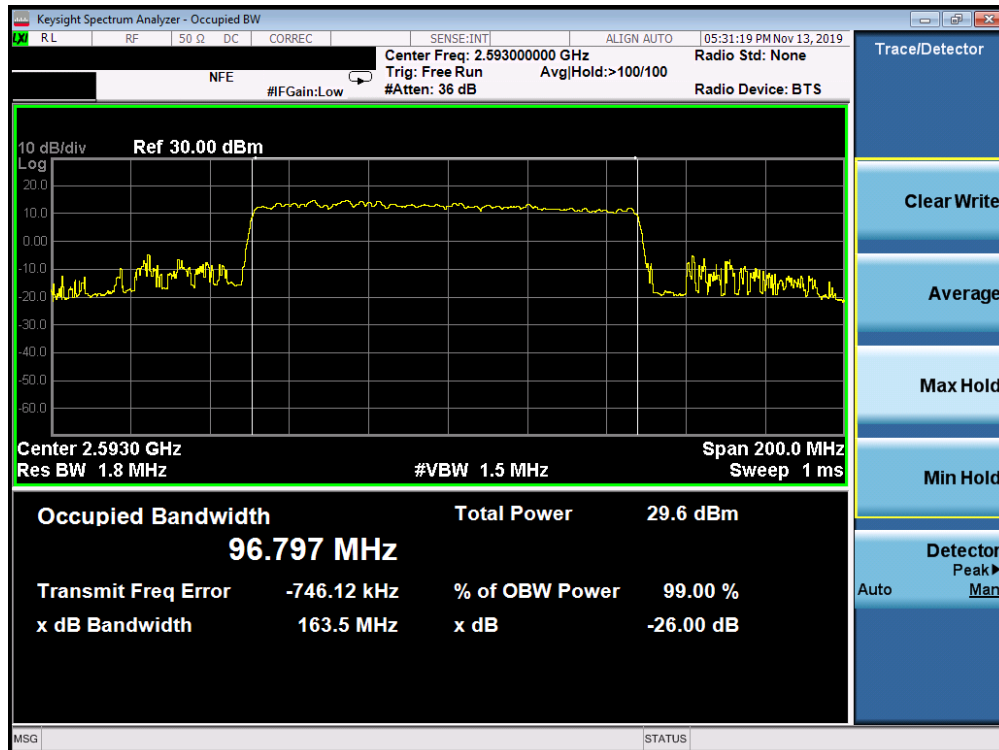


Plot 7-603. Occupied Bandwidth Plot (n41 100MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 391 of 487



Plot 7-604. Occupied Bandwidth Plot (n41 100MHz 64QAM-CP-OFDM- Full RB Configuration)



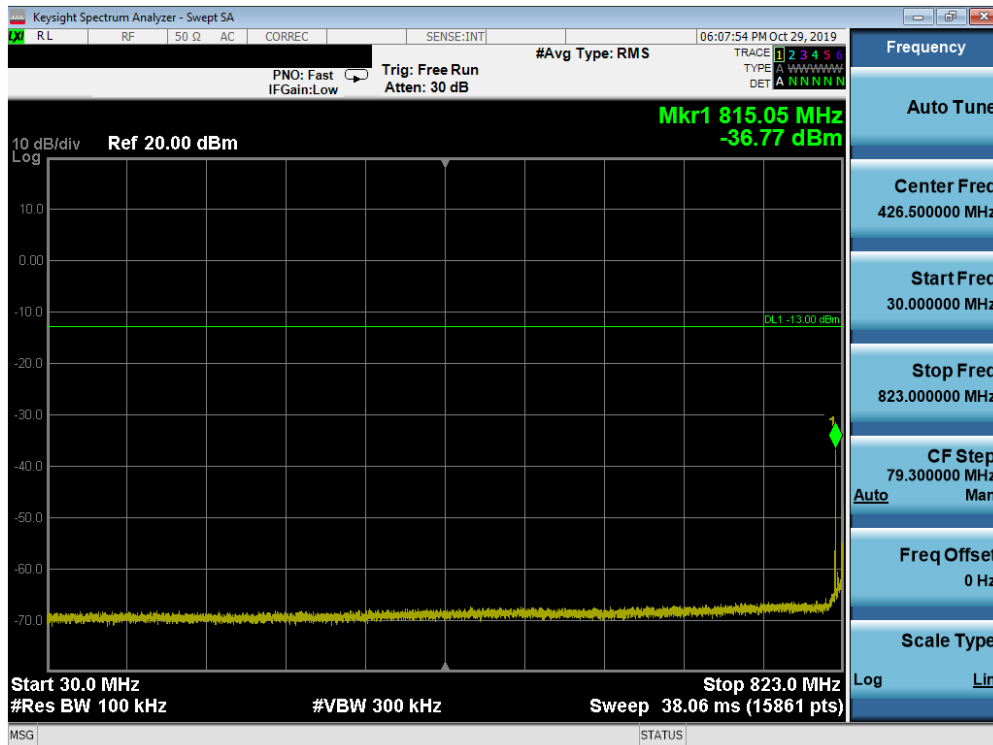
Plot 7-605. Occupied Bandwidth Plot (n41 100MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG981U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 392 of 487

Spurious and Harmonic Emissions at the Antenna Terminal

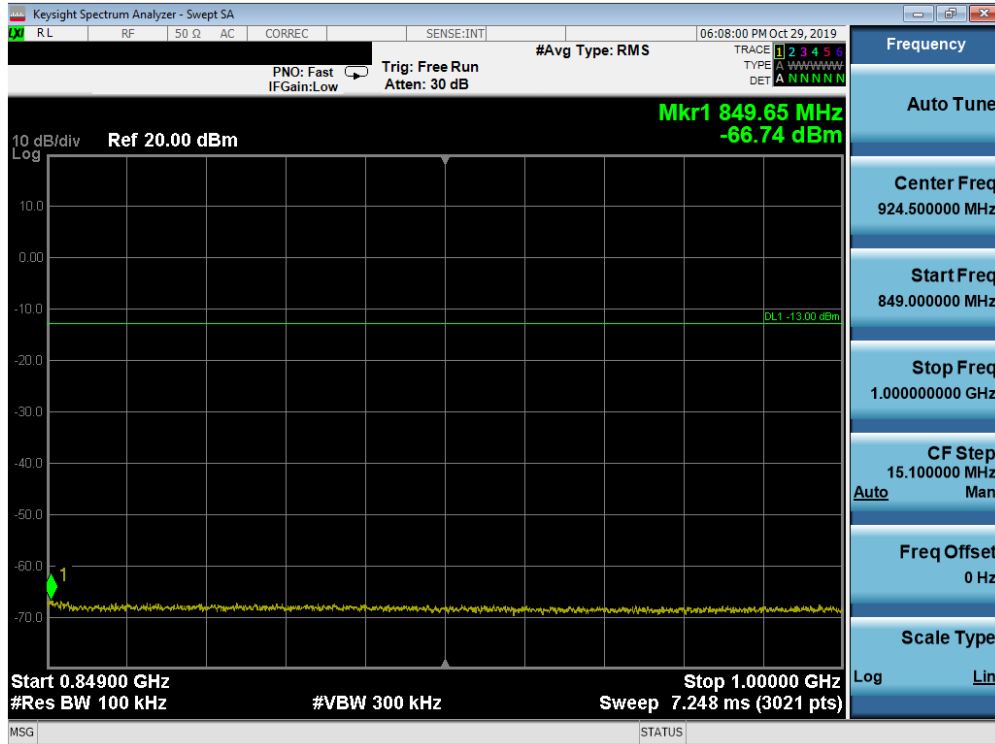
All SCS's and Waveforms (CP-OFDM vs DFT-s OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

