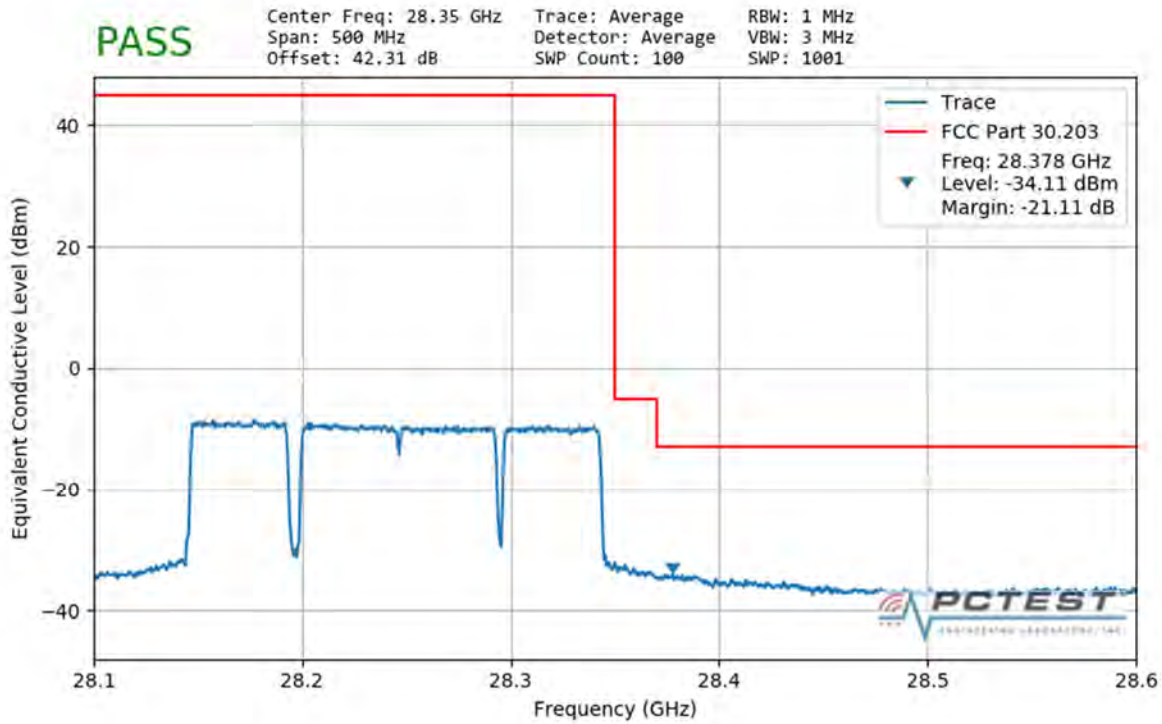
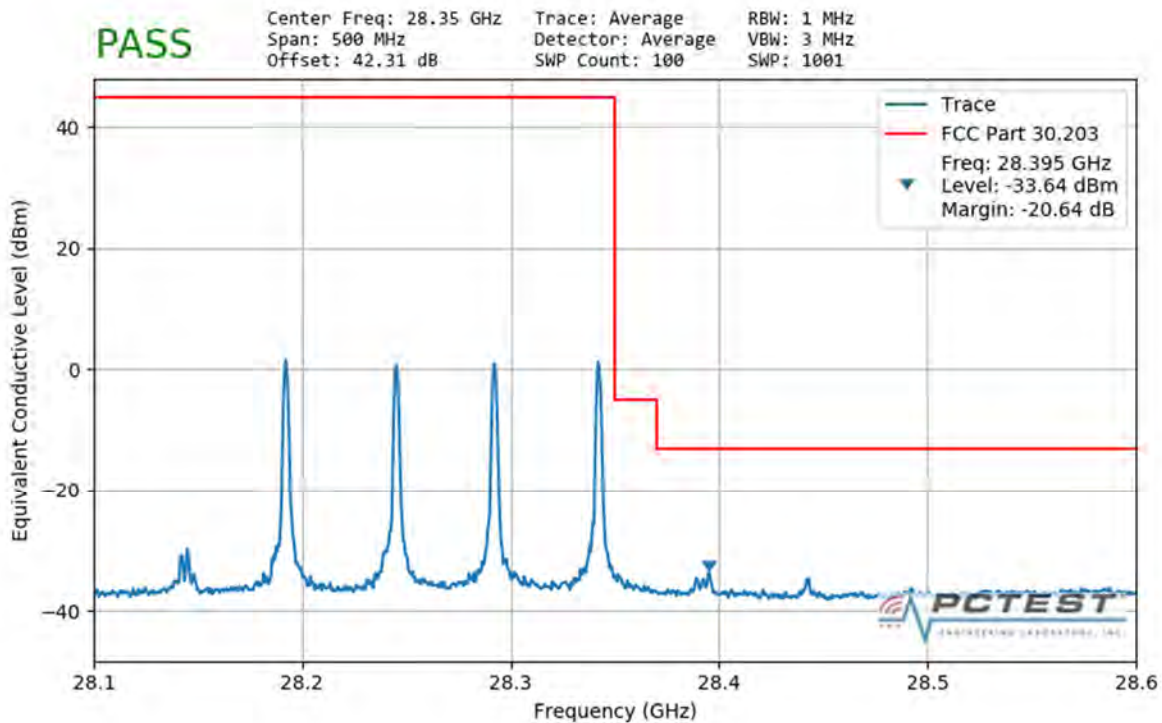


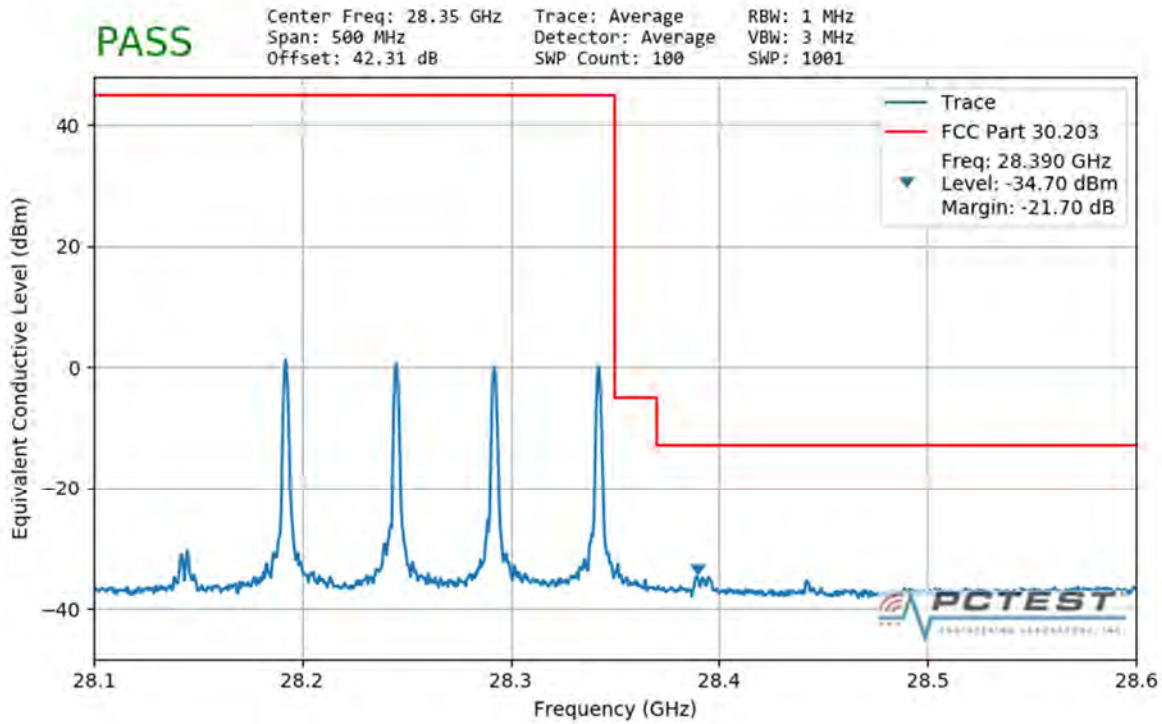


Plot 7-449. Upper Band Edge Plot (4CC 200MHz QPSK Full RB)

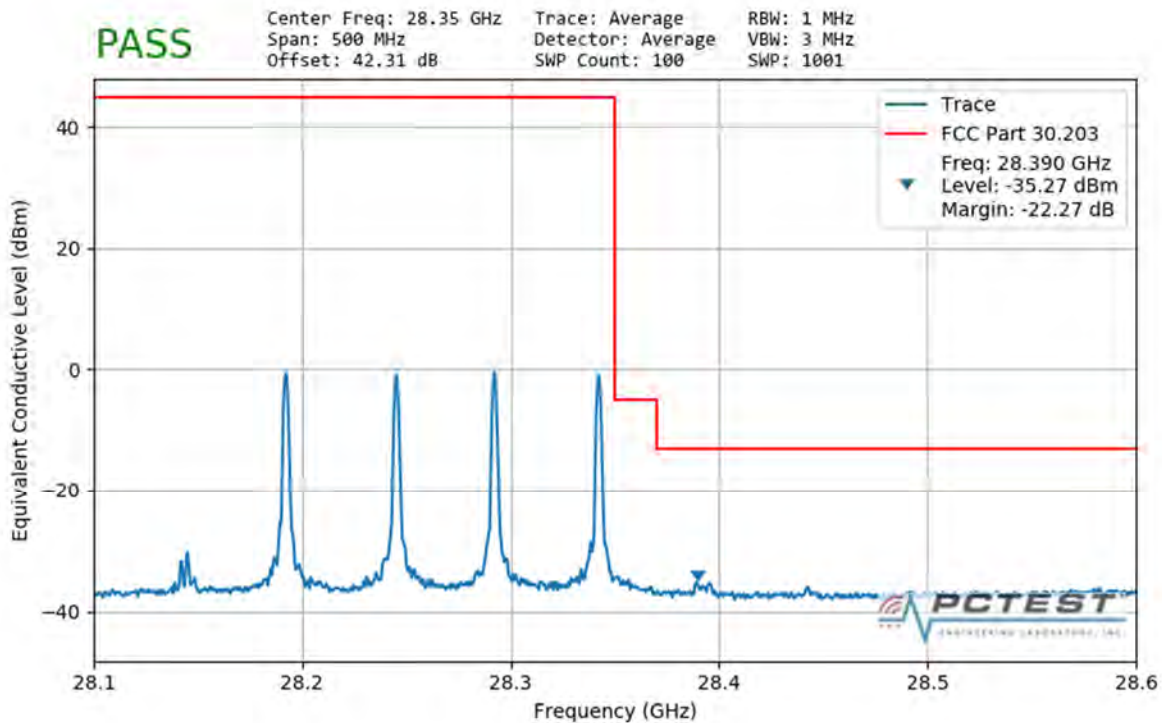


Plot 7-450. Upper Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 263 of 371

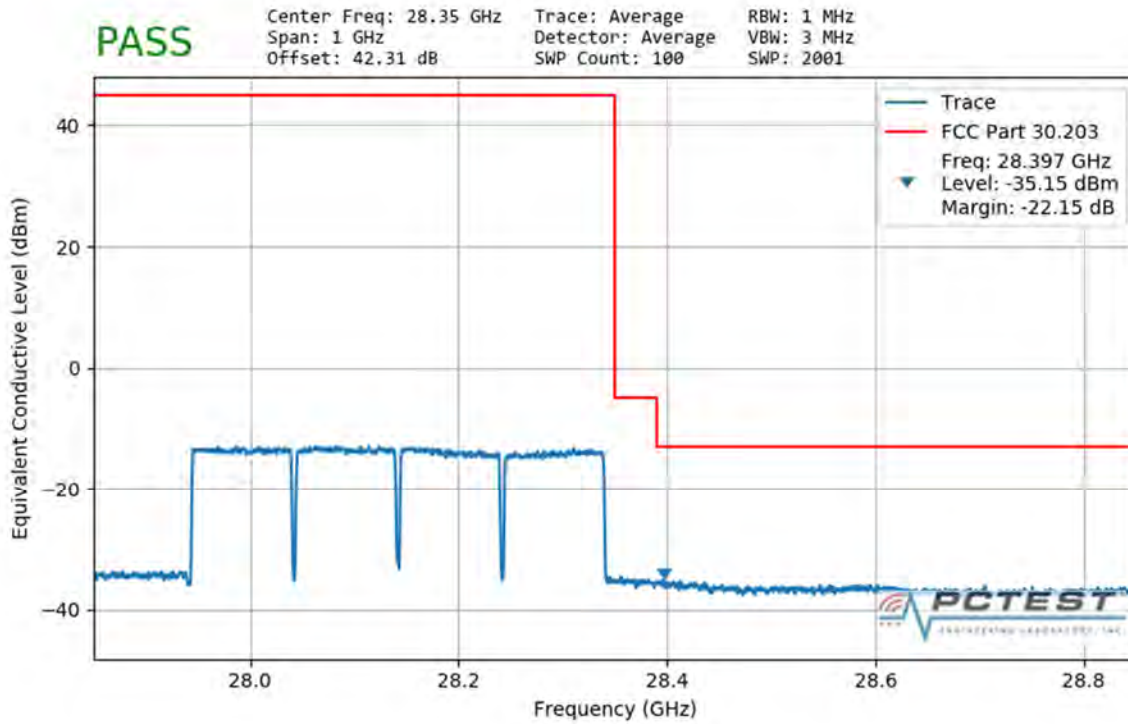


Plot 7-451. Upper Band Edge Plot (4CC 200MHz 16QAM 1 RB)

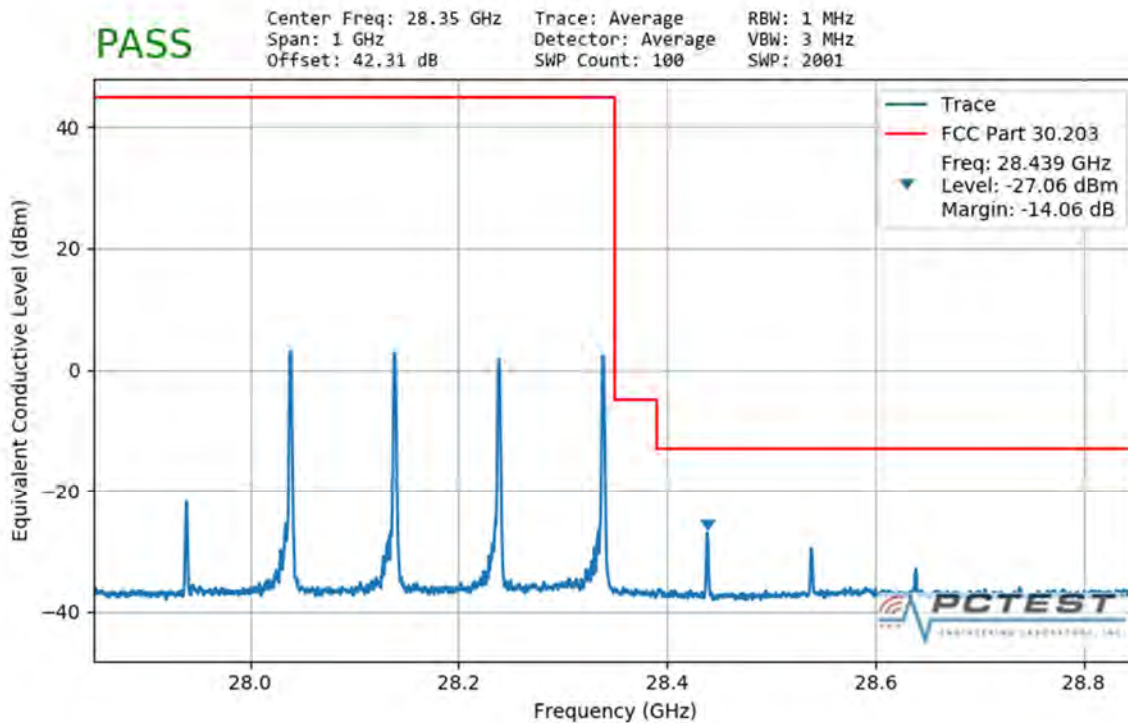


Plot 7-452. Upper Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 264 of 371

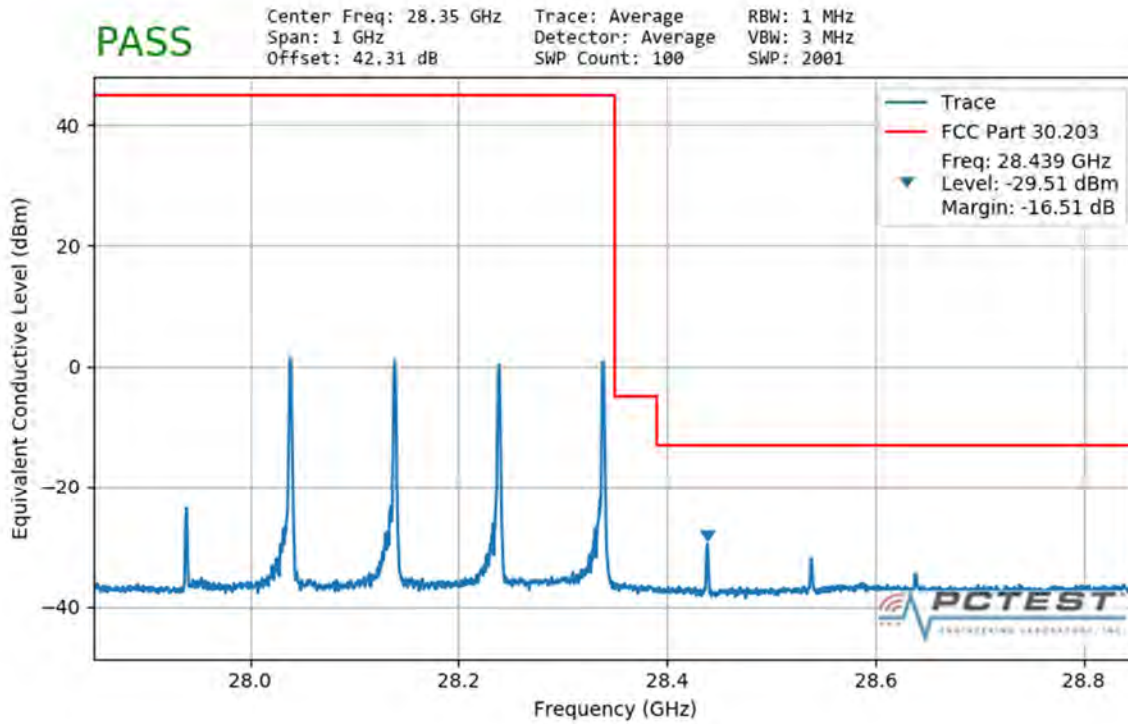


Plot 7-453. Upper Band Edge Plot (4CC 400MHz QPSK Full RB)

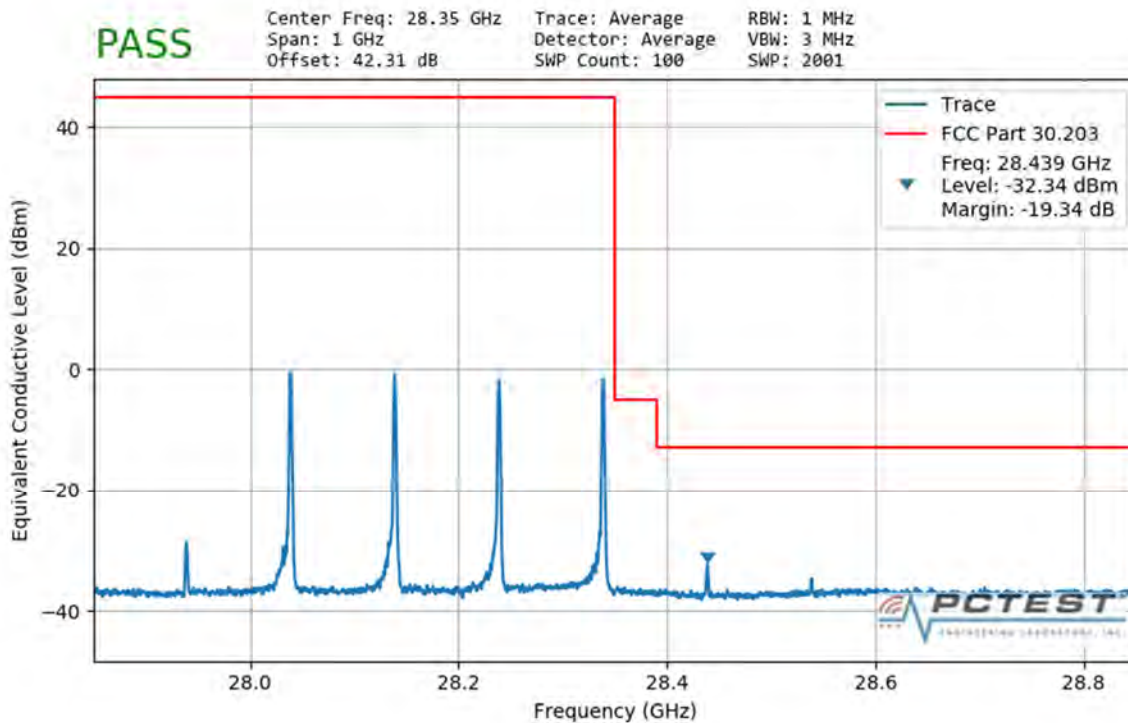


Plot 7-454. Upper Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 265 of 371



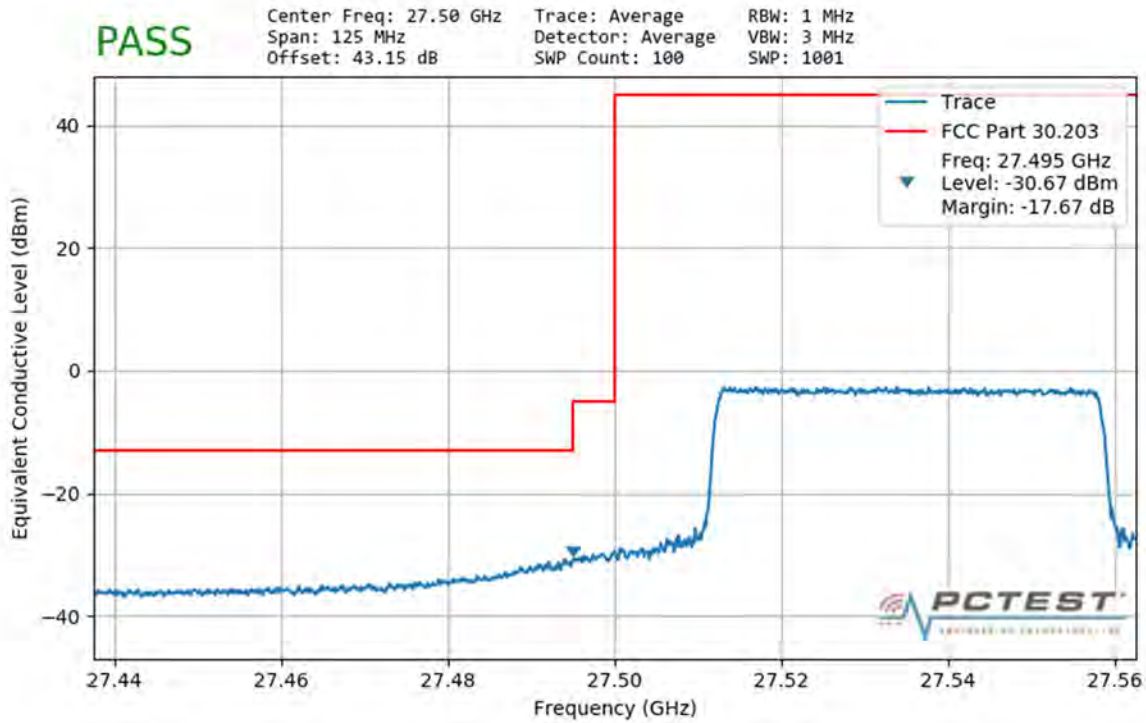
Plot 7-455. Upper Band Edge Plot (4CC 400MHz 16QAM 1 RB)



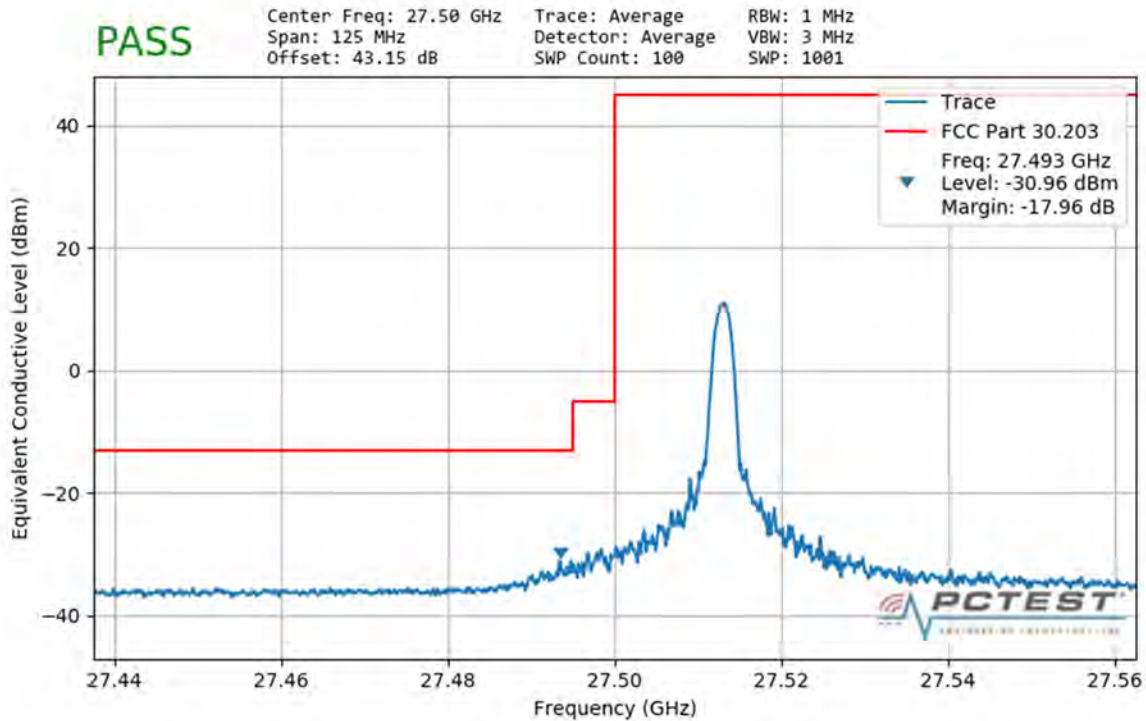
Plot 7-456. Upper Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset	Page 266 of 371

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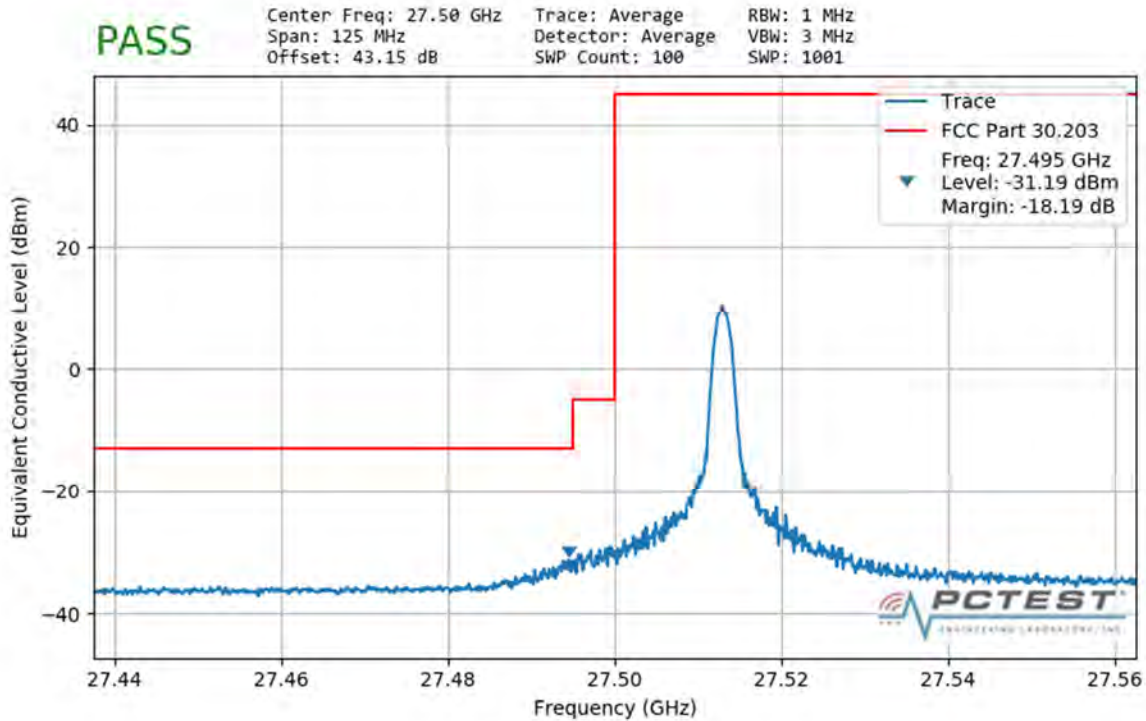


Plot 7-457. Lower Band Edge Plot (1CC 50MHz QPSK Full RB)

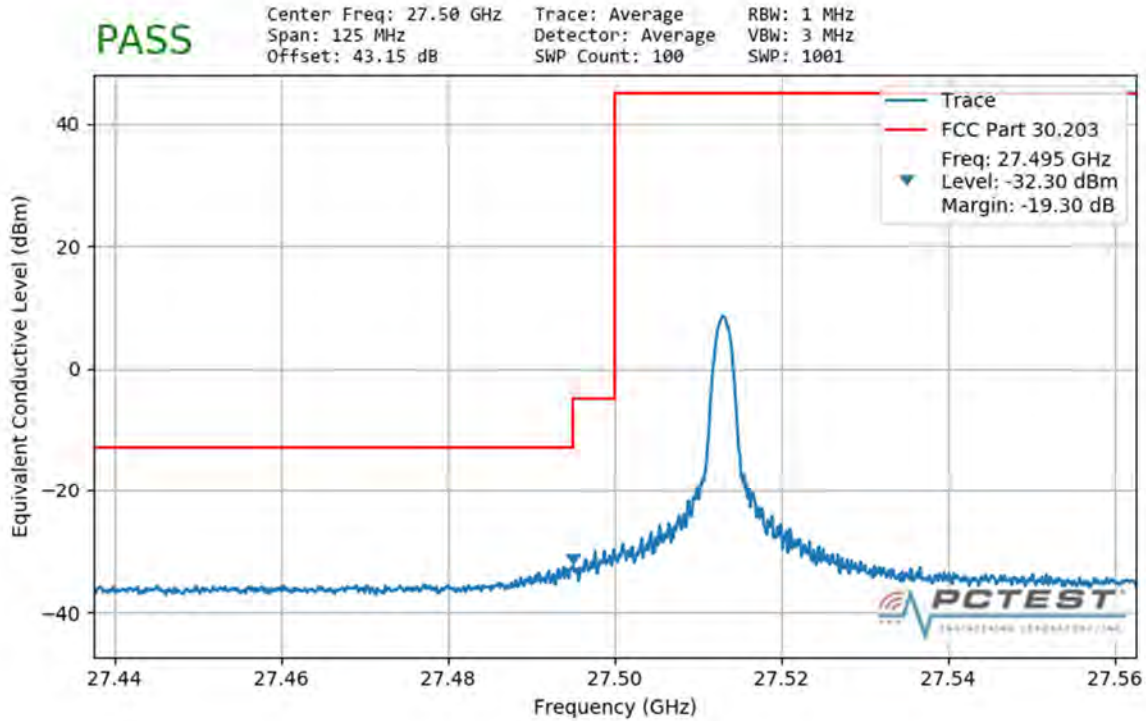


Plot 7-458. Lower Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset	Page 267 of 371

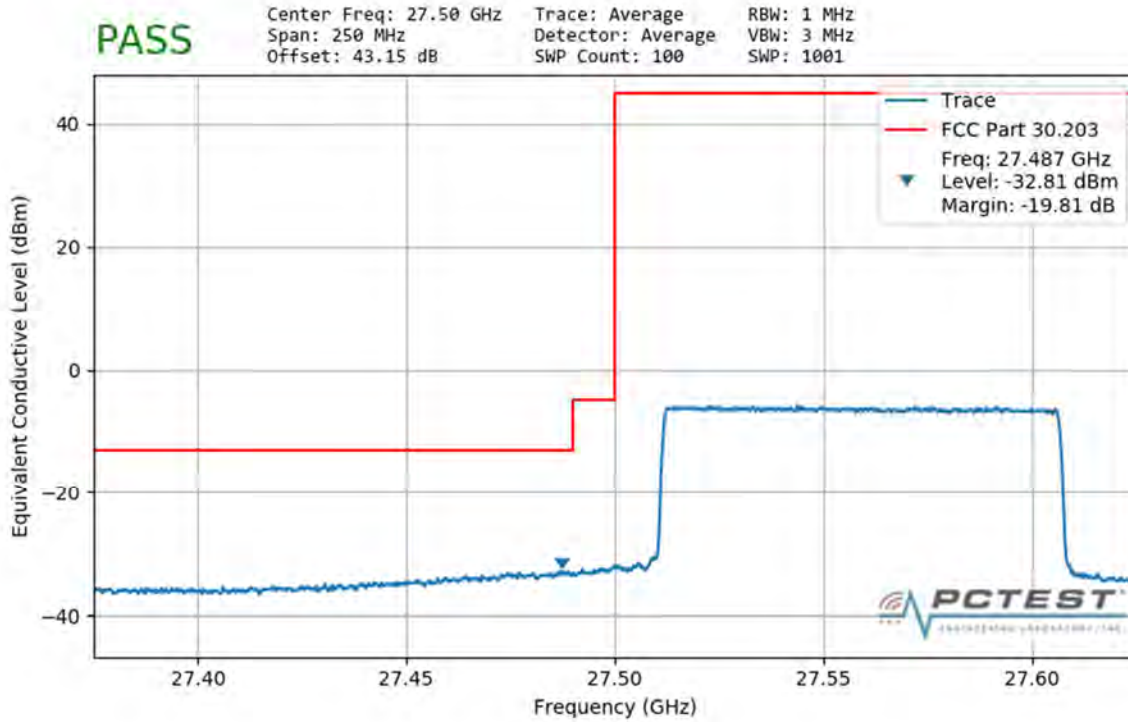


Plot 7-459. Lower Band Edge Plot (1CC 50MHz 16QAM 1 RB)

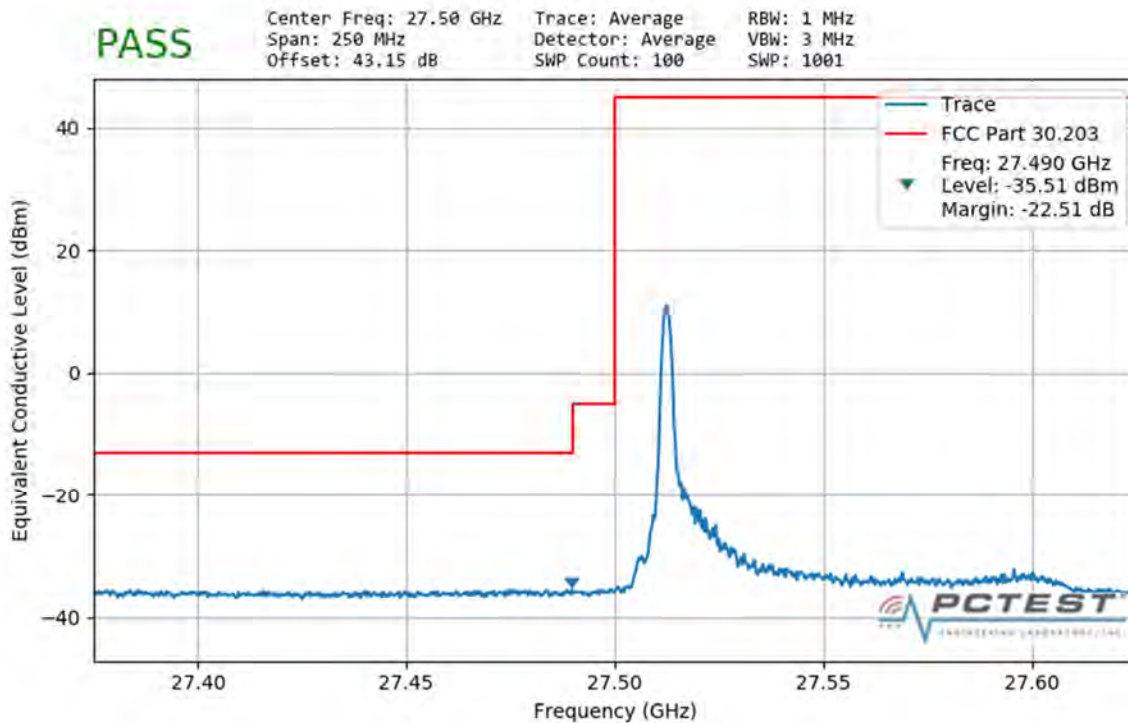


Plot 7-460. Lower Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 268 of 371

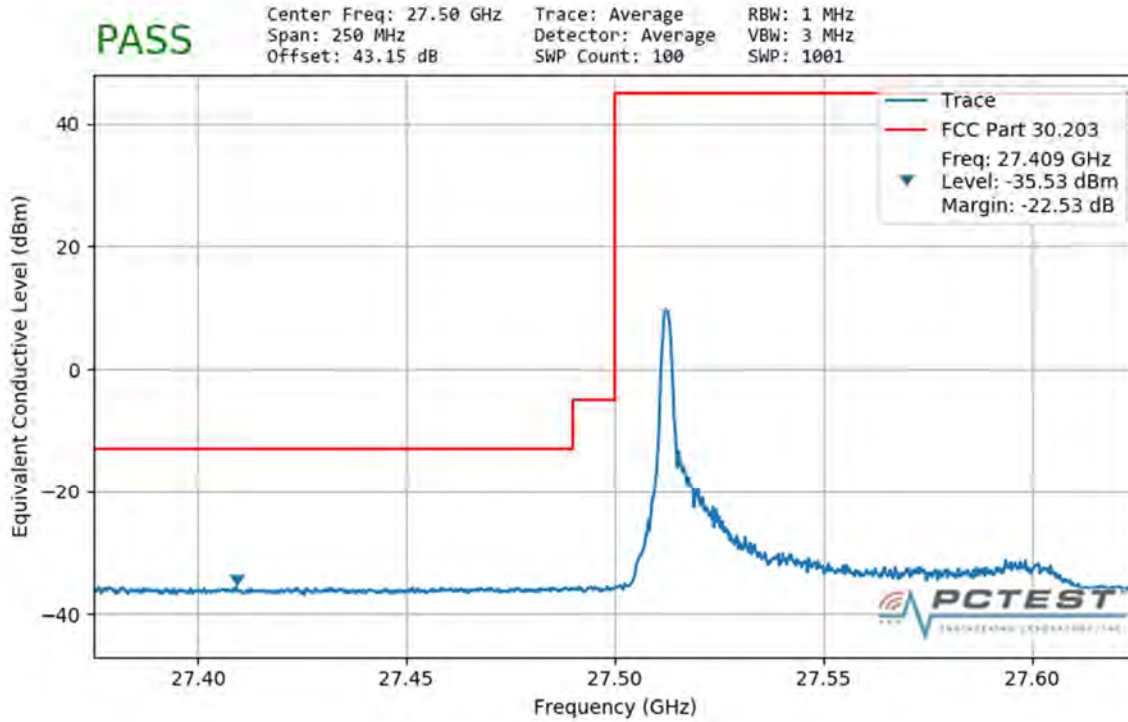


Plot 7-461. Lower Band Edge Plot (1CC 100MHz QPSK Full RB)

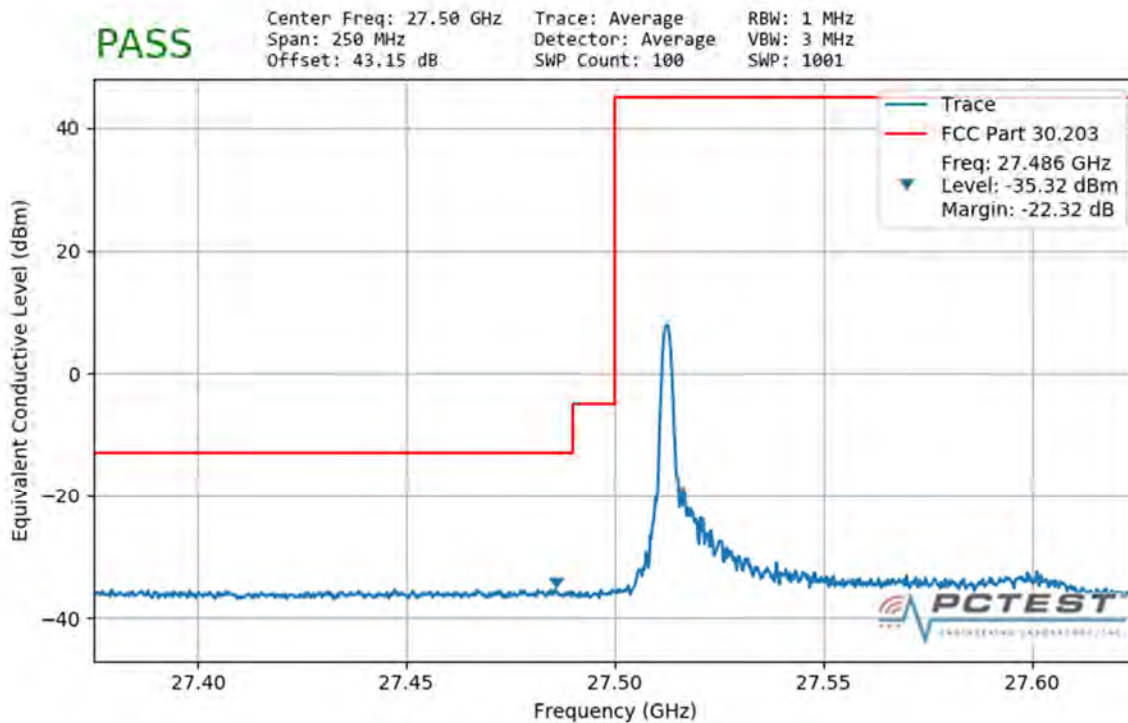


Plot 7-462. Lower Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 269 of 371

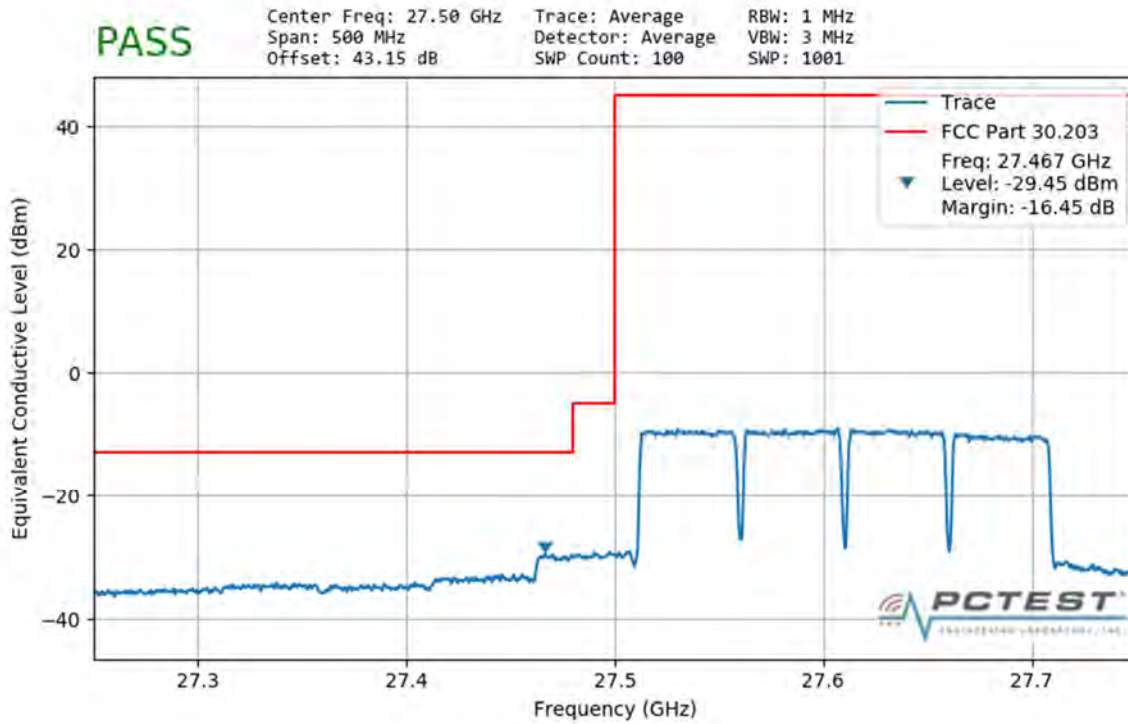


Plot 7-463. Lower Band Edge Plot (1CC 100MHz 16QAM 1 RB)

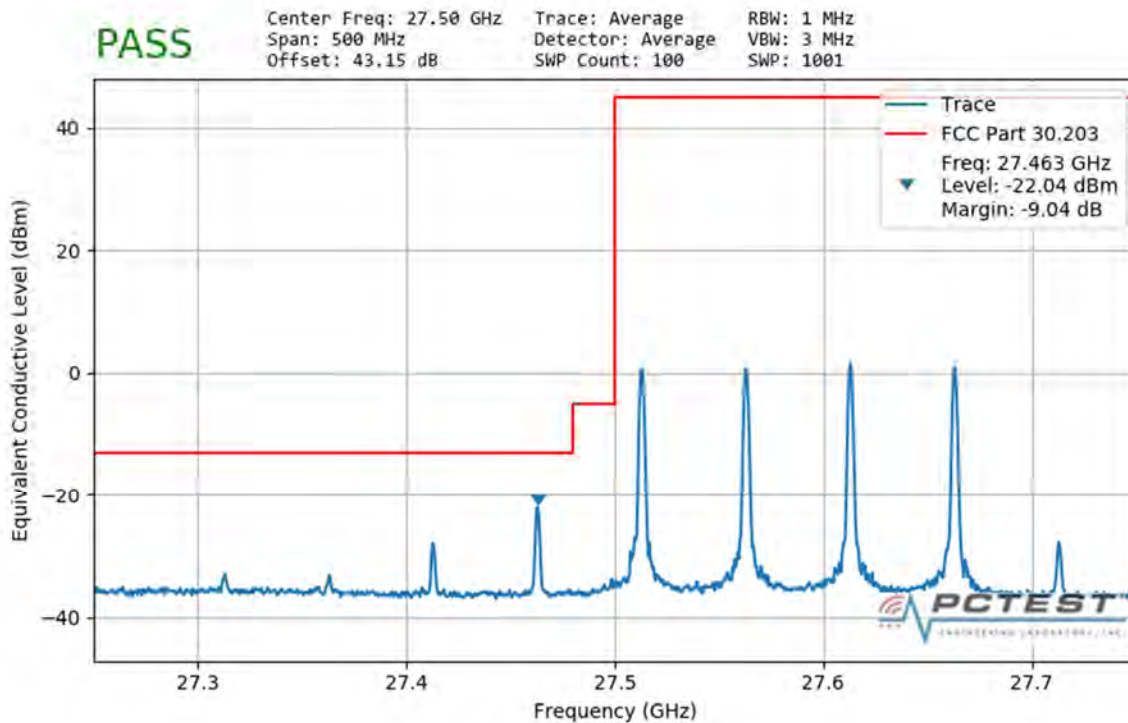


Plot 7-464. Lower Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset	Page 270 of 371

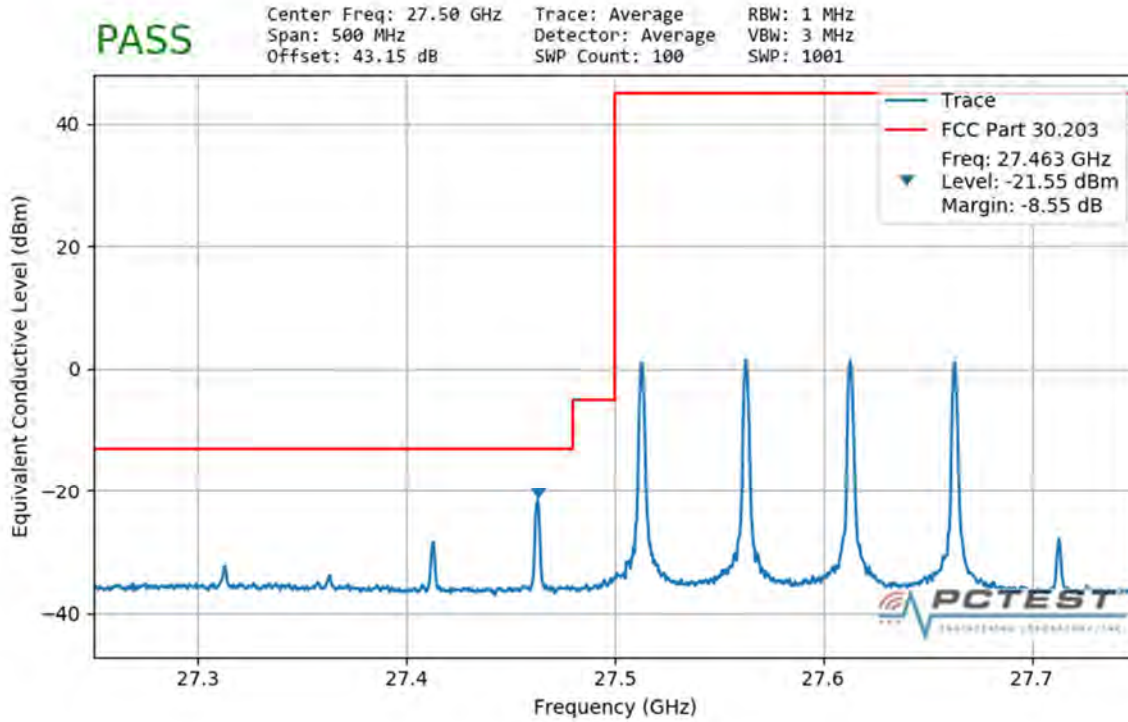


Plot 7-465. Lower Band Edge Plot (4CC 200MHz QPSK Full RB)

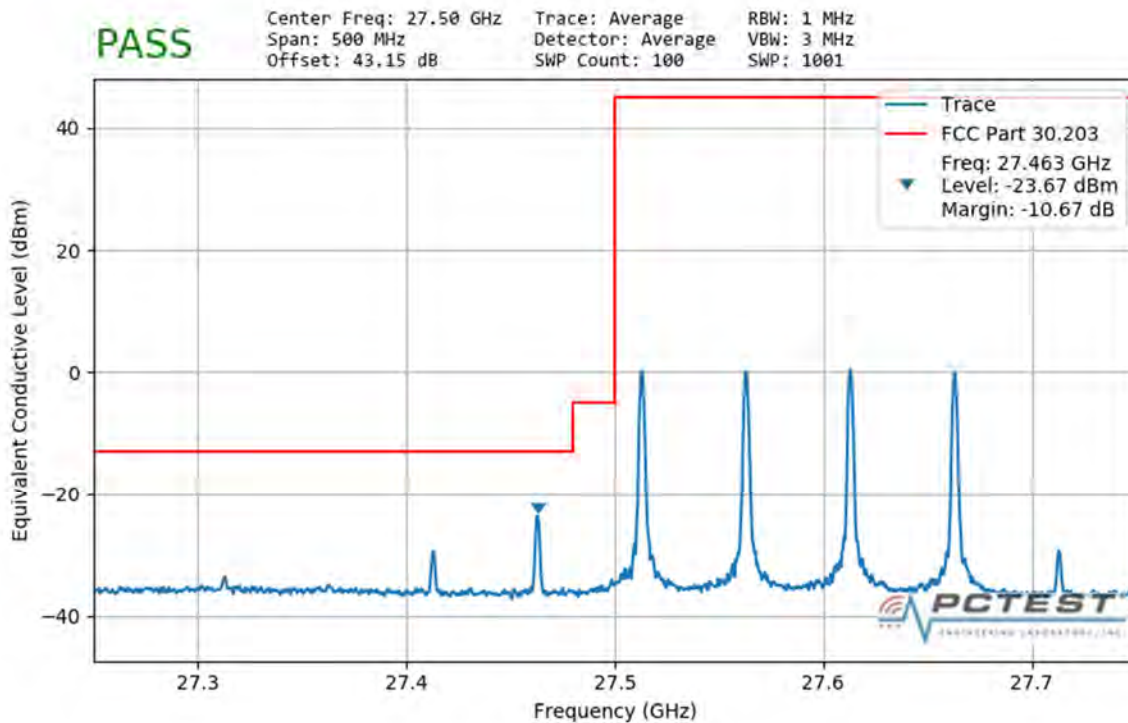


Plot 7-466. Lower Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 271 of 371

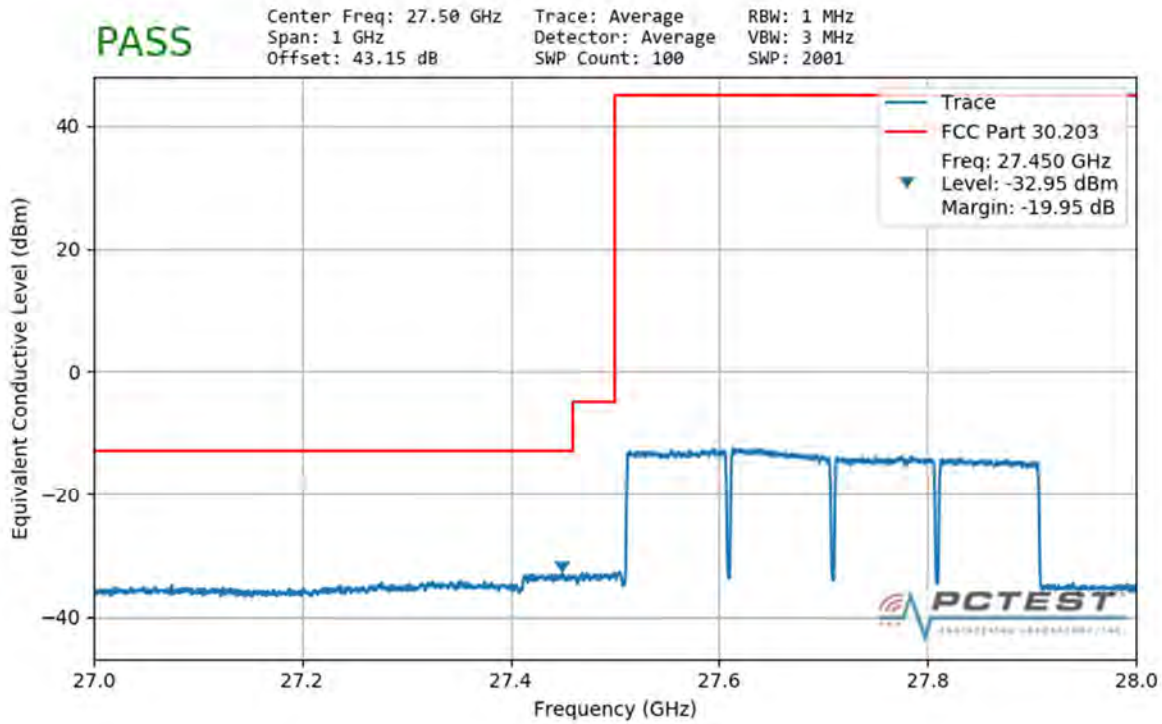


Plot 7-467. Lower Band Edge Plot (4CC 200MHz 16QAM 1 RB)

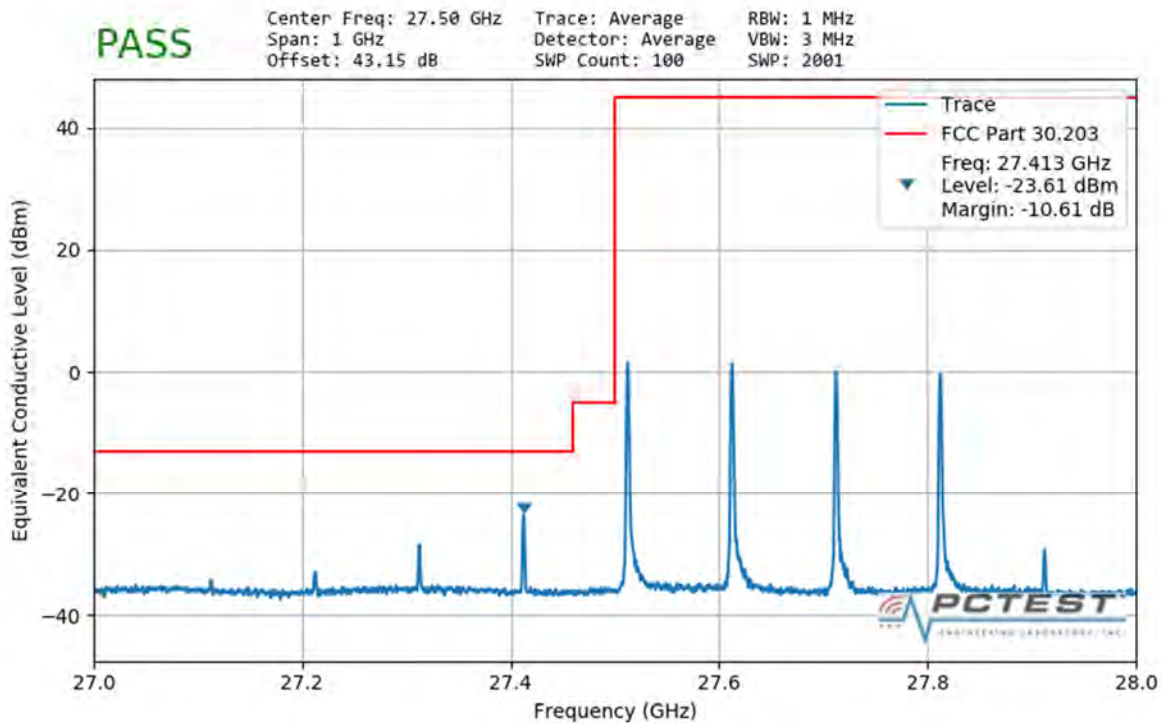


Plot 7-468. Lower Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 272 of 371

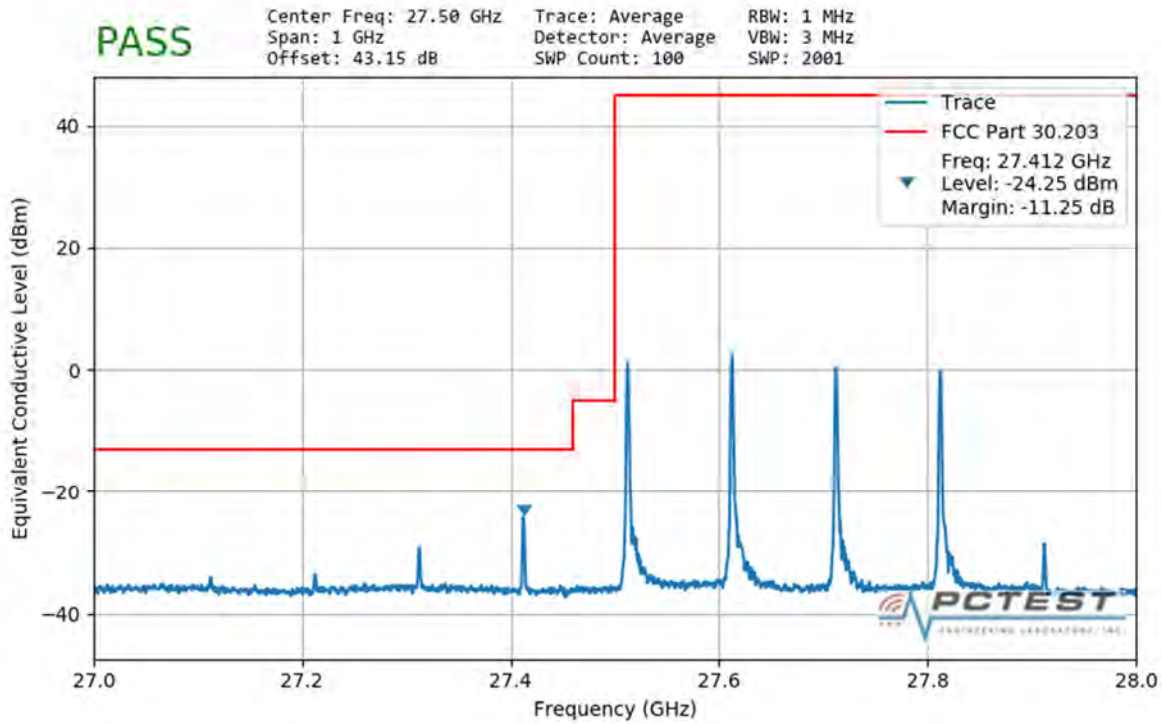


Plot 7-469. Lower Band Edge Plot (4CC 400MHz QPSK Full RB)

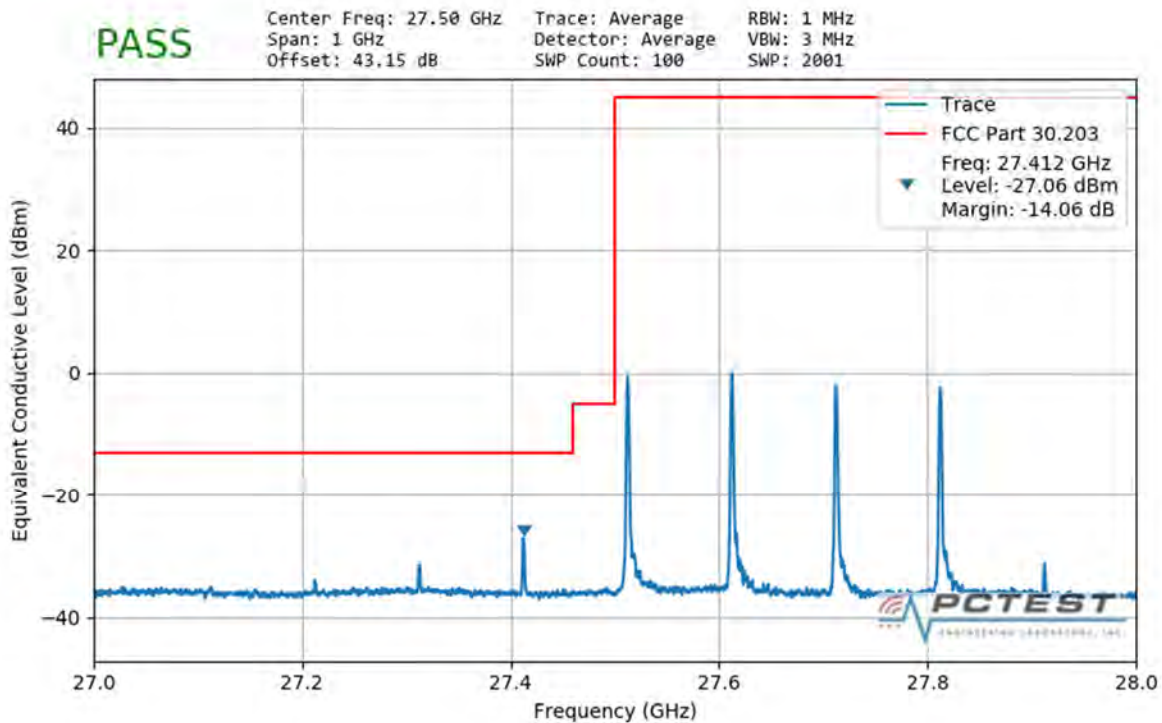


Plot 7-470. Lower Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 273 of 371

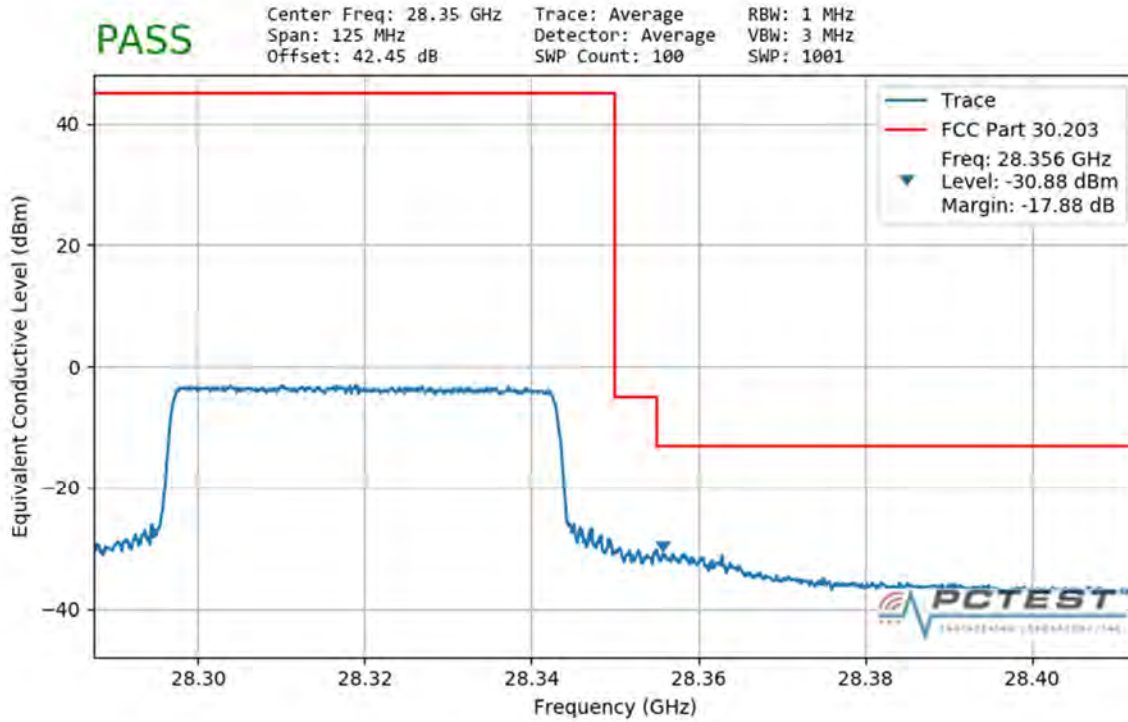


Plot 7-471. Lower Band Edge Plot (4CC 400MHz 16QAM 1 RB)

