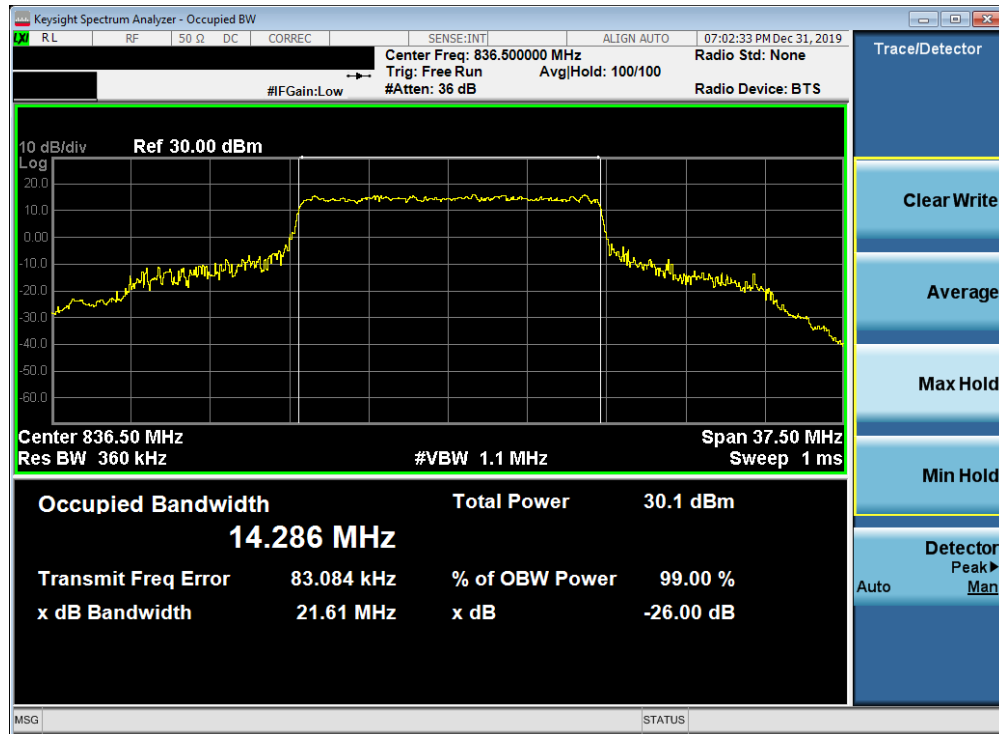
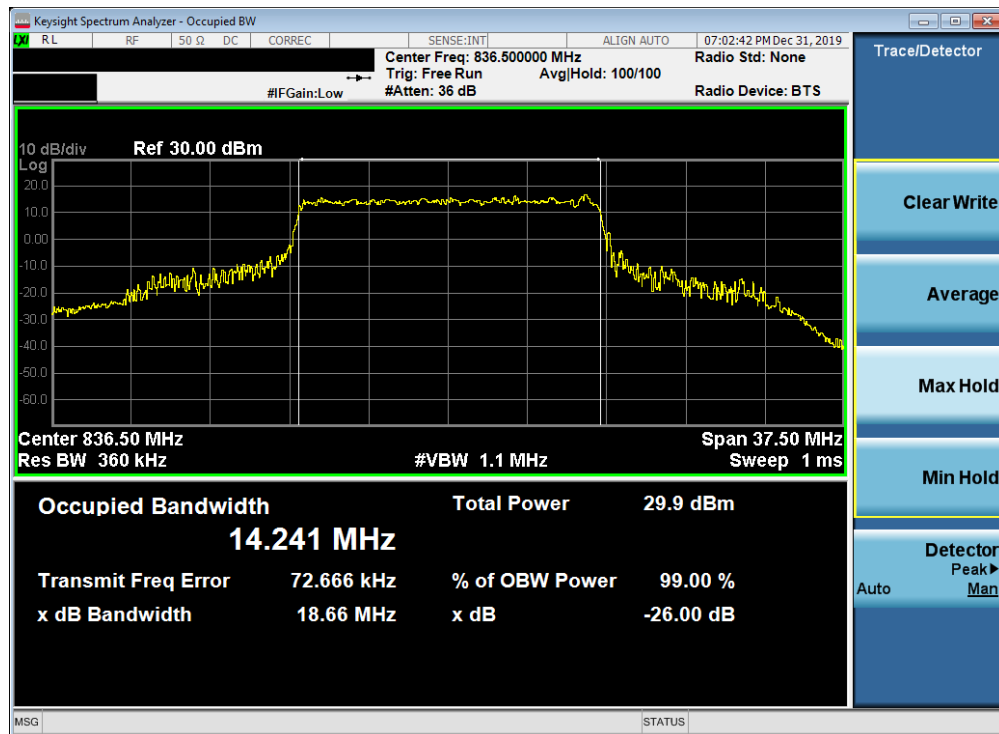


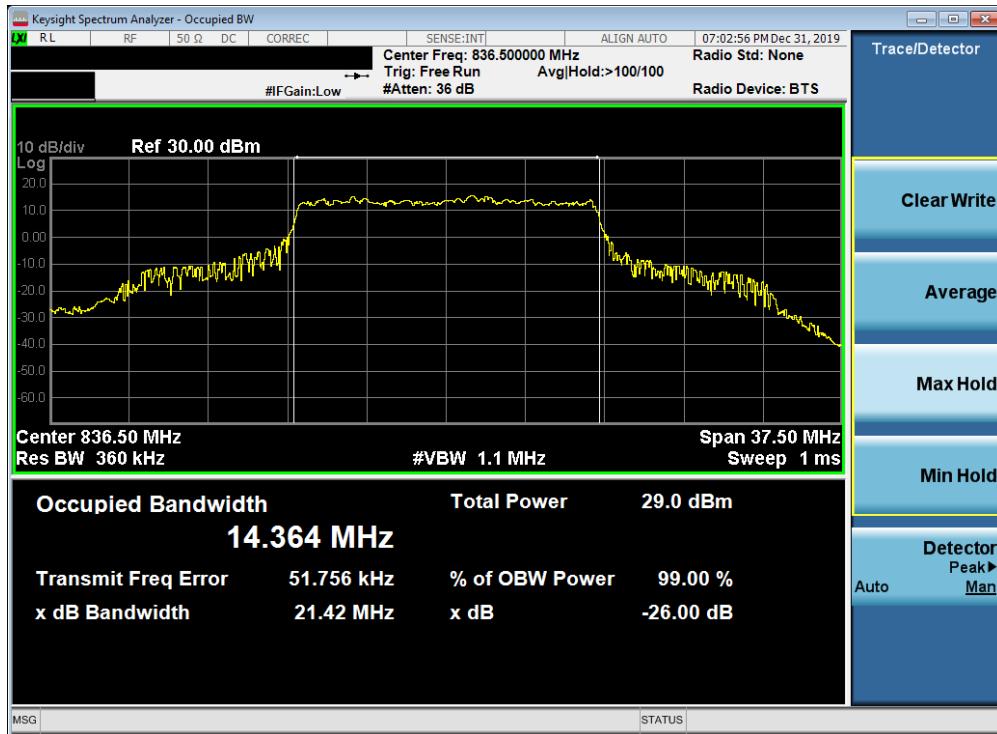


Plot 7-539. Occupied Bandwidth Plot (n5 15MHz QPSK-CP-OFDM - Full RB Configuration)

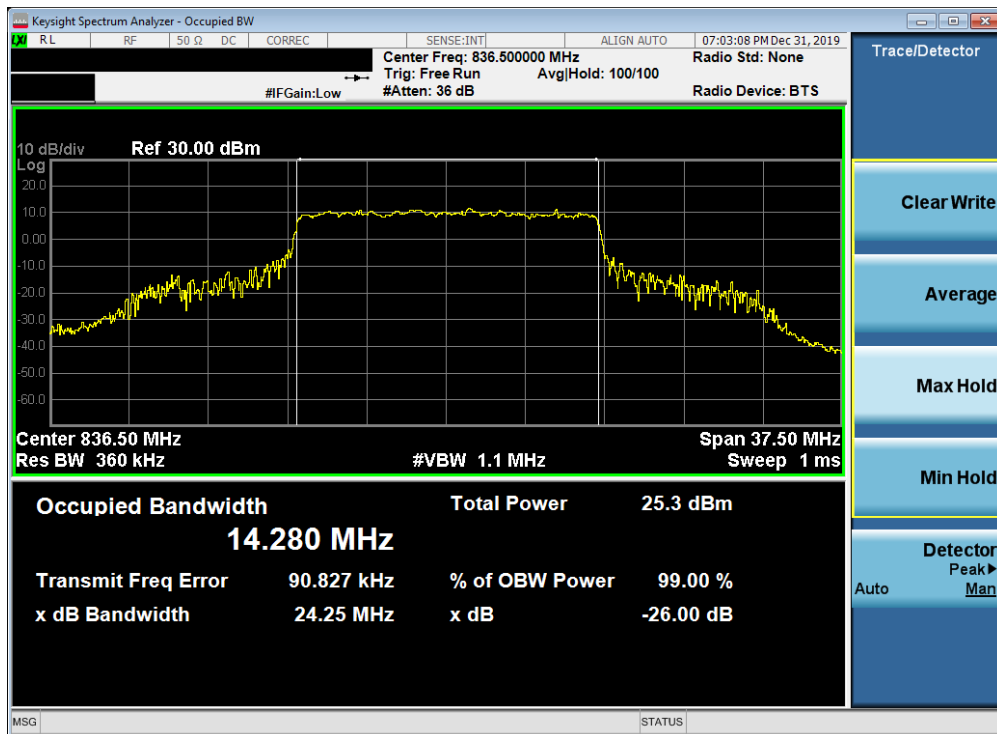


Plot 7-540. Occupied Bandwidth Plot (n5 15MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 362 of 486

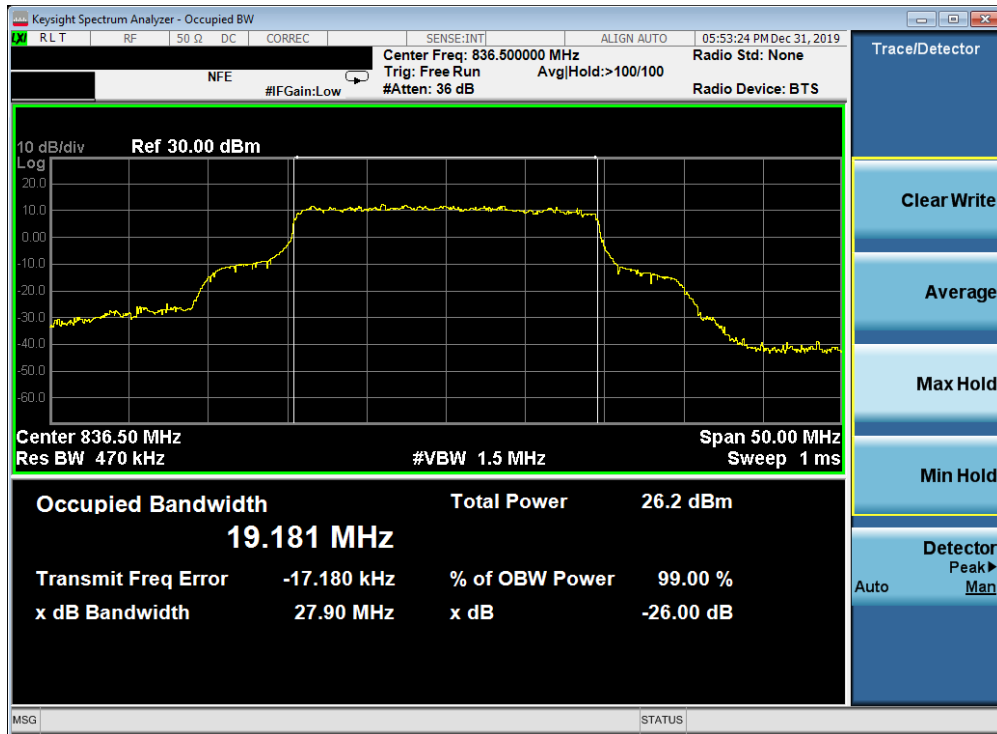


Plot 7-541. Occupied Bandwidth Plot (n5 15MHz 64QAM-CP-OFDM- Full RB Configuration)

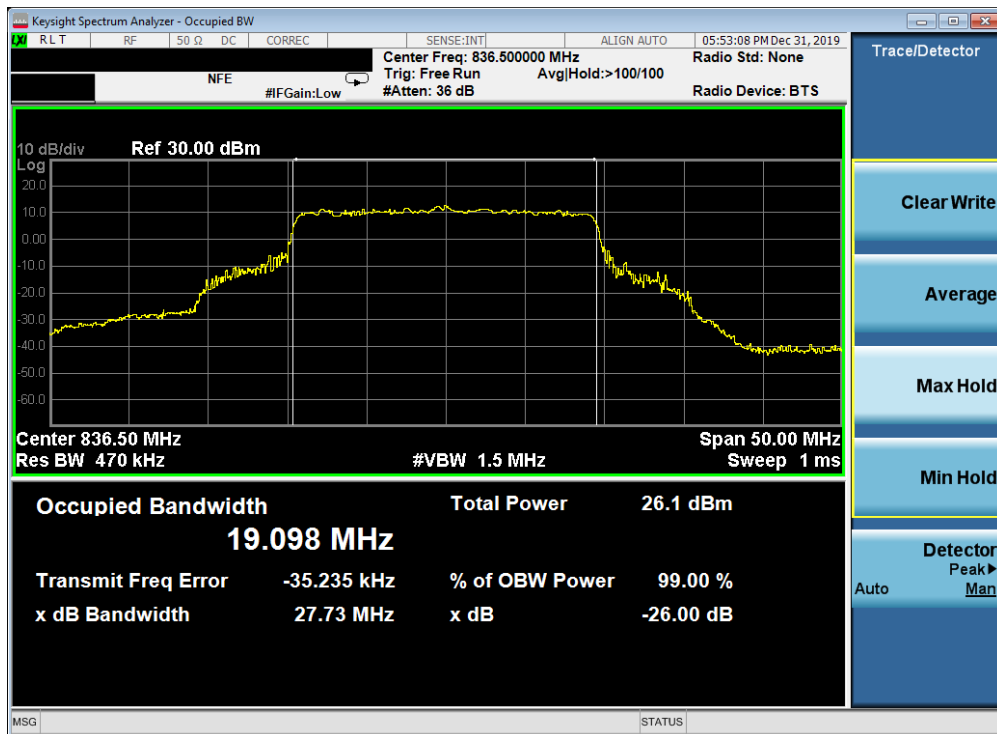


Plot 7-542. Occupied Bandwidth Plot (n5 15MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 363 of 486

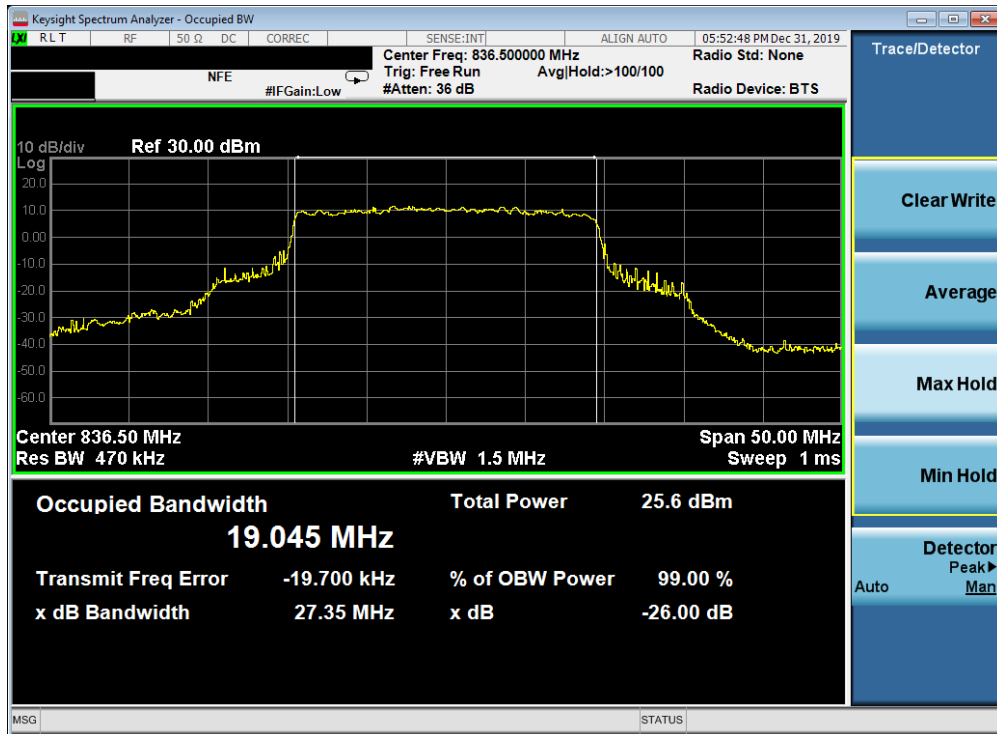


Plot 7-543. Occupied Bandwidth Plot (n5 20MHz QPSK-CP-OFDM - Full RB Configuration)

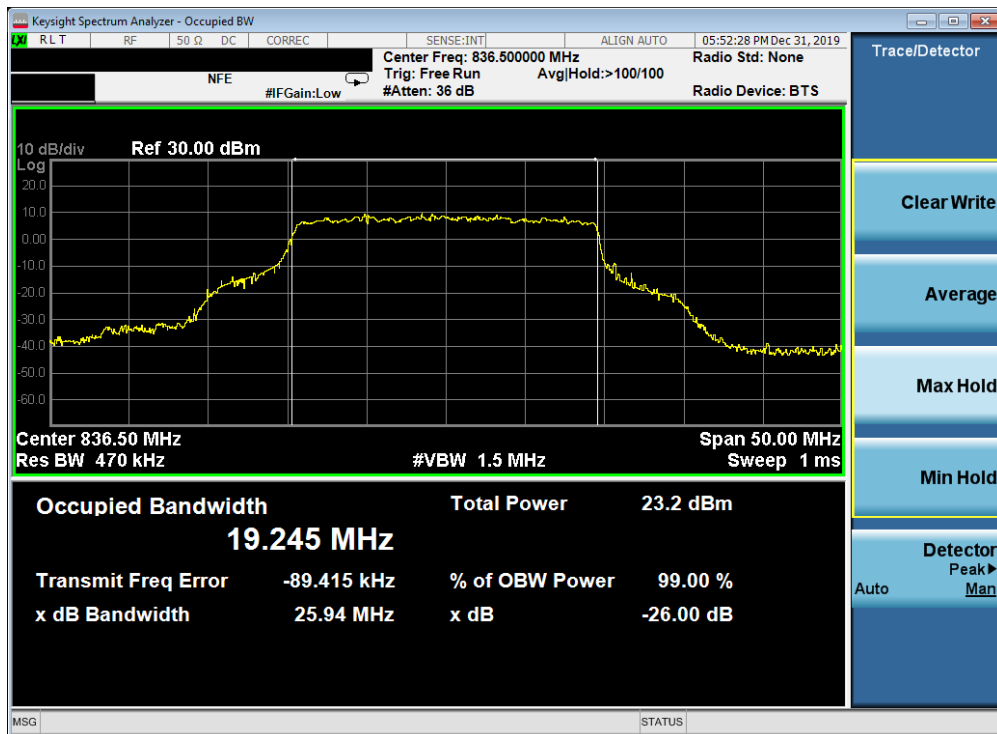


Plot 7-544. Occupied Bandwidth Plot (n5 20MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 364 of 486



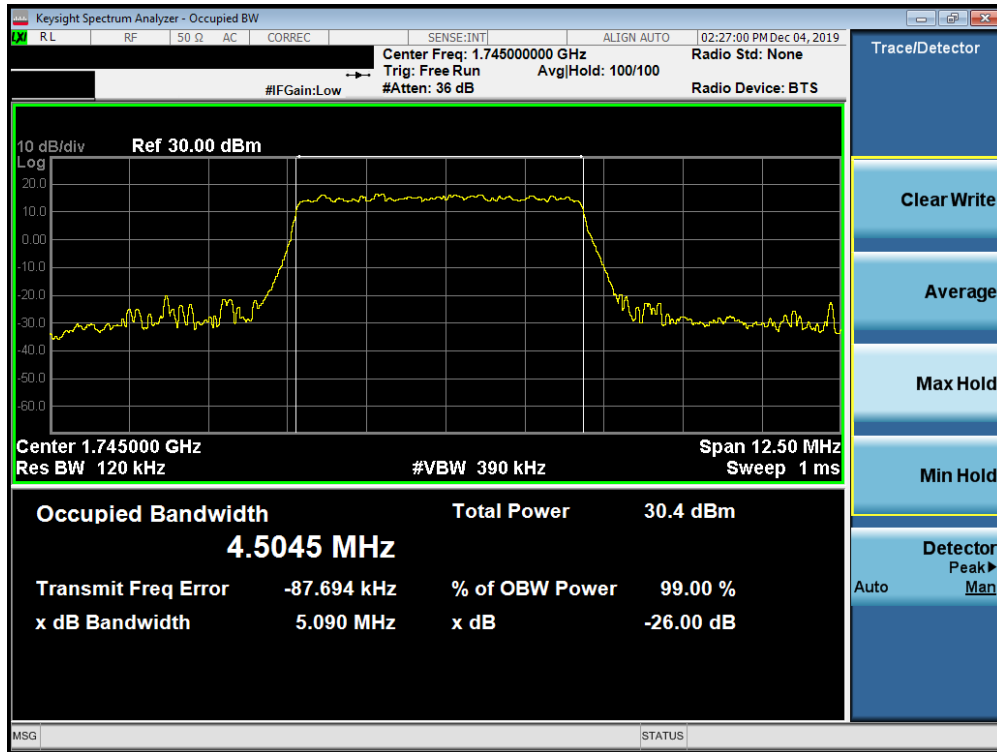
Plot 7-545. Occupied Bandwidth Plot (n5 20MHz 64QAM-CP-OFDM- Full RB Configuration)



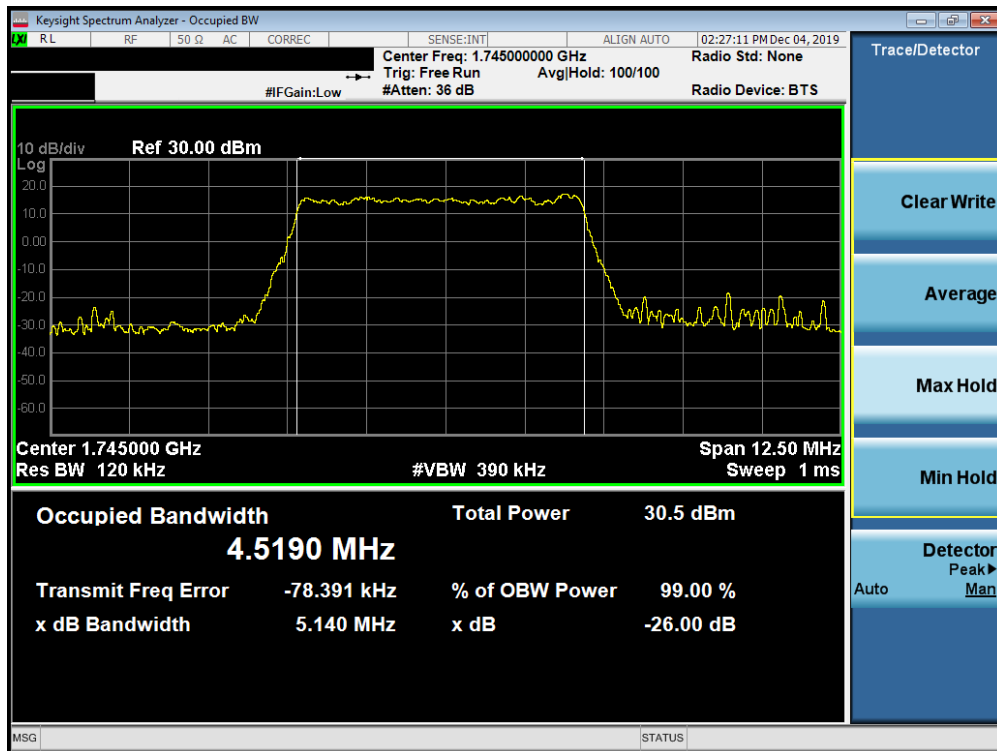
Plot 7-546. Occupied Bandwidth Plot (n5 20MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 365 of 486

NR Band n66

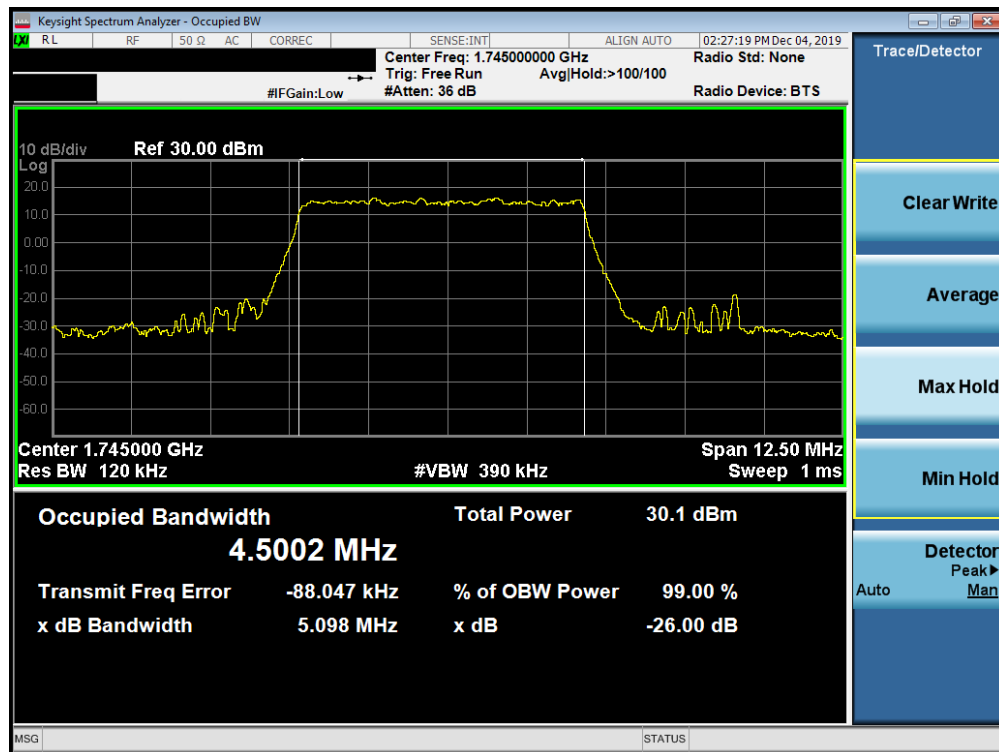


Plot 7-547. Occupied Bandwidth Plot (n66 5MHz QPSK-CP-OFDM - Full RB Configuration)

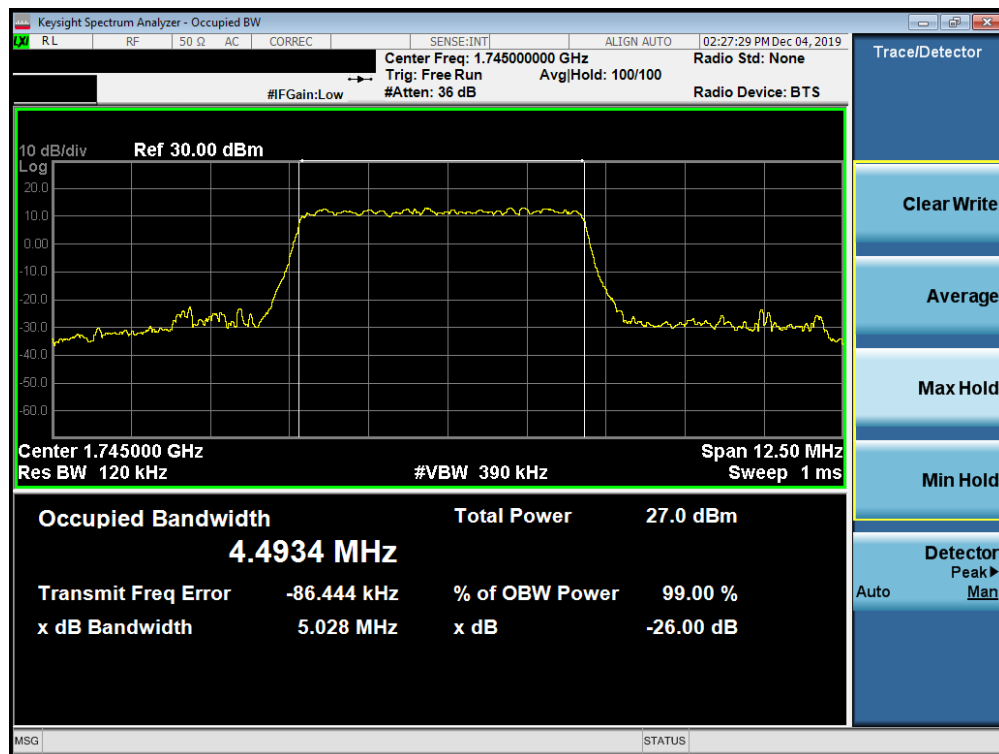


Plot 7-548. Occupied Bandwidth Plot (n66 5MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 366 of 486

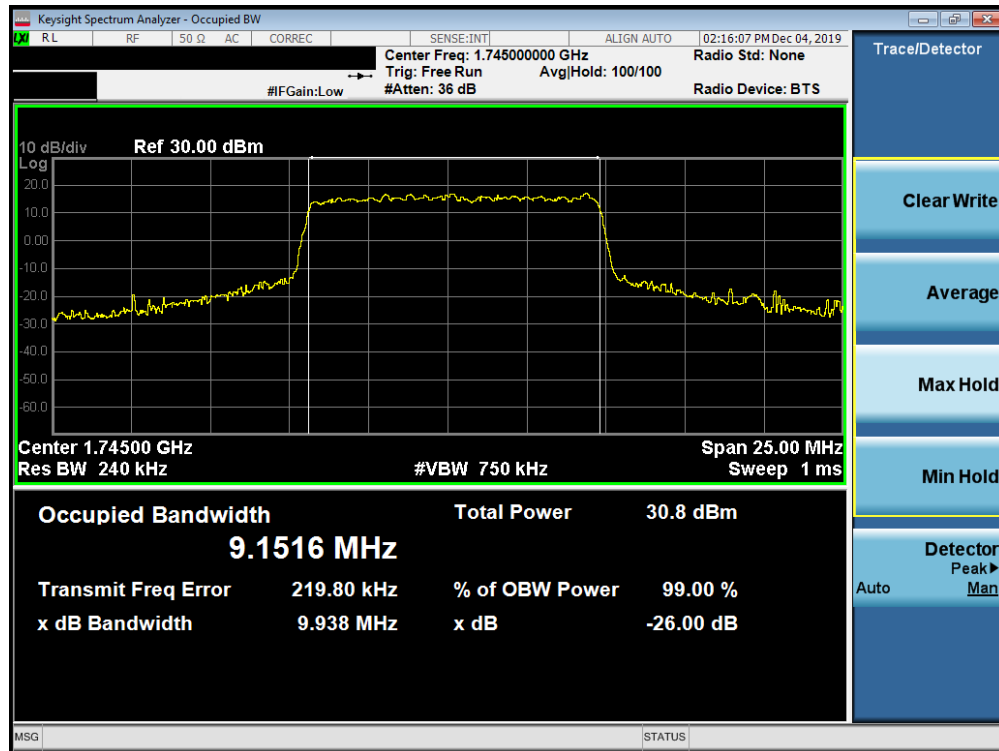


Plot 7-549. Occupied Bandwidth Plot (n66 5MHz 64QAM-CP-OFDM- Full RB Configuration)

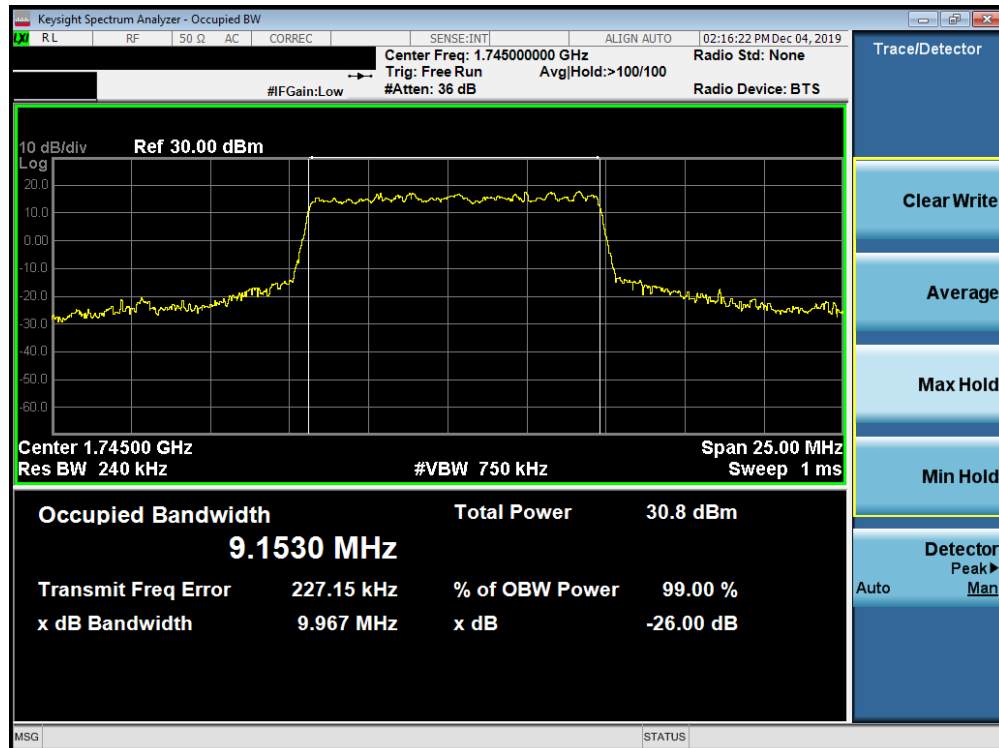


Plot 7-550. Occupied Bandwidth Plot (n66 5MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 367 of 486

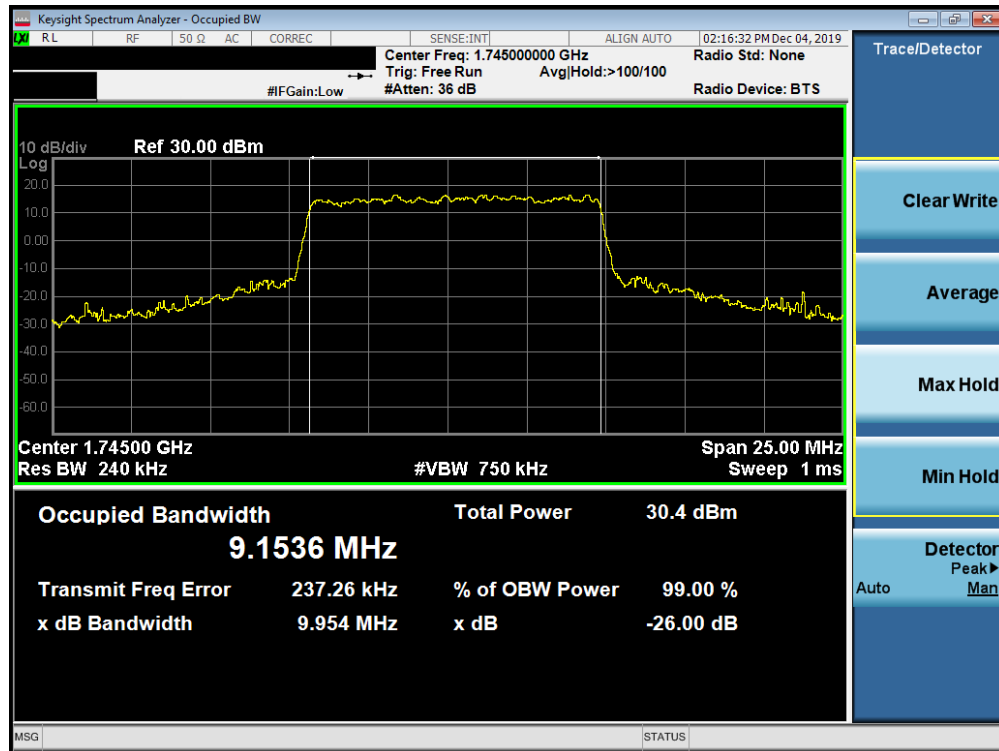


Plot 7-551. Occupied Bandwidth Plot (n66 10MHz QPSK-CP-OFDM - Full RB Configuration)