NR Band n5

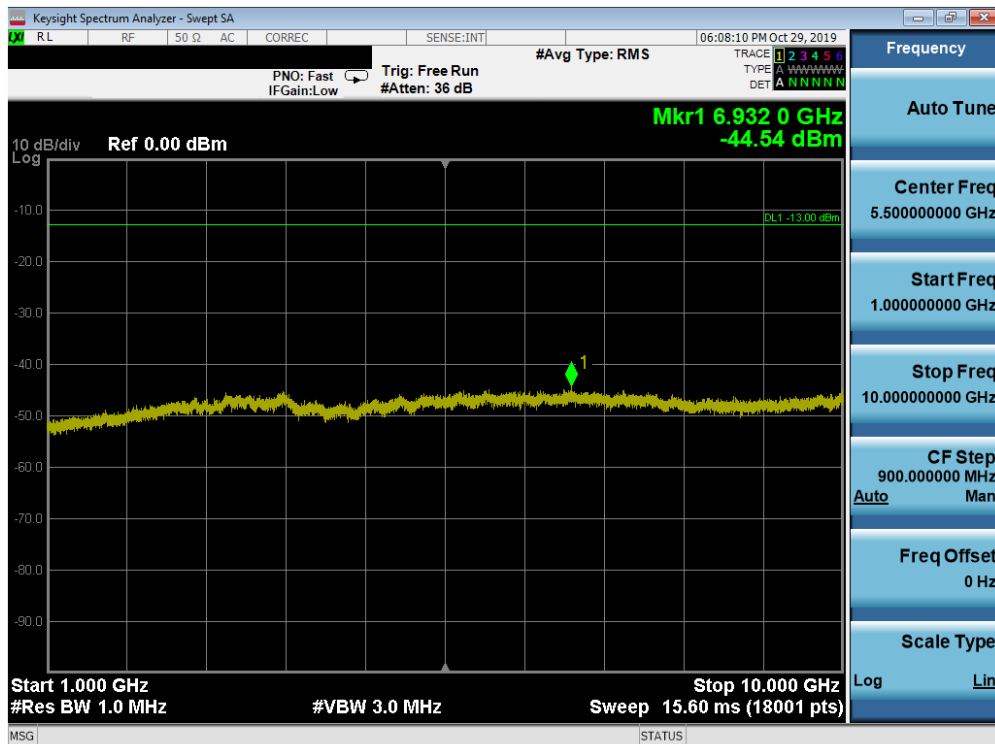


Plot 7-606. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 393 of 487

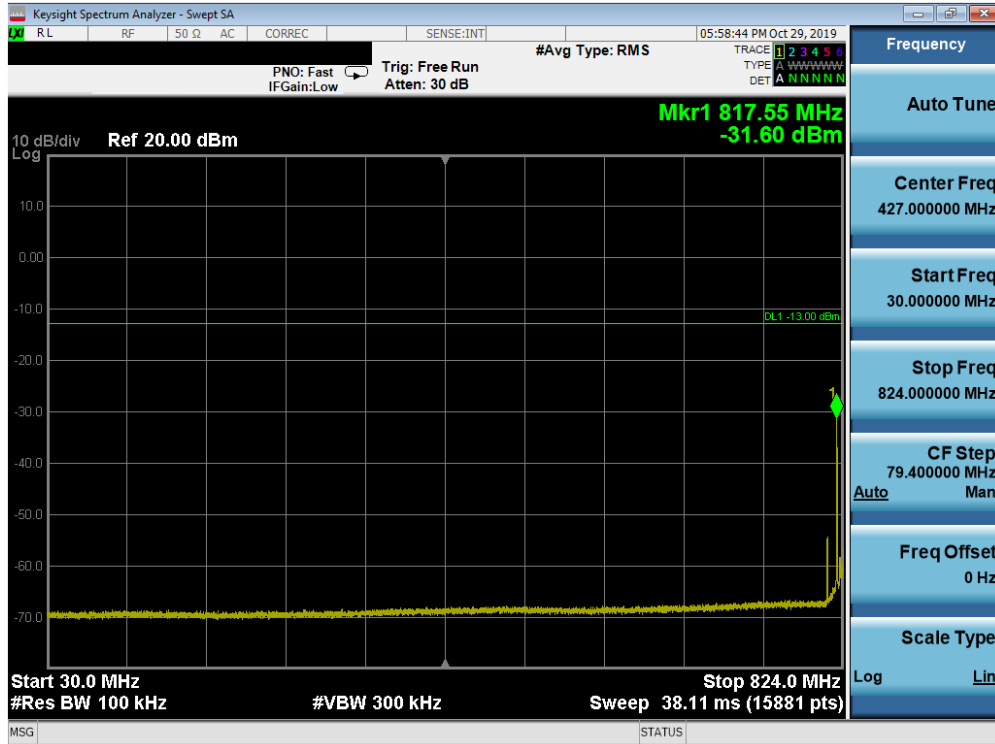


Plot 7-607. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

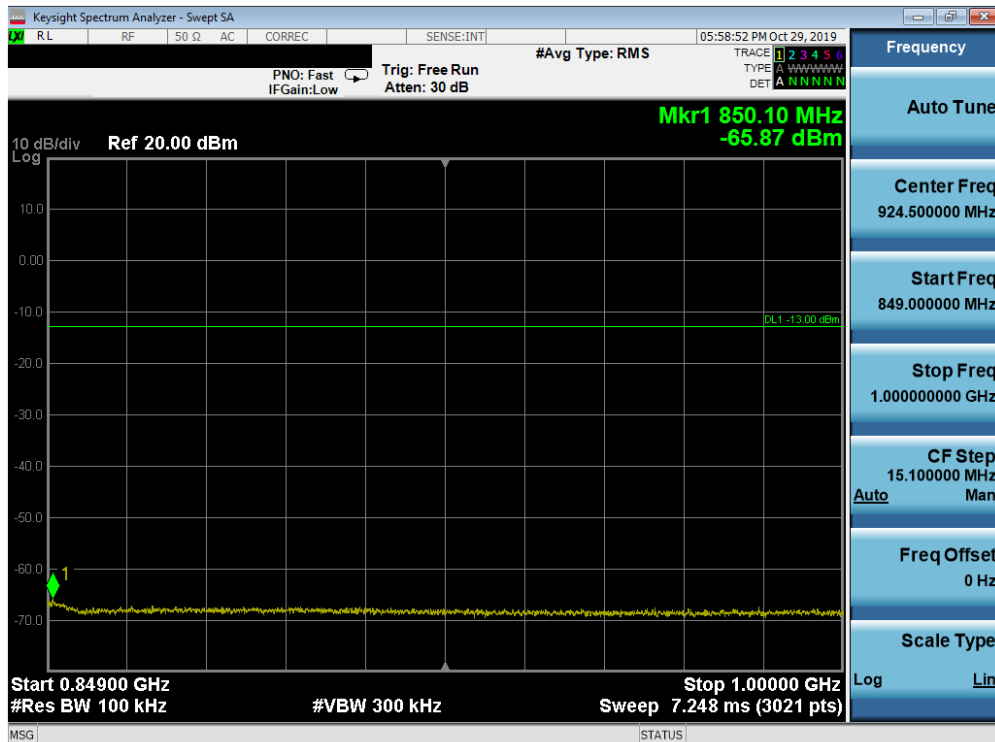


Plot 7-608. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 394 of 487

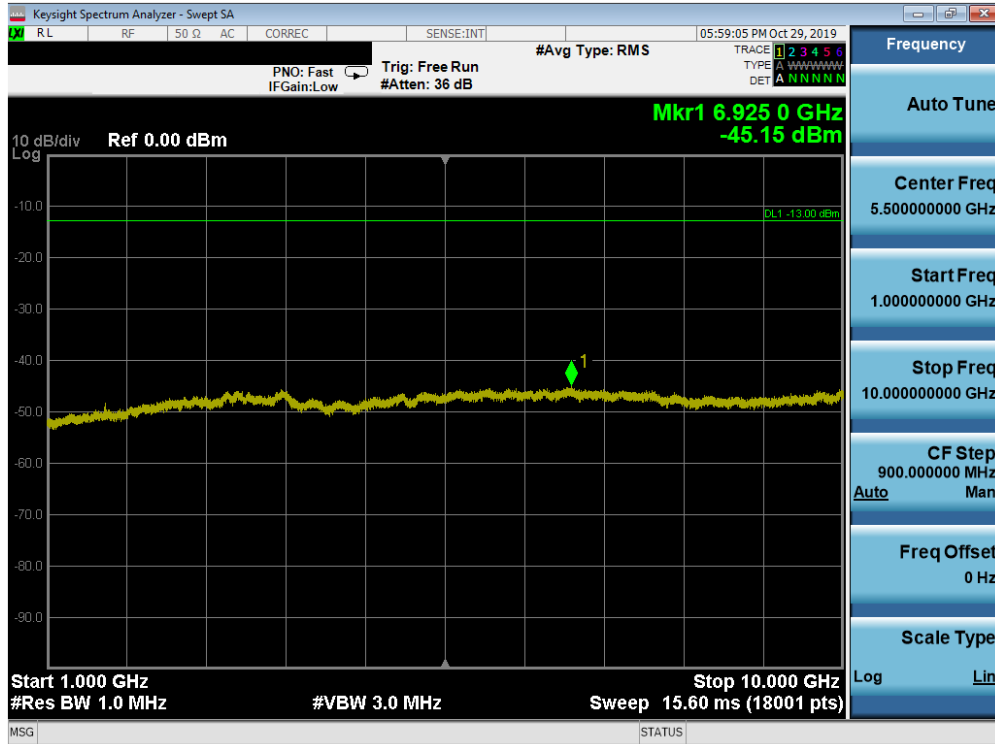


Plot 7-609. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

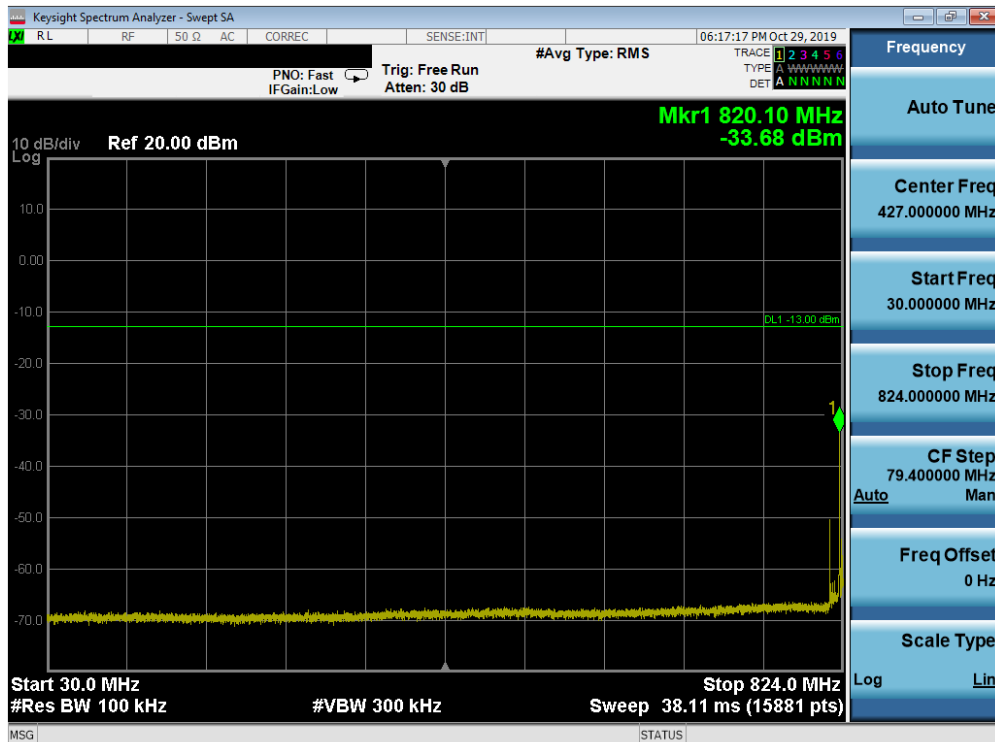


Plot 7-610. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 395 of 487

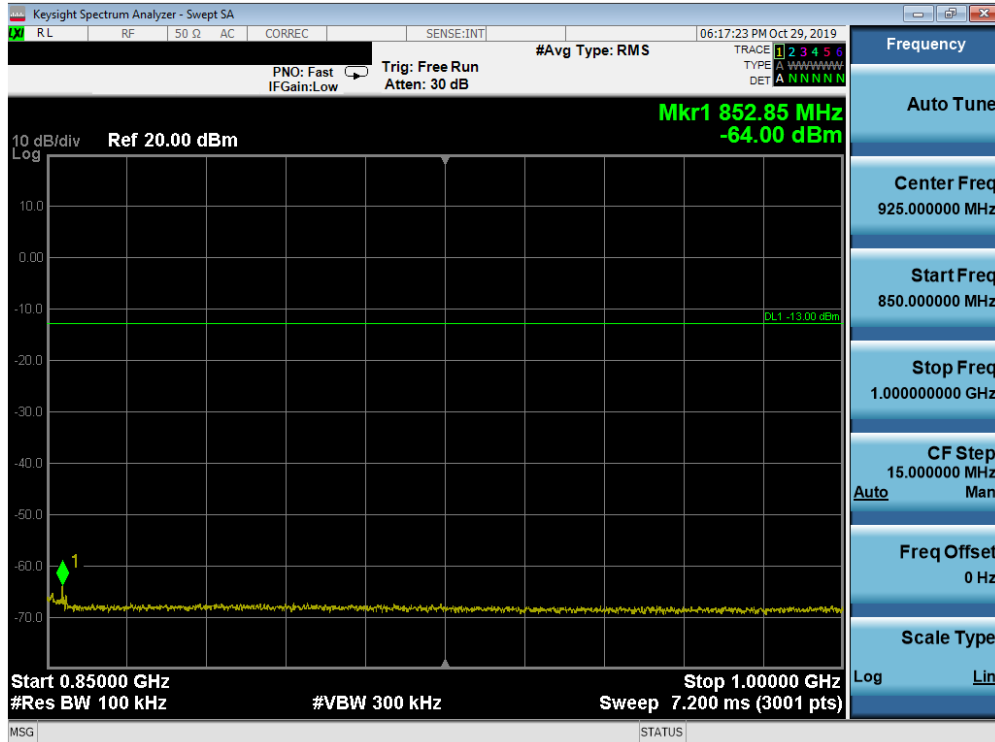


Plot 7-611. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

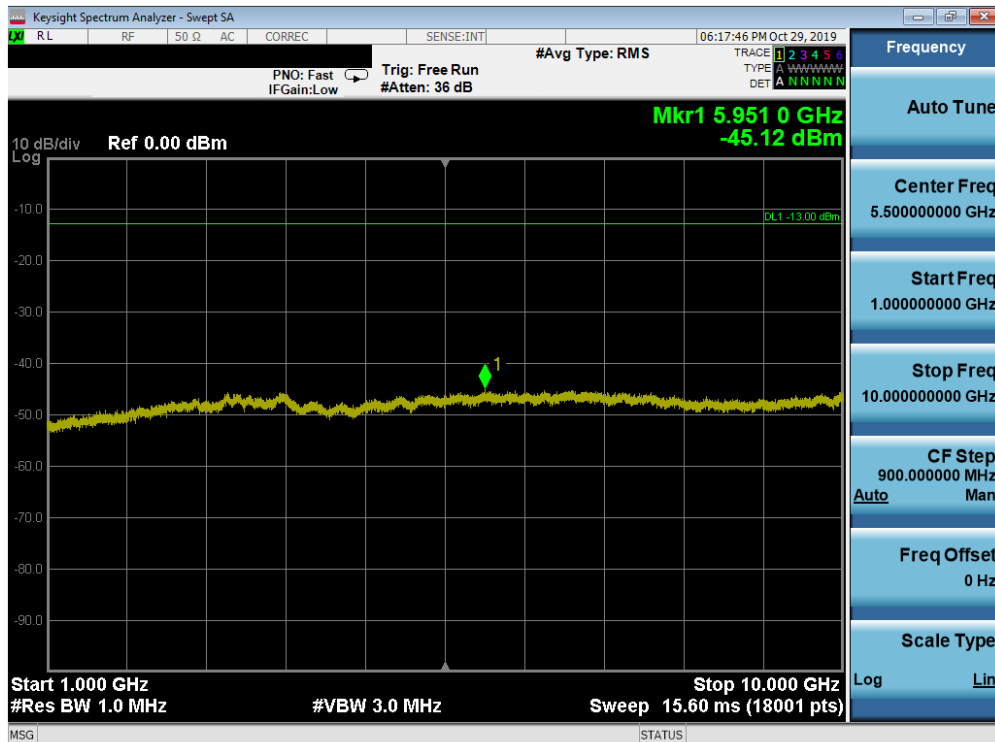


Plot 7-612. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 396 of 487



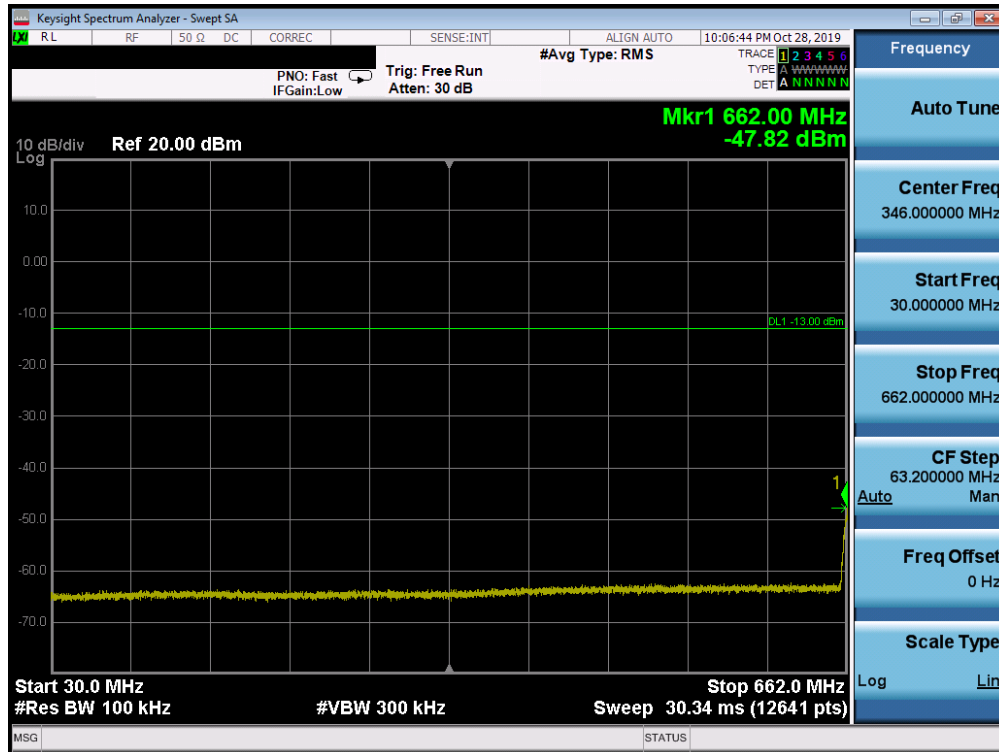
Plot 7-613. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)