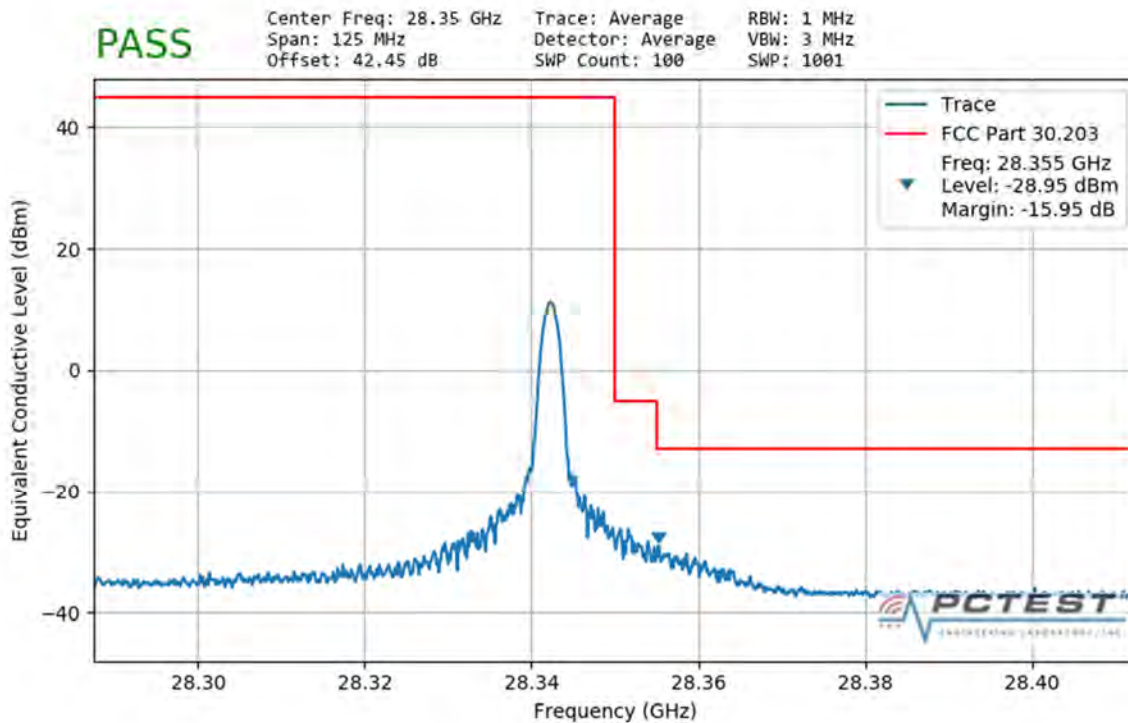


Plot 7-472. Lower Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 274 of 371

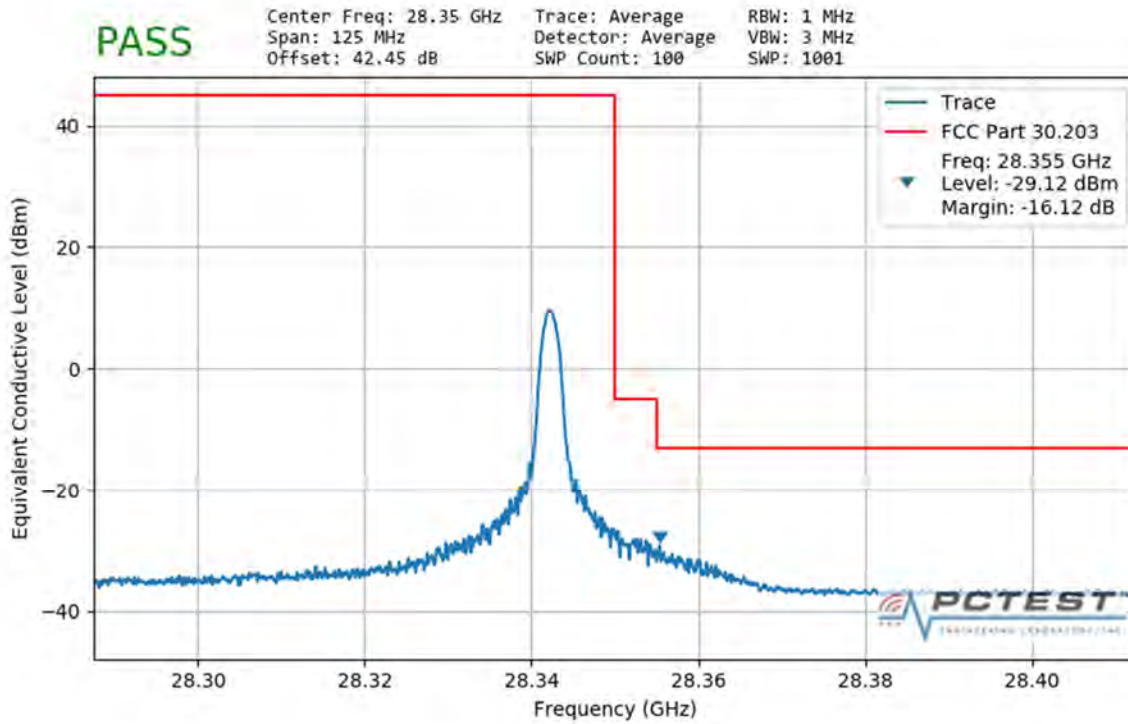


Plot 7-473. Upper Band Edge Plot (1CC 50MHz QPSK Full RB)

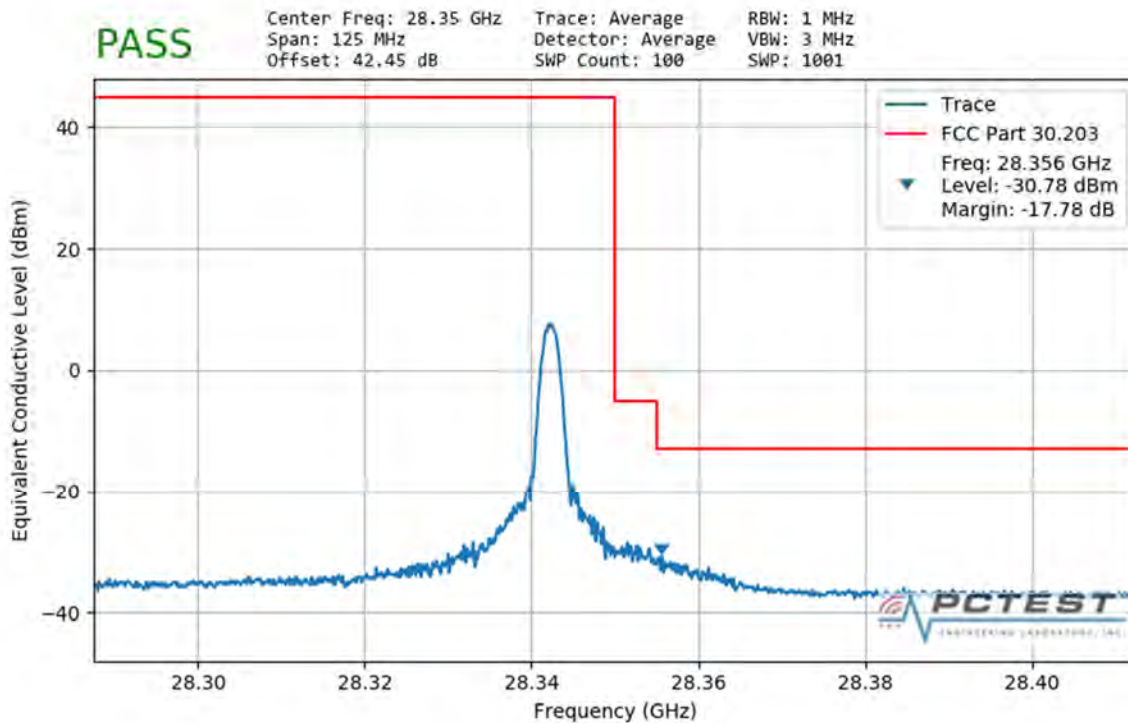


Plot 7-474. Upper Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 275 of 371

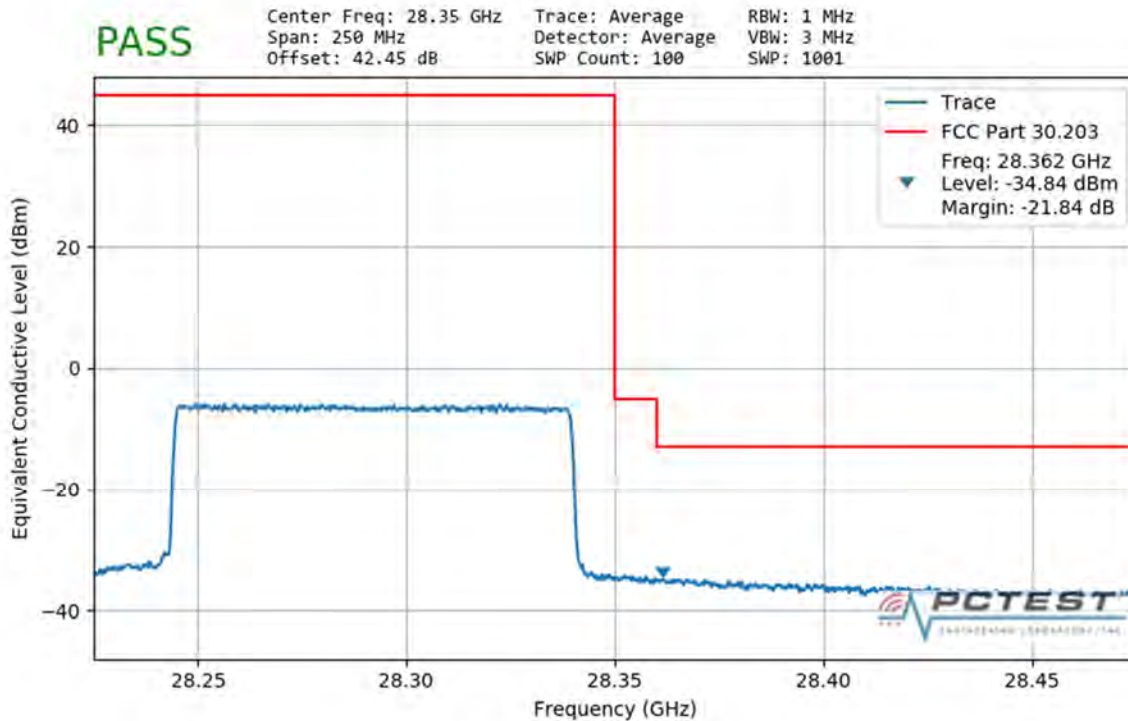


Plot 7-475. Upper Band Edge Plot (1CC 50MHz 16QAM 1 RB)

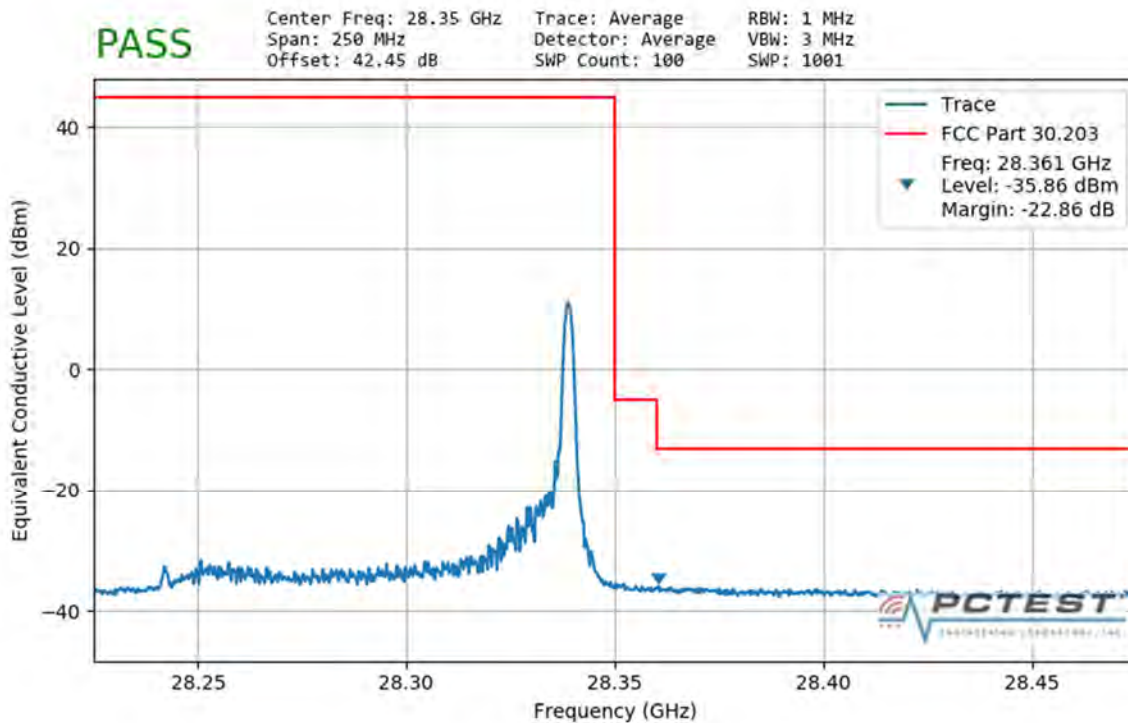


Plot 7-476. Upper Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 276 of 371

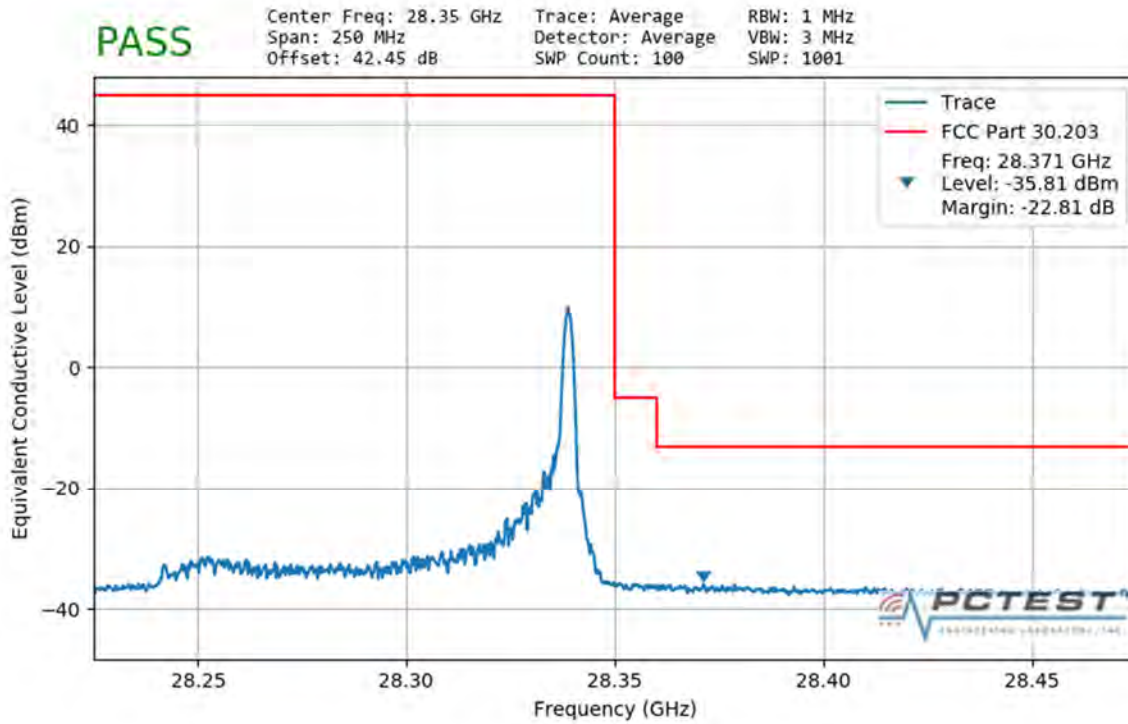


Plot 7-477. Upper Band Edge Plot (1CC 100MHz QPSK Full RB)

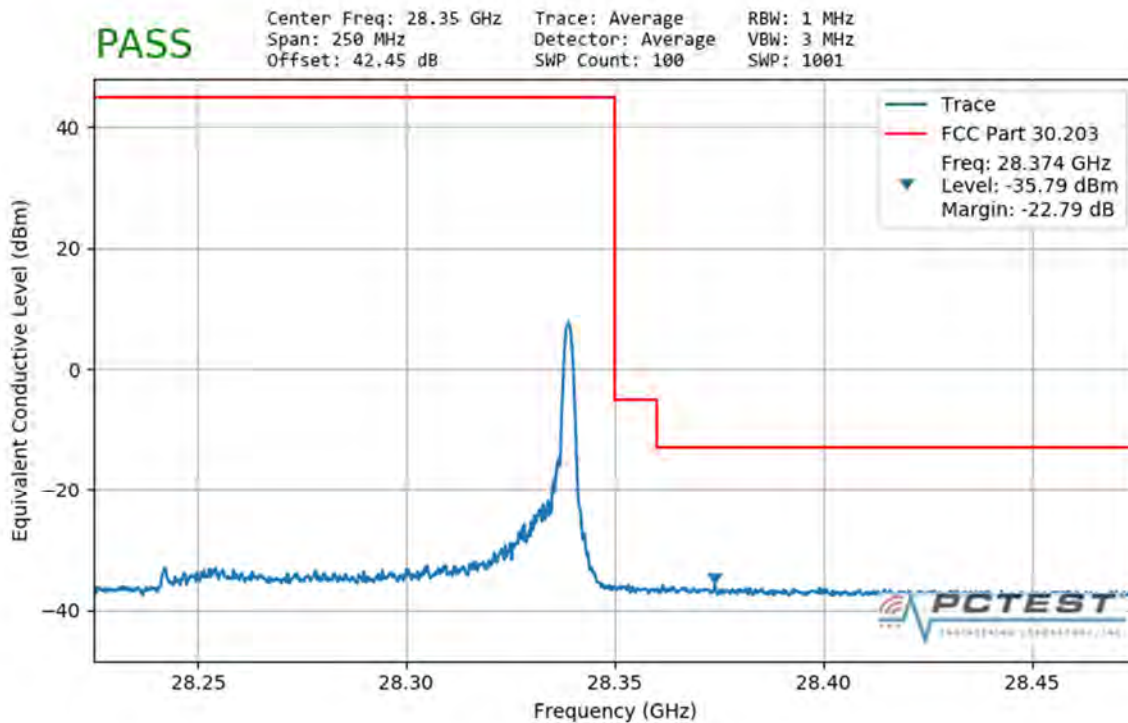


Plot 7-478. Upper Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset	Page 277 of 371

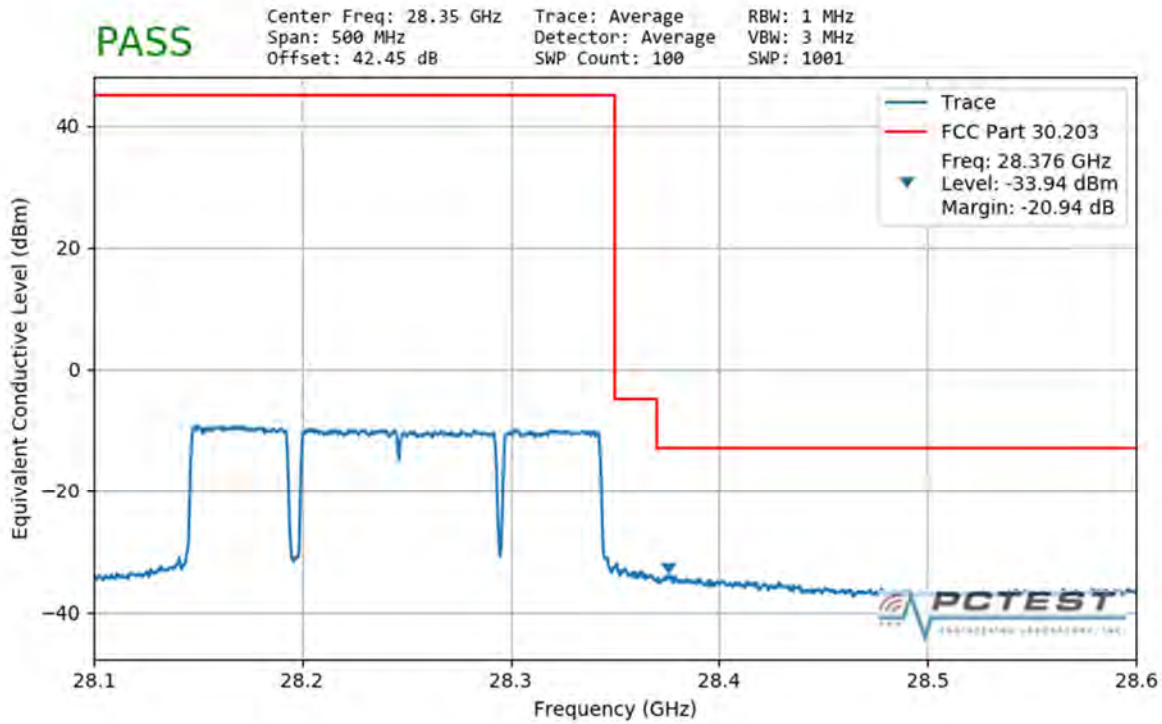


Plot 7-479. Upper Band Edge Plot (1CC 100MHz 16QAM 1 RB)

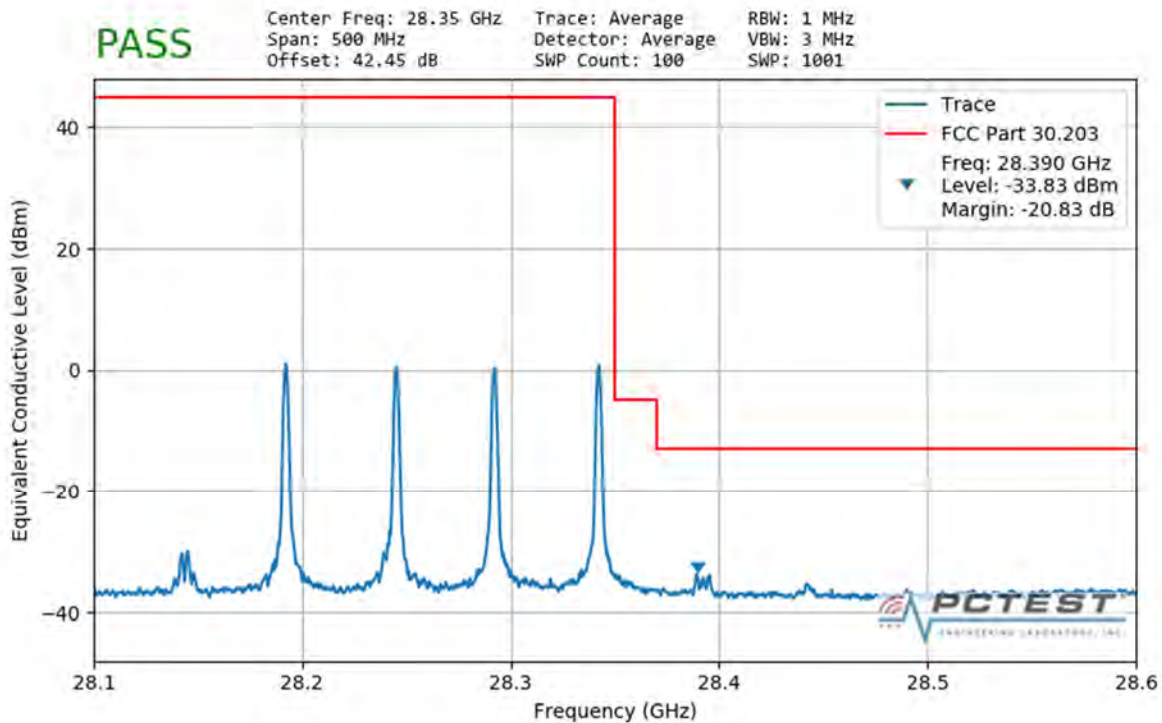


Plot 7-480. Upper Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 278 of 371

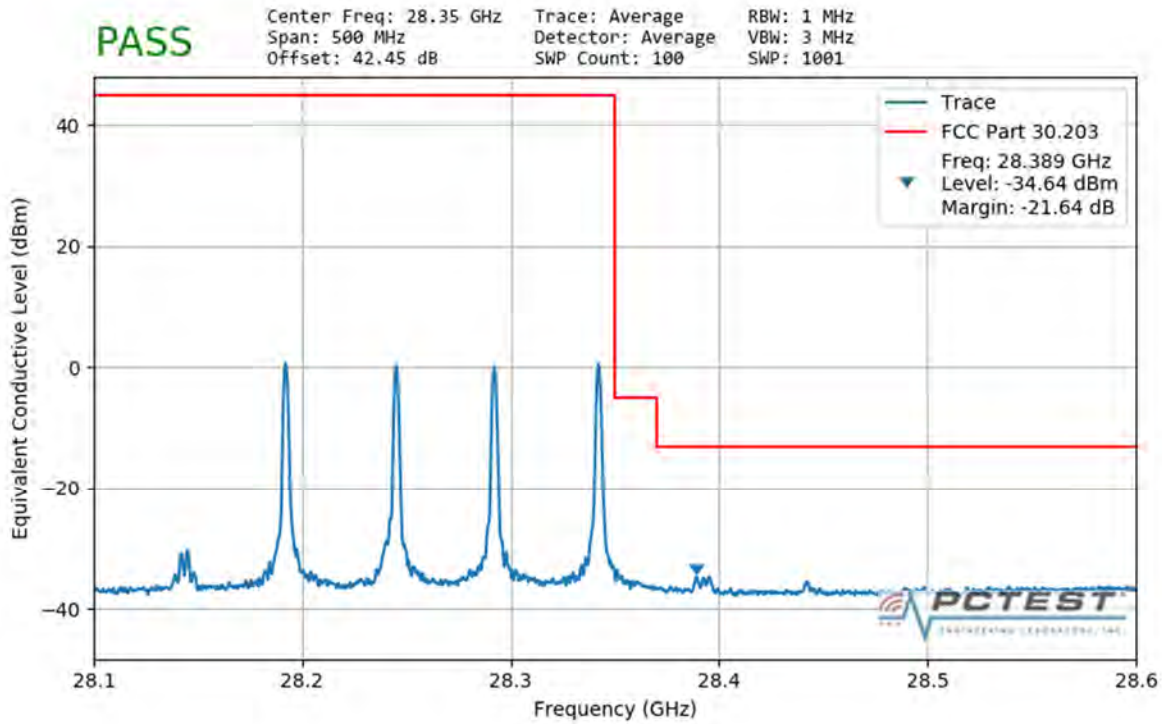


Plot 7-481. Upper Band Edge Plot (4CC 200MHz QPSK Full RB)

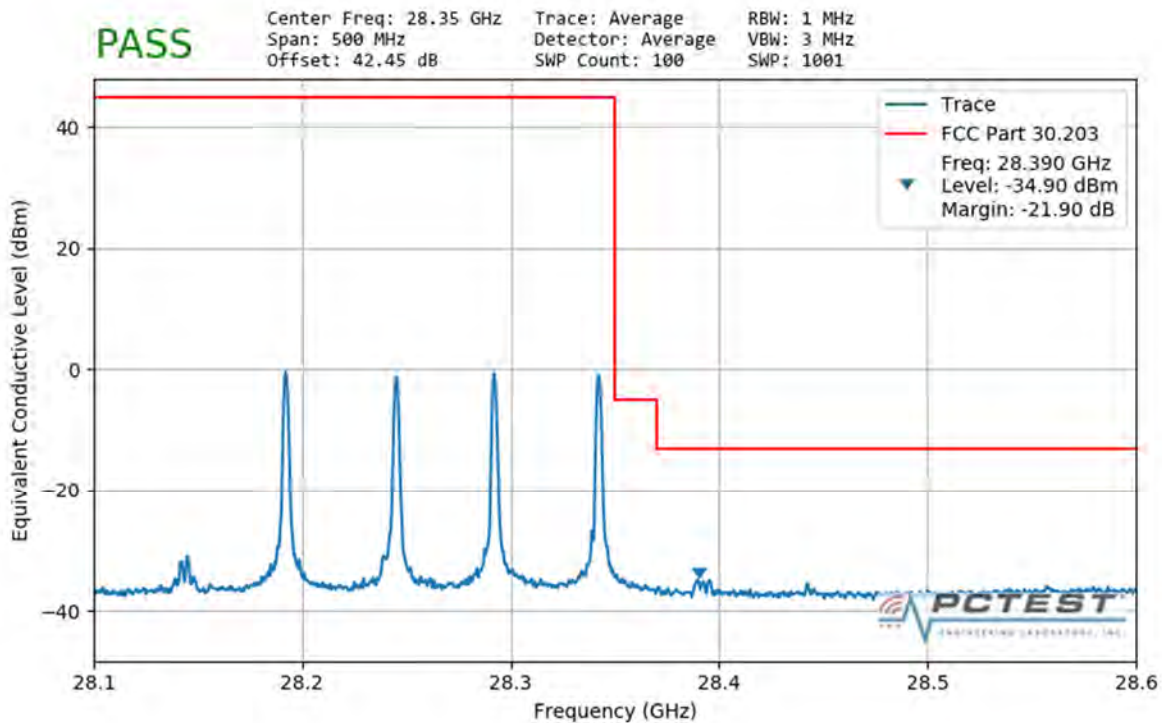


Plot 7-482. Upper Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 279 of 371

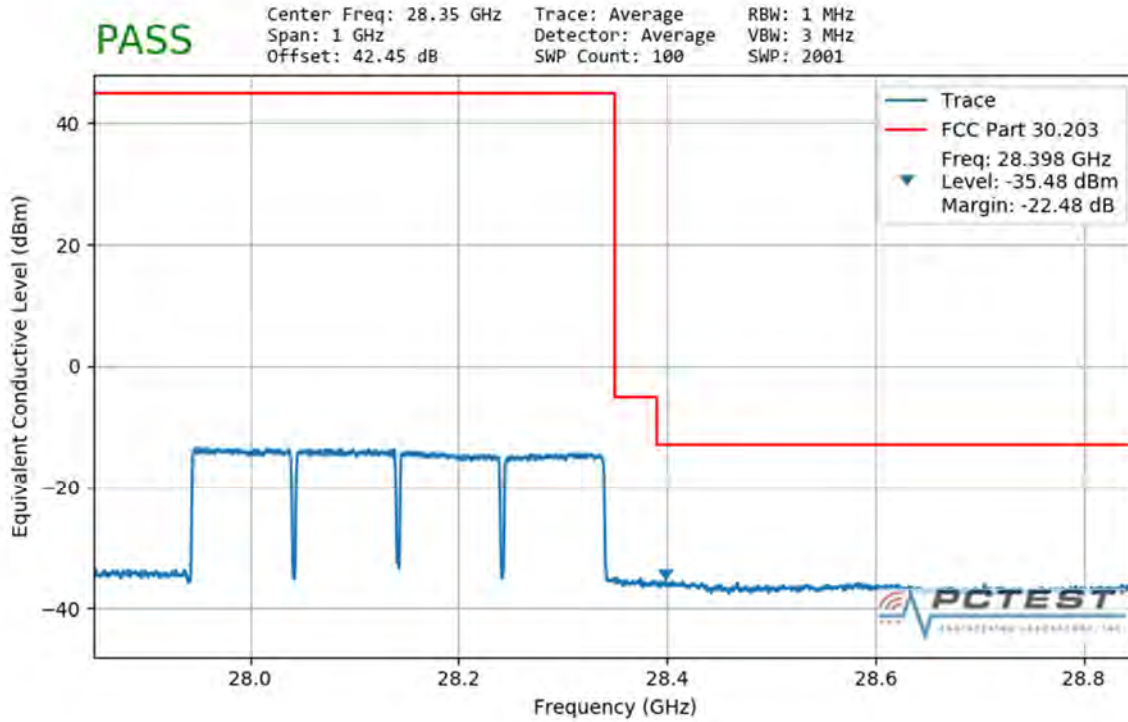


Plot 7-483. Upper Band Edge Plot (4CC 200MHz 16QAM 1 RB)

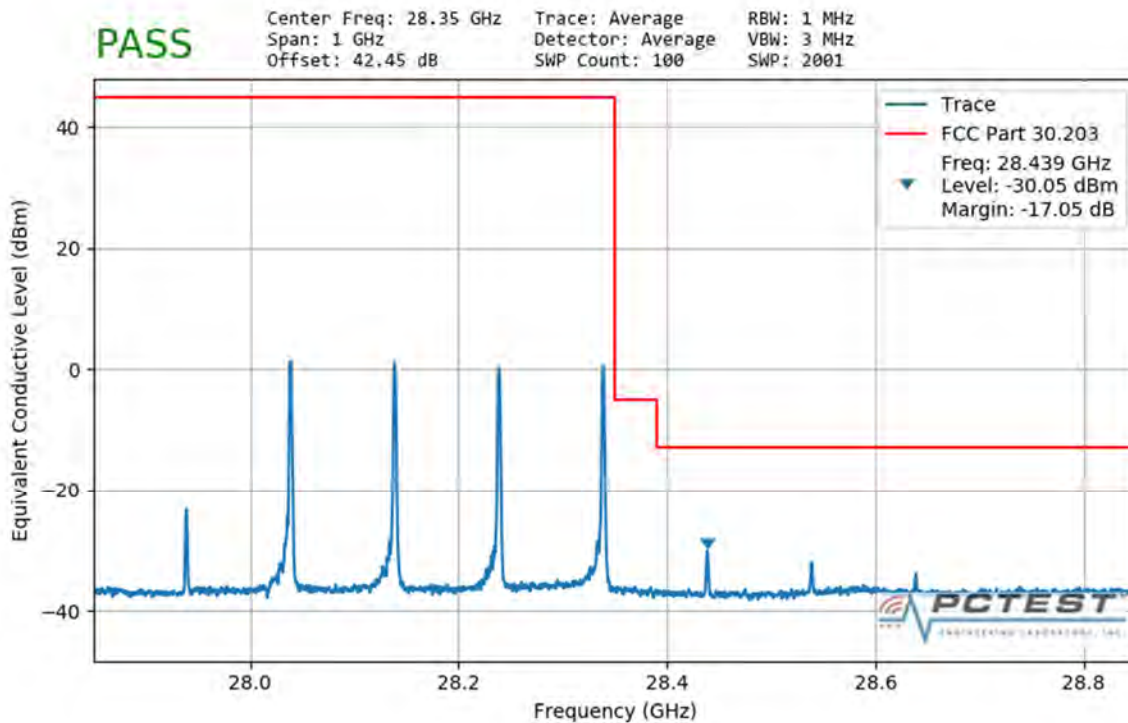


Plot 7-484. Upper Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 280 of 371

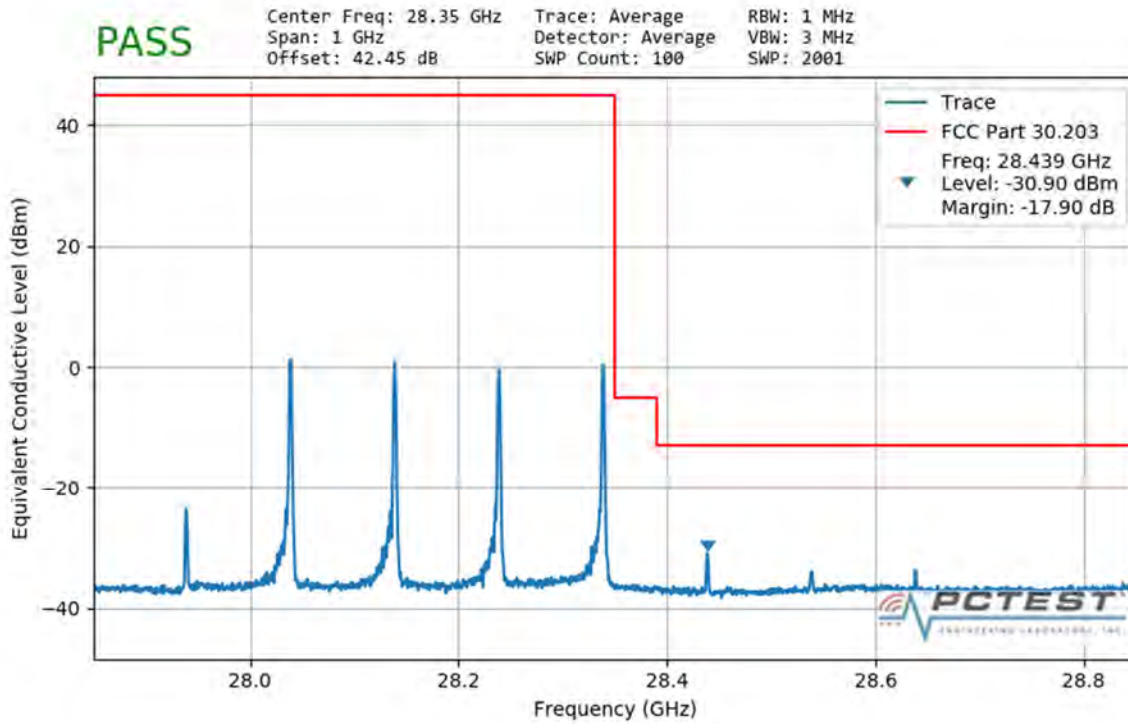


Plot 7-485. Upper Band Edge Plot (4CC 400MHz QPSK Full RB)

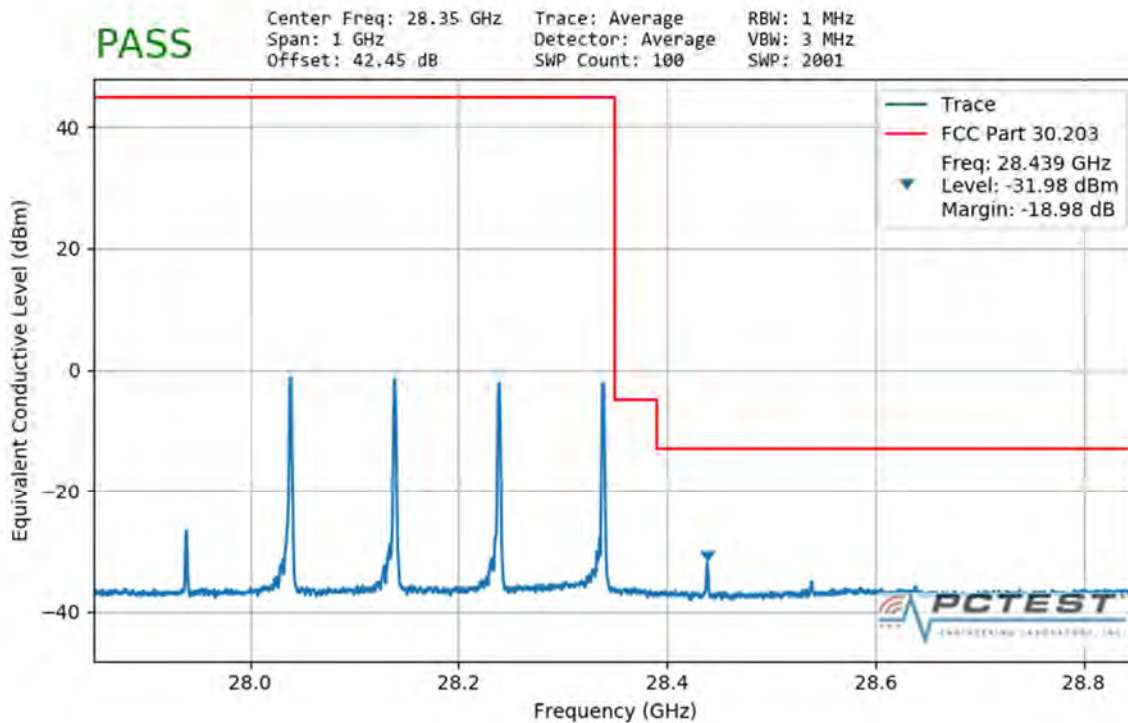


Plot 7-486. Upper Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 281 of 371



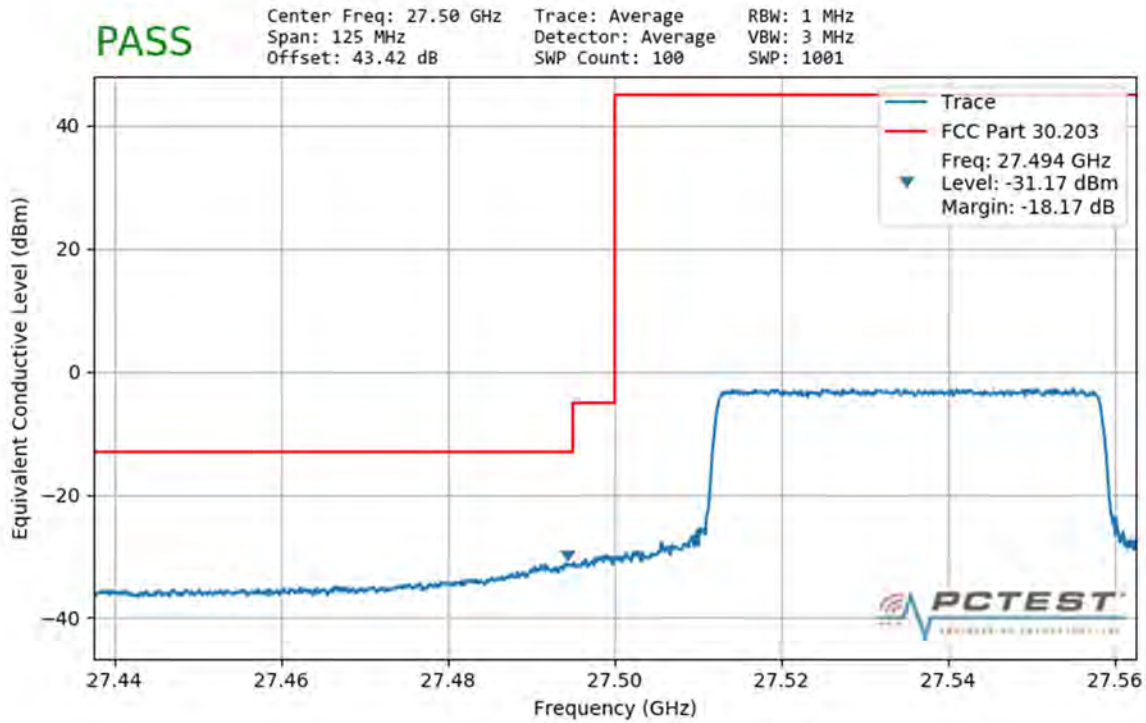
Plot 7-487. Upper Band Edge Plot (4CC 400MHz 16QAM 1 RB)



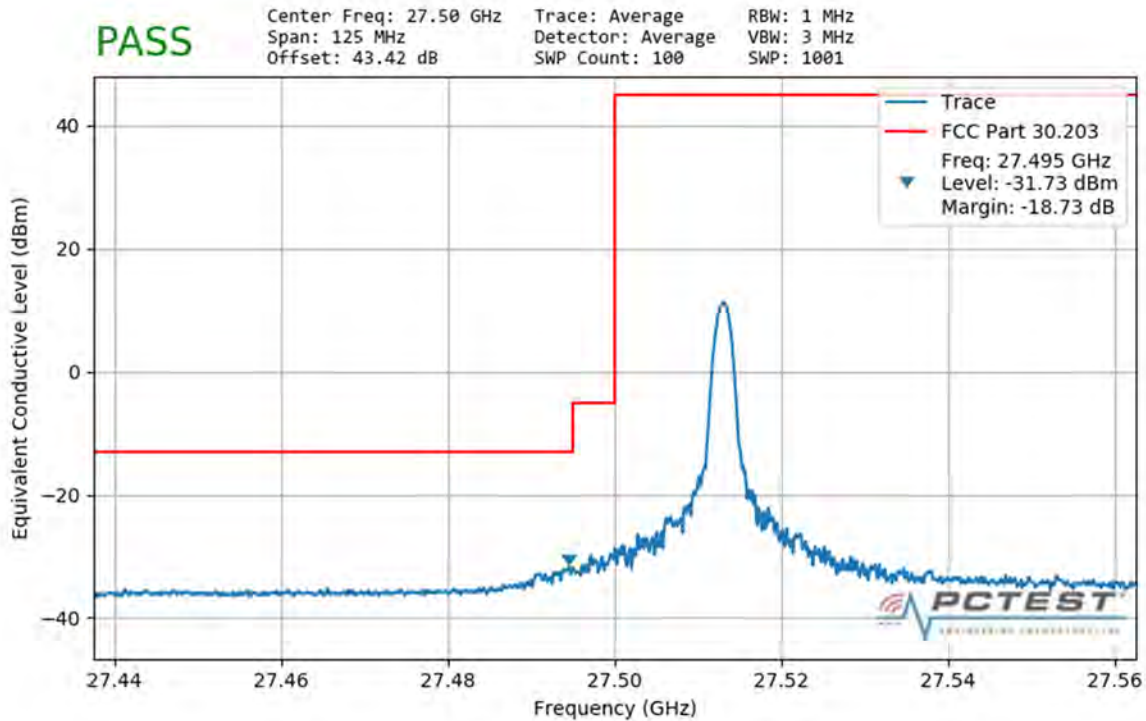
Plot 7-488. Upper Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 282 of 371

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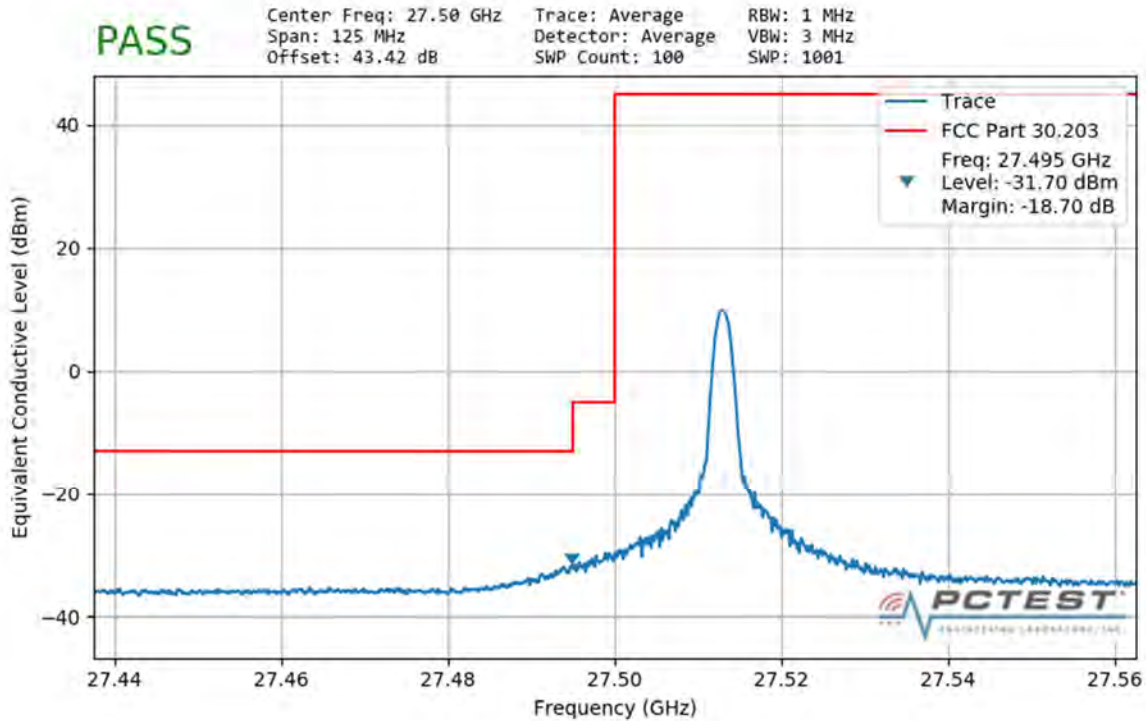


Plot 7-489. Lower Band Edge Plot (1CC 50MHz QPSK Full RB)

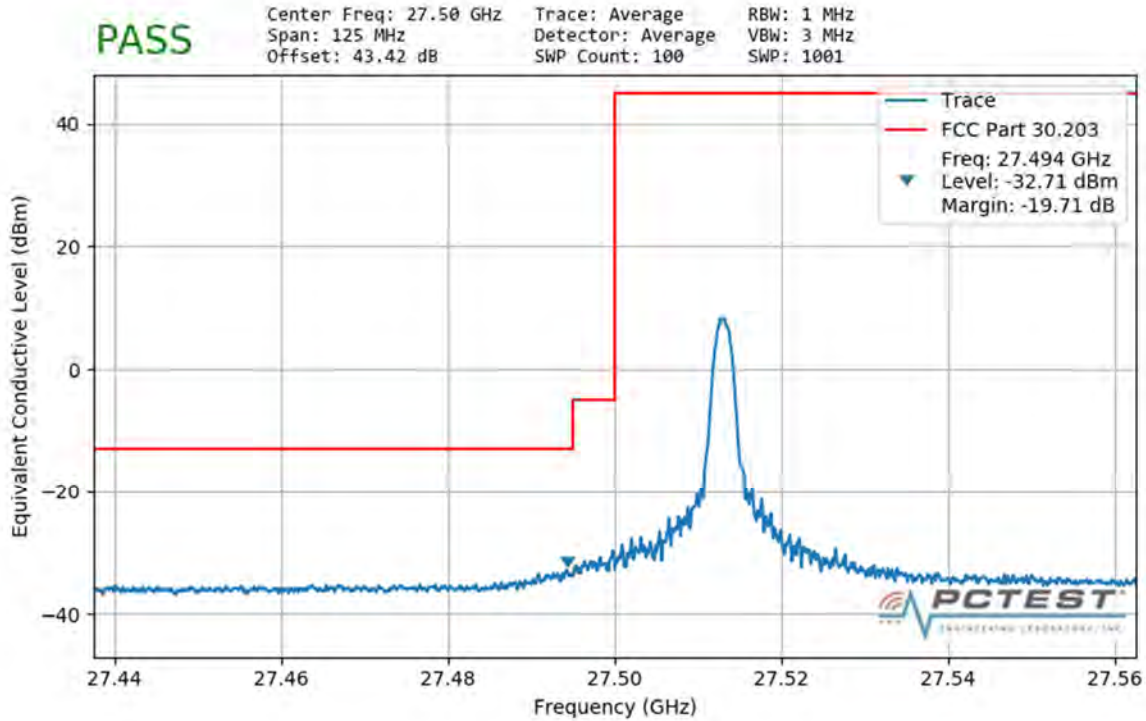


Plot 7-490. Lower Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 283 of 371	

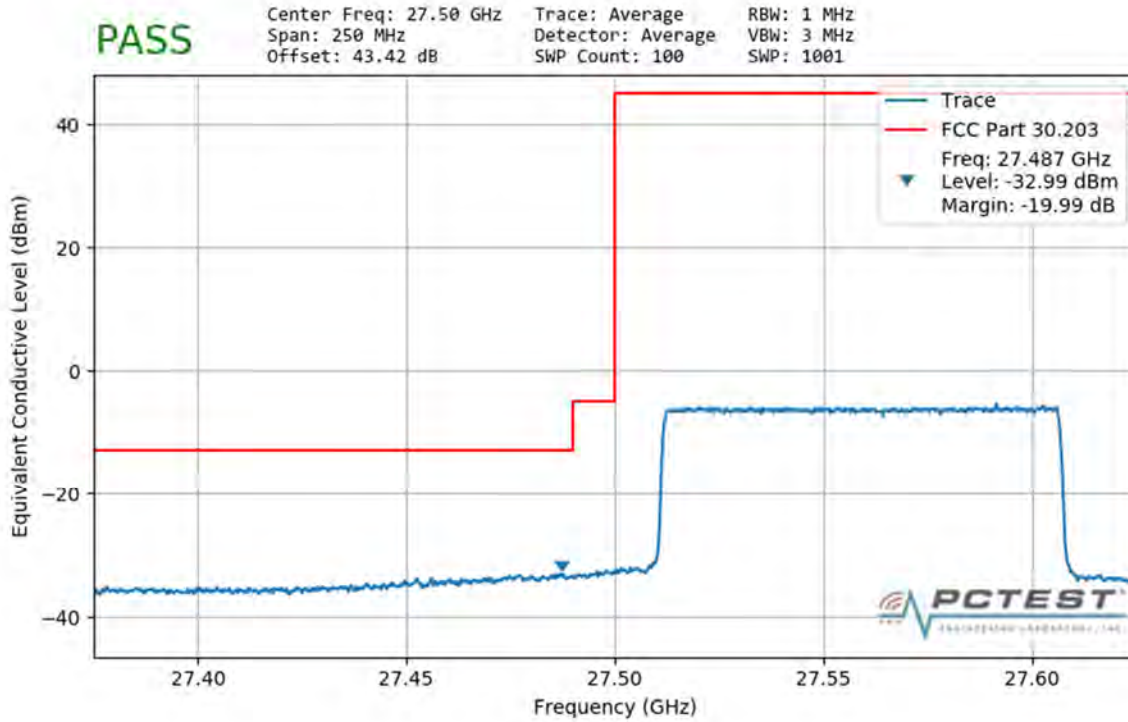


Plot 7-491. Lower Band Edge Plot (1CC 50MHz 16QAM 1 RB)

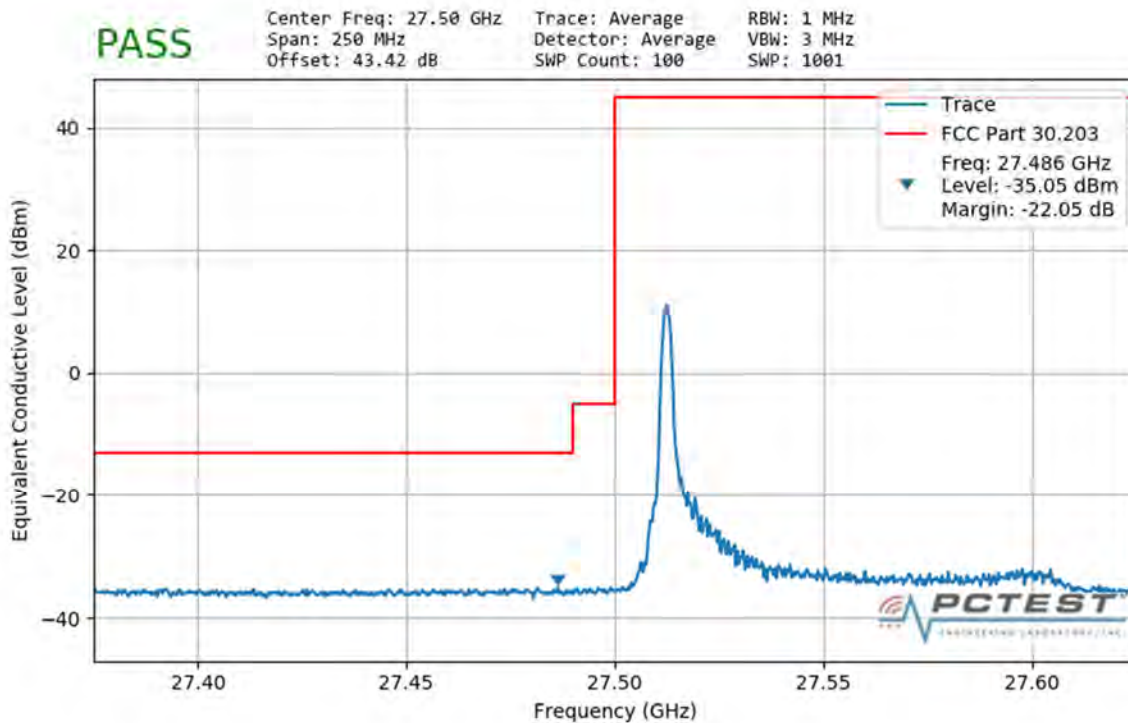


Plot 7-492. Lower Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 284 of 371

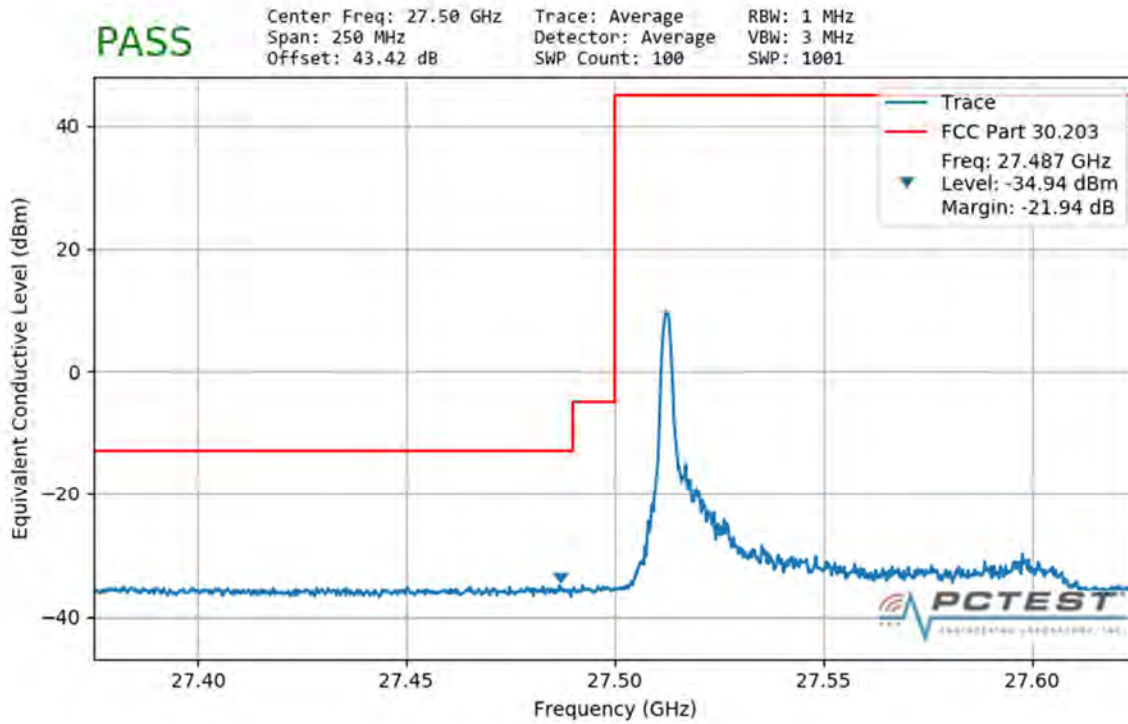


Plot 7-493. Lower Band Edge Plot (1CC 100MHz QPSK Full RB)

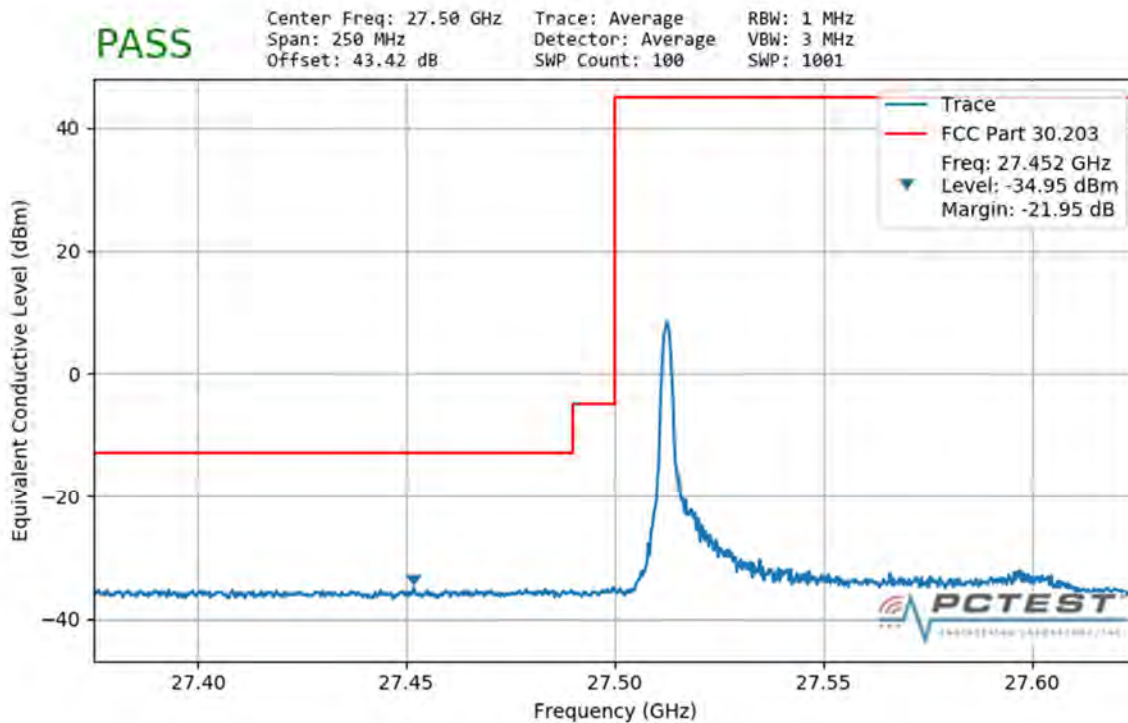


Plot 7-494. Lower Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 285 of 371

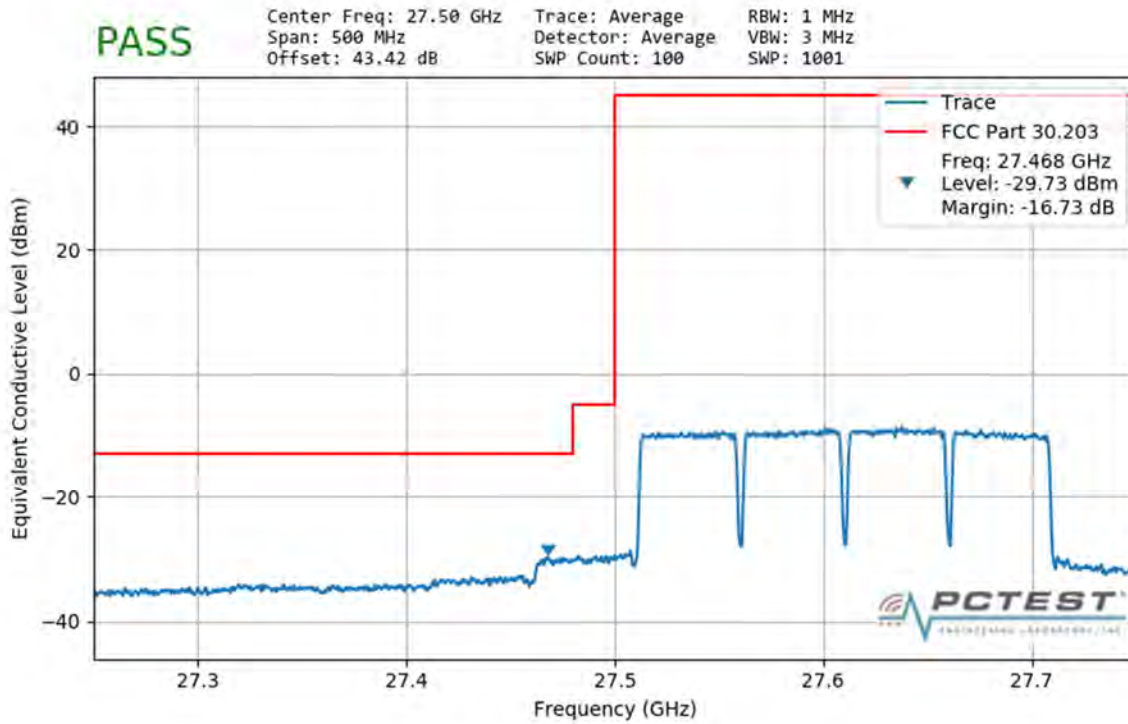


Plot 7-495. Lower Band Edge Plot (1CC 100MHz 16QAM 1 RB)

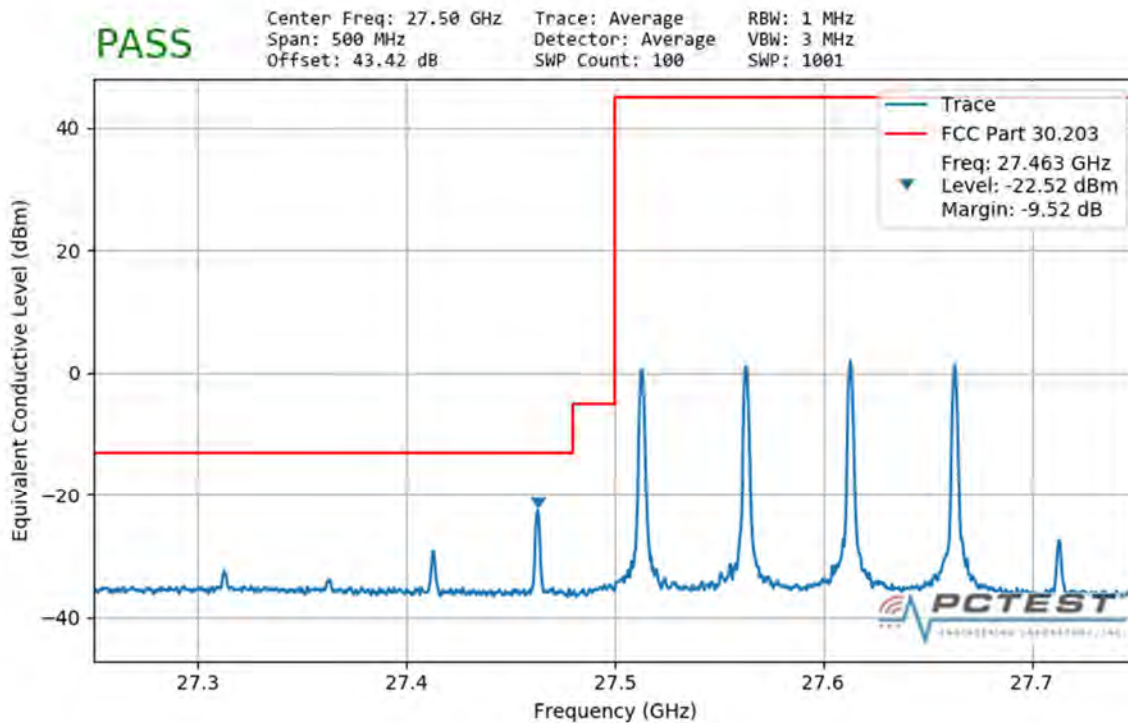


Plot 7-496. Lower Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 286 of 371