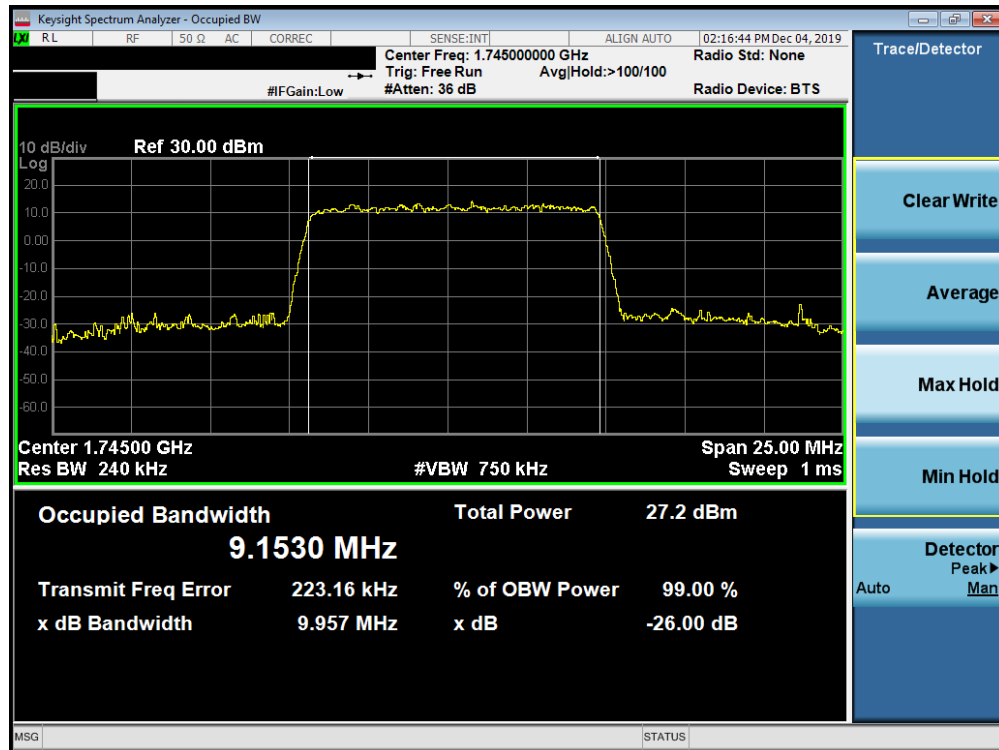


Plot 7-552. Occupied Bandwidth Plot (n66 10MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 368 of 486

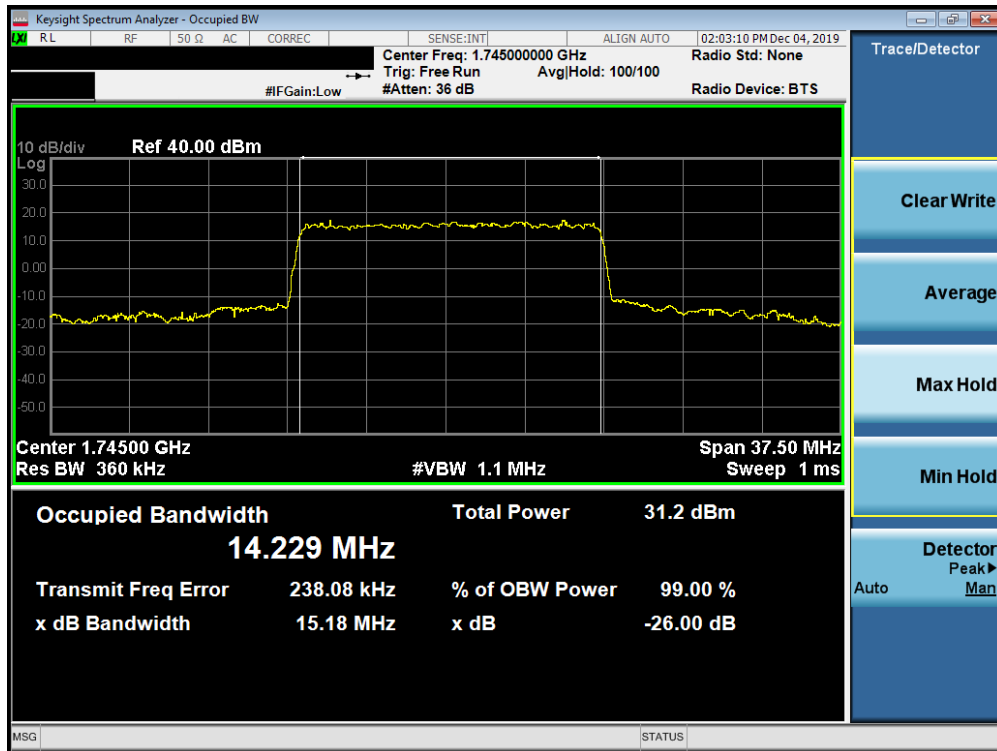


Plot 7-553. Occupied Bandwidth Plot (n66 10MHz 64QAM-CP-OFDM- Full RB Configuration)

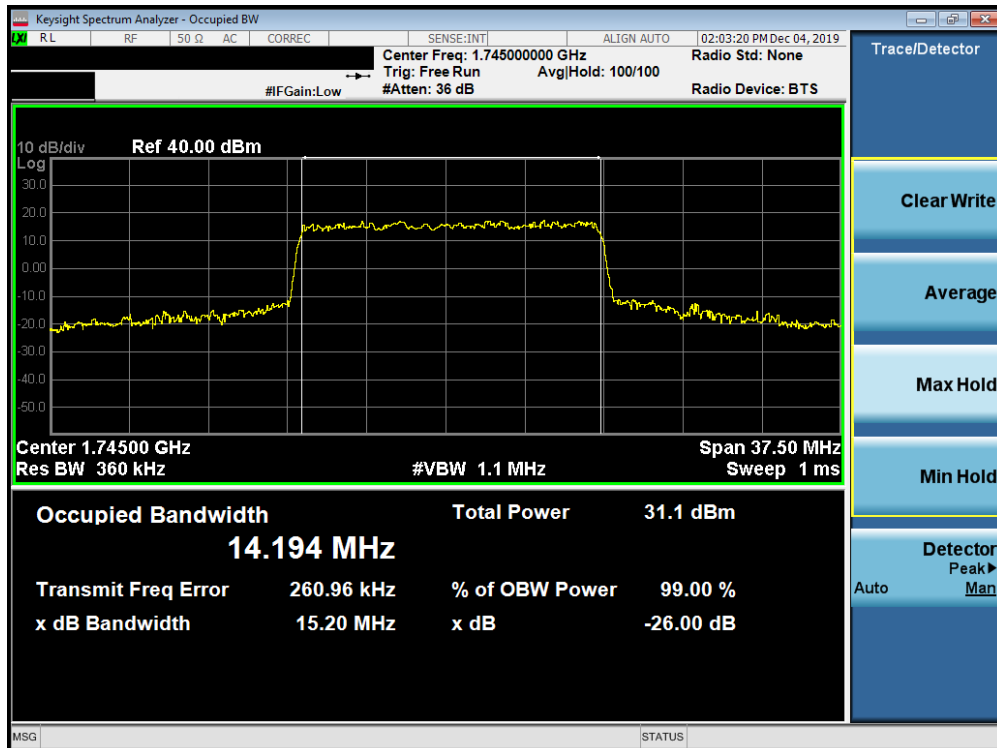


Plot 7-554. Occupied Bandwidth Plot (n66 10MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 369 of 486

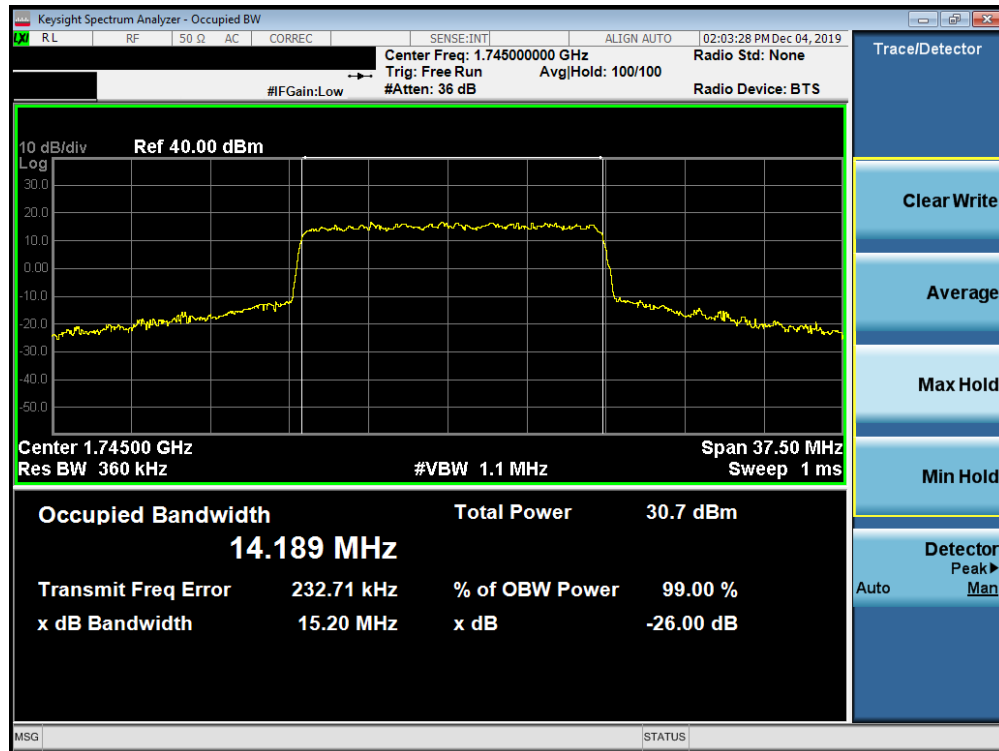


Plot 7-555. Occupied Bandwidth Plot (n66 15MHz QPSK-CP-OFDM - Full RB Configuration)

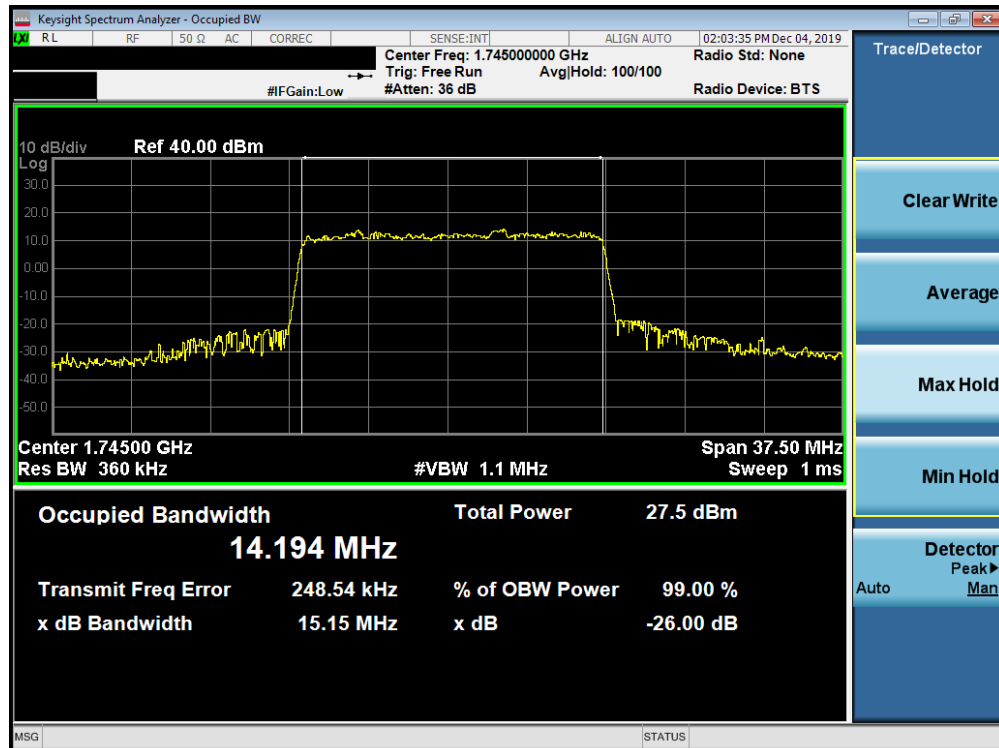


Plot 7-556. Occupied Bandwidth Plot (n66 15MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 370 of 486

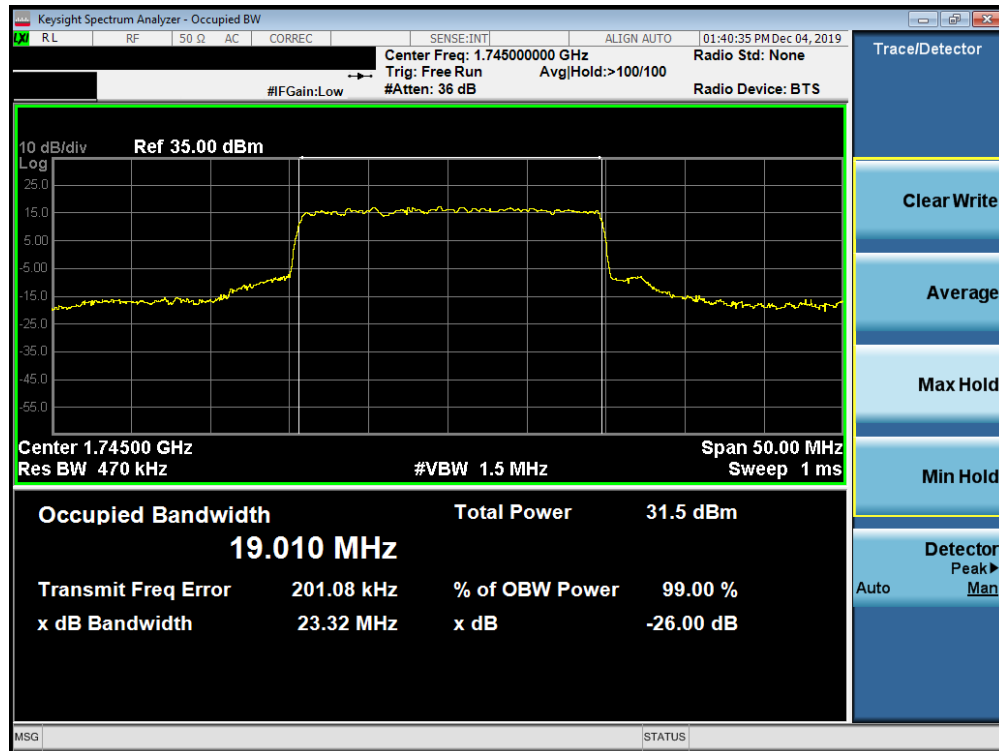


Plot 7-557. Occupied Bandwidth Plot (n66 15MHz 64QAM-CP-OFDM- Full RB Configuration)

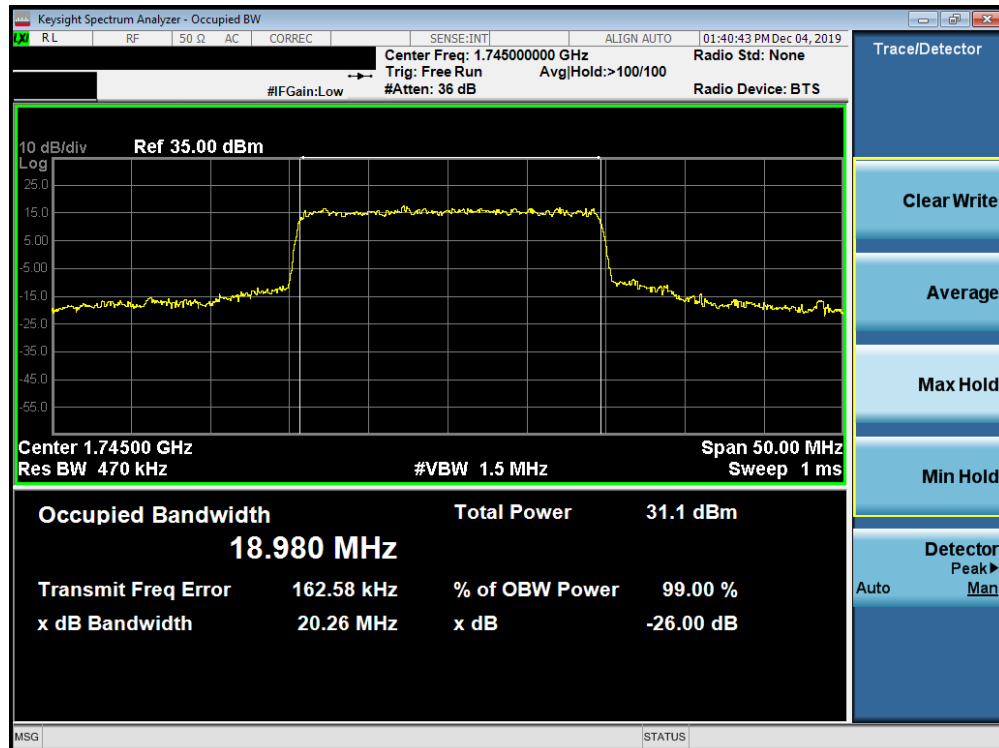


Plot 7-558. Occupied Bandwidth Plot (n66 15MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 371 of 486

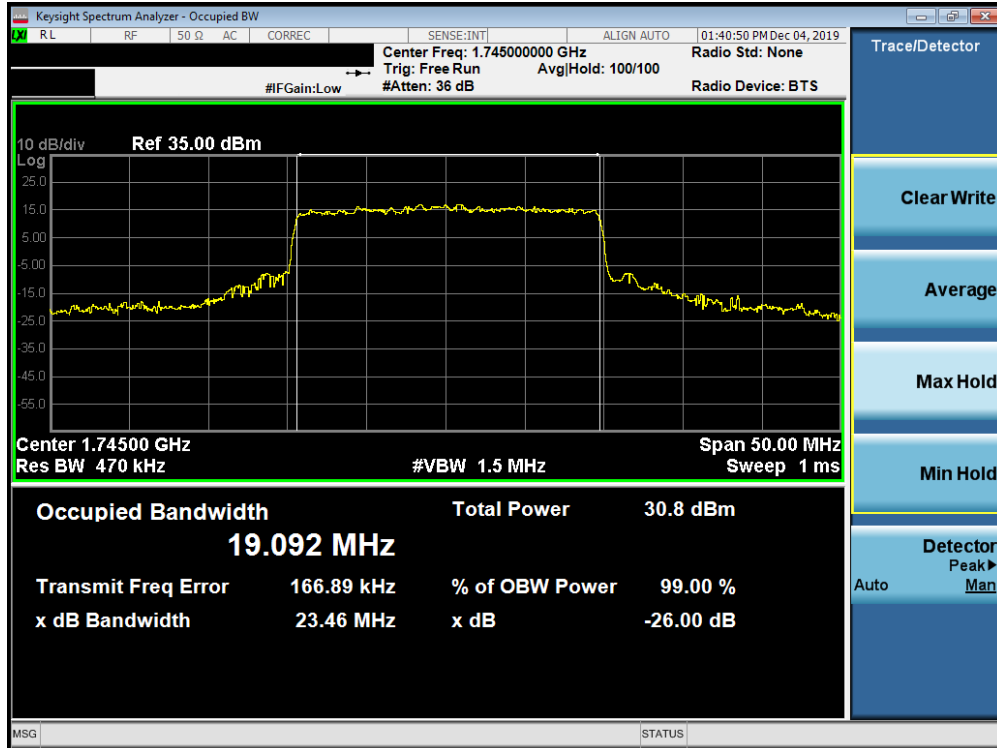


Plot 7-559. Occupied Bandwidth Plot (n66 20MHz QPSK-CP-OFDM - Full RB Configuration)

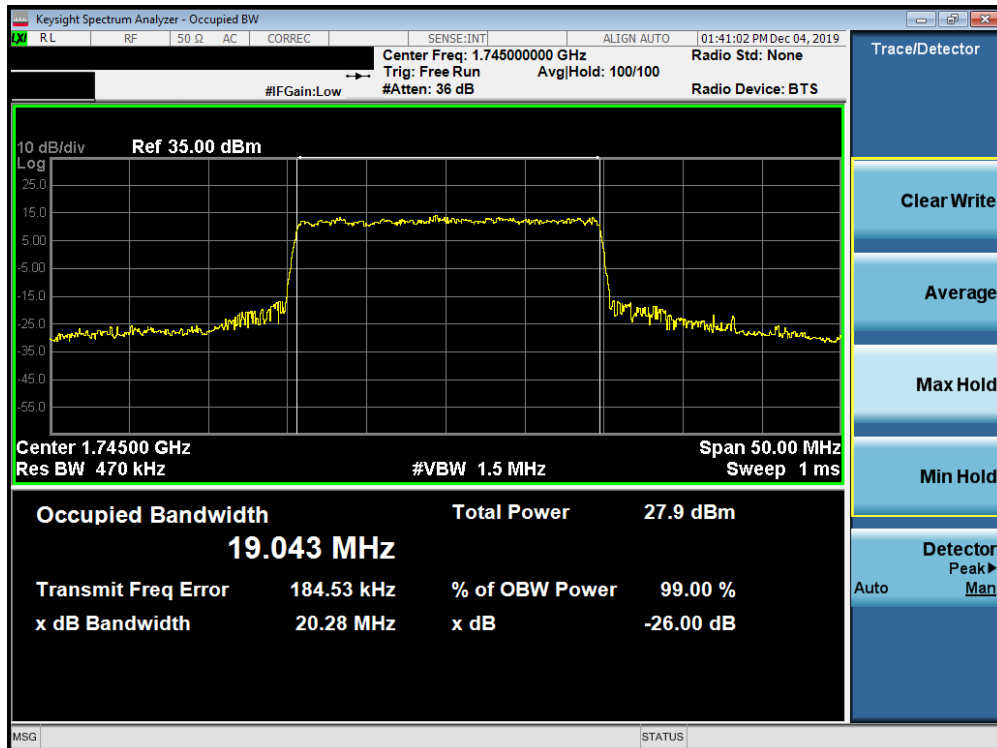


Plot 7-560. Occupied Bandwidth Plot (n66 20MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 372 of 486



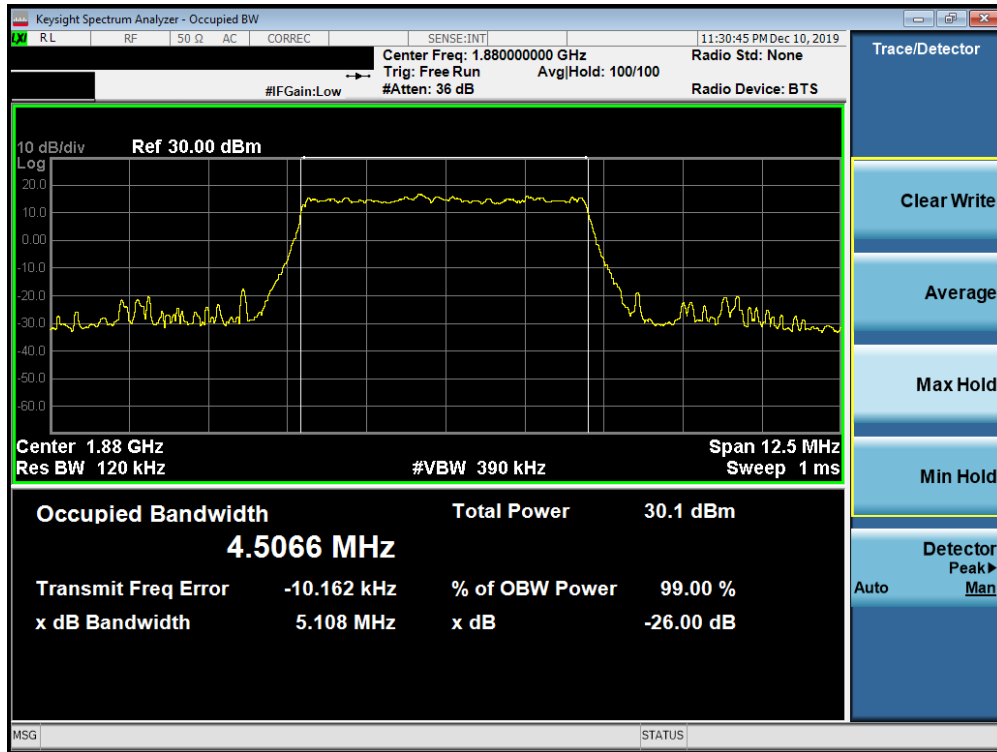
Plot 7-561. Occupied Bandwidth Plot (n66 20MHz 64QAM-CP-OFDM- Full RB Configuration)



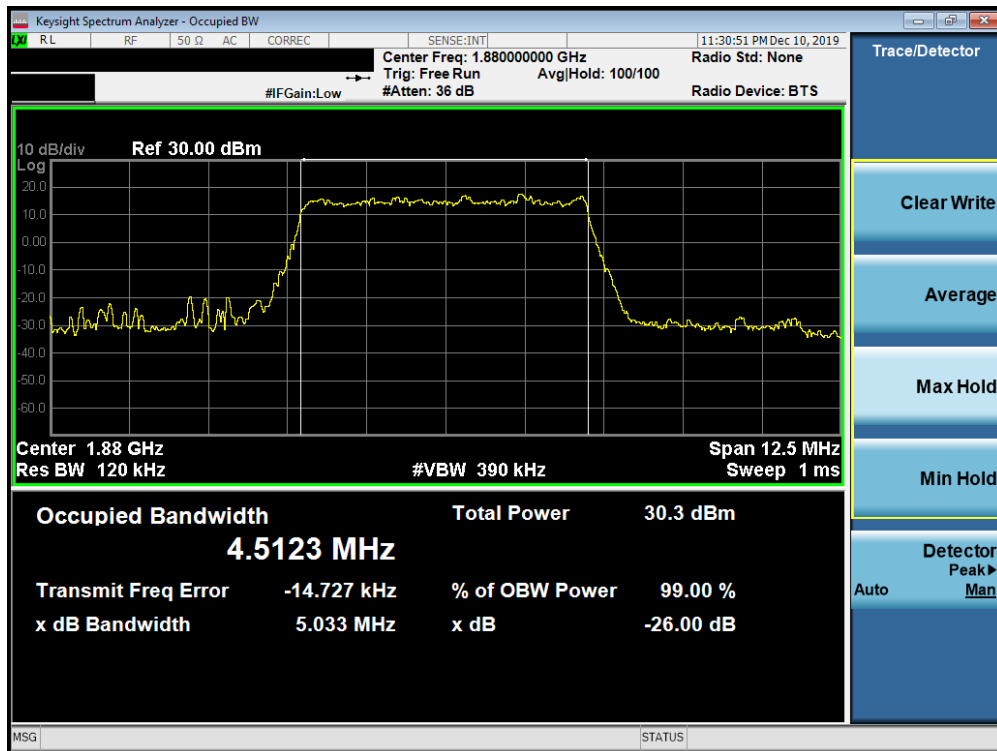
Plot 7-562. Occupied Bandwidth Plot (n66 20MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 373 of 486

NR Band n2

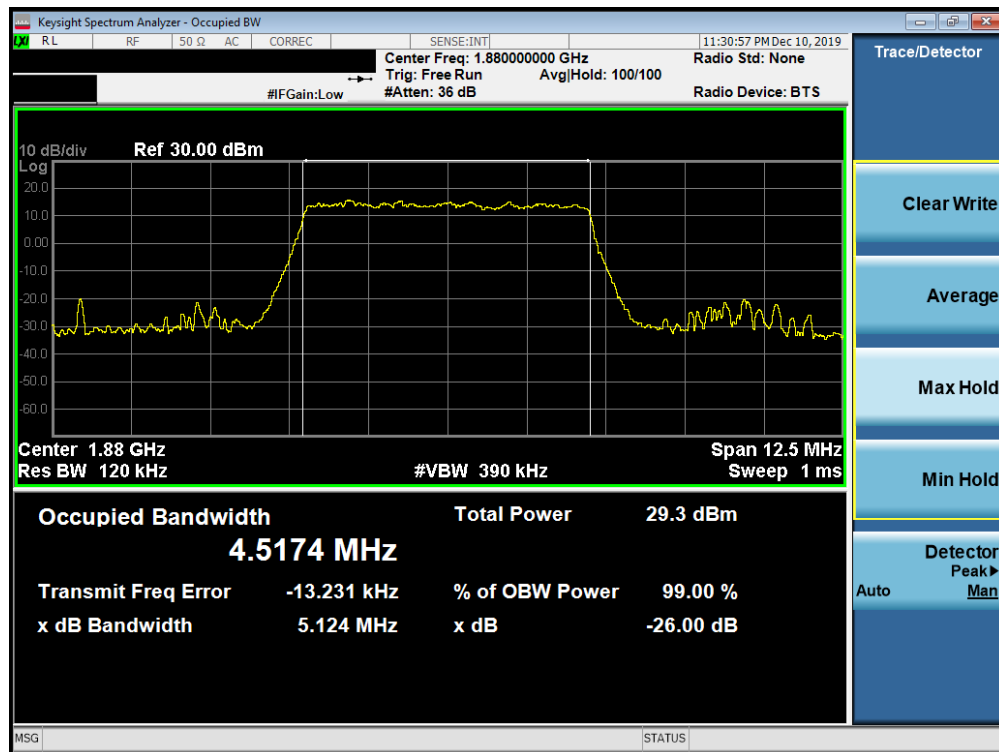


Plot 7-563. Occupied Bandwidth Plot (n2 5MHz QPSK-CP-OFDM - Full RB Configuration)

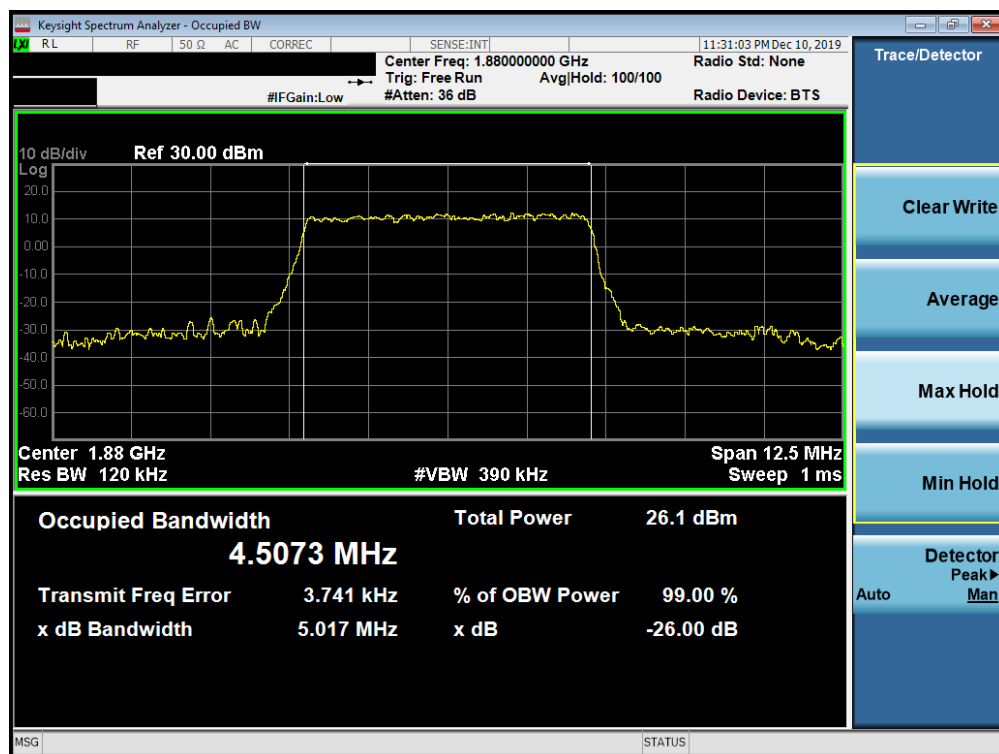


Plot 7-564. Occupied Bandwidth Plot (n2 5MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 374 of 486

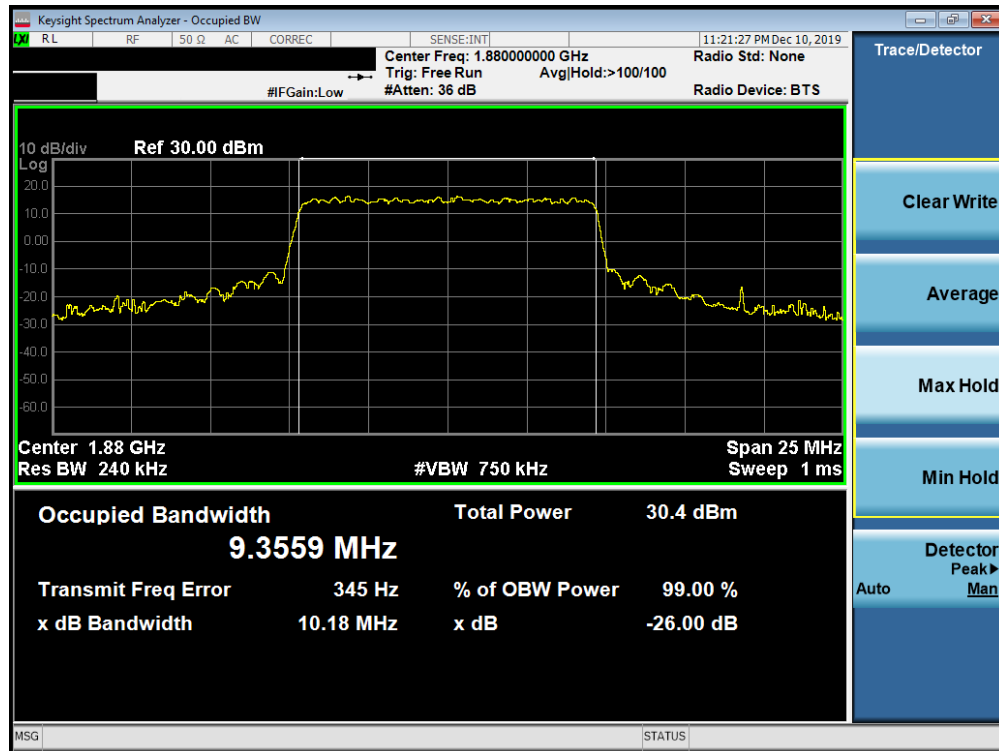


Plot 7-565. Occupied Bandwidth Plot (n2 5MHz 64QAM-CP-OFDM- Full RB Configuration)

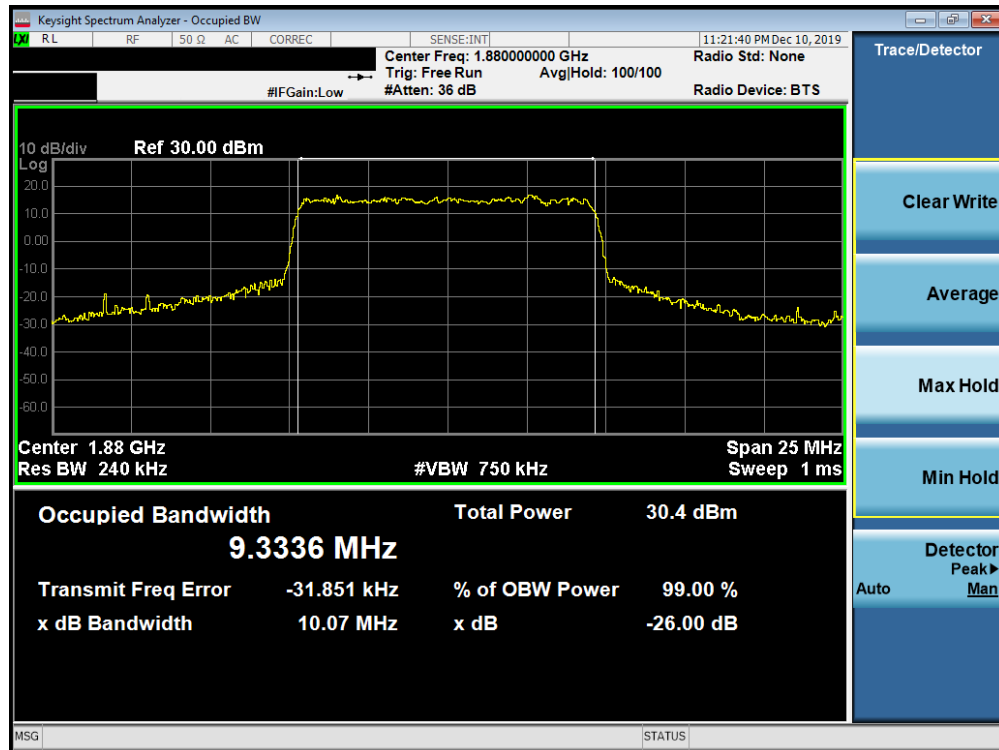


Plot 7-566. Occupied Bandwidth Plot (n2 5MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 375 of 486