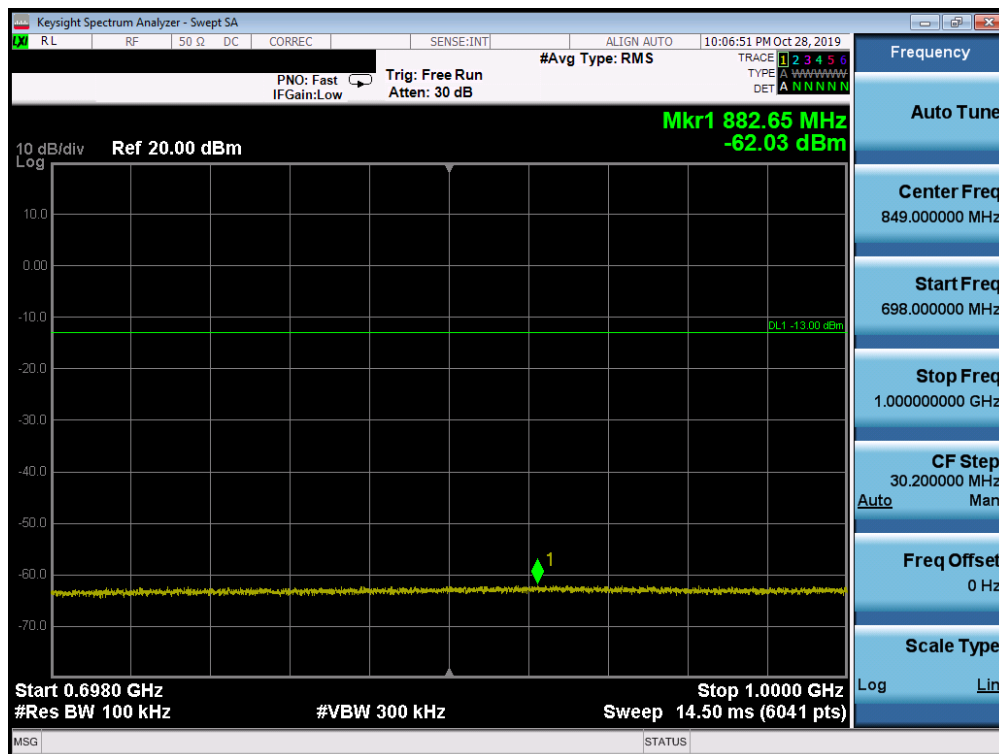
Plot 7-614. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 397 of 487

NR Band n71

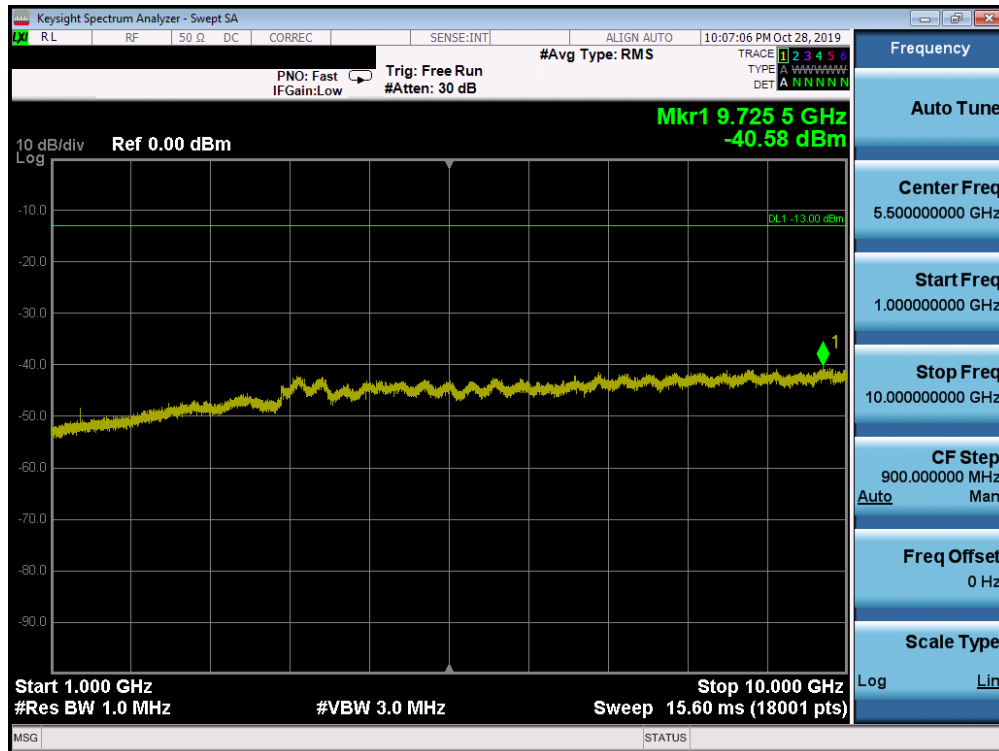


Plot 7-615. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

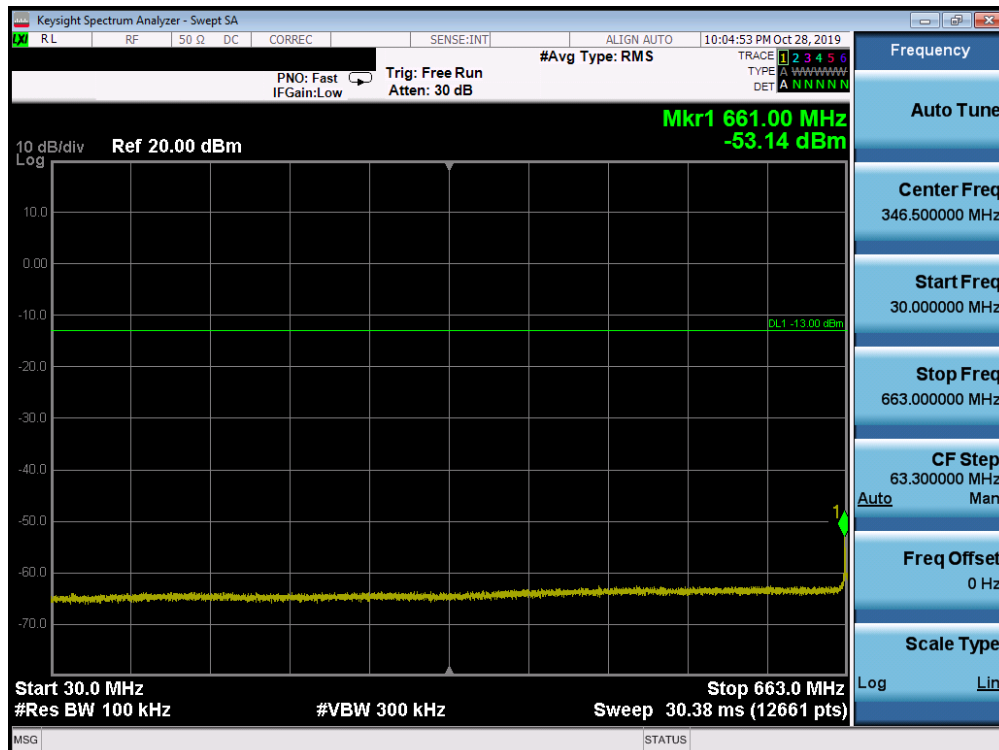


Plot 7-616. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 398 of 487



Plot 7-617. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)



Plot 7-618. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 399 of 487

Keysight Spectrum Analyzer - Swept SA

R.L RF 50 Ω DC CORREC SENSE:INT ALIGN AUTO 10:05:14 PM Oct 28, 2019

PNO: Fast Trig: Free Run
IFGain:Low #Atten: 30 dB

#Avg Type: RMS

TRACE 1 2 3 4 5 6
TYPE A
DET A N N N N N

10 dB/div Ref 0.00 dBm
Log

Mkr1 9.992 0 GHz
-40.80 dBm

DL1 -13.00 dBm

Start 1.000 GHz Stop 10.000 GHz
#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 15.60 ms (18001 pts)

Frequency

Auto Tune

Center Freq 5.500000000 GHz

Start Freq 1.000000000 GHz

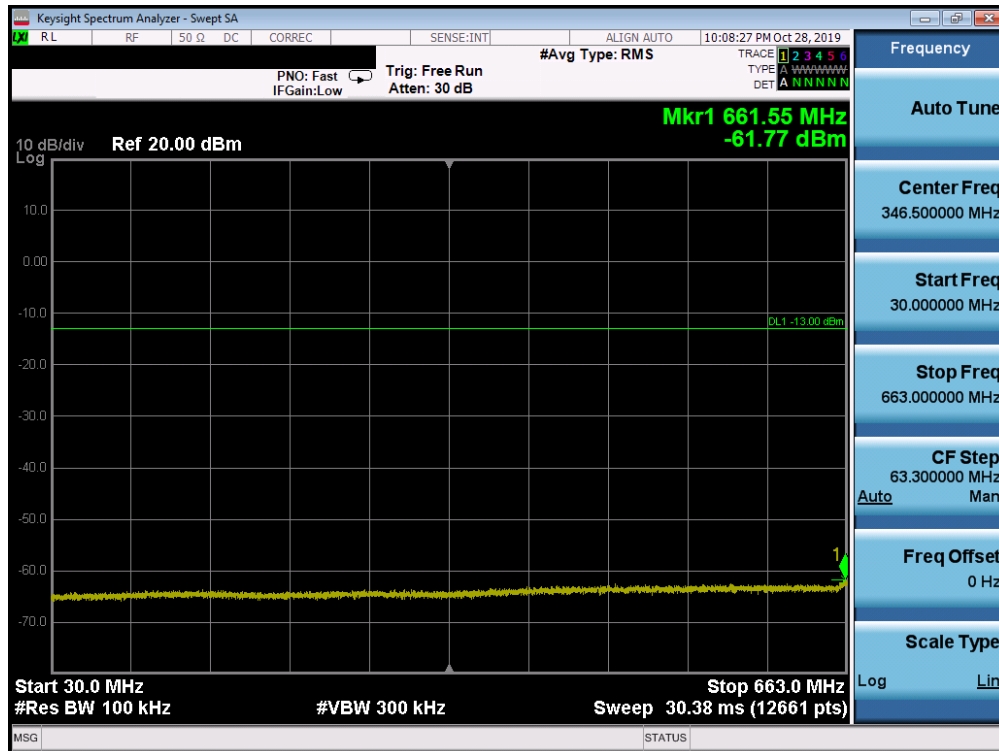
Stop Freq 10.000000000 GHz

CF Step 900.000000 MHz
Auto Man

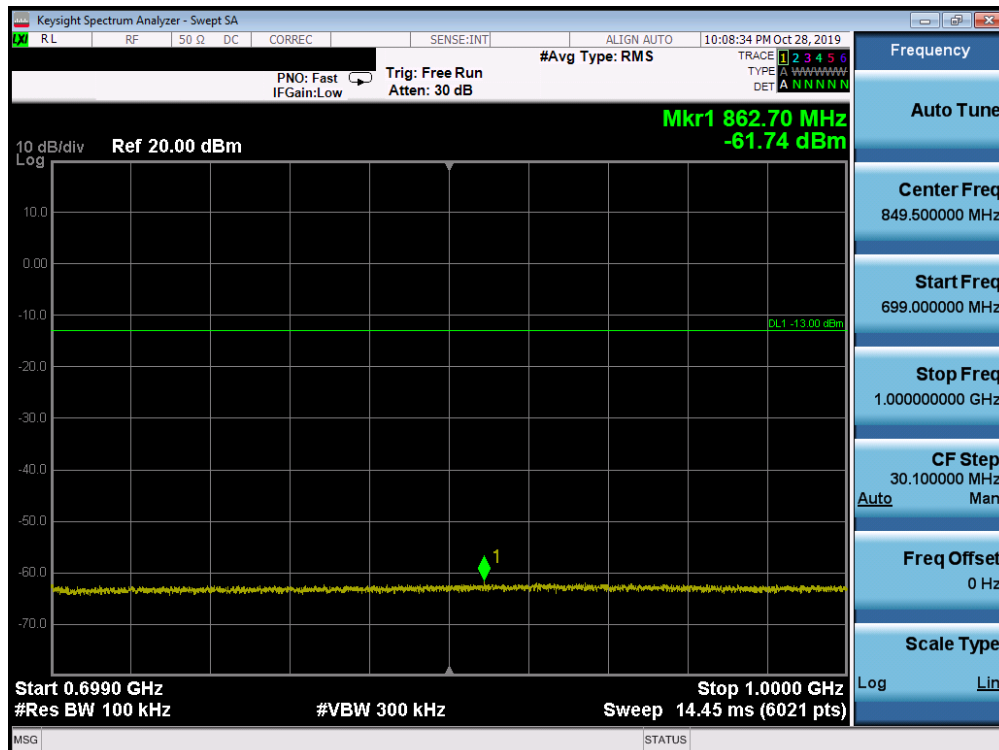
Freq Offset 0 Hz

Scale Type Log Lin

FCC ID: A3LSMG981U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset	Page 400 of 487