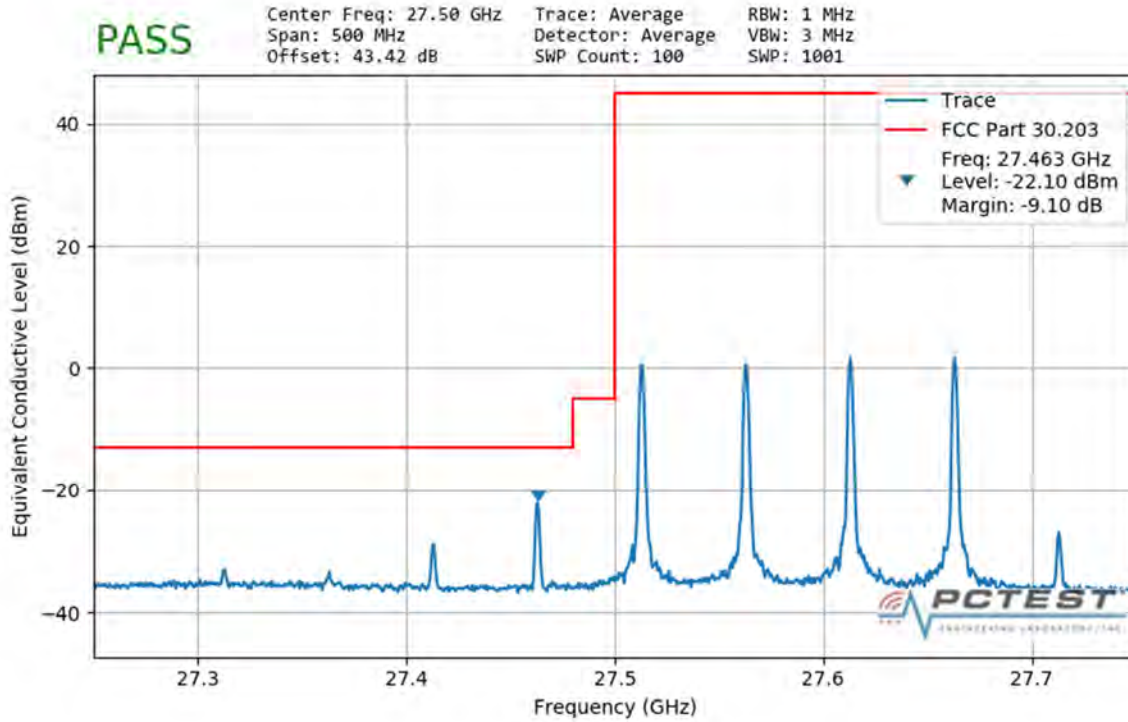


Plot 7-497. Lower Band Edge Plot (4CC 200MHz QPSK Full RB)

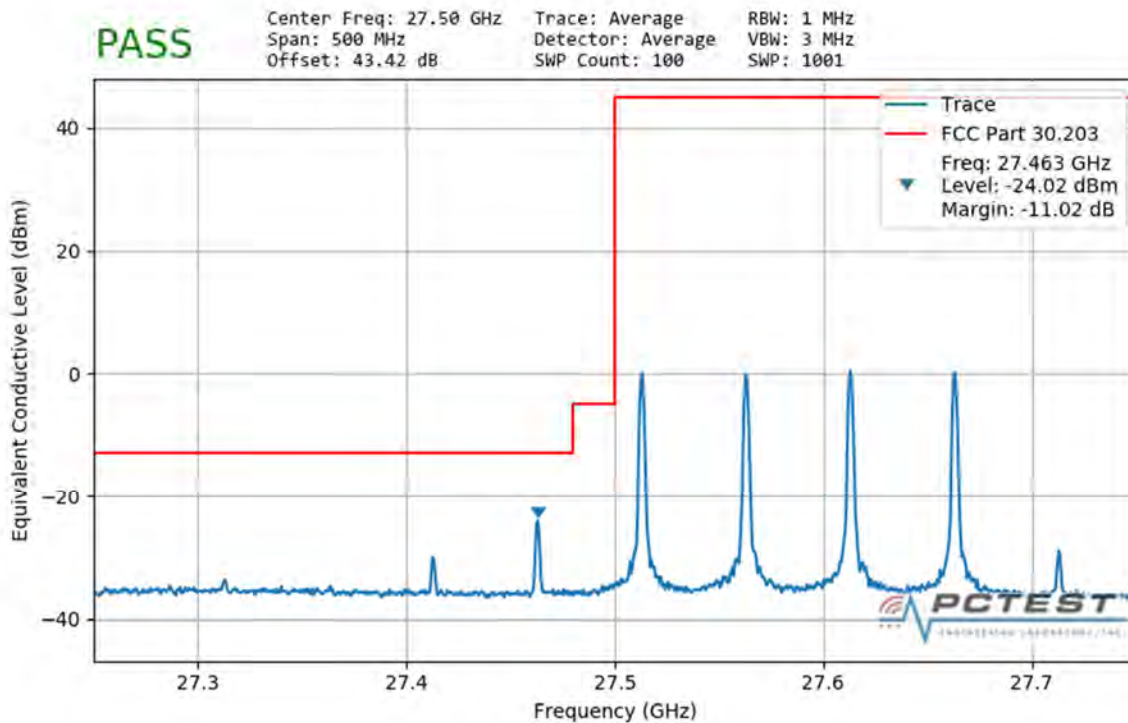


Plot 7-498. Lower Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 287 of 371

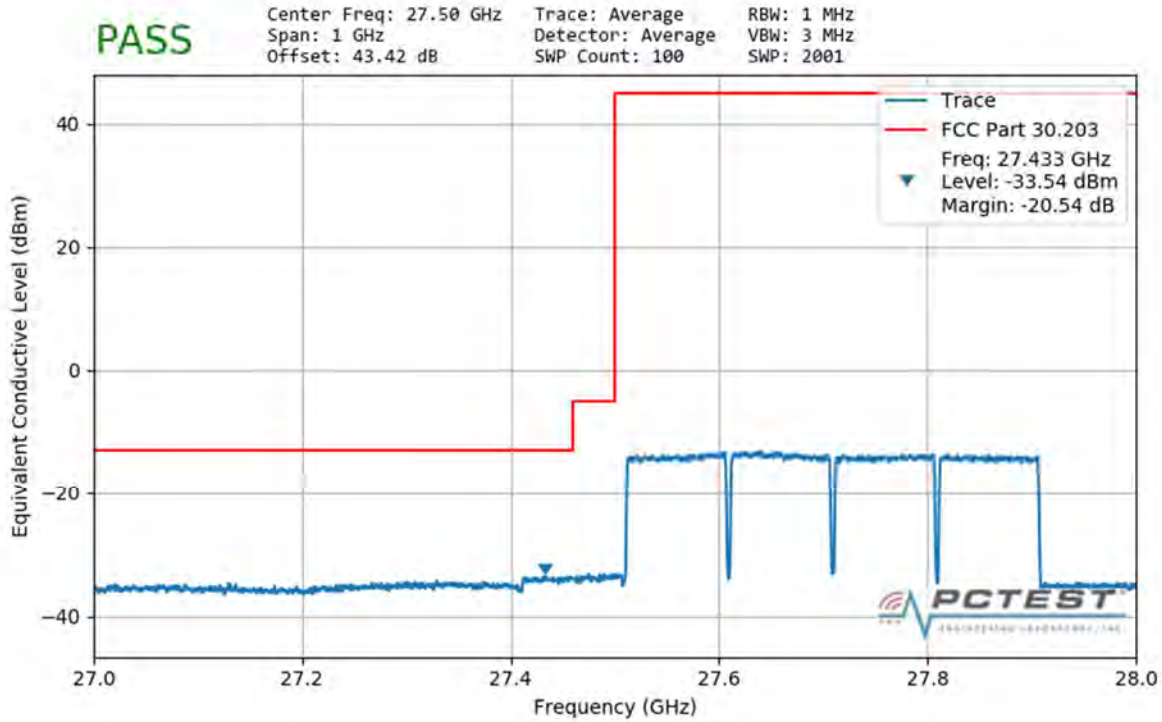


Plot 7-499. Lower Band Edge Plot (4CC 200MHz 16QAM 1 RB)

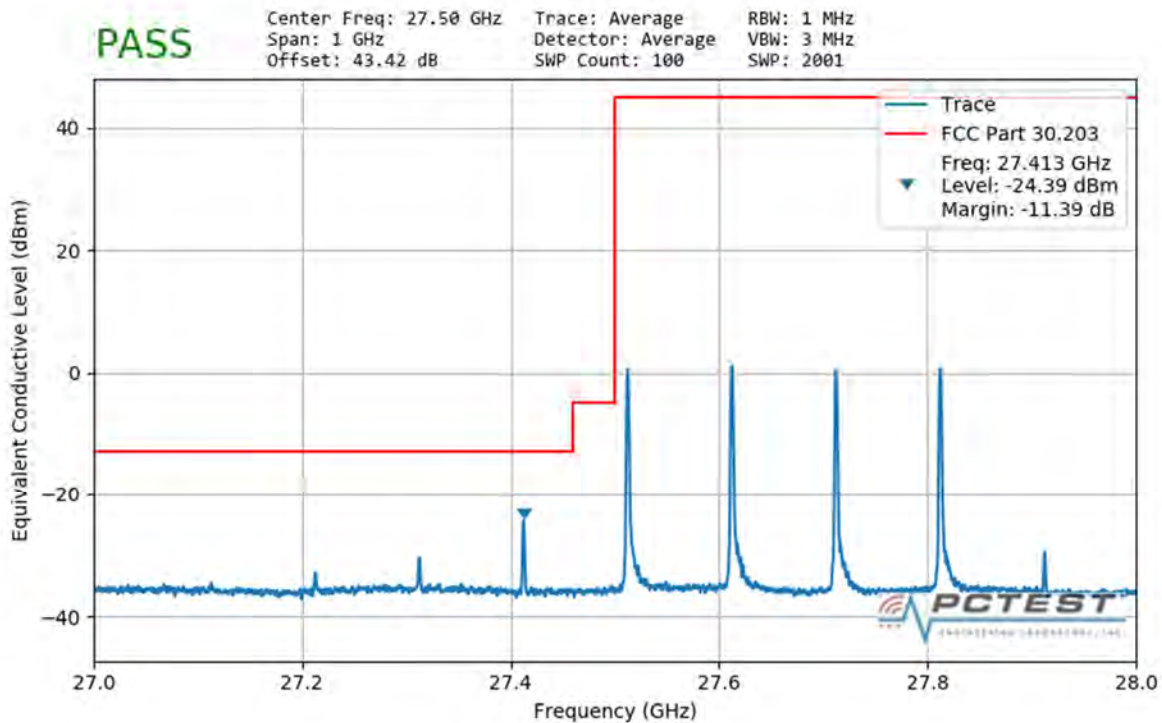


Plot 7-500. Lower Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 288 of 371

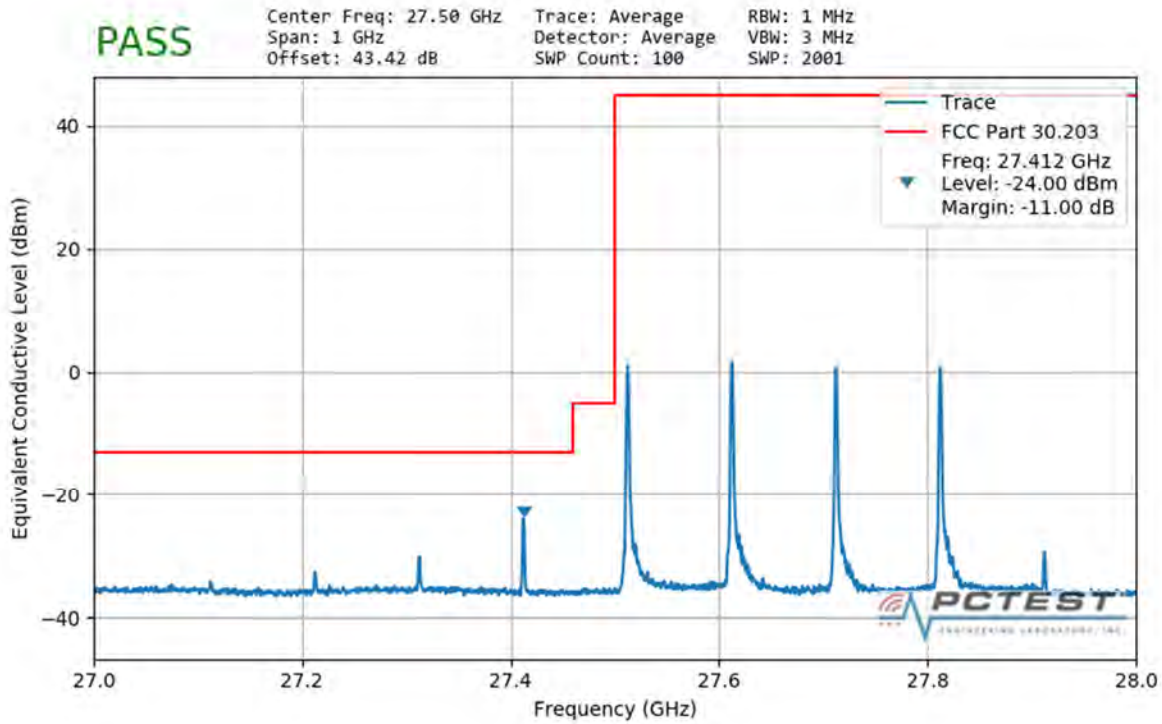


Plot 7-501. Lower Band Edge Plot (4CC 400MHz QPSK Full RB)

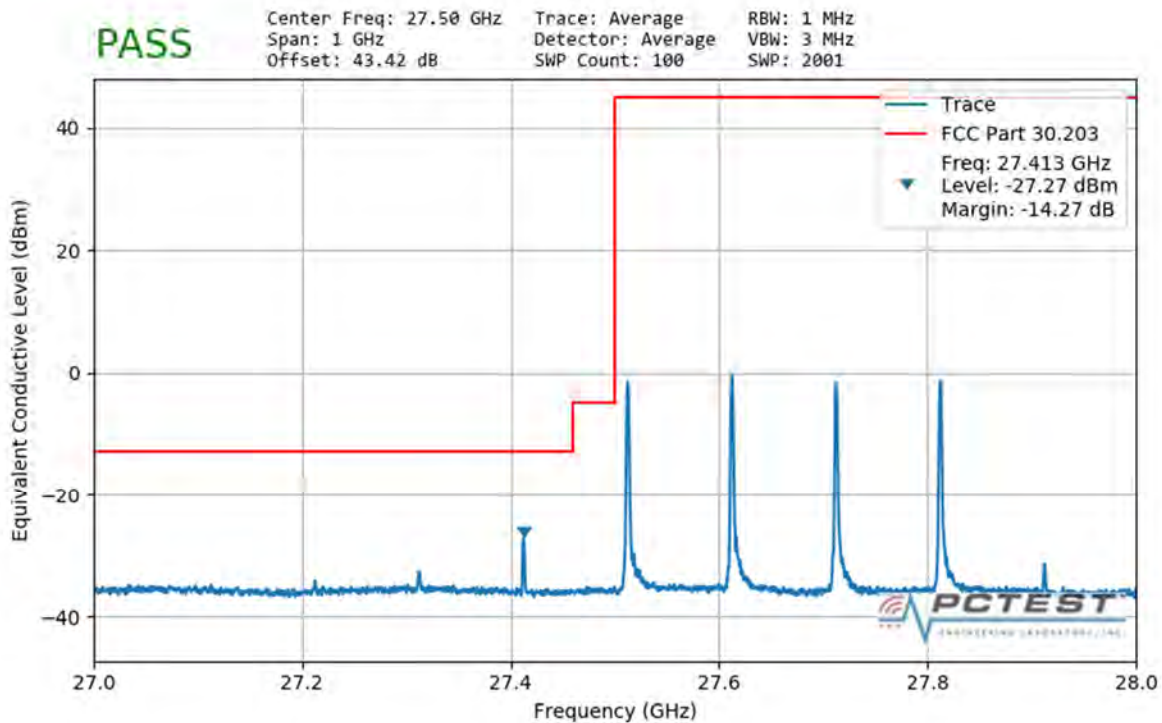


Plot 7-502. Lower Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 289 of 371

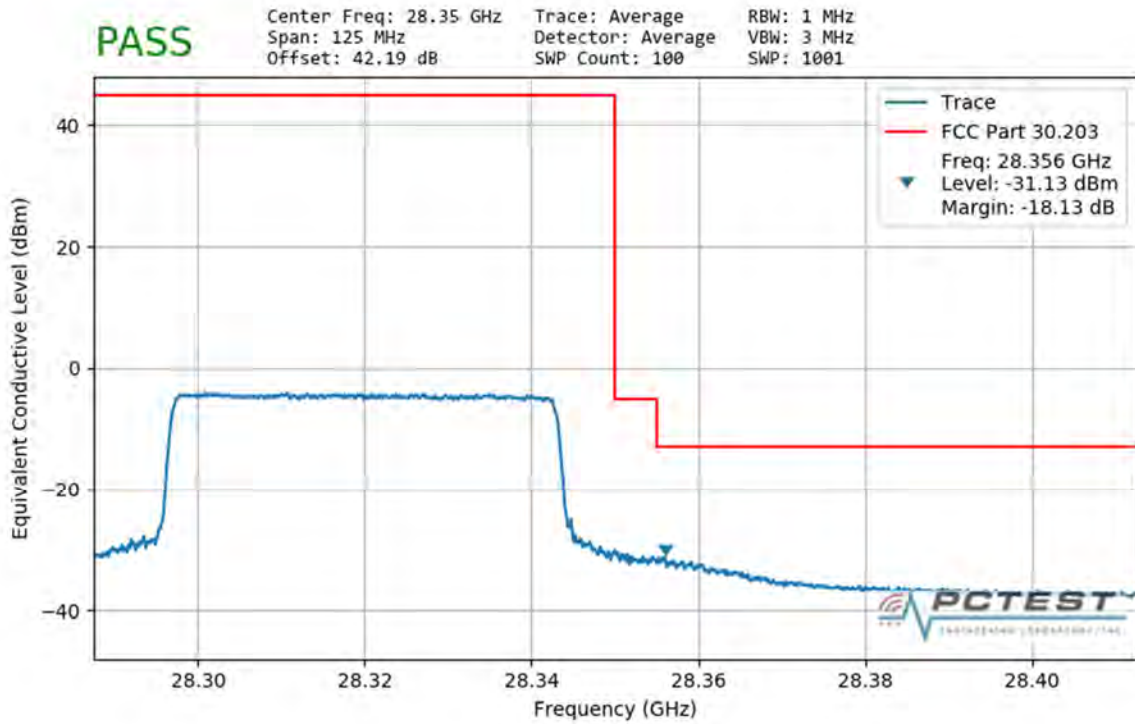


Plot 7-503. Lower Band Edge Plot (4CC 400MHz 16QAM 1 RB)

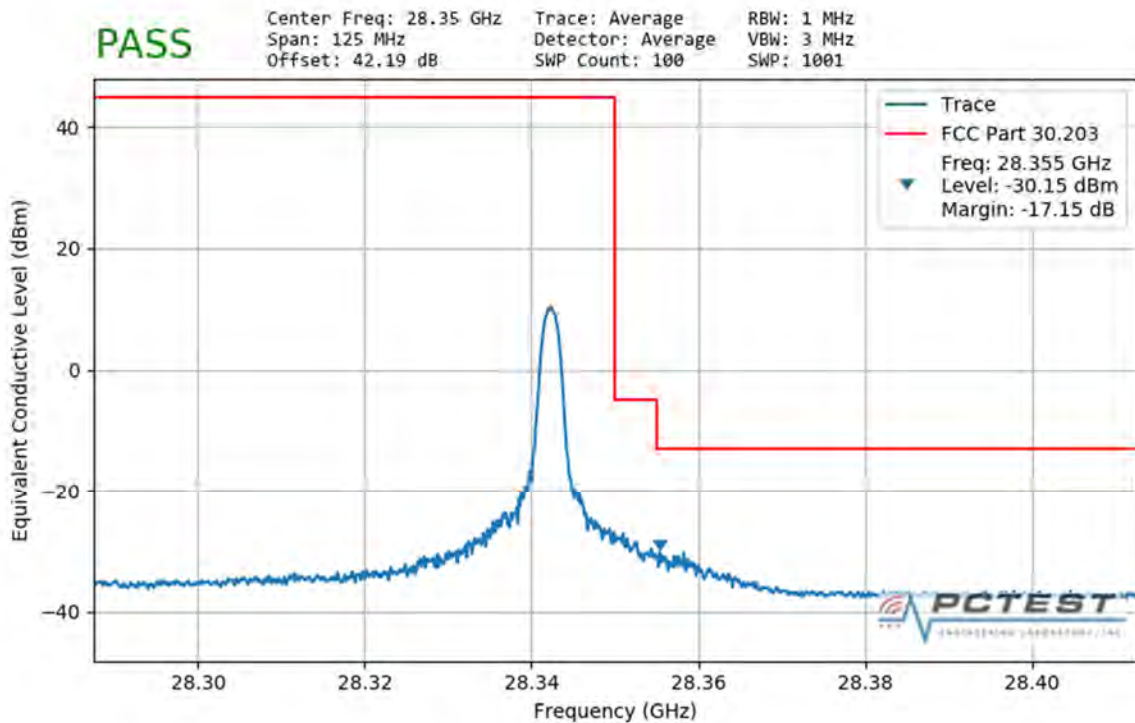


Plot 7-504. Lower Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 290 of 371

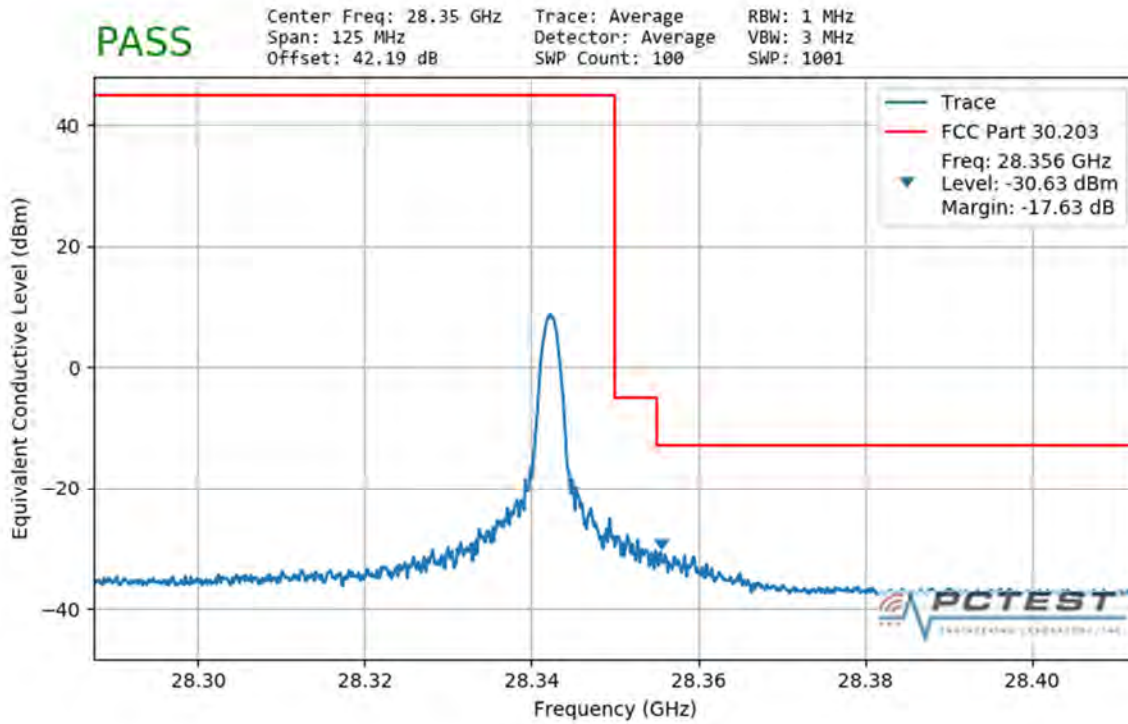


Plot 7-505. Upper Band Edge Plot (1CC 50MHz QPSK Full RB)

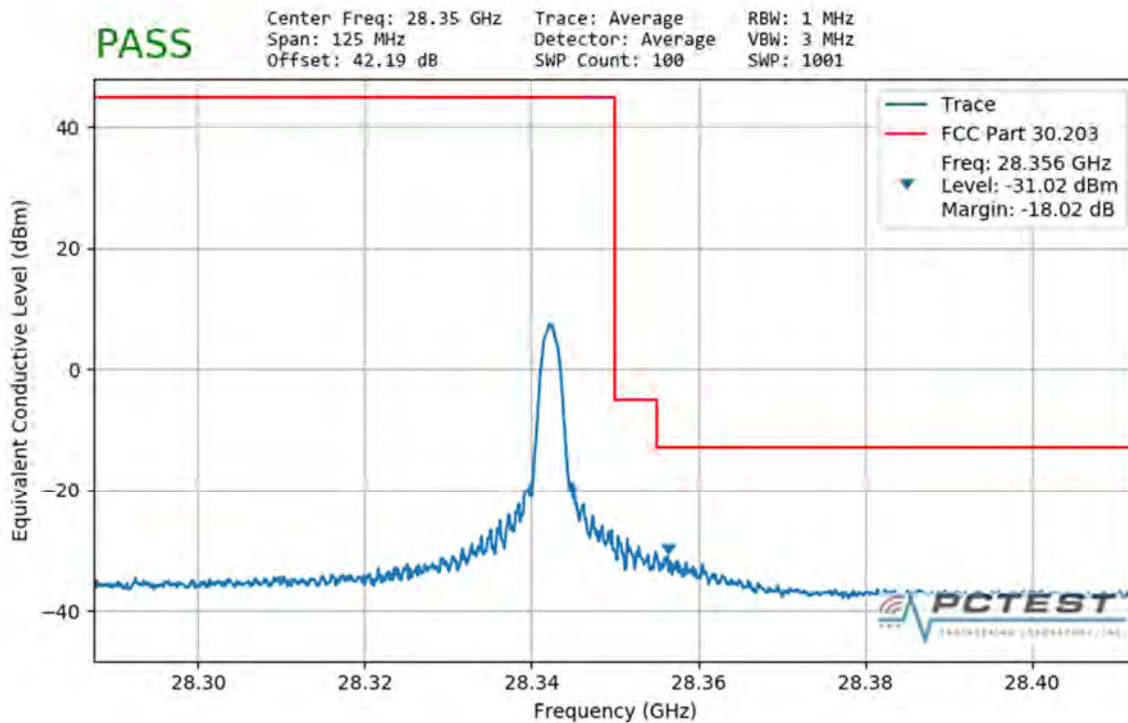


Plot 7-506. Upper Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 291 of 371

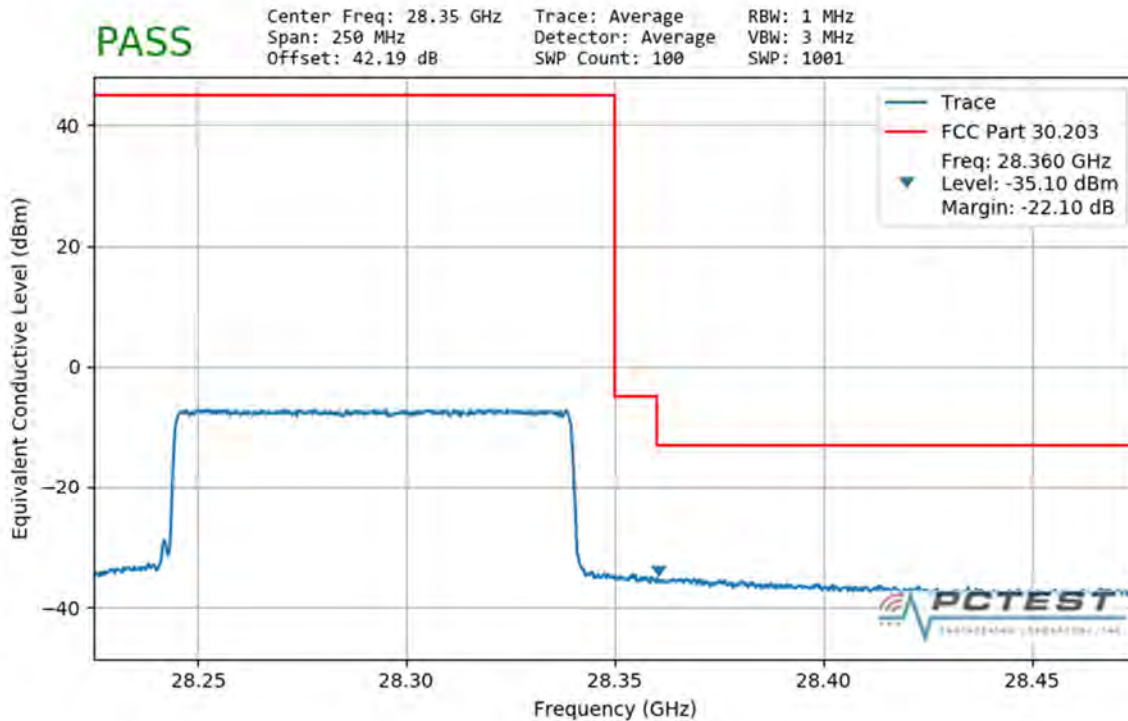


Plot 7-507. Upper Band Edge Plot (1CC 50MHz 16QAM 1 RB)

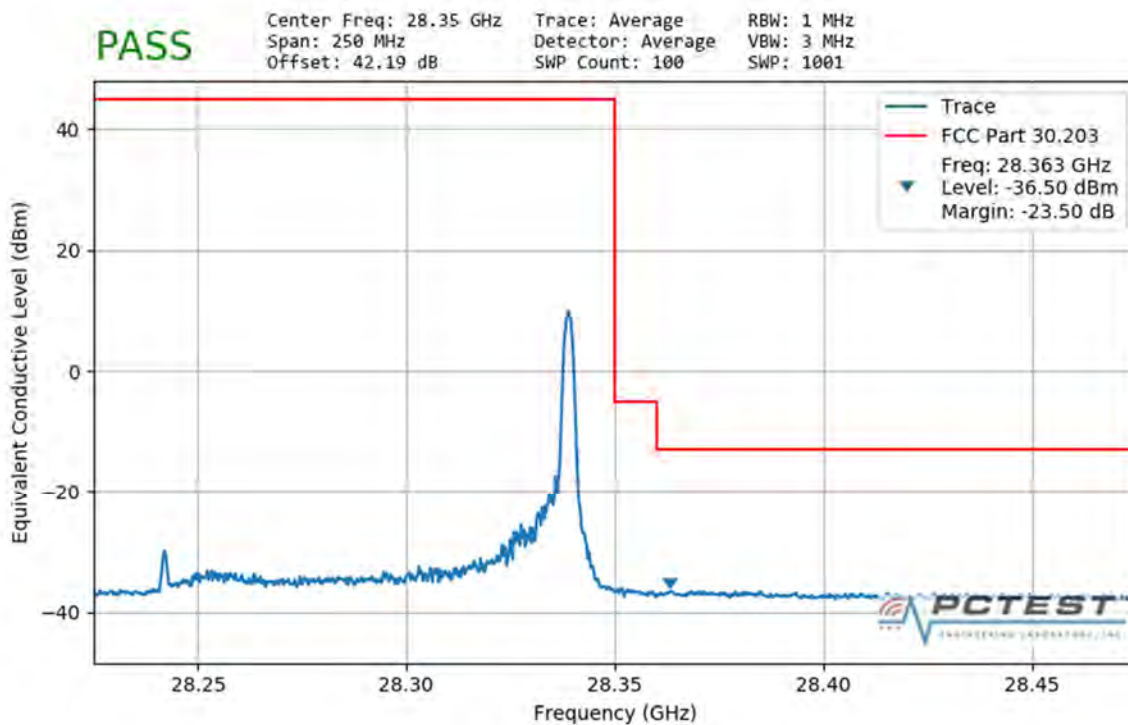


Plot 7-508. Upper Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 292 of 371

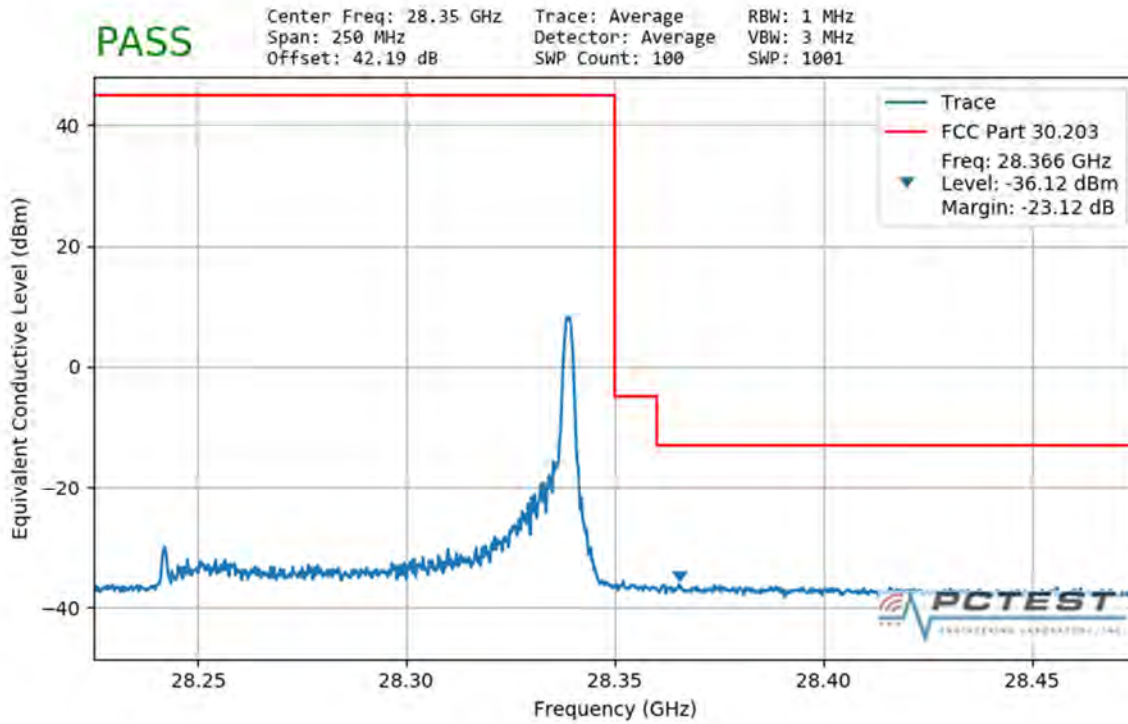


Plot 7-509. Upper Band Edge Plot (1CC 100MHz QPSK Full RB)

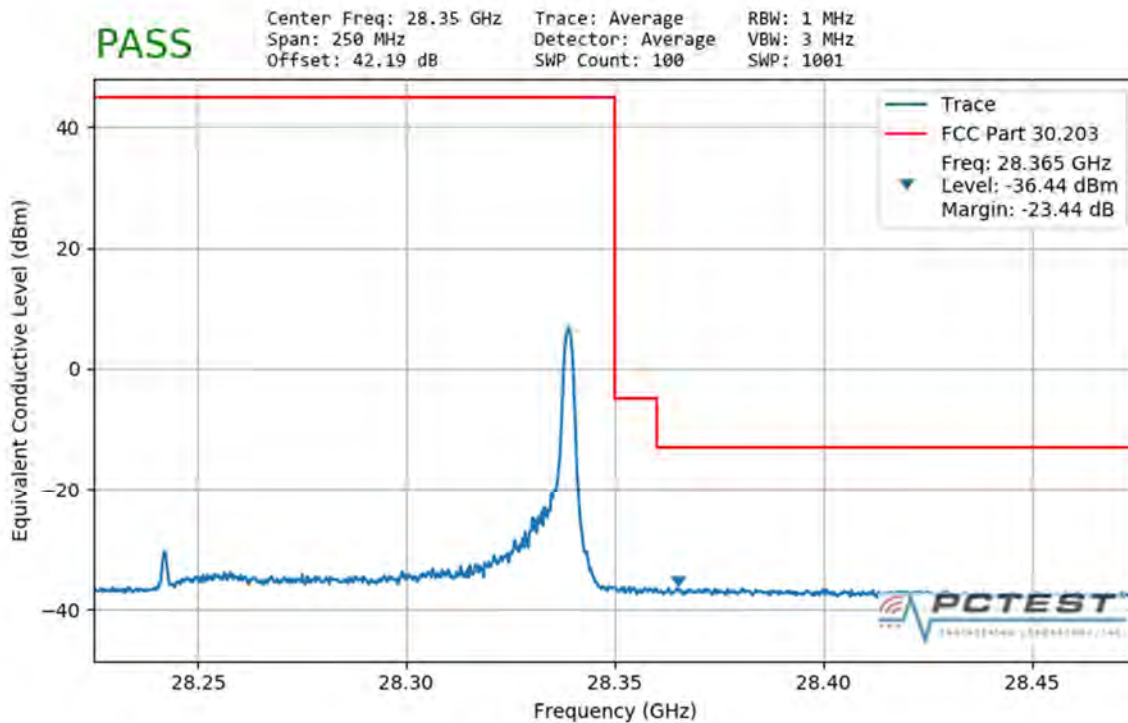


Plot 7-510. Upper Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset	Page 293 of 371

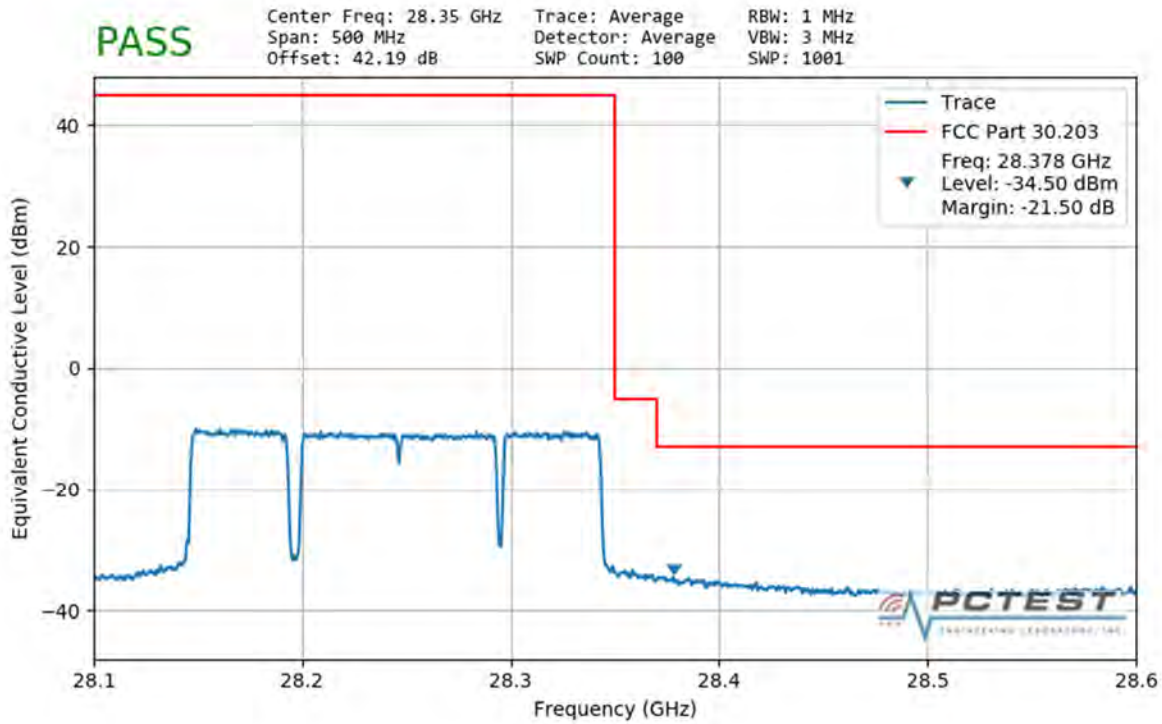


Plot 7-511. Upper Band Edge Plot (1CC 100MHz 16QAM 1 RB)

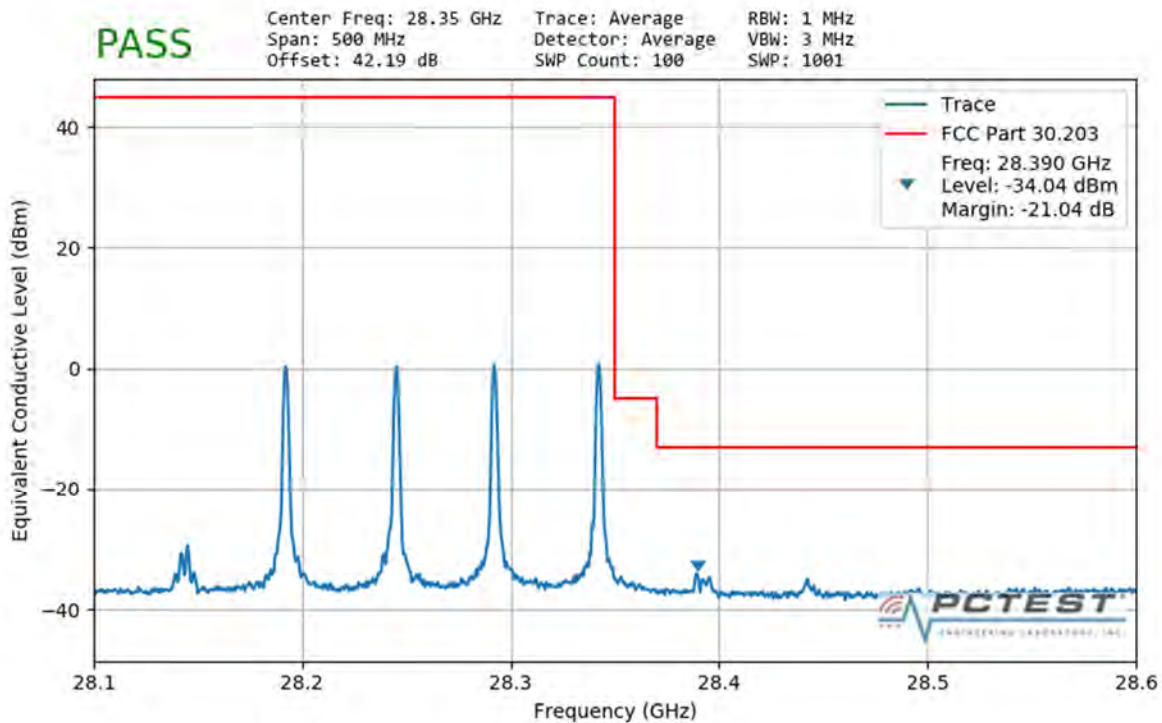


Plot 7-512. Upper Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 294 of 371

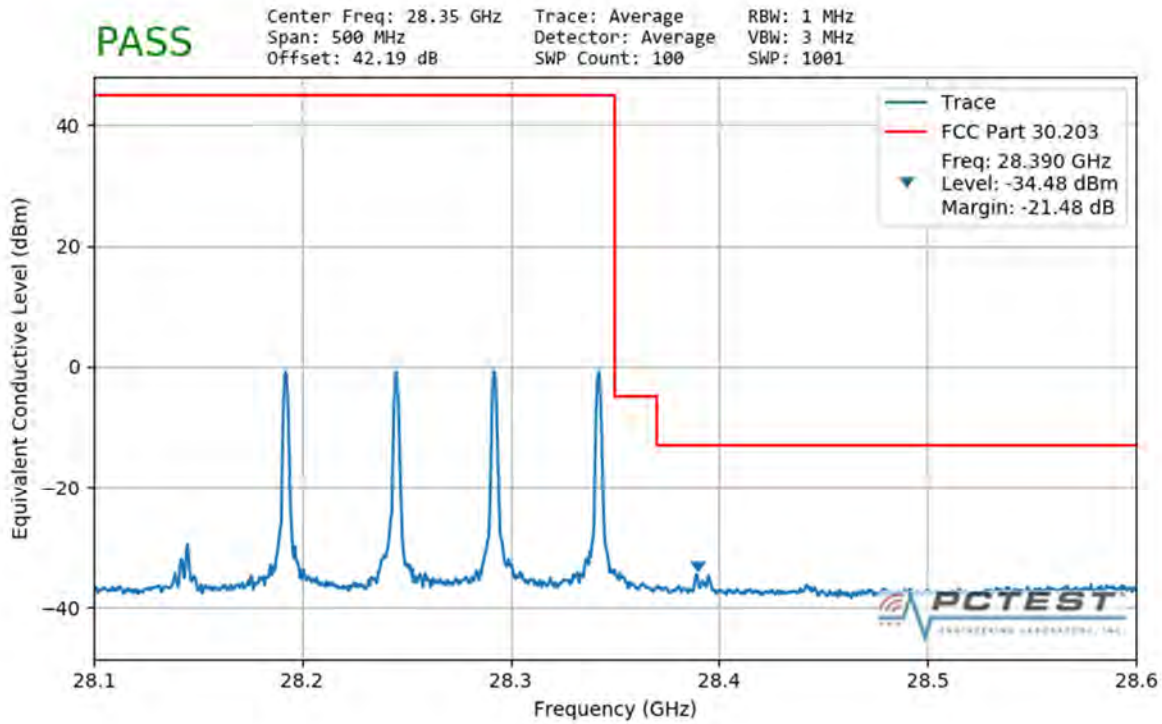


Plot 7-513. Upper Band Edge Plot (4CC 200MHz QPSK Full RB)

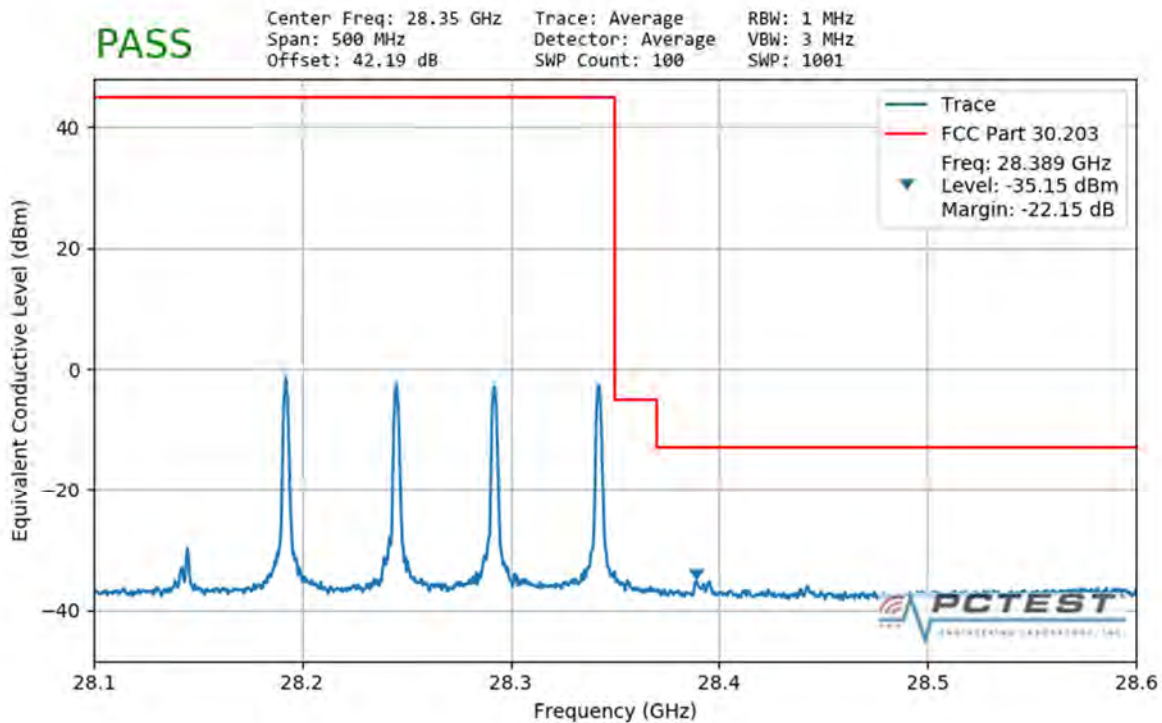


Plot 7-514. Upper Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 295 of 371

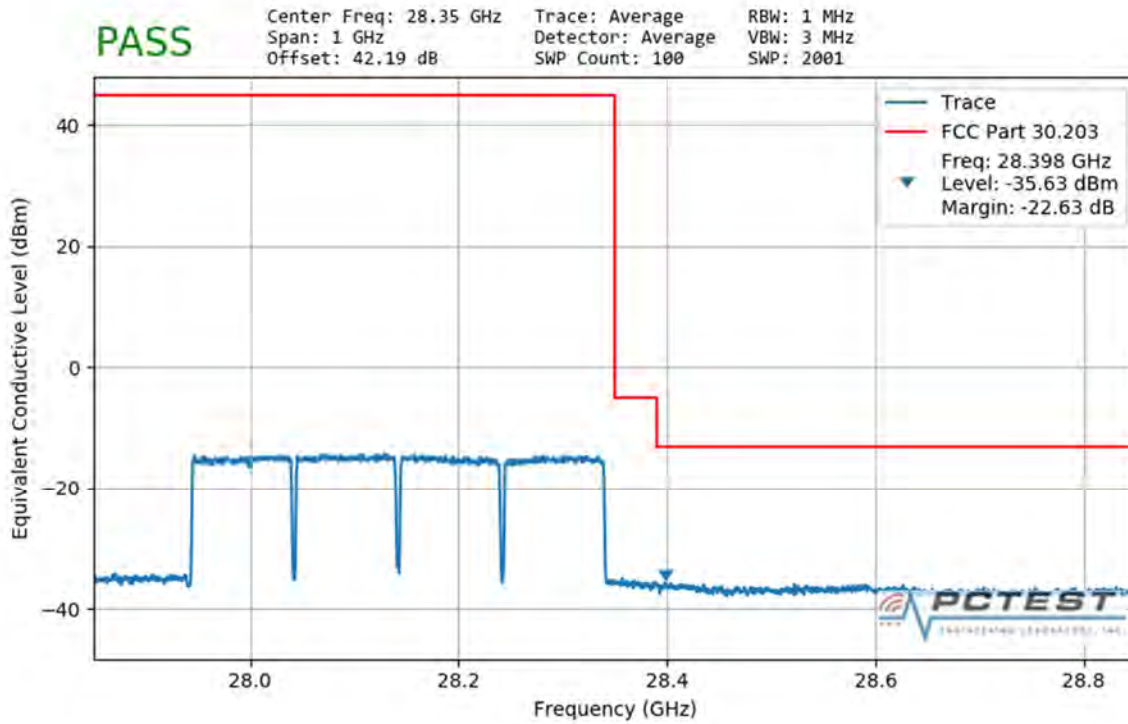


Plot 7-515. Upper Band Edge Plot (4CC 200MHz 16QAM 1 RB)

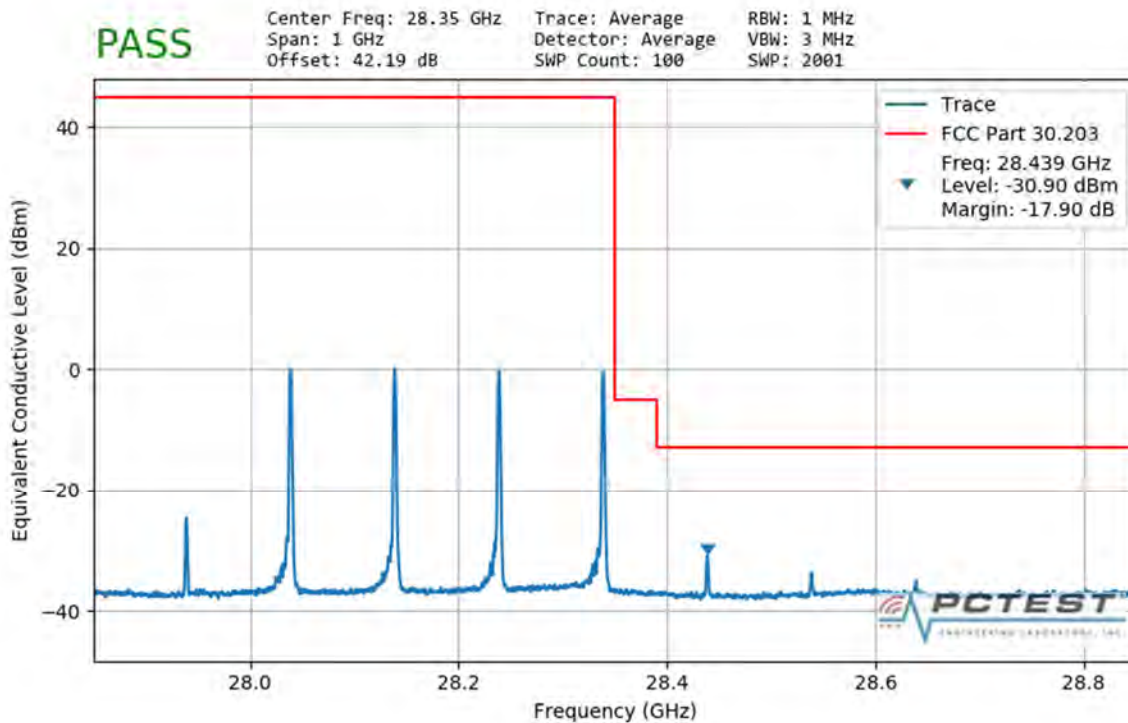


Plot 7-516. Upper Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 296 of 371

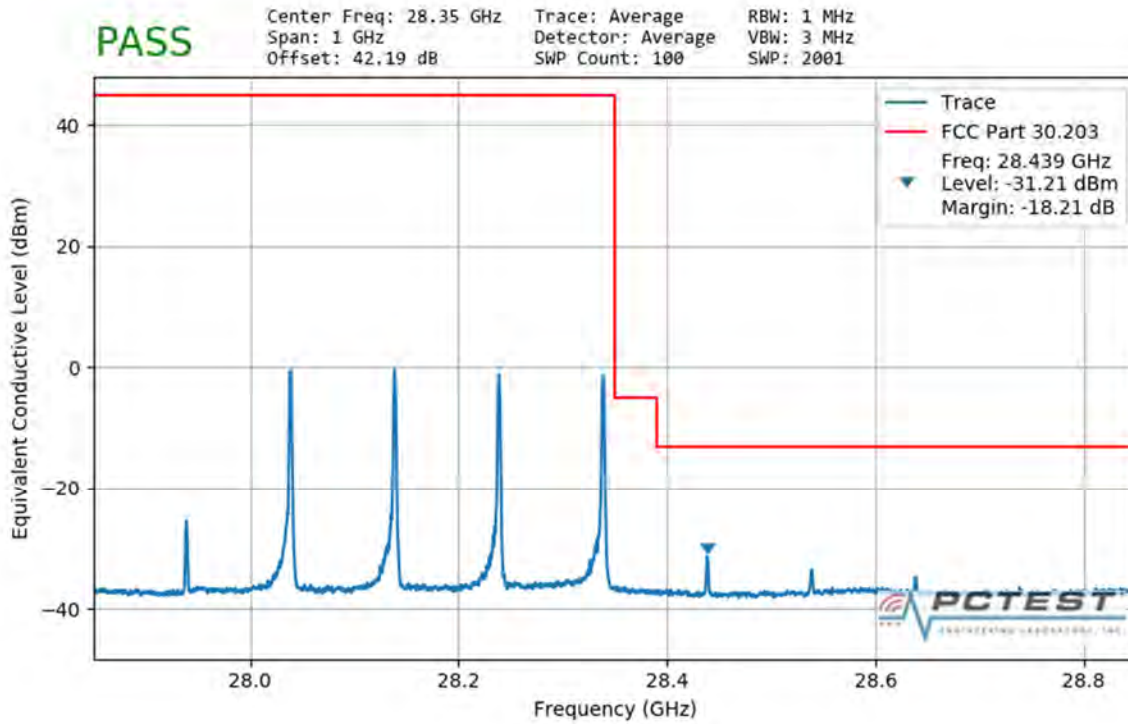


Plot 7-517. Upper Band Edge Plot (4CC 400MHz QPSK Full RB)

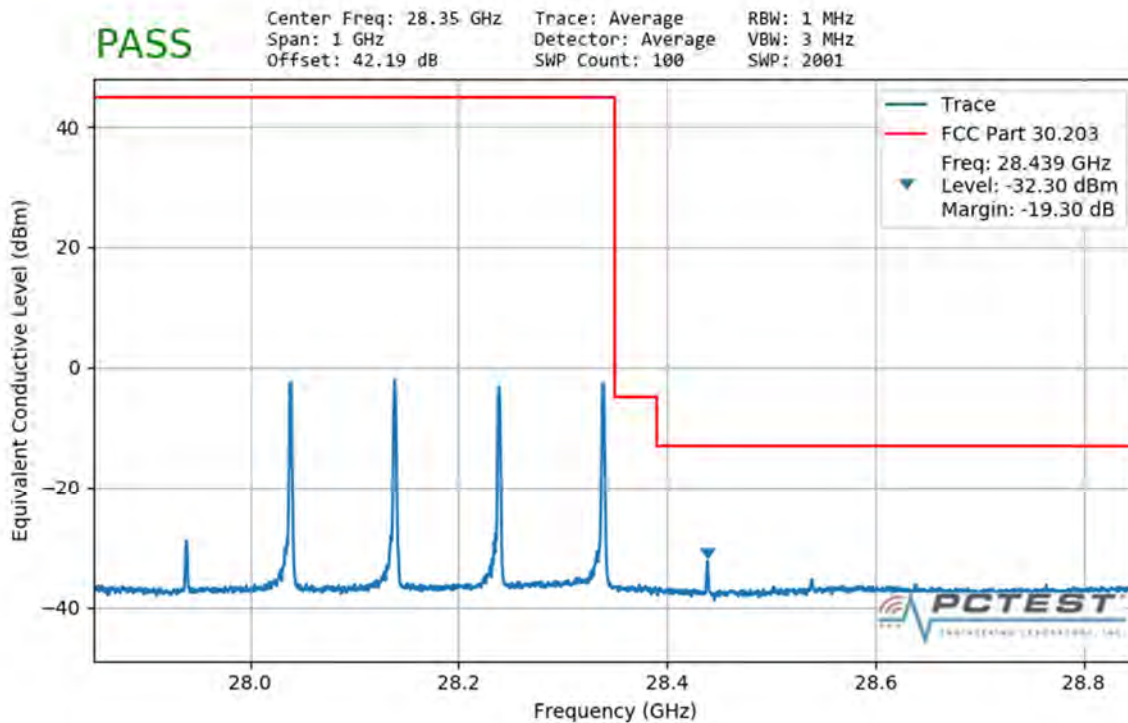


Plot 7-518. Upper Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 297 of 371



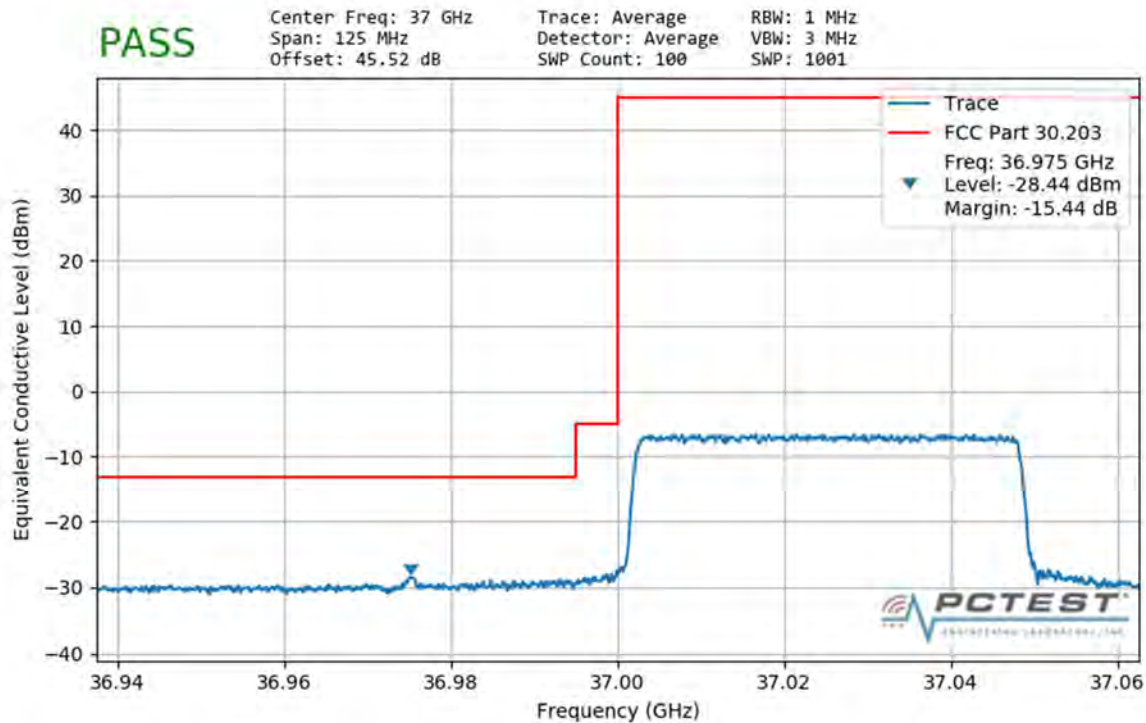
Plot 7-519. Upper Band Edge Plot (4CC 400MHz 16QAM 1 RB)



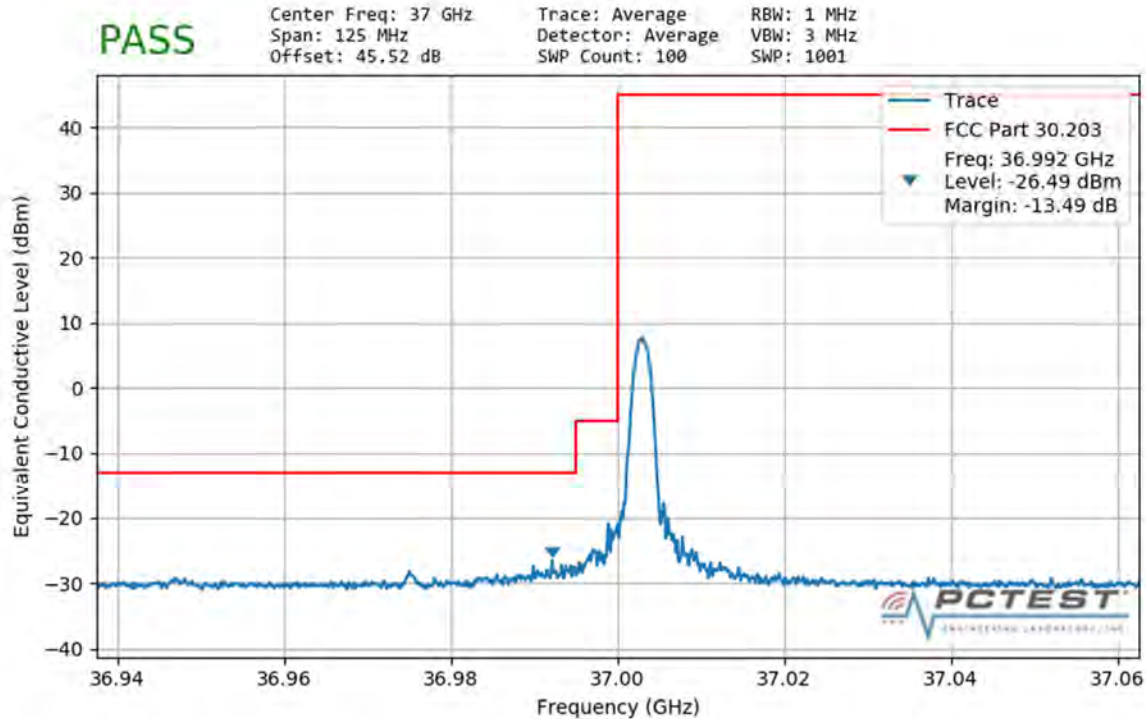
Plot 7-520. Upper Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 298 of 371

7.5.3 n260 Band Edge J Dipole MIMO(n260)

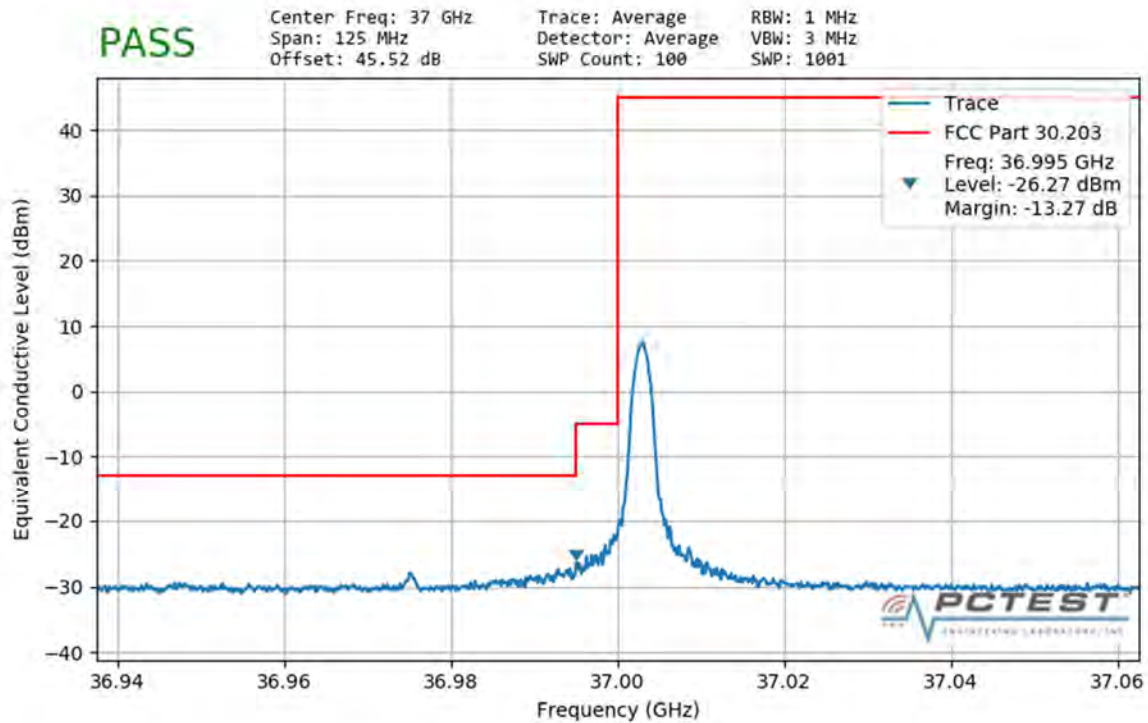


Plot 7-521. Lower Band Edge Plot (1CC 50MHz QPSK Full RB)