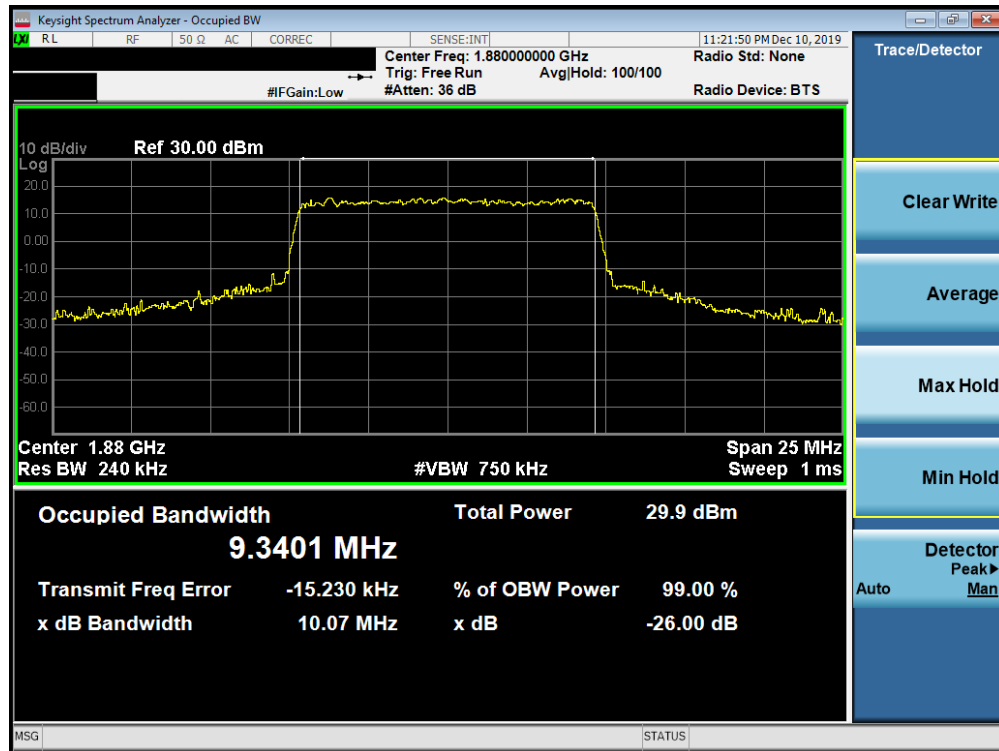


Plot 7-567. Occupied Bandwidth Plot (n2 10MHz QPSK-CP-OFDM - Full RB Configuration)

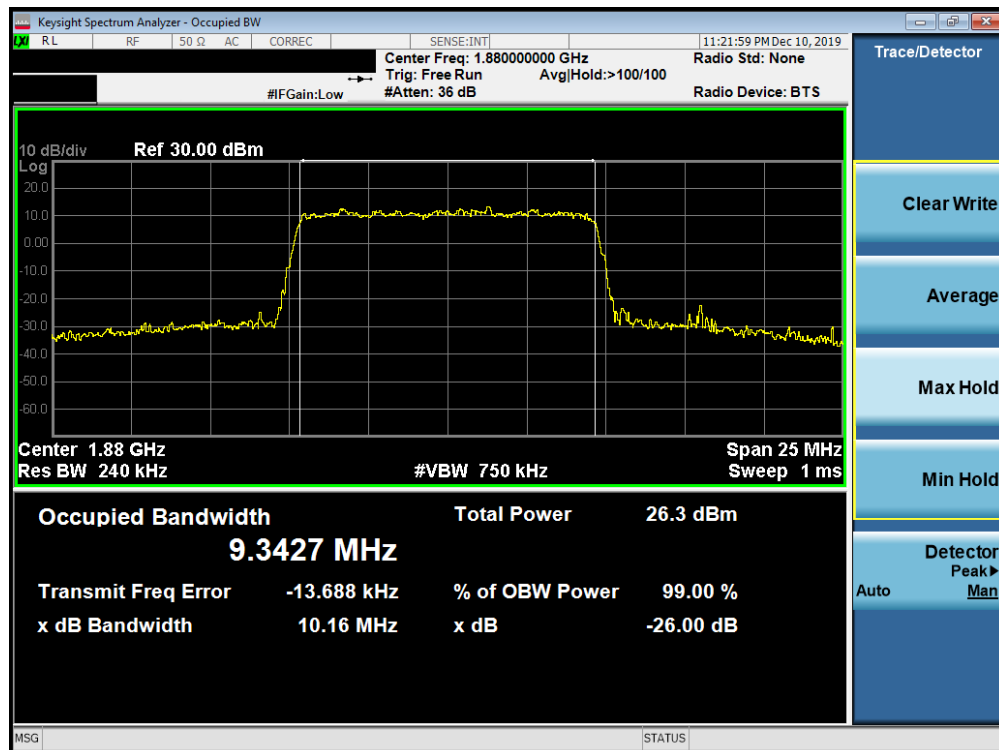


Plot 7-568. Occupied Bandwidth Plot (n2 10MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 376 of 486

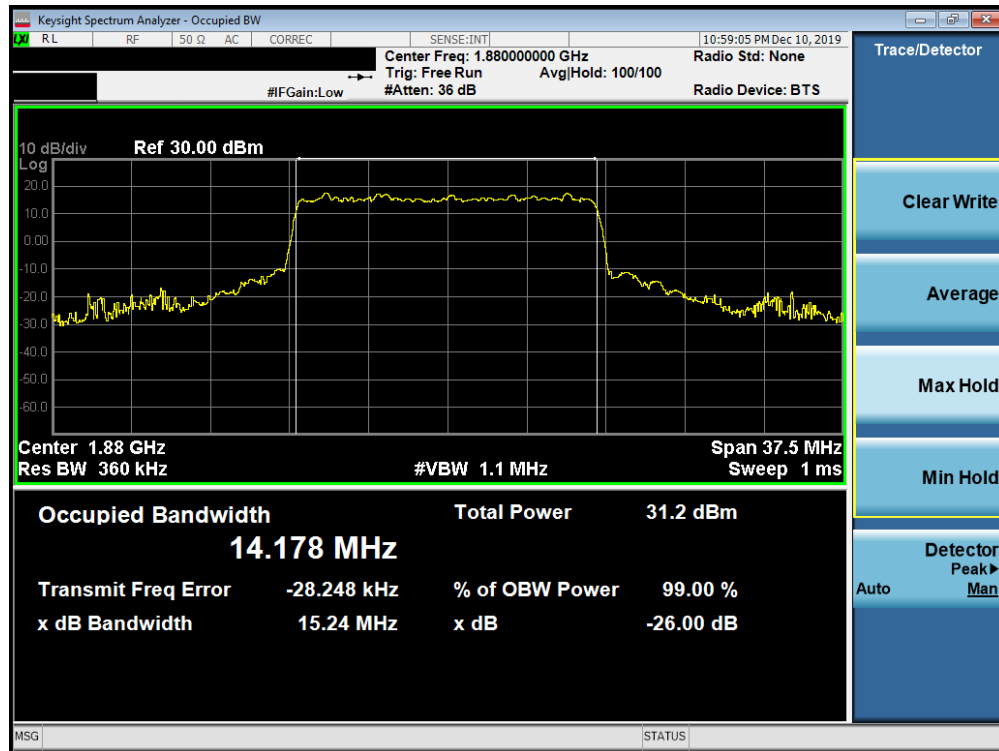


Plot 7-569. Occupied Bandwidth Plot (n2 10MHz 64QAM-CP-OFDM- Full RB Configuration)

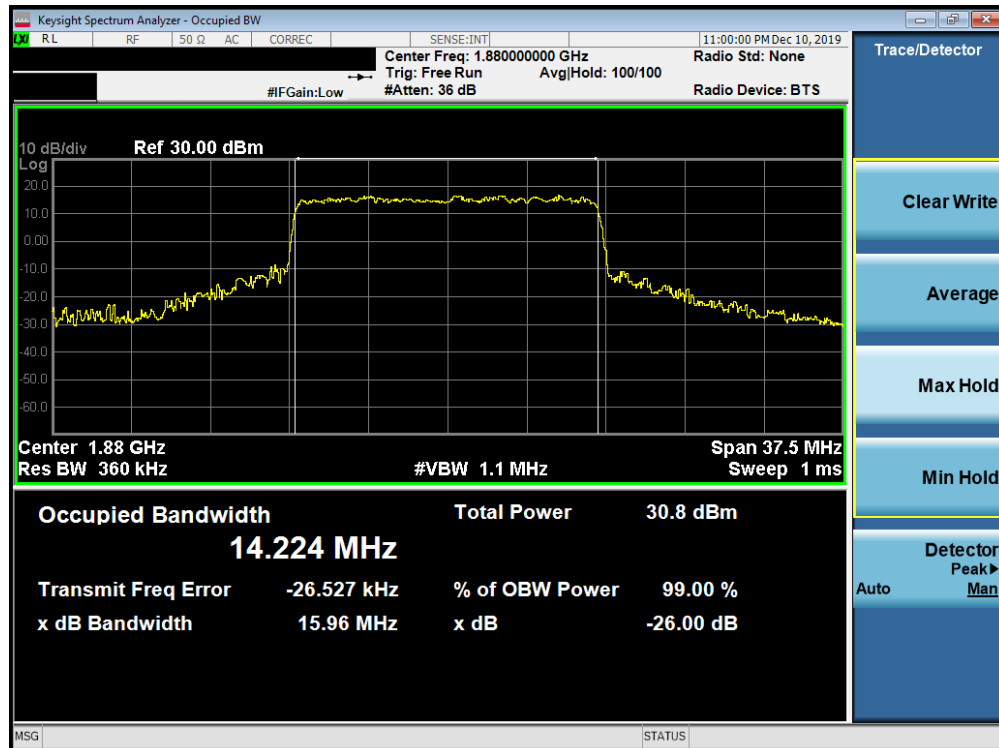


Plot 7-570. Occupied Bandwidth Plot (n2 10MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 377 of 486

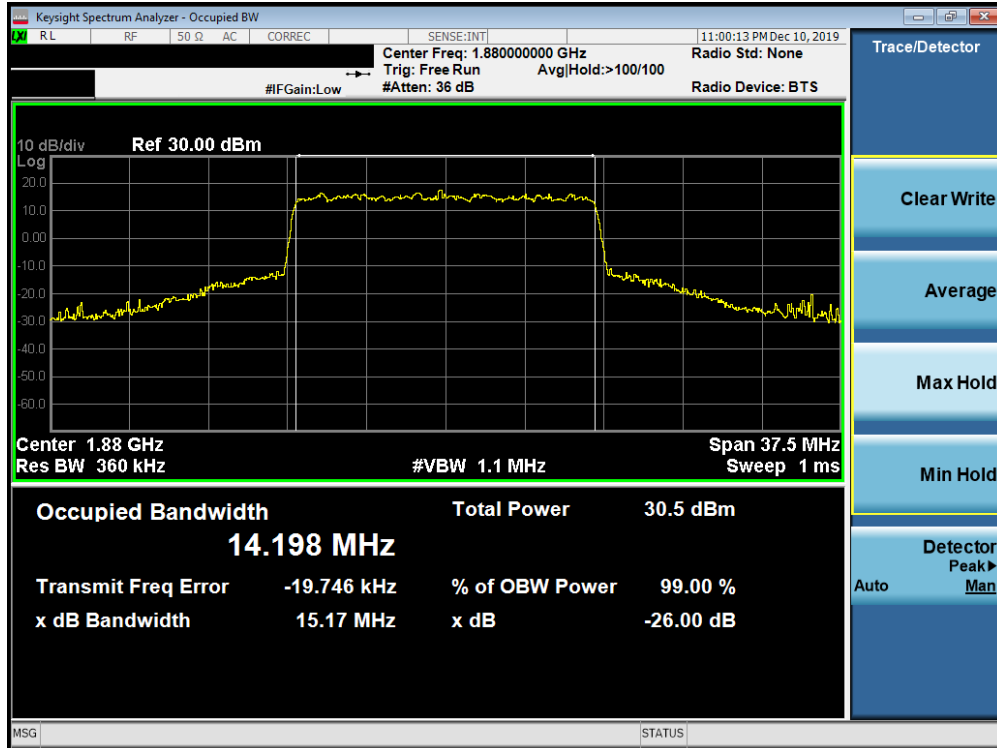


Plot 7-571. Occupied Bandwidth Plot (n2 15MHz QPSK-CP-OFDM - Full RB Configuration)

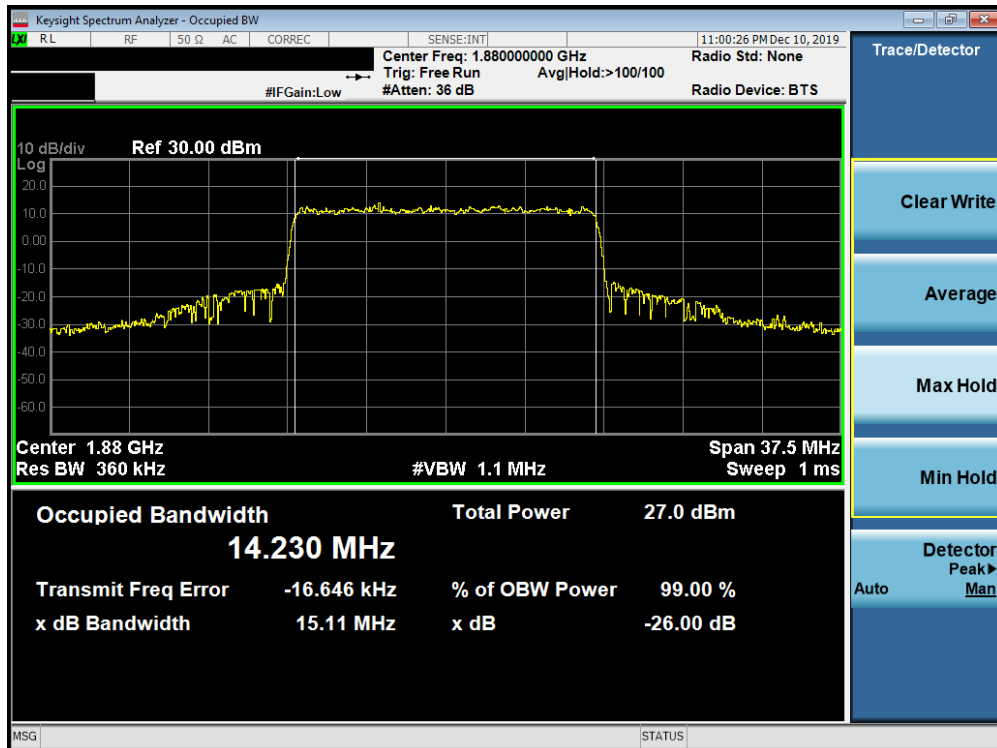


Plot 7-572. Occupied Bandwidth Plot (n2 15MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 378 of 486

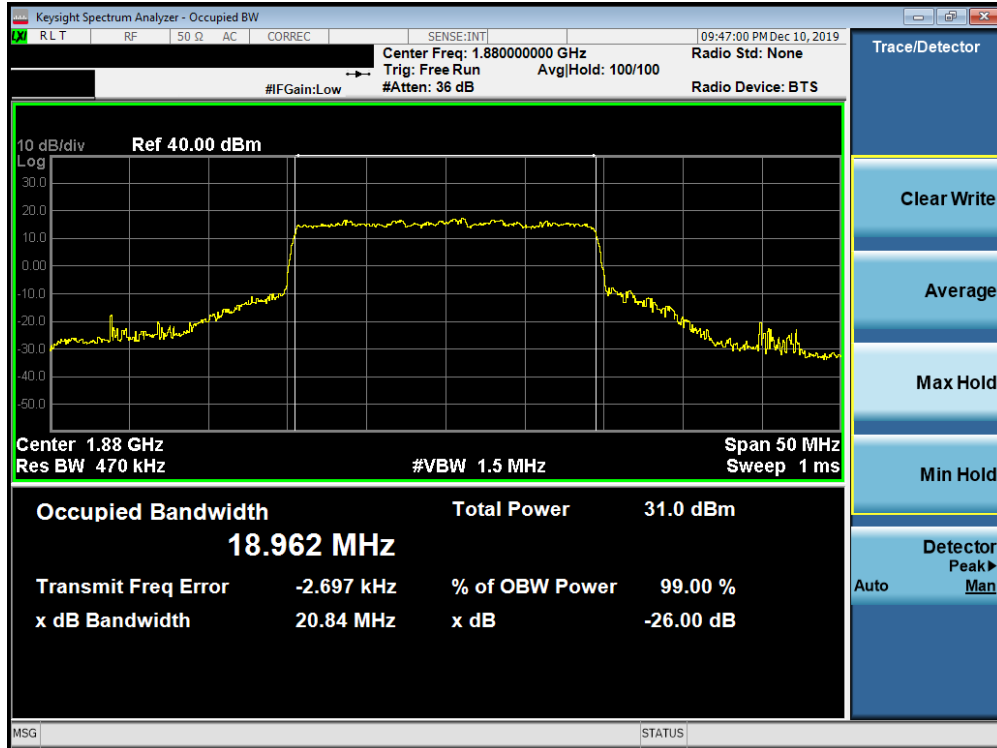


Plot 7-573. Occupied Bandwidth Plot (n2 15MHz 64QAM-CP-OFDM- Full RB Configuration)

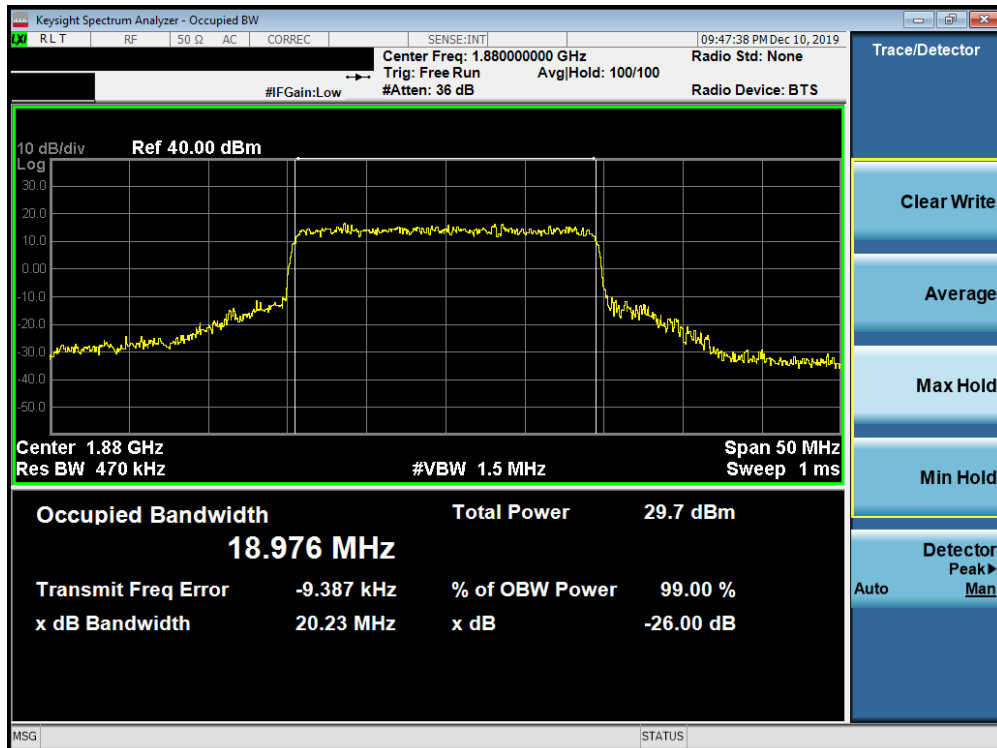


Plot 7-574. Occupied Bandwidth Plot (n2 15MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 379 of 486

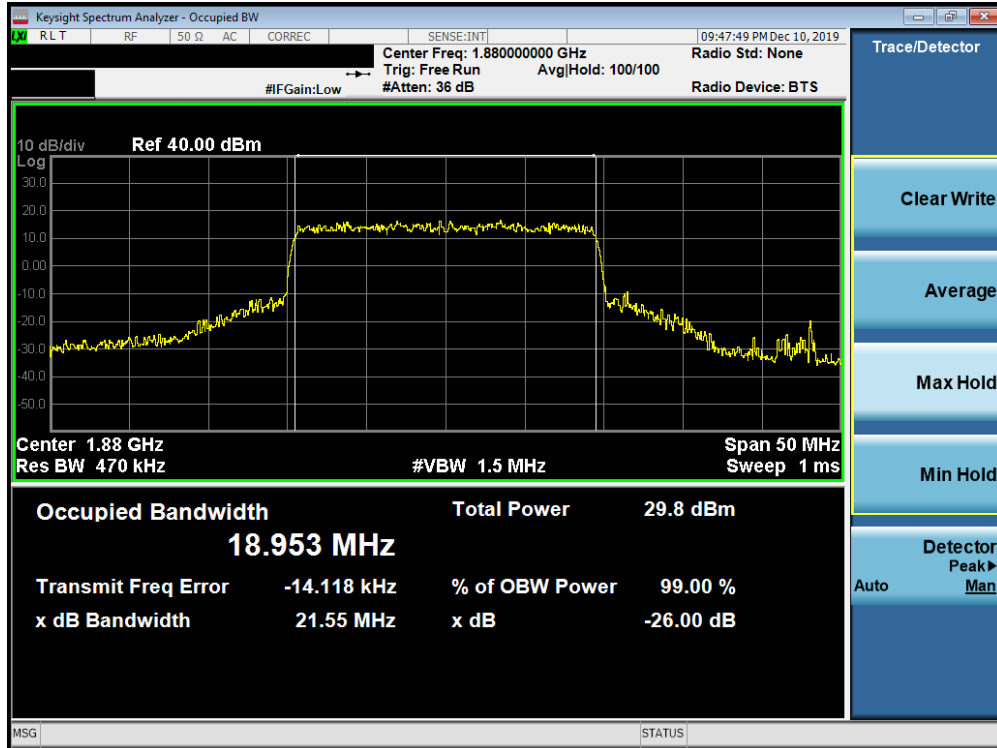


Plot 7-575. Occupied Bandwidth Plot (n2 20MHz QPSK-CP-OFDM - Full RB Configuration)

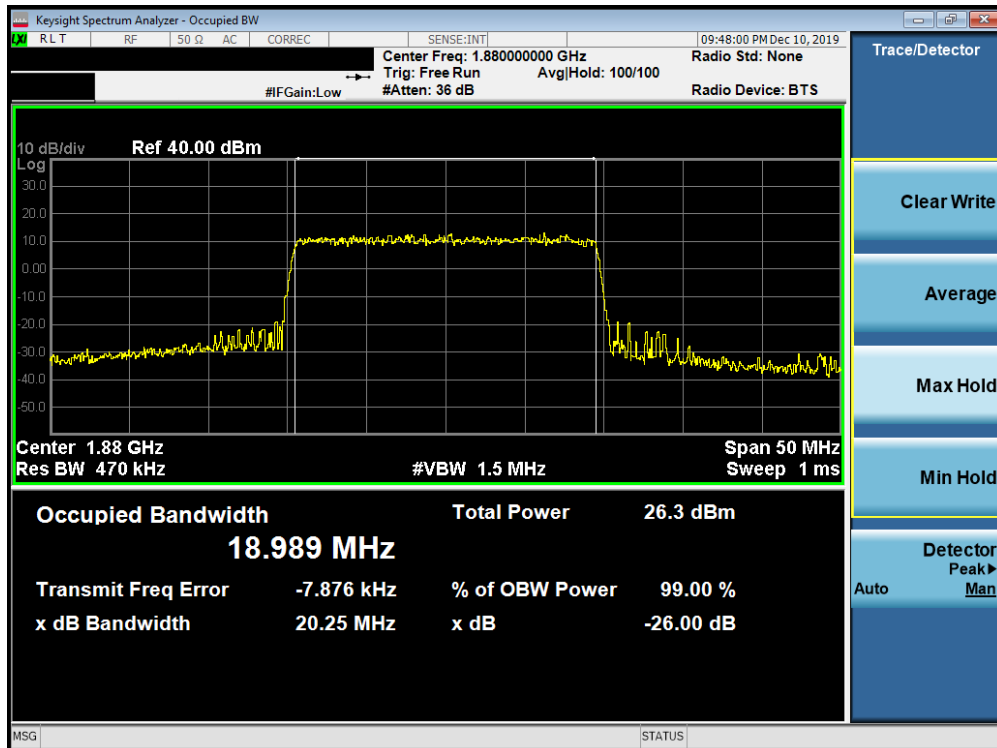


Plot 7-576. Occupied Bandwidth Plot (n2 20MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 380 of 486



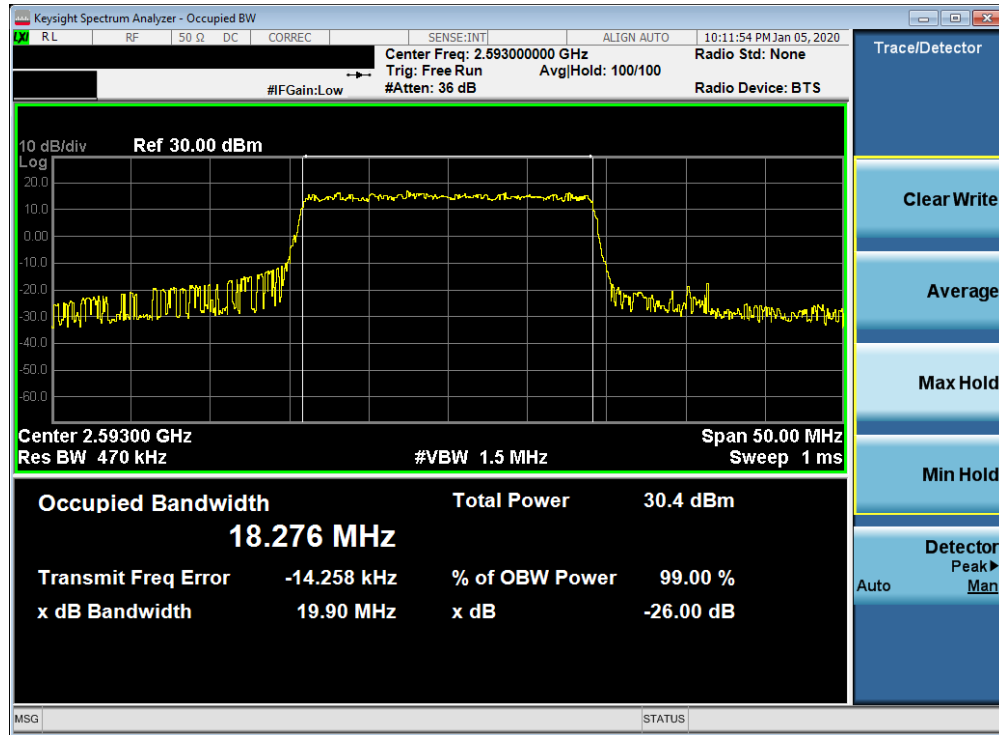
Plot 7-577. Occupied Bandwidth Plot (n2 20MHz 64QAM-CP-OFDM- Full RB Configuration)



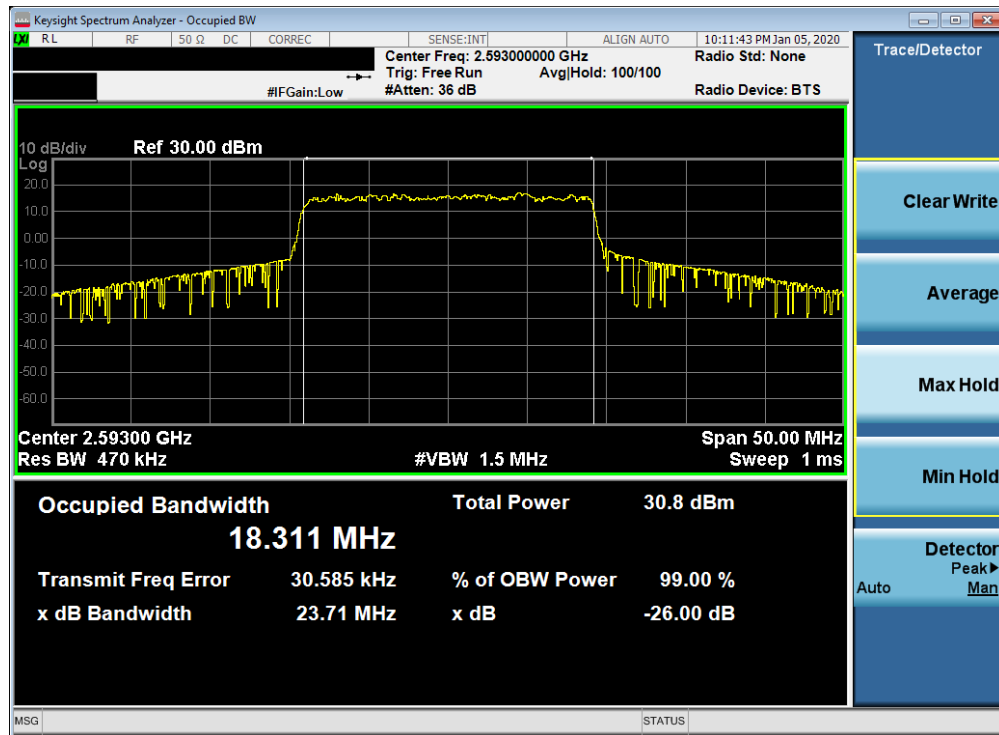
Plot 7-578. Occupied Bandwidth Plot (n2 20MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 381 of 486

NR Band n41

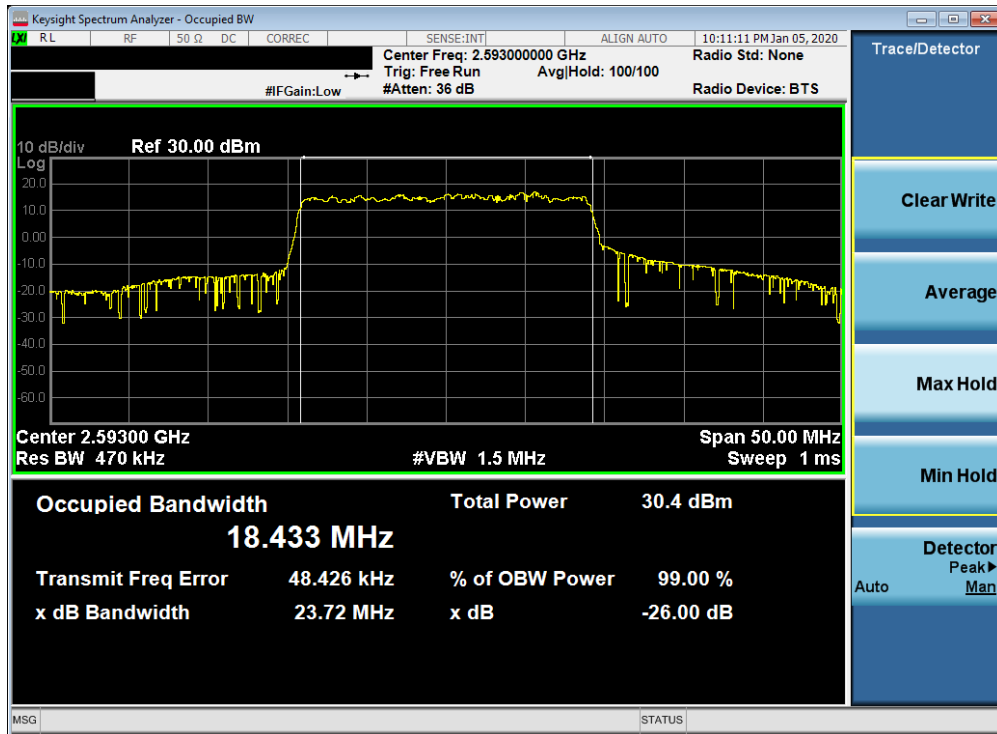


Plot 7-579. Occupied Bandwidth Plot (n41 20MHz QPSK-CP-OFDM - Full RB Configuration)

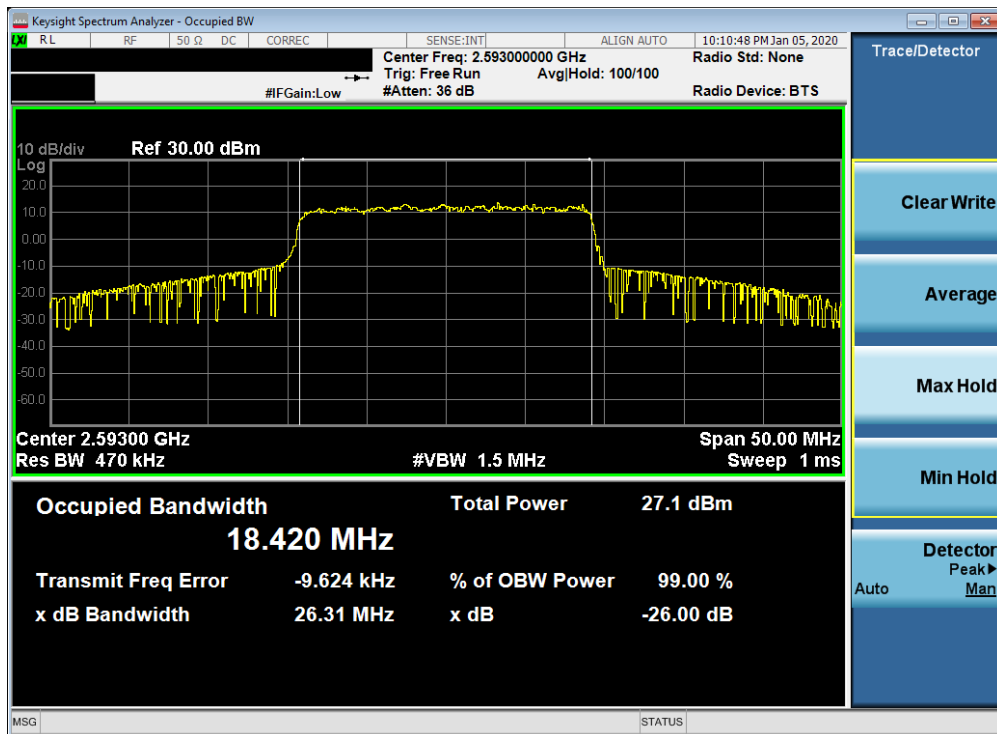


Plot 7-580. Occupied Bandwidth Plot (n41 20MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 382 of 486

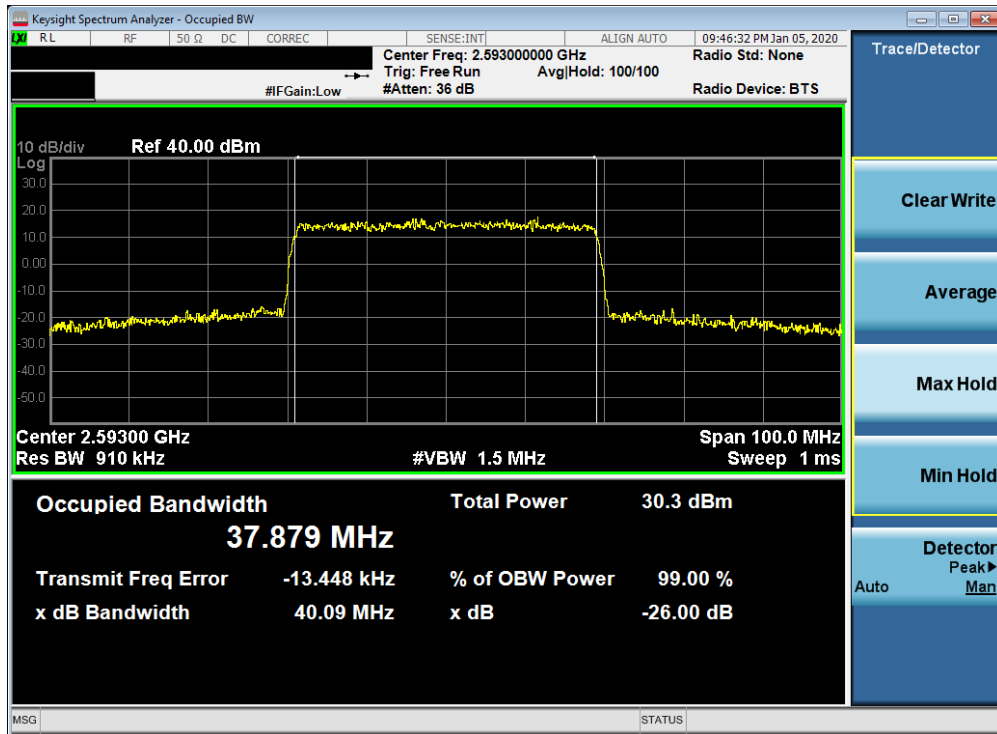


Plot 7-581. Occupied Bandwidth Plot (n41 20MHz 64QAM-CP-OFDM- Full RB Configuration)

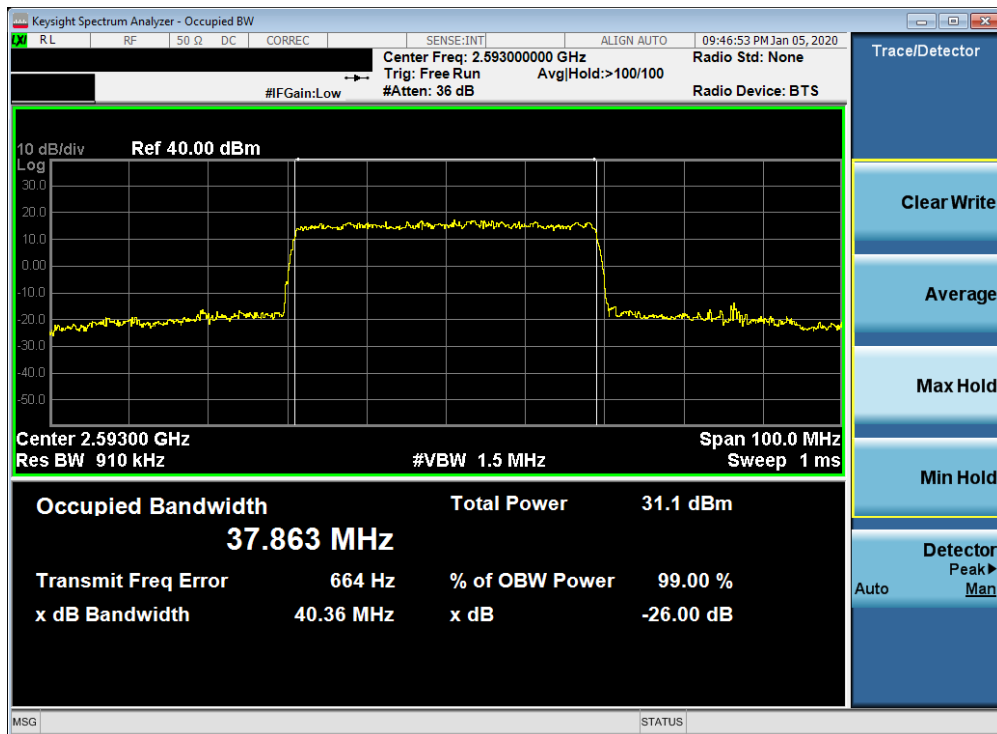


Plot 7-582. Occupied Bandwidth Plot (n41 20MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 383 of 486