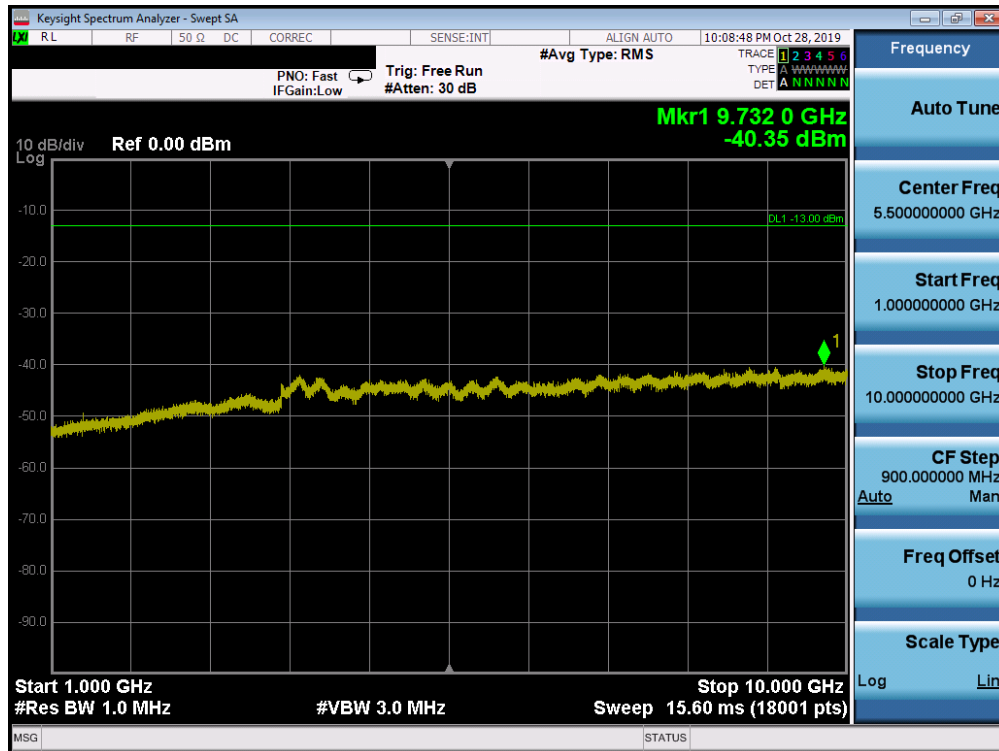


Plot 7-621. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)



Plot 7-622. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

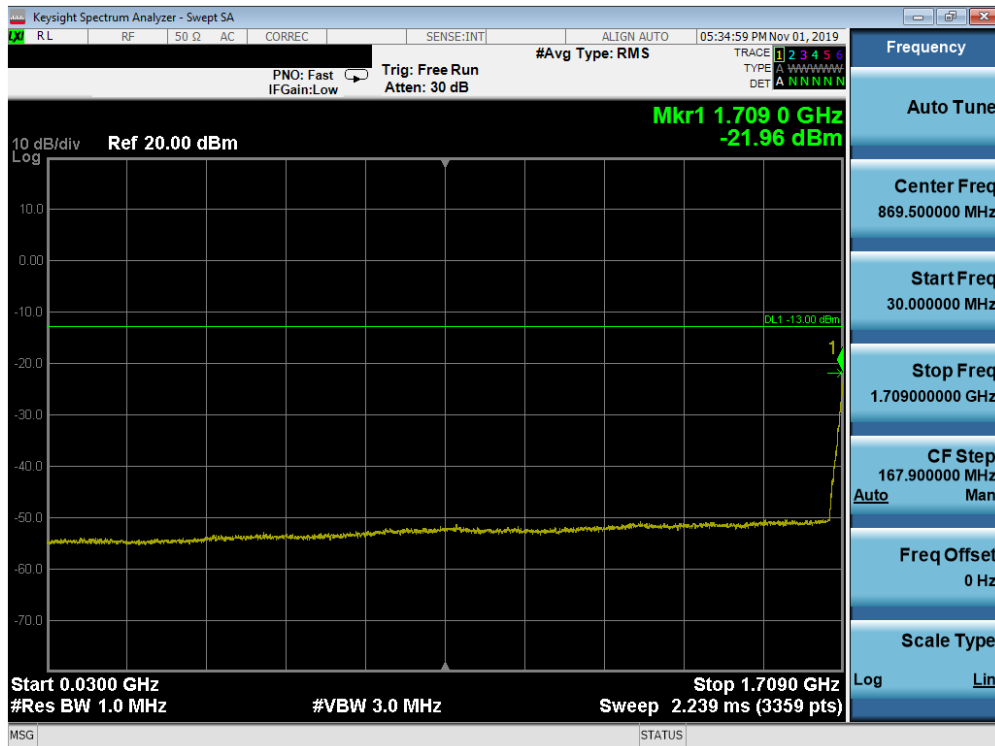
FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 401 of 487



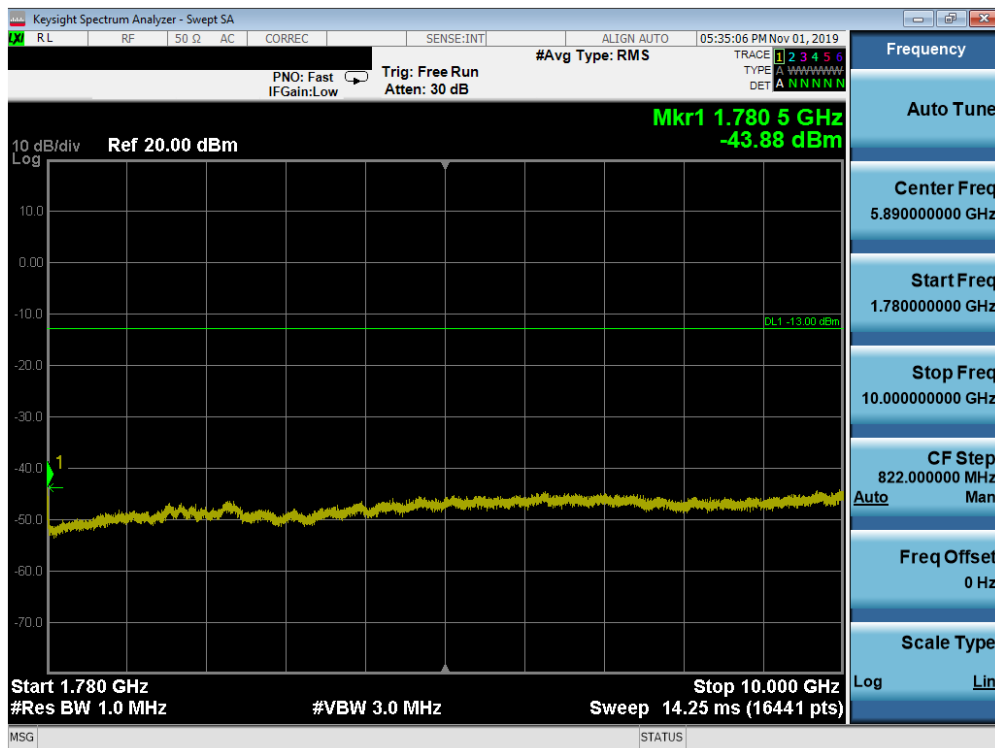
Plot 7-623. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 402 of 487