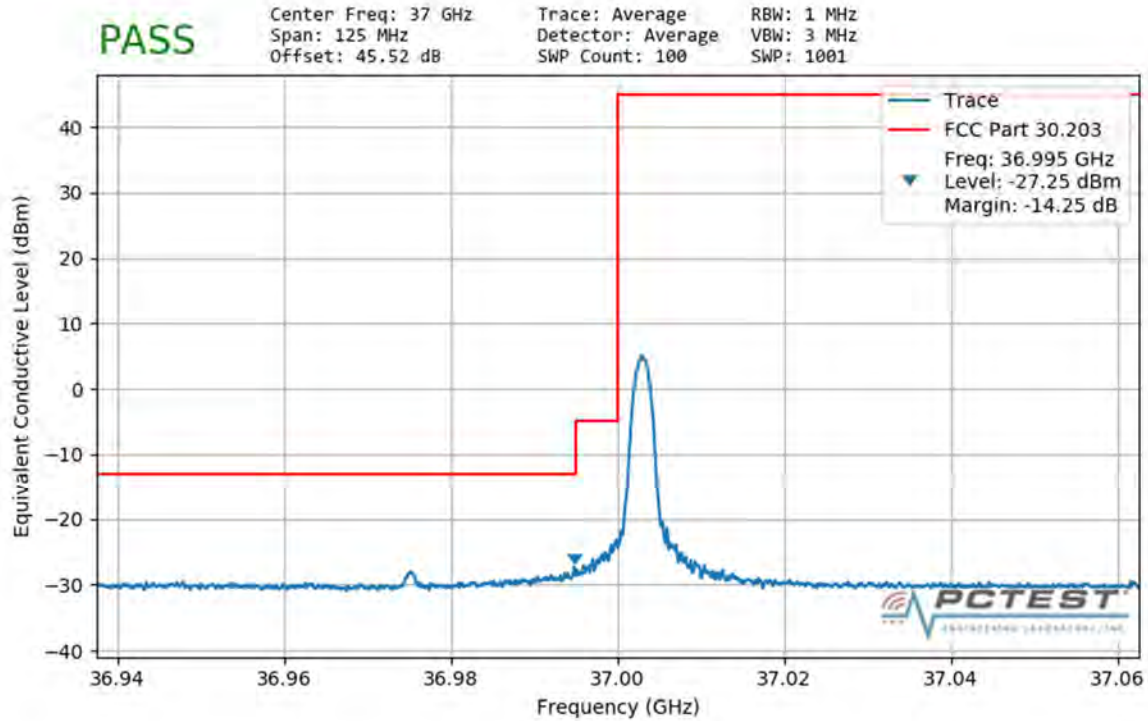


Plot 7-522. Lower Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 299 of 371

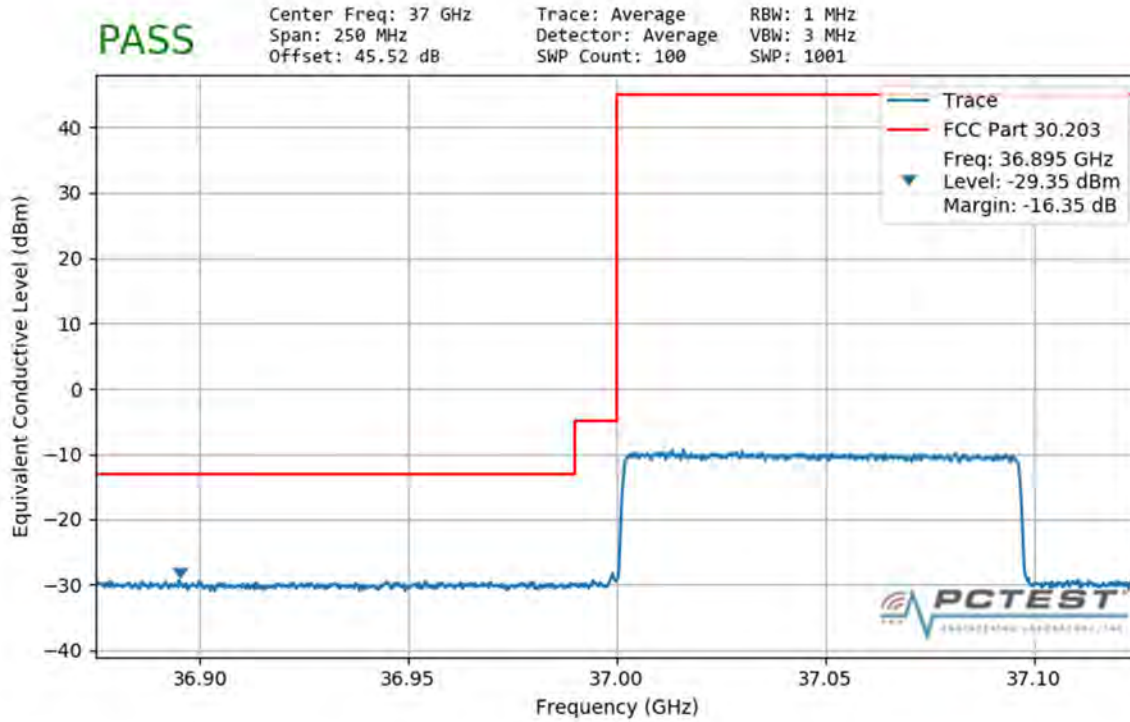


Plot 7-523. Lower Band Edge Plot (1CC 50MHz 16QAM 1 RB)

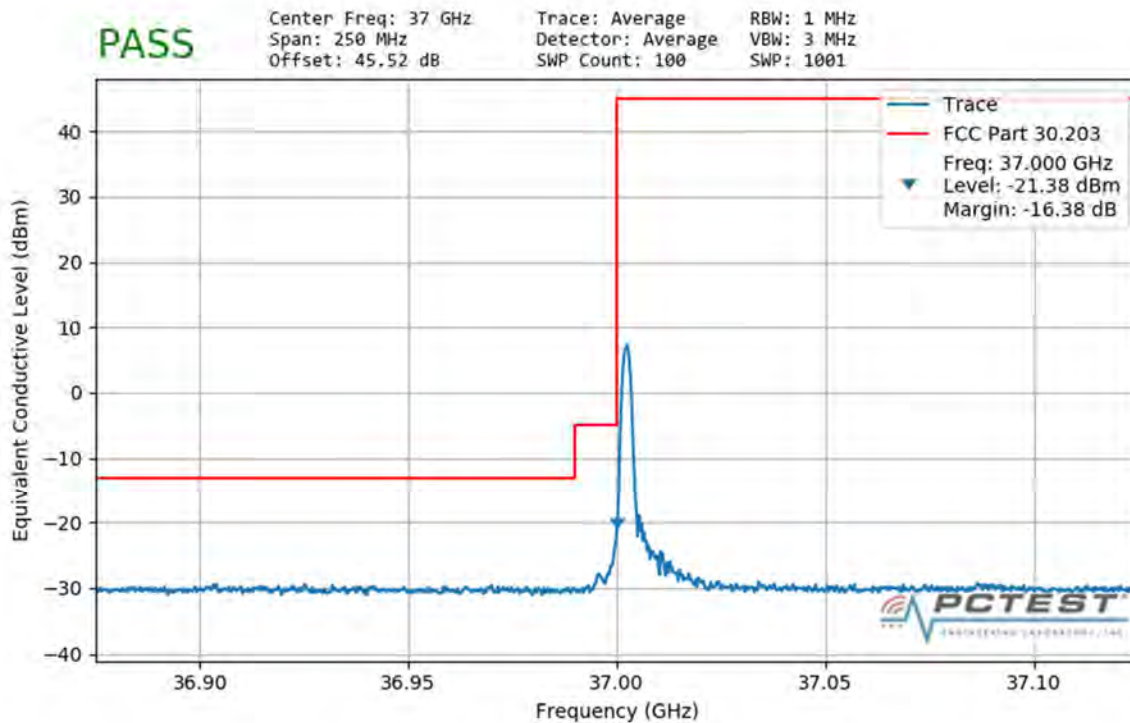


Plot 7-524. Lower Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 300 of 371

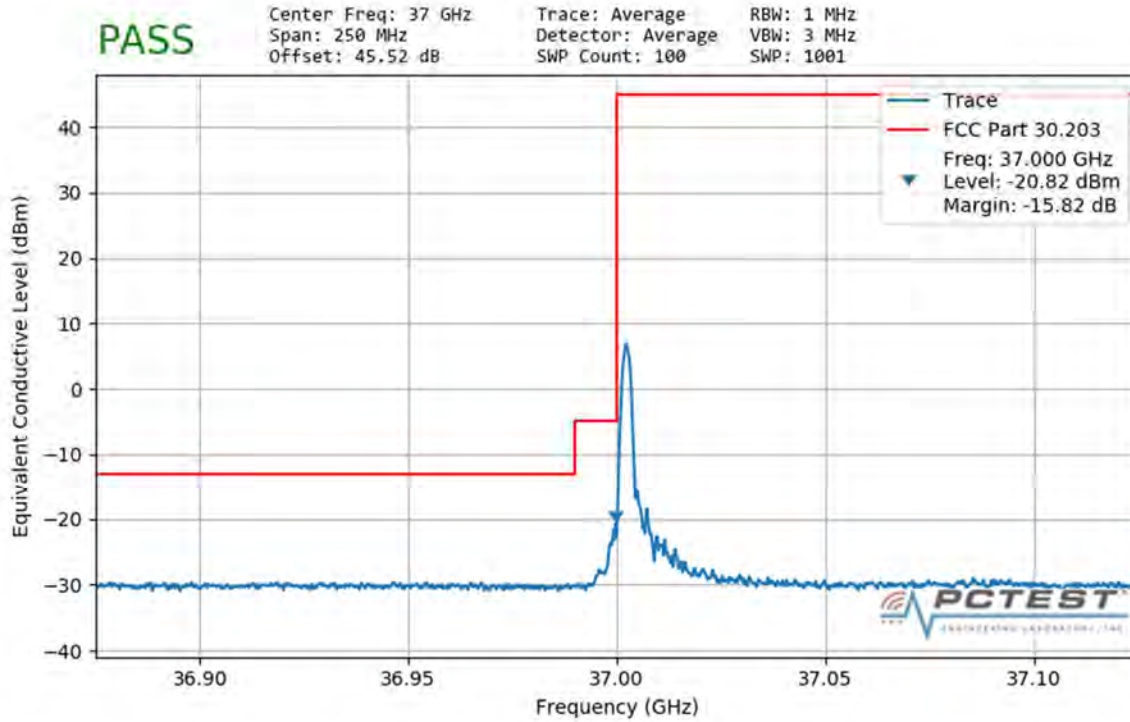


Plot 7-525. Lower Band Edge Plot (1CC 100MHz QPSK Full RB)

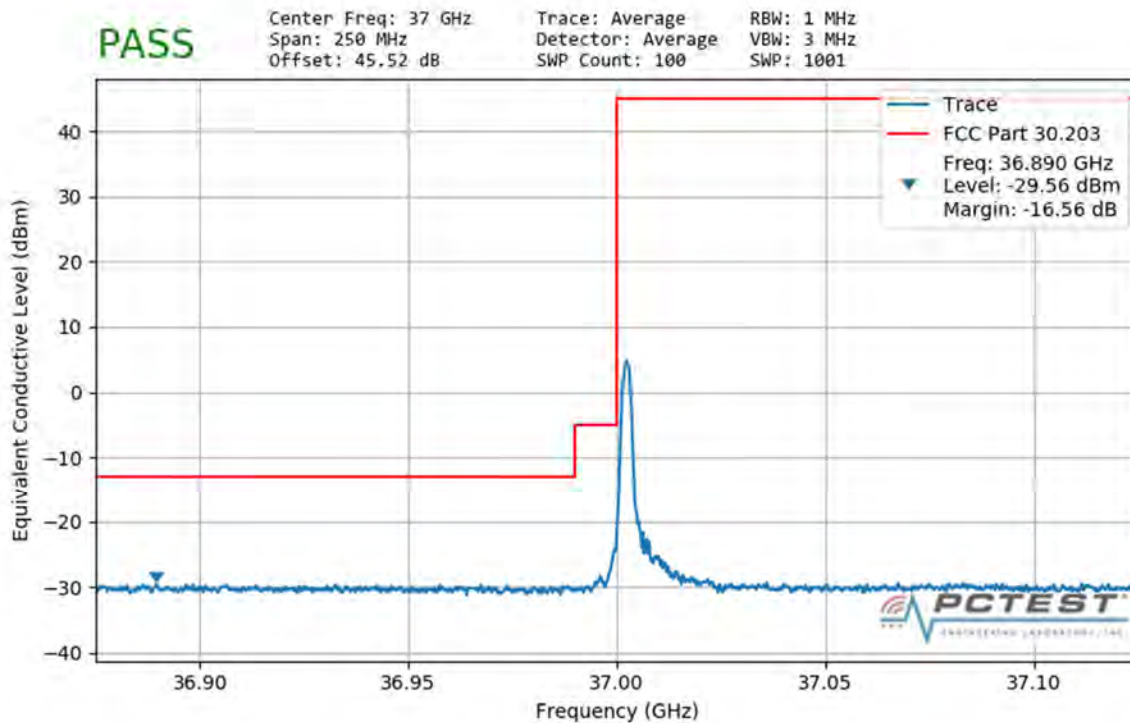


Plot 7-526. Lower Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 301 of 371

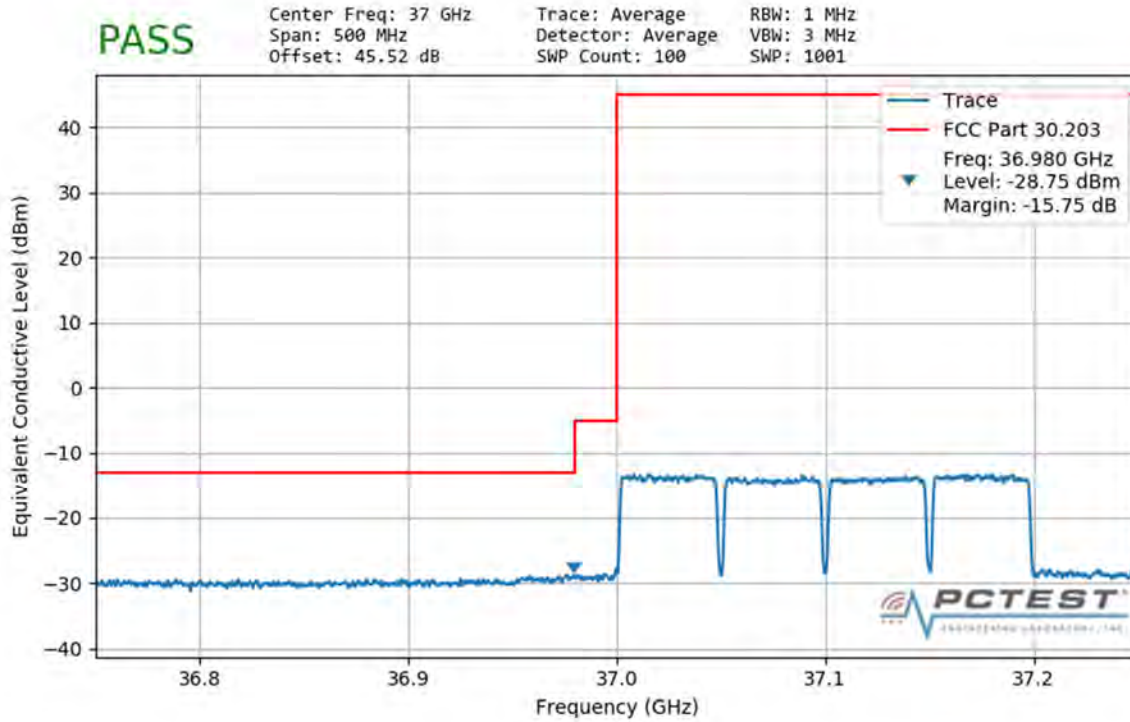


Plot 7-527. Lower Band Edge Plot (1CC 100MHz 16QAM 1 RB)

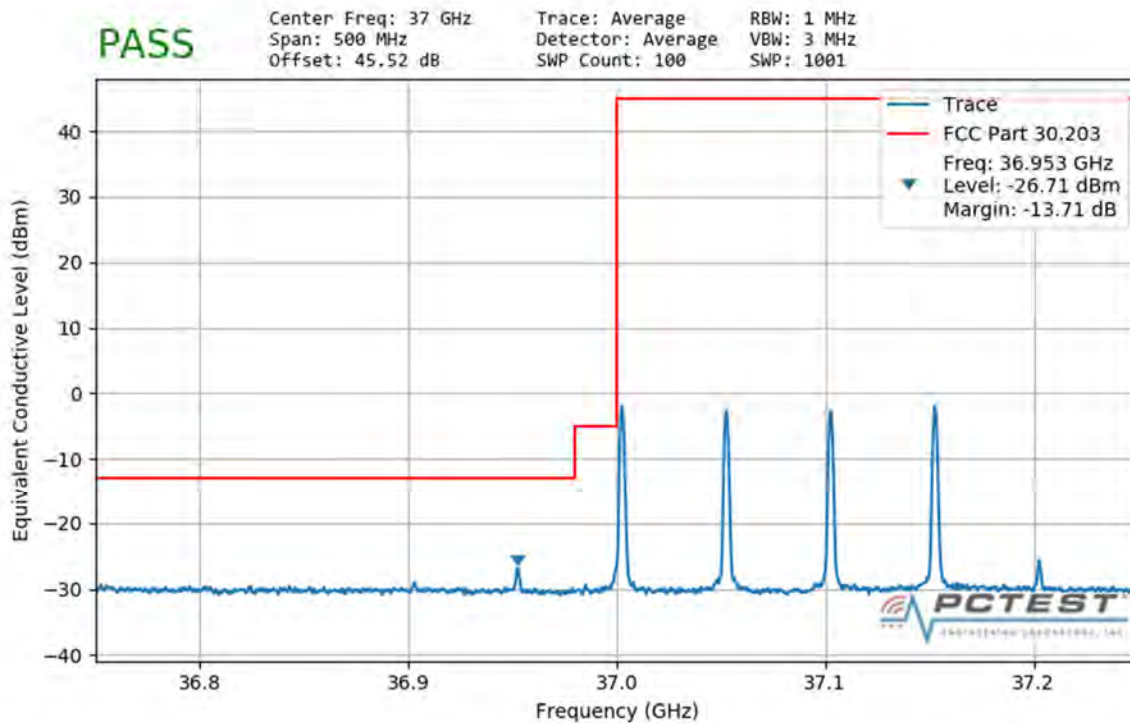


Plot 7-528. Lower Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset			Page 302 of 371

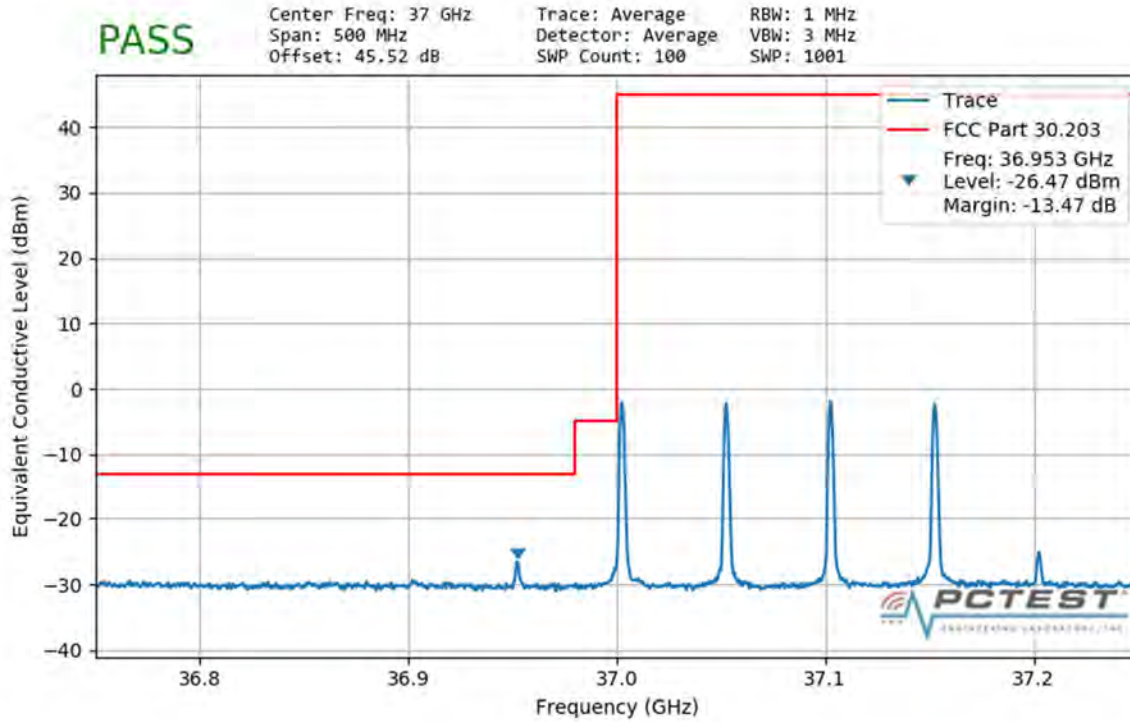


Plot 7-529. Lower Band Edge Plot (4CC 200MHz QPSK Full RB)

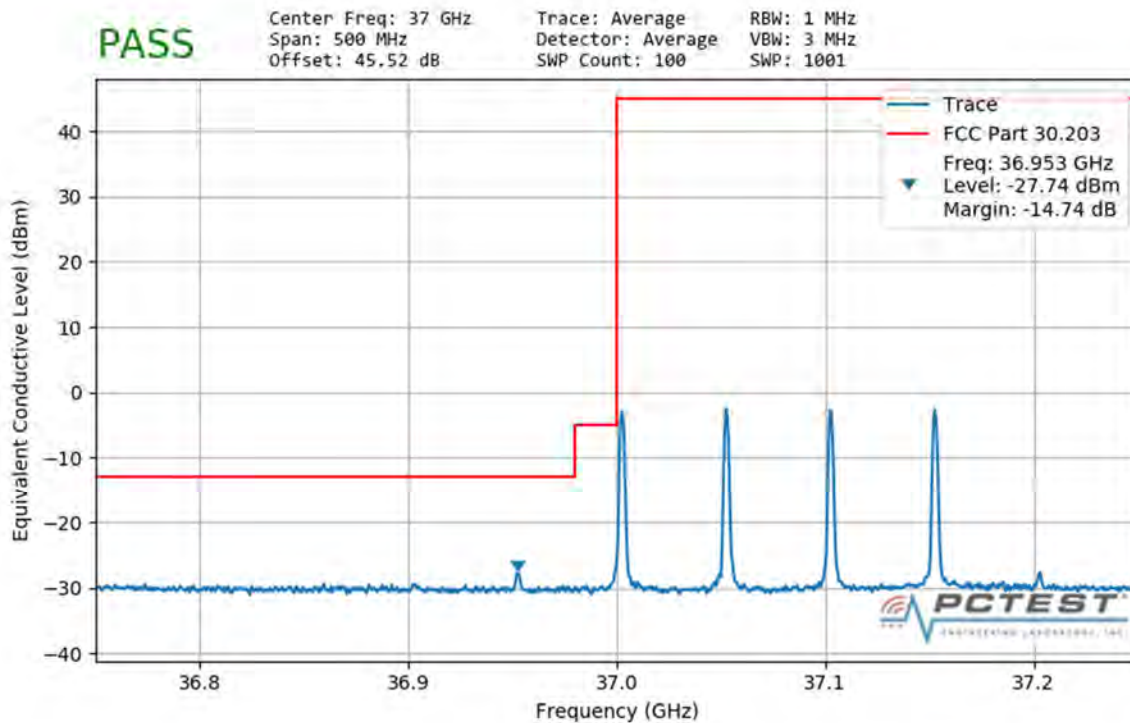


Plot 7-530. Lower Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 303 of 371

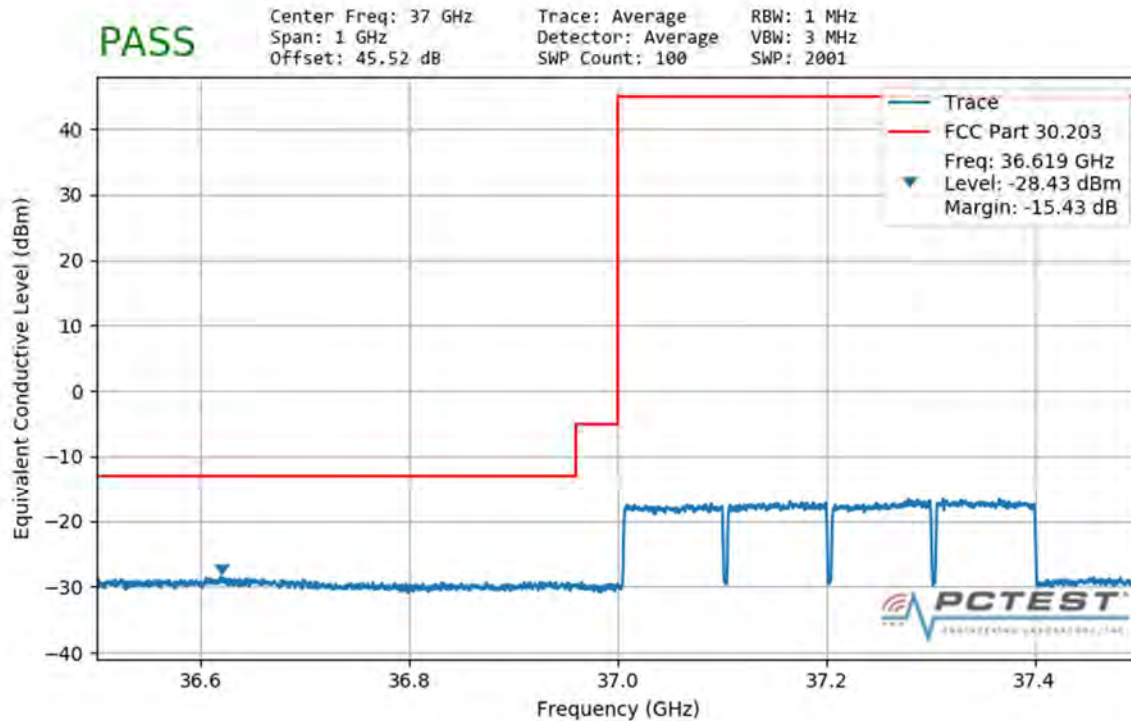


Plot 7-531. Lower Band Edge Plot (4CC 200MHz 16QAM 1 RB)

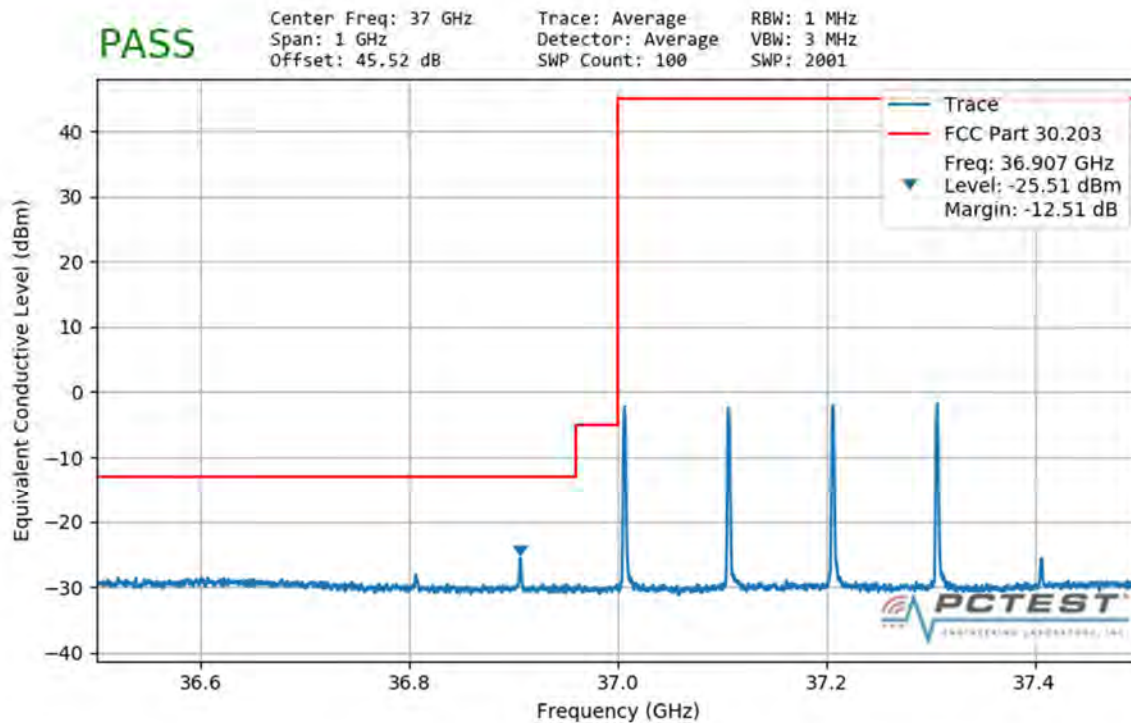


Plot 7-532. Lower Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset			Page 304 of 371

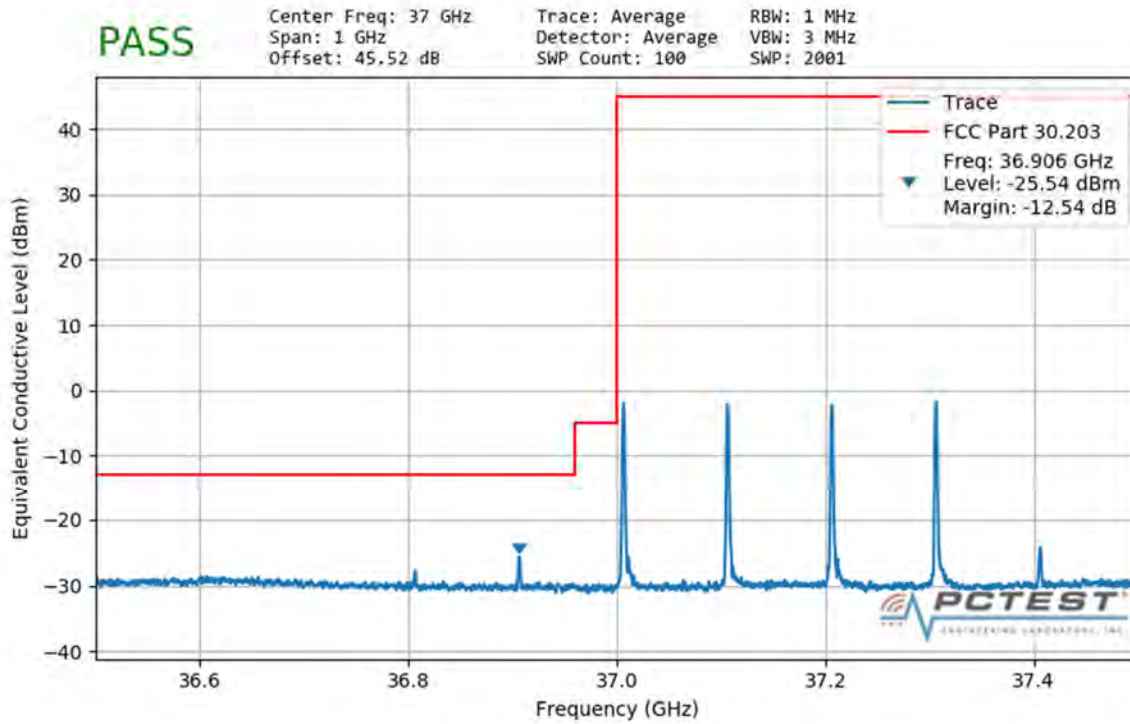


Plot 7-533. Lower Band Edge Plot (4CC 400MHz QPSK Full RB)

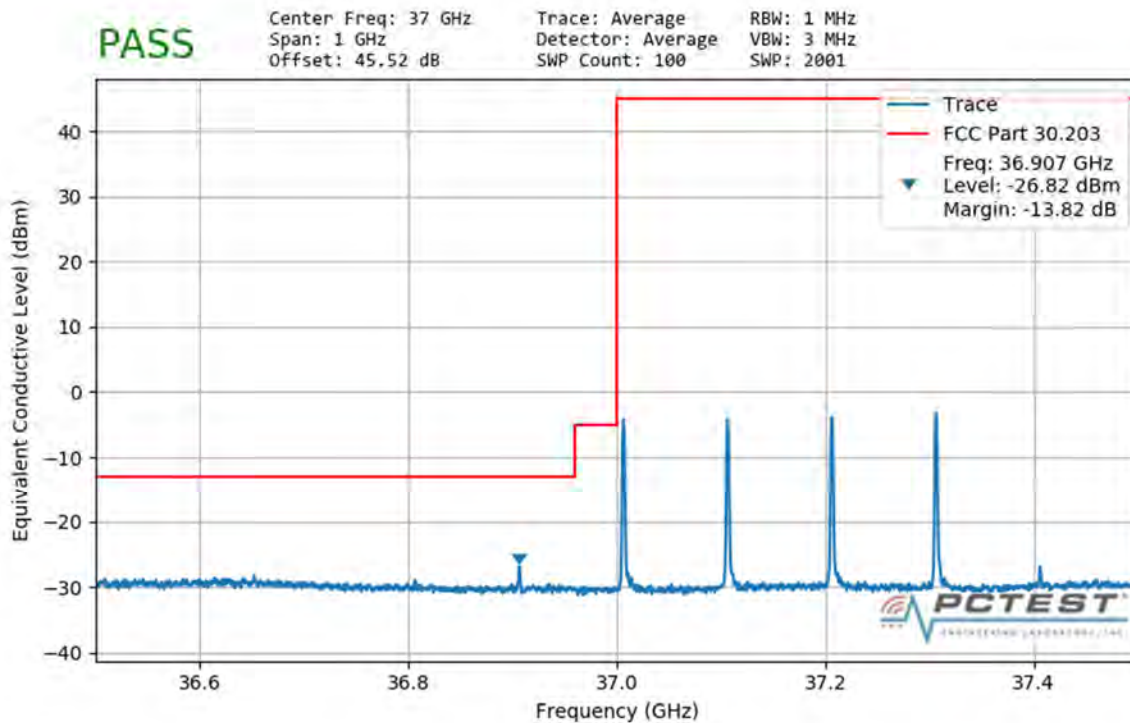


Plot 7-534. Lower Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 305 of 371

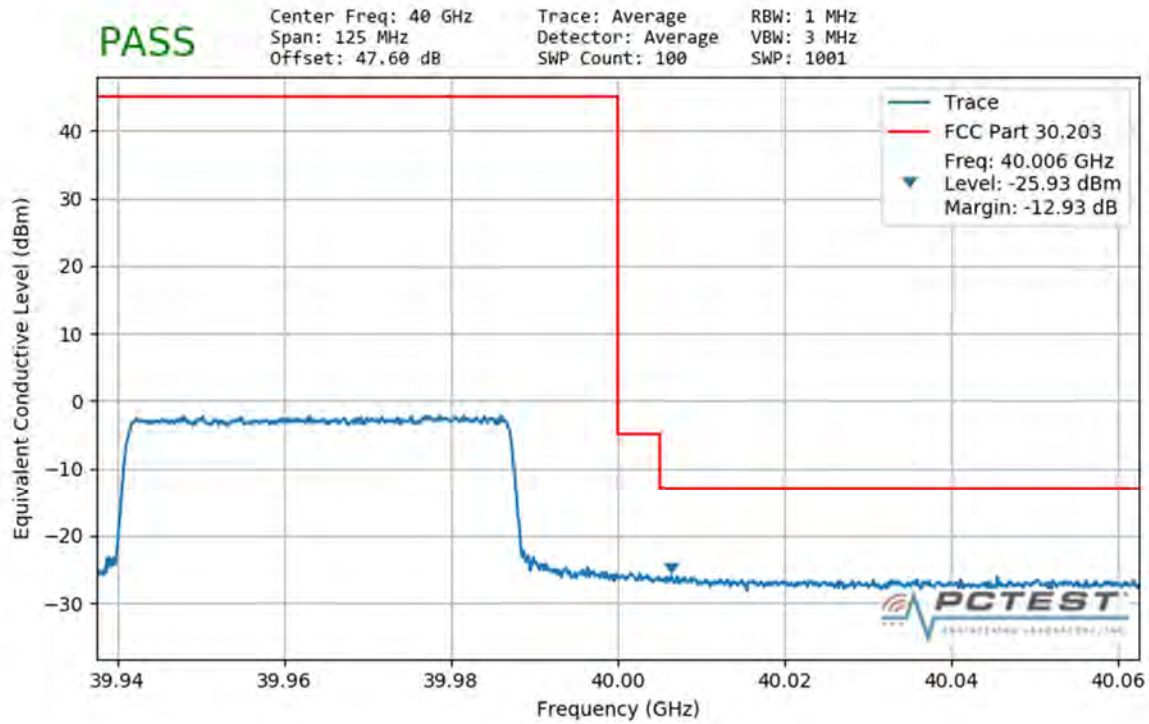


Plot 7-535. Lower Band Edge Plot (4CC 400MHz 16QAM 1 RB)

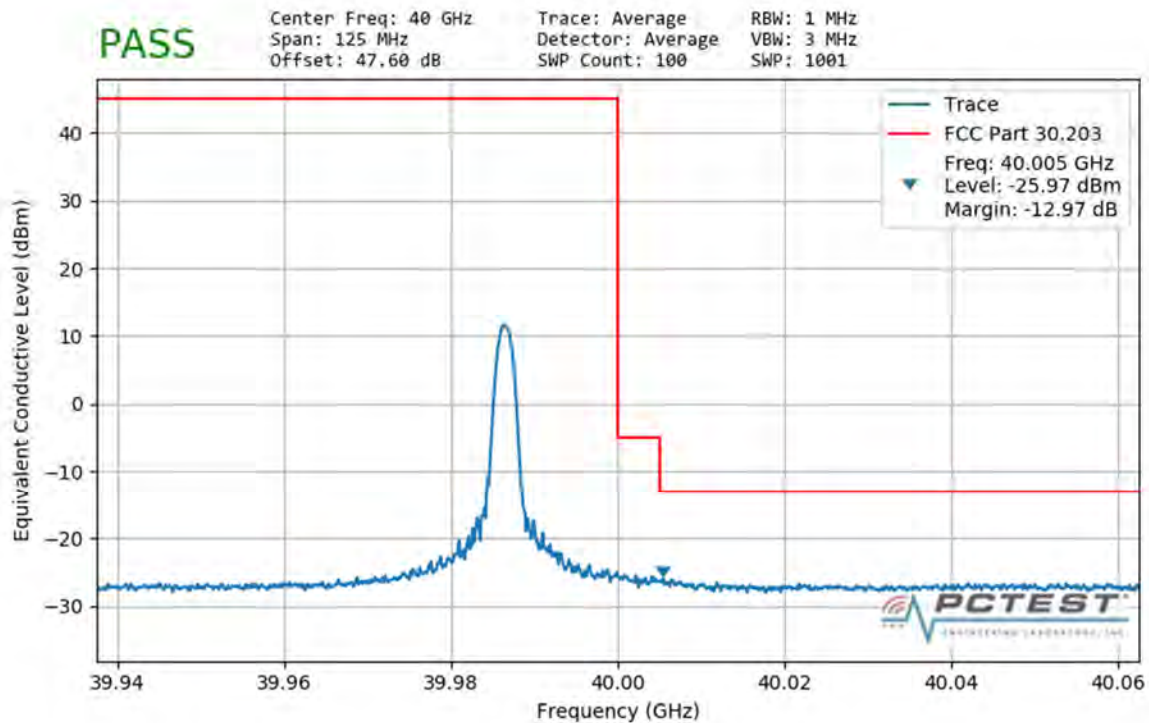


Plot 7-536. Lower Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset			Page 306 of 371

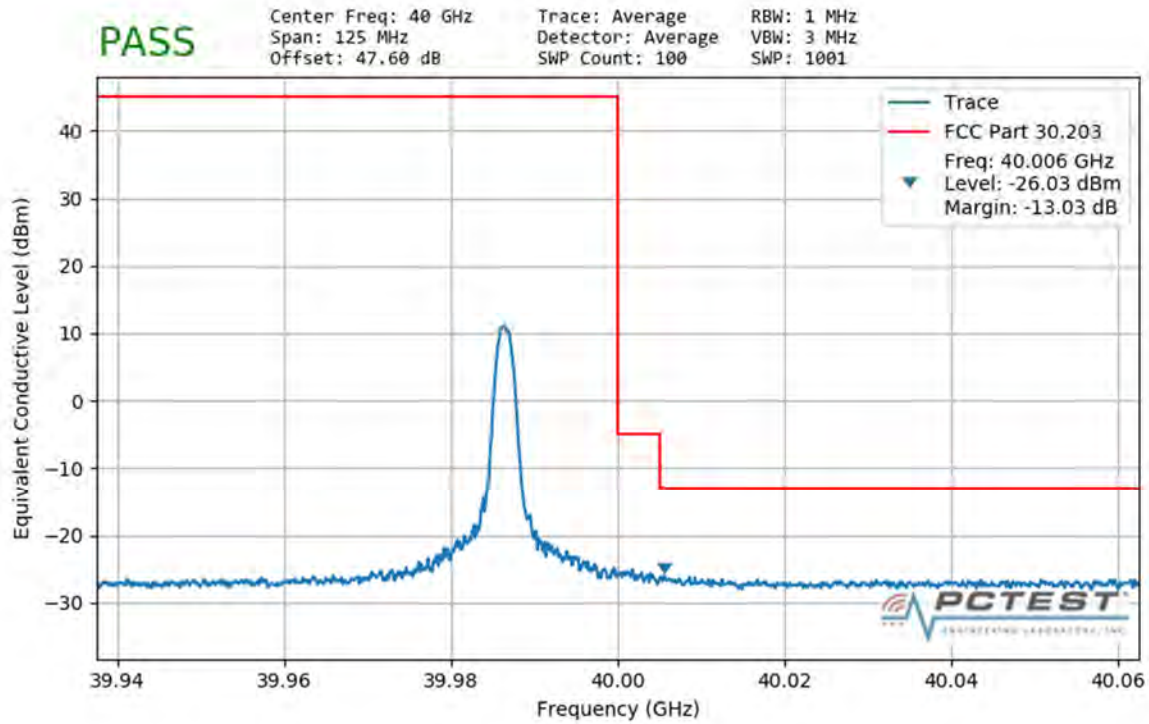


Plot 7-537. Upper Band Edge Plot (1CC 50MHz QPSK Full RB)

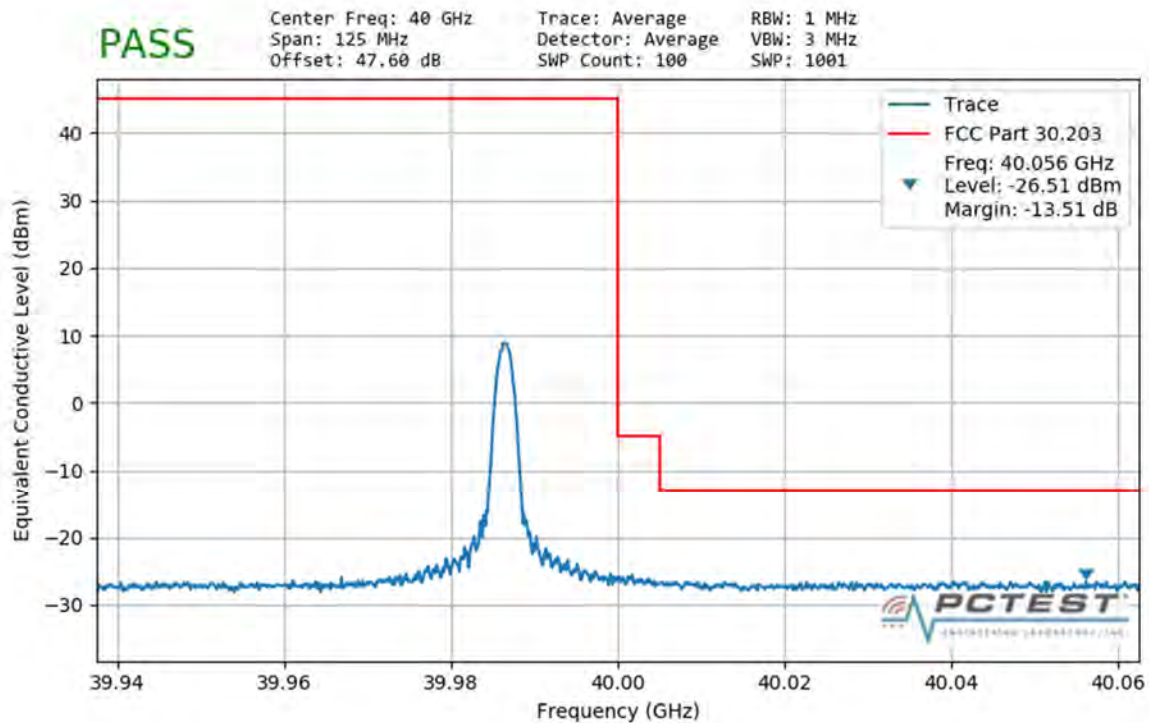


Plot 7-538. Upper Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 307 of 371

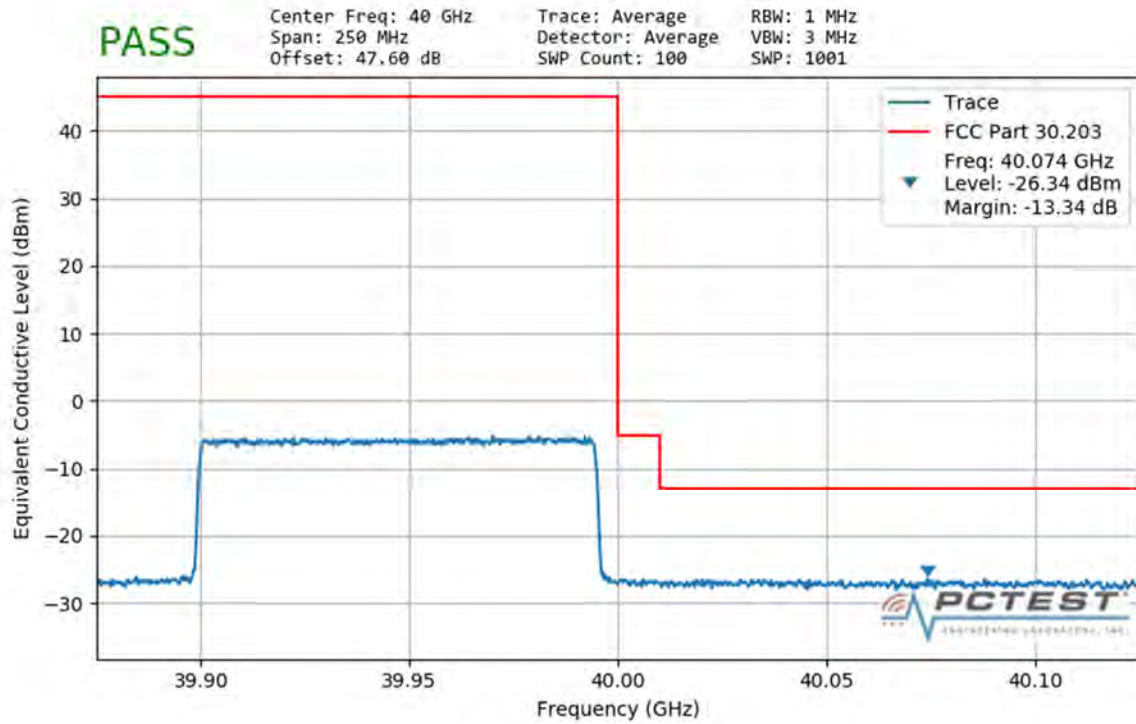


Plot 7-539. Upper Band Edge Plot (1CC 50MHz 16QAM 1 RB)

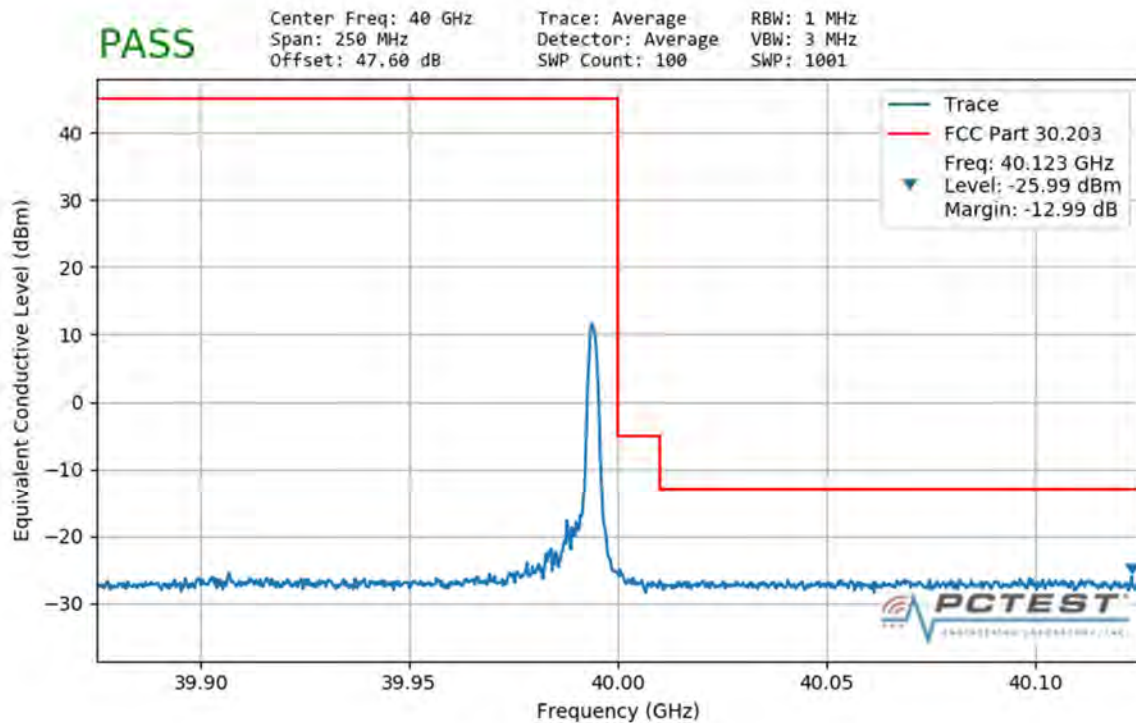


Plot 7-540. Upper Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 308 of 371

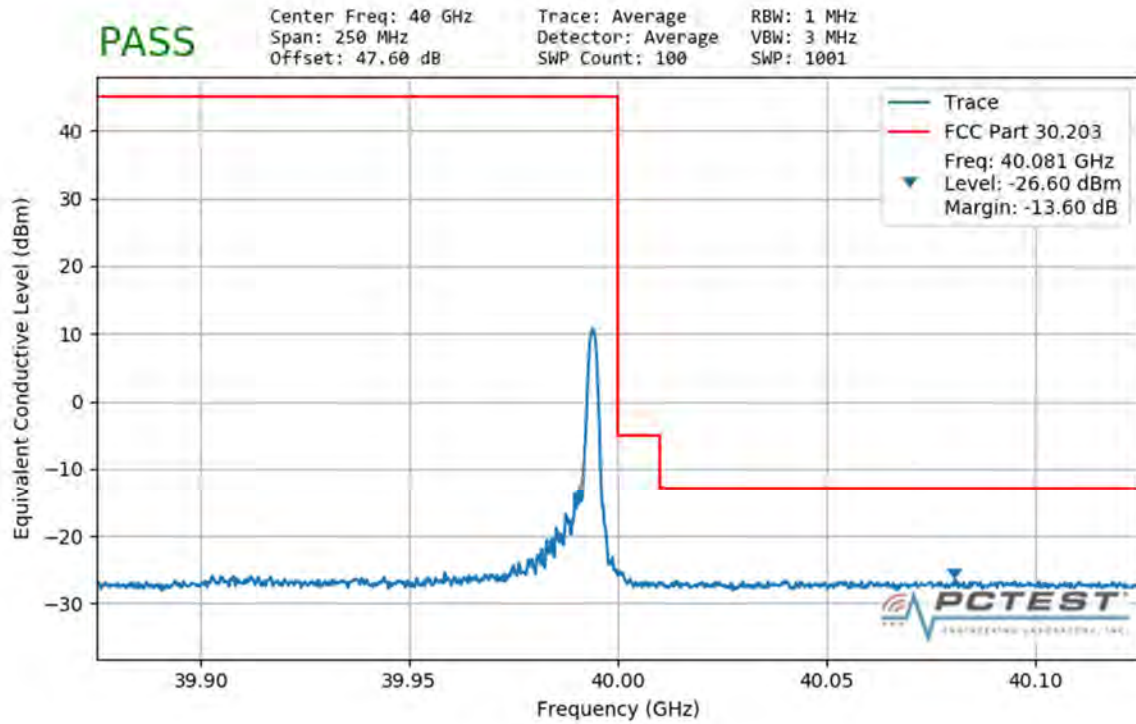


Plot 7-541. Upper Band Edge Plot (1CC 100MHz QPSK Full RB)

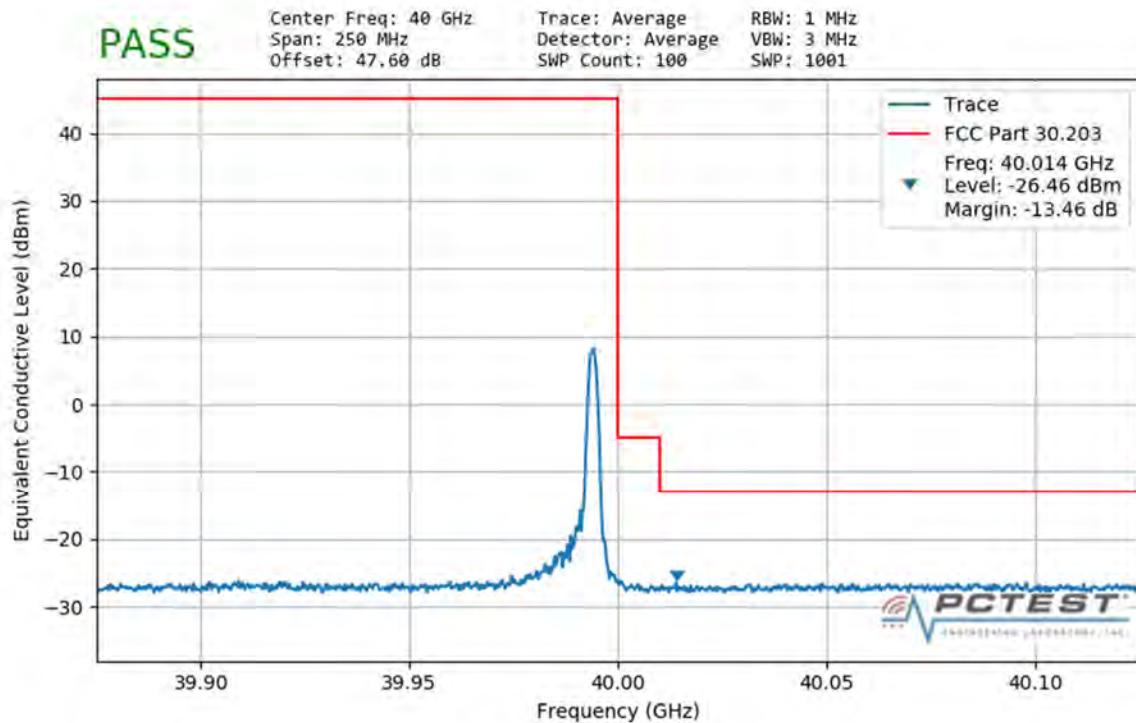


Plot 7-542. Upper Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 309 of 371

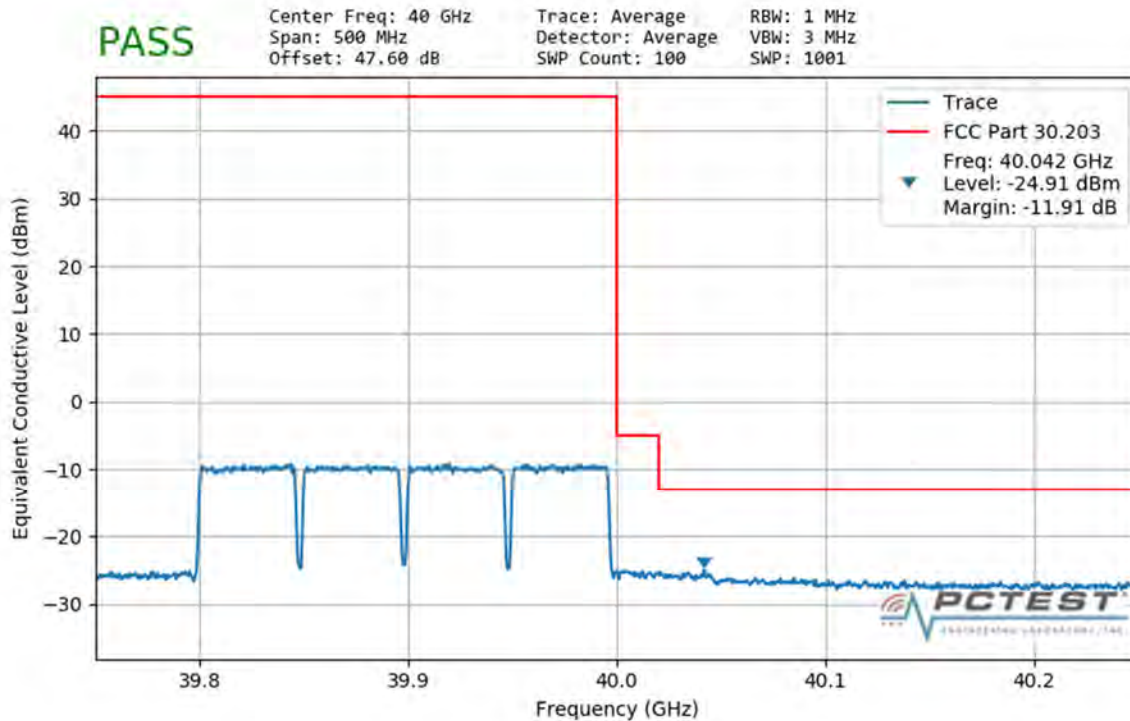


Plot 7-543. Upper Band Edge Plot (1CC 100MHz 16QAM 1 RB)

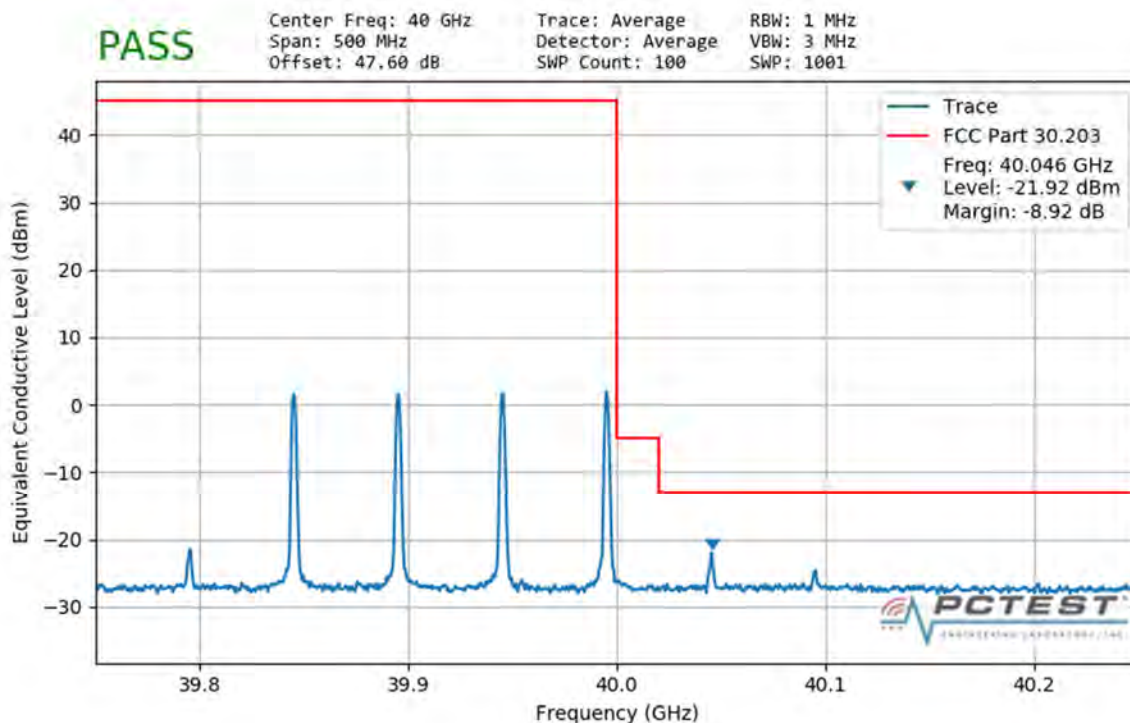


Plot 7-544. Upper Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 310 of 371

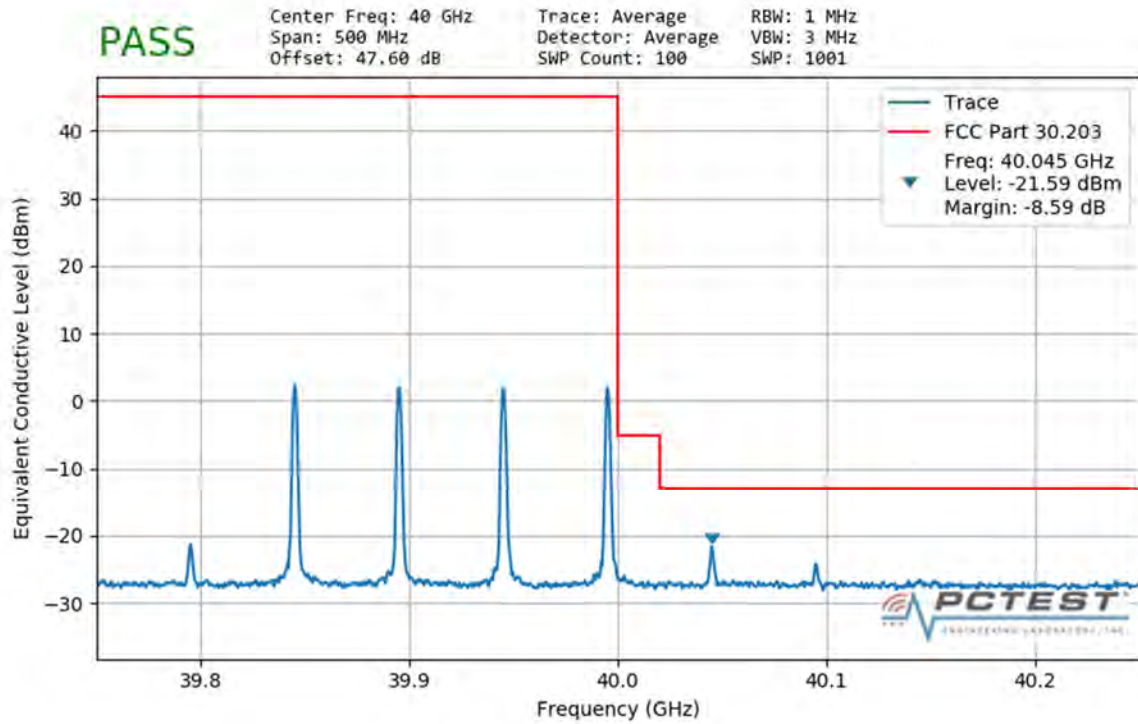


Plot 7-545. Upper Band Edge Plot (4CC 200MHz QPSK Full RB)

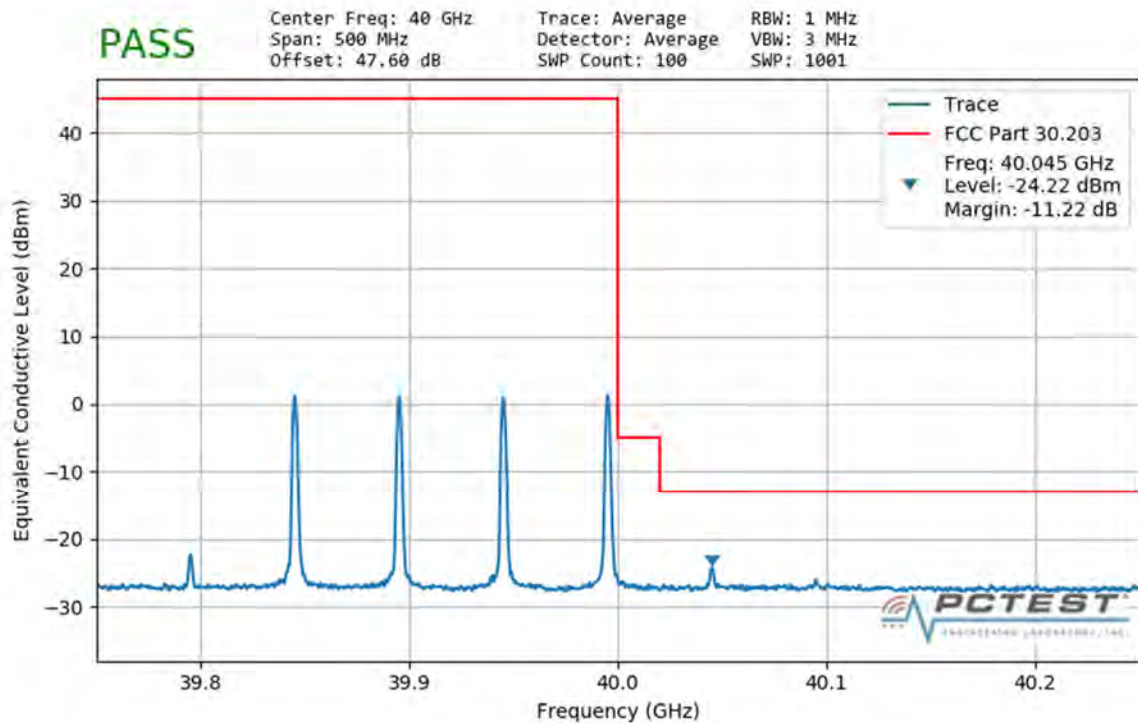


Plot 7-546. Upper Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset	Page 311 of 371