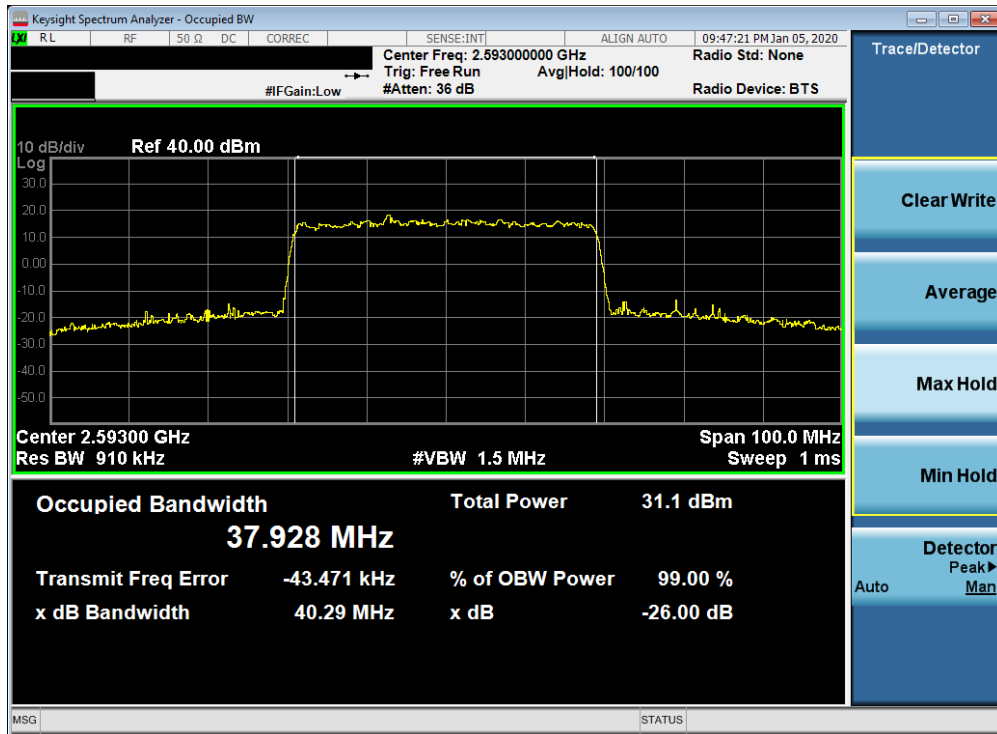


Plot 7-583. Occupied Bandwidth Plot (n41 40MHz QPSK-CP-OFDM - Full RB Configuration)

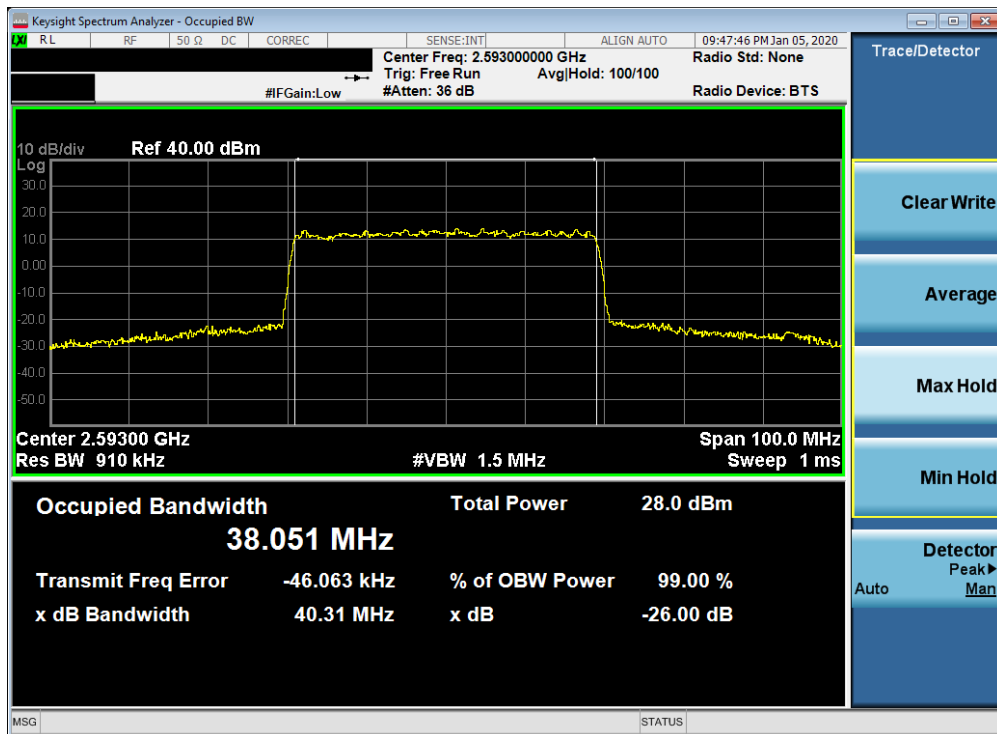


Plot 7-584. Occupied Bandwidth Plot (n41 40MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 384 of 486

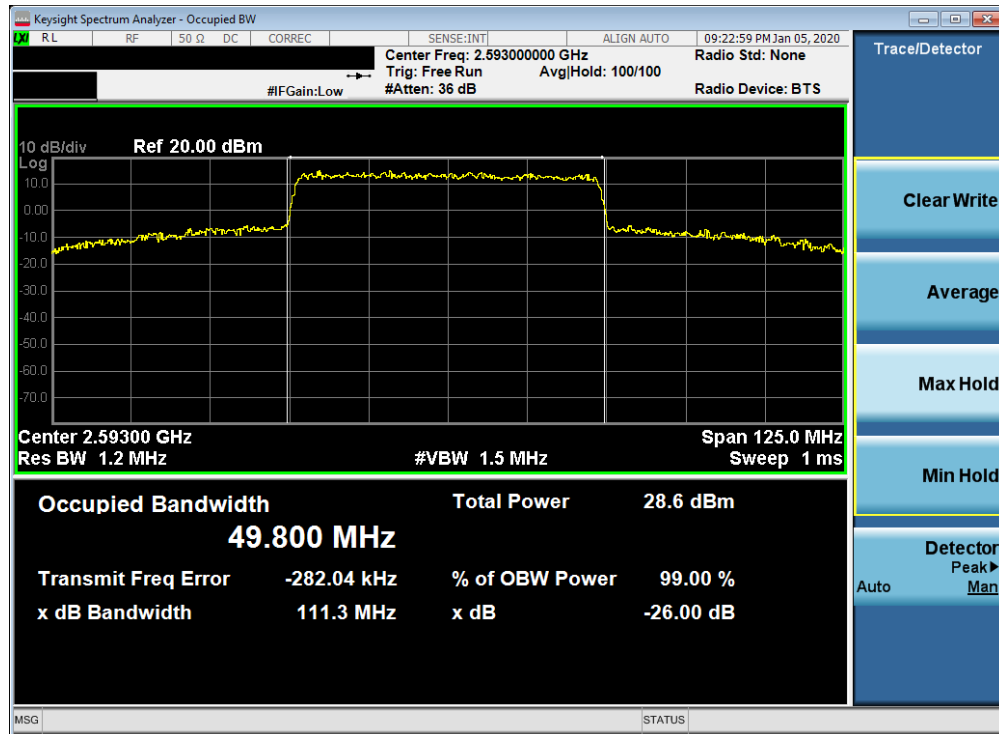


Plot 7-585. Occupied Bandwidth Plot (n41 40MHz 64QAM-CP-OFDM- Full RB Configuration)

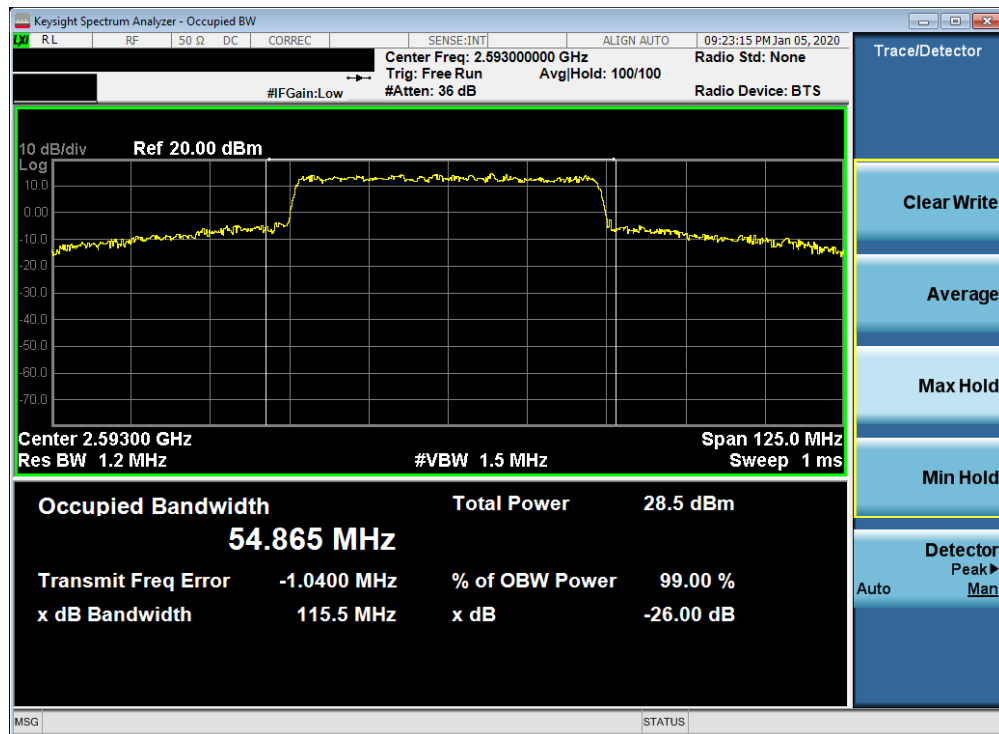


Plot 7-586. Occupied Bandwidth Plot (n41 40MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 385 of 486

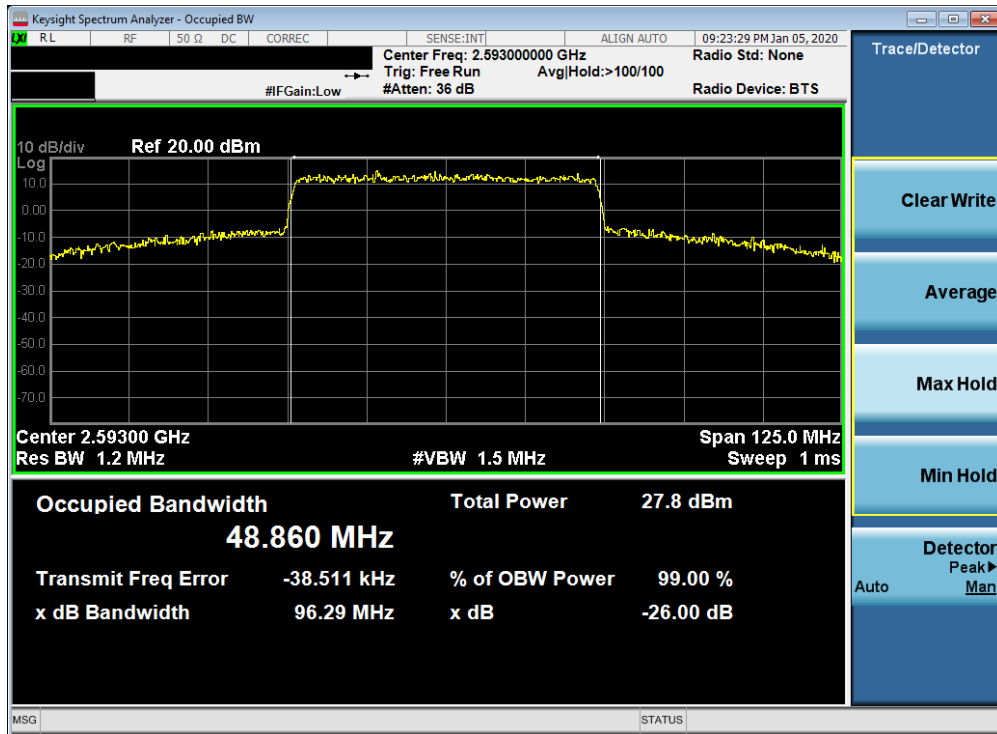


Plot 7-587. Occupied Bandwidth Plot (n41 50MHz QPSK-CP-OFDM - Full RB Configuration)

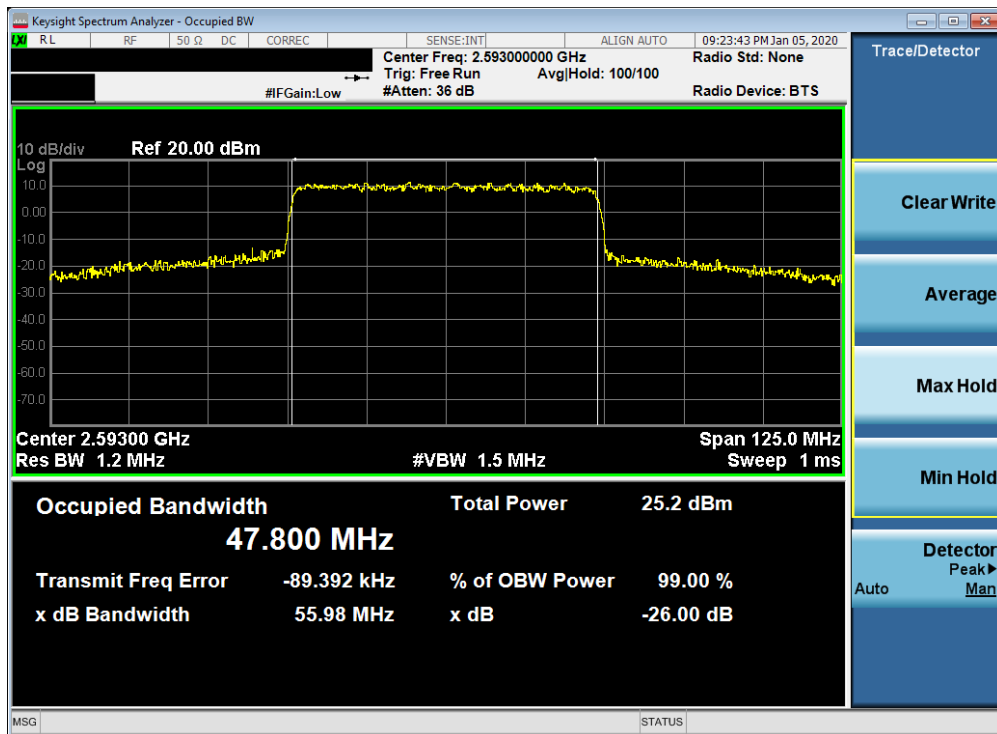


Plot 7-588. Occupied Bandwidth Plot (n41 50MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 386 of 486

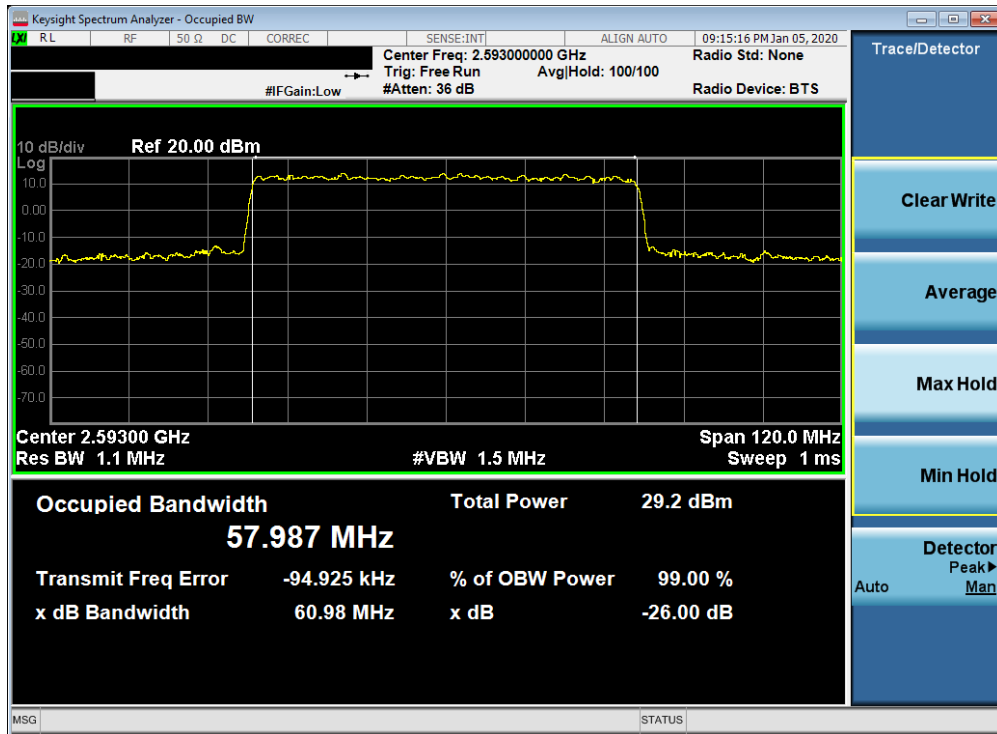


Plot 7-589. Occupied Bandwidth Plot (n41 50MHz 64QAM-CP-OFDM- Full RB Configuration)

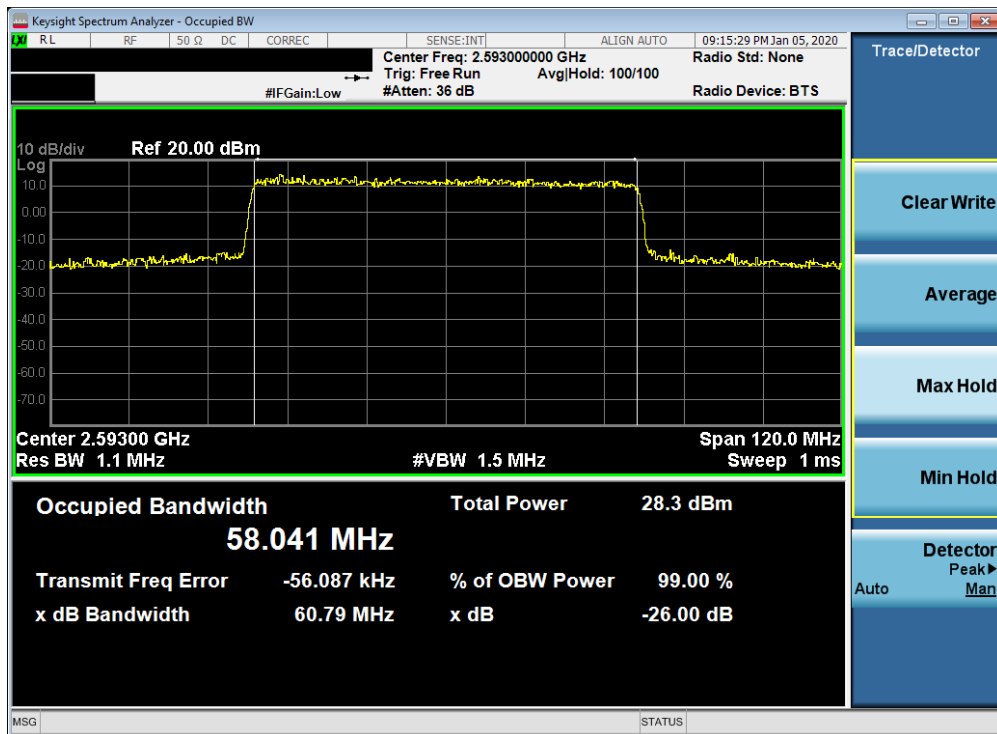


Plot 7-590. Occupied Bandwidth Plot (n41 50MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 387 of 486

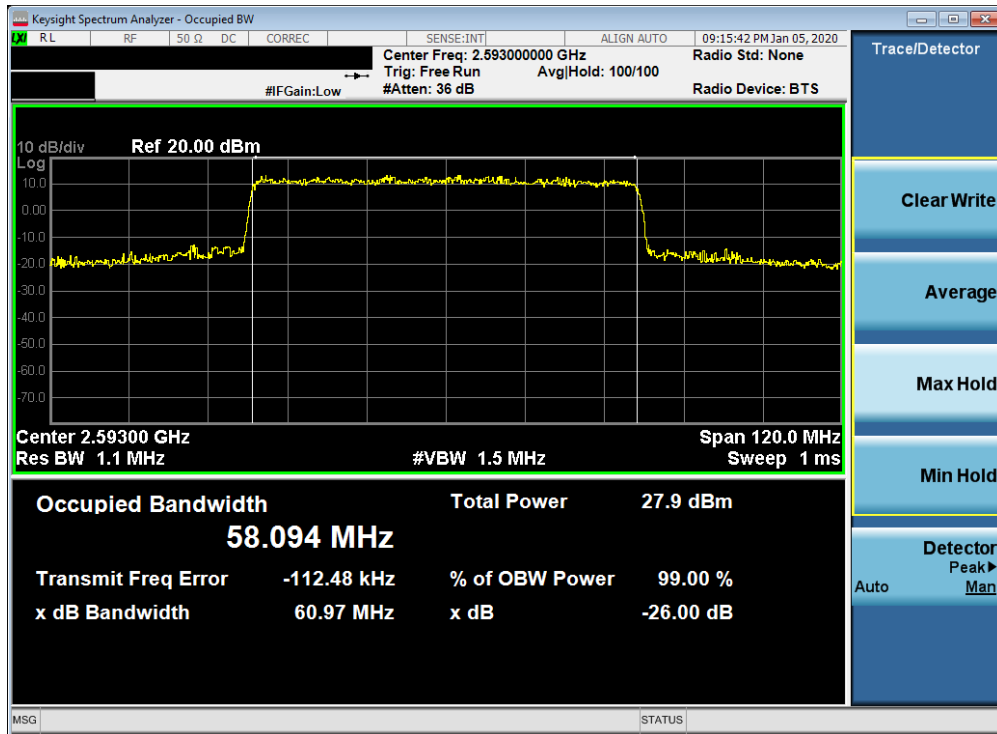


Plot 7-591. Occupied Bandwidth Plot (n41 60MHz QPSK-CP-OFDM - Full RB Configuration)

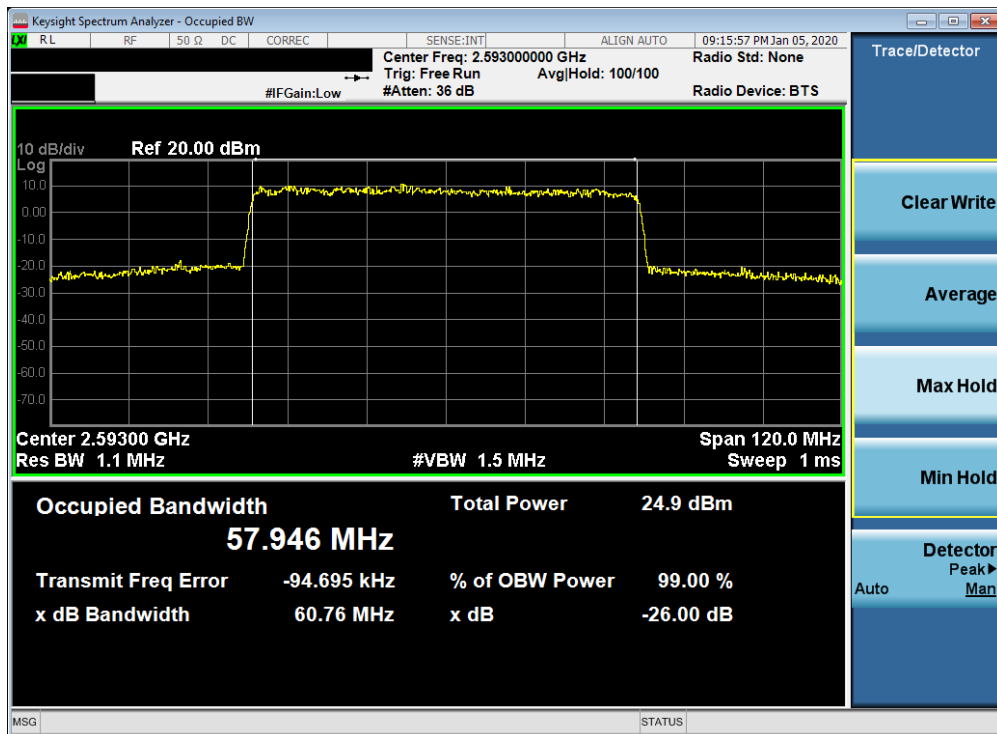


Plot 7-592. Occupied Bandwidth Plot (n41 60MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 388 of 486

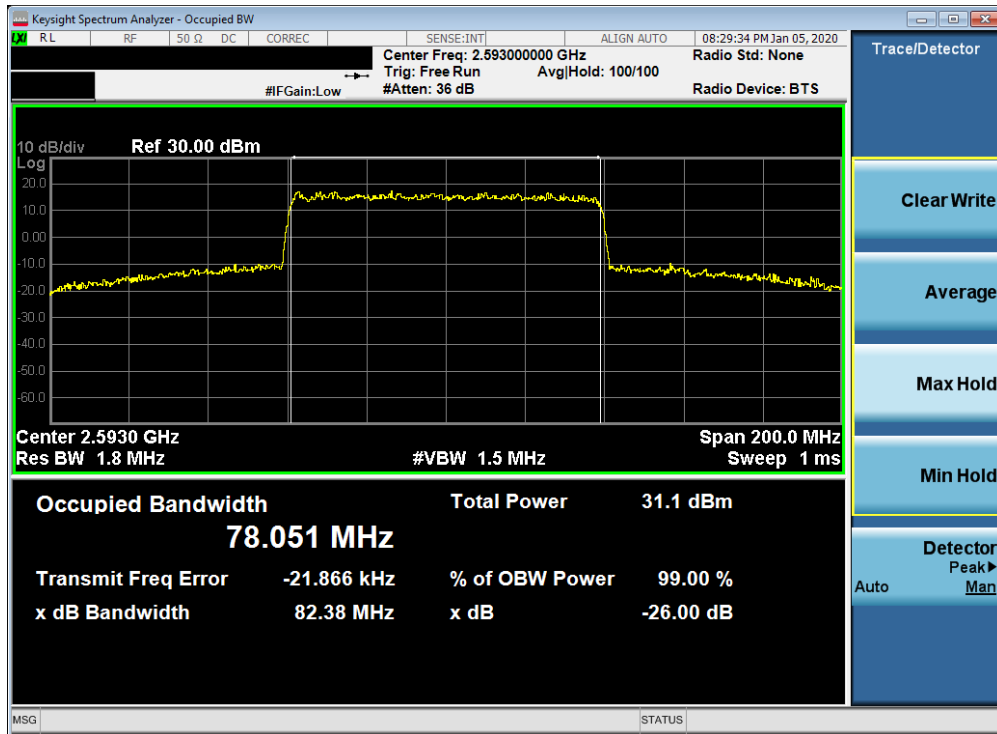


Plot 7-593. Occupied Bandwidth Plot (n41 60MHz 64QAM-CP-OFDM- Full RB Configuration)

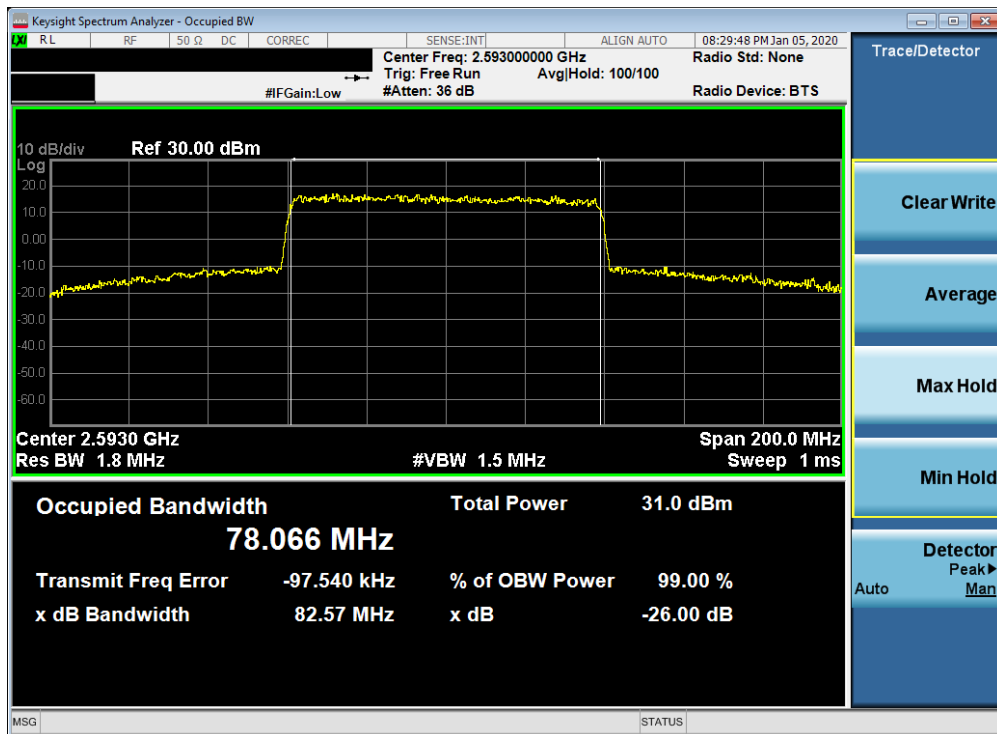


Plot 7-594. Occupied Bandwidth Plot (n41 60MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 389 of 486

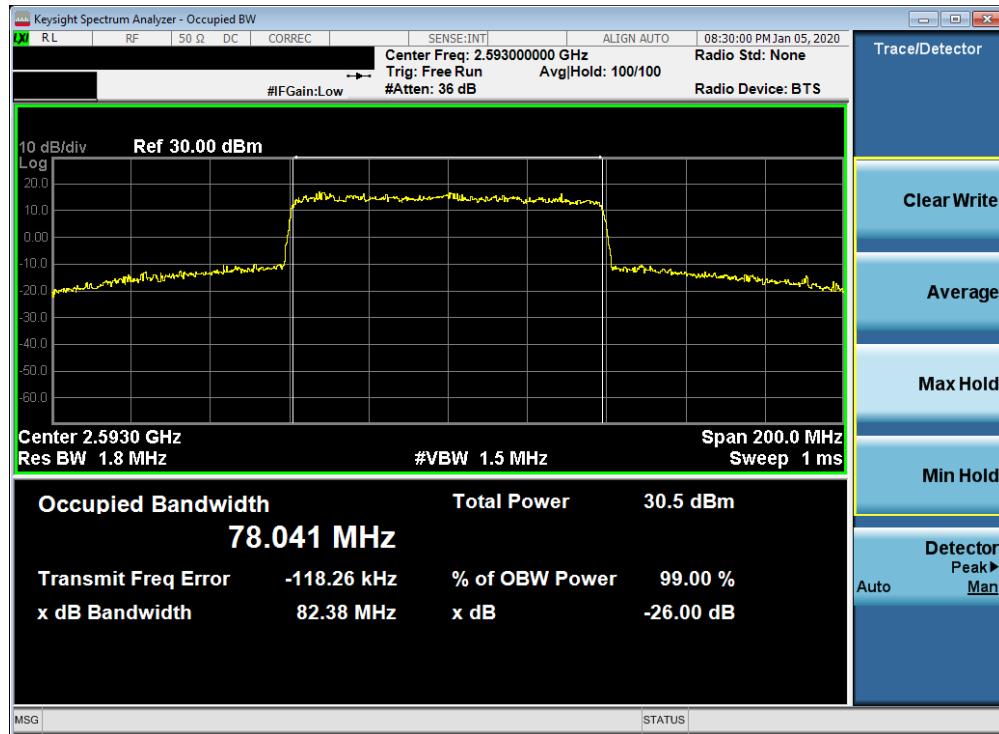


Plot 7-595. Occupied Bandwidth Plot (n41 80MHz QPSK-CP-OFDM - Full RB Configuration)

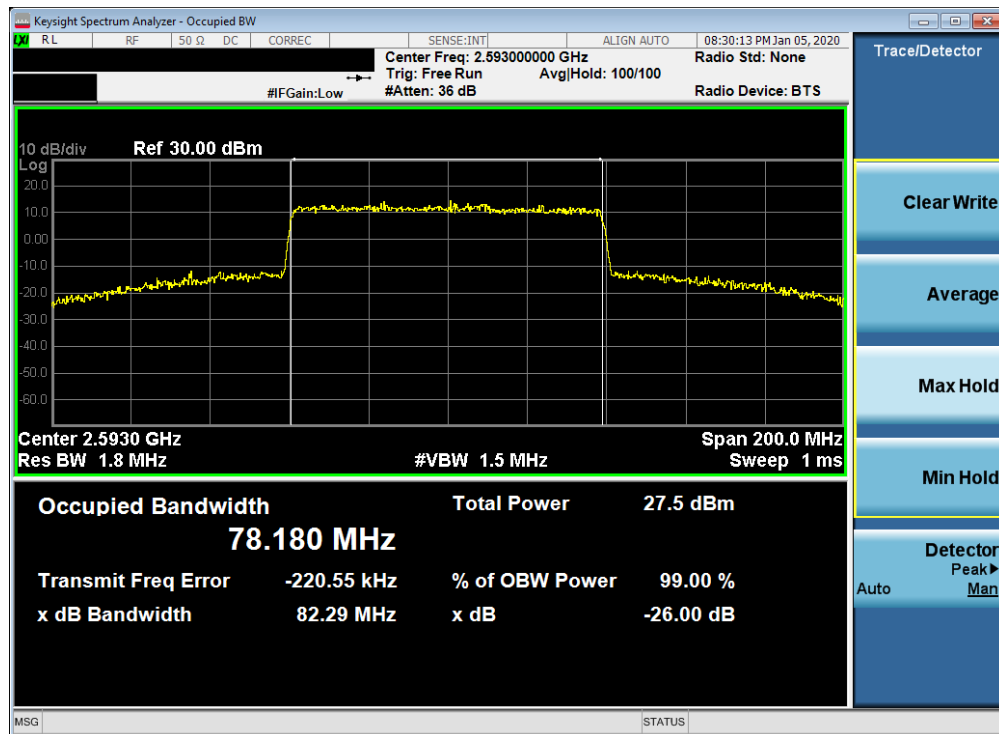


Plot 7-596. Occupied Bandwidth Plot (n41 80MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 390 of 486

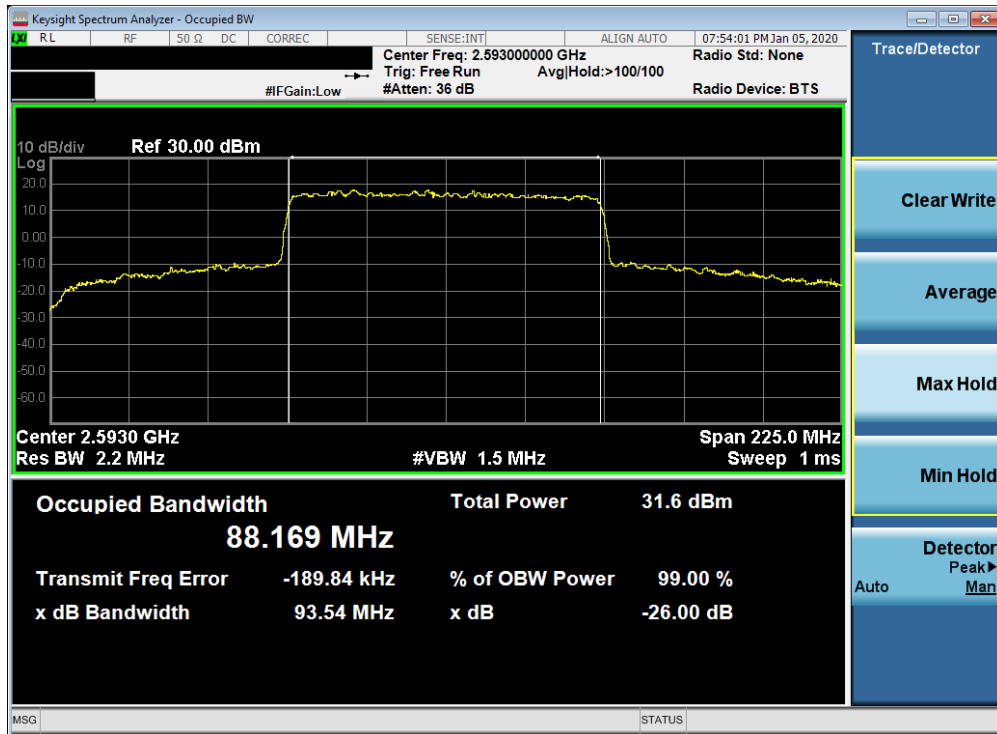


Plot 7-597. Occupied Bandwidth Plot (n41 80MHz 64QAM-CP-OFDM- Full RB Configuration)