NR Band n66

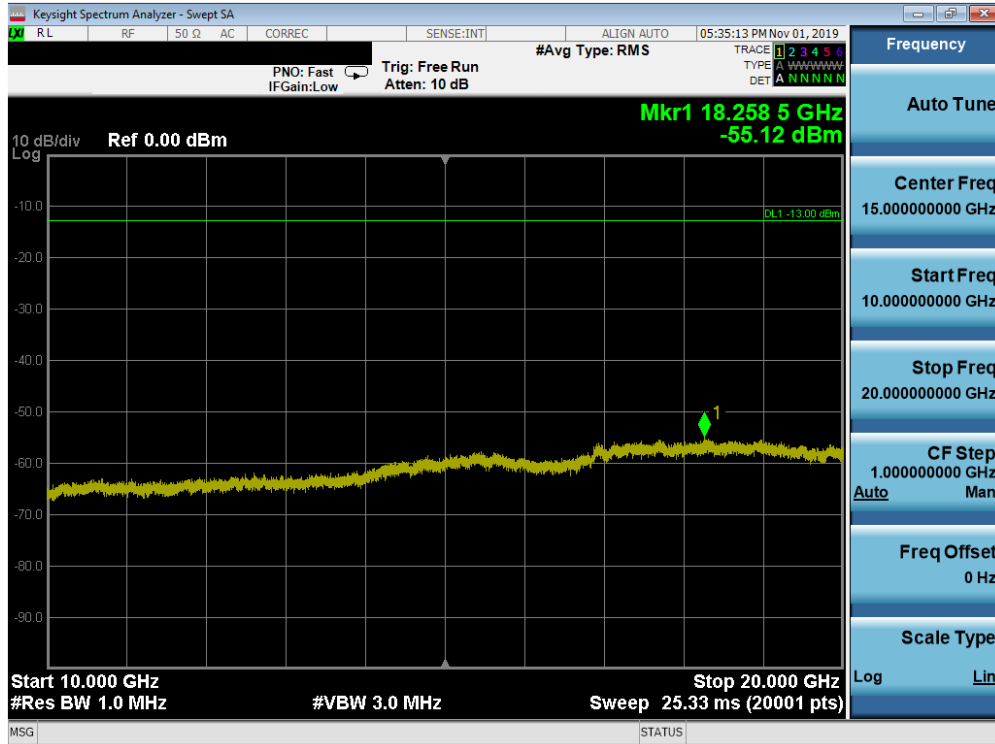


Plot 7-624. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

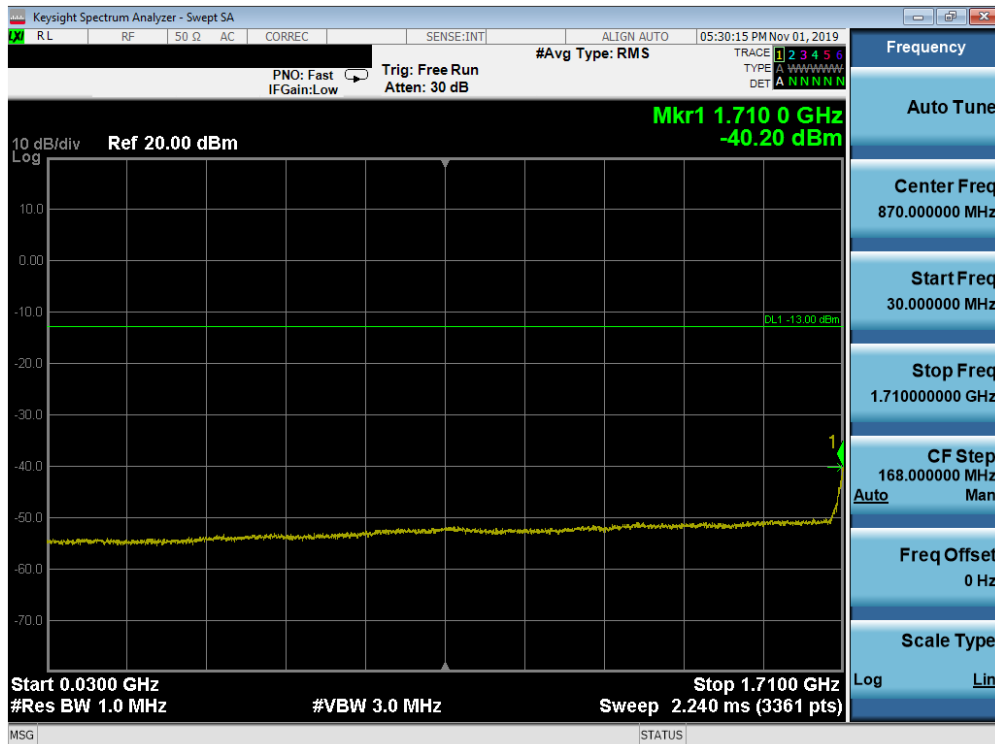


Plot 7-625. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 403 of 487

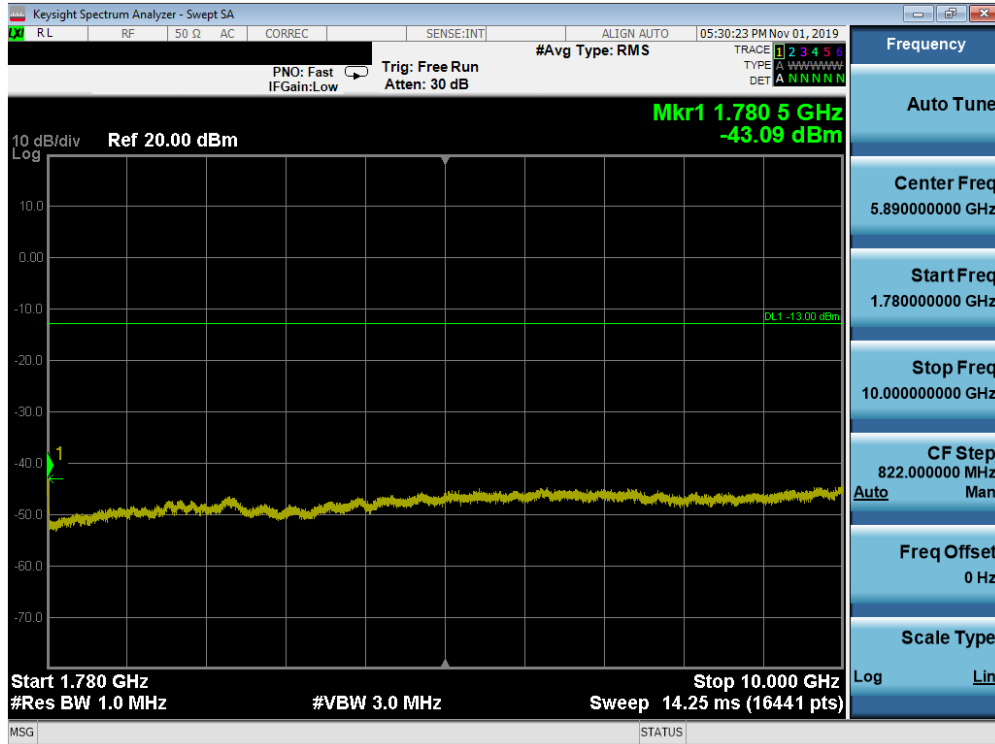


Plot 7-626. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

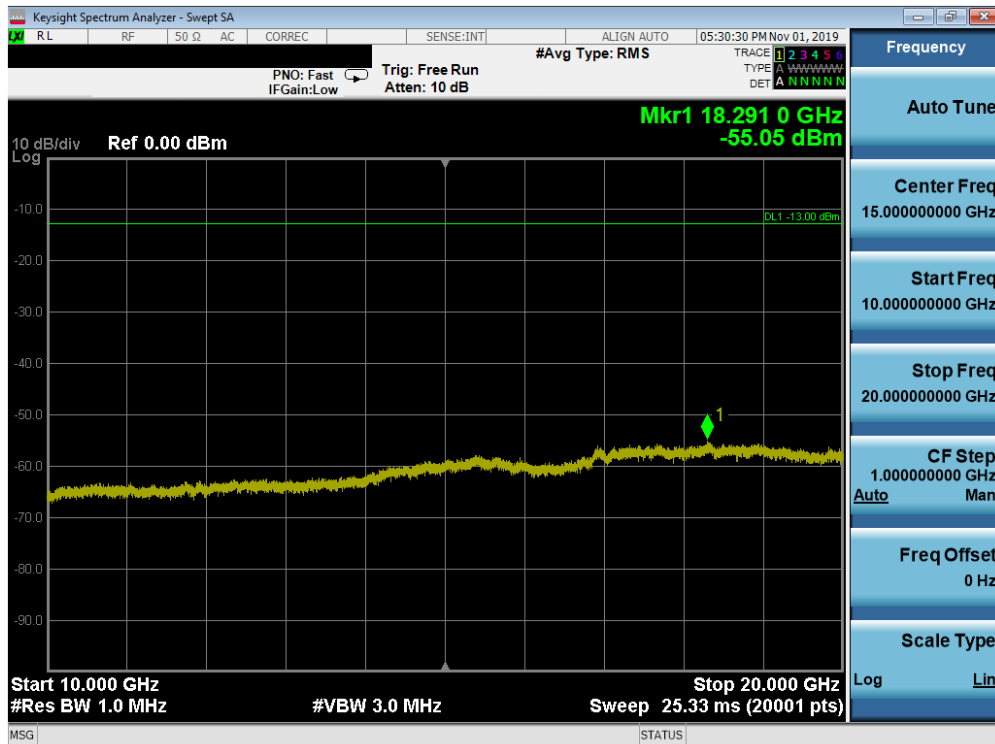


Plot 7-627. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 404 of 487

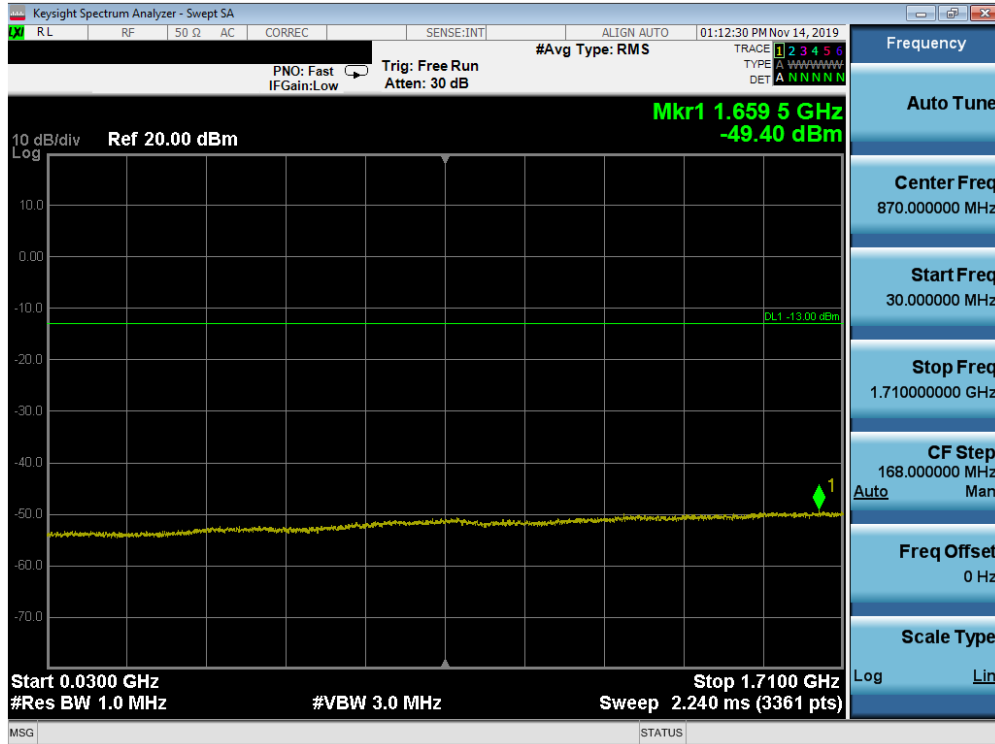


Plot 7-628. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

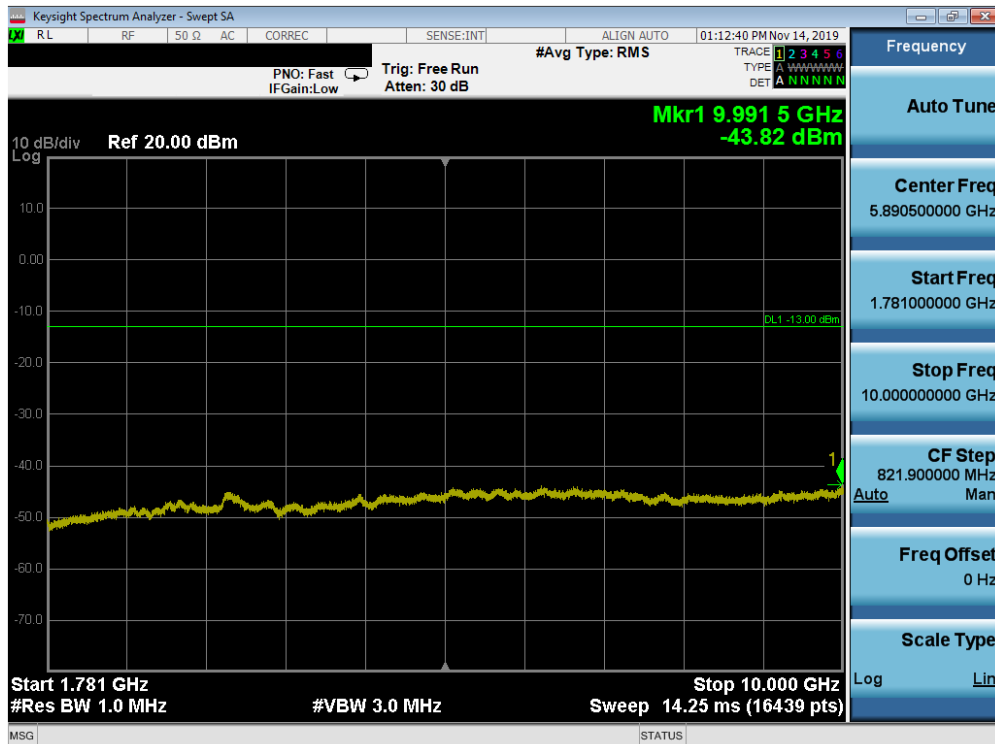


Plot 7-629. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 405 of 487

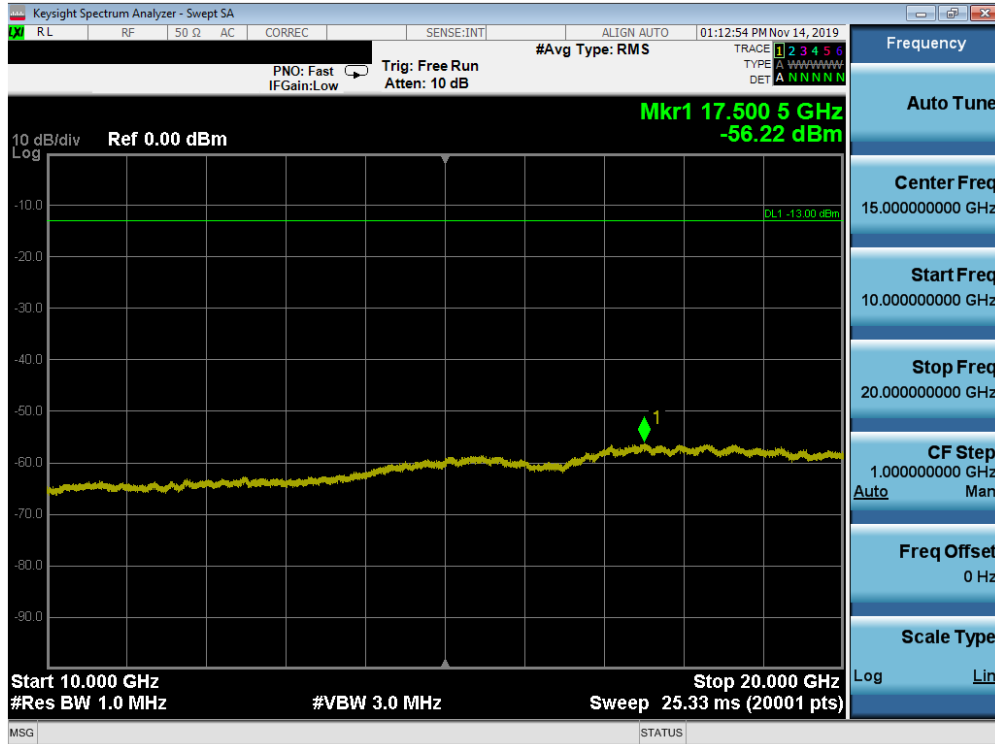


Plot 7-630. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)



Plot 7-631. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

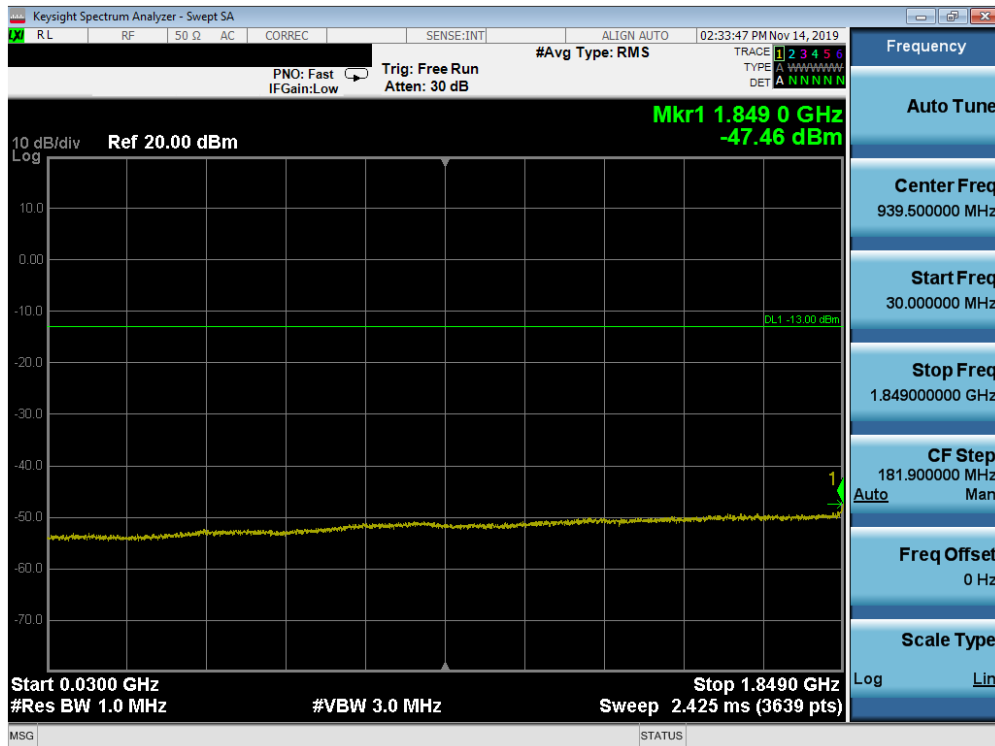
FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 406 of 487