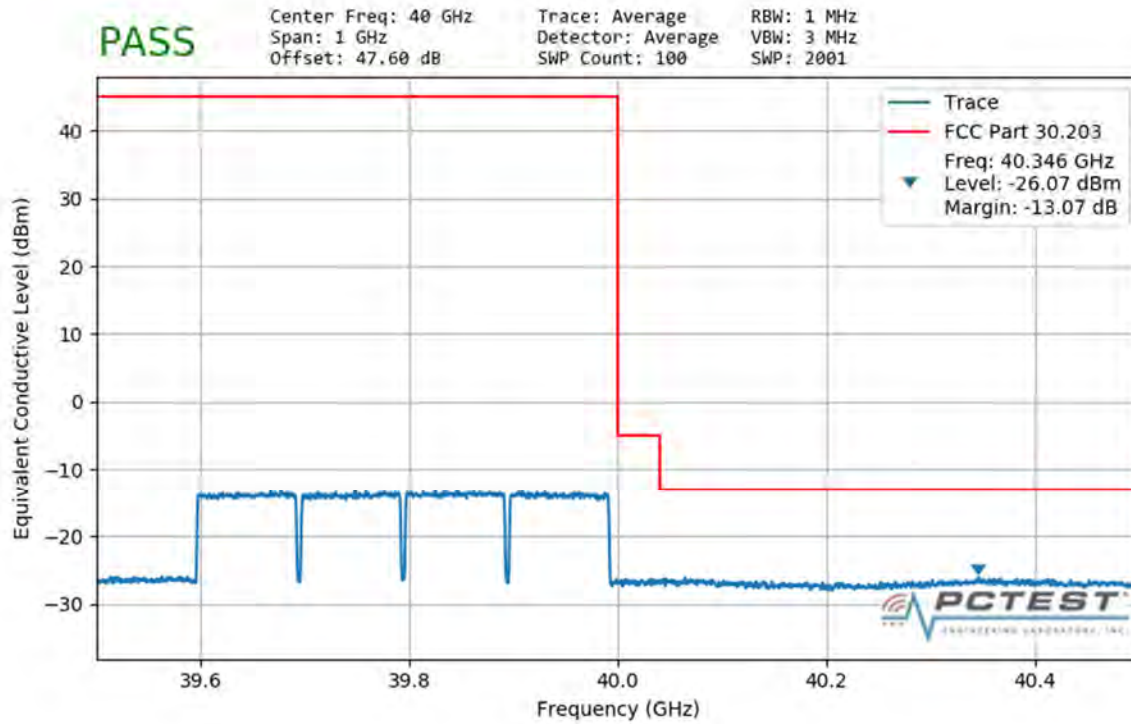


Plot 7-547. Upper Band Edge Plot (4CC 200MHz 16QAM 1 RB)

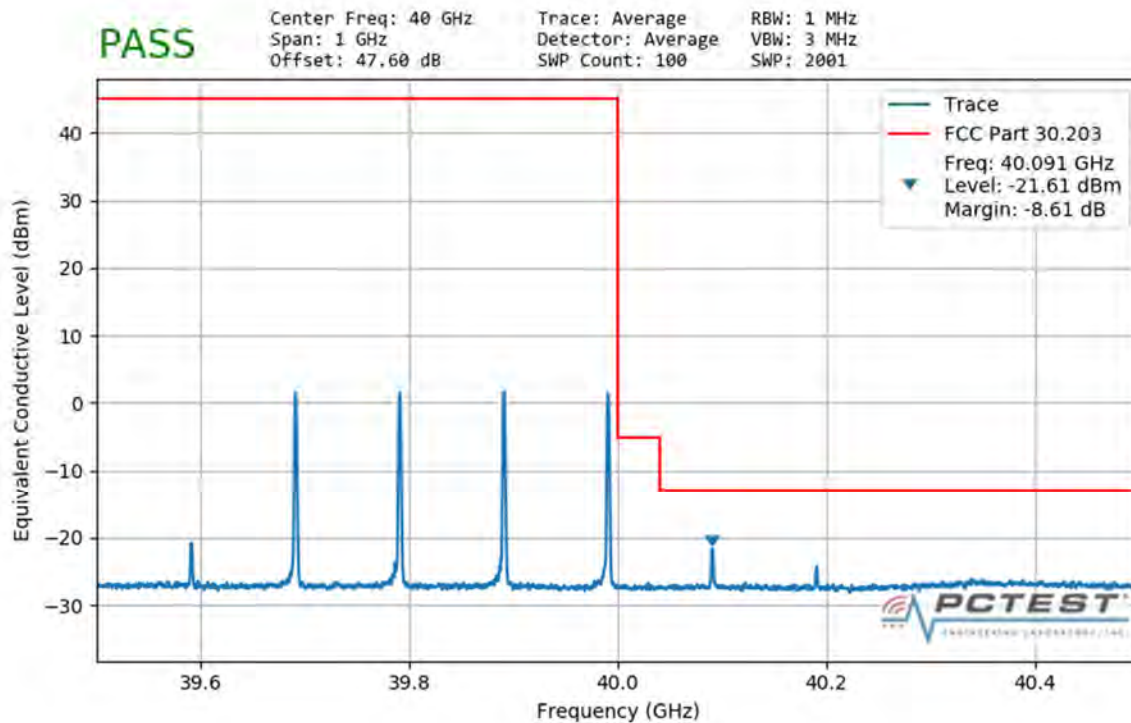


Plot 7-548. Upper Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 312 of 371

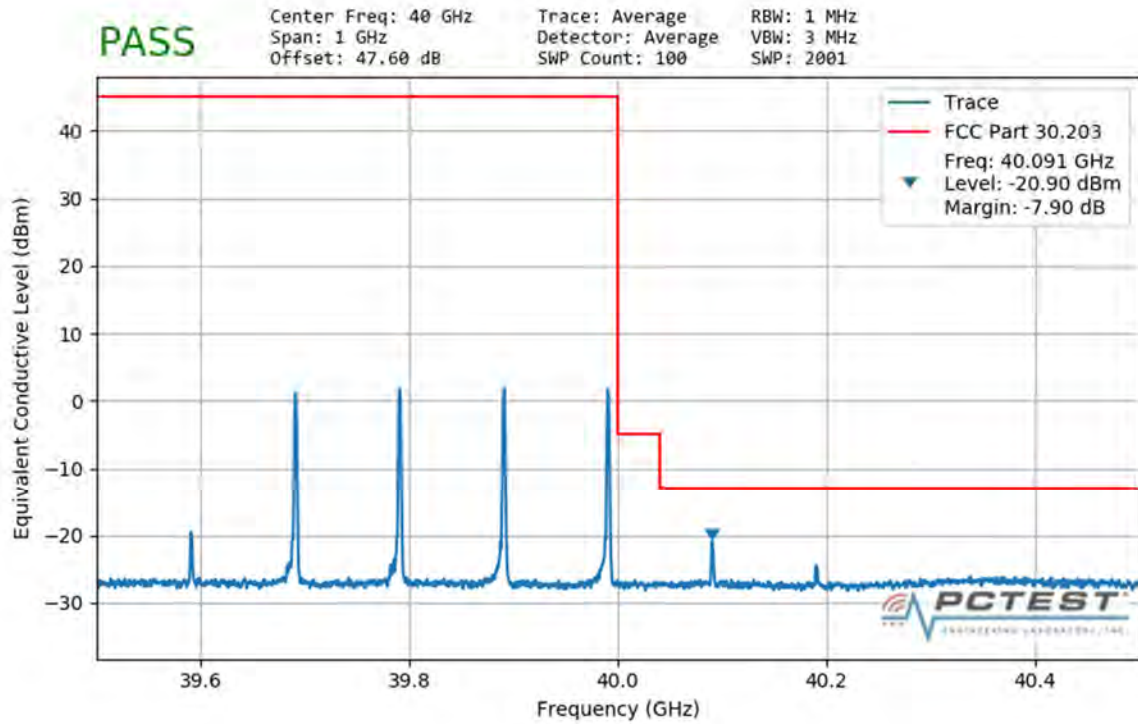


Plot 7-549. Upper Band Edge Plot (4CC 400MHz QPSK Full RB)

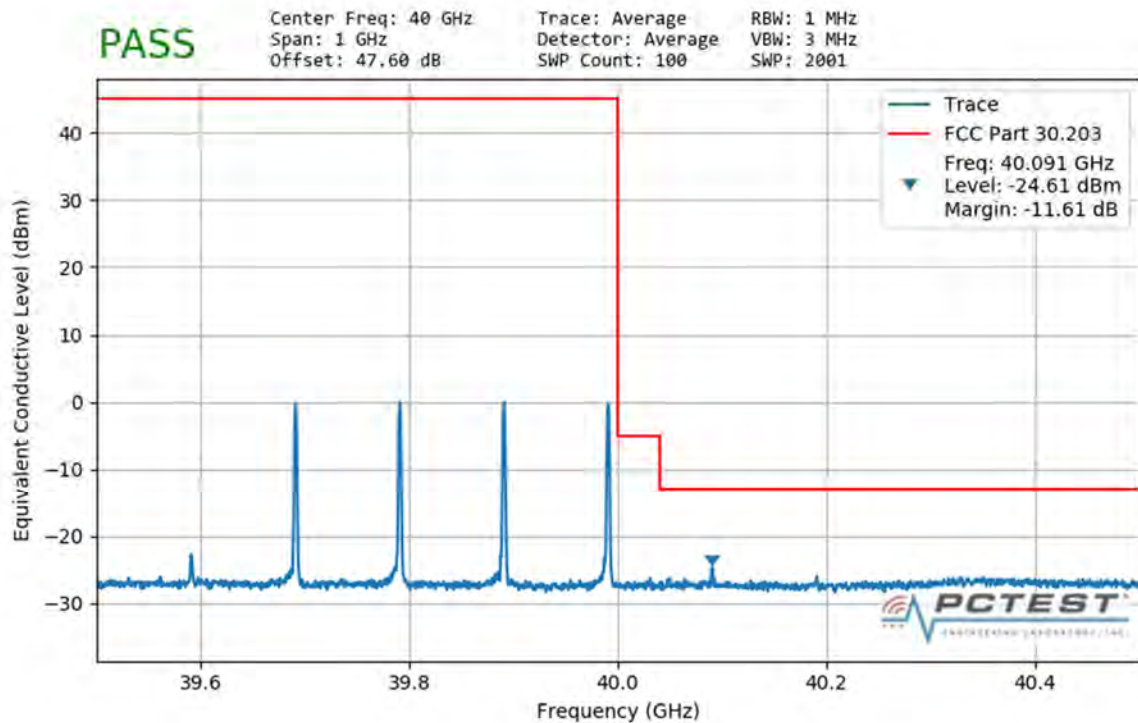


Plot 7-550. Upper Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset			Page 313 of 371



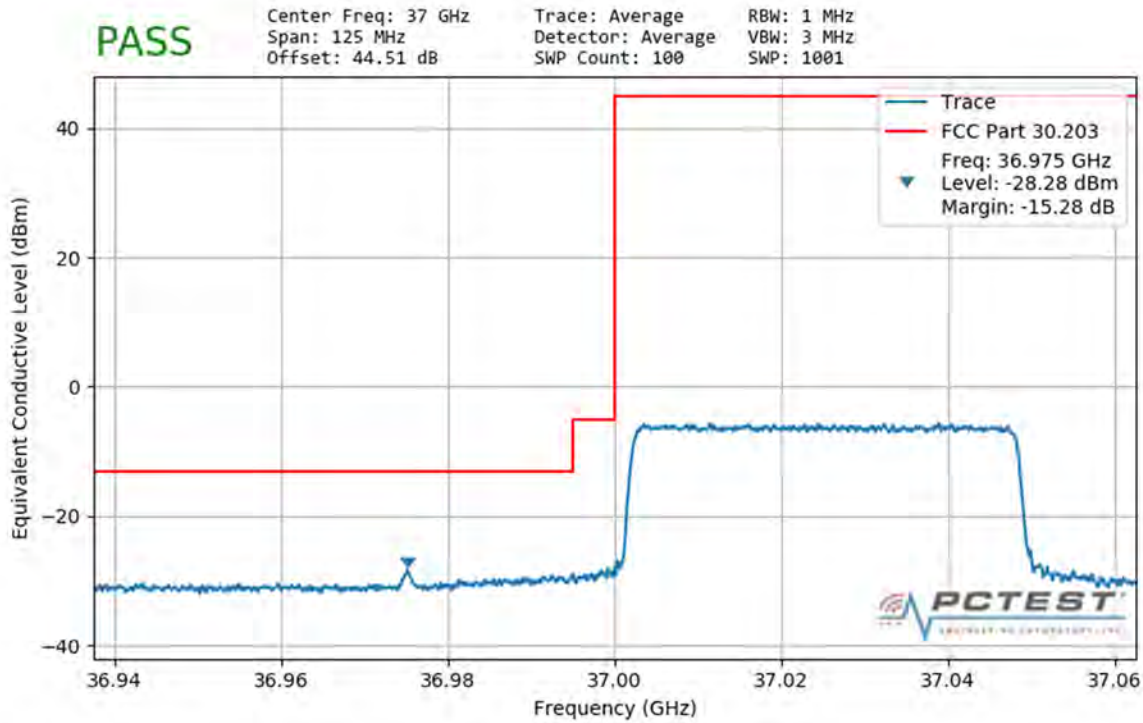
Plot 7-551. Upper Band Edge Plot (4CC 400MHz 16QAM 1 RB)



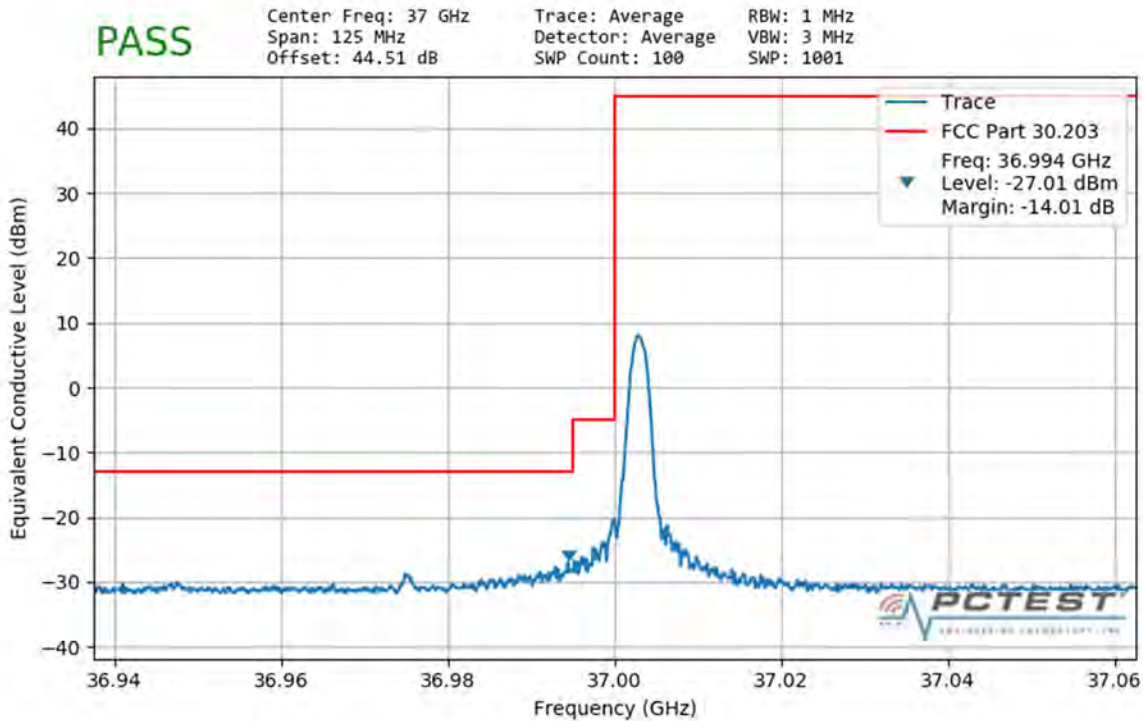
Plot 7-552. Upper Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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J Patch MIMO(n260)

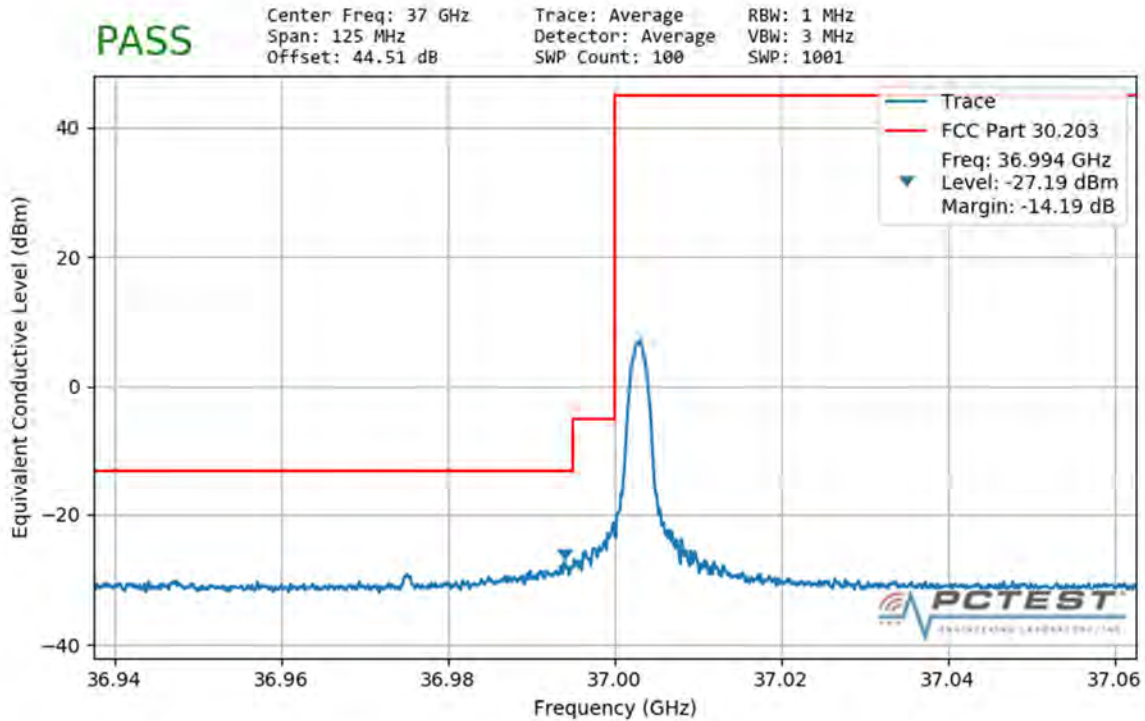


Plot 7-553. Lower Band Edge Plot (1CC 50MHz QPSK Full RB)

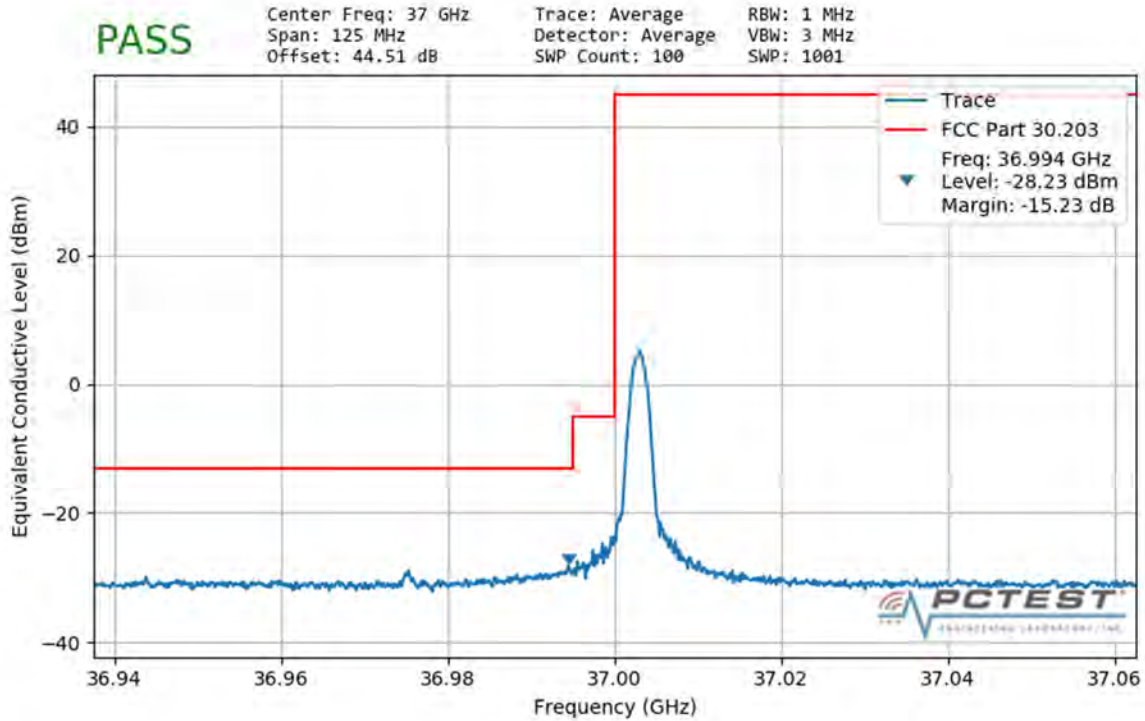


Plot 7-554. Lower Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 315 of 371

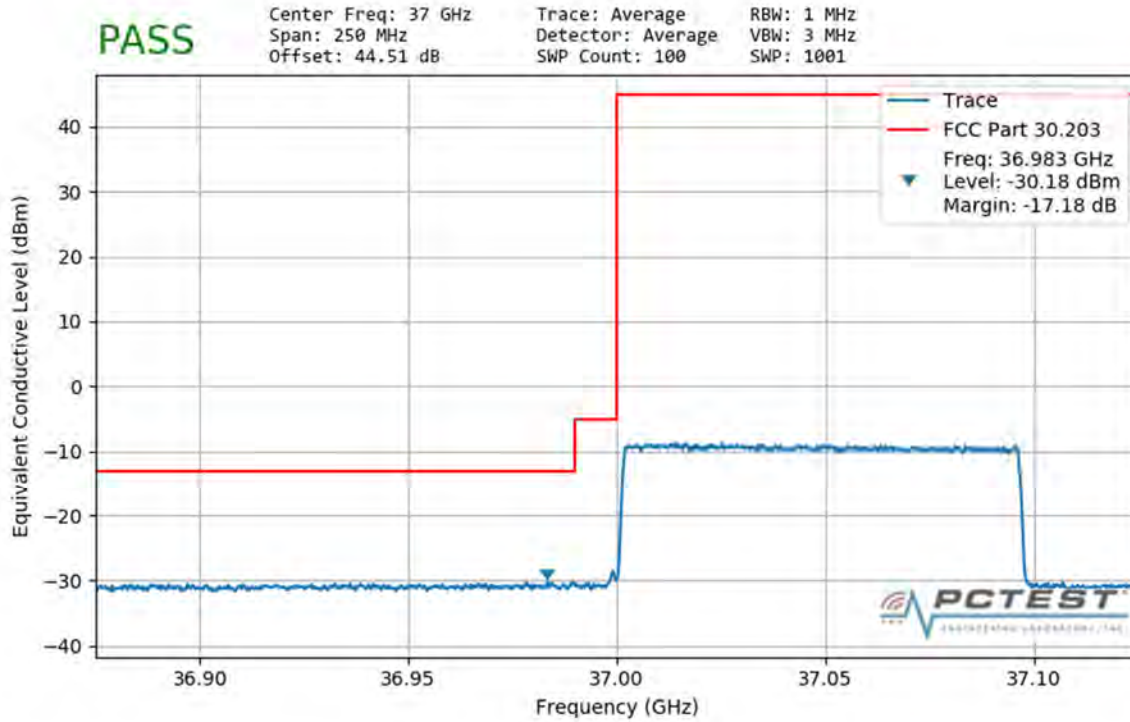


Plot 7-555. Lower Band Edge Plot (1CC 50MHz 16QAM 1 RB)

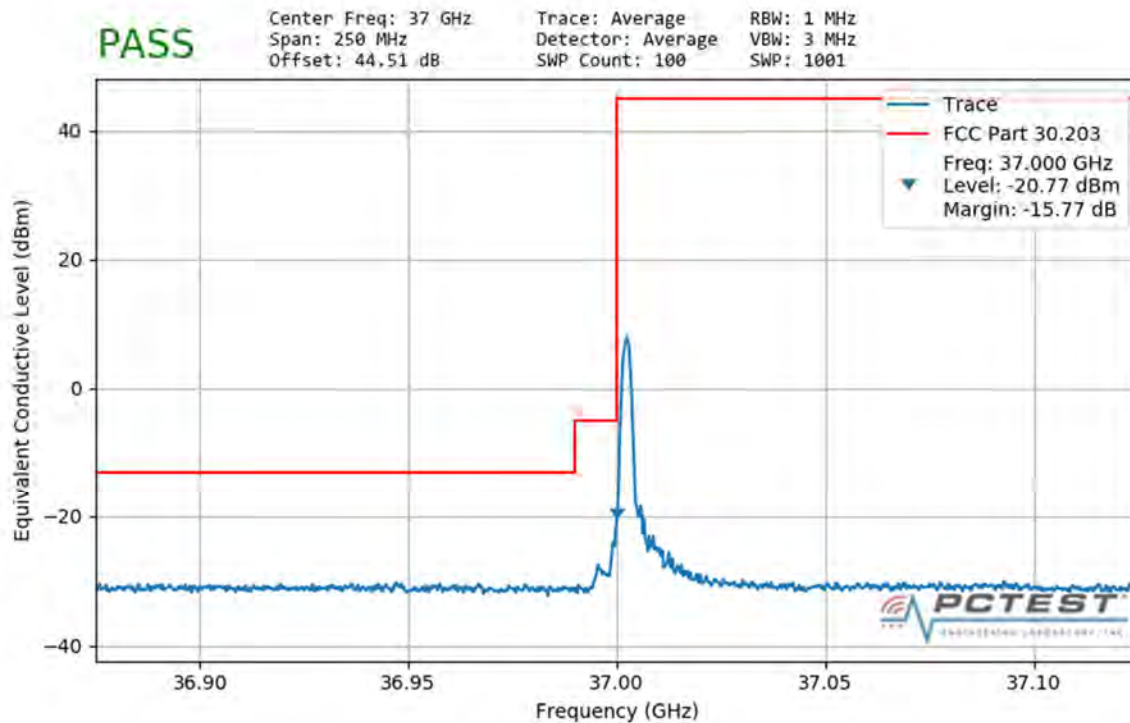


Plot 7-556. Lower Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 316 of 371

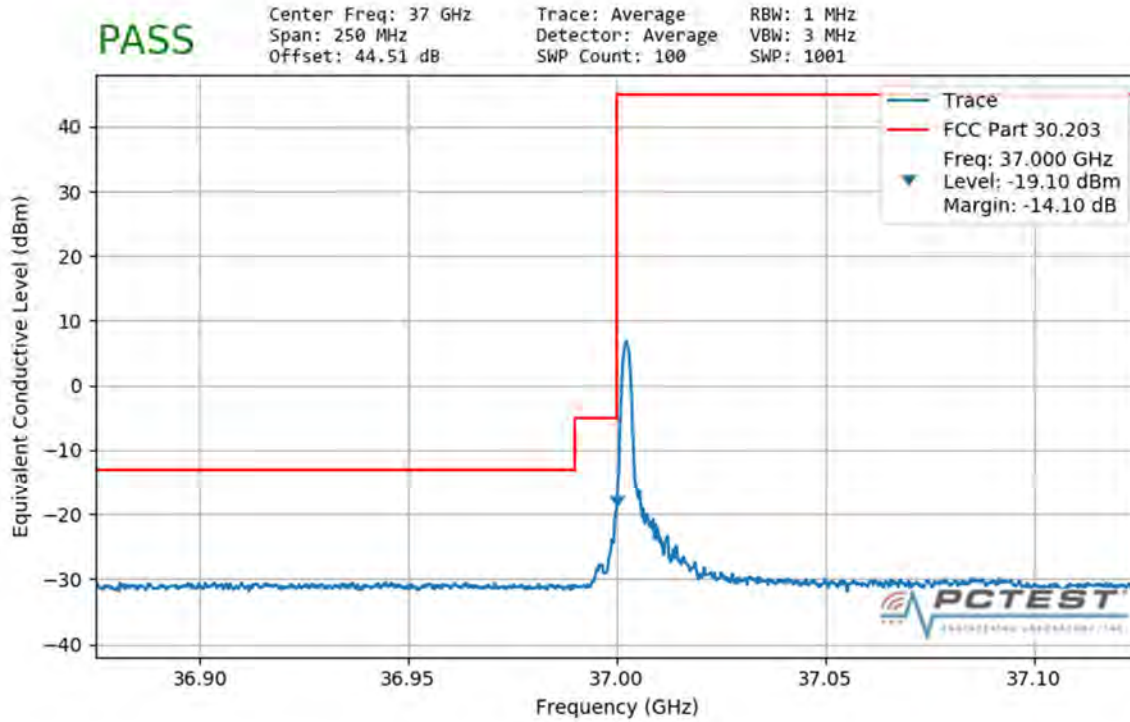


Plot 7-557. Lower Band Edge Plot (1CC 100MHz QPSK Full RB)

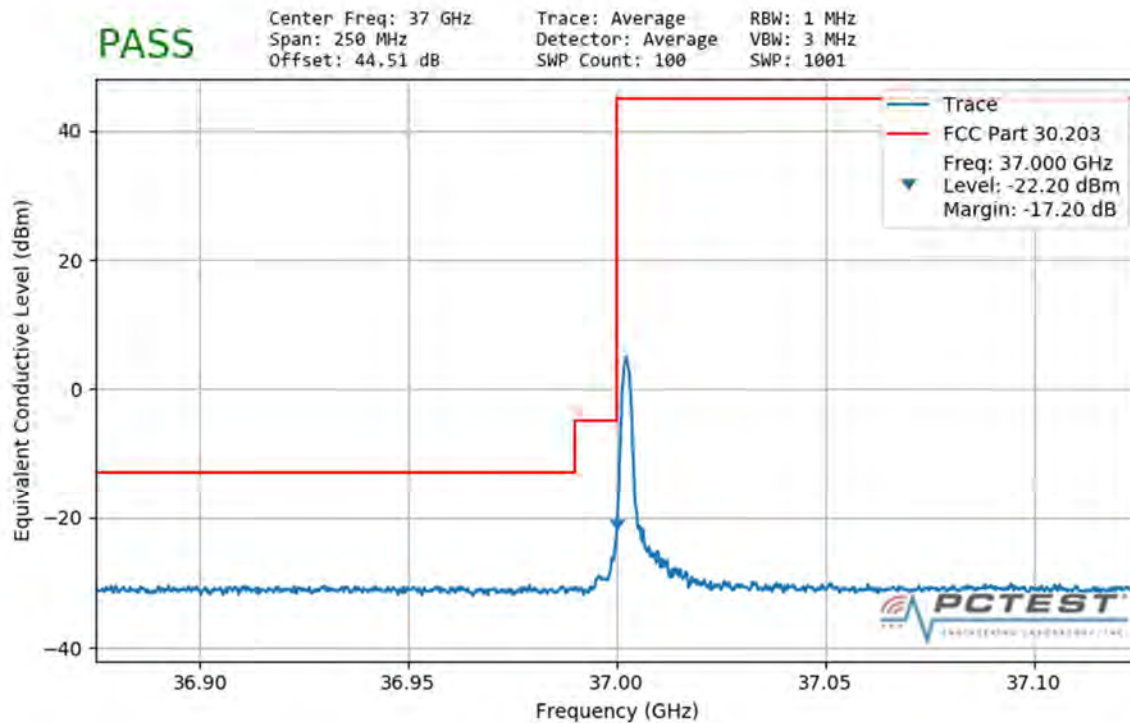


Plot 7-558. Lower Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 317 of 371

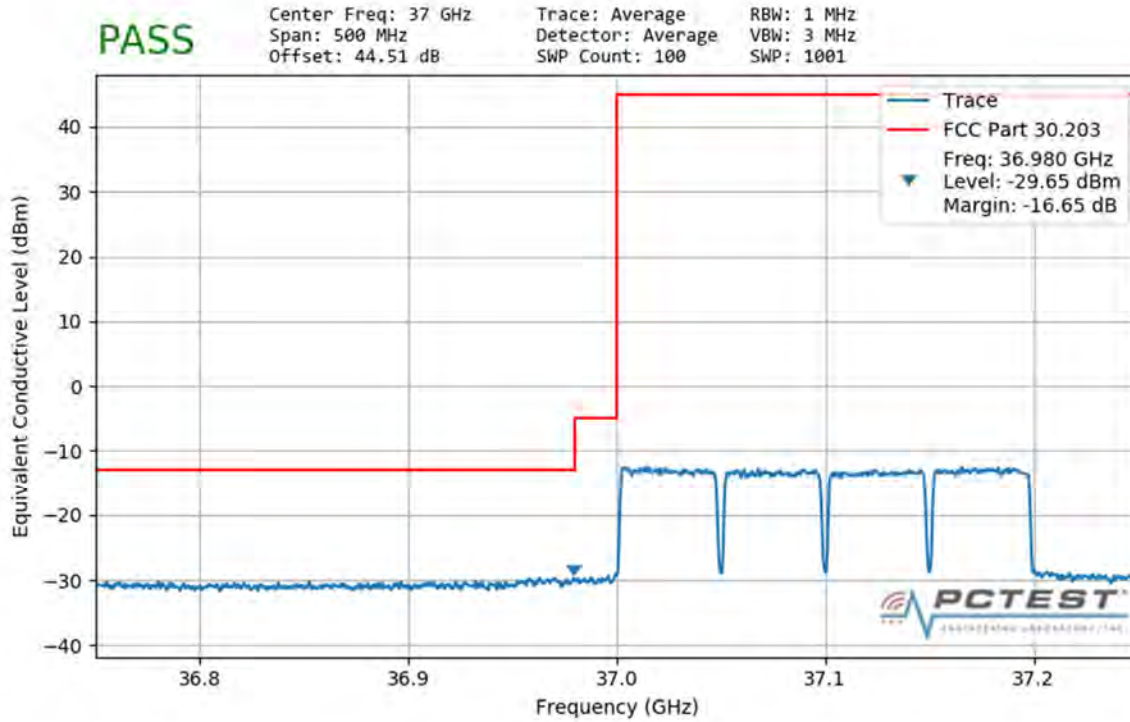


Plot 7-559. Lower Band Edge Plot (1CC 100MHz 16QAM 1 RB)

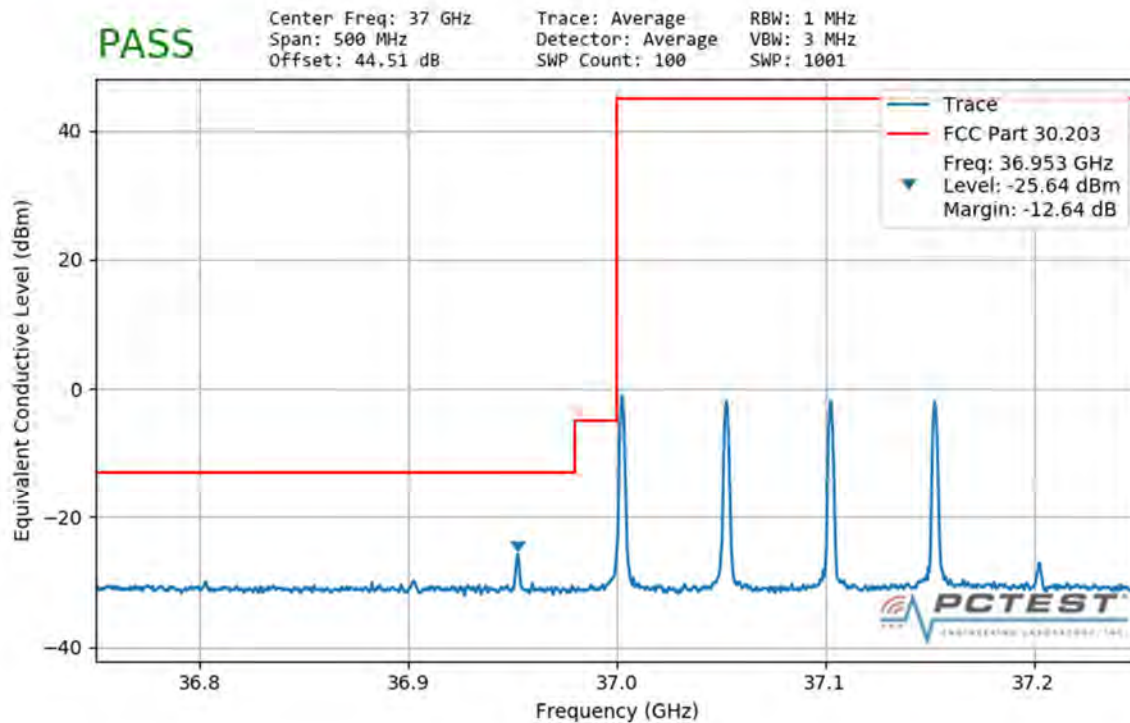


Plot 7-560. Lower Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 318 of 371

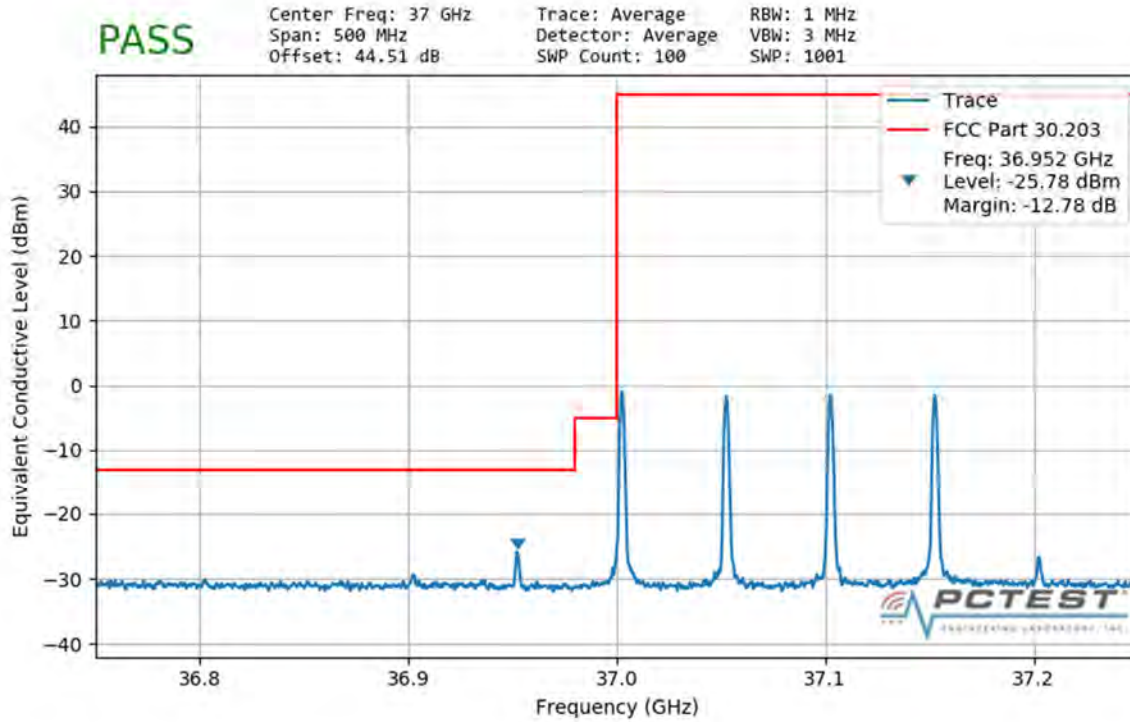


Plot 7-561. Lower Band Edge Plot (4CC 200MHz QPSK Full RB)

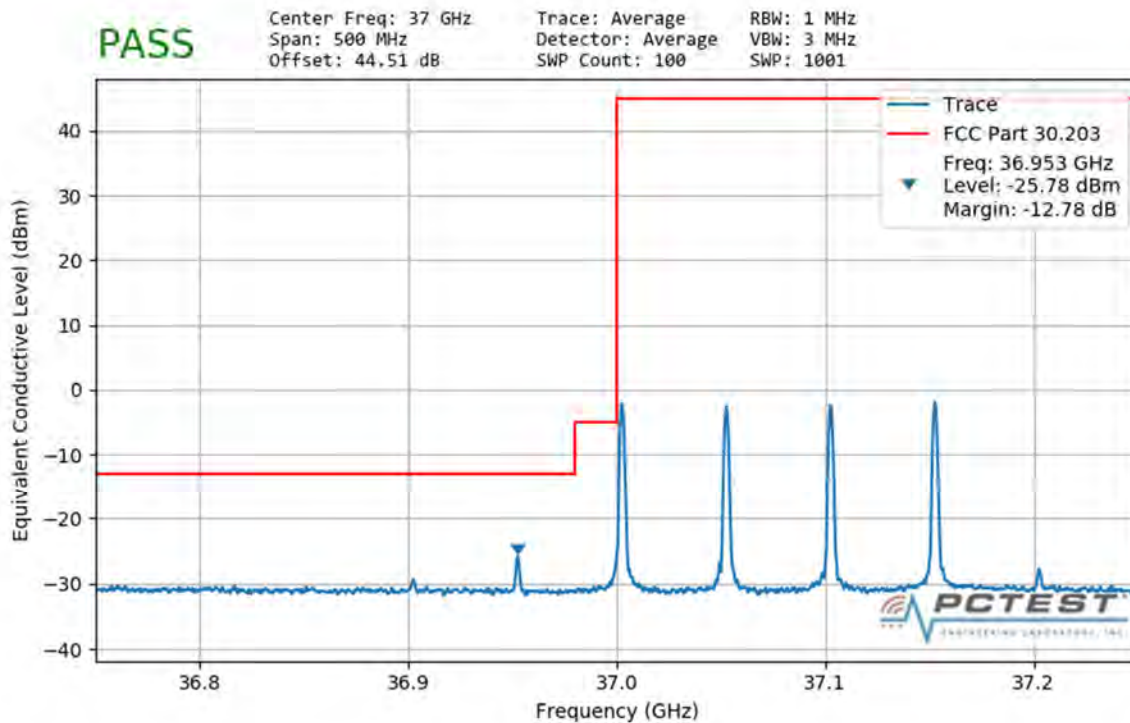


Plot 7-562. Lower Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 319 of 371

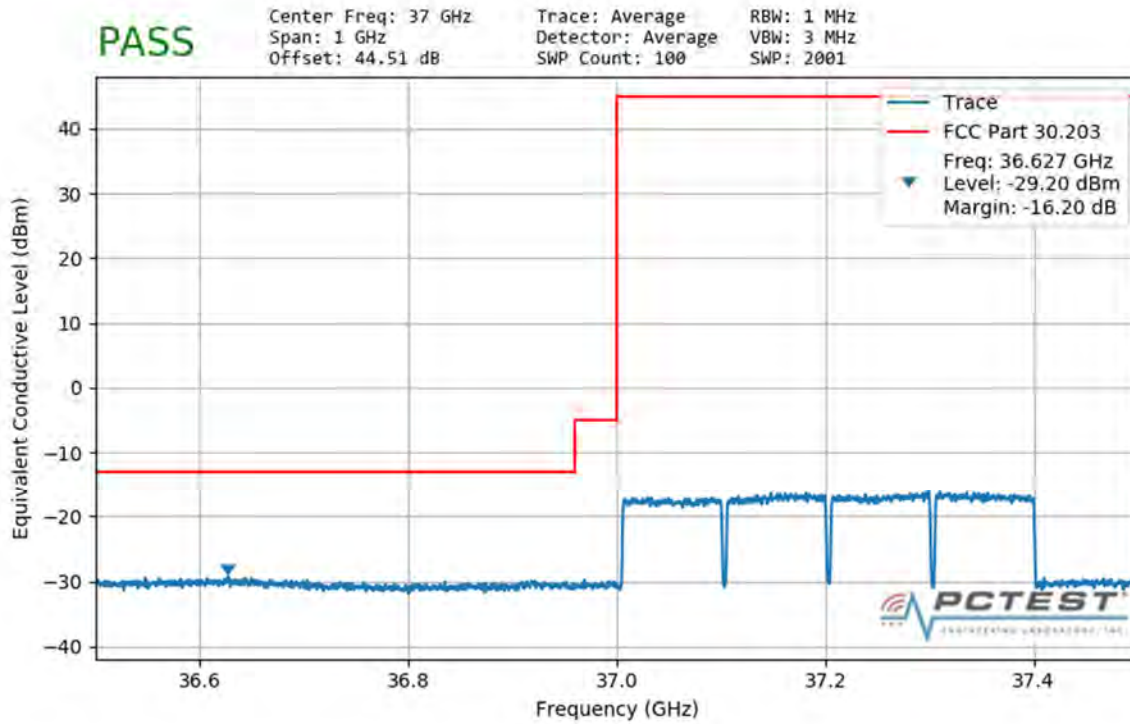


Plot 7-563. Lower Band Edge Plot (4CC 200MHz 16QAM 1 RB)

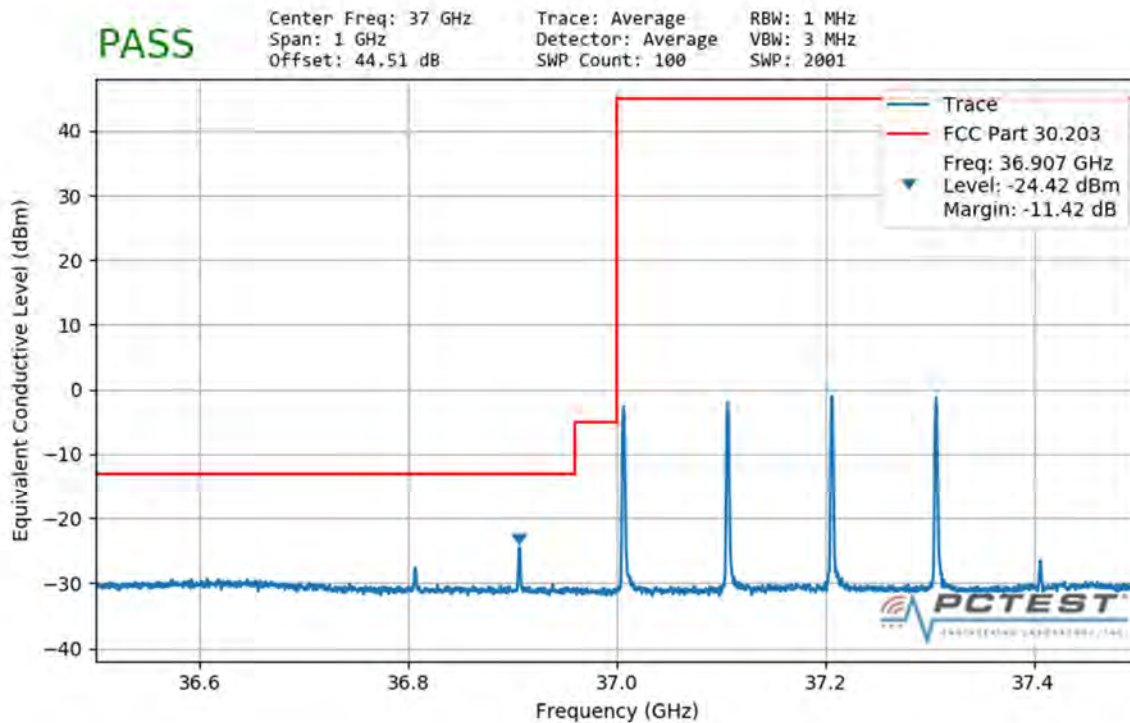


Plot 7-564. Lower Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 320 of 371

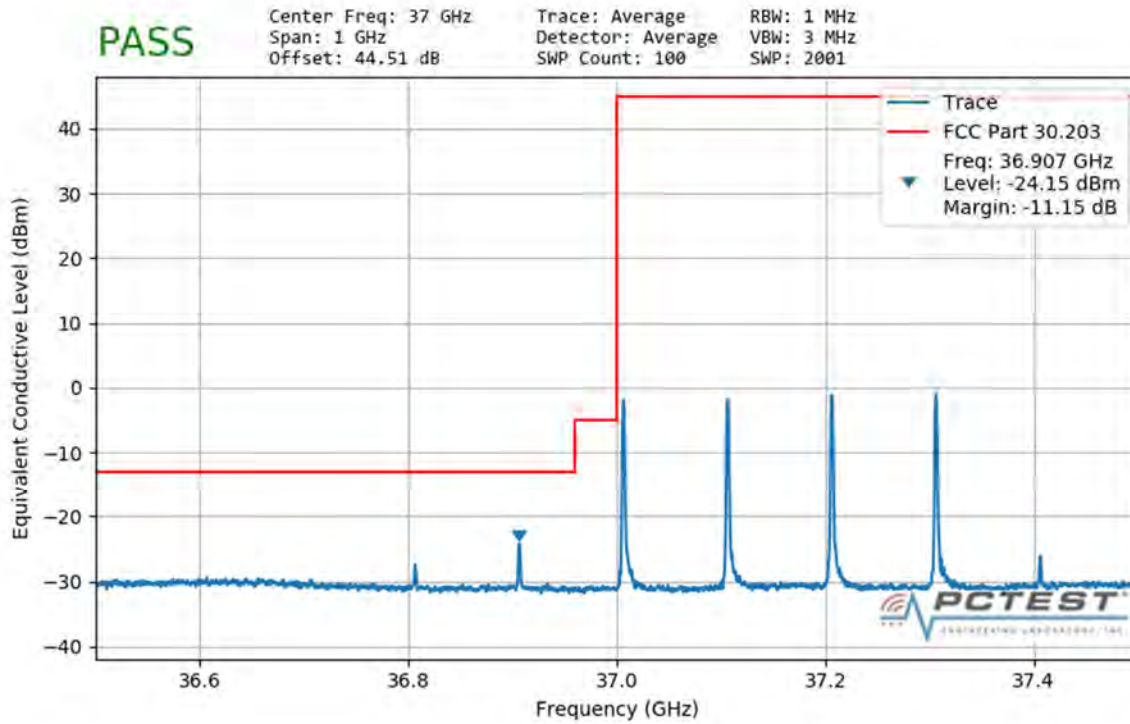


Plot 7-565. Lower Band Edge Plot (4CC 400MHz QPSK Full RB)

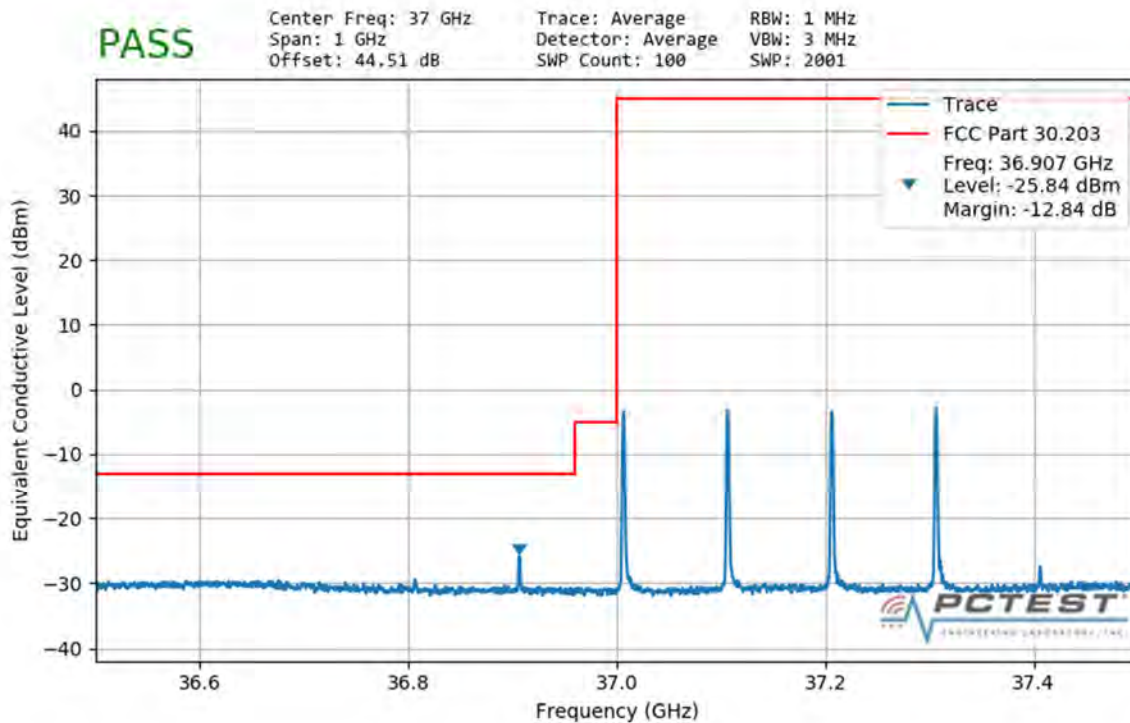


Plot 7-566. Lower Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 321 of 371

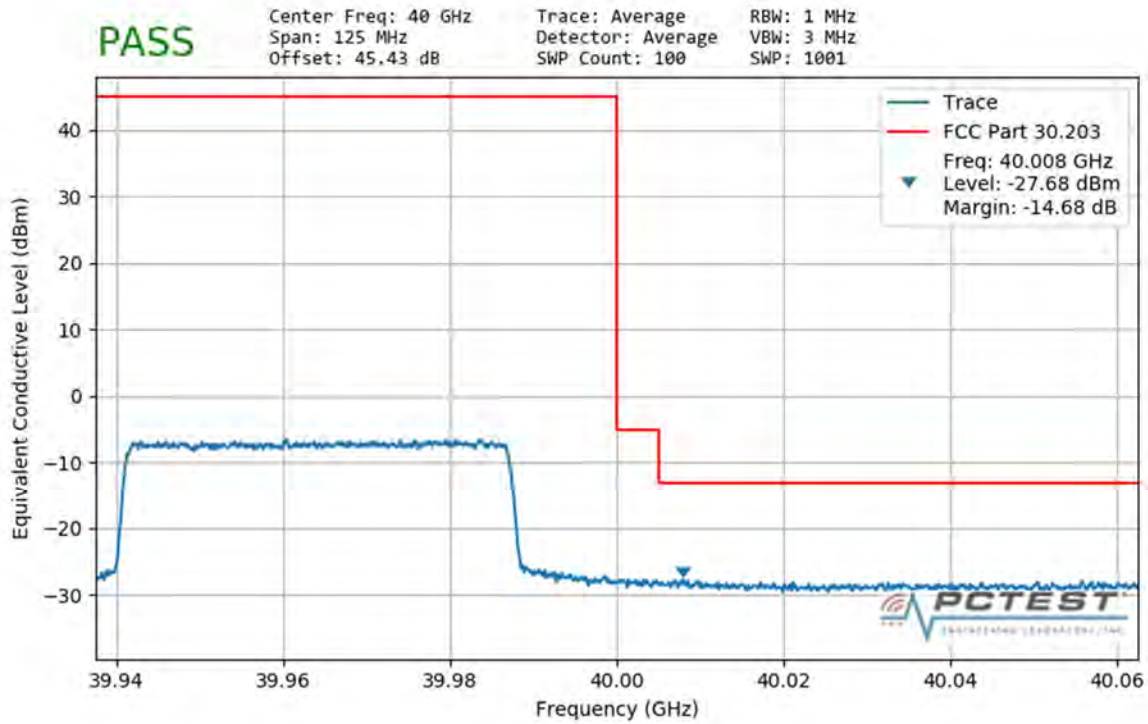


Plot 7-567. Lower Band Edge Plot (4CC 400MHz 16QAM 1 RB)

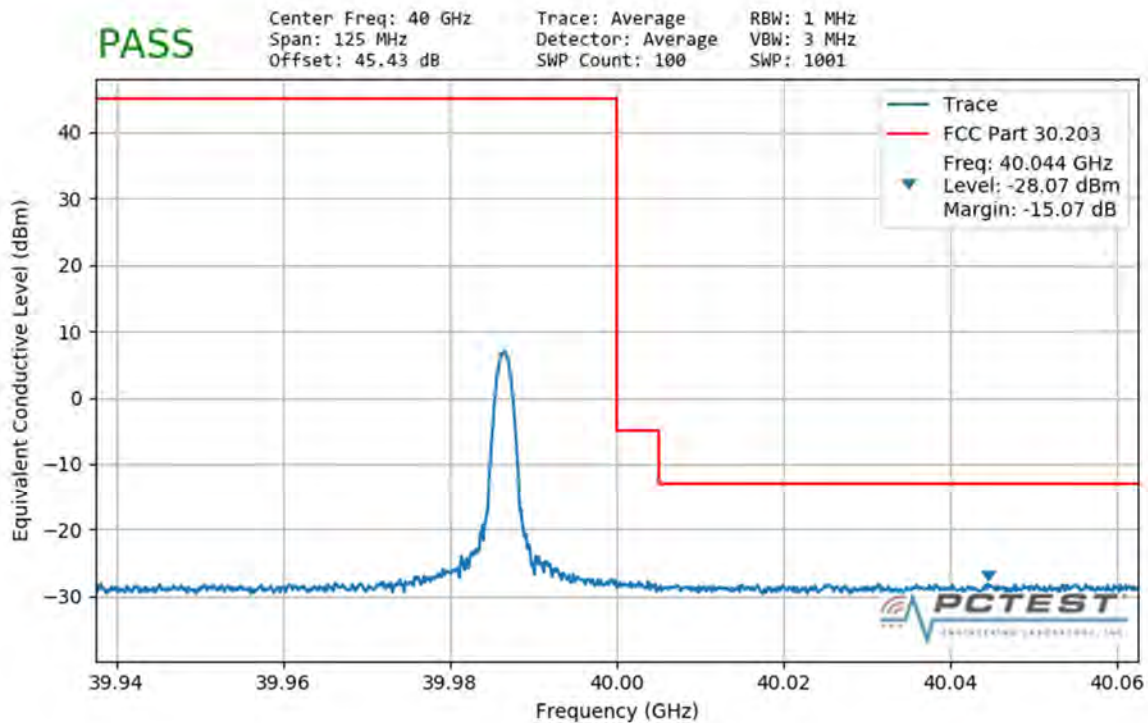


Plot 7-568. Lower Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 322 of 371

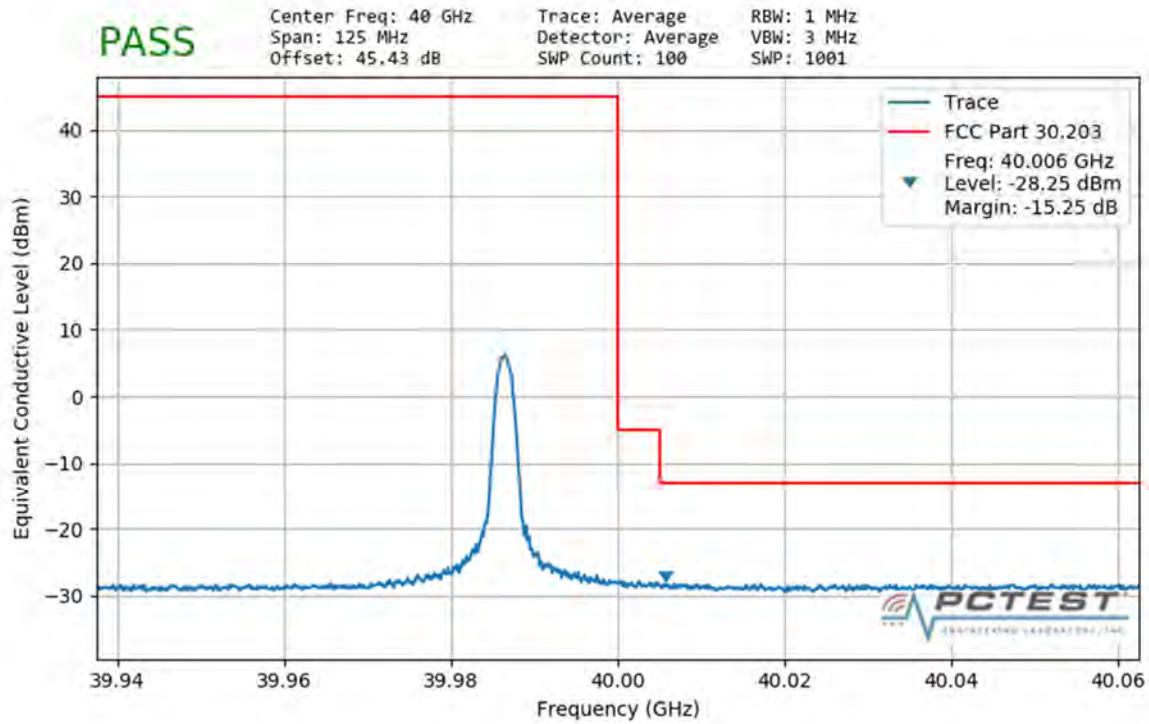


Plot 7-569. Upper Band Edge Plot (1CC 50MHz QPSK Full RB)

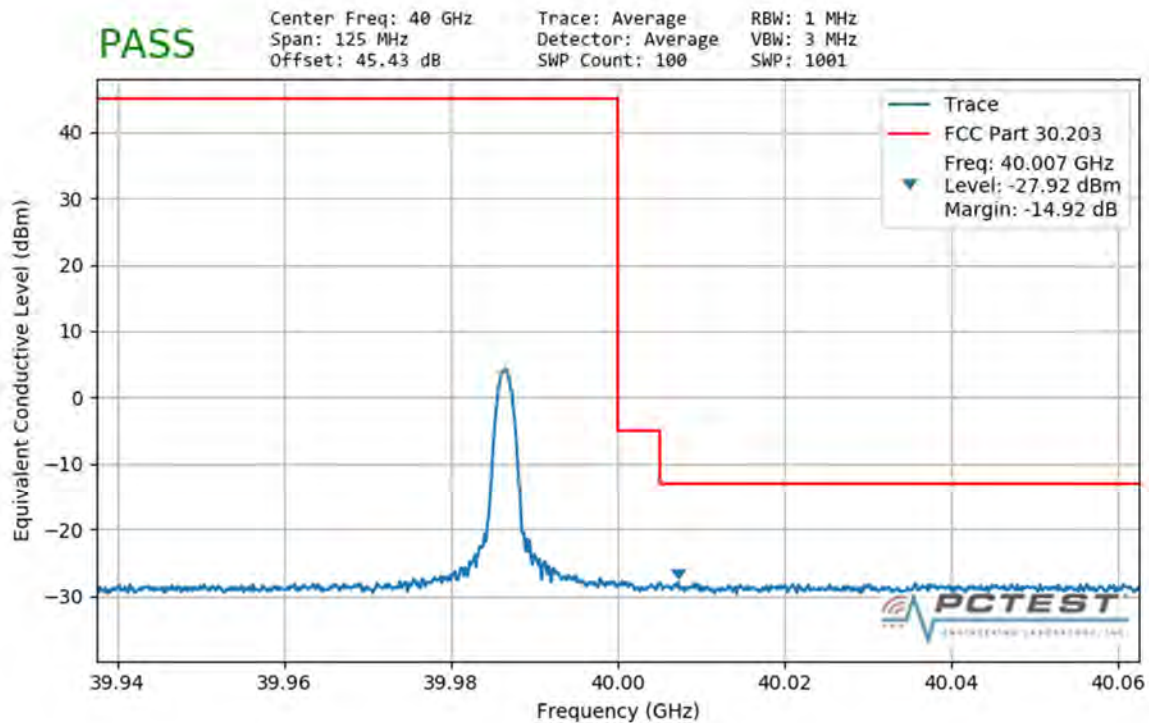


Plot 7-570. Upper Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 323 of 371

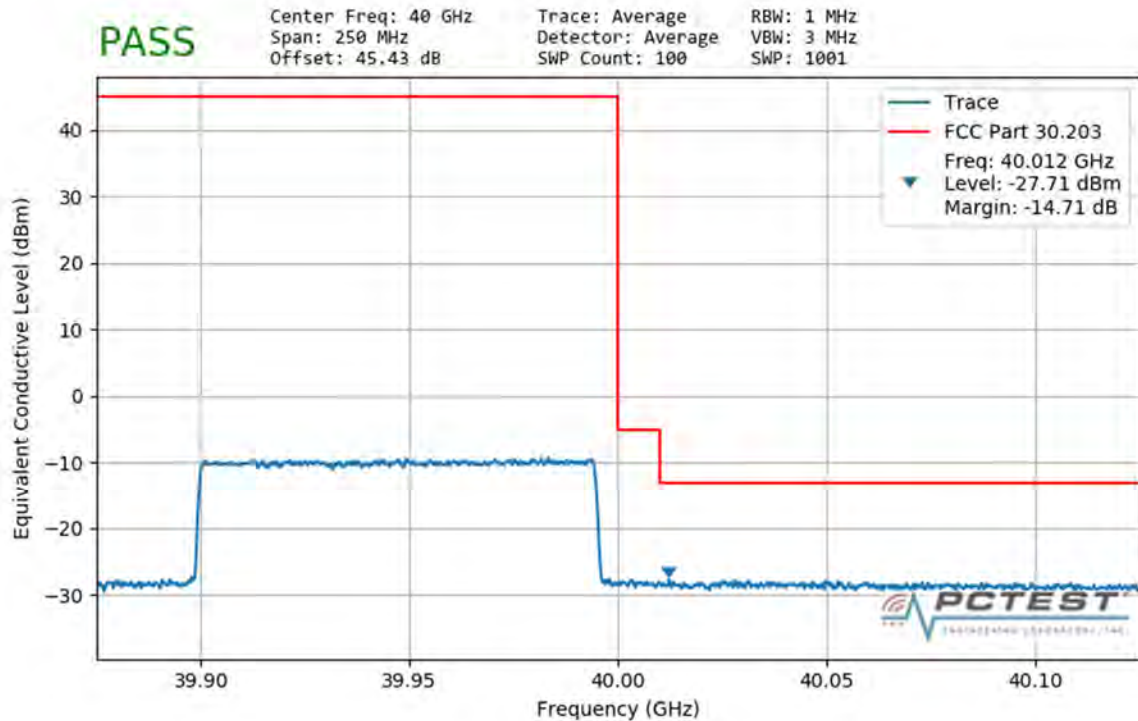


Plot 7-571. Upper Band Edge Plot (1CC 50MHz 16QAM 1 RB)