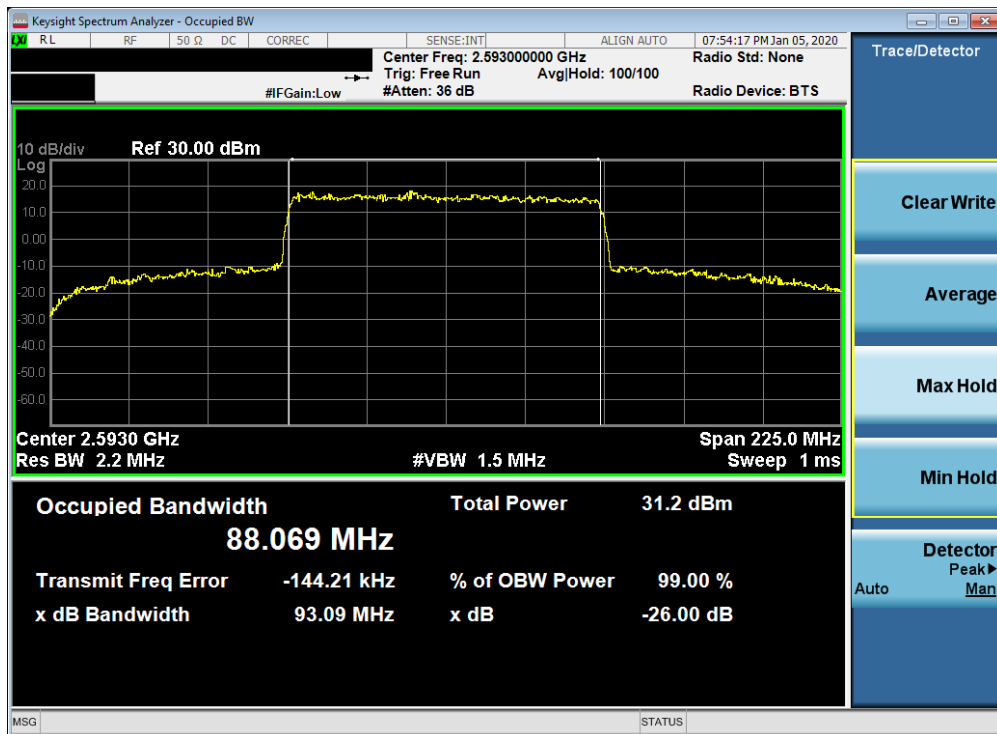


Plot 7-598. Occupied Bandwidth Plot (n41 80MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 391 of 486

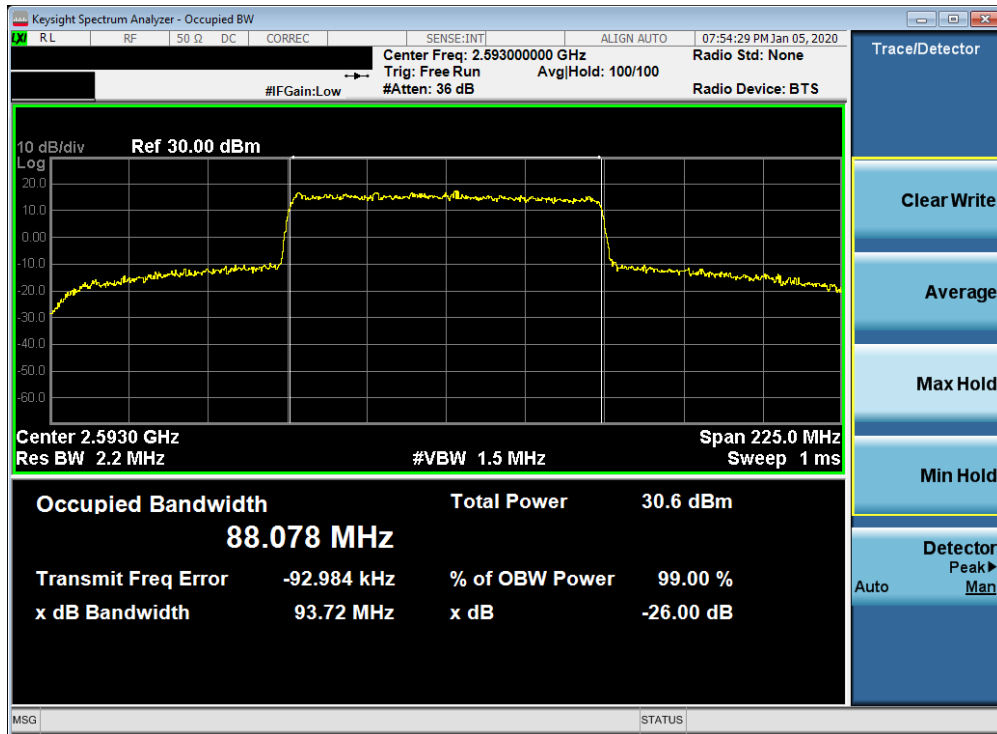


Plot 7-599. Occupied Bandwidth Plot (n41 90MHz QPSK-CP-OFDM - Full RB Configuration)

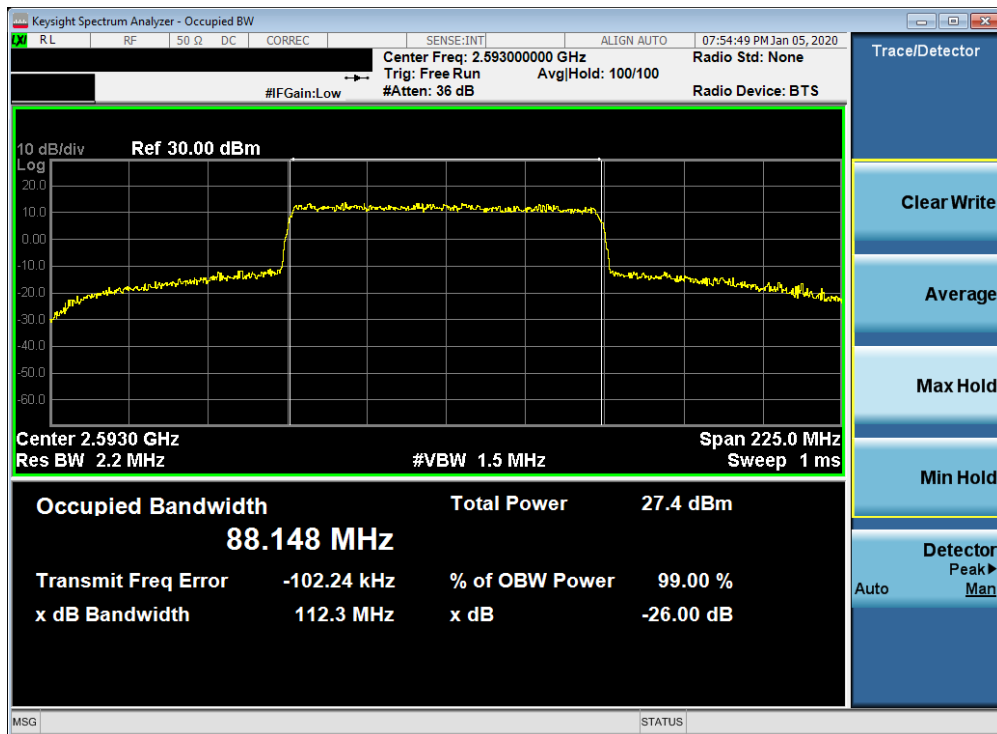


Plot 7-600. Occupied Bandwidth Plot (n41 90MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 392 of 486

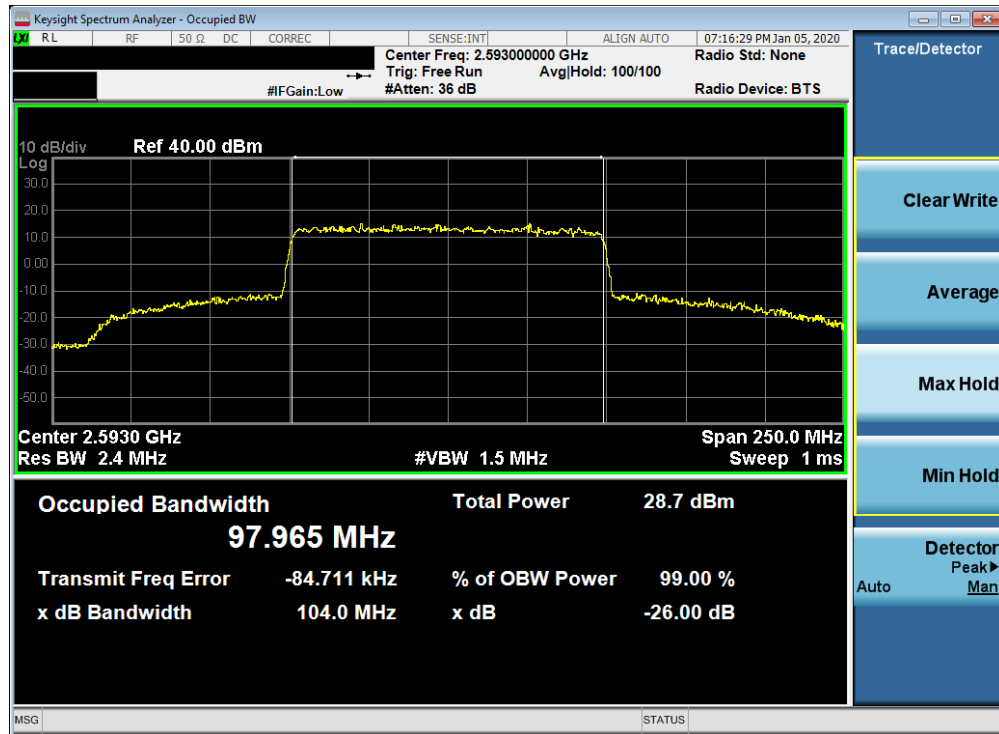


Plot 7-601. Occupied Bandwidth Plot (n41 90MHz 64QAM-CP-OFDM- Full RB Configuration)

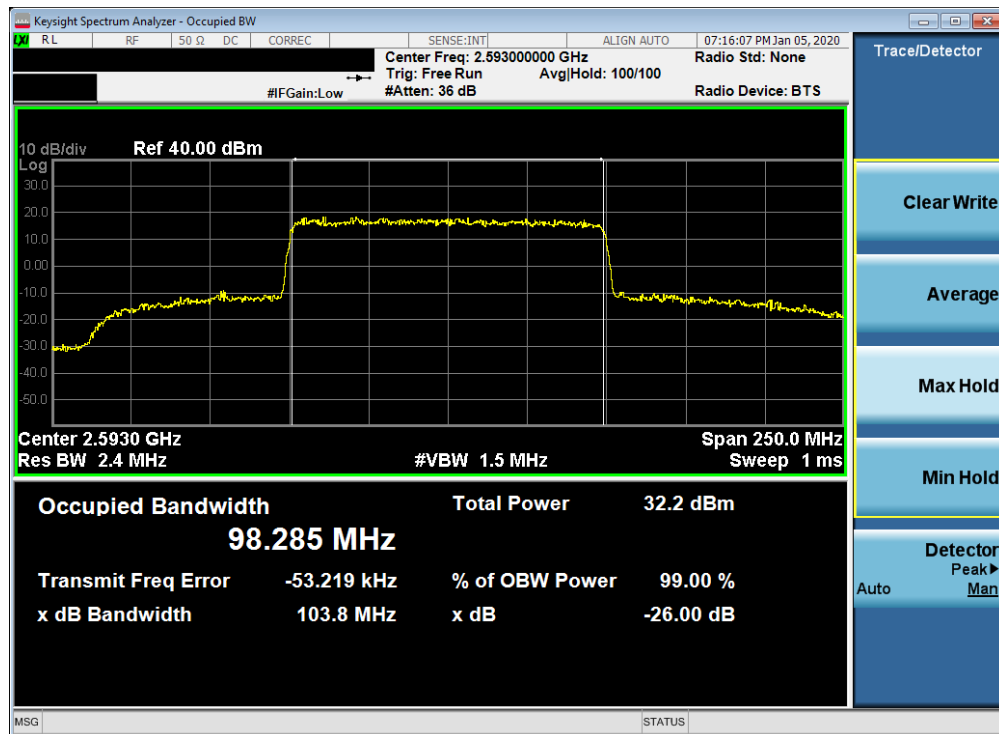


Plot 7-602. Occupied Bandwidth Plot (n41 90MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 393 of 486

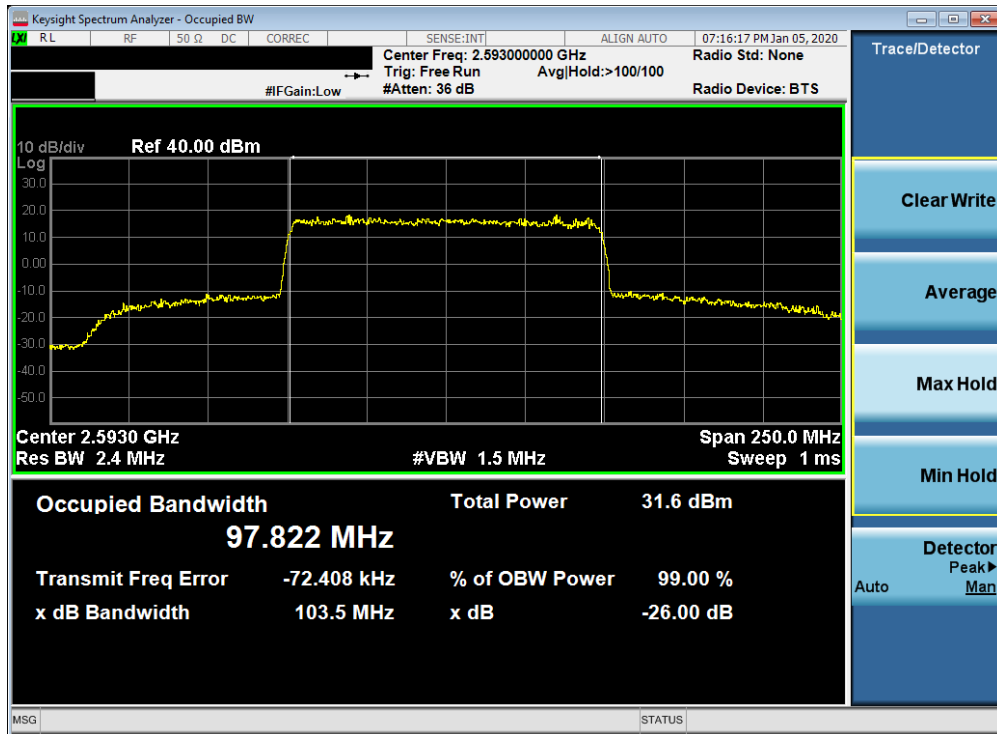


Plot 7-603. Occupied Bandwidth Plot (n41 100MHz QPSK-CP-OFDM - Full RB Configuration)

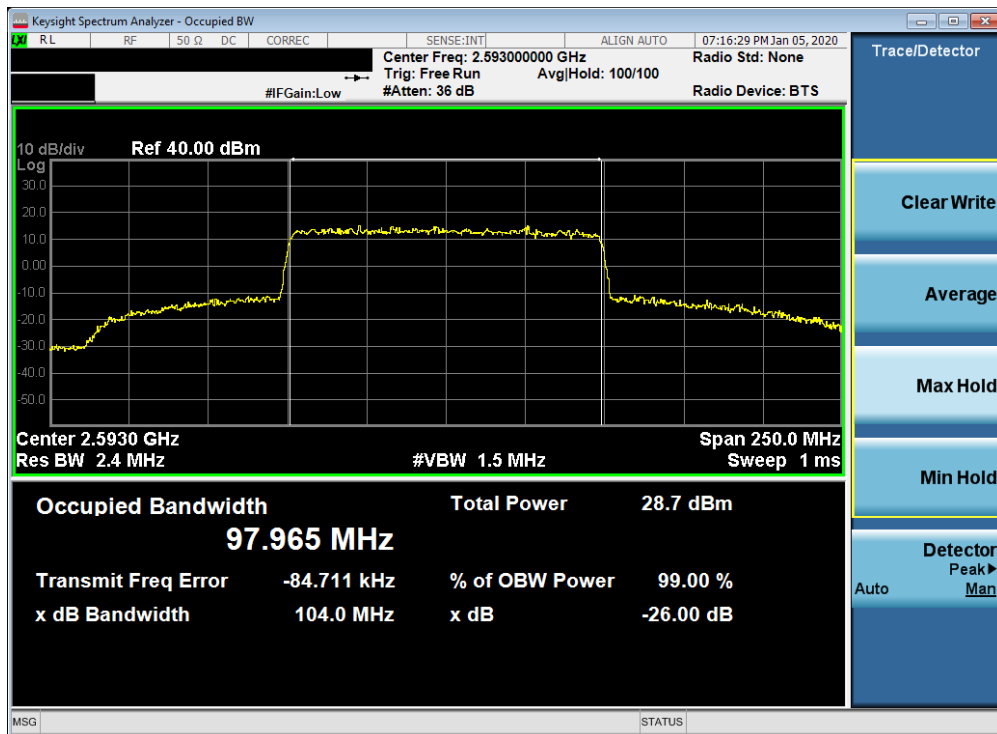


Plot 7-604. Occupied Bandwidth Plot (n41 100MHz 16QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 394 of 486



Plot 7-605. Occupied Bandwidth Plot (n41 100MHz 64QAM-CP-OFDM- Full RB Configuration)



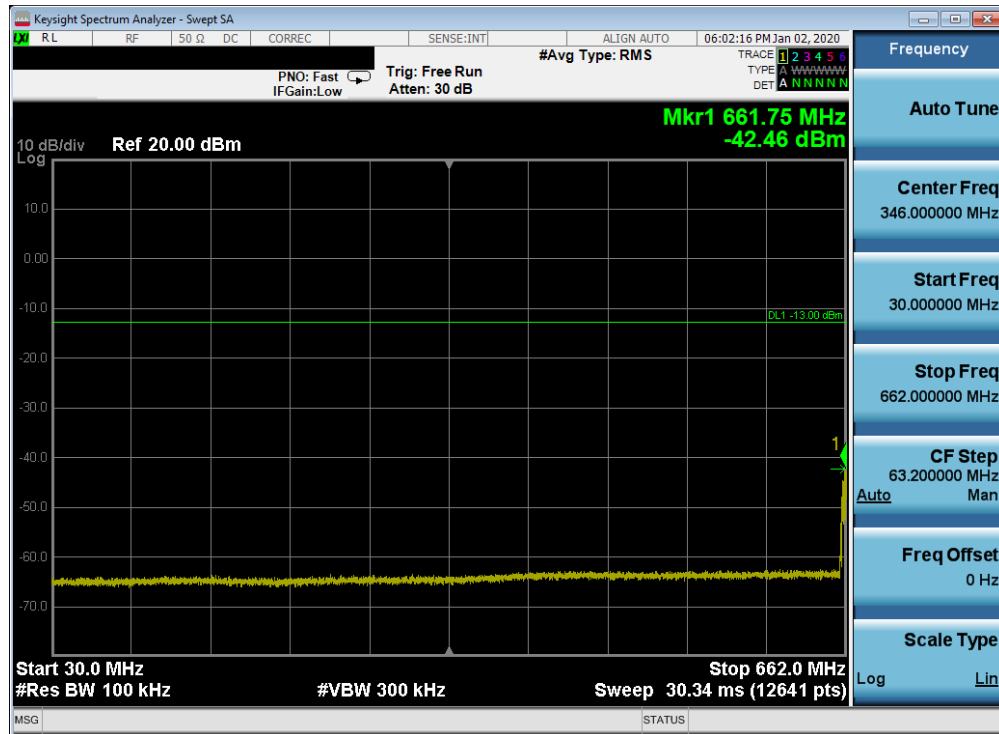
Plot 7-606. Occupied Bandwidth Plot (n41 100MHz 256QAM-CP-OFDM - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 395 of 486

Spurious and Harmonic Emissions at the Antenna Terminal

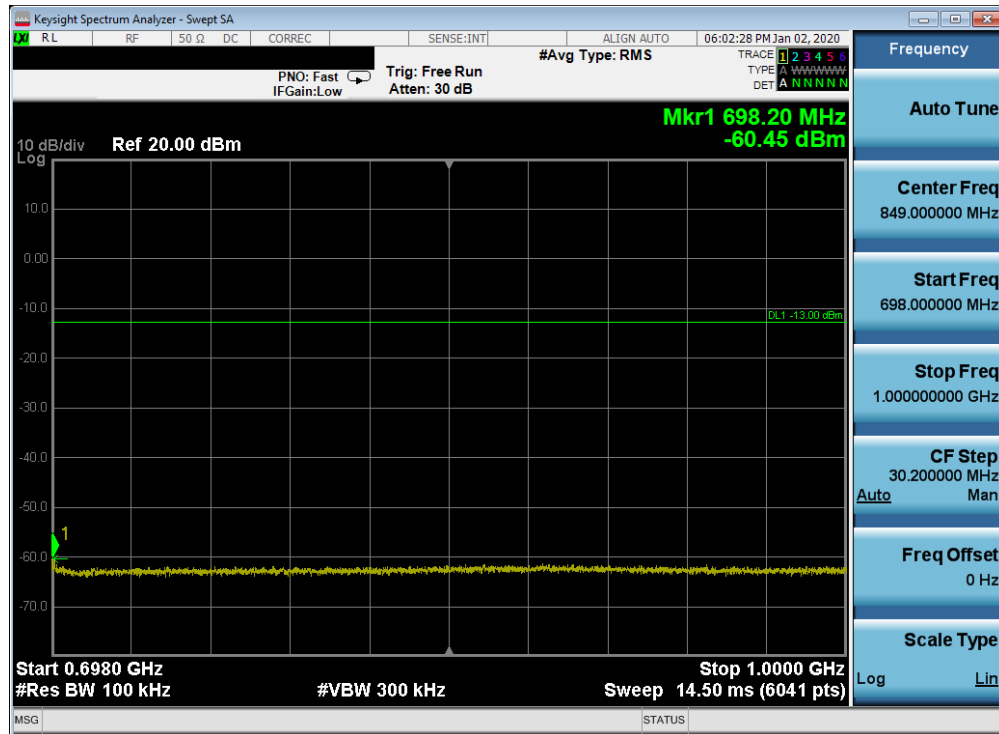
All SCS's and Waveforms (CP-OFDM vs DFT-s OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

NR Band n71

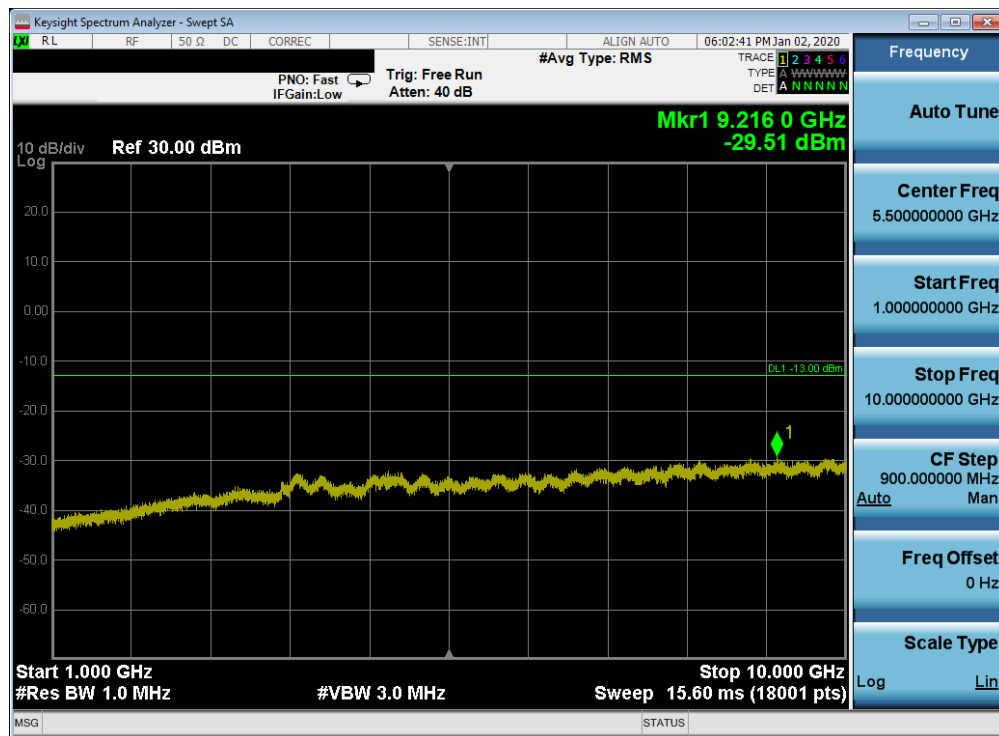


Plot 7-607. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 396 of 486

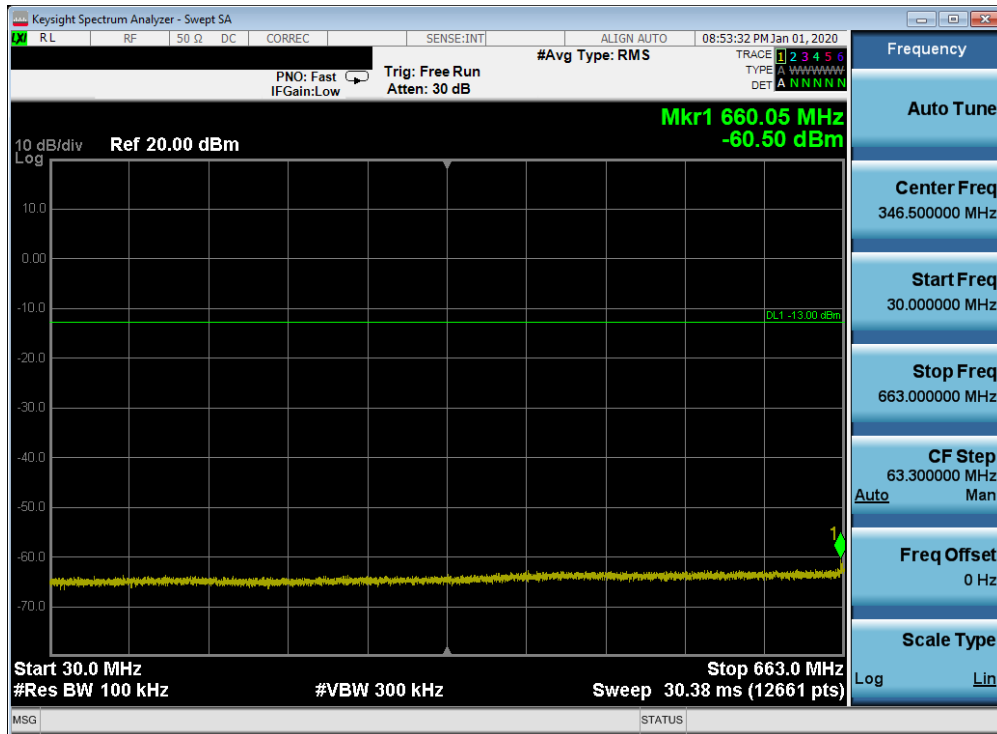


Plot 7-608. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

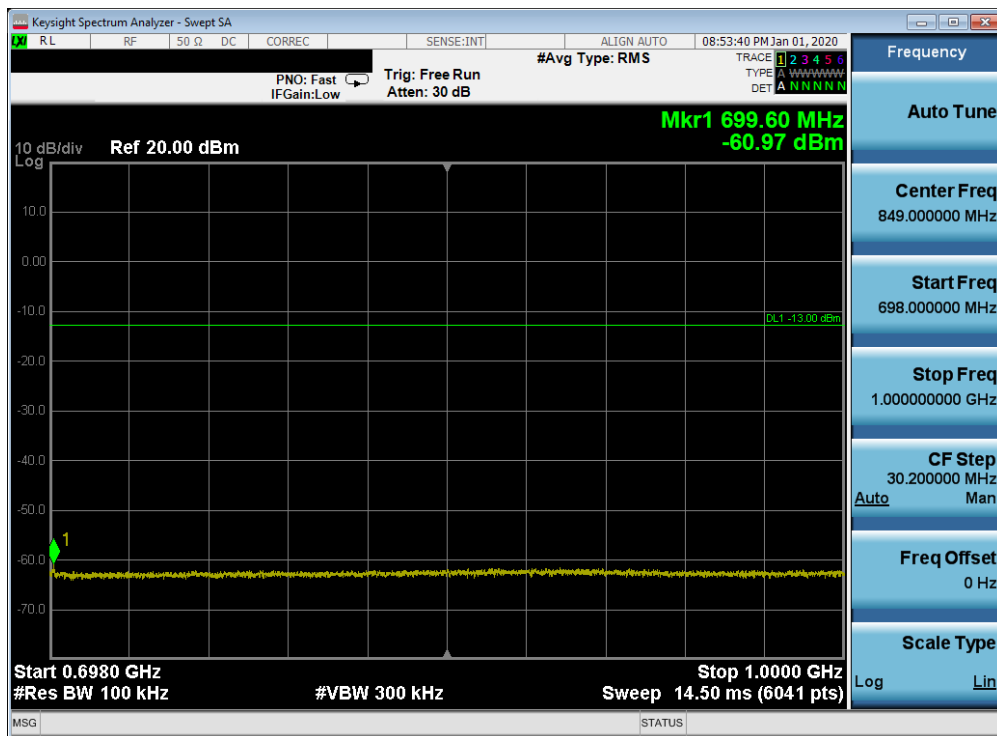


Plot 7-609. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 397 of 486

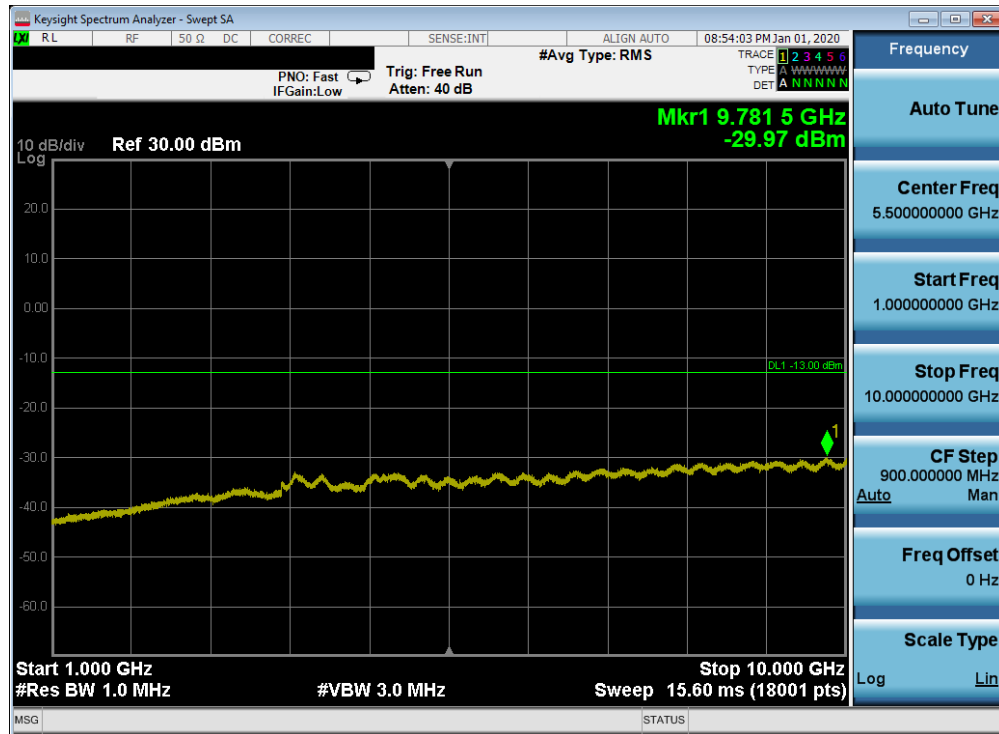


Plot 7-610. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

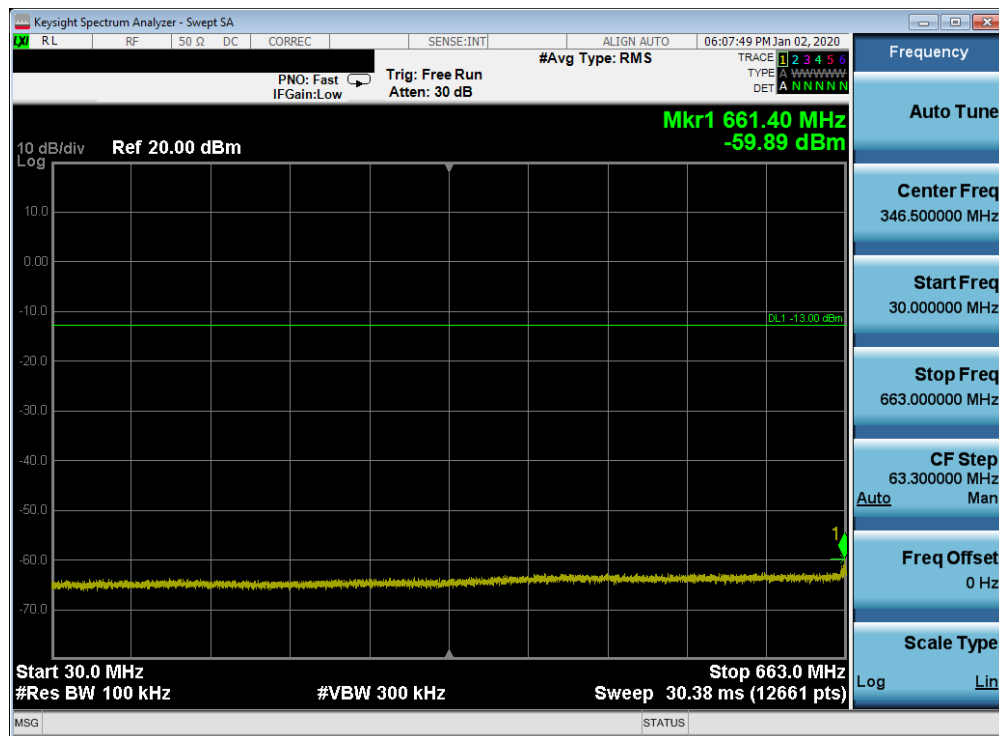


Plot 7-611. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 398 of 486

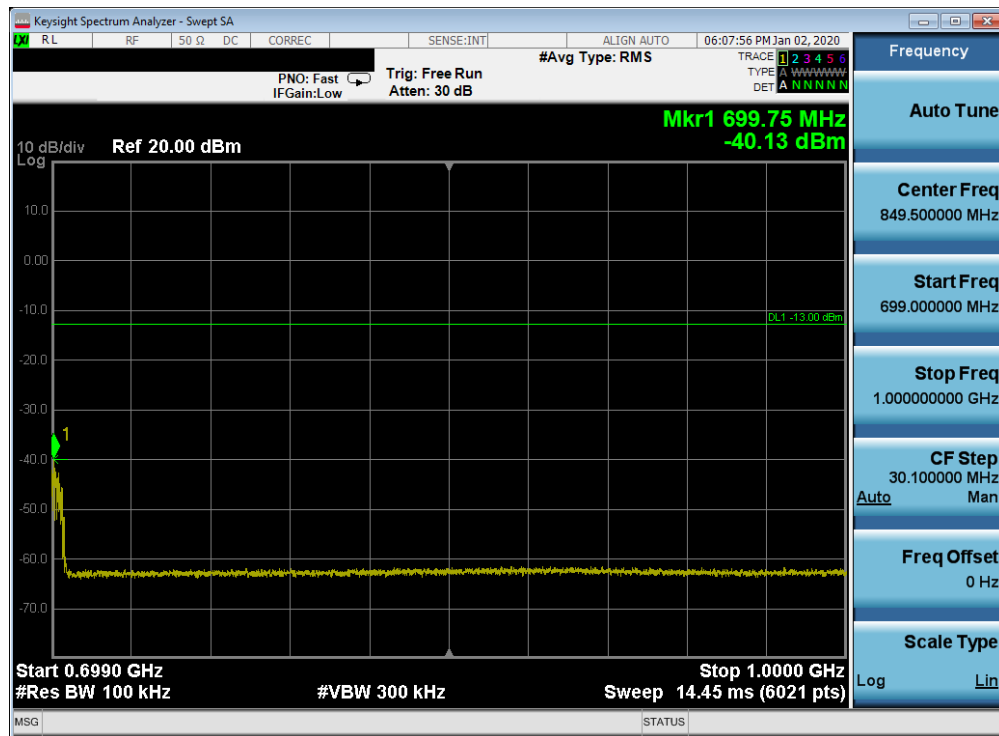


Plot 7-612. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)