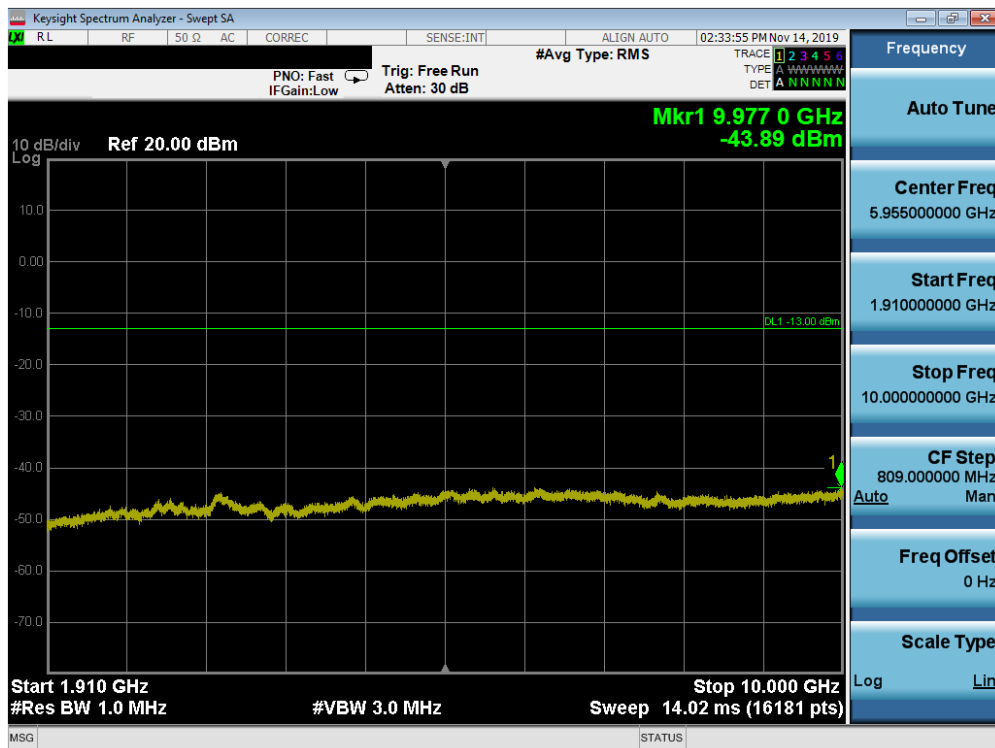
Plot 7-632. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 407 of 487

NR Band n2

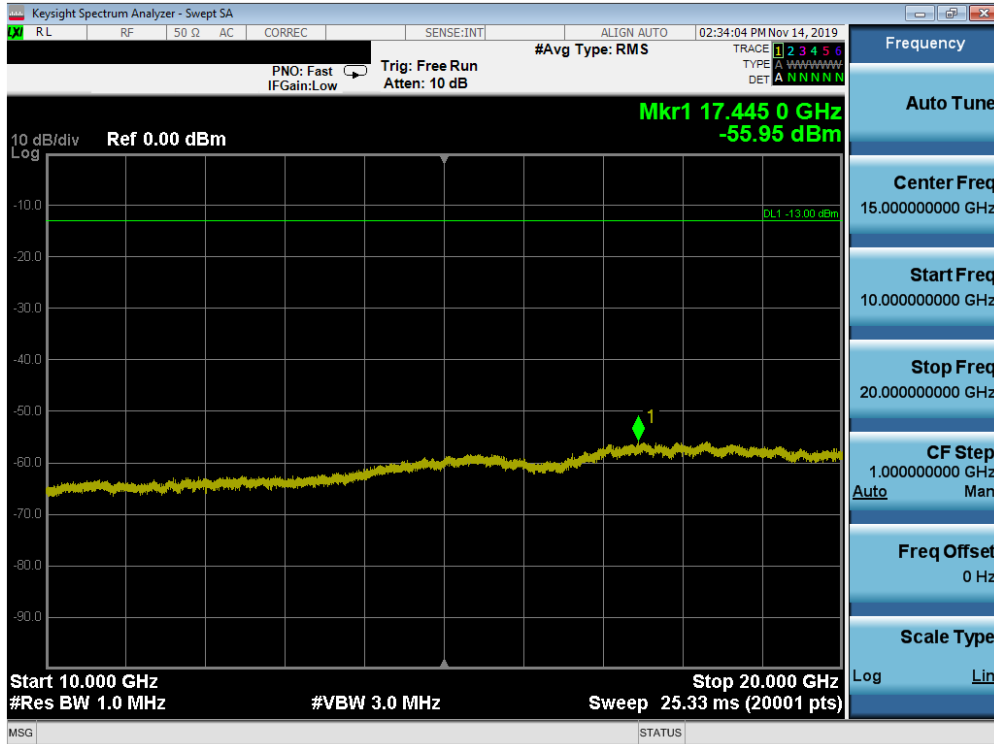


Plot 7-633. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

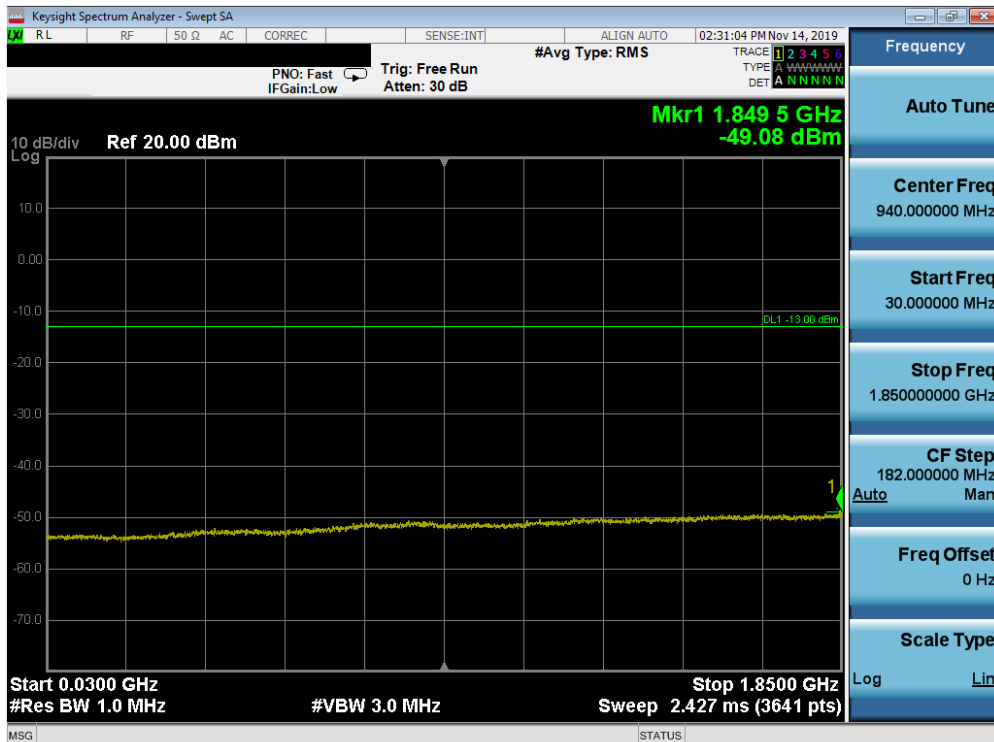


Plot 7-634. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 408 of 487

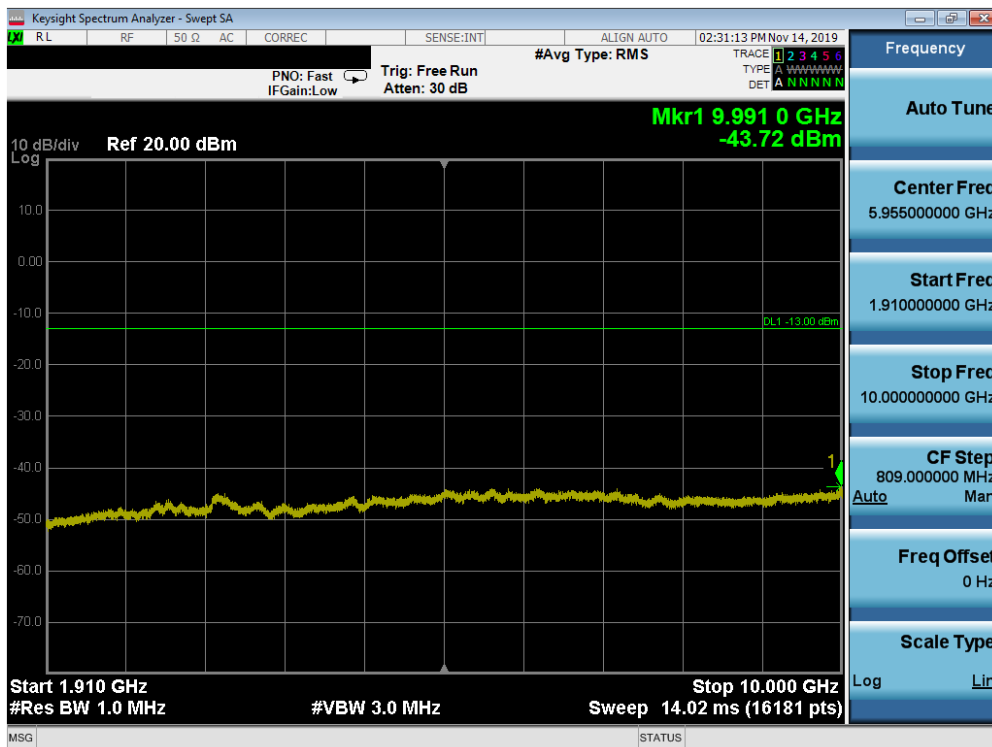


Plot 7-635. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

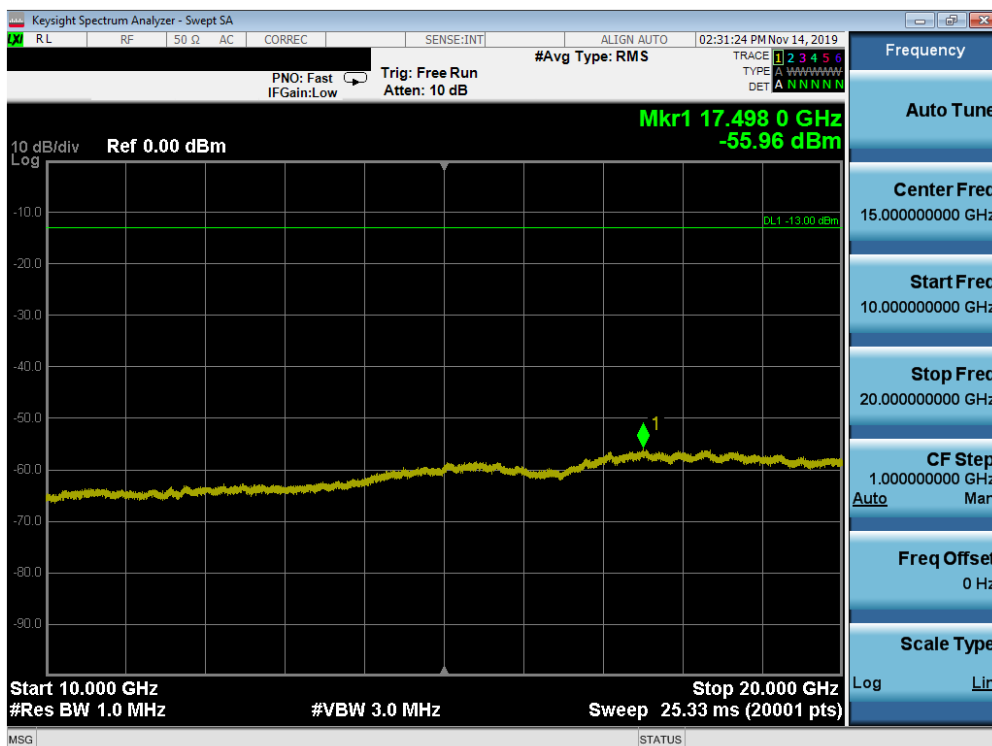


Plot 7-636. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG981U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset	Page 409 of 487