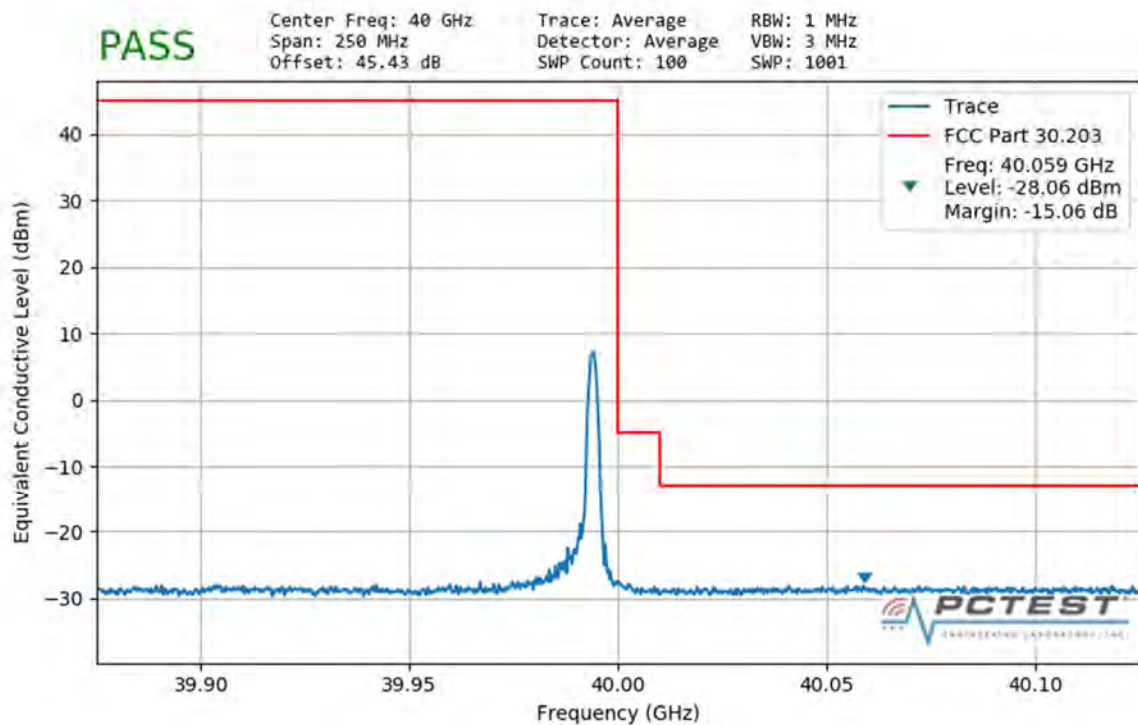


Plot 7-572. Upper Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 324 of 371

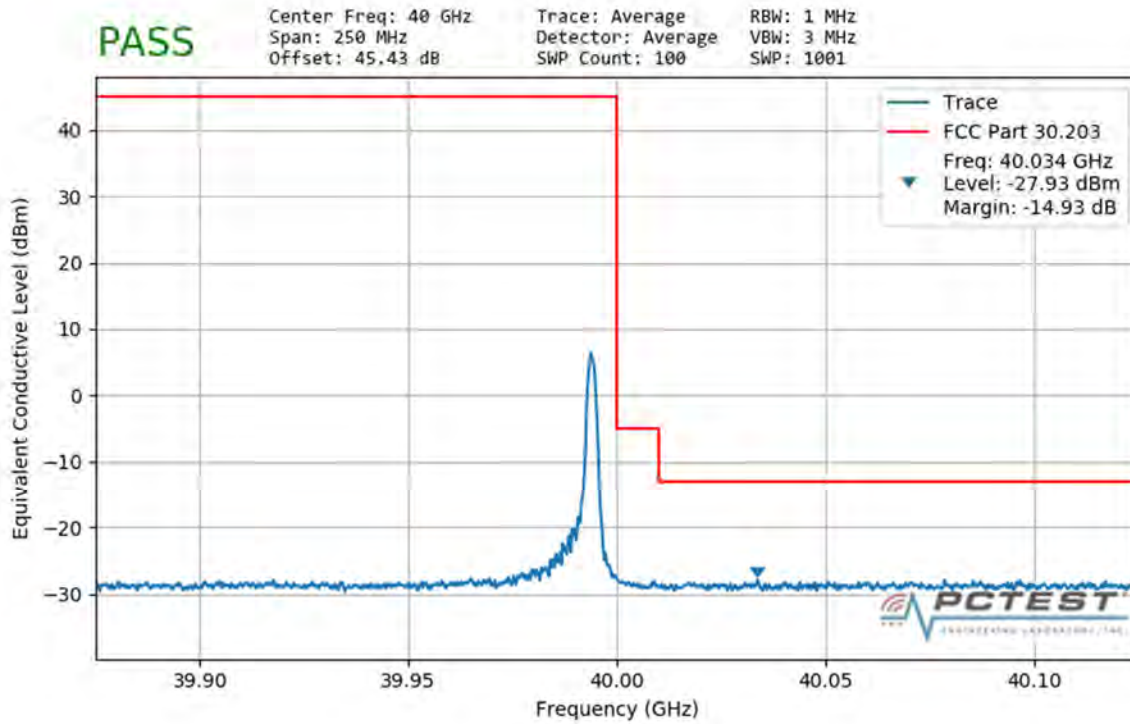


Plot 7-573. Upper Band Edge Plot (1CC 100MHz QPSK Full RB)

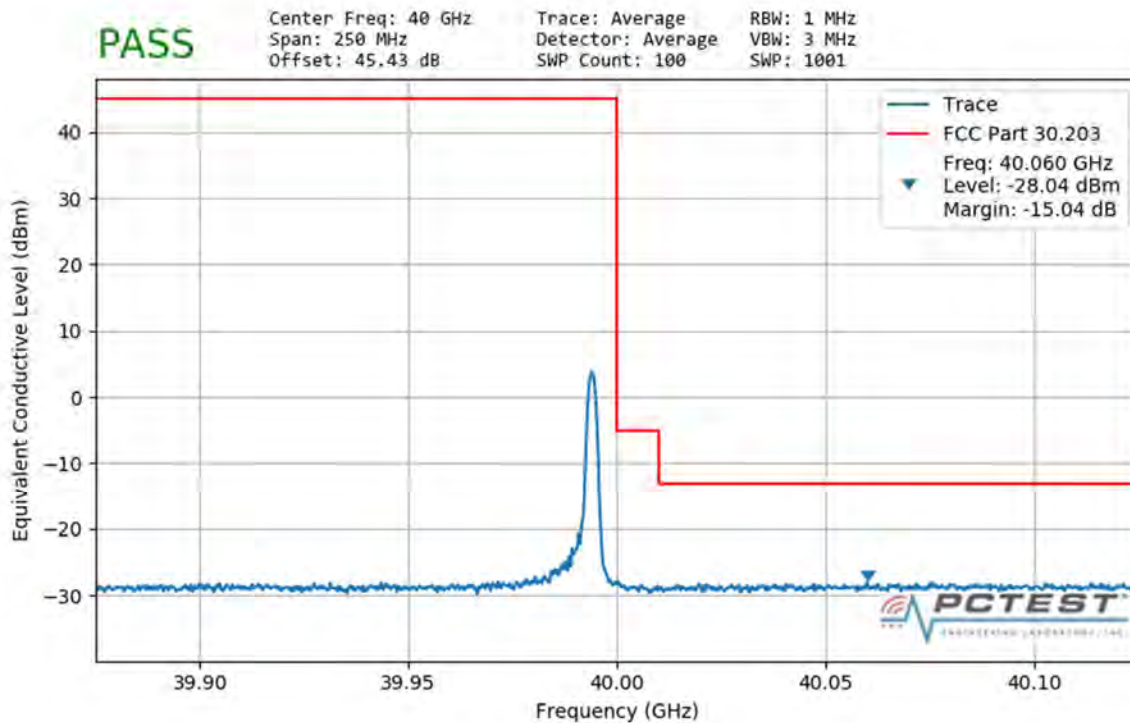


Plot 7-574. Upper Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 325 of 371

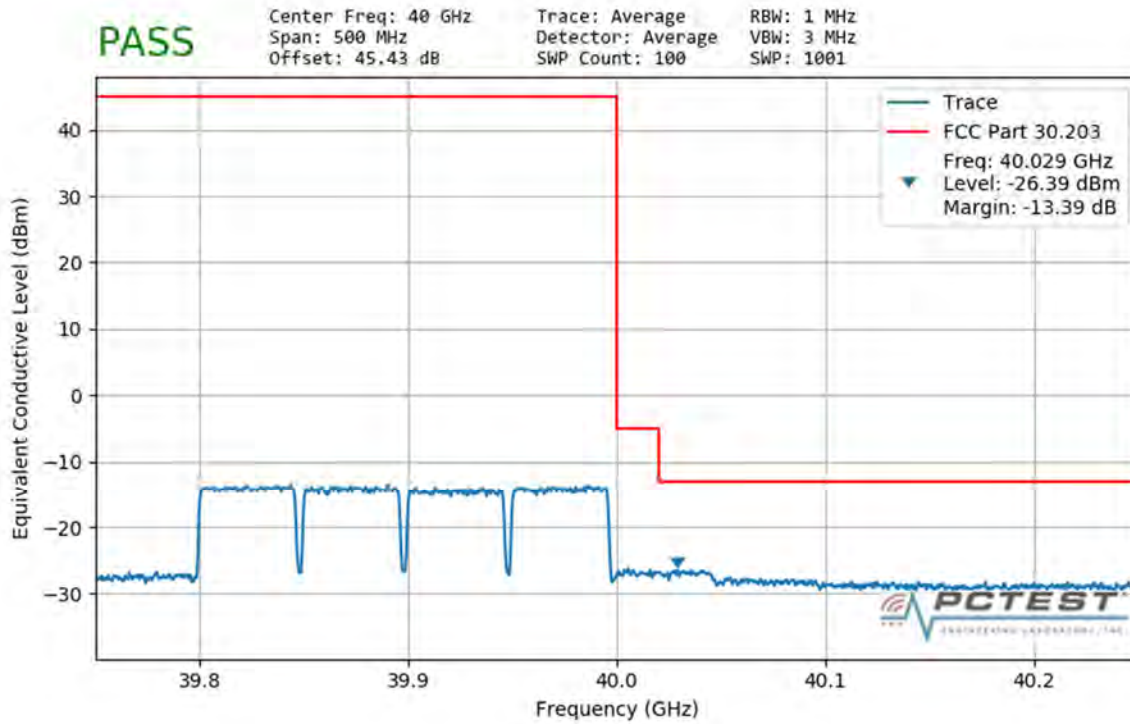


Plot 7-575. Upper Band Edge Plot (1CC 100MHz 16QAM 1 RB)

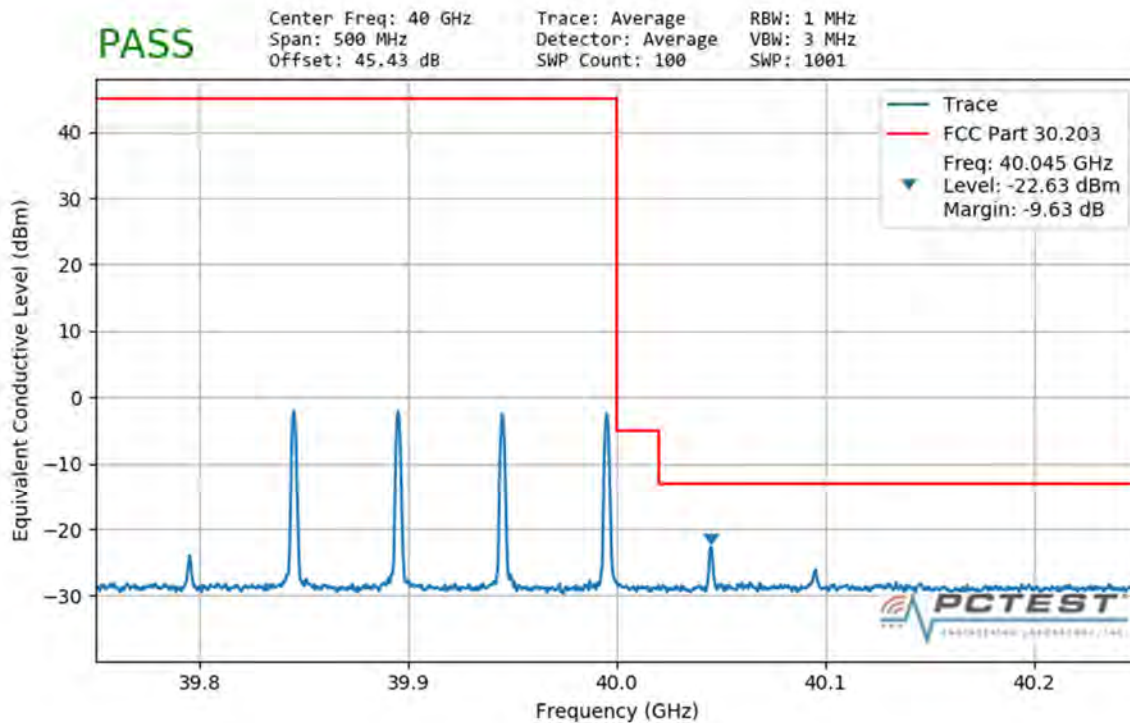


Plot 7-576. Upper Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset			Page 326 of 371

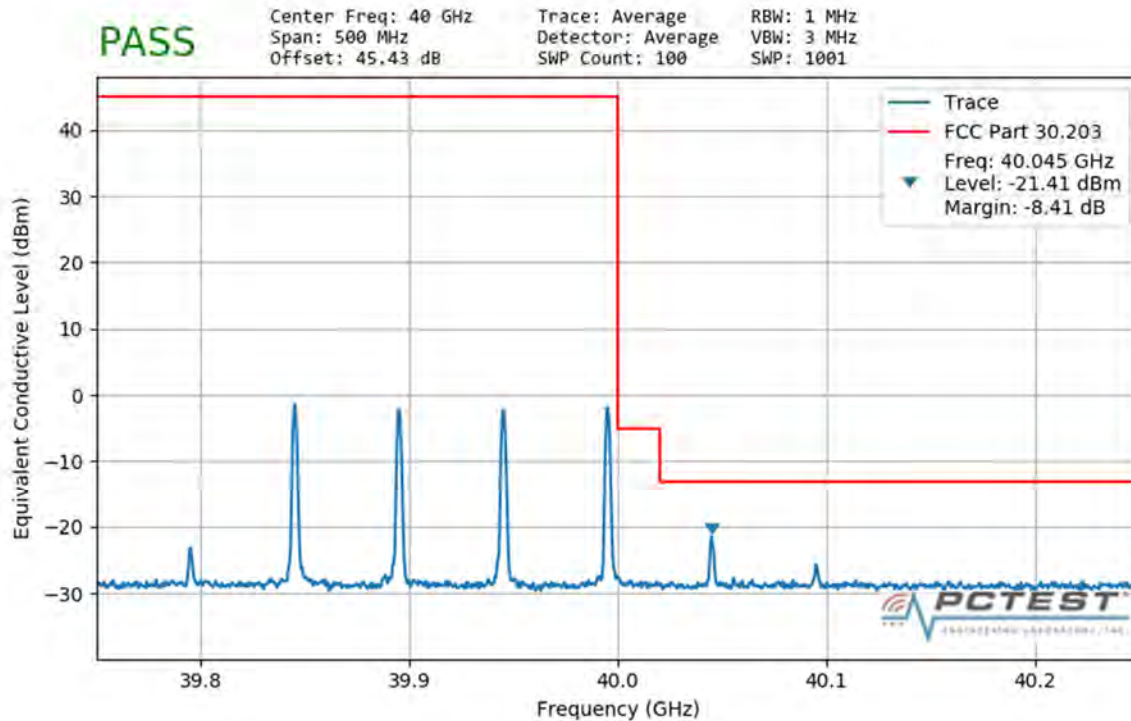


Plot 7-577. Upper Band Edge Plot (4CC 200MHz QPSK Full RB)

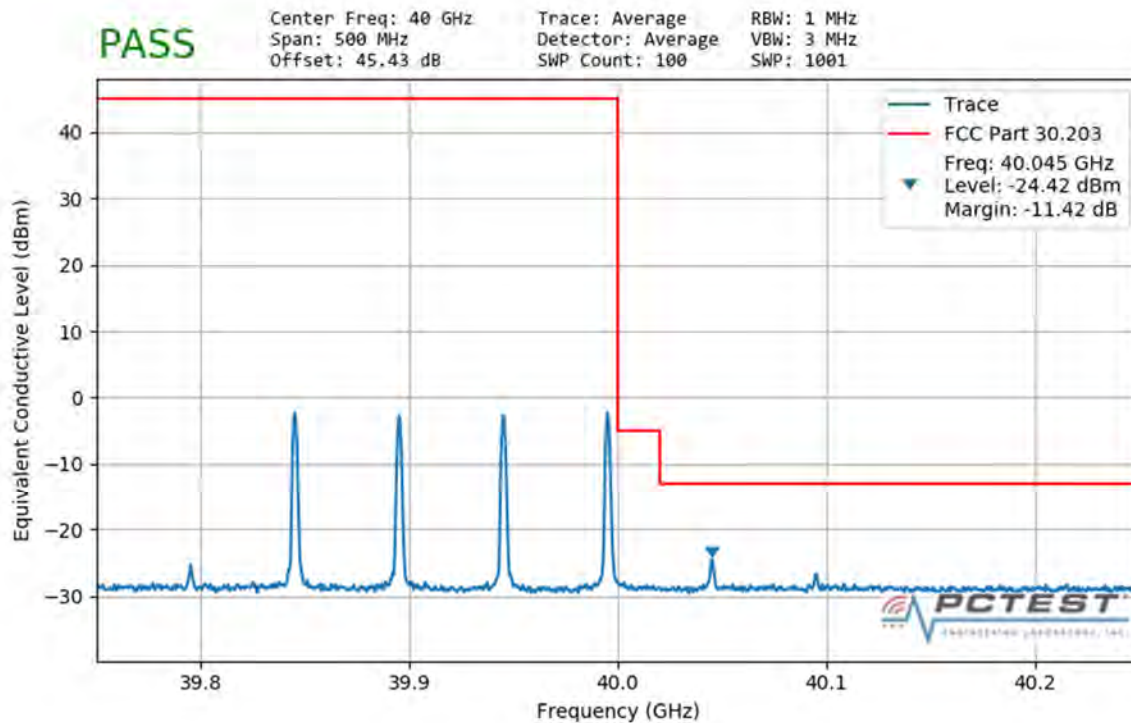


Plot 7-578. Upper Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 327 of 371

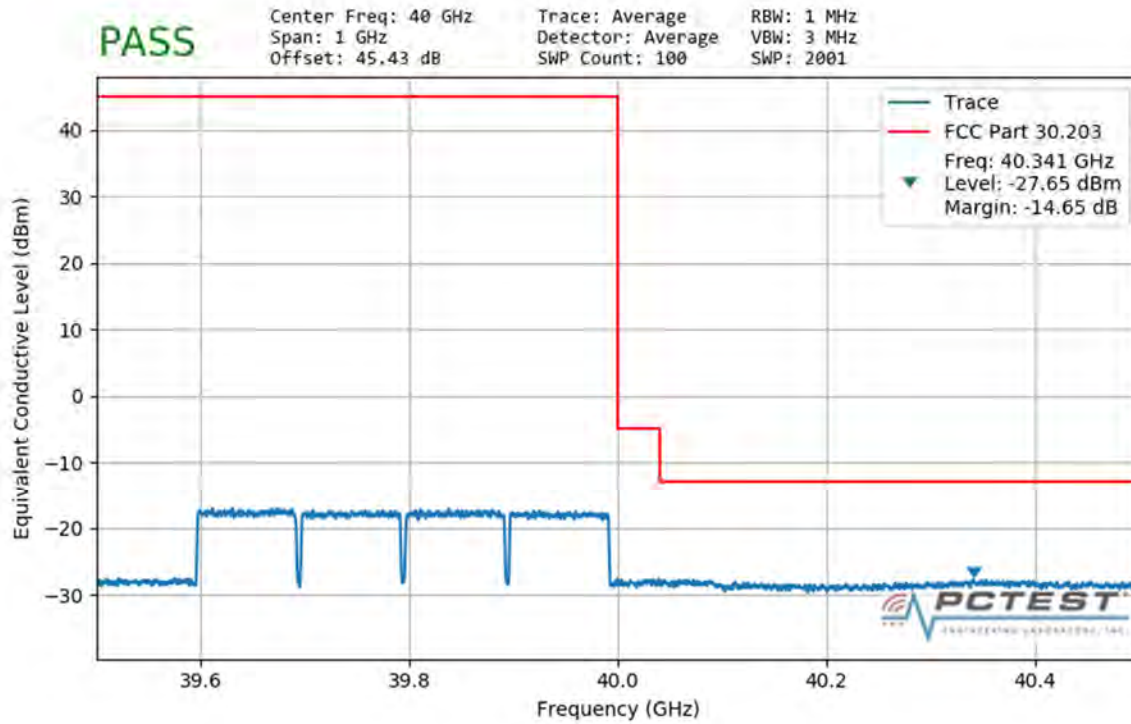


Plot 7-579. Upper Band Edge Plot (4CC 200MHz 16QAM 1 RB)

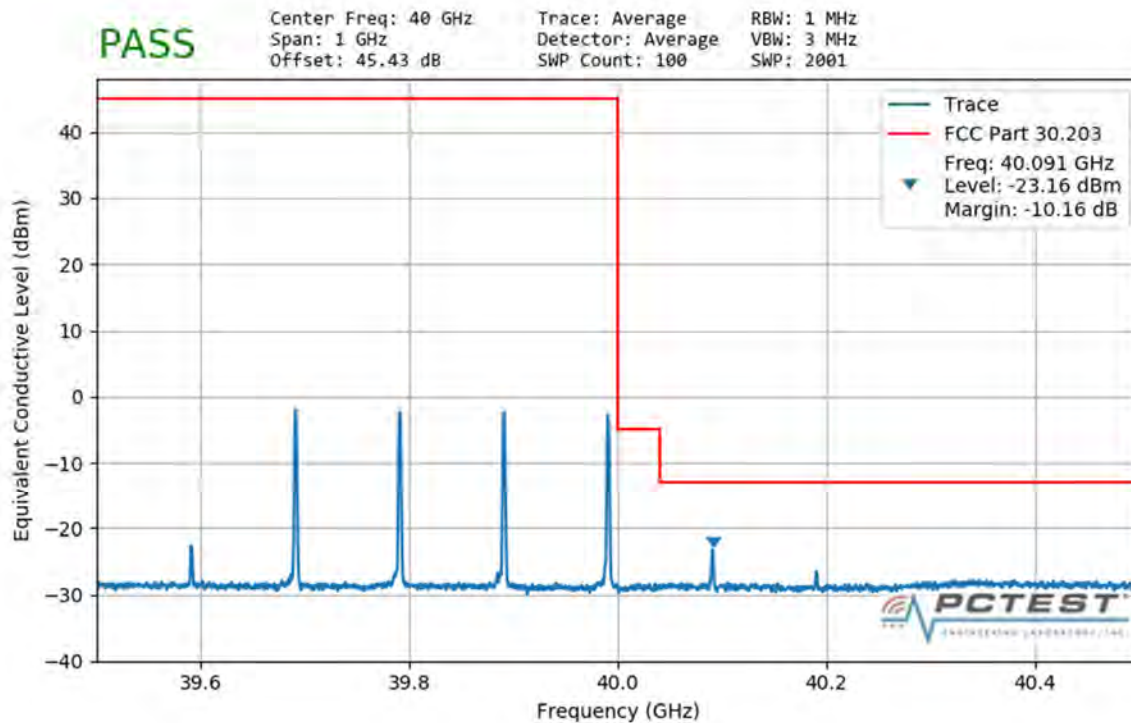


Plot 7-580. Upper Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 328 of 371

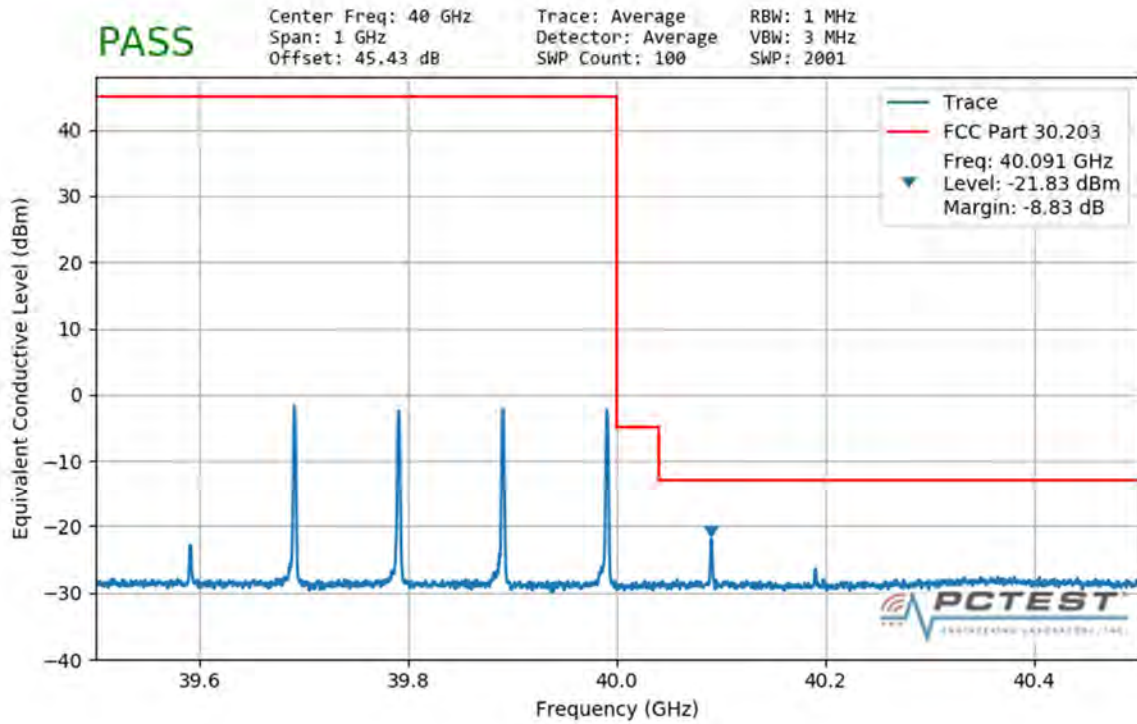


Plot 7-581. Upper Band Edge Plot (4CC 400MHz QPSK Full RB)

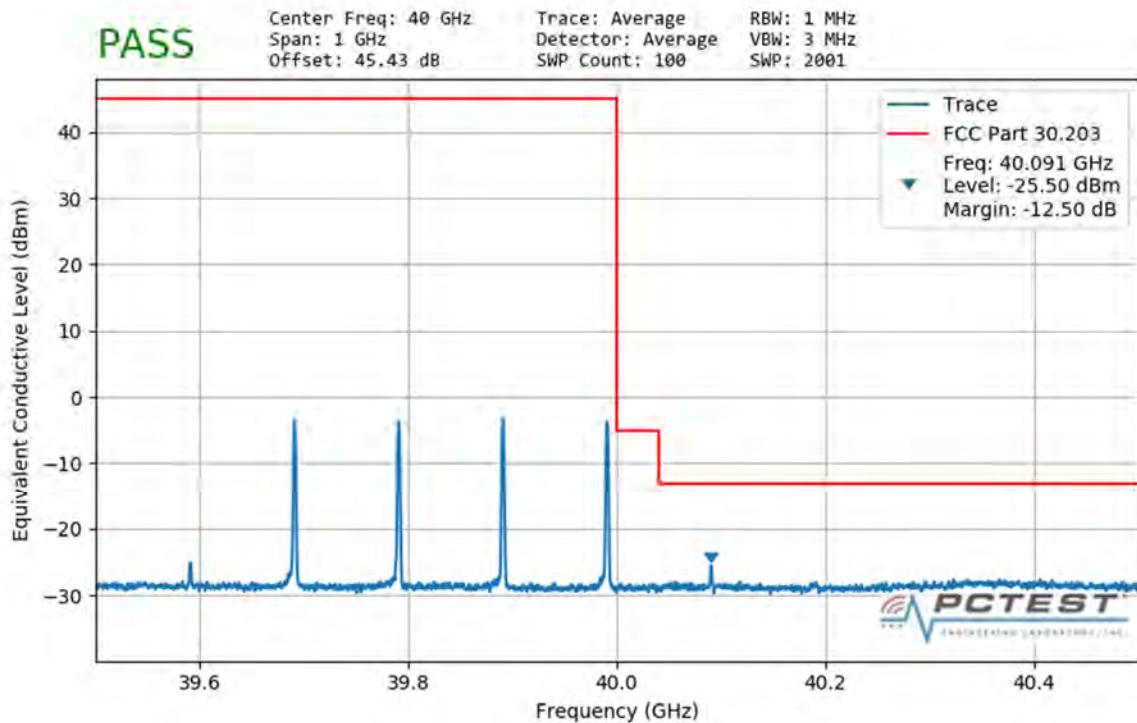


Plot 7-582. Upper Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 329 of 371



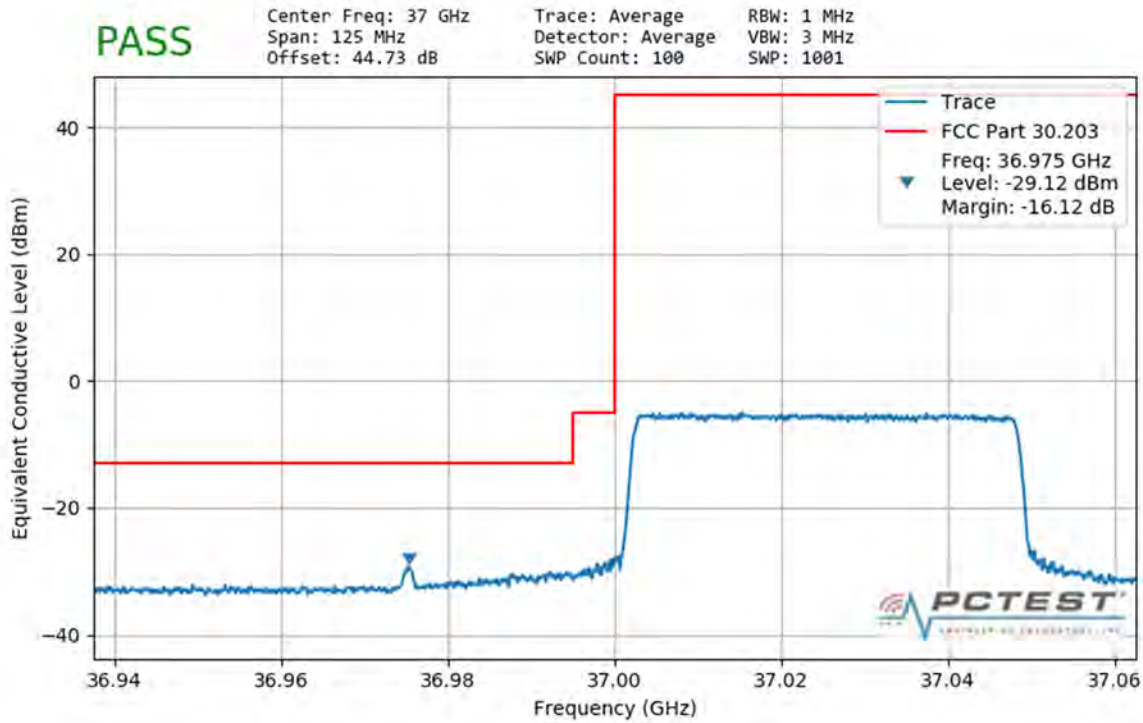
Plot 7-583. Upper Band Edge Plot (4CC 400MHz 16QAM 1 RB)



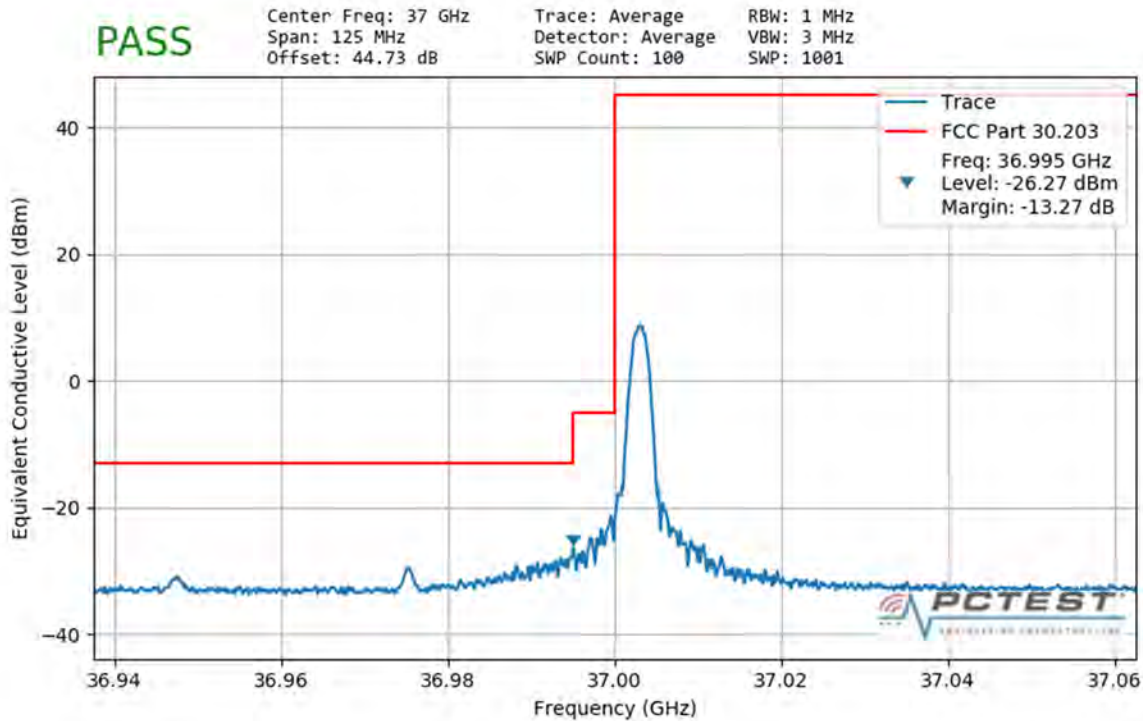
Plot 7-584. Upper Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 330 of 371

K Patch MIMO(n260)

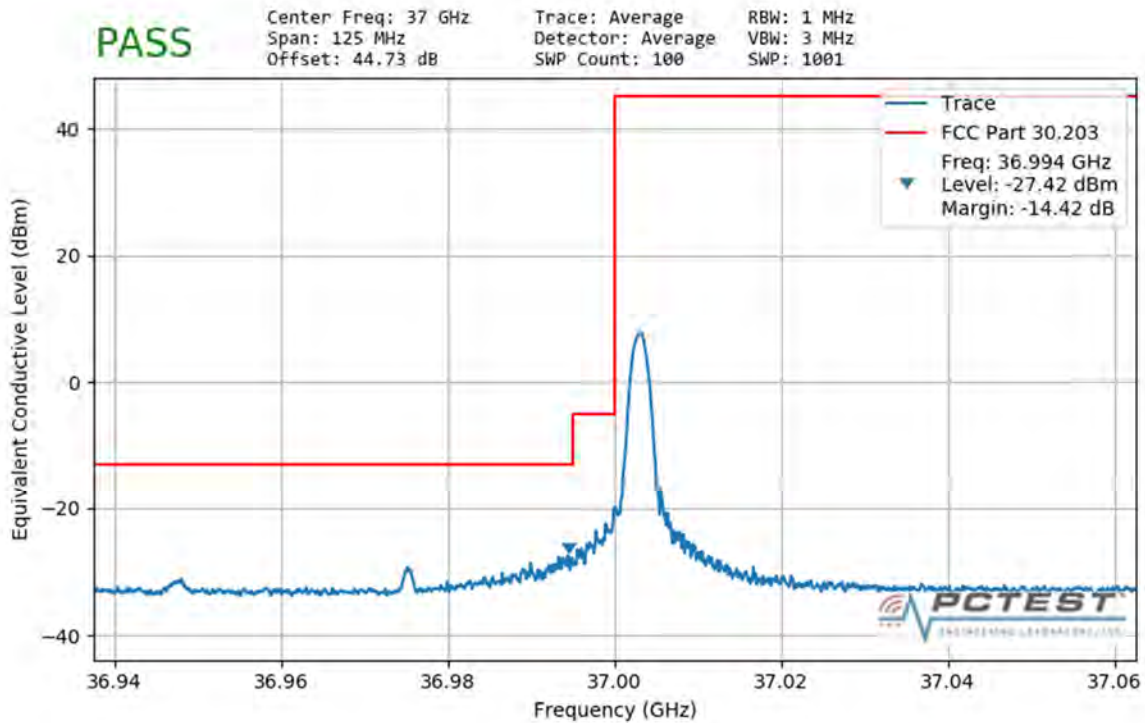


Plot 7-585. Lower Band Edge Plot (1CC 50MHz QPSK Full RB)

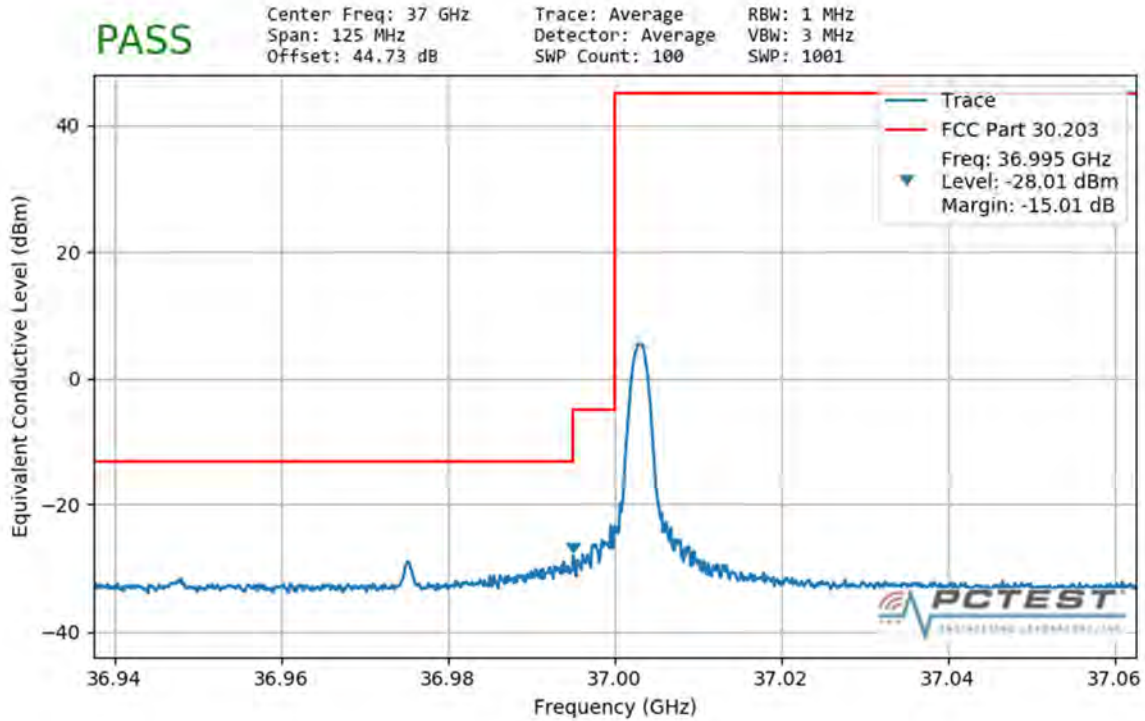


Plot 7-586. Lower Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 331 of 371

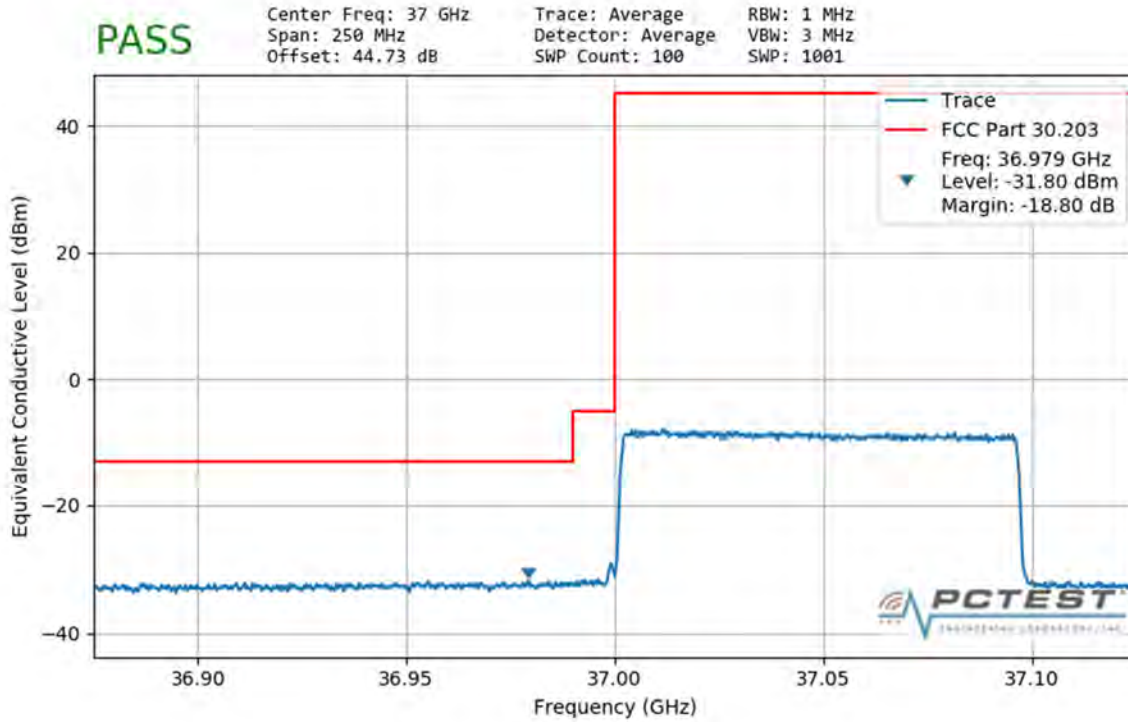


Plot 7-587. Lower Band Edge Plot (1CC 50MHz 16QAM 1 RB)

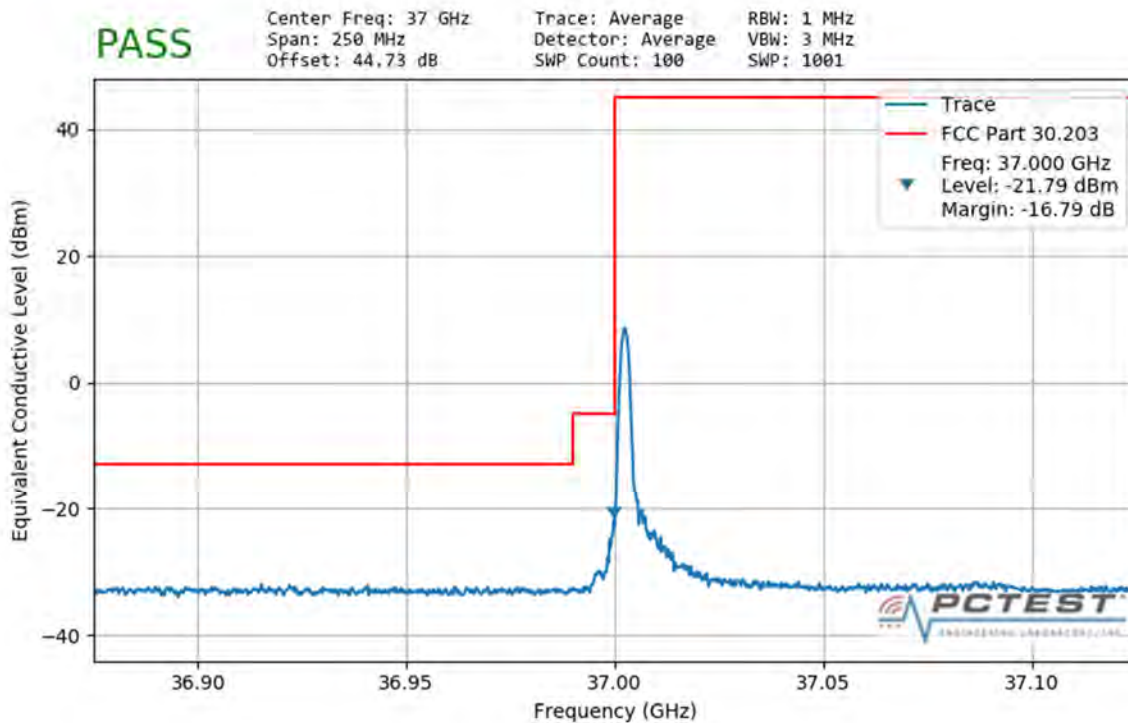


Plot 7-588. Lower Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 332 of 371

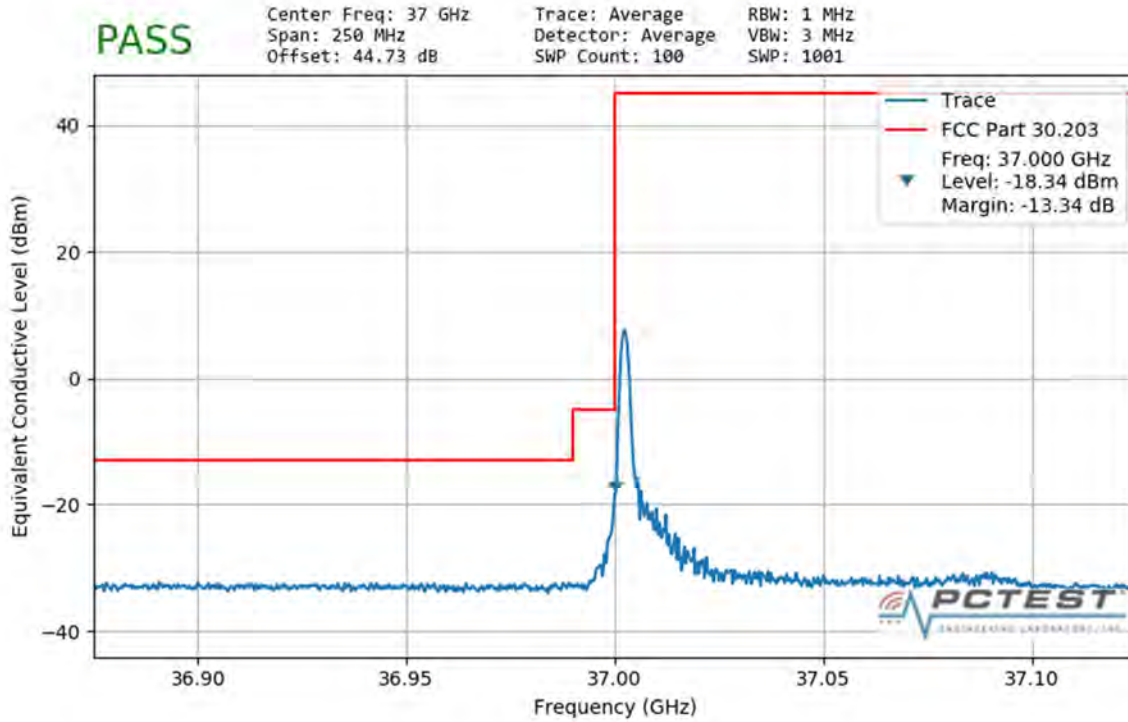


Plot 7-589. Lower Band Edge Plot (1CC 100MHz QPSK Full RB)

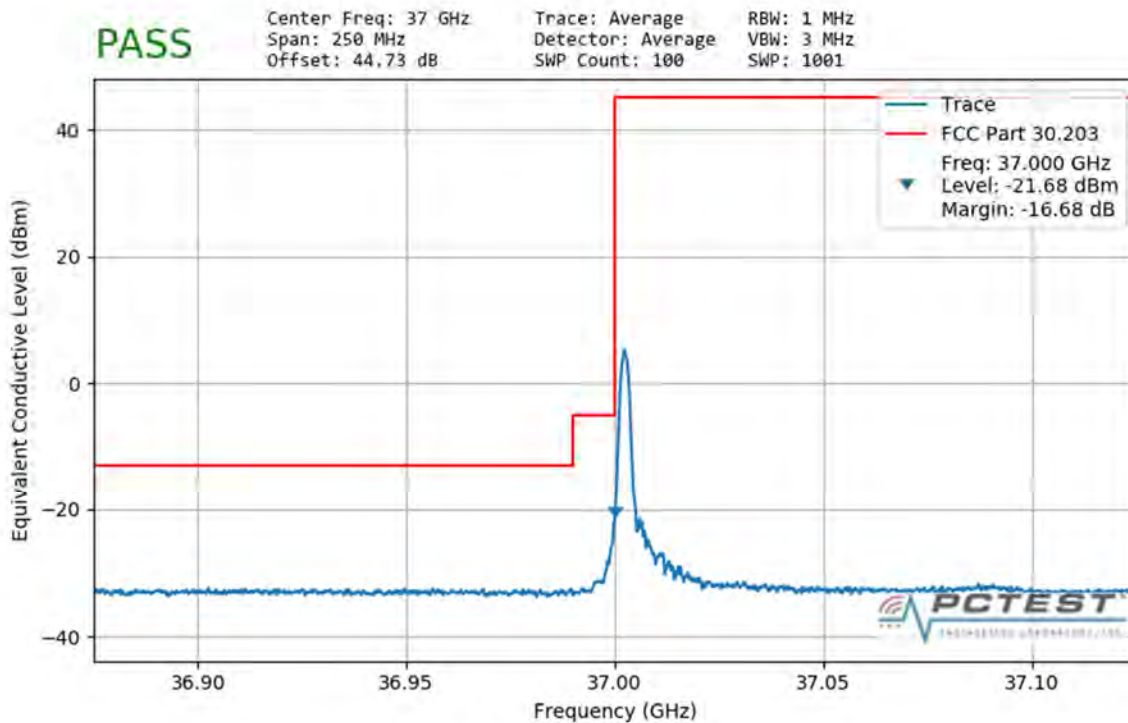


Plot 7-590. Lower Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 333 of 371

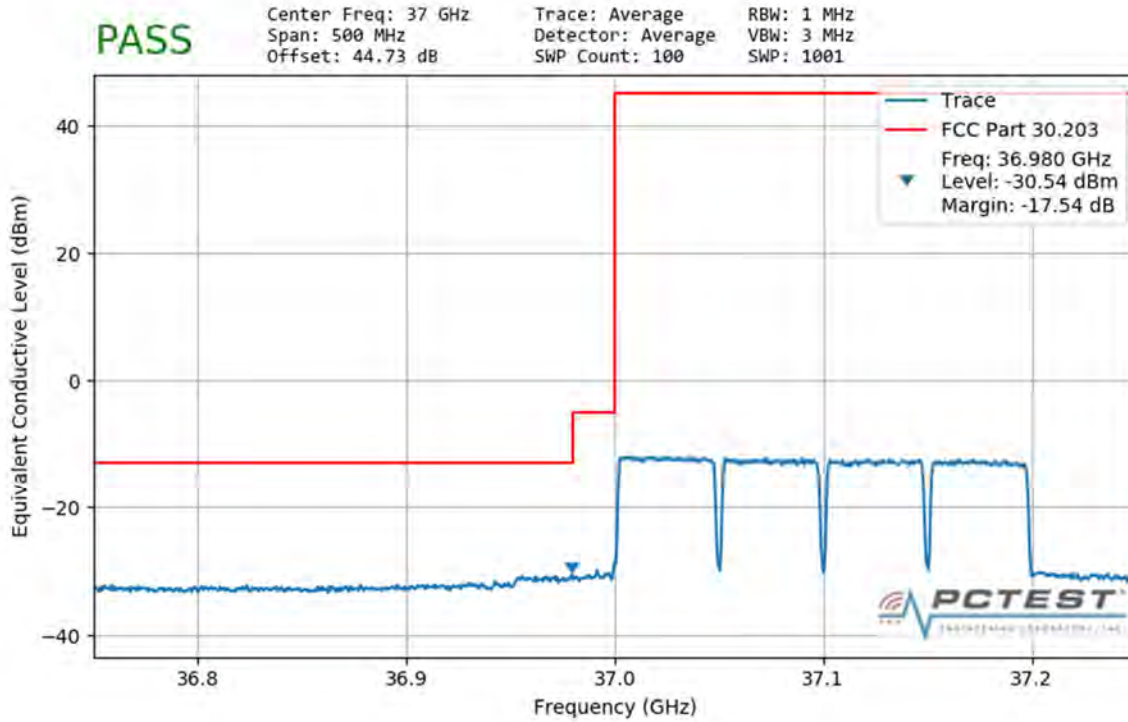


Plot 7-591. Lower Band Edge Plot (1CC 100MHz 16QAM 1 RB)

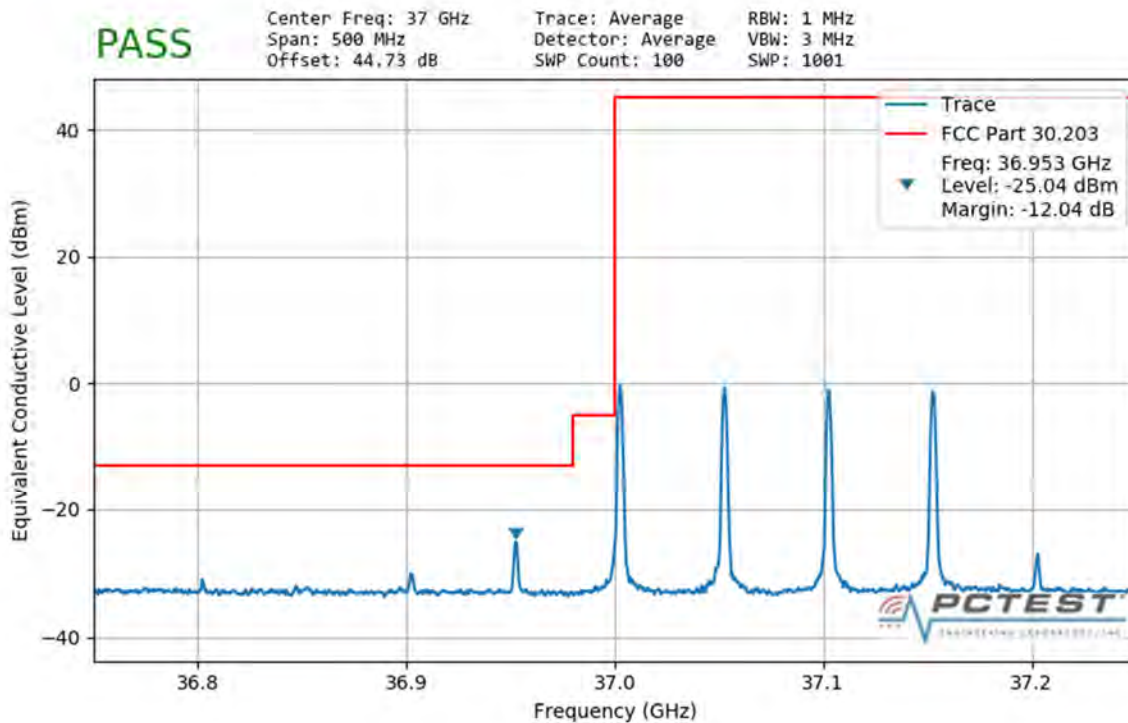


Plot 7-592. Lower Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 334 of 371

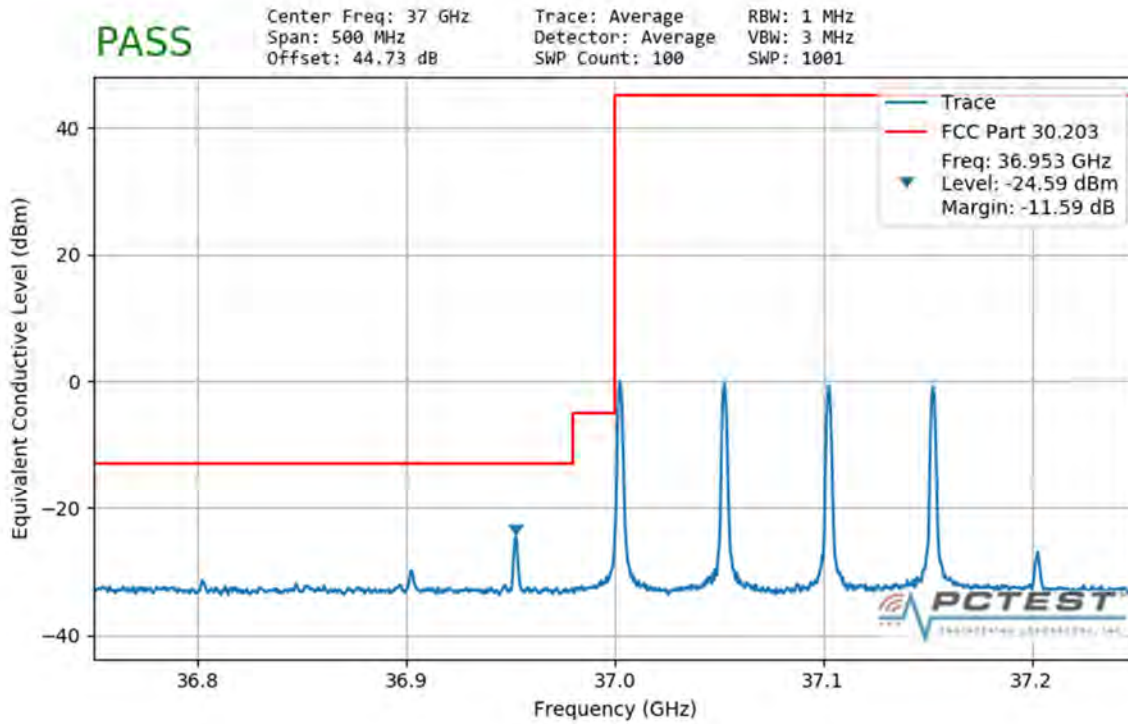


Plot 7-593. Lower Band Edge Plot (4CC 200MHz QPSK Full RB)

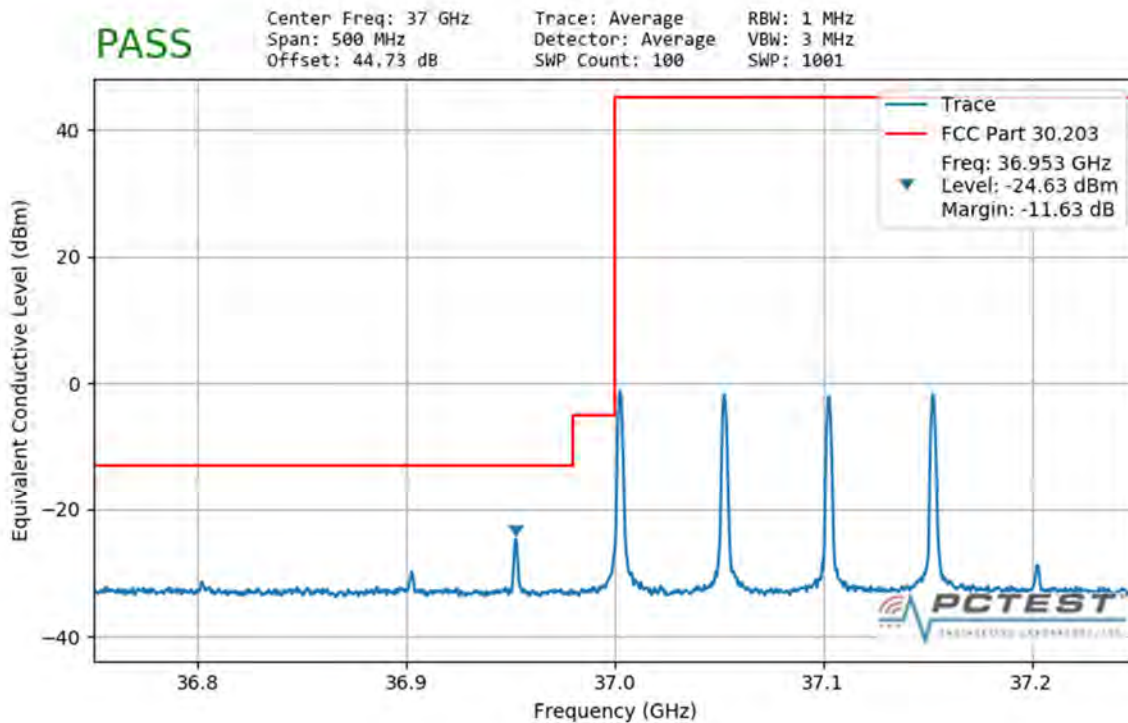


Plot 7-594. Lower Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 335 of 371

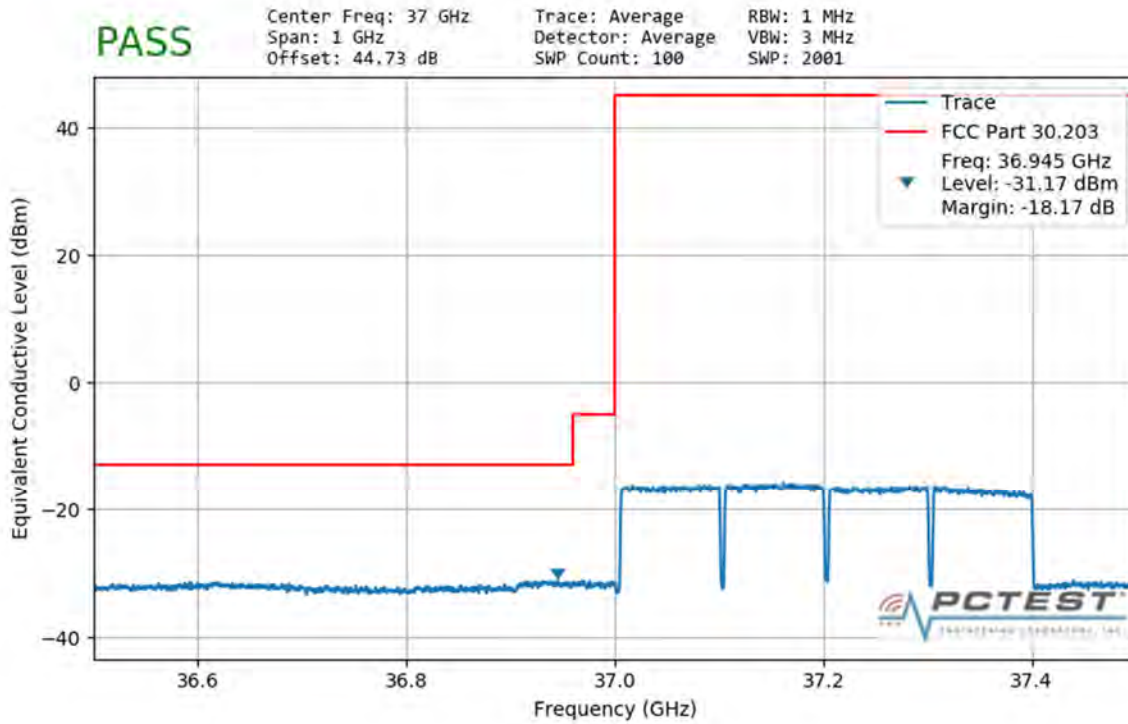


Plot 7-595. Lower Band Edge Plot (4CC 200MHz 16QAM 1 RB)

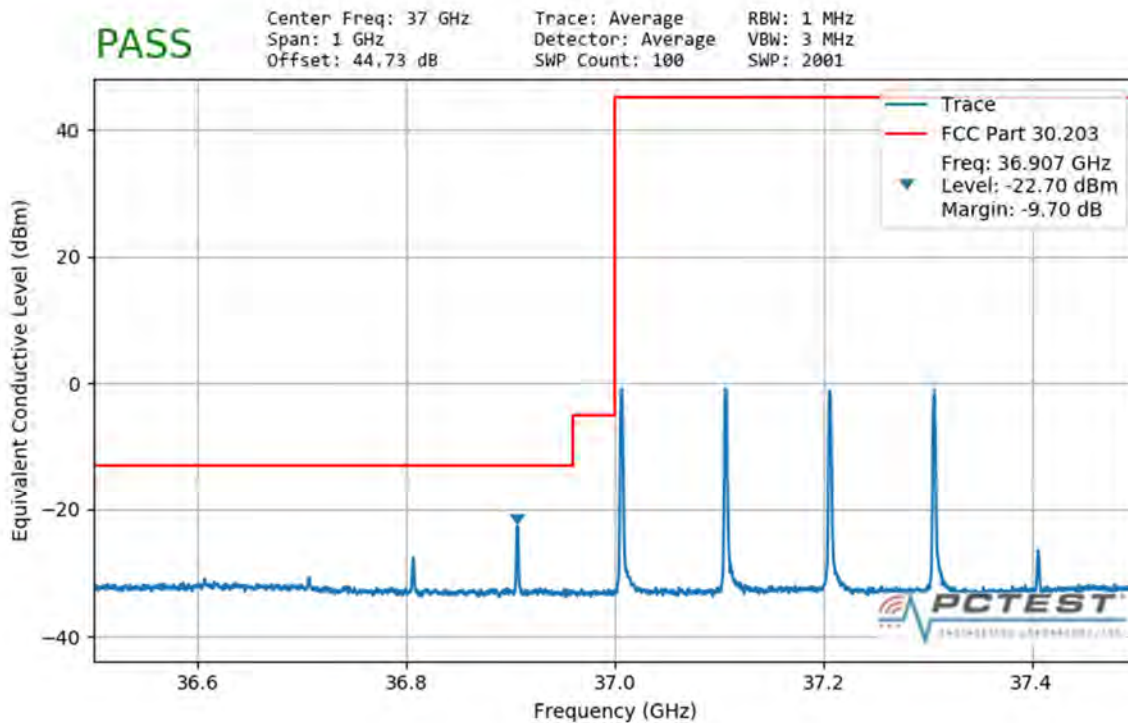


Plot 7-596. Lower Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 336 of 371