Plot 7-613. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 399 of 486



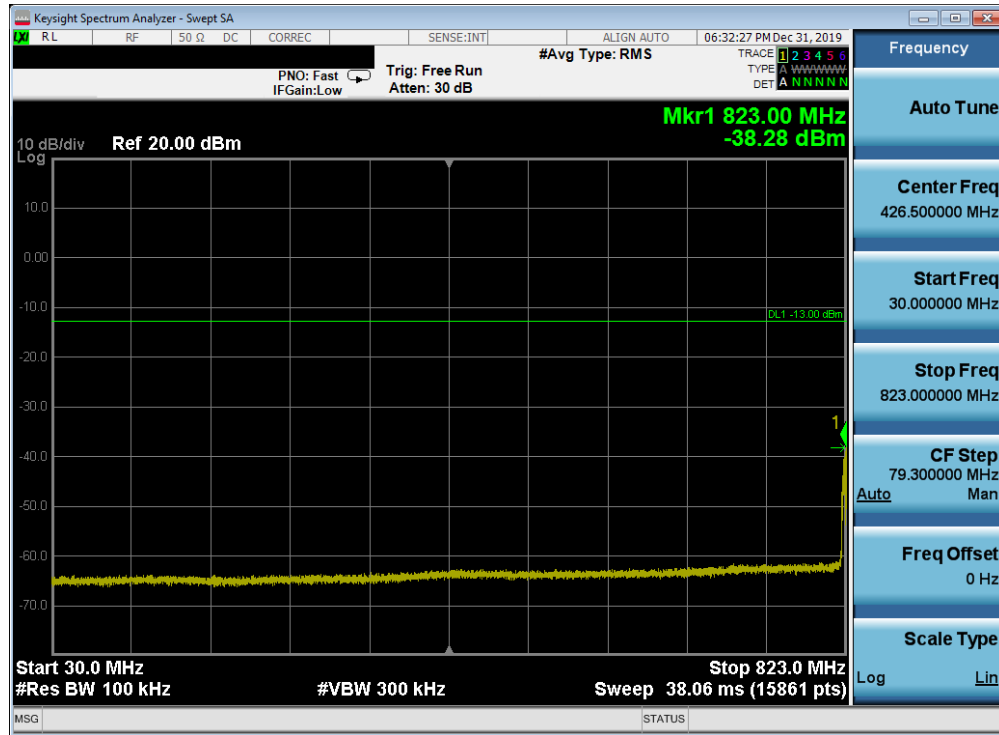
Plot 7-614. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)



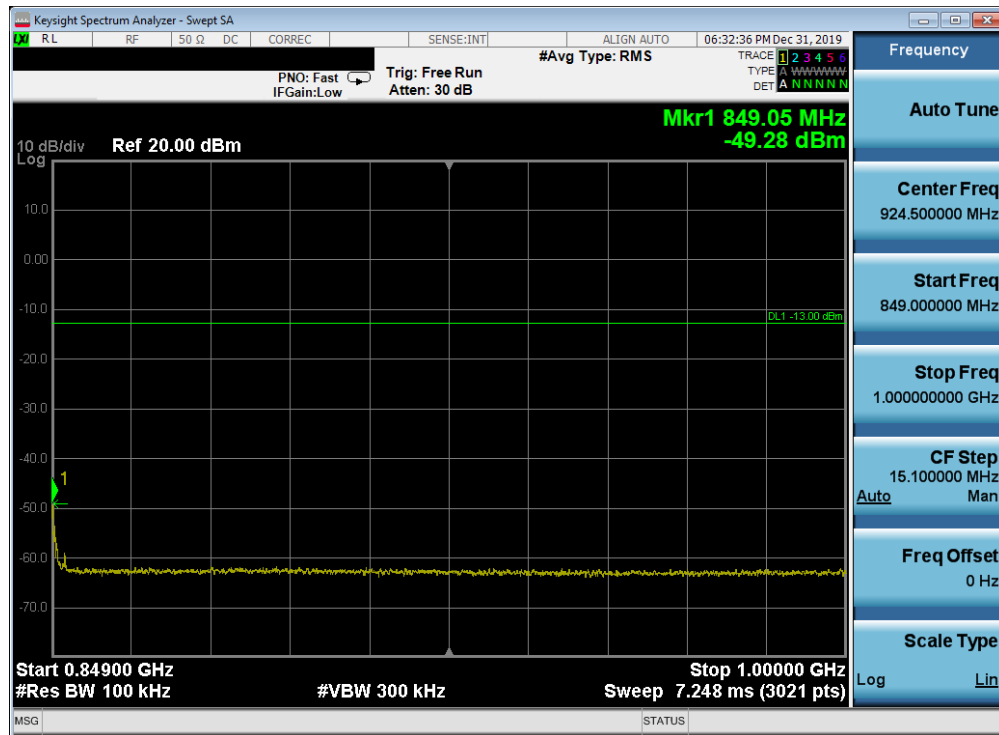
Plot 7-615. Conducted Spurious Plot (n71 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 400 of 486

NR Band n5

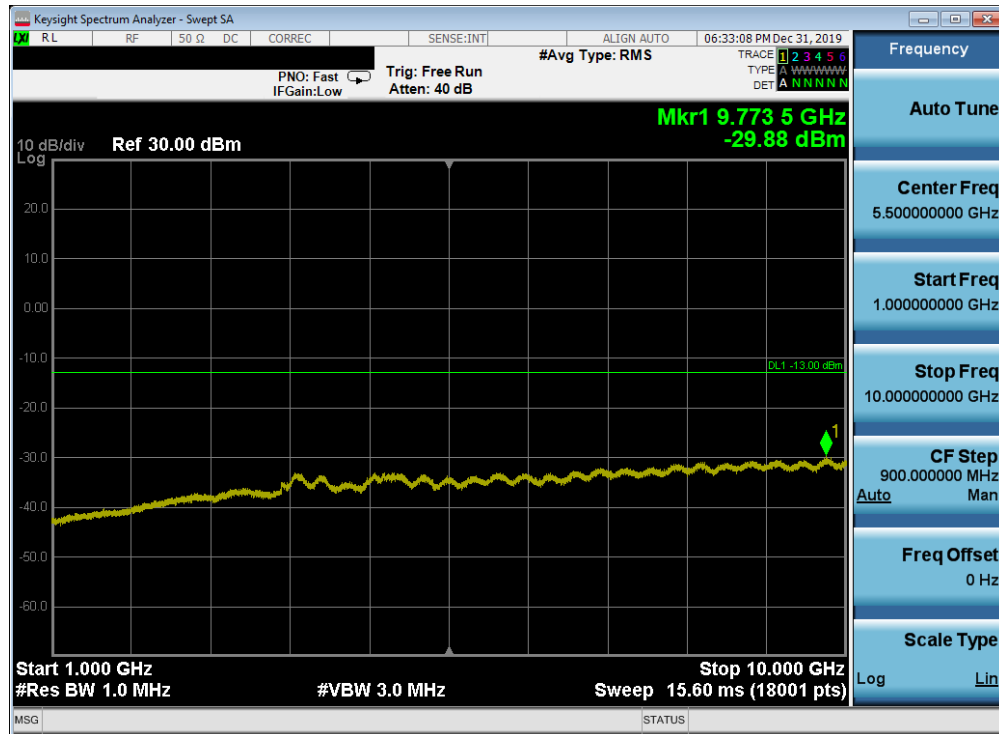


Plot 7-616. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

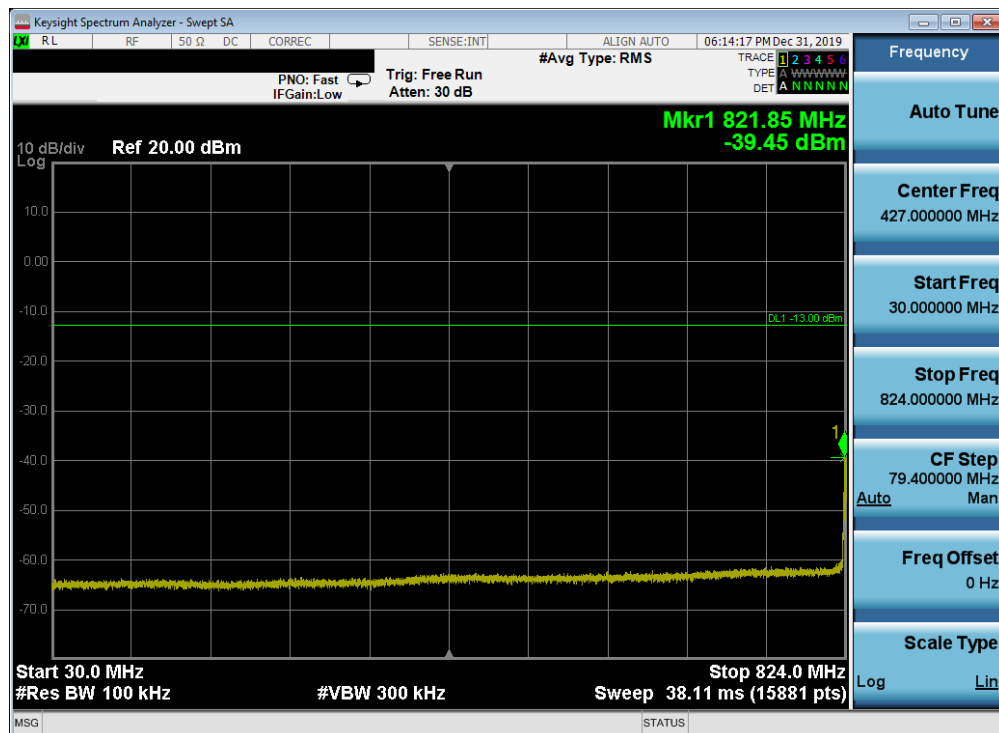


Plot 7-617. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 401 of 486

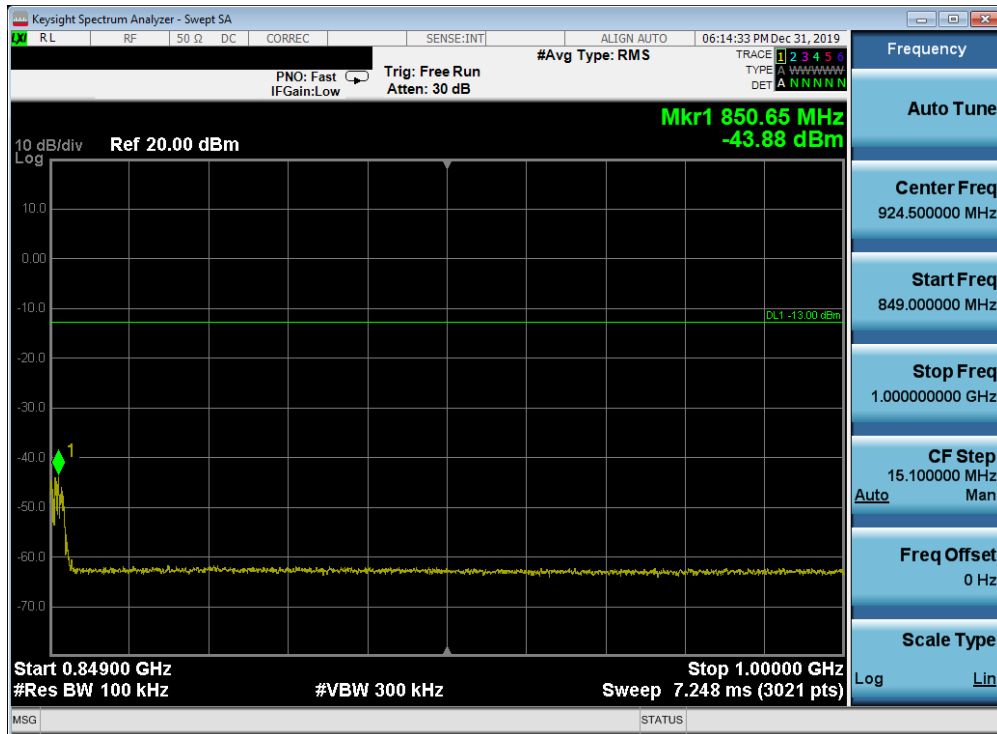


Plot 7-618. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)



Plot 7-619. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 402 of 486

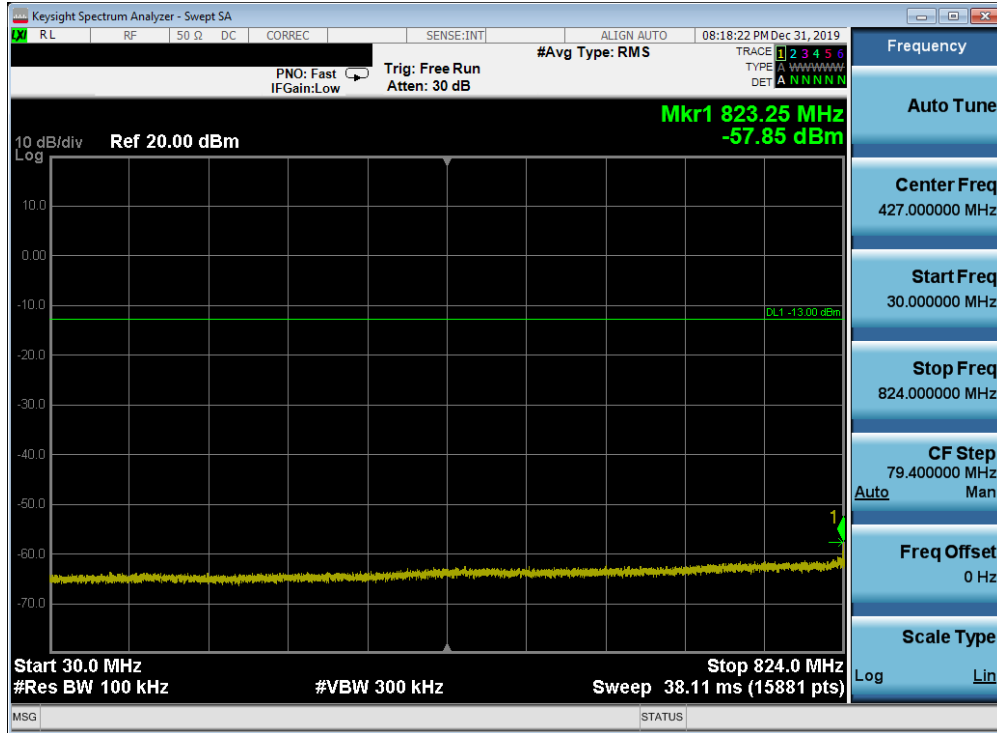


Plot 7-620. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

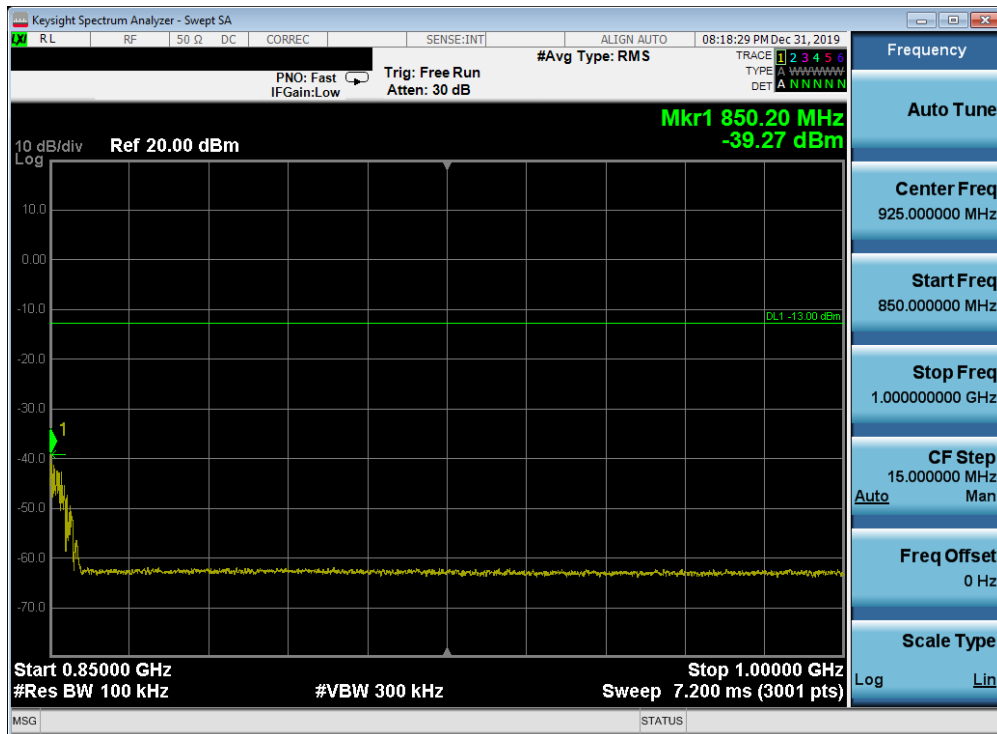


Plot 7-621. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 403 of 486	

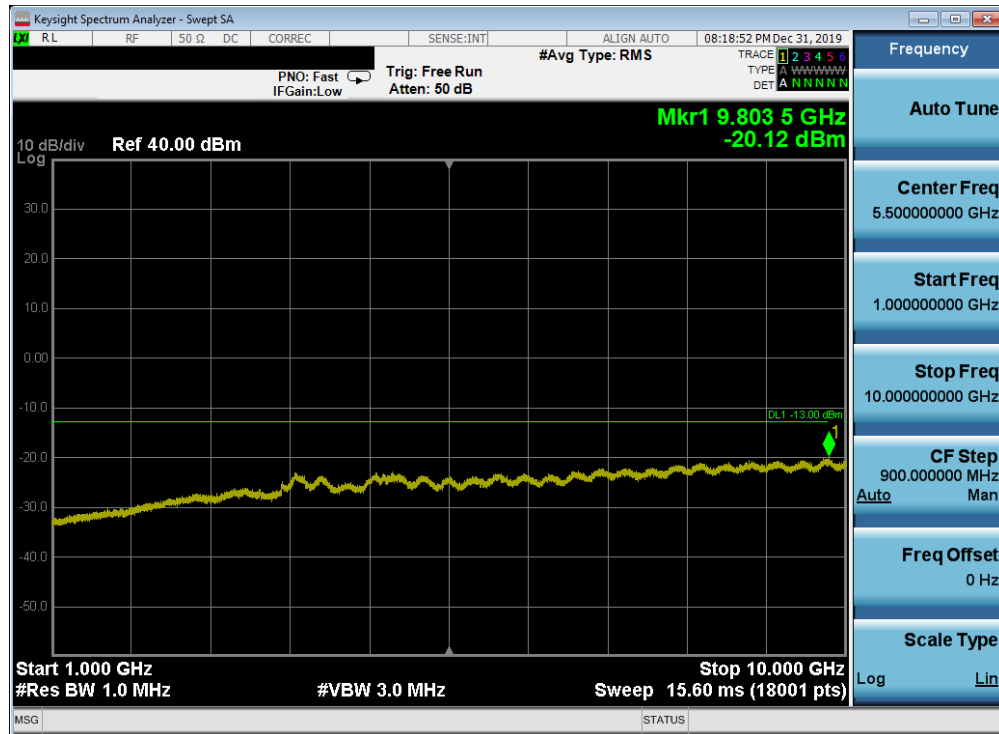


Plot 7-622. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)



Plot 7-623. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

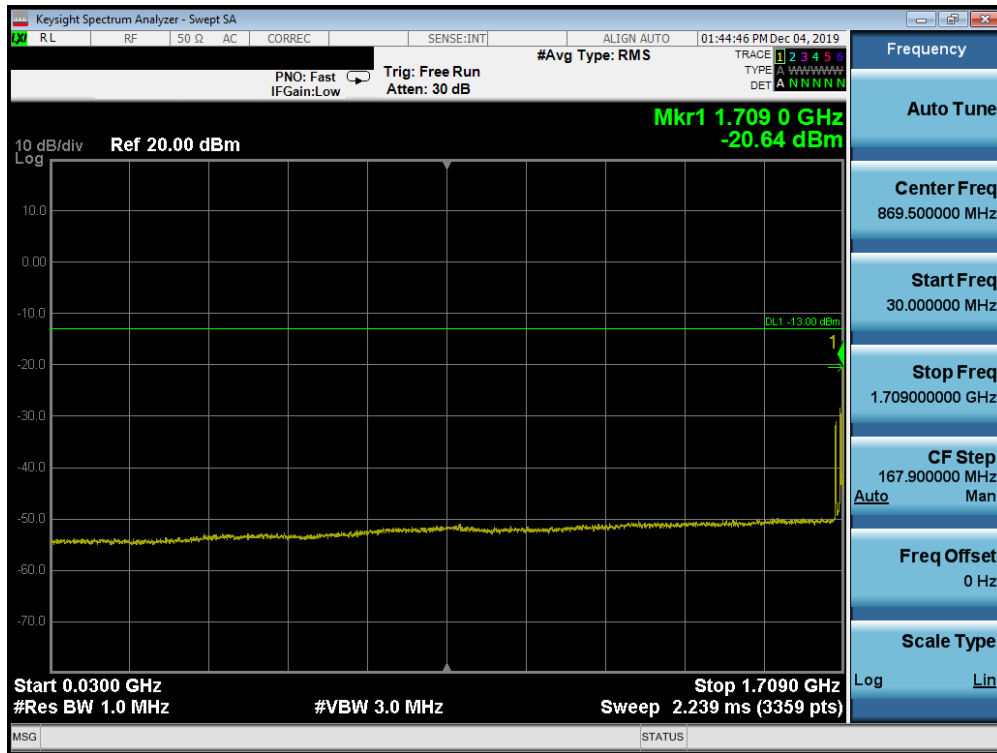
FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 404 of 486



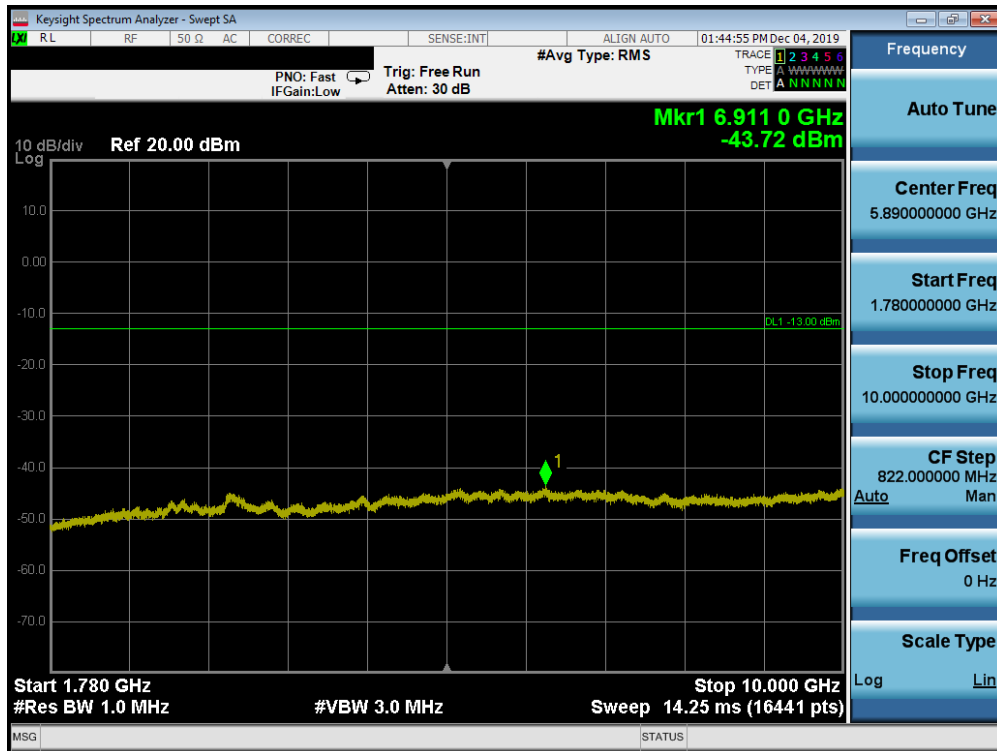
Plot 7-624. Conducted Spurious Plot (n5 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 405 of 486

NR Band n66

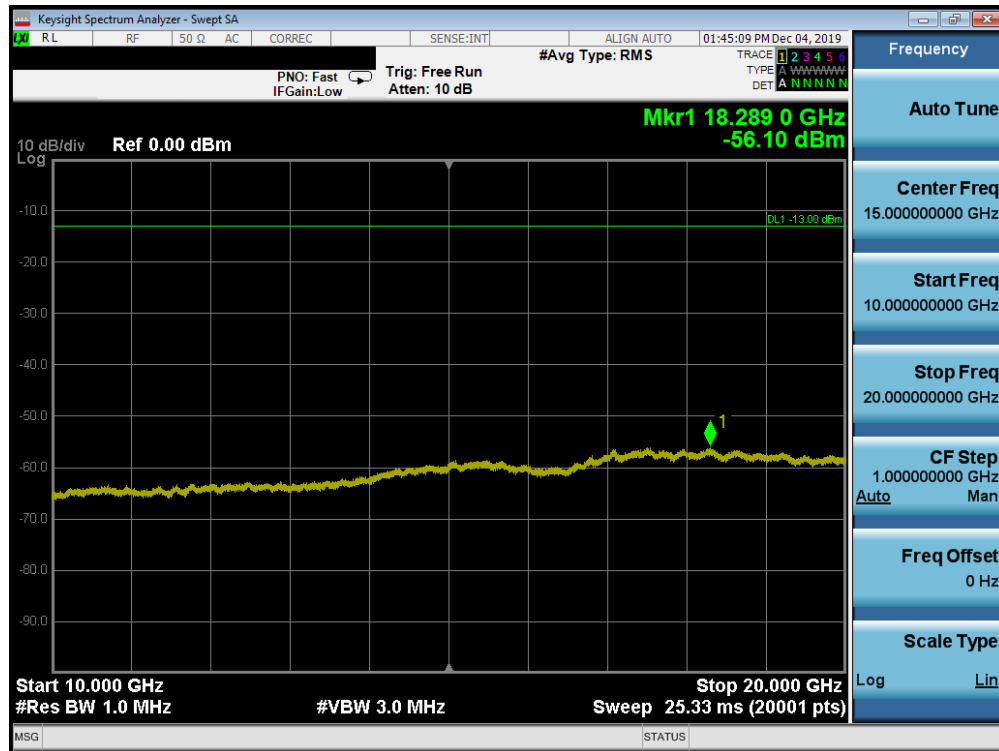


Plot 7-625. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

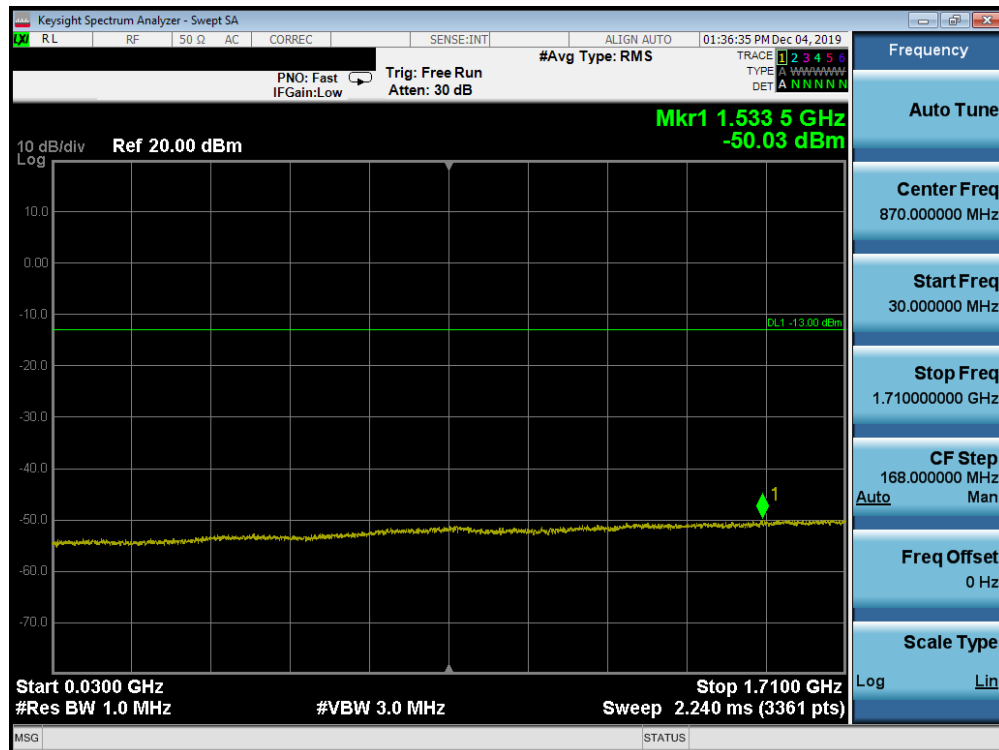


Plot 7-626. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 406 of 486

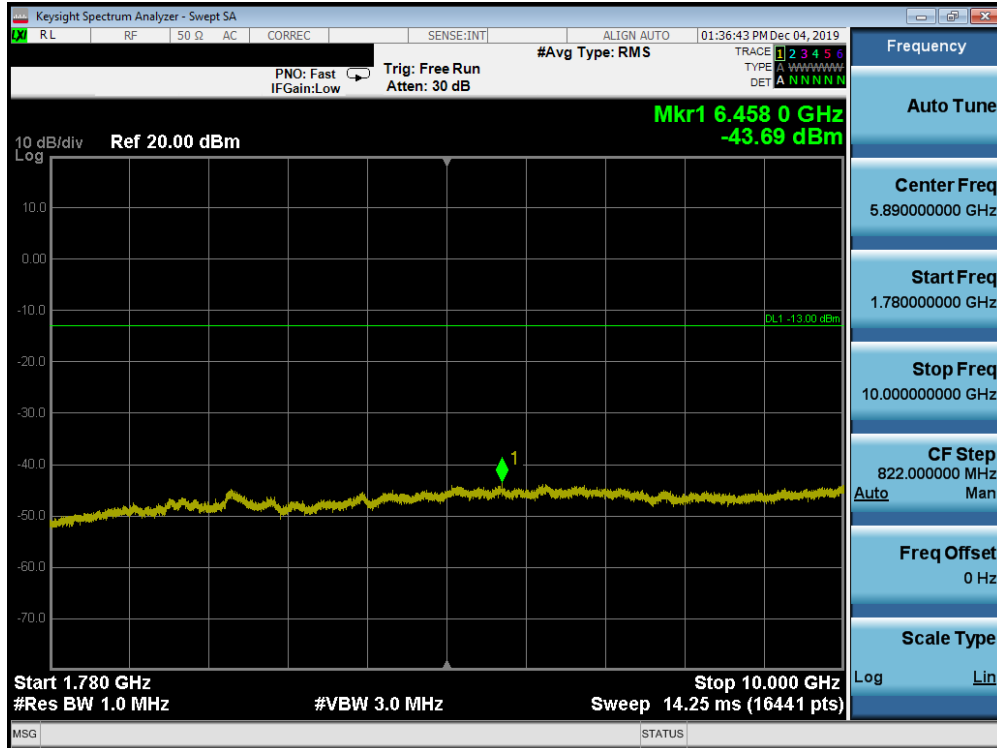


Plot 7-627. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

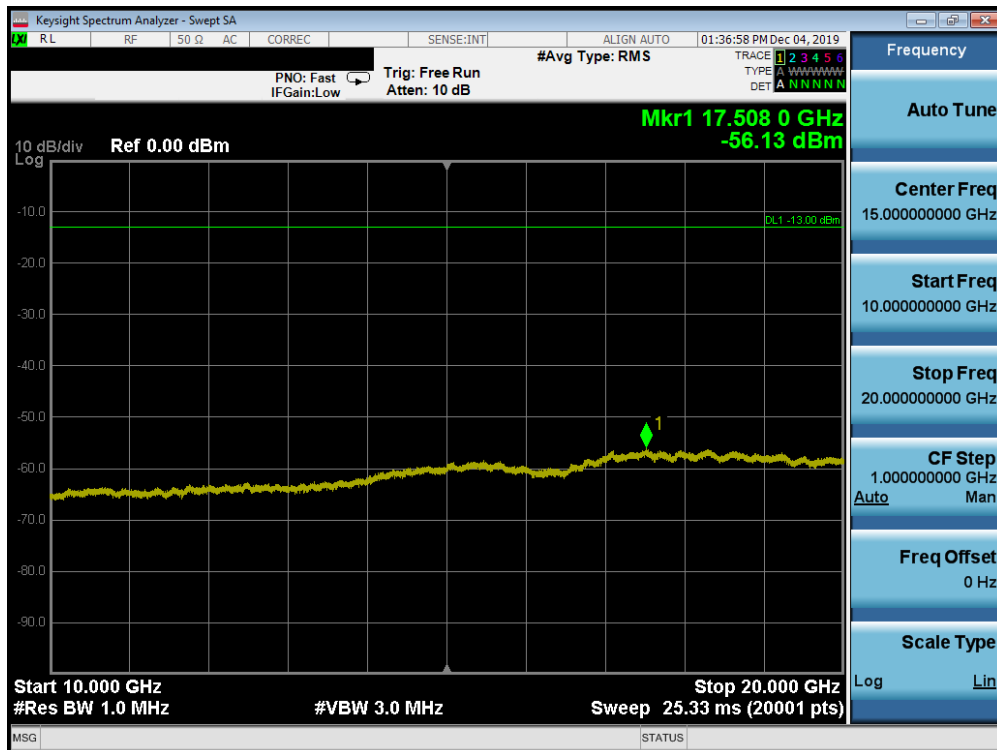


Plot 7-628. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 407 of 486

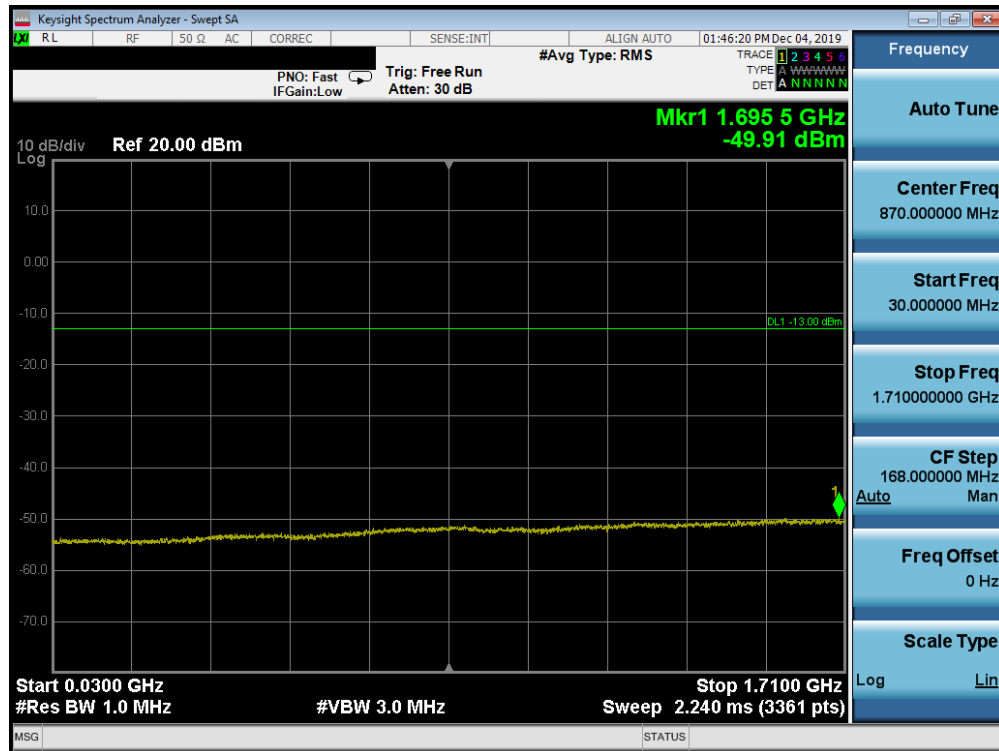


Plot 7-629. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

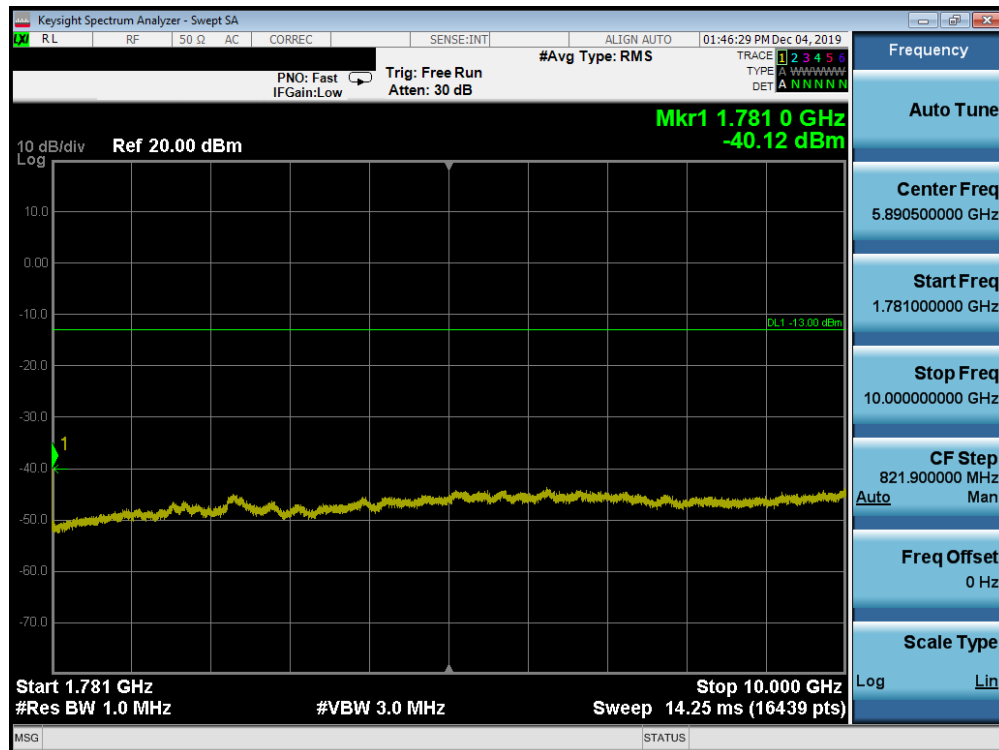


Plot 7-630. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 408 of 486

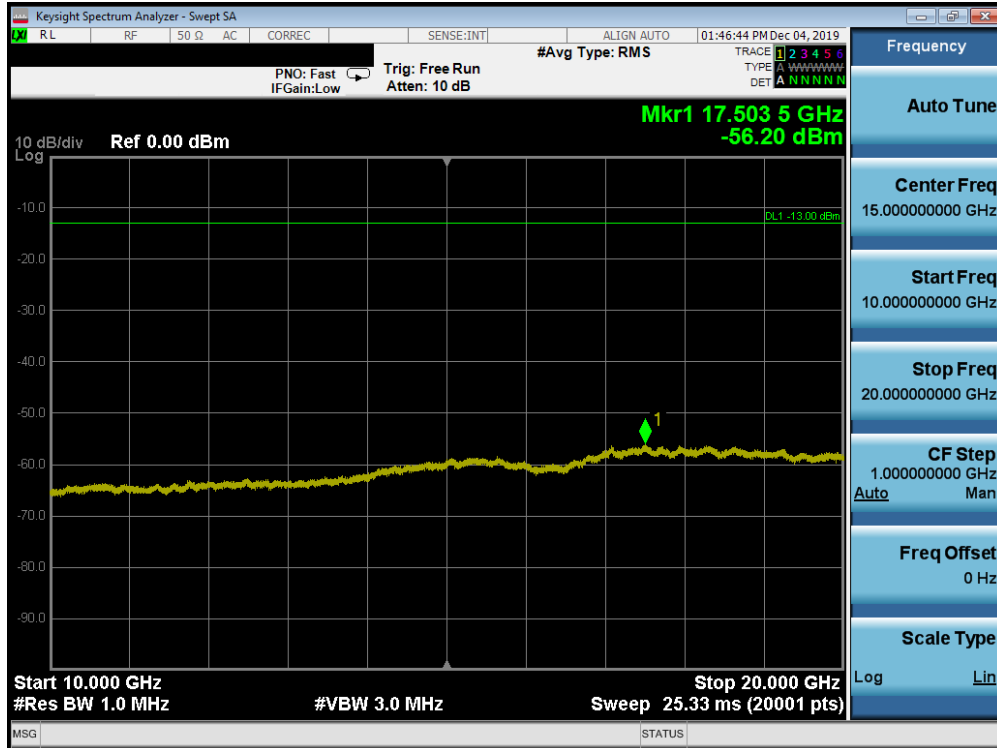


Plot 7-631. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)