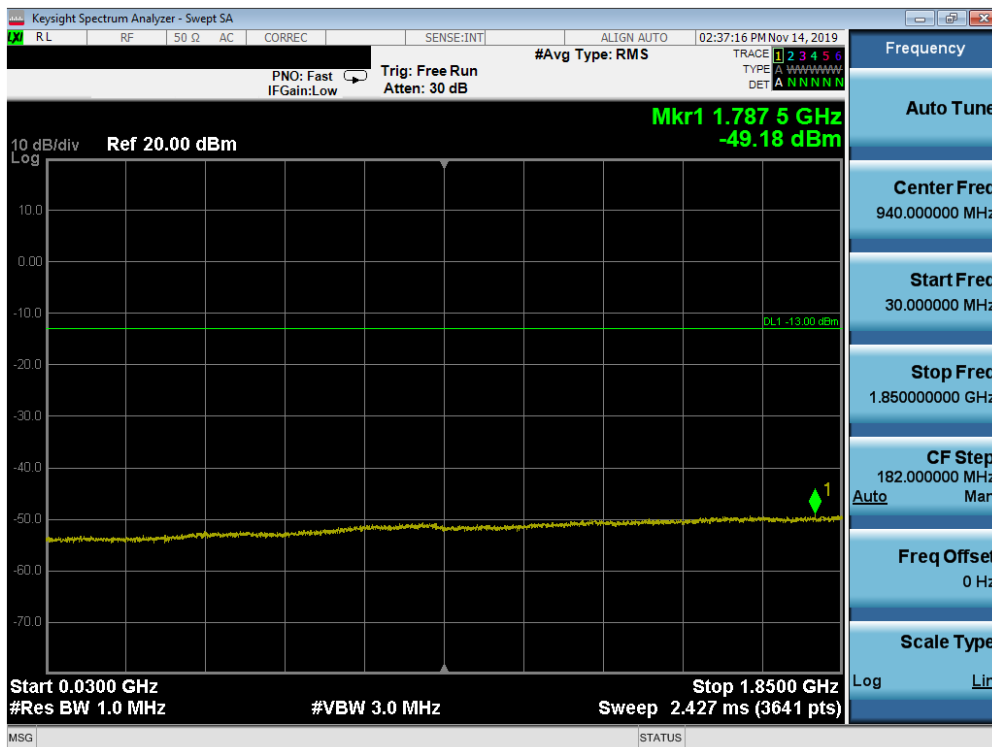


Plot 7-637. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

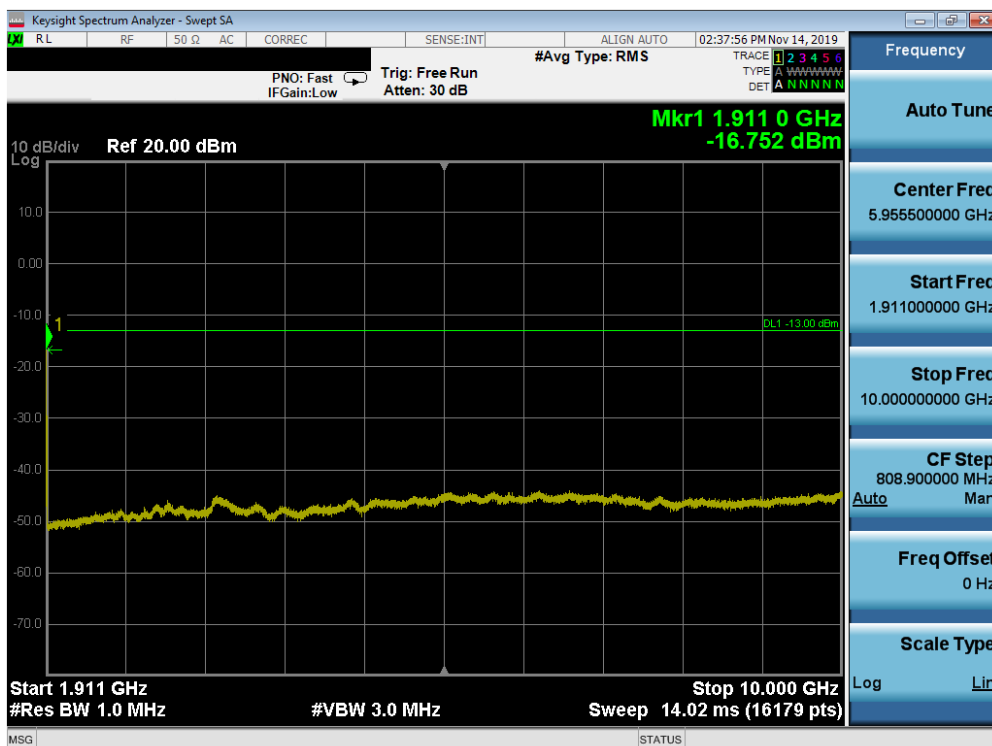


Plot 7-638. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG981U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset	Page 410 of 487

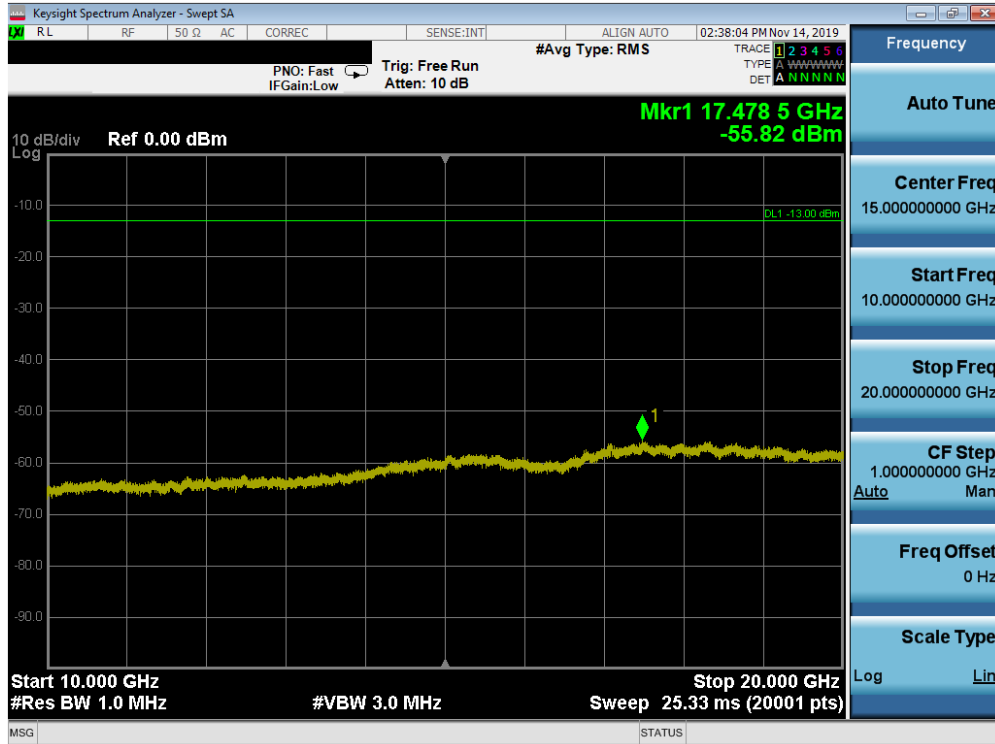


Plot 7-639. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)



Plot 7-640. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

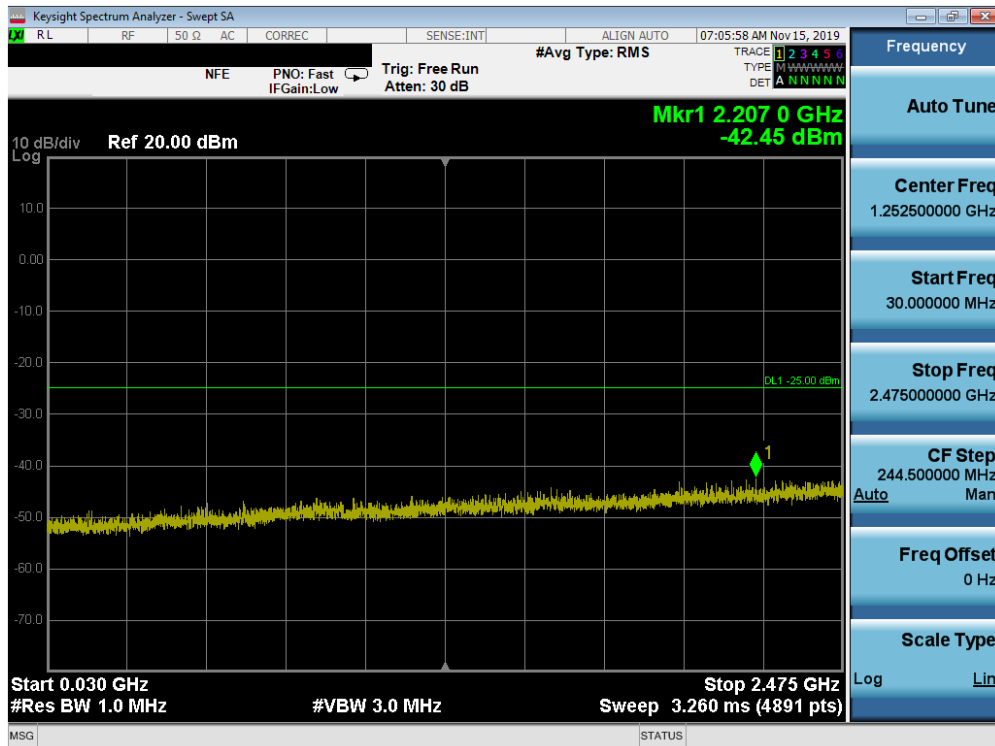
FCC ID: A3LSMG981U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset	Page 411 of 487



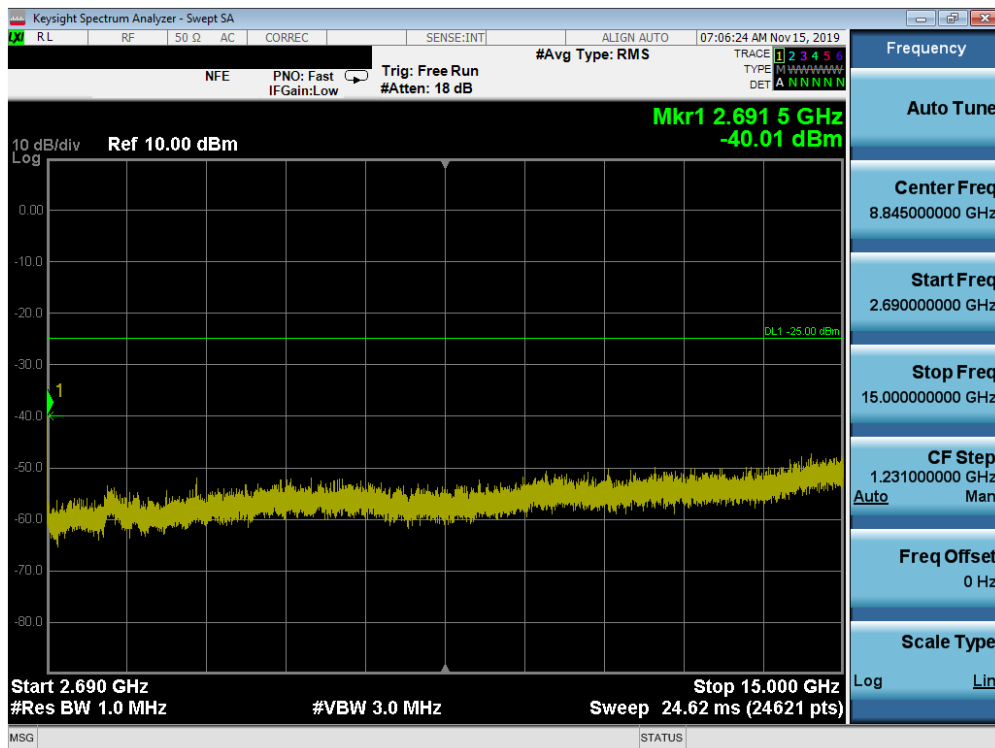
Plot 7-641. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 412 of 487