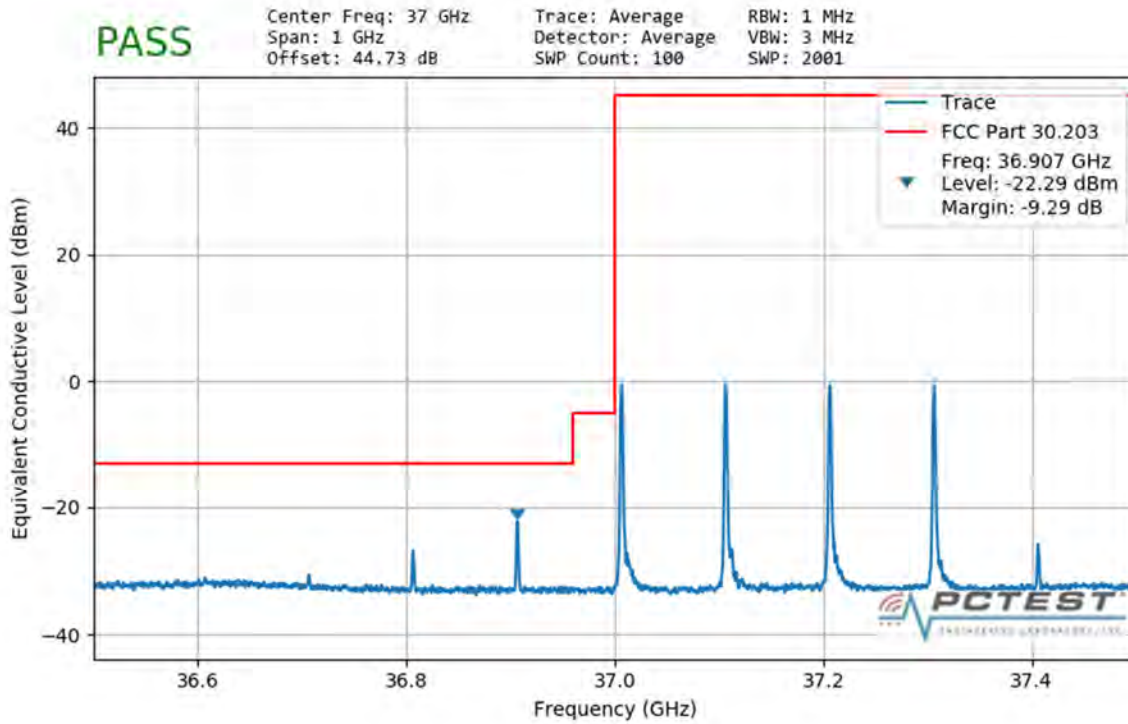


Plot 7-597. Lower Band Edge Plot (4CC 400MHz QPSK Full RB)

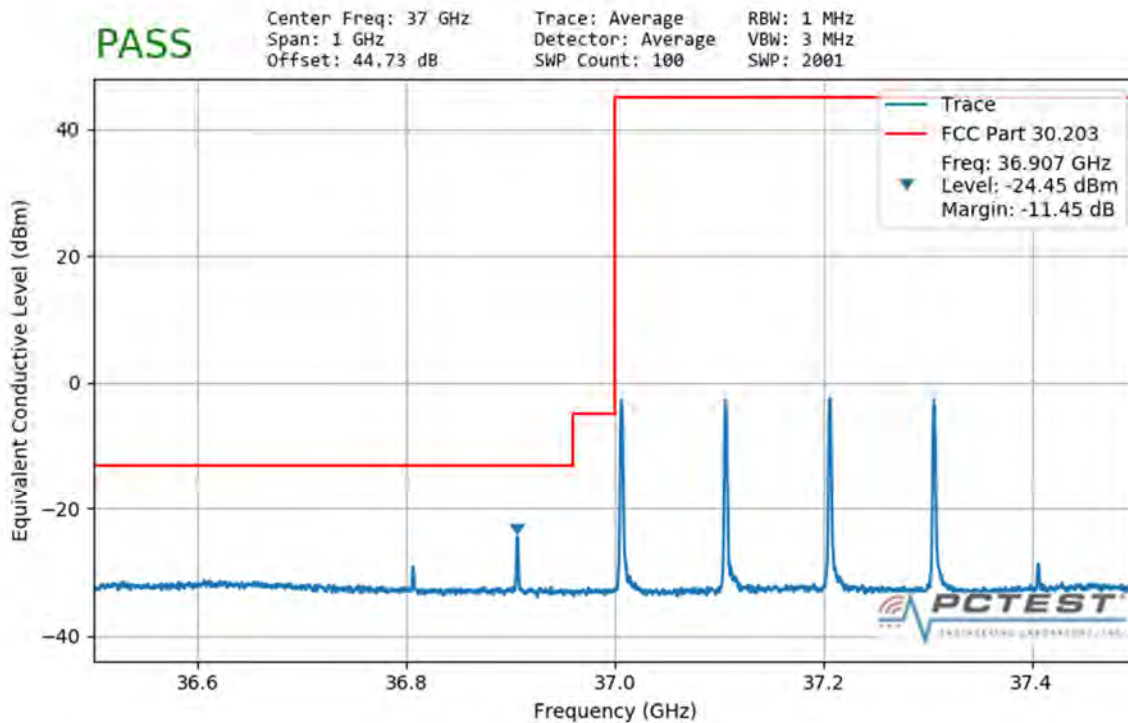


Plot 7-598. Lower Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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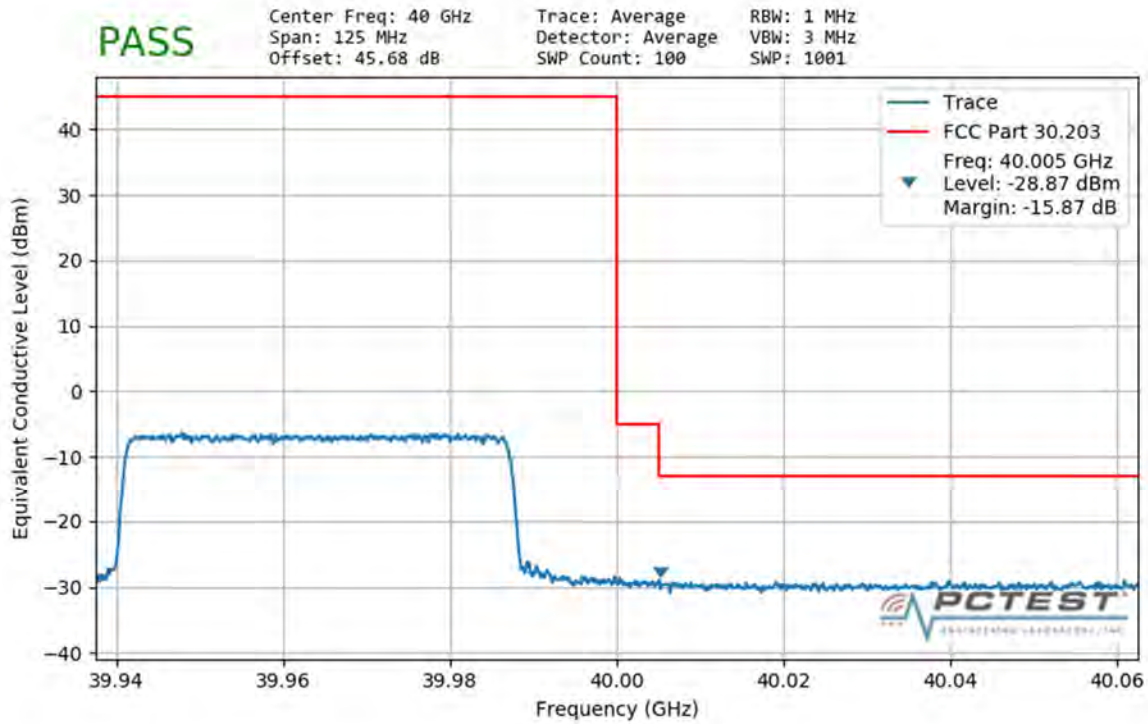


Plot 7-599. Lower Band Edge Plot (4CC 400MHz 16QAM 1 RB)

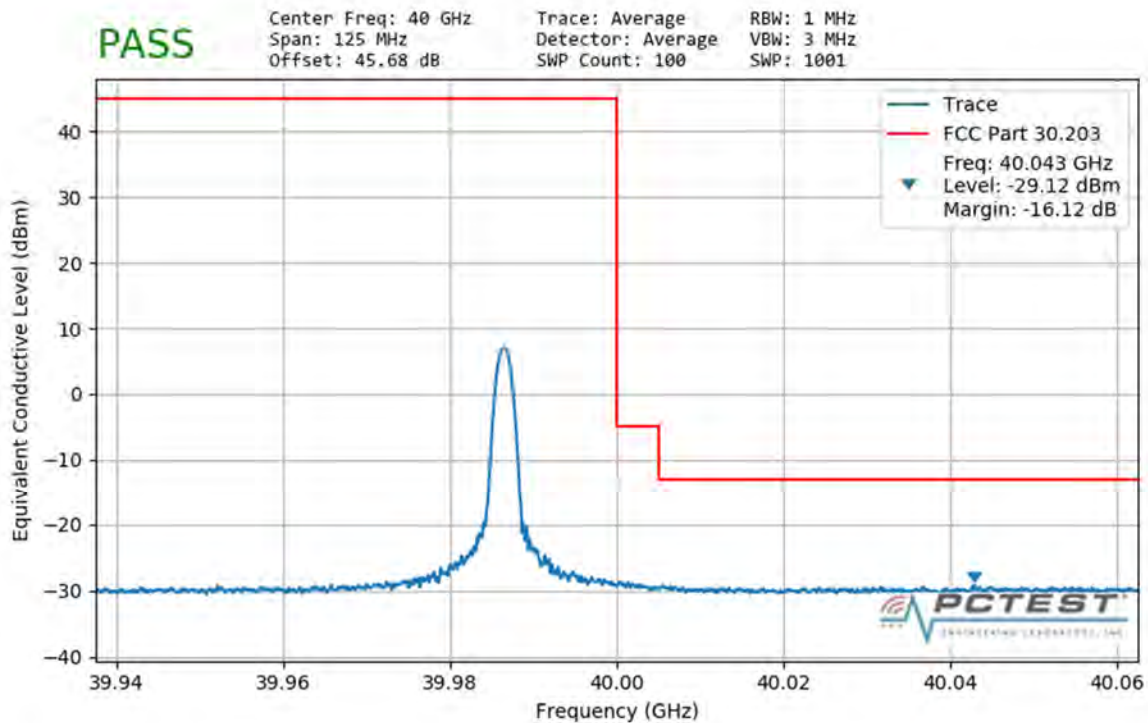


Plot 7-600. Lower Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
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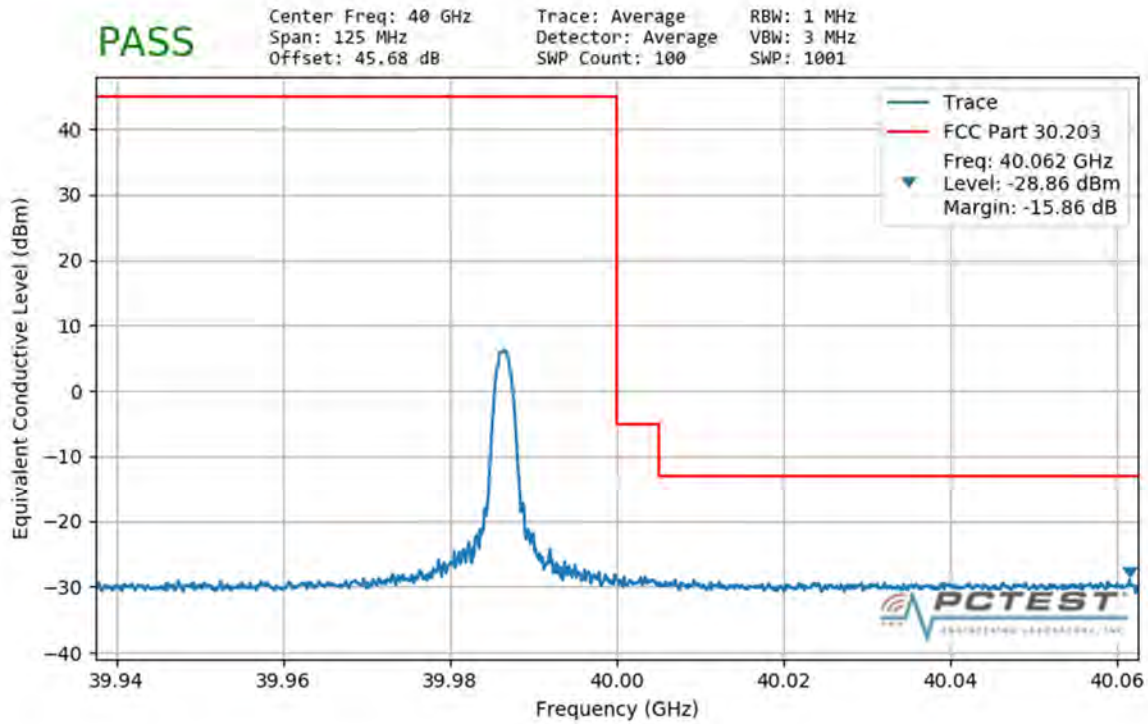


Plot 7-601. Upper Band Edge Plot (1CC 50MHz QPSK Full RB)

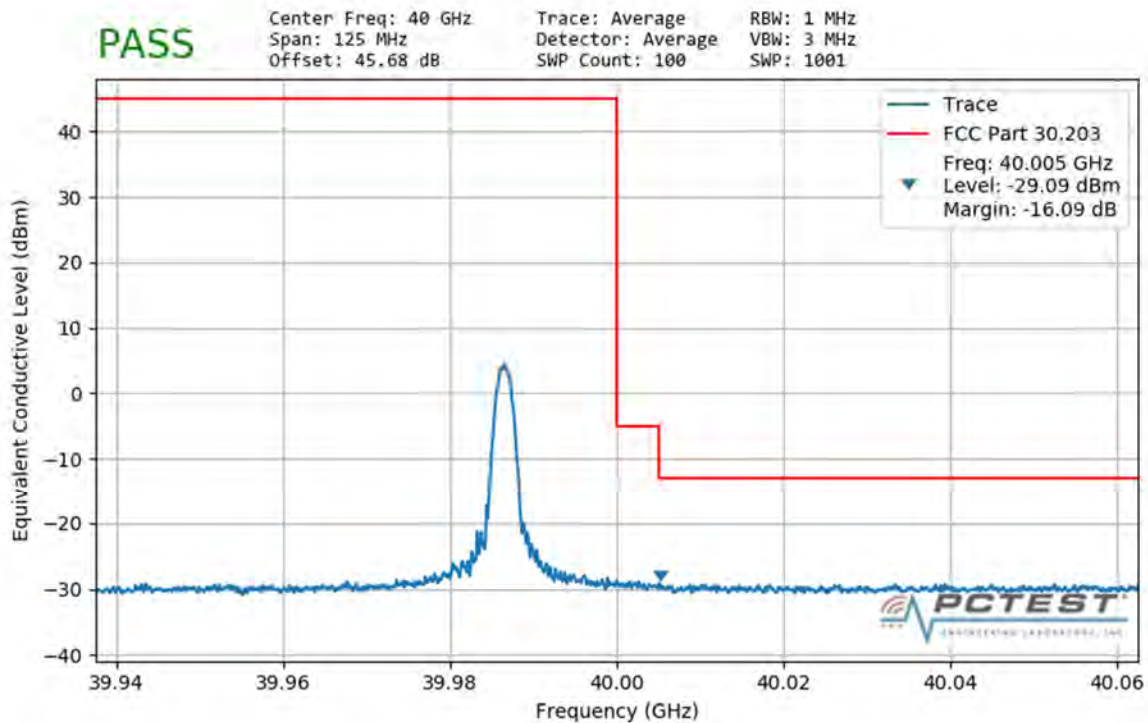


Plot 7-602. Upper Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 339 of 371

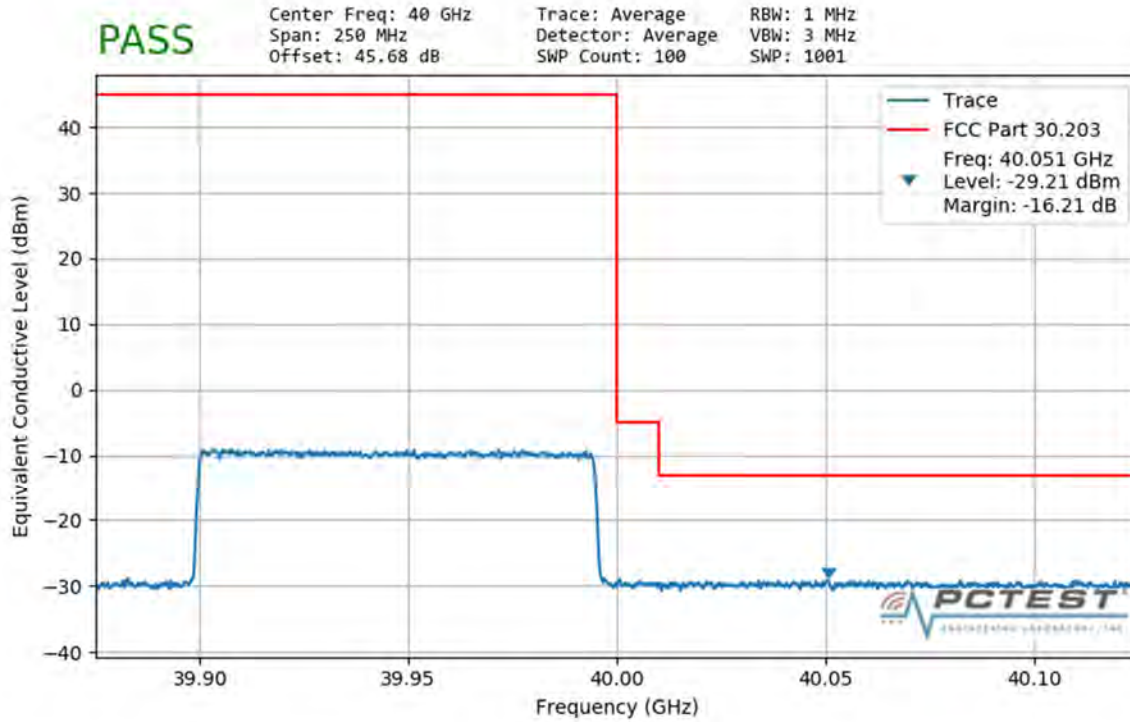


Plot 7-603. Upper Band Edge Plot (1CC 50MHz 16QAM 1 RB)

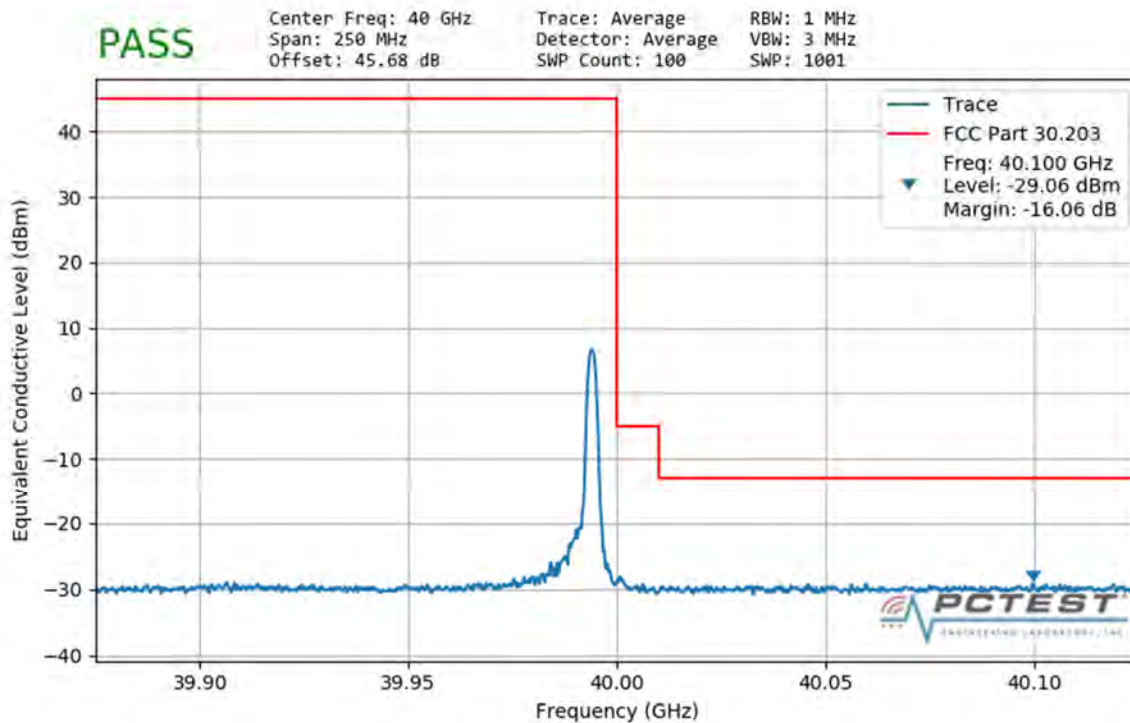


Plot 7-604. Upper Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 340 of 371

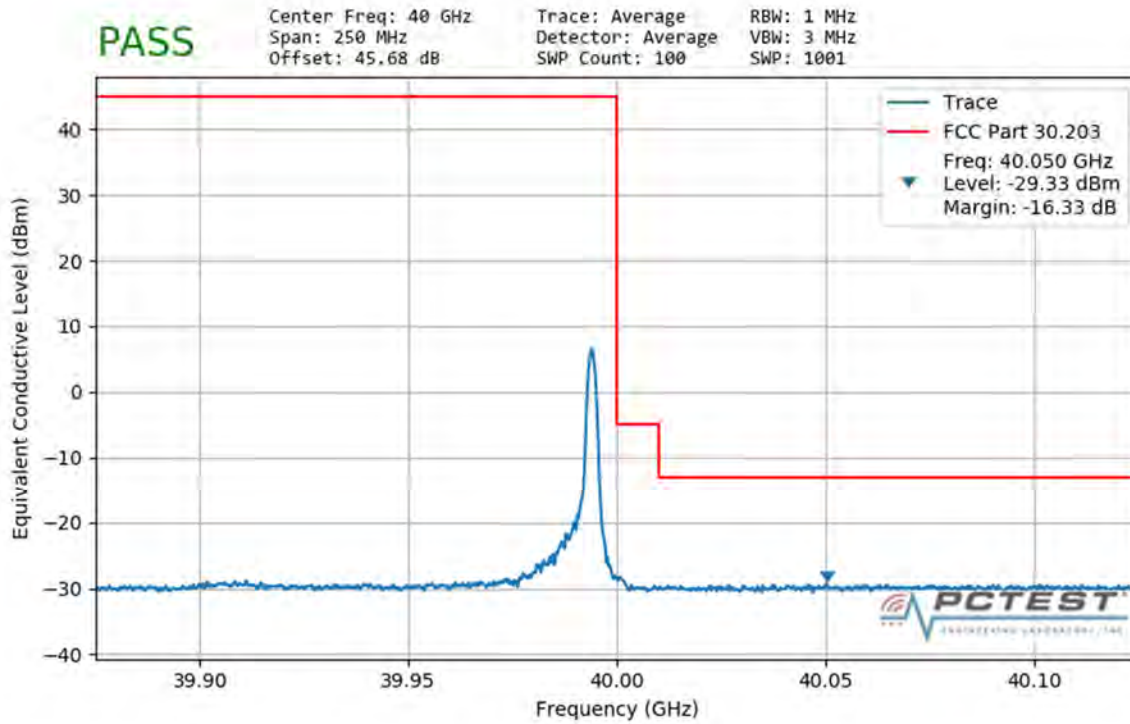


Plot 7-605. Upper Band Edge Plot (1CC 100MHz QPSK Full RB)

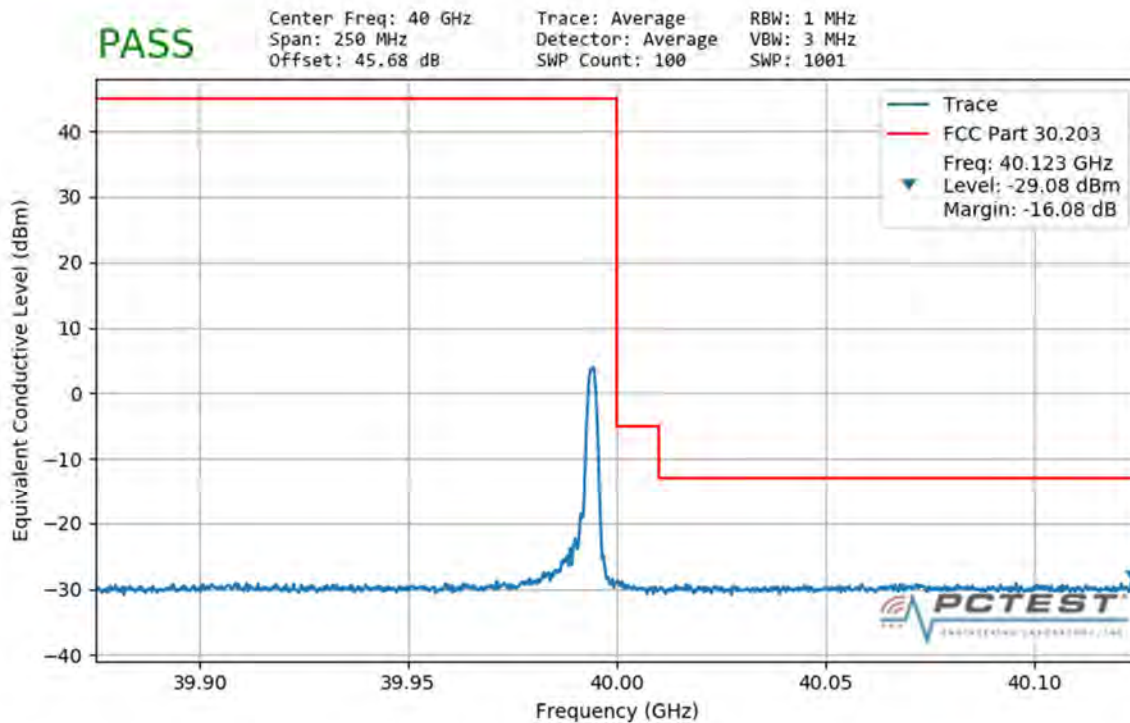


Plot 7-606. Upper Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 341 of 371

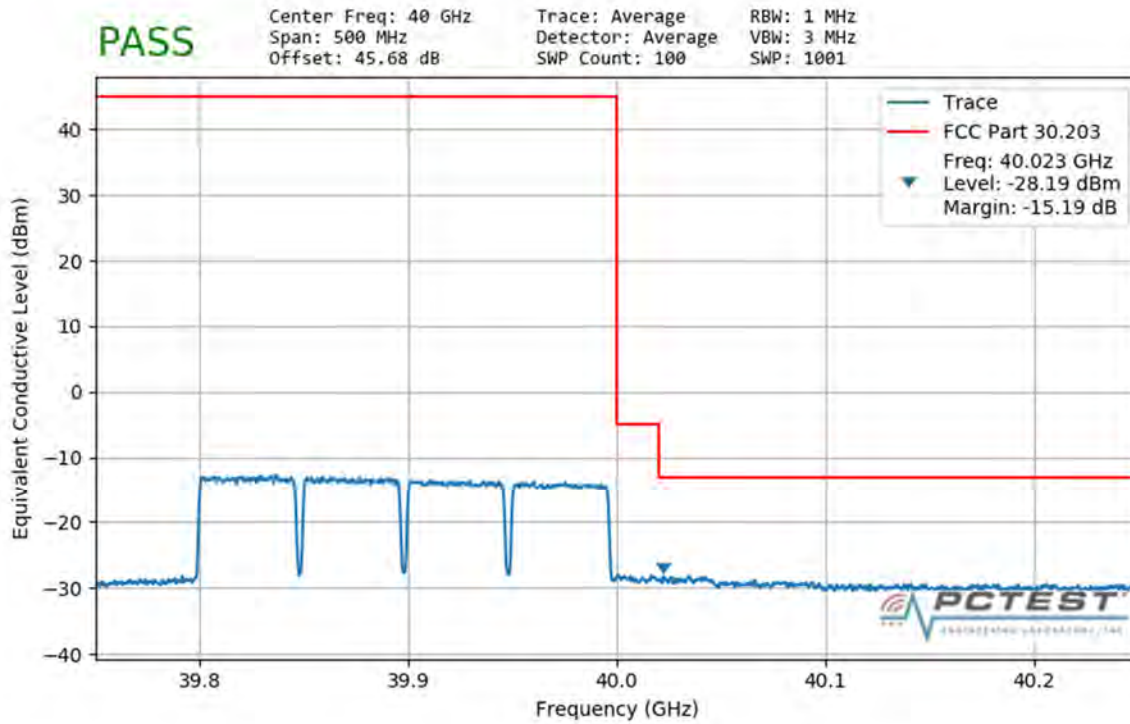


Plot 7-607. Upper Band Edge Plot (1CC 100MHz 16QAM 1 RB)

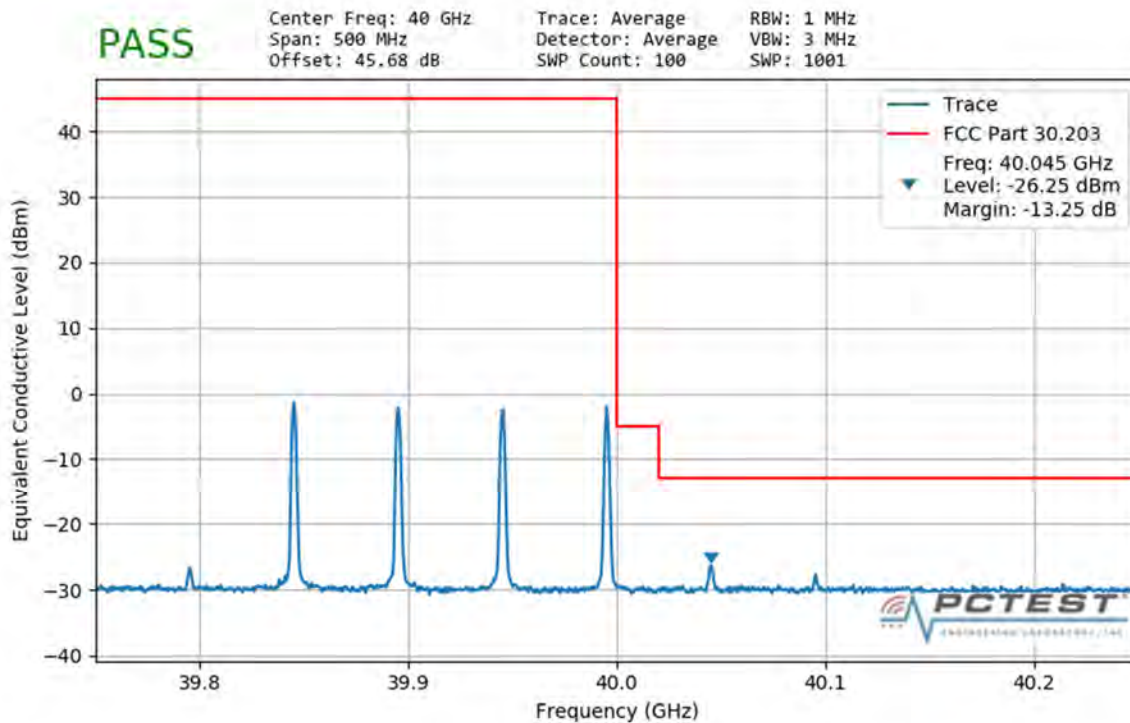


Plot 7-608. Upper Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 342 of 371

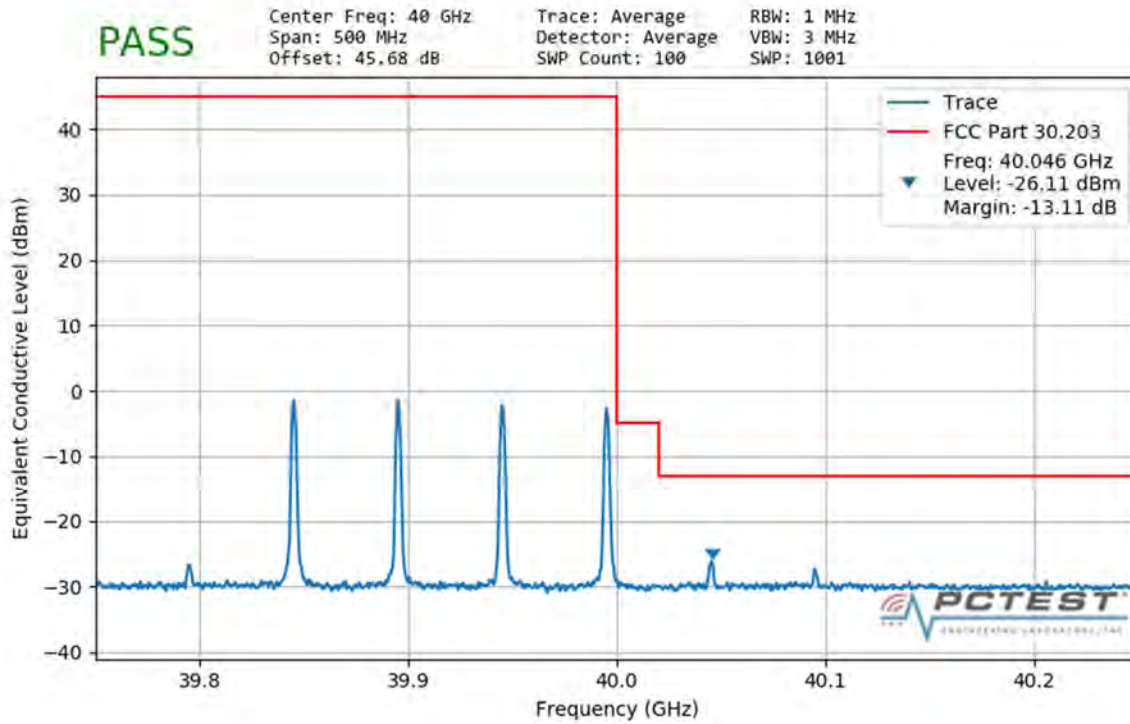


Plot 7-609. Upper Band Edge Plot (4CC 200MHz QPSK Full RB)

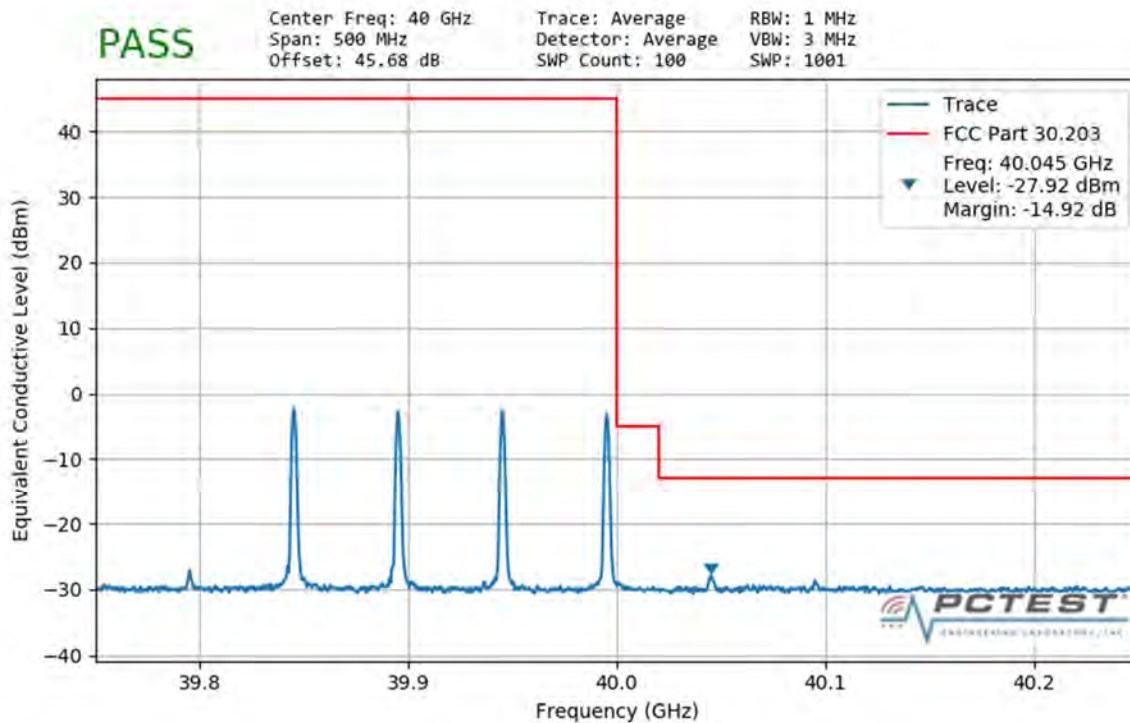


Plot 7-610. Upper Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 343 of 371

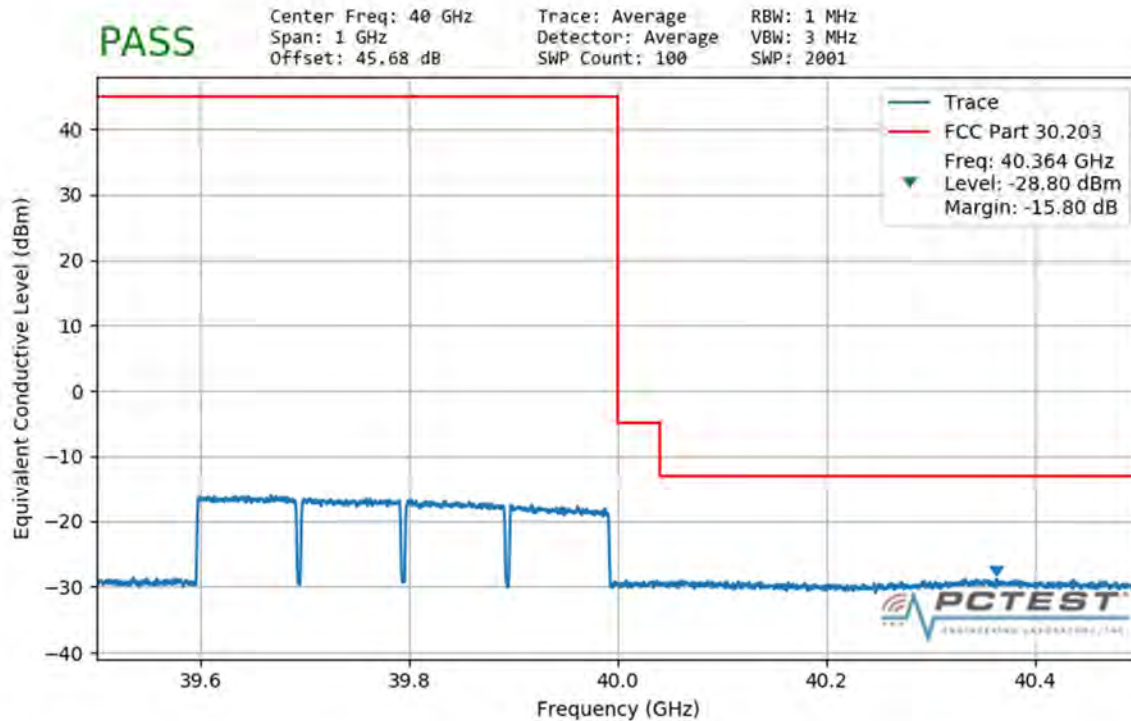


Plot 7-611. Upper Band Edge Plot (4CC 200MHz 16QAM 1 RB)

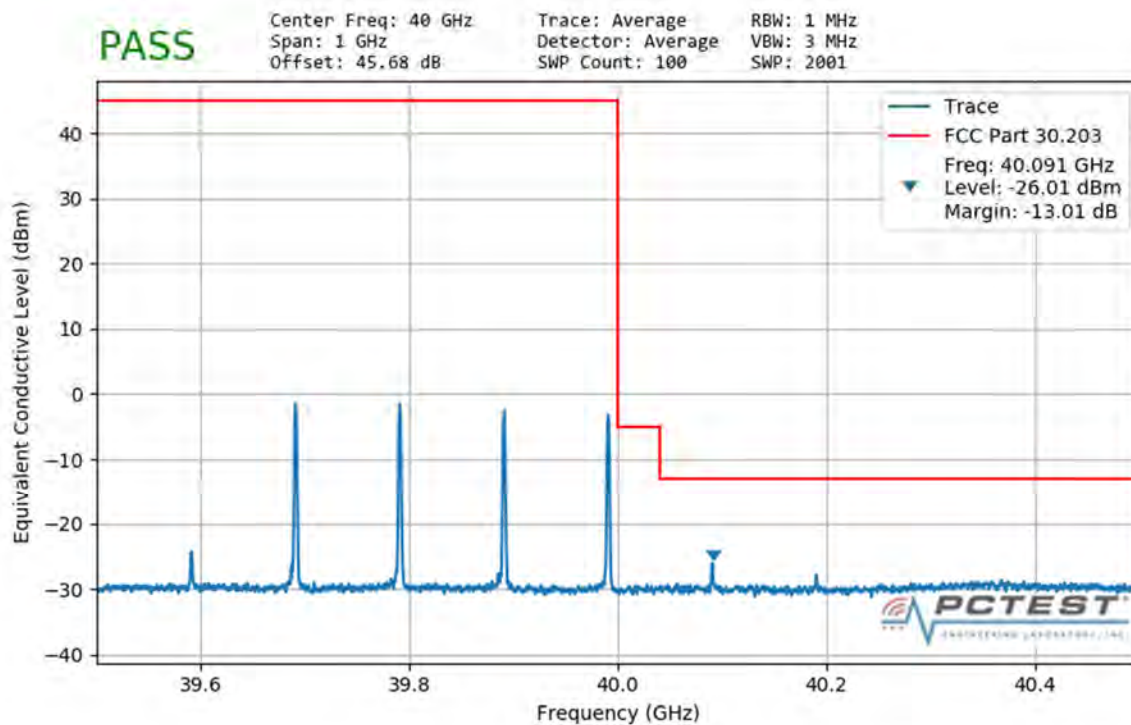


Plot 7-612. Upper Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 344 of 371

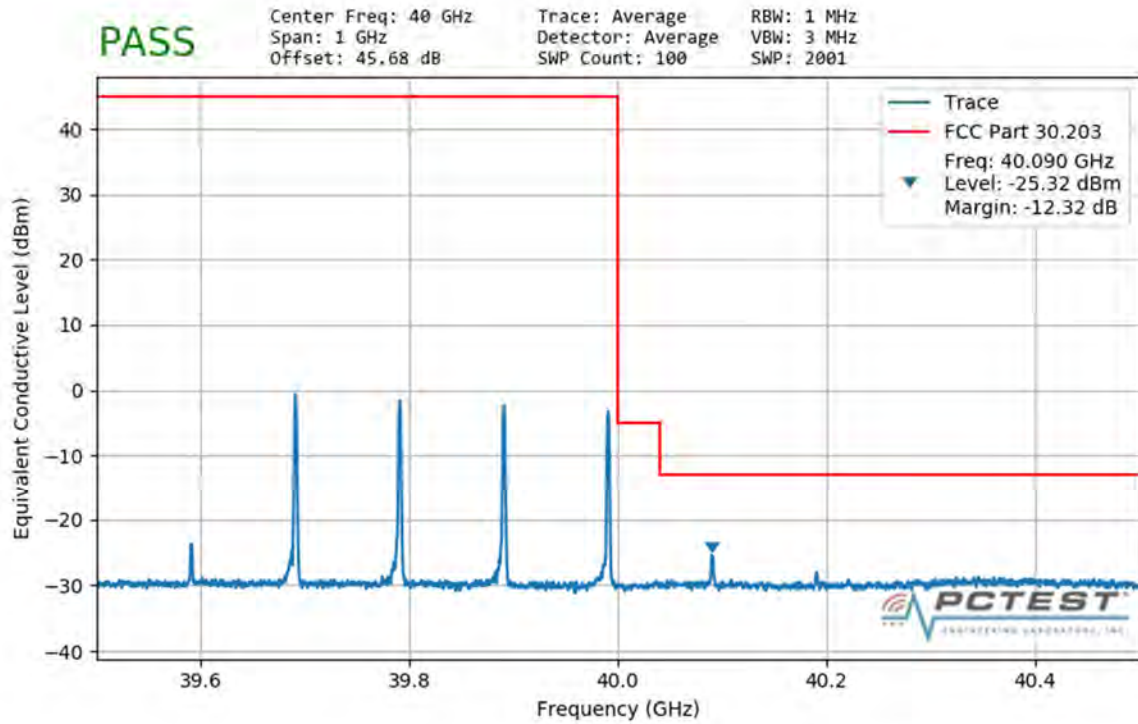


Plot 7-613. Upper Band Edge Plot (4CC 400MHz QPSK Full RB)

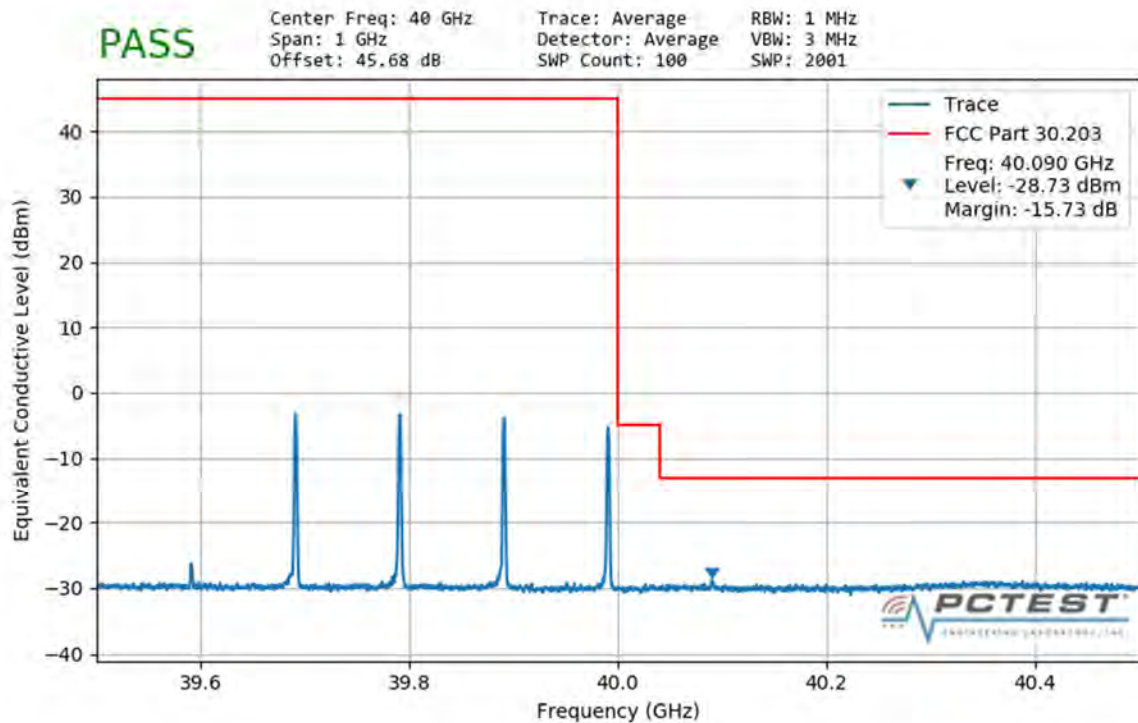


Plot 7-614. Upper Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 345 of 371



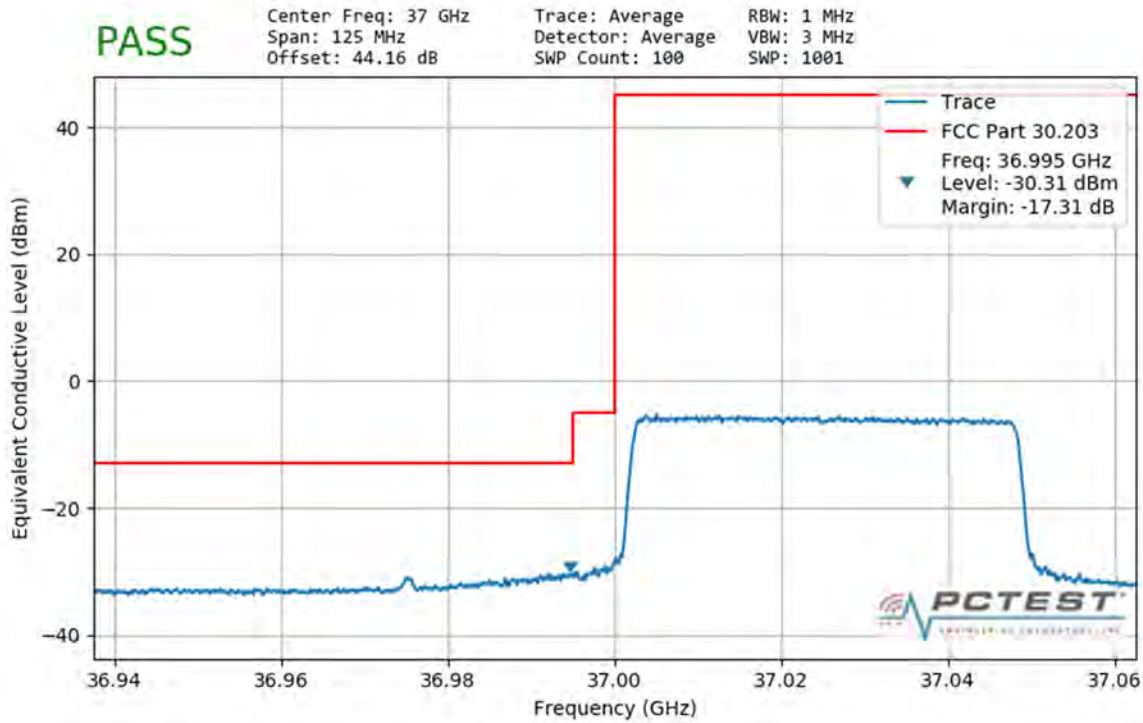
Plot 7-615. Upper Band Edge Plot (4CC 400MHz 16QAM 1 RB)



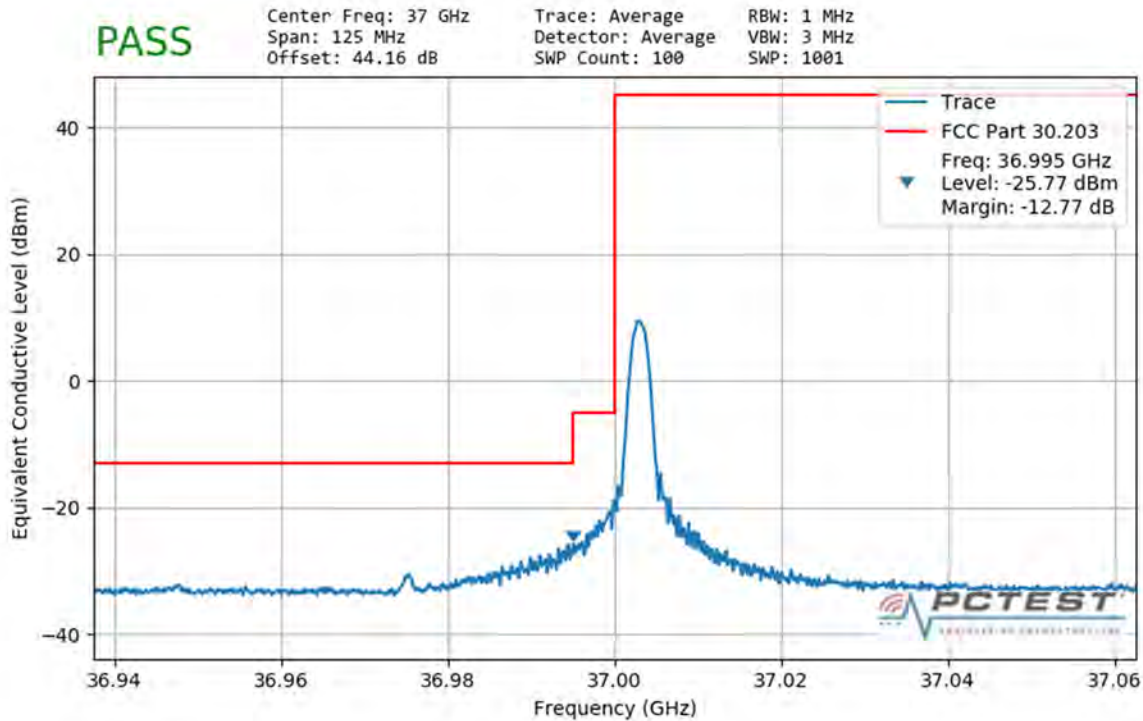
Plot 7-616. Upper Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 346 of 371

L Patch MIMO(n260)

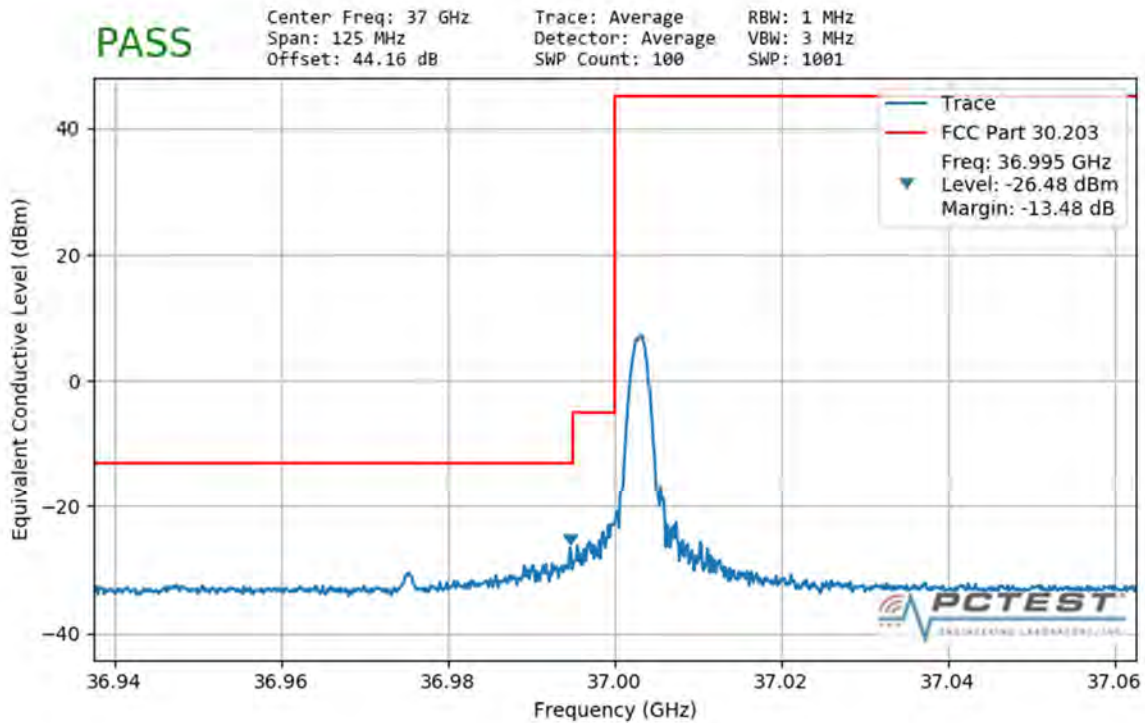


Plot 7-617. Lower Band Edge Plot (1CC 50MHz QPSK Full RB)

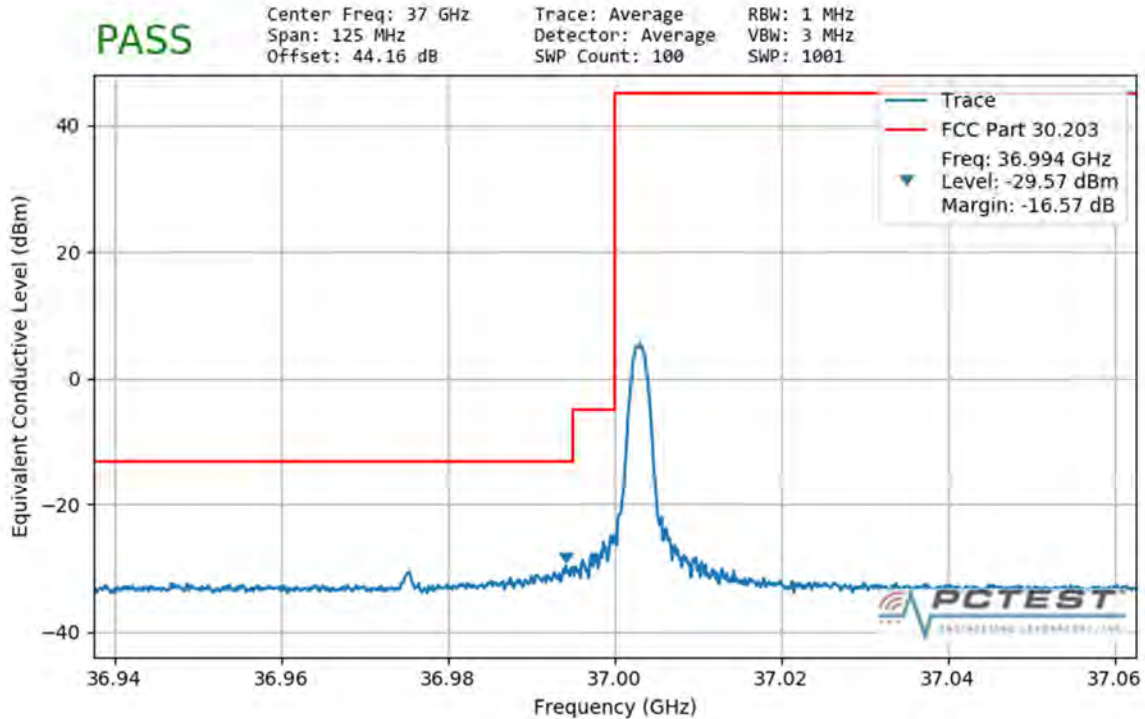


Plot 7-618. Lower Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 347 of 371

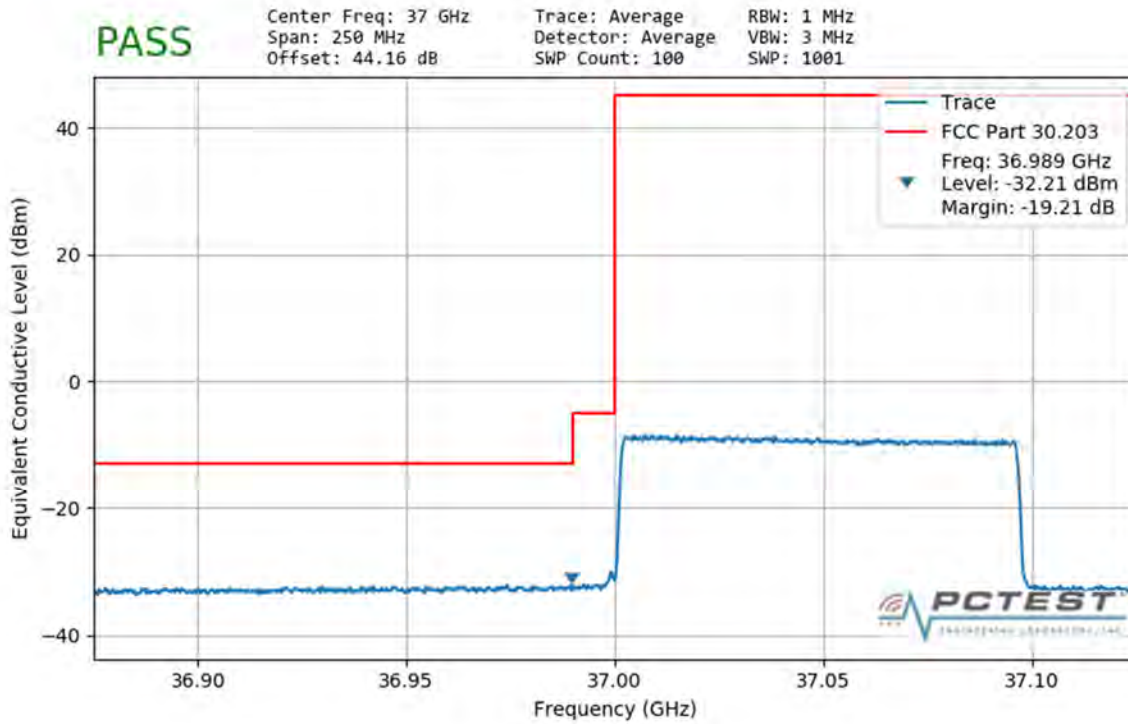


Plot 7-619. Lower Band Edge Plot (1CC 50MHz 16QAM 1 RB)

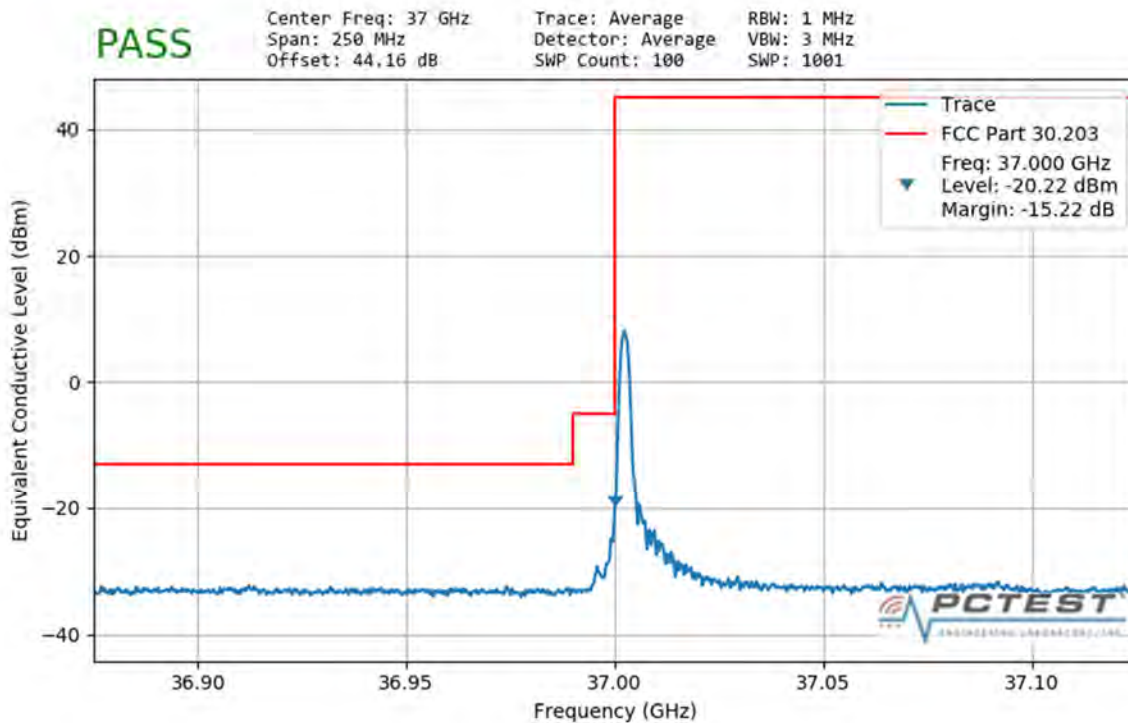


Plot 7-620. Lower Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset			Page 348 of 371

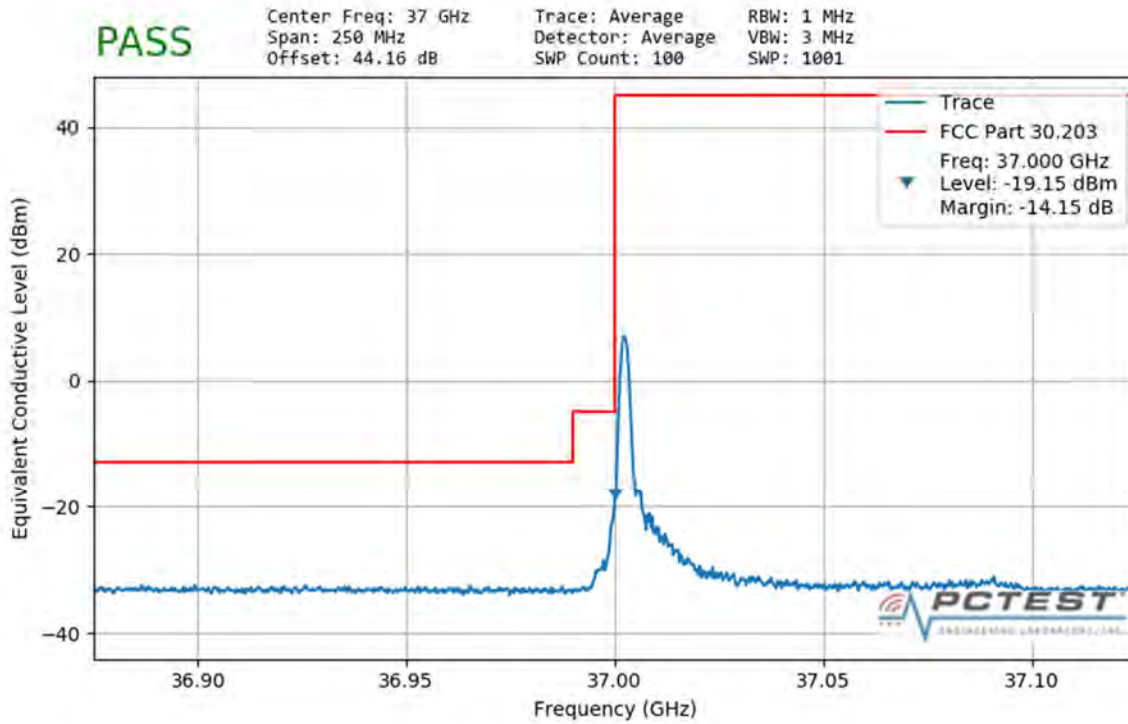


Plot 7-621. Lower Band Edge Plot (1CC 100MHz QPSK Full RB)

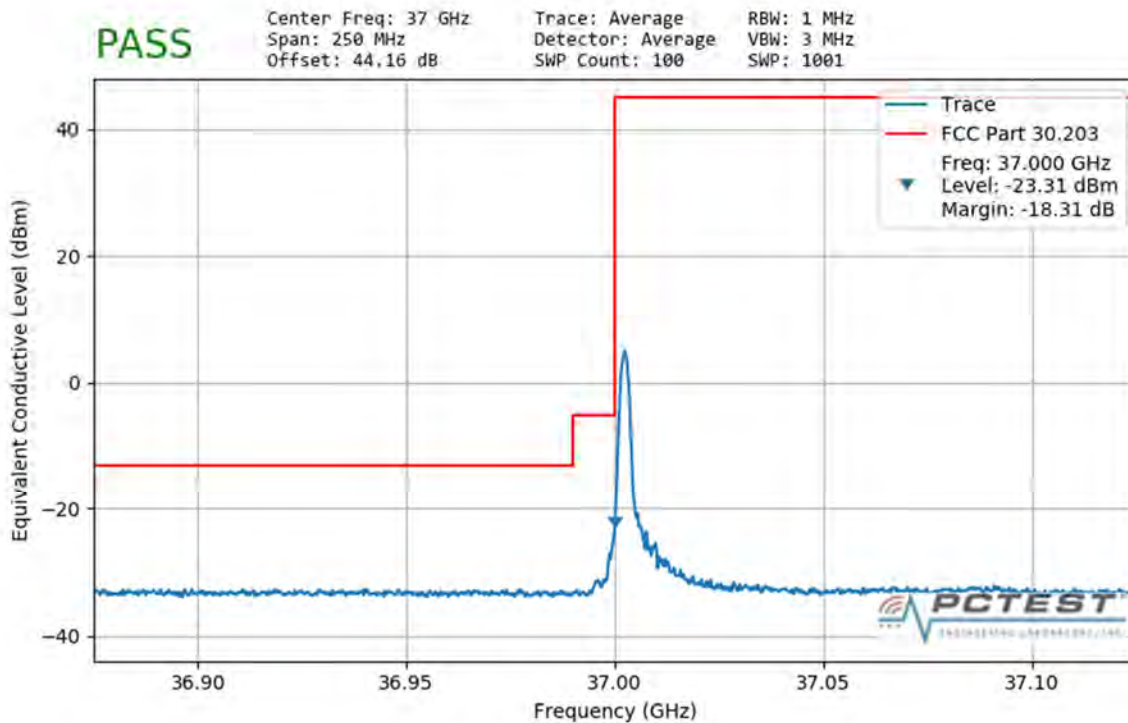


Plot 7-622. Lower Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 349 of 371