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

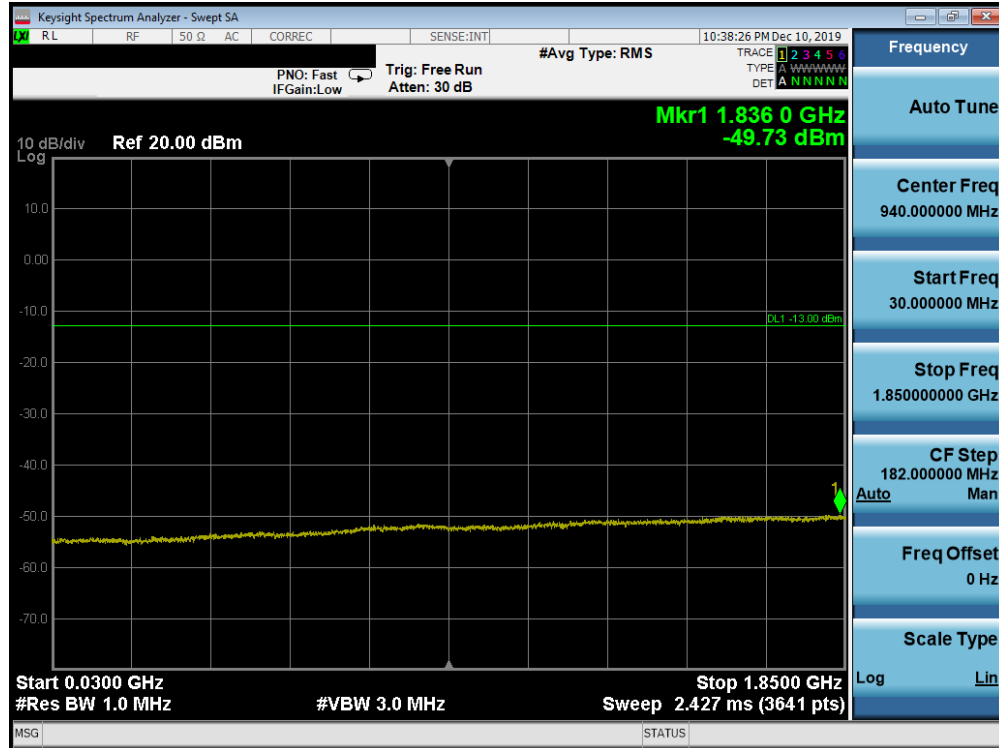
FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 409 of 486



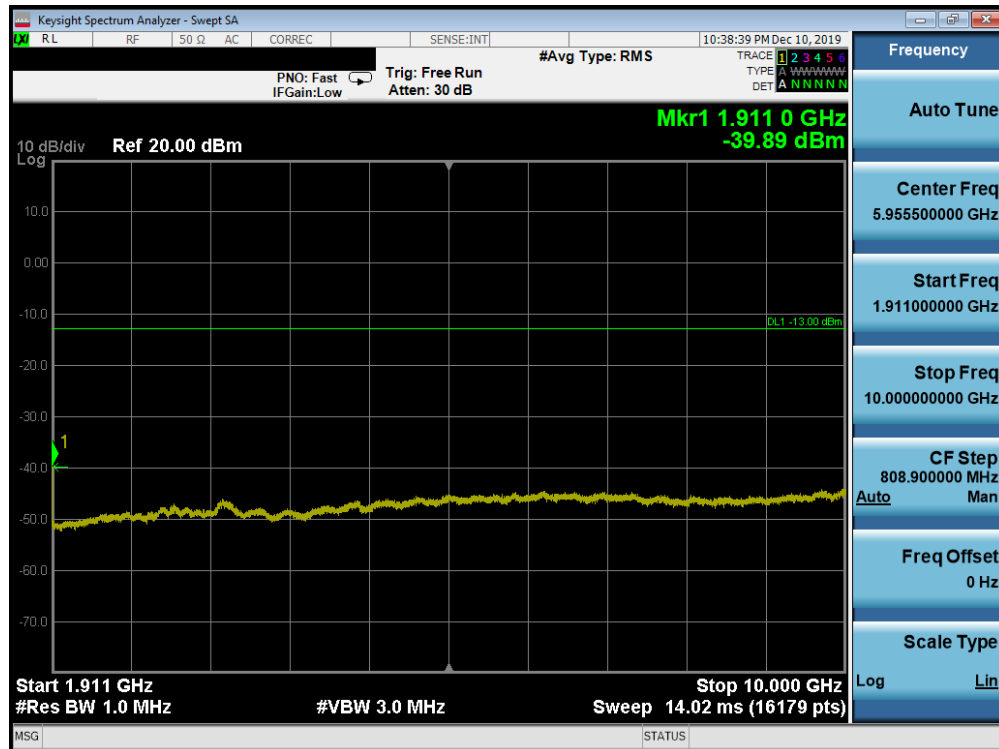
Plot 7-633. Conducted Spurious Plot (n66 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 410 of 486

NR Band n2

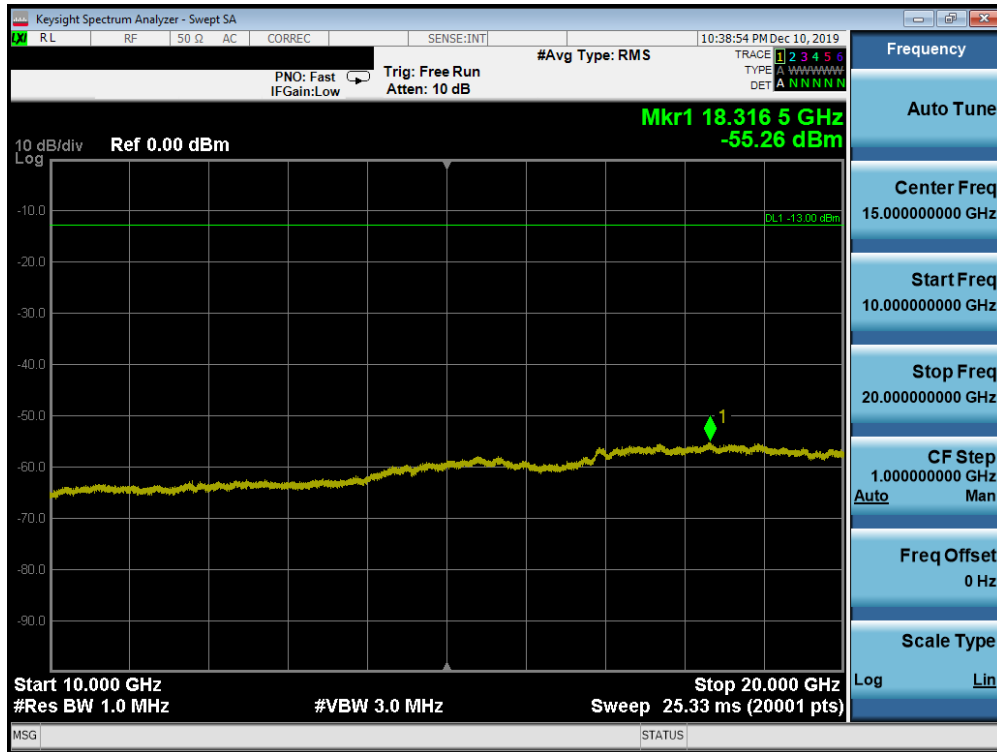


Plot 7-634. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

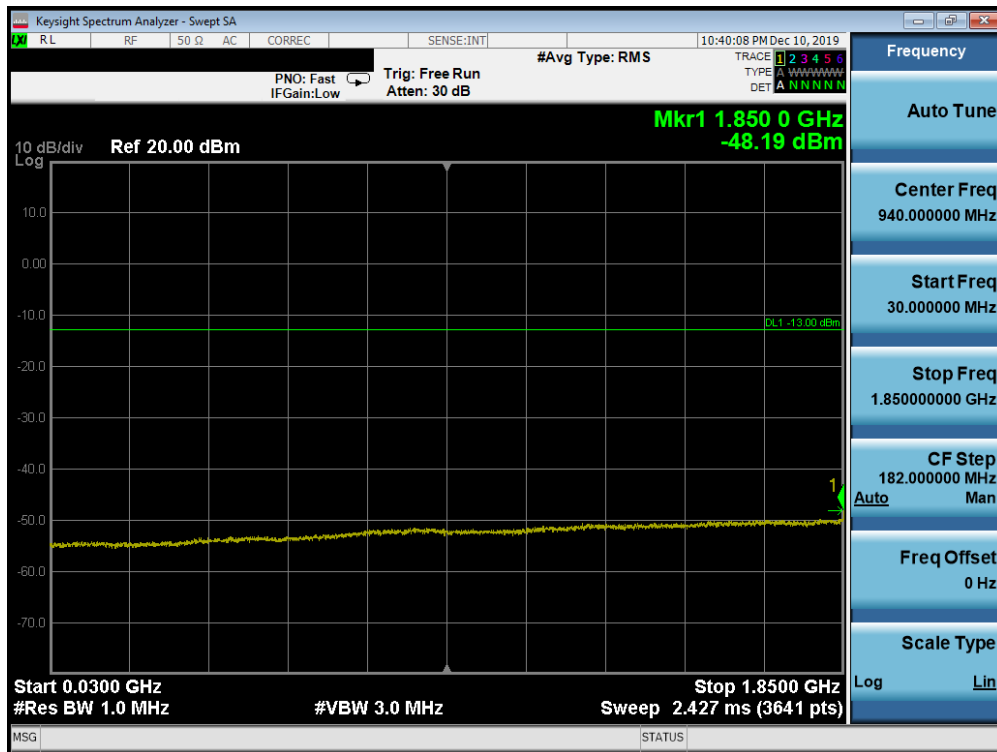


Plot 7-635. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 411 of 486

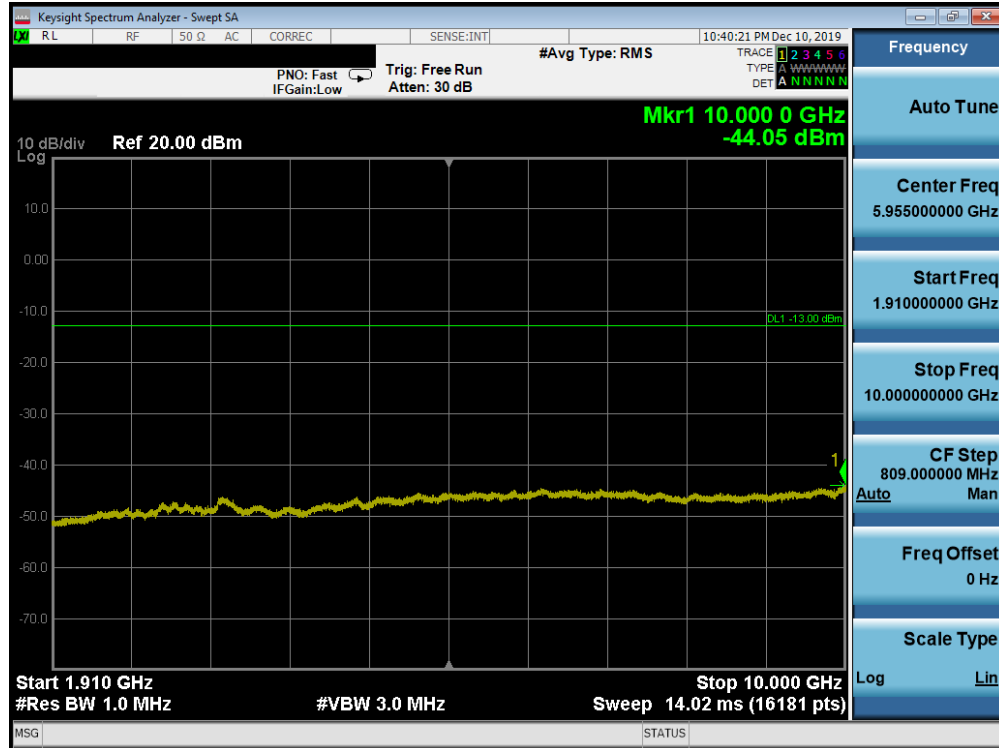


Plot 7-636. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

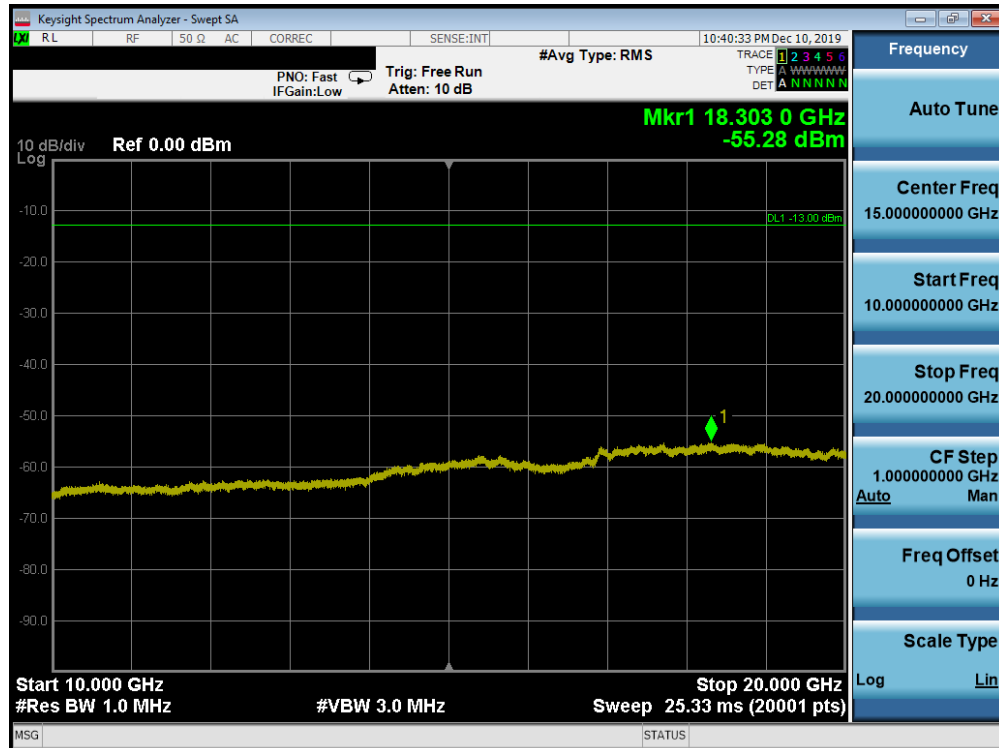


Plot 7-637. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 412 of 486

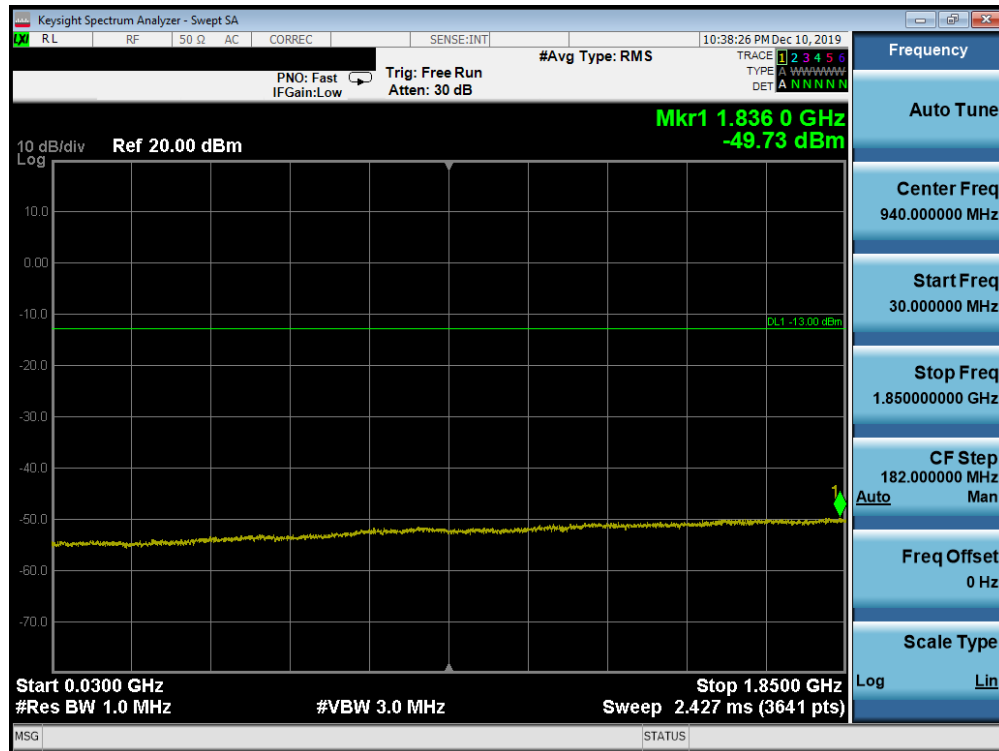


Plot 7-638. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

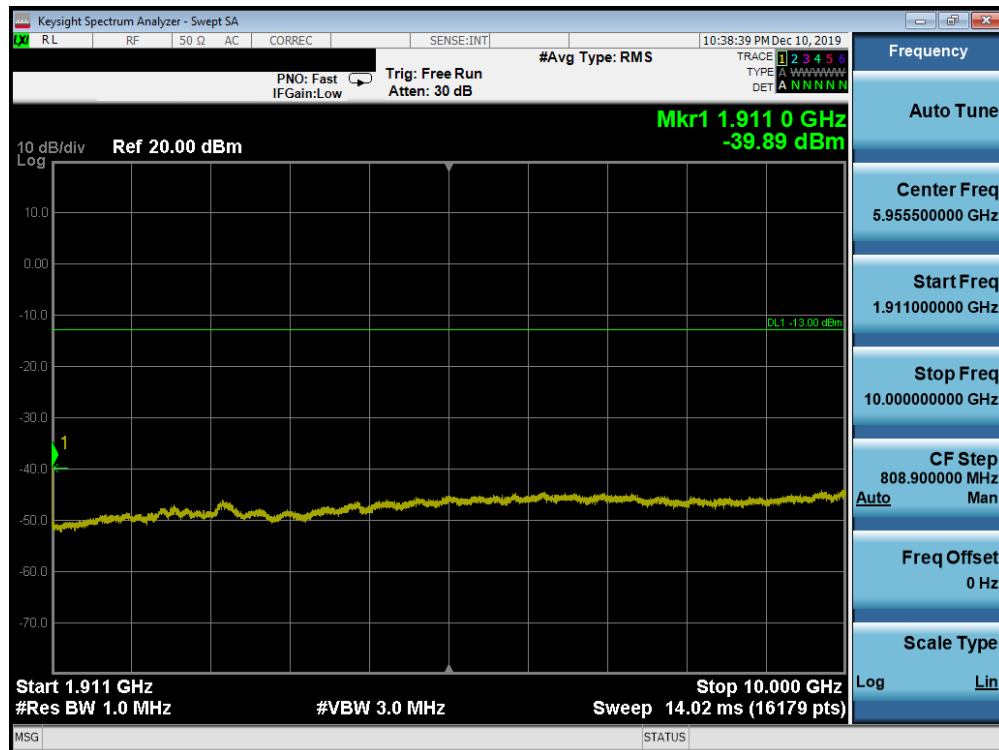


Plot 7-639. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 413 of 486

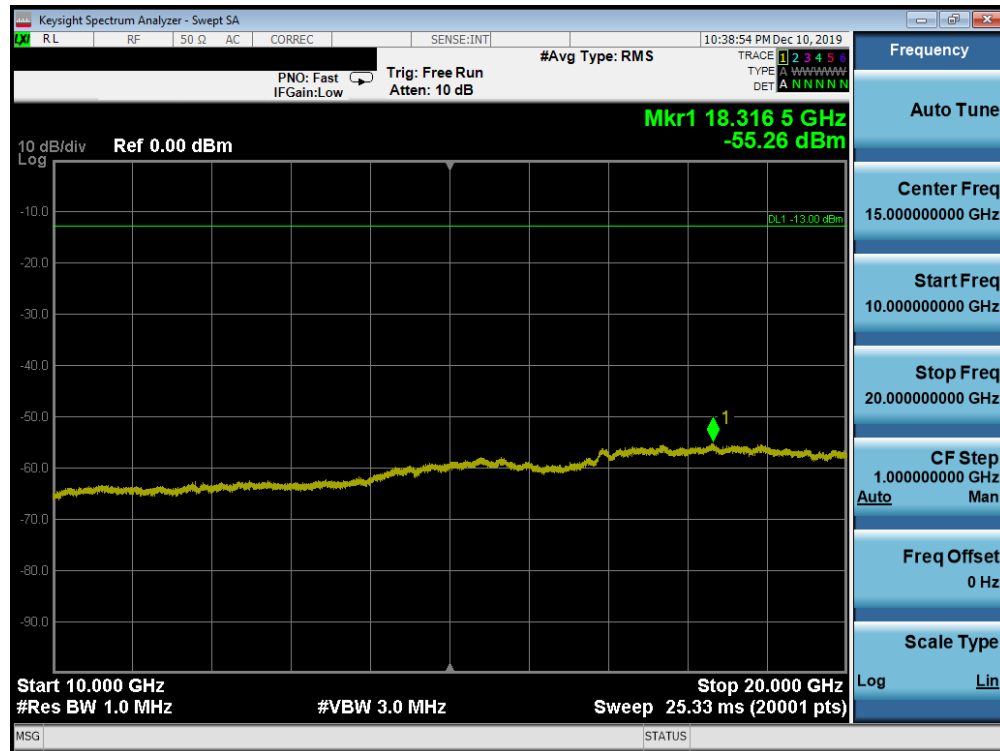


Plot 7-640. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)



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

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 414 of 486



Plot 7-642. Conducted Spurious Plot (n2 - 20MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

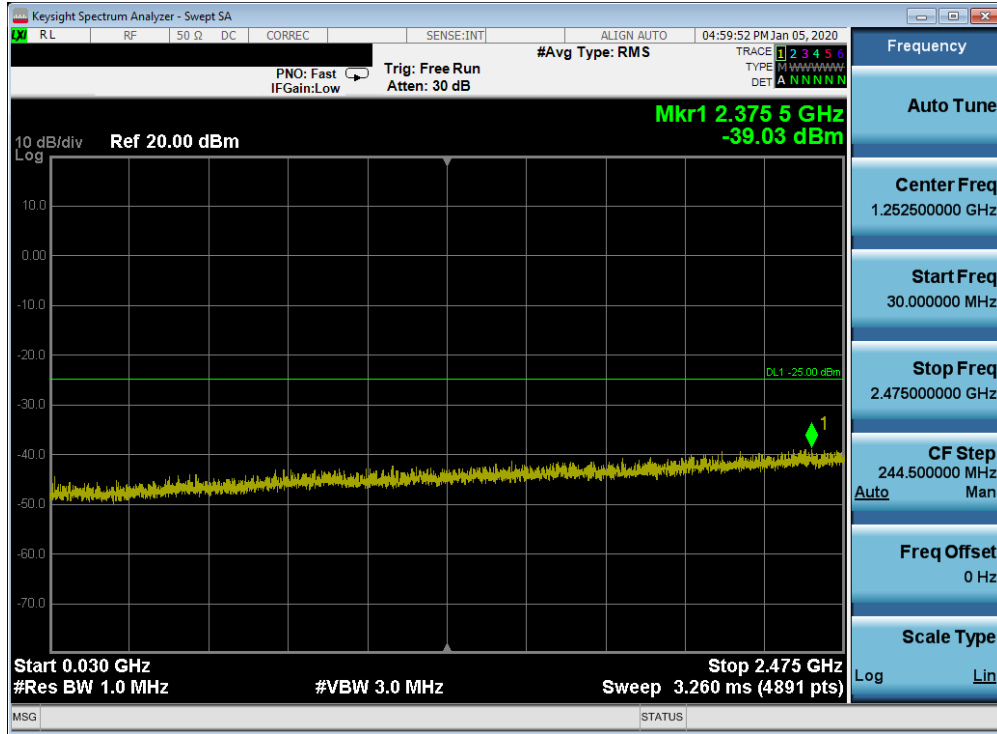
FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 415 of 486

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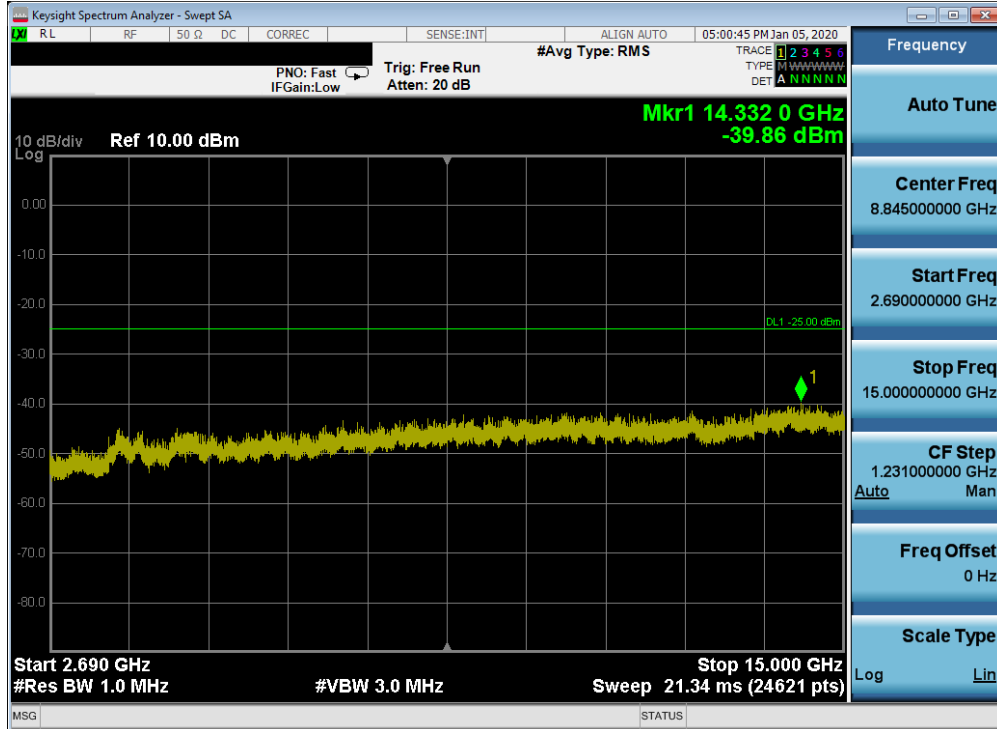
V 9.0 02/01/2019

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NR Band n41

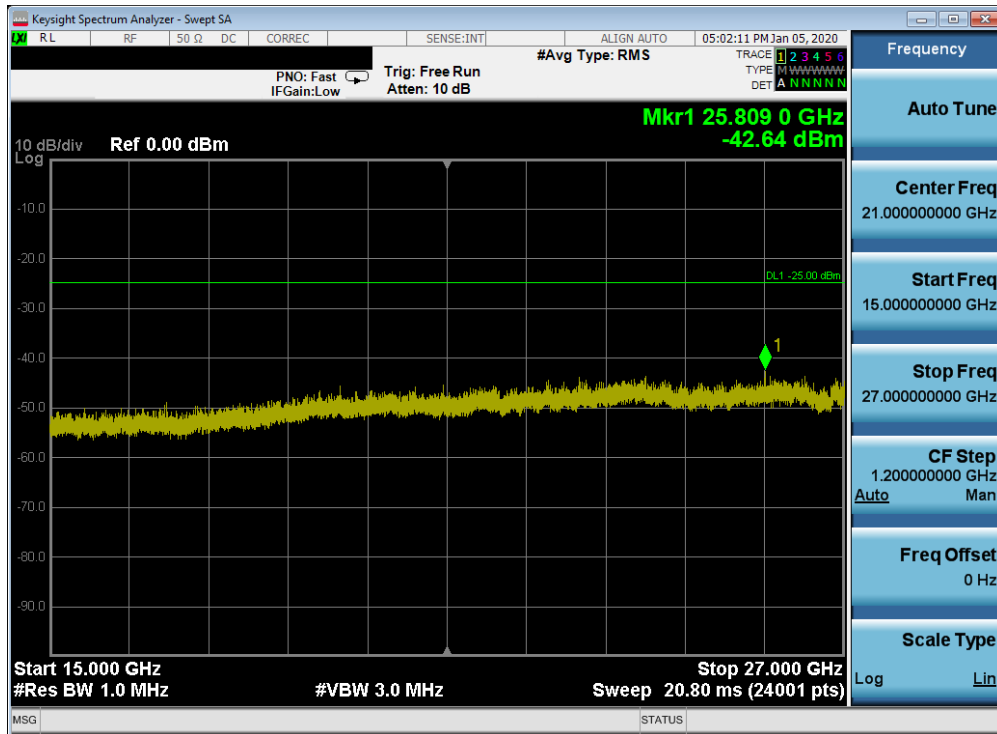


Plot 7-643. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

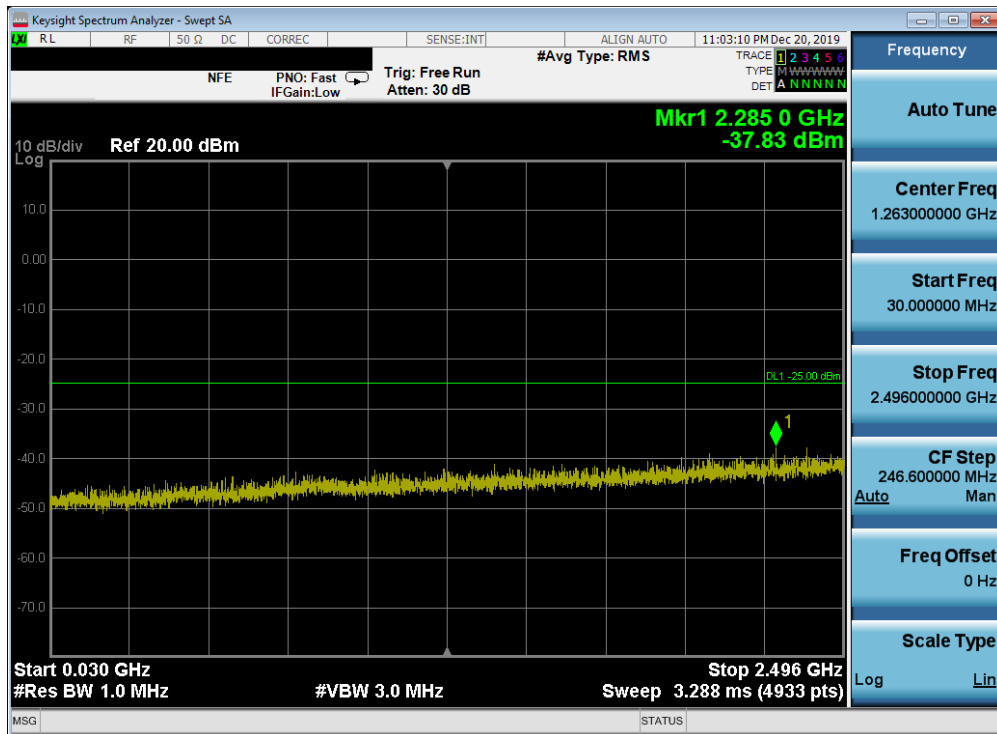


Plot 7-644. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 416 of 486

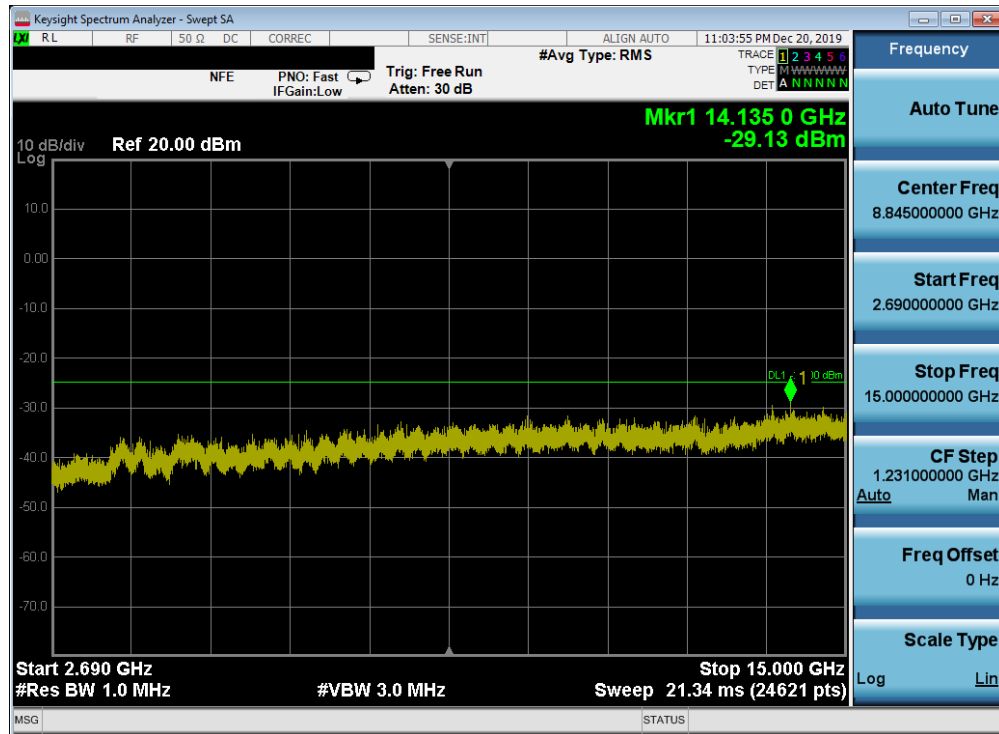


Plot 7-645. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Low Channel)