NR Band n41

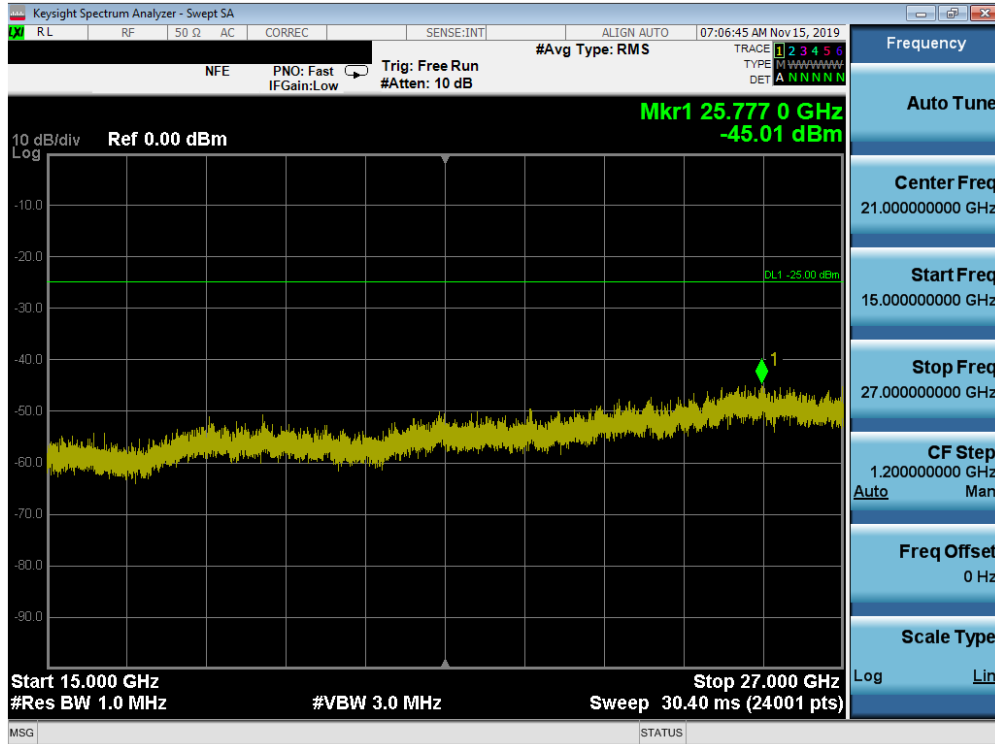


Plot 7-642. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

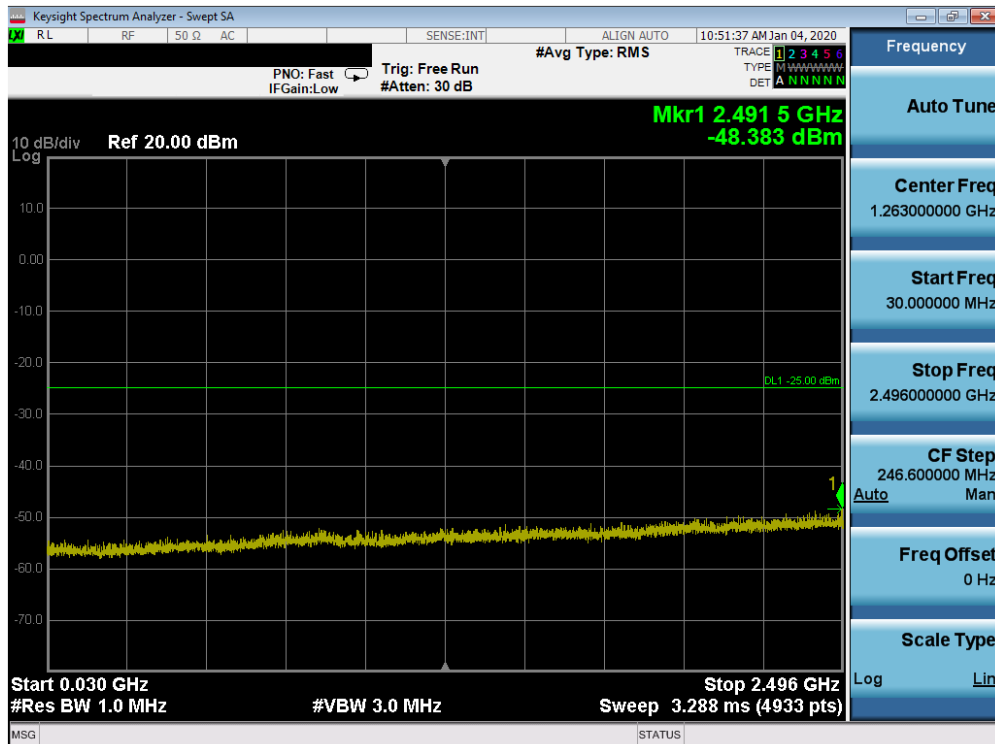


Plot 7-643. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 413 of 487

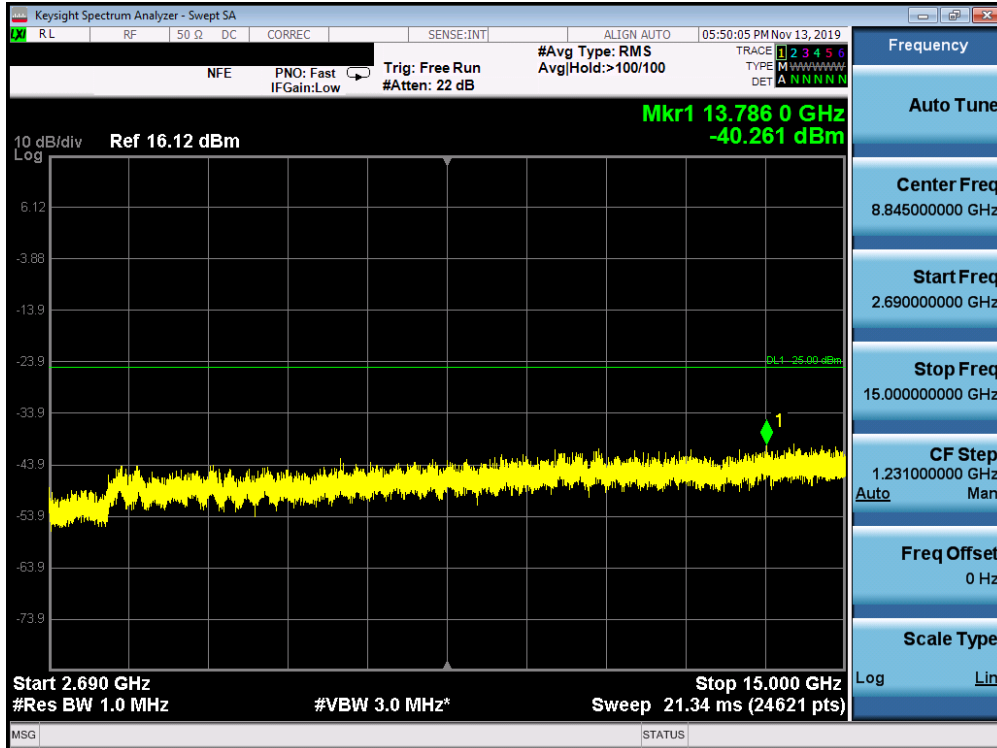


Plot 7-644. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

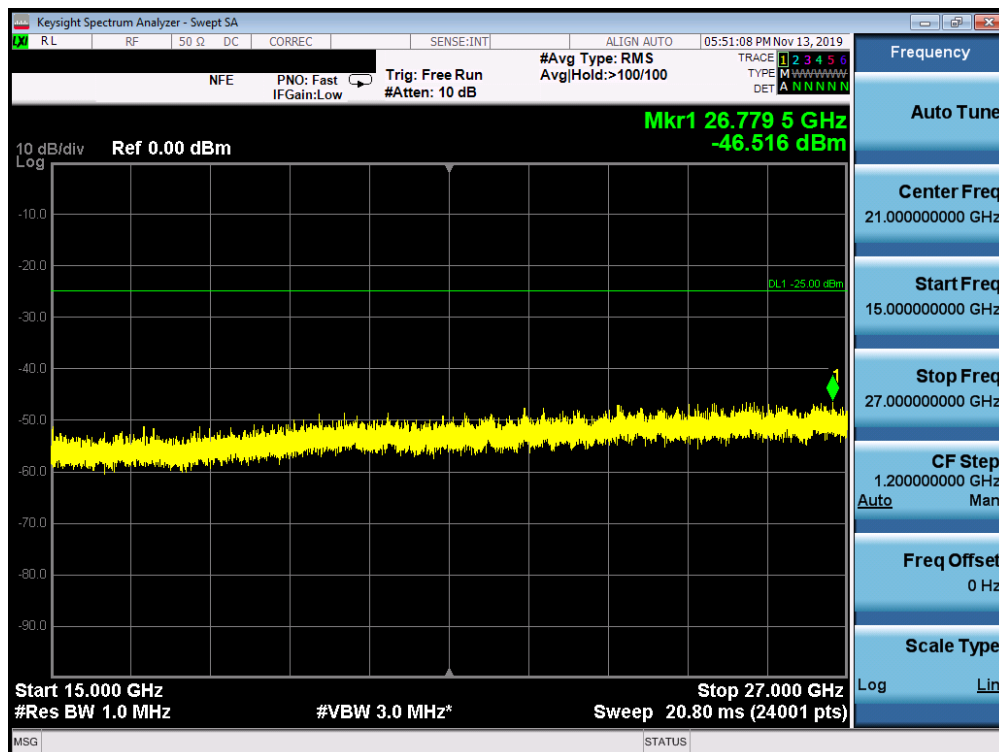


Plot 7-645. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 414 of 487

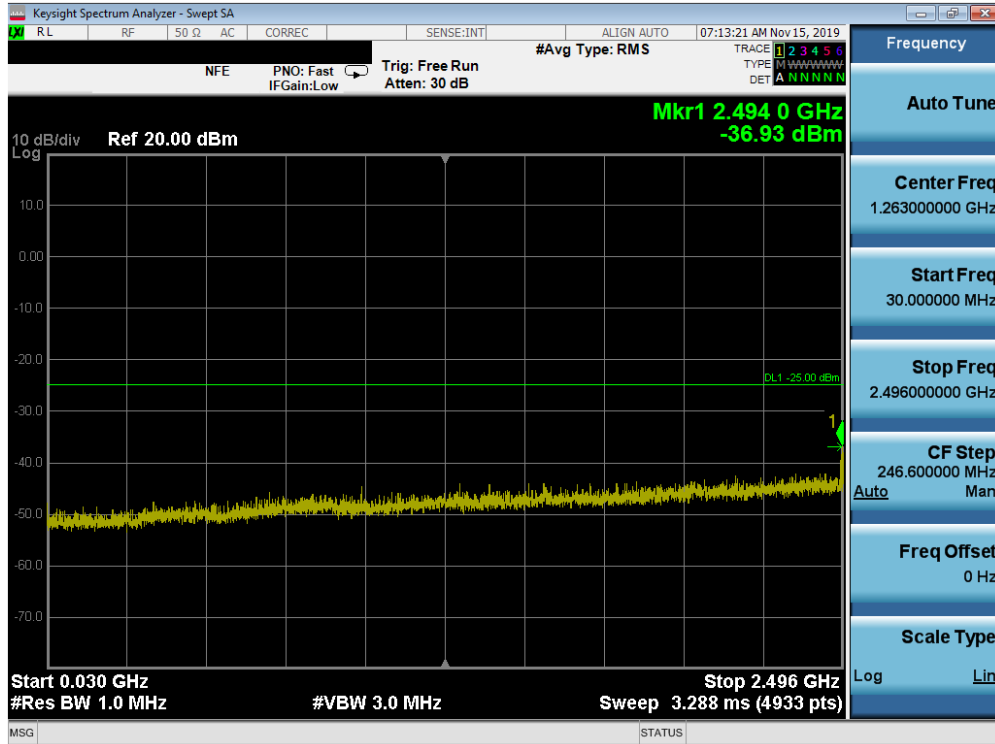


Plot 7-646. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

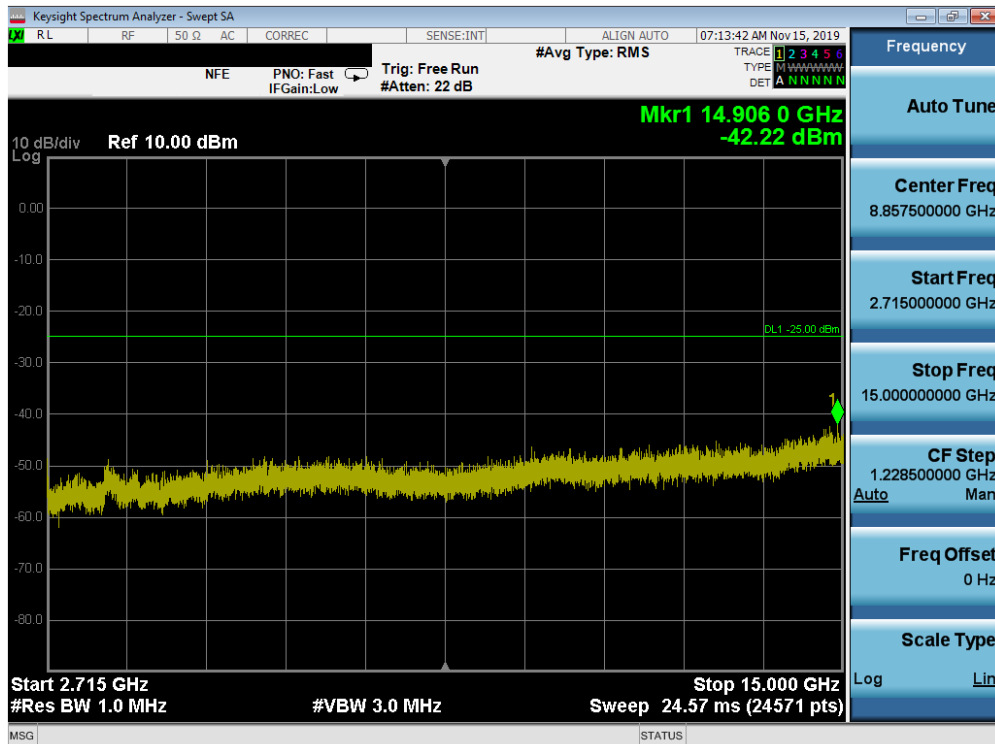


Plot 7-647. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG981U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset	Page 415 of 487



Plot 7-648. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)



Plot 7-649. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

FCC ID: A3LSMG981U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220165-03.A3L	Test Dates: 10/22 - 1/04/2020	EUT Type: Portable Handset		Page 416 of 487