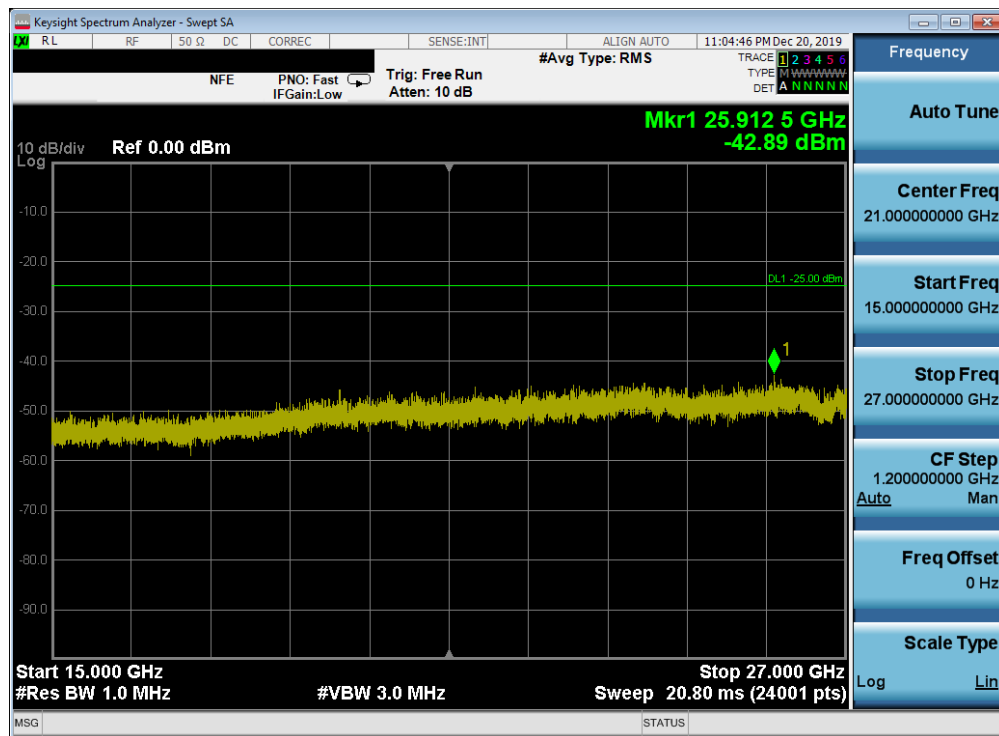


Plot 7-646. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 417 of 486

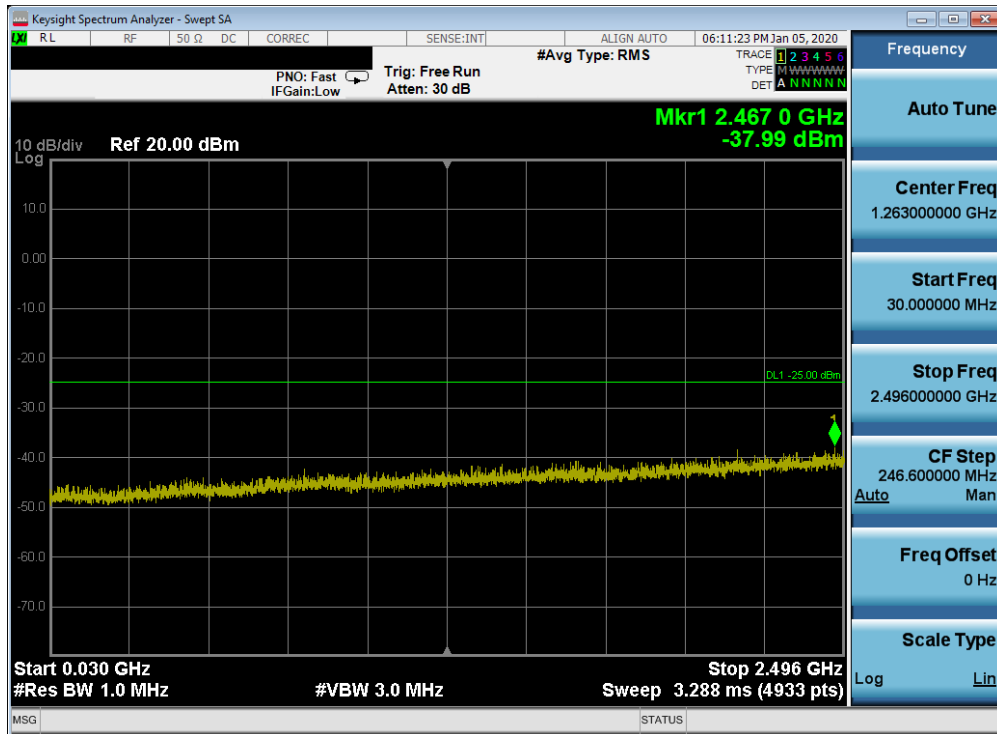


Plot 7-647. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

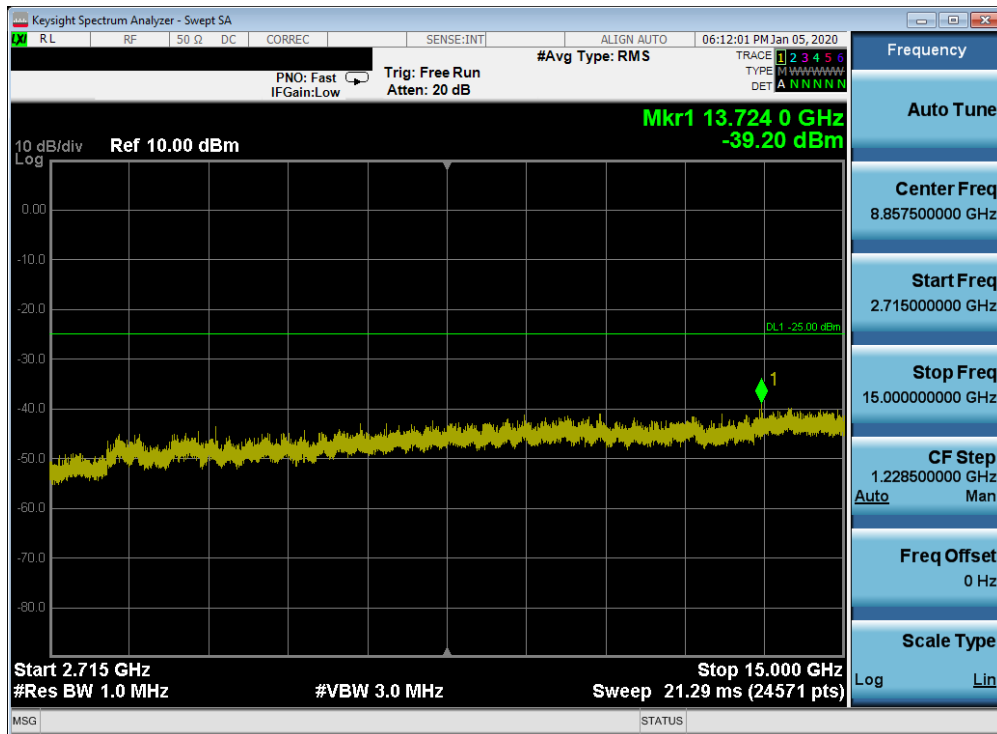


Plot 7-648. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - Mid Channel)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 418 of 486

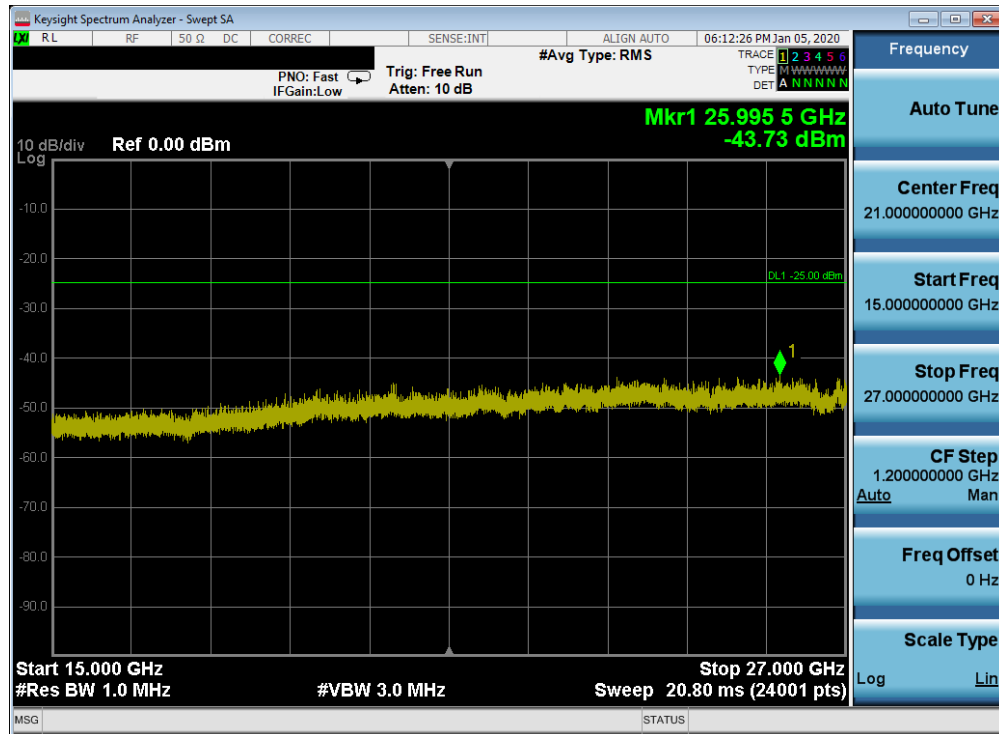


Plot 7-649. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)



Plot 7-650. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 419 of 486	



Plot 7-651. Conducted Spurious Plot (n41 - 100MHz DFT-s-OFDM-QPSK - RB Size 1, RB Offset 1 - High Channel)

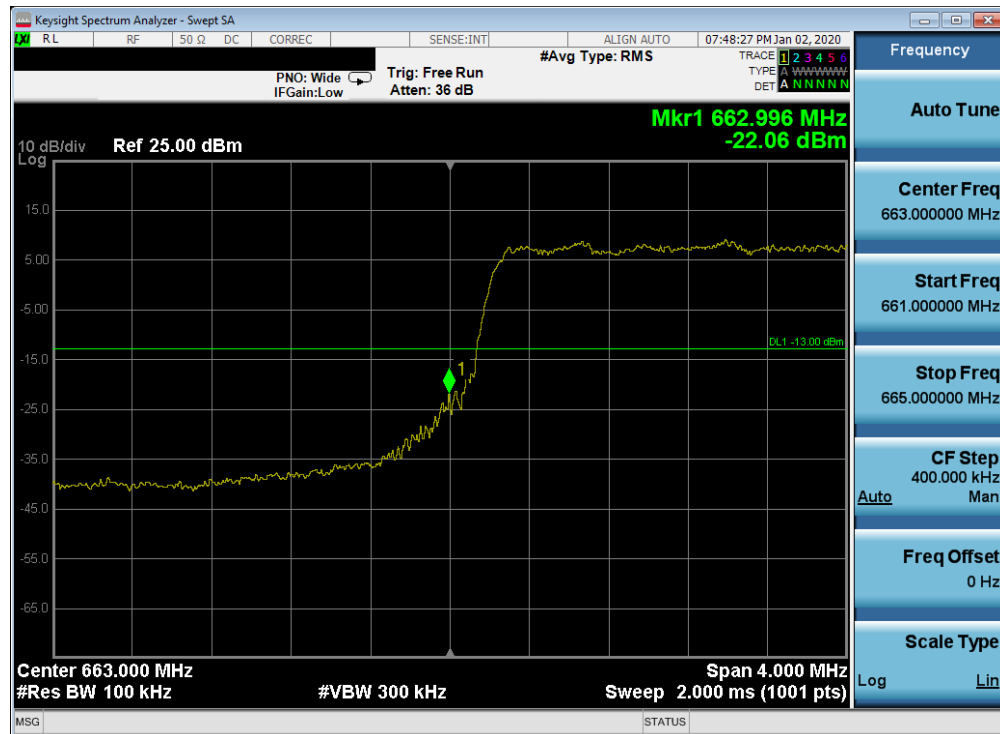
FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 420 of 486



Band Edge Emissions at the Antenna Terminal

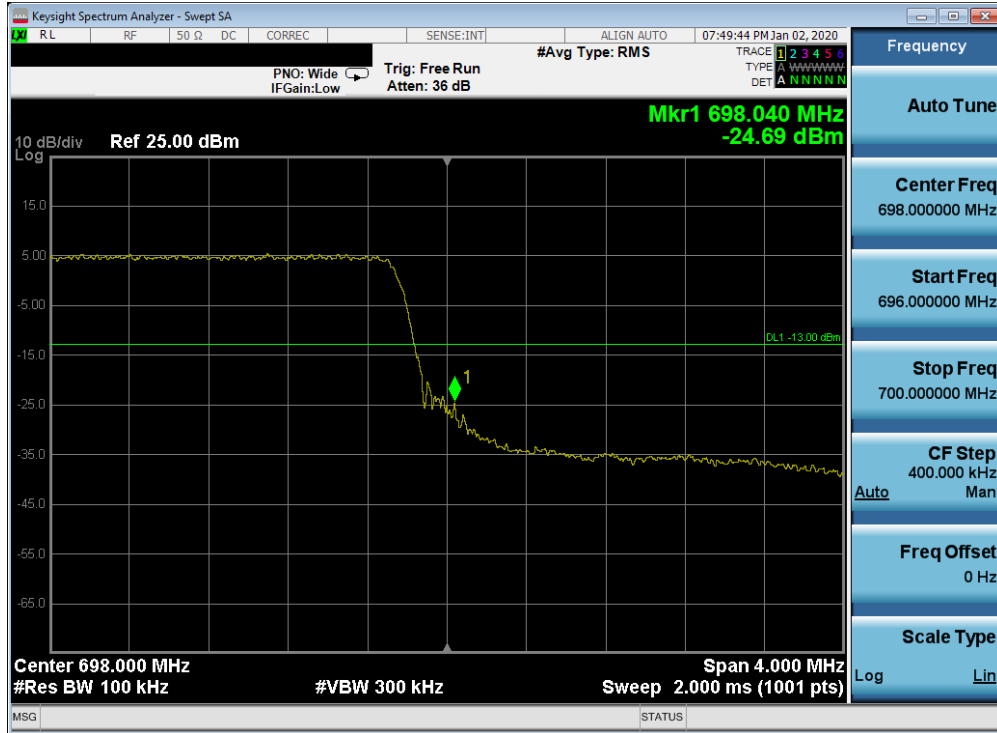
All SCS's and Waveforms (CP-OFDM vs DFT-s OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

NR Band n71

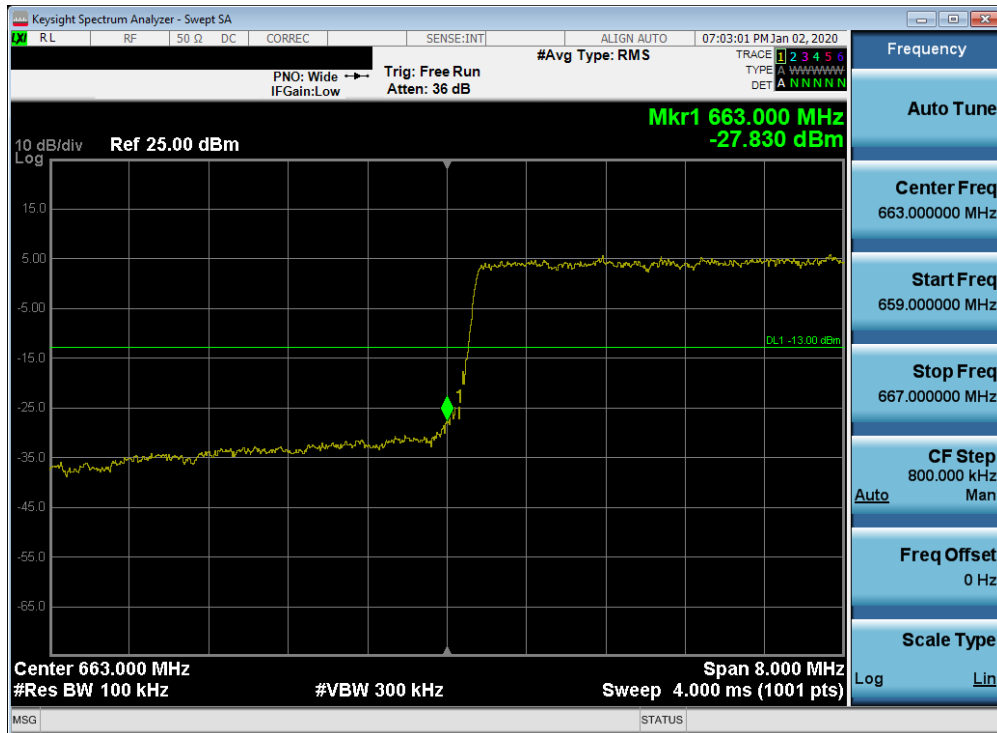


Plot 7-652. Lower Band Edge Plot (n71 - 5MHz DFT-s-OFDM-QPSK - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 421 of 486

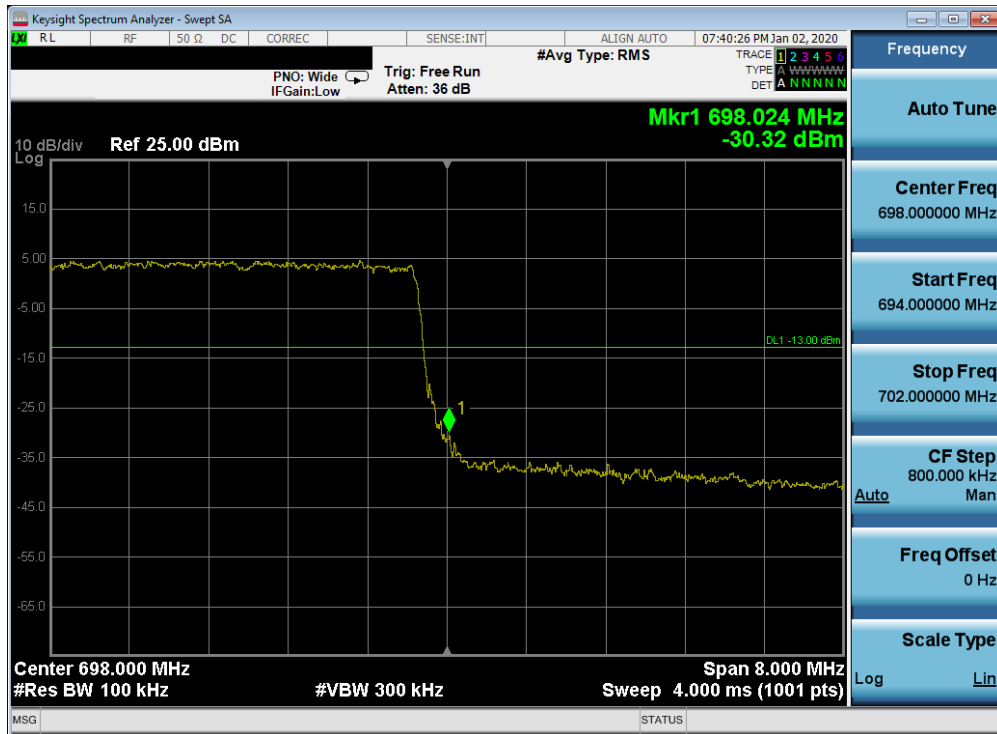


Plot 7-653. Upper Band Edge Plot (n71 - 5MHz CP-OFDM-QPSK - Full RB Configuration)

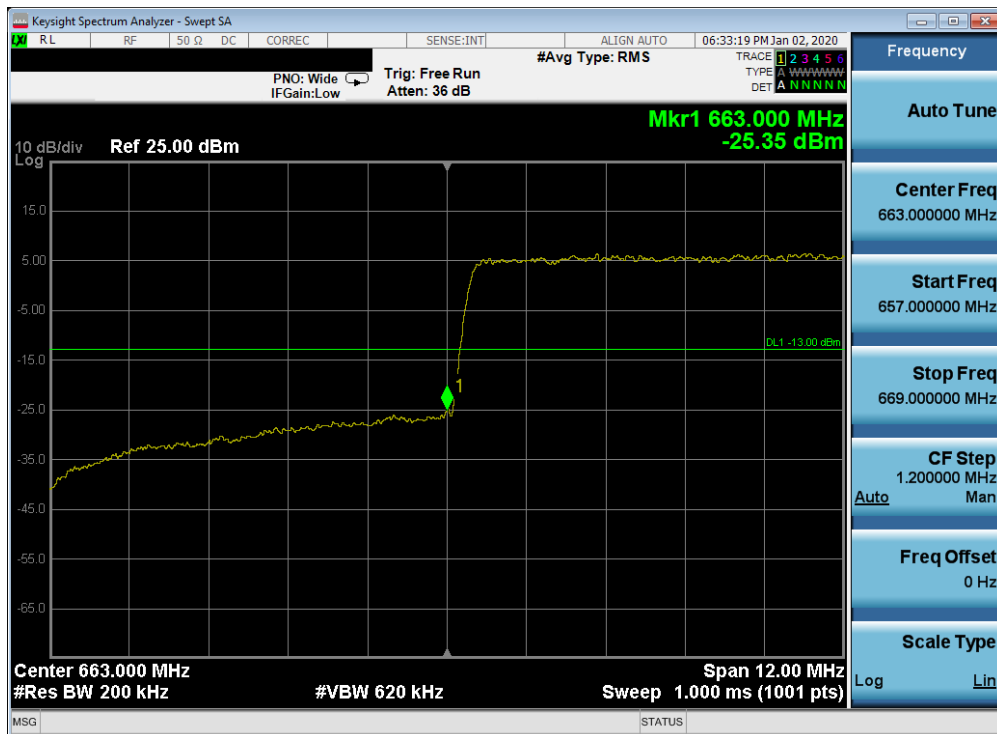


Plot 7-654. Lower Band Edge Plot (n71 - 10MHz DFT-s -OFDM-QPSK - Full RB Configuration)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 422 of 486



Plot 7-655. Upper Band Edge Plot (n71 - 10MHz DFT-s-OFDM-QPSK - Full RB Configuration)

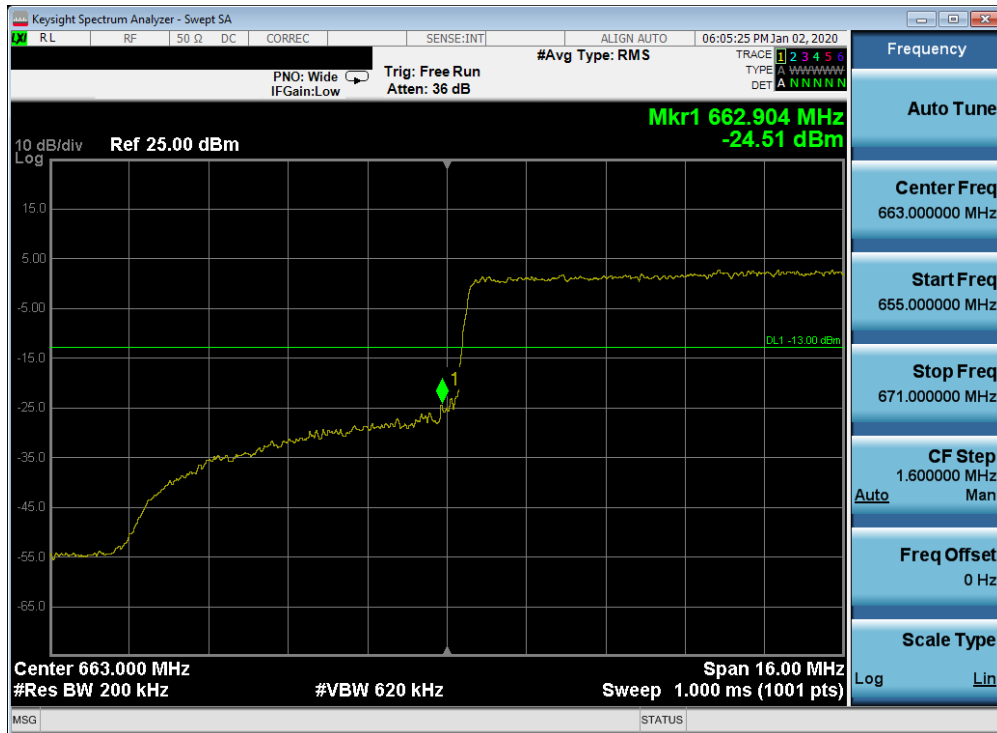


Plot 7-656. Lower Band Edge Plot (n71 - 15MHz DFT-s-OFDM-QPSK - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 423 of 486

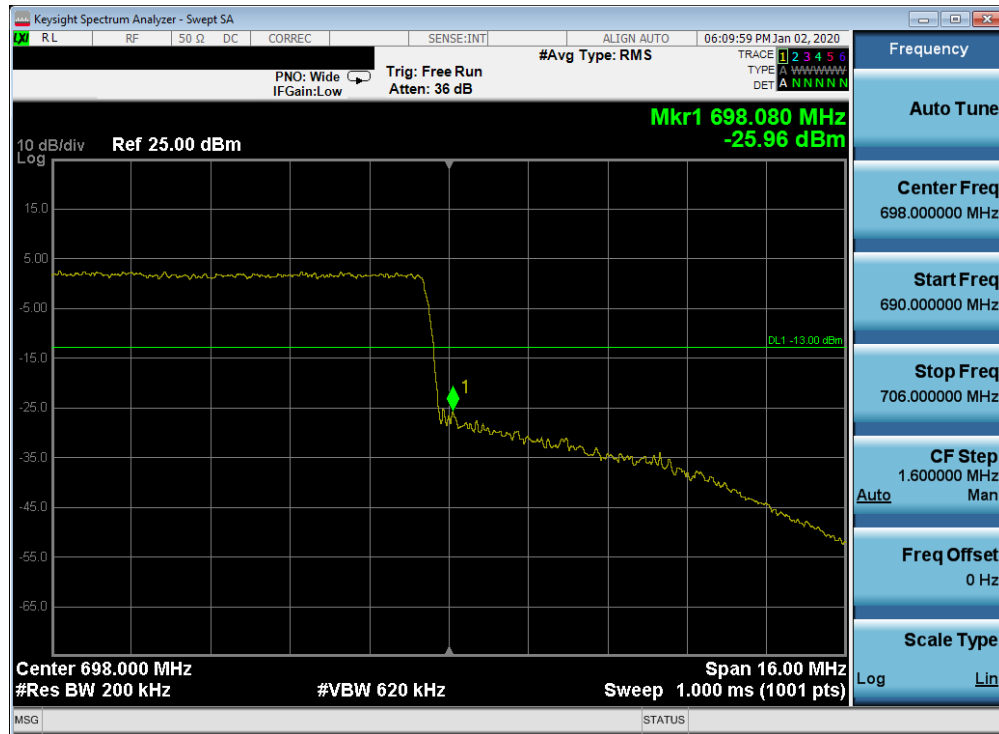


Plot 7-657. Upper Band Edge Plot (n71 - 15MHz CP-OFDM-QPSK - Full RB Configuration)



Plot 7-658. Lower Band Edge Plot (n71 - 20MHz CP-OFDM-QPSK - Full RB Configuration)

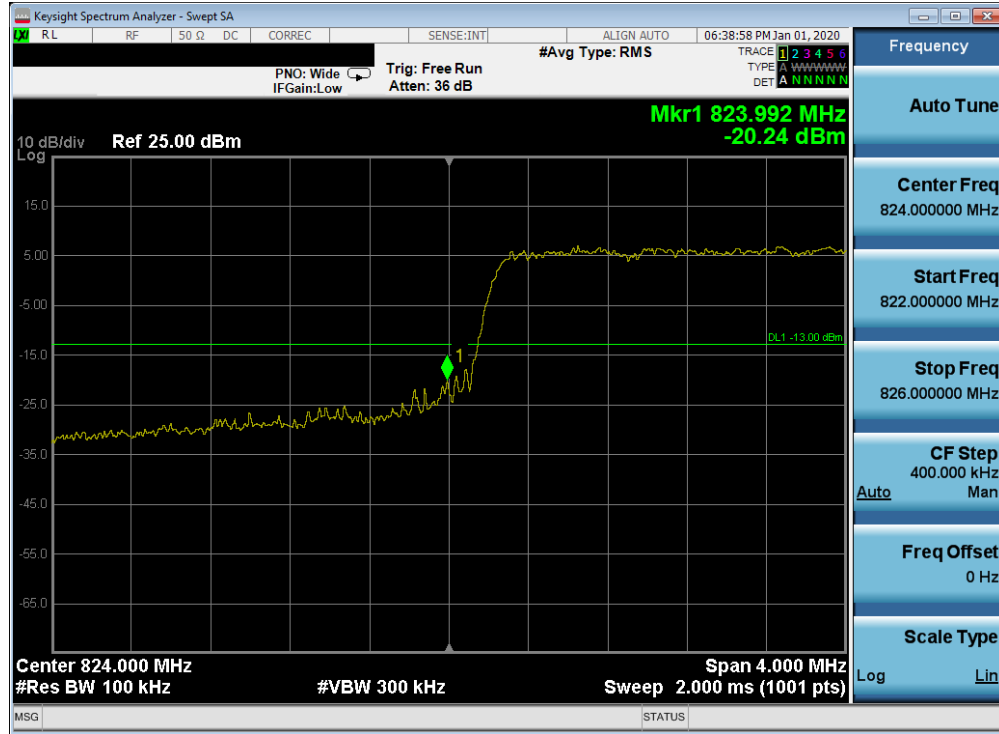
FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 424 of 486



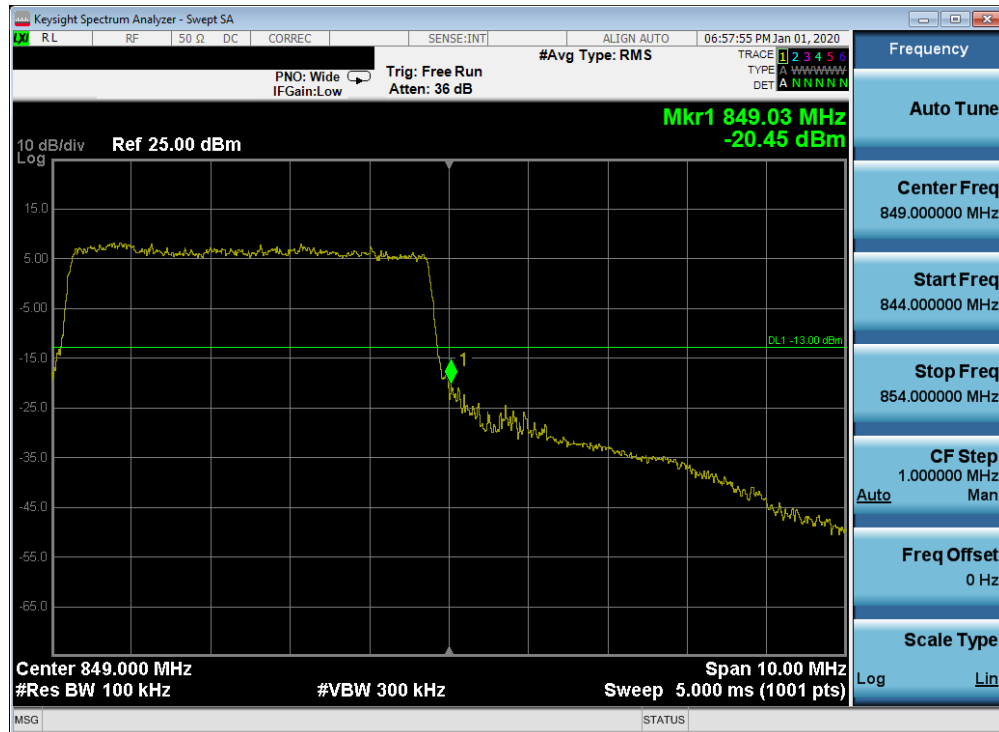
Plot 7-659. Upper Band Edge Plot (n71- 20MHz CP-OFDM-QPSK - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 425 of 486

NR Band n5

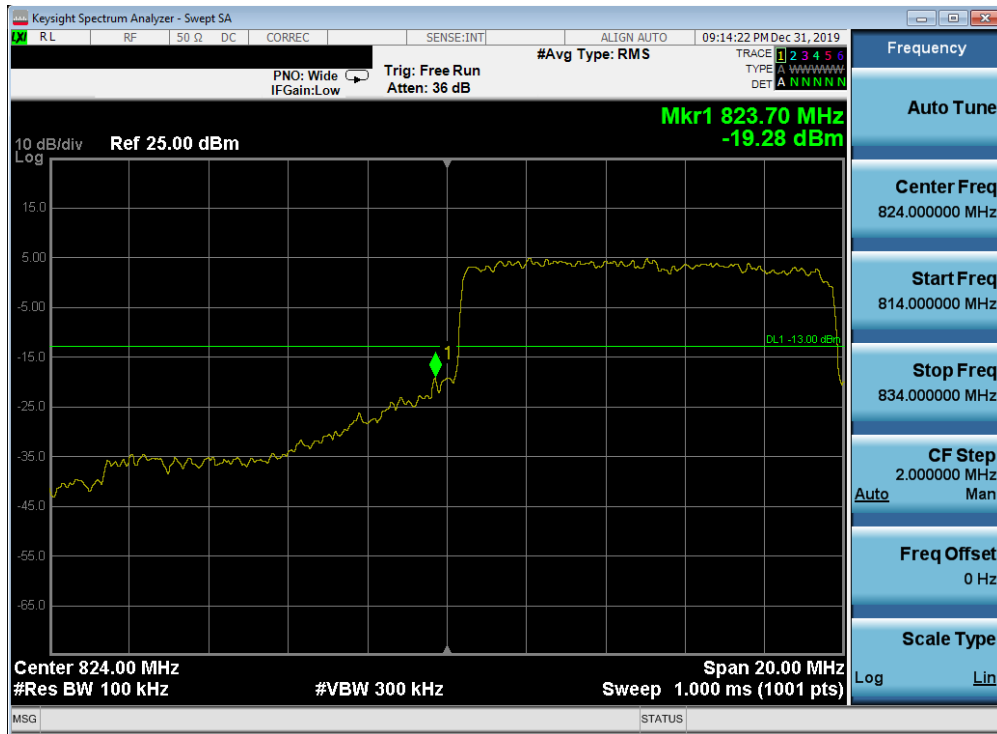


Plot 7-660. Lower Band Edge Plot (n5 - 5MHz DFT-s-OFDM-QPSK - Full RB Configuration)



Plot 7-661. Upper Band Edge Plot (n5 - 5MHz CP-OFDM-QPSK - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 426 of 486



Plot 7-662. Lower Band Edge Plot (n5 - 10MHz CP-OFDM-QPSK - Full RB Configuration)

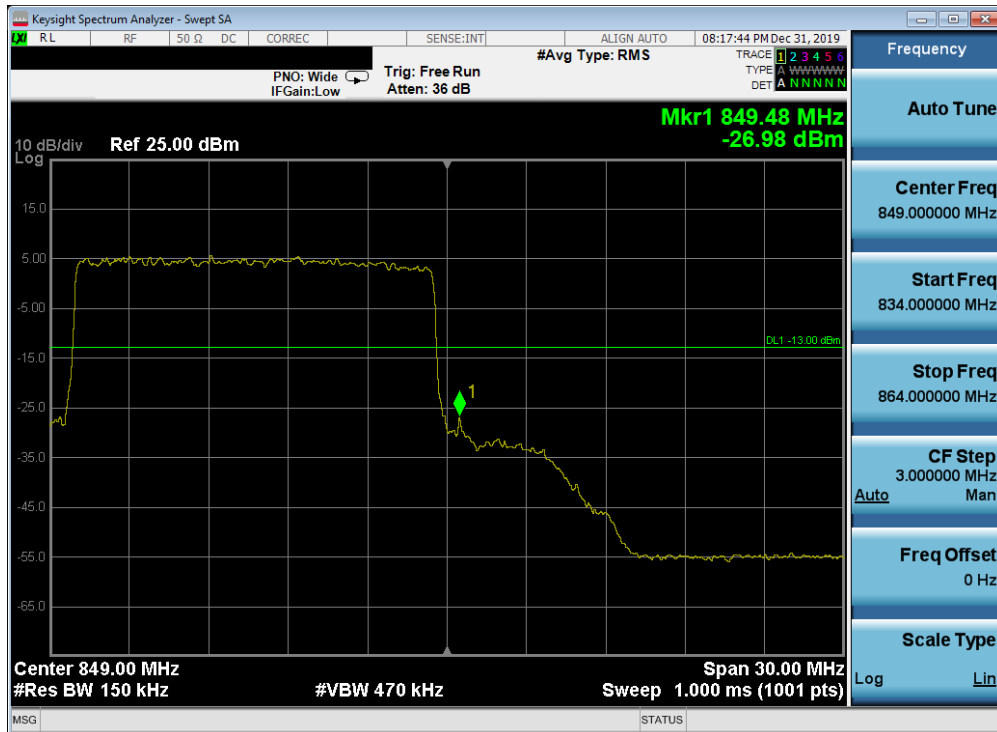


Plot 7-663. Upper Band Edge Plot (n5 - 10MHz DFT-s-OFDM-QPSK - Full RB Configuration)

FCC ID: A3LSMG988U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 427 of 486



Plot 7-664. Lower Band Edge Plot (n5 - 15MHz DFT-s-OFDM-QPSK - Full RB Configuration)



Plot 7-665. Upper Band Edge Plot (n5 - 15MHz DFT-s-OFDM-QPSK - Full RB Configuration)

FCC ID: A3LSMG988U	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1911140187-03-R1.A3L	Test Dates: 11/14/2019 - 1/31/2020	EUT Type: Portable Handset		Page 428 of 486