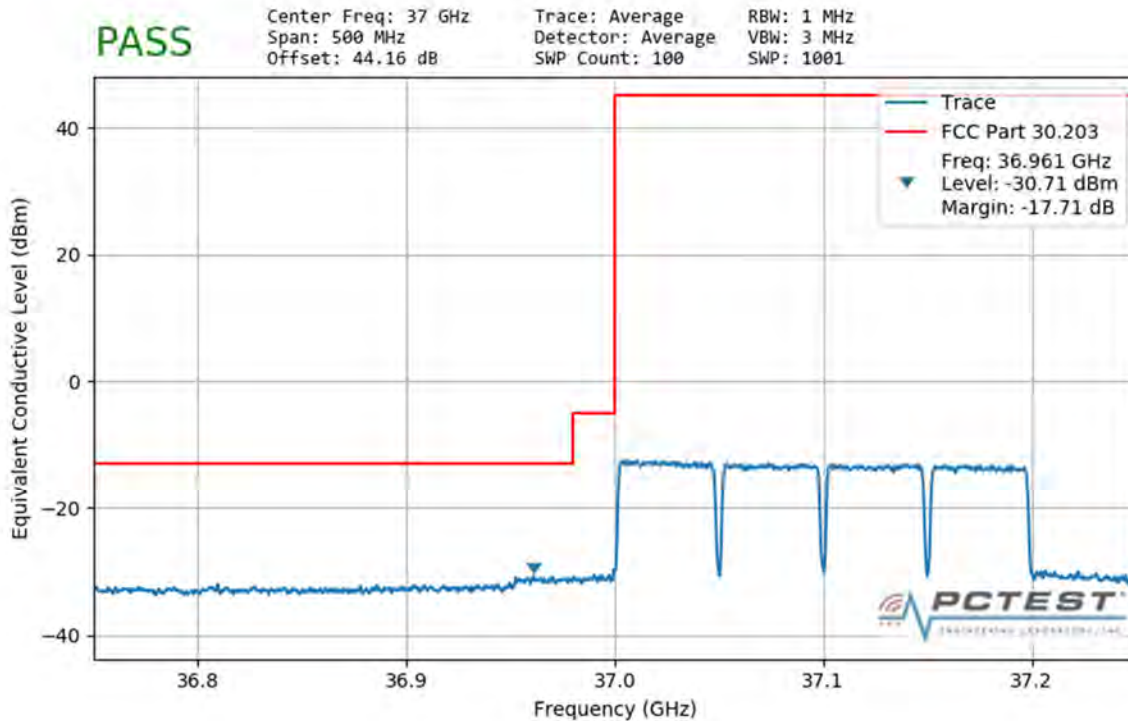


Plot 7-623. Lower Band Edge Plot (1CC 100MHz 16QAM 1 RB)

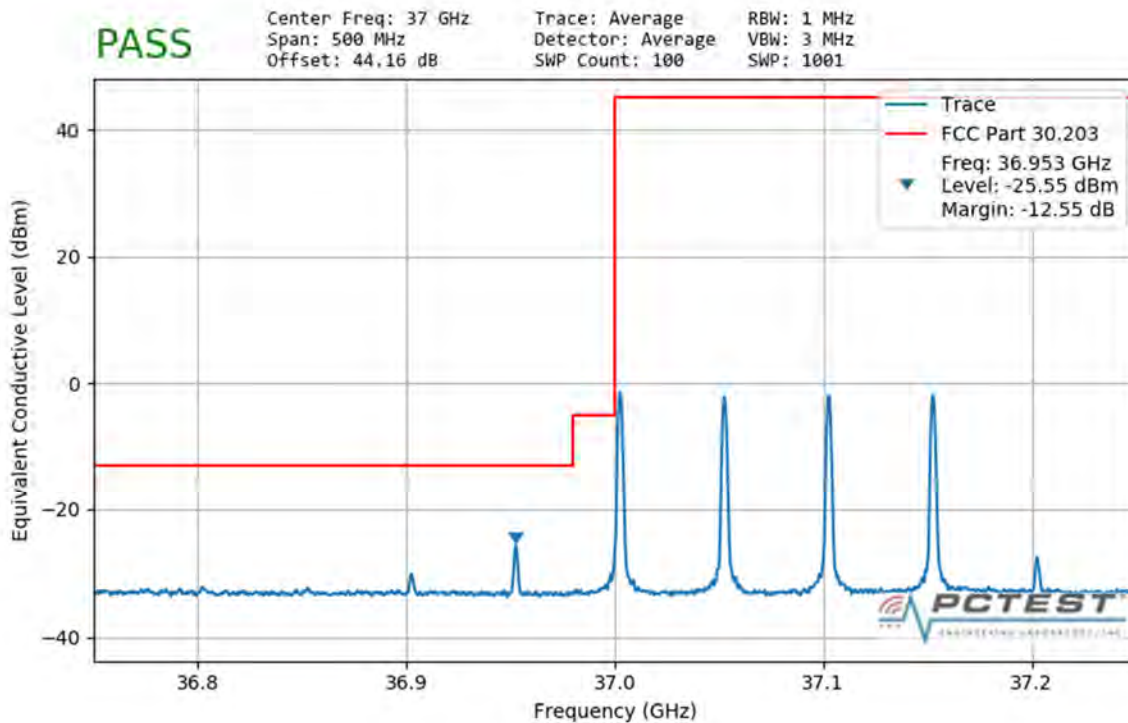


Plot 7-624. Lower Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset			Page 350 of 371

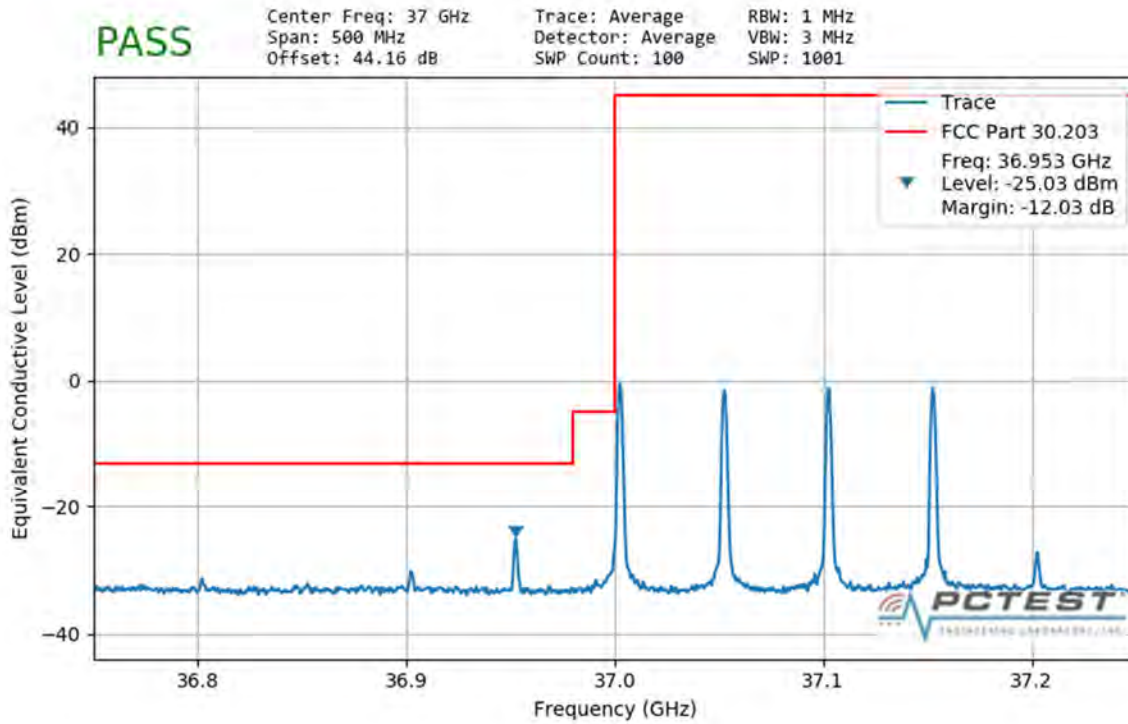


Plot 7-625. Lower Band Edge Plot (4CC 200MHz QPSK Full RB)

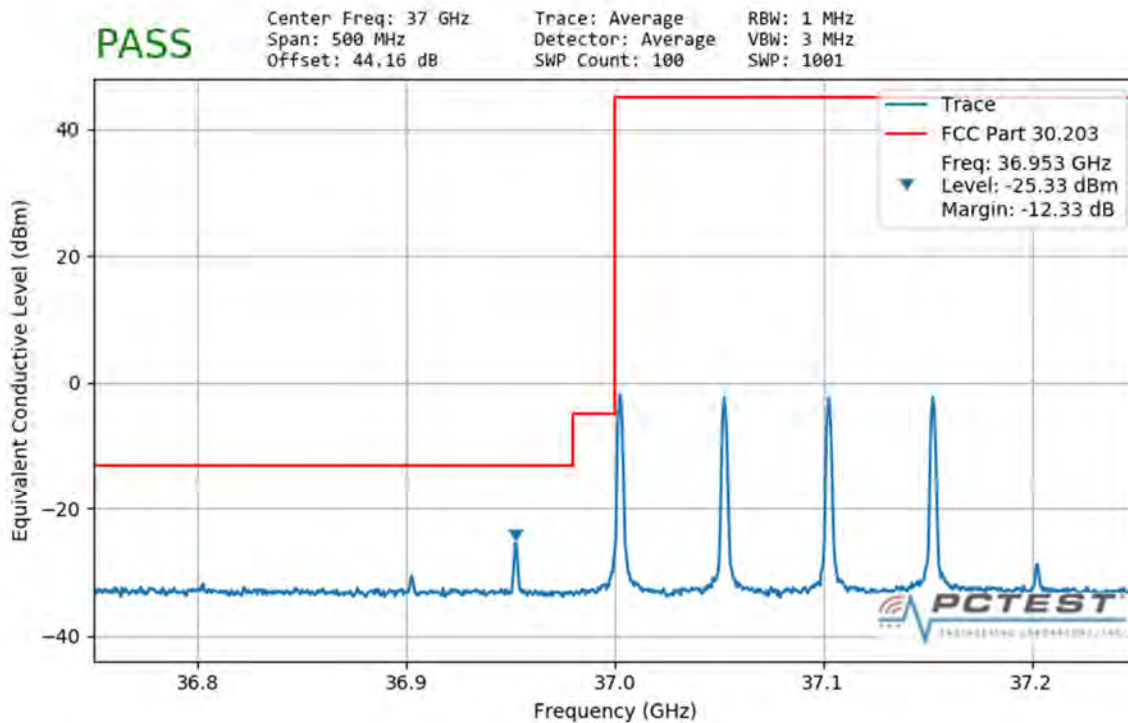


Plot 7-626. Lower Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 351 of 371

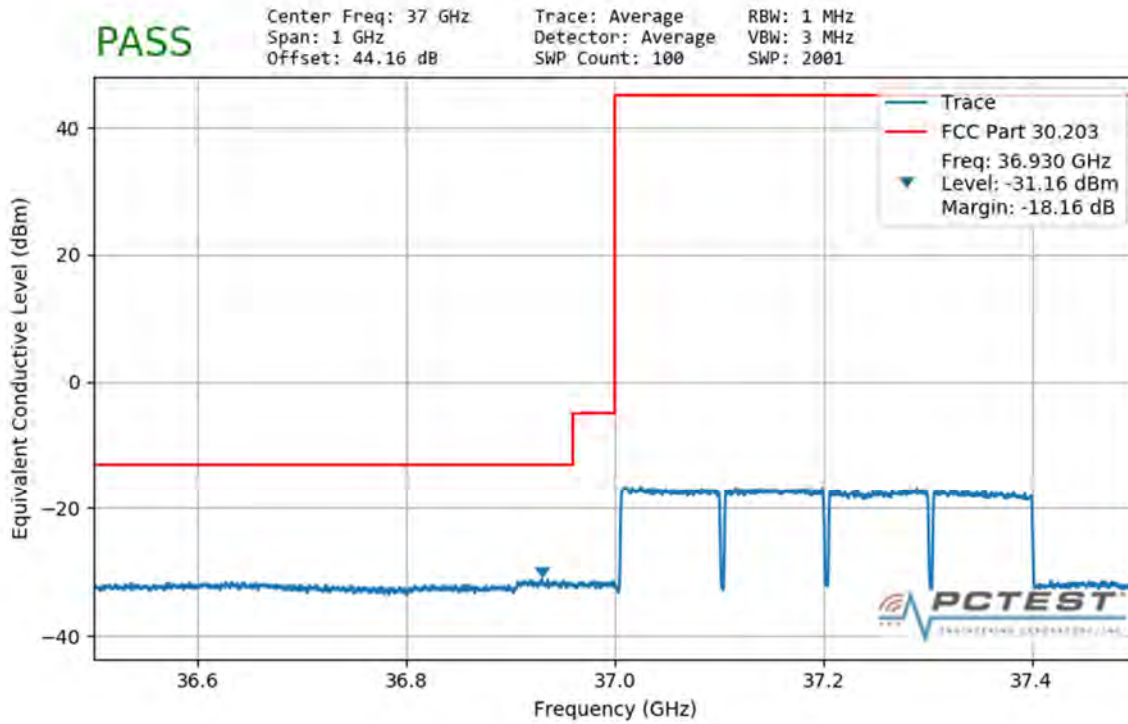


Plot 7-627. Lower Band Edge Plot (4CC 200MHz 16QAM 1 RB)

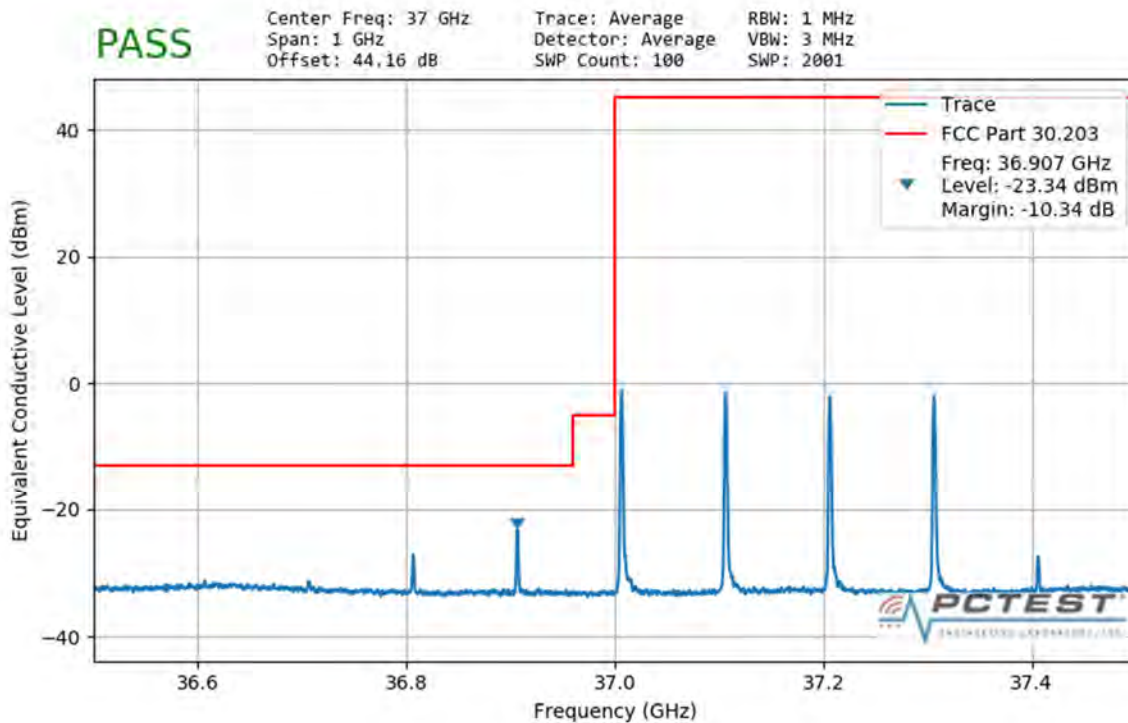


Plot 7-628. Lower Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 352 of 371

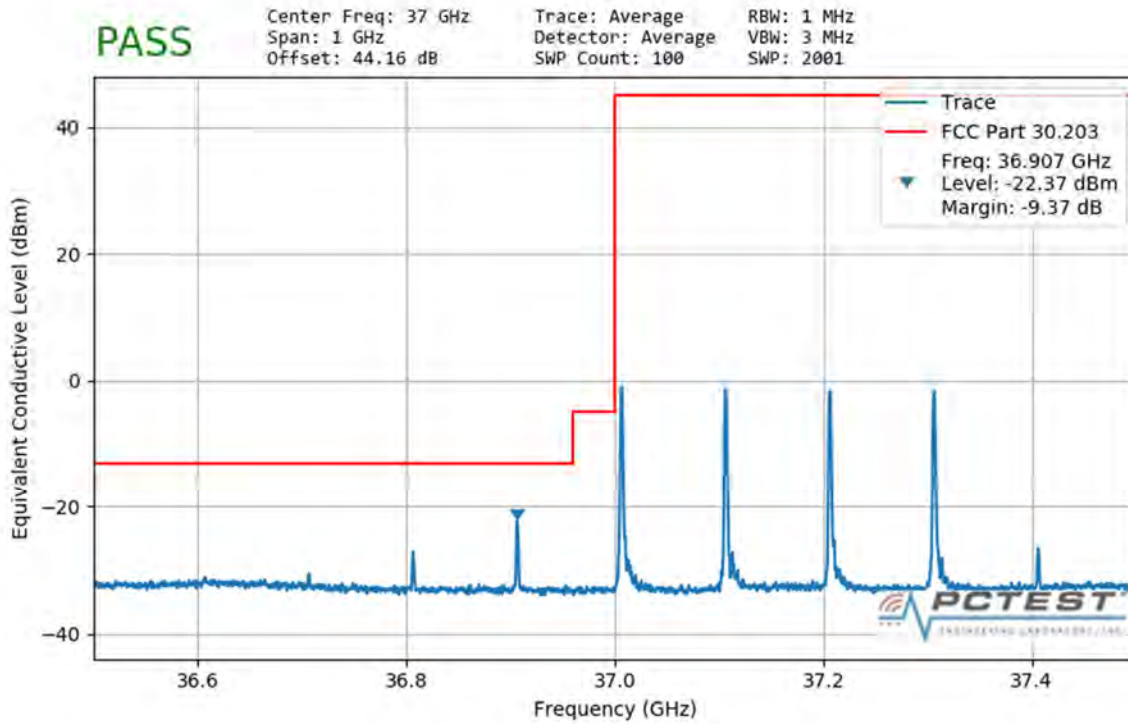


Plot 7-629. Lower Band Edge Plot (4CC 400MHz QPSK Full RB)

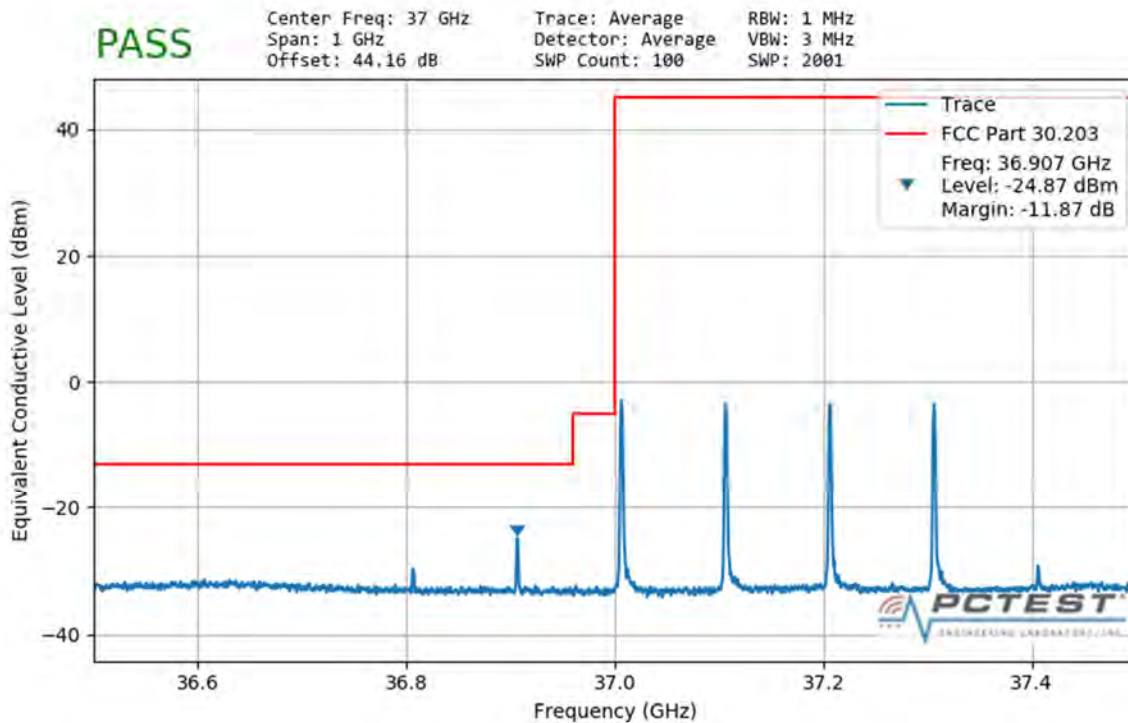


Plot 7-630. Lower Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 353 of 371

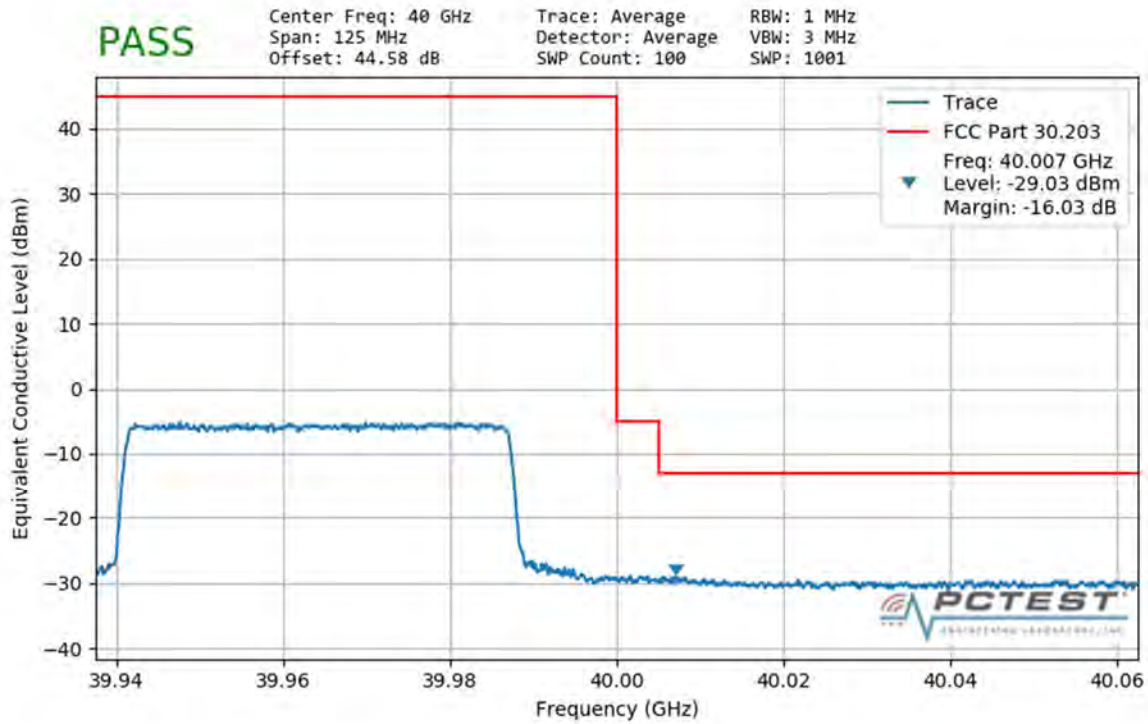


Plot 7-631. Lower Band Edge Plot (4CC 400MHz 16QAM 1 RB)

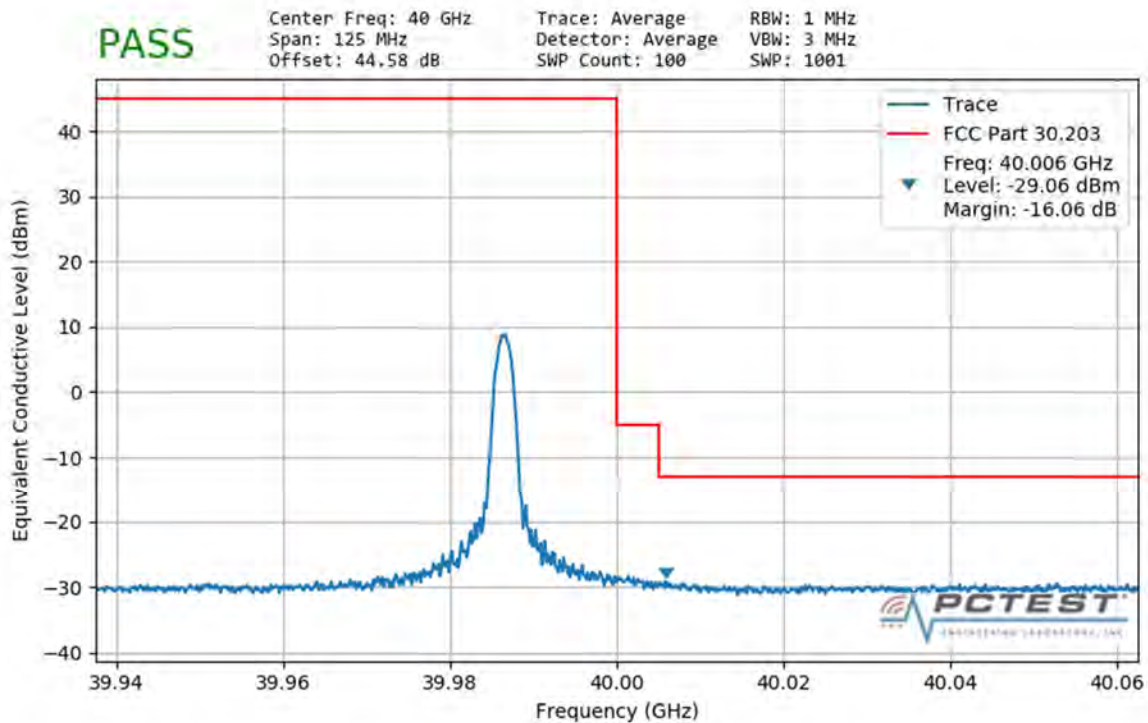


Plot 7-632. Lower Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset			Page 354 of 371

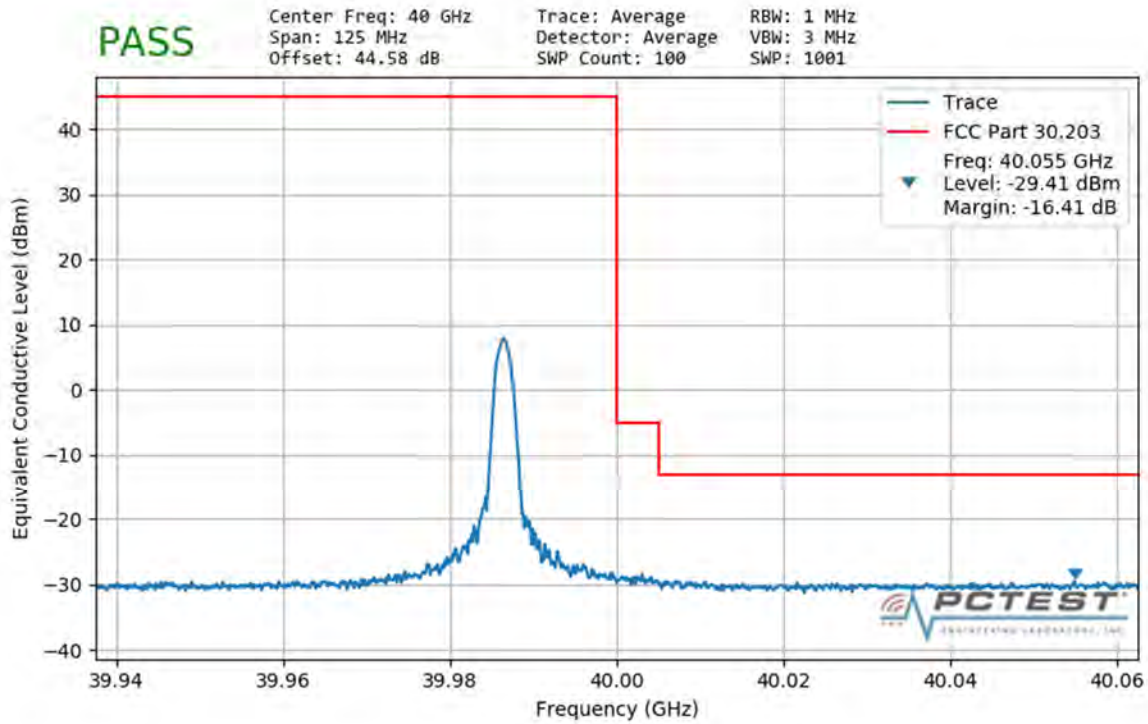


Plot 7-633. Upper Band Edge Plot (1CC 50MHz QPSK Full RB)

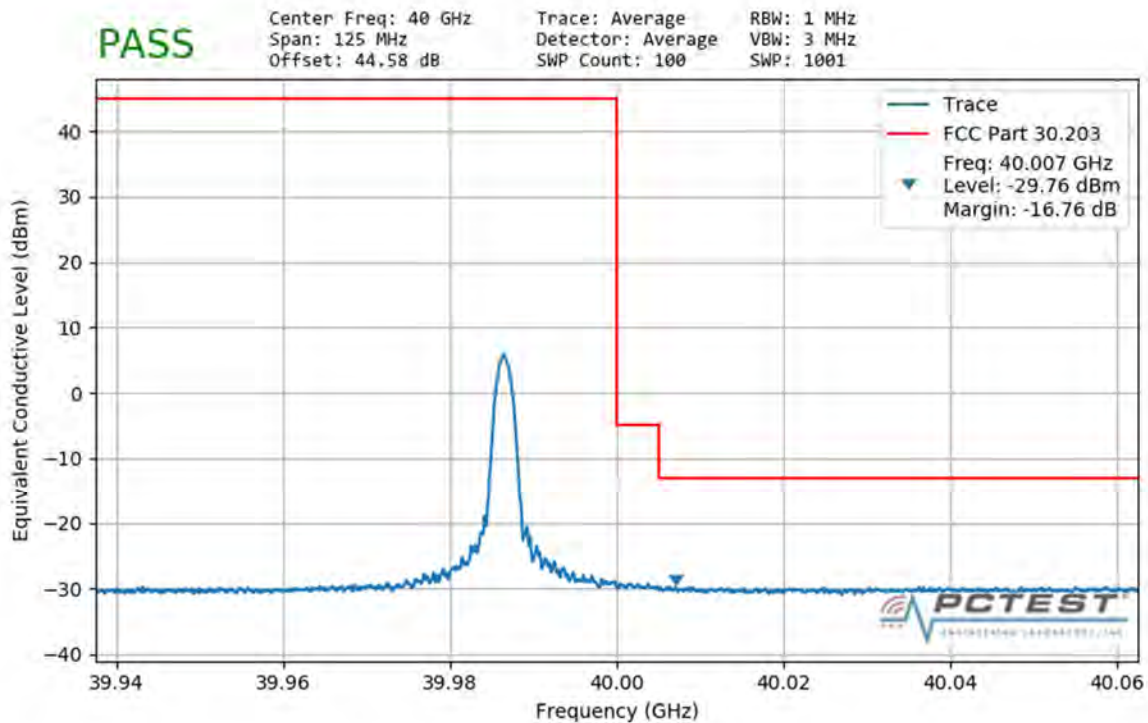


Plot 7-634. Upper Band Edge Plot (1CC 50MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 355 of 371

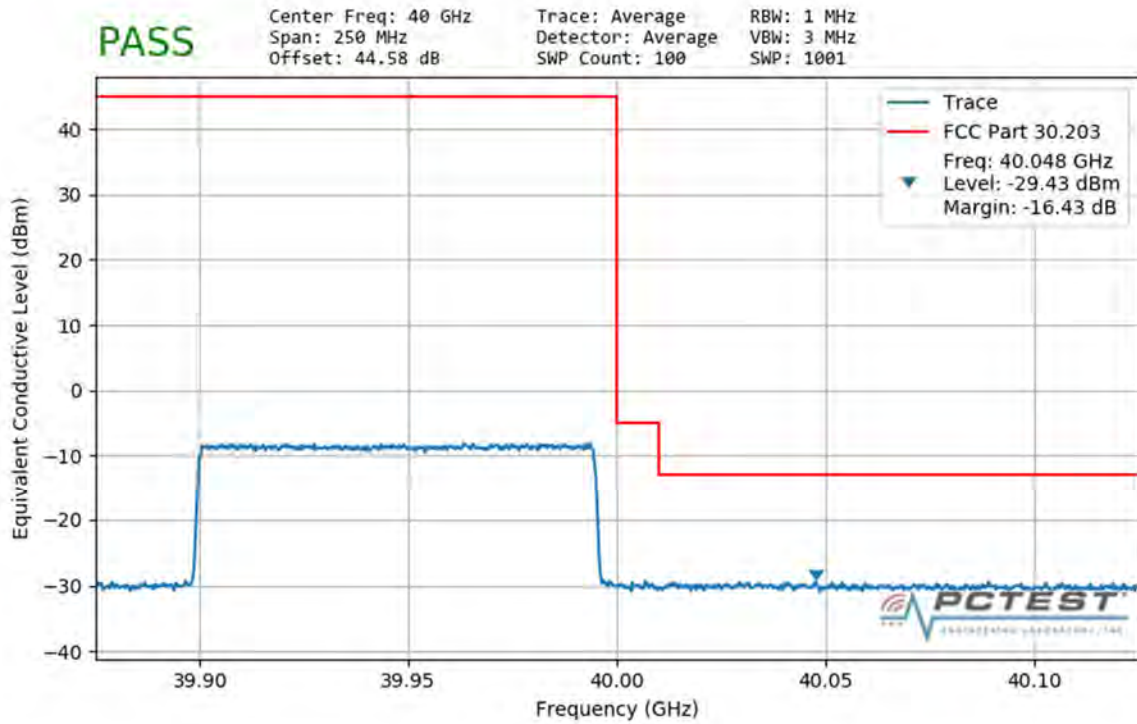


Plot 7-635. Upper Band Edge Plot (1CC 50MHz 16QAM 1 RB)

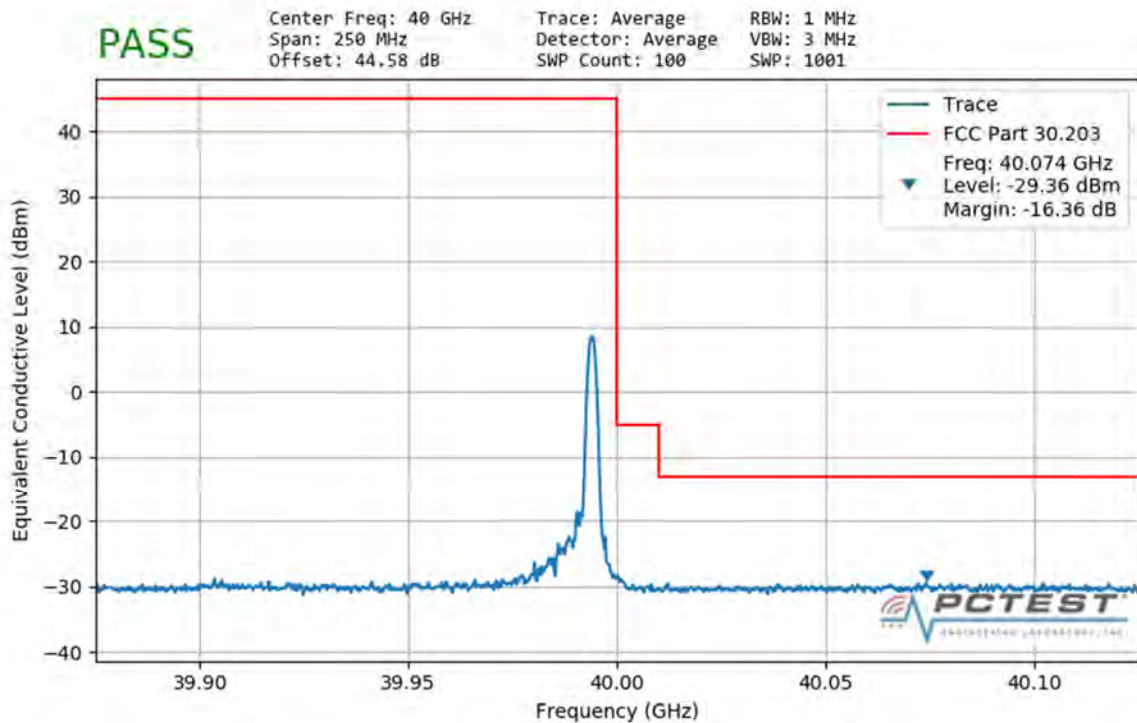


Plot 7-636. Upper Band Edge Plot (1CC 50MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 356 of 371

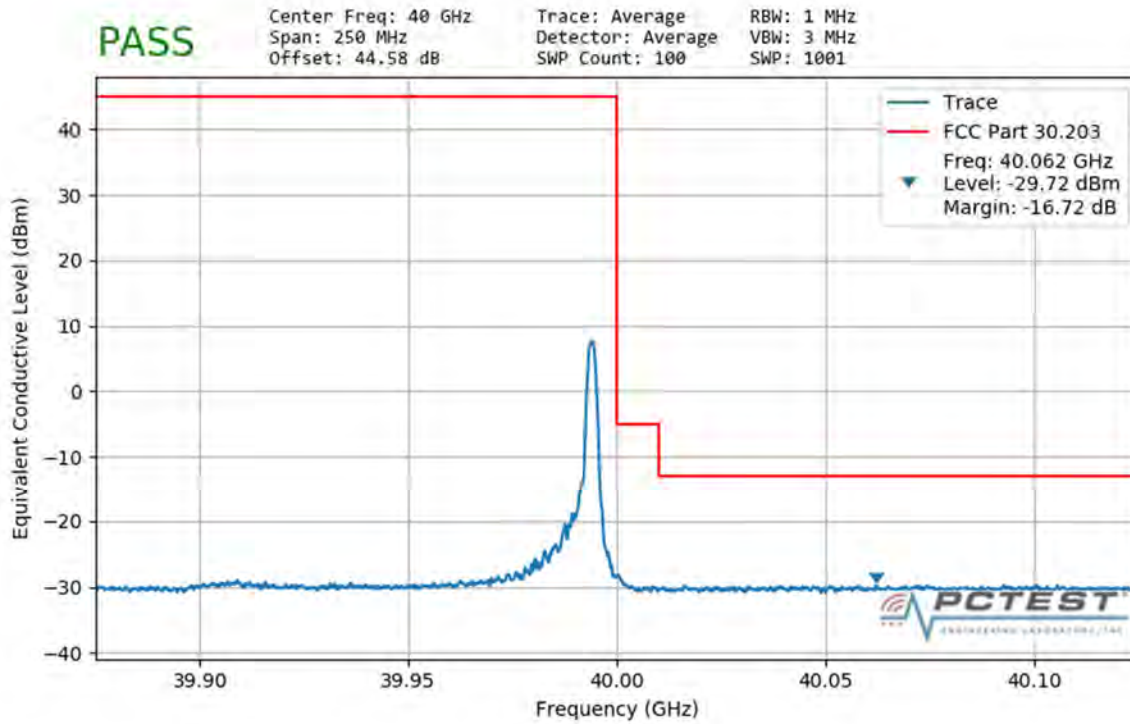


Plot 7-637. Upper Band Edge Plot (1CC 100MHz QPSK Full RB)

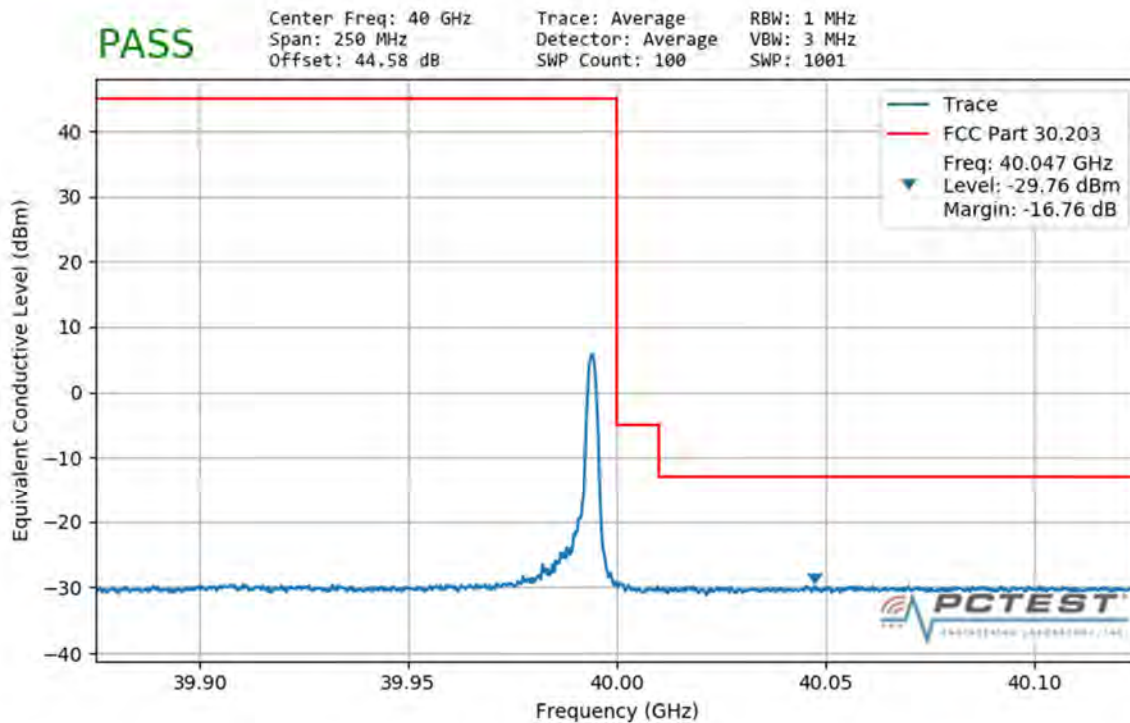


Plot 7-638. Upper Band Edge Plot (1CC 100MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 357 of 371

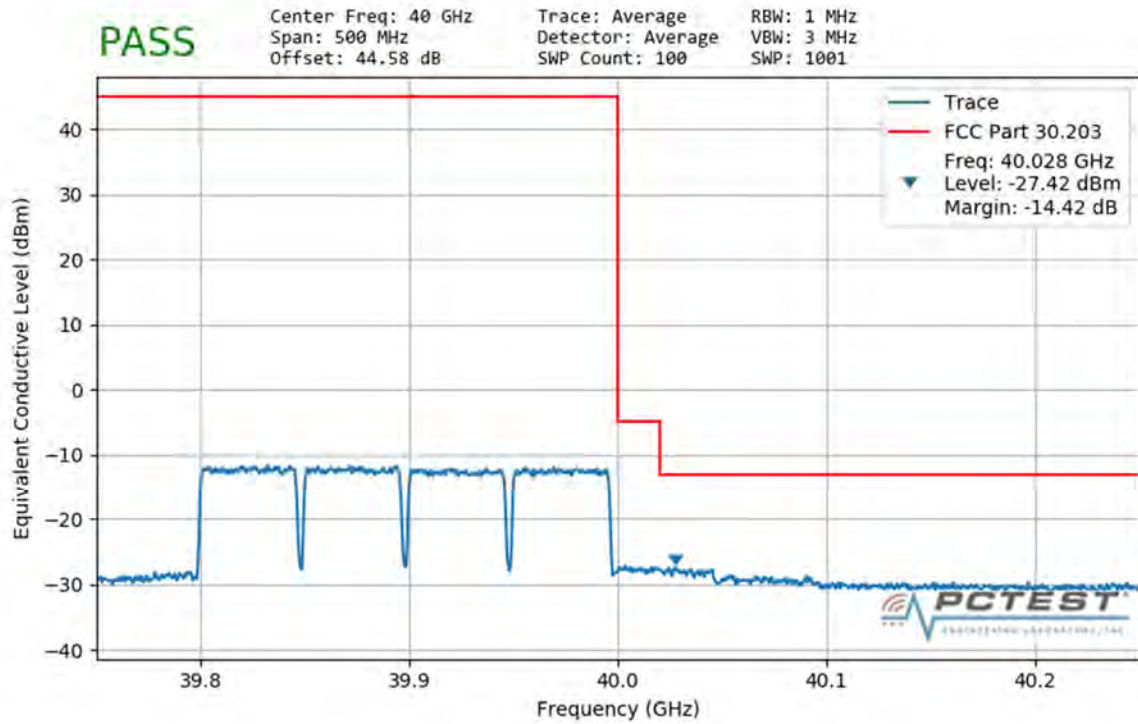


Plot 7-639. Upper Band Edge Plot (1CC 100MHz 16QAM 1 RB)

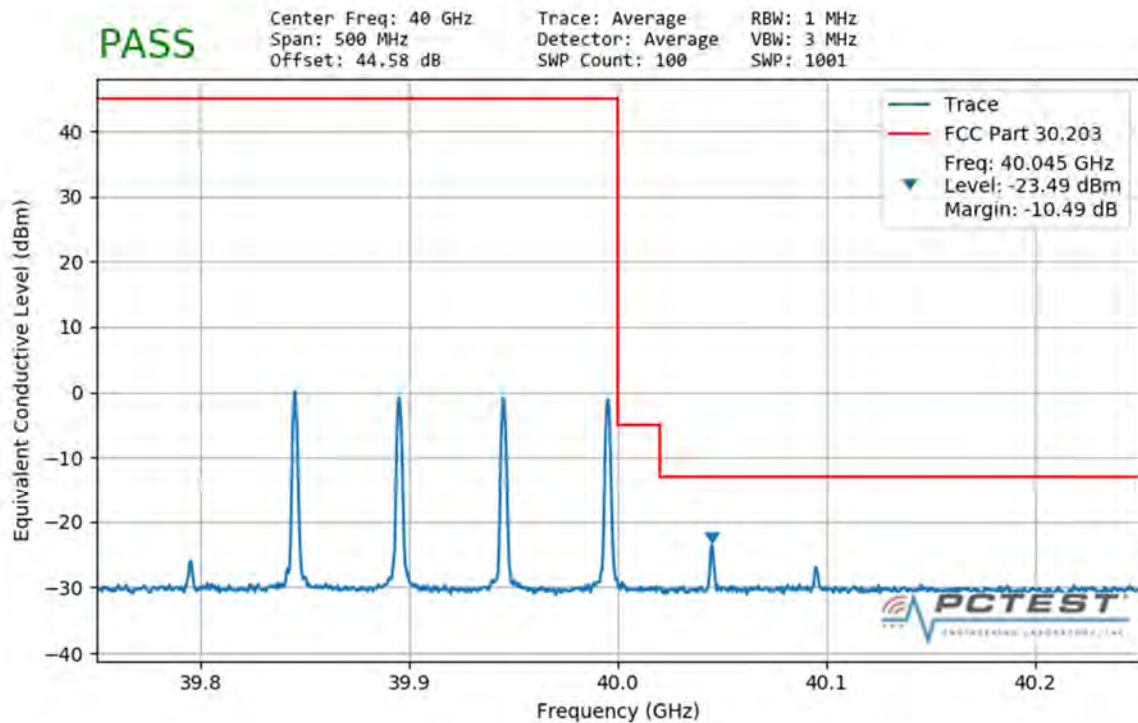


Plot 7-640. Upper Band Edge Plot (1CC 100MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 358 of 371

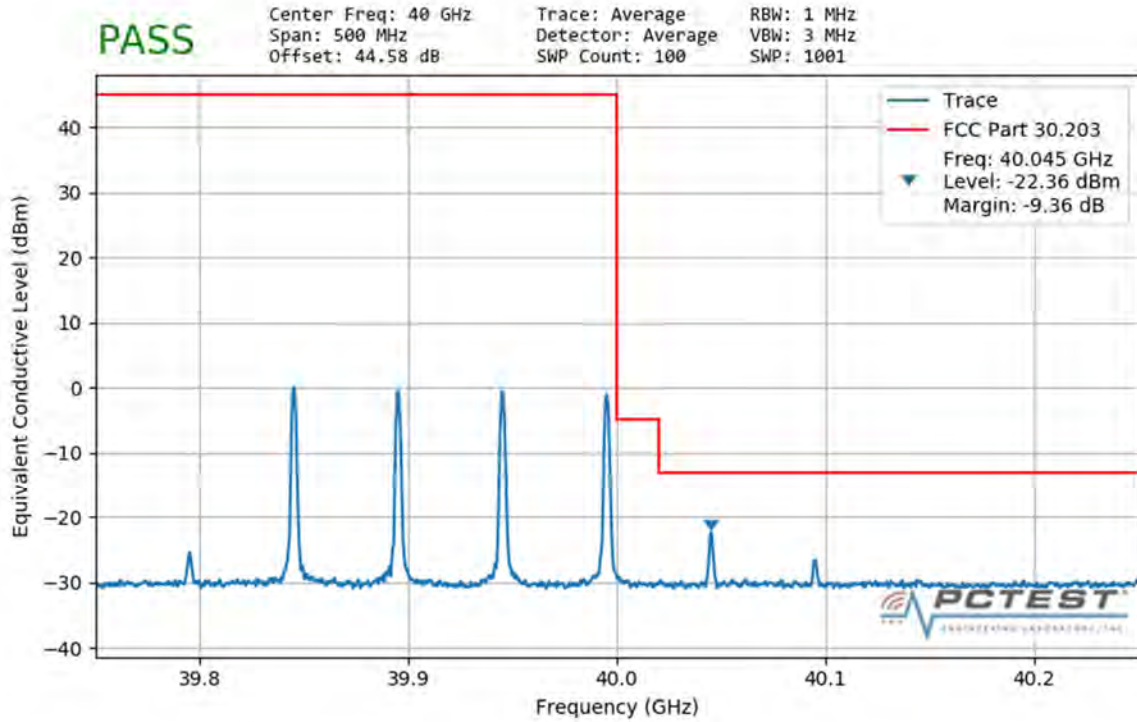


Plot 7-641. Upper Band Edge Plot (4CC 200MHz QPSK Full RB)

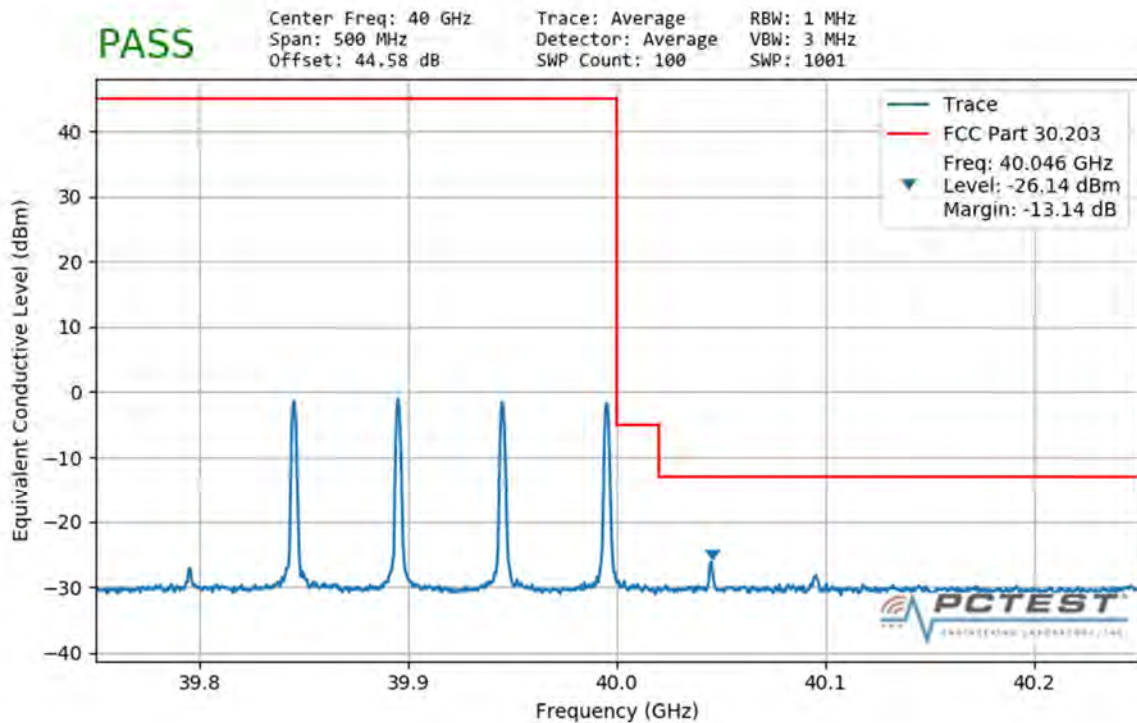


Plot 7-642. Upper Band Edge Plot (4CC 200MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 359 of 371

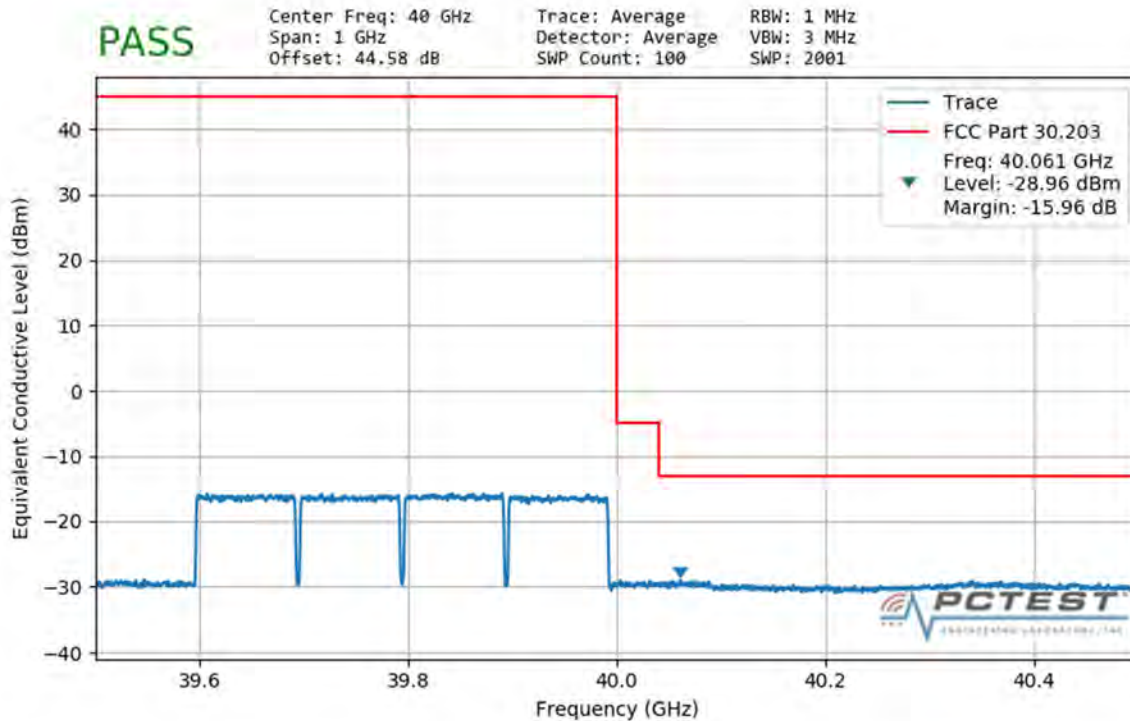


Plot 7-643. Upper Band Edge Plot (4CC 200MHz 16QAM 1 RB)

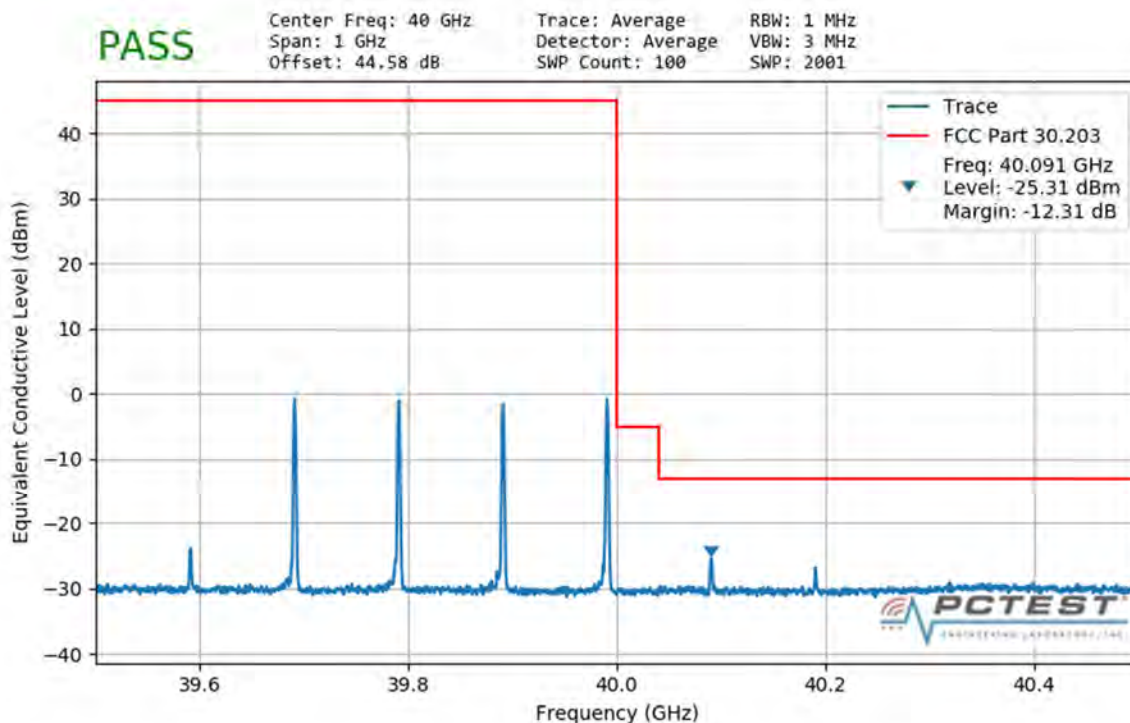


Plot 7-644. Upper Band Edge Plot (4CC 200MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 360 of 371

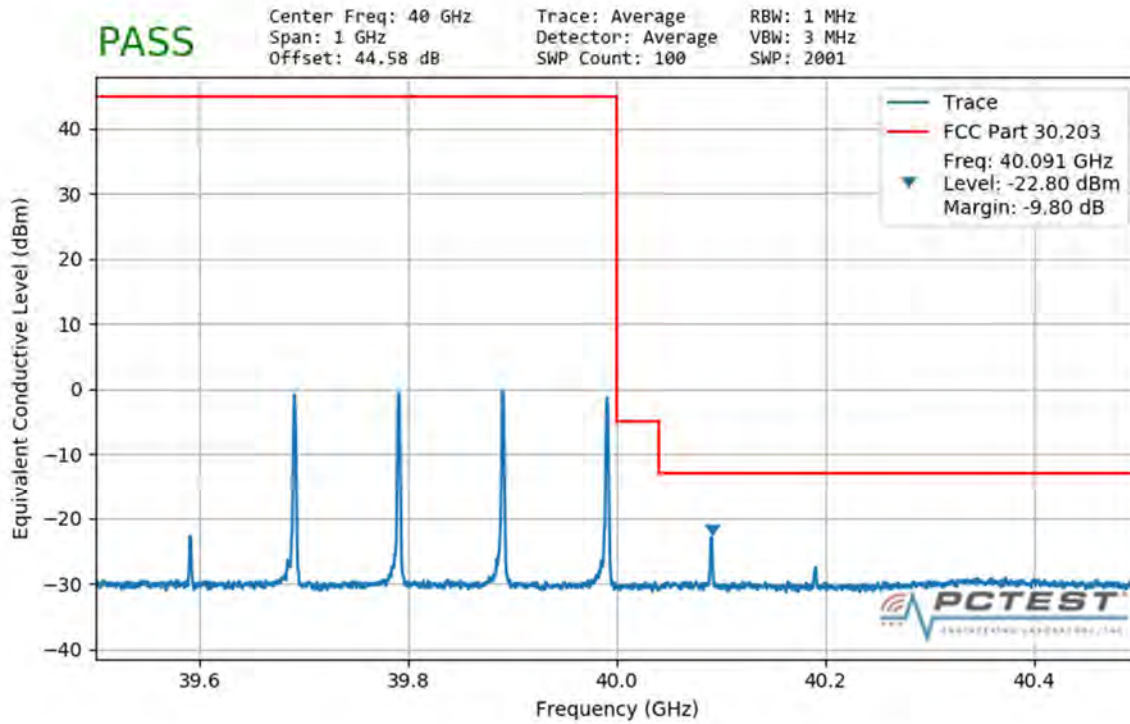


Plot 7-645. Upper Band Edge Plot (4CC 400MHz QPSK Full RB)

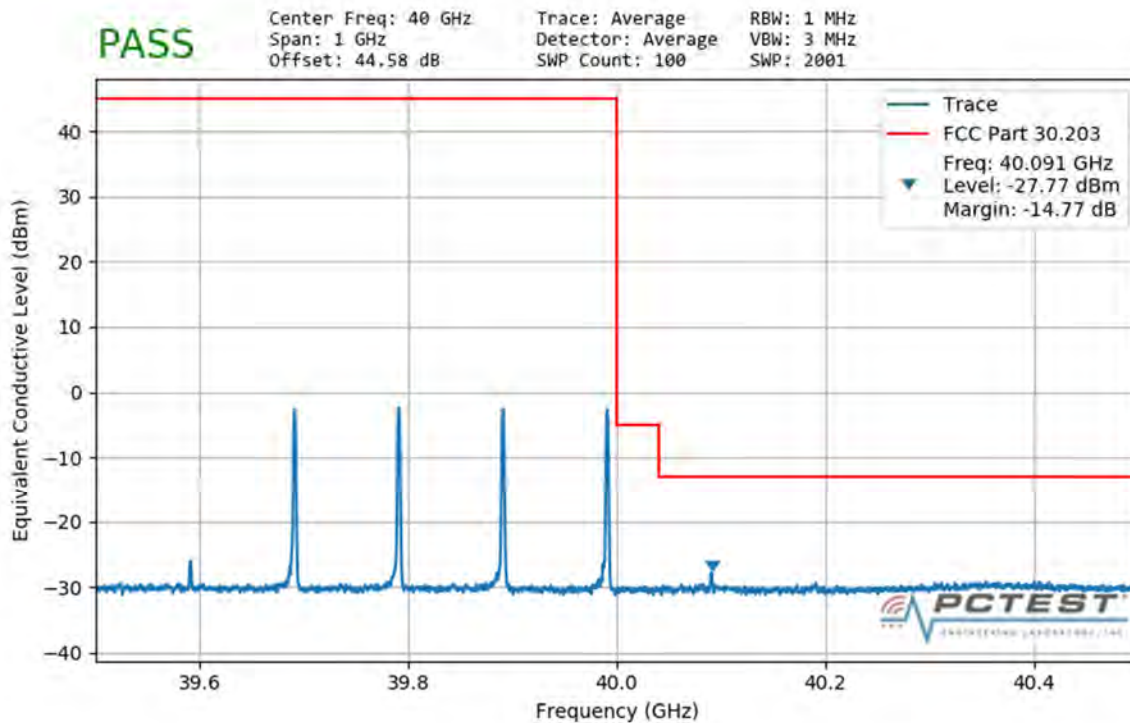


Plot 7-646. Upper Band Edge Plot (4CC 400MHz QPSK 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 361 of 371



Plot 7-647. Upper Band Edge Plot (4CC 400MHz 16QAM 1 RB)



Plot 7-648. Upper Band Edge Plot (4CC 400MHz 64QAM 1 RB)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 362 of 371

7.6 Frequency Stability / Temperature Variation

§2.1055

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015. The frequency stability of the transmitter is measured by:

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

Test Procedure Used

ANSI C63.5-2015 Section 5.6
KDB 842590 D01 v01 Section 4.5

Test Settings

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

Test Setup

The EUT was measured using horn antenna connected to a spectrum analyzer. The EUT was placed inside an environmental chamber. Using a foam plug, the horn antenna measured the frequency of the fundamental signal.

Test Notes

The Frequency Deviation column in the table below is the amount of deviation measured from the center frequency of the Reference measurement (first row).

FCC ID: A3LSMN976V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Frequency Stability Measurements(n261)

\$2.1055

OPERATING FREQUENCY: 27,922,080,000 Hz

CHANNEL: 2077867

REFERENCE VOLTAGE: 4.29 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.29	+ 20 (Ref)	27,922,711,430,965	0	0.0000000
100 %		- 30	27,922,849,529,522	-138,098,557	-0.0004946
100 %		- 20	27,922,942,034,487	-230,603,522	-0.0008259
100 %		- 10	27,922,907,487,523	-196,056,557	-0.0007021
100 %		0	27,922,886,402,221	-174,971,256	-0.0006266
100 %		+ 10	27,922,812,677,948	-101,246,983	-0.0003626
100 %		+ 20	27,922,725,217,252	-13,786,287	-0.0000494
100 %		+ 30	27,922,259,872,613	451,558,353	0.0016172
100 %		+ 40	27,922,590,606,660	120,824,305	0.0004327
100 %		+ 50	27,922,420,390,202	291,040,763	0.0010423
BATT. ENDPOINT	3.37	+ 20	27,922,631,805,398	79,625,567	0.0002852

Table 7-73. Frequency Stability Data(n261)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Frequency Stability Measurements(n261)

§2.1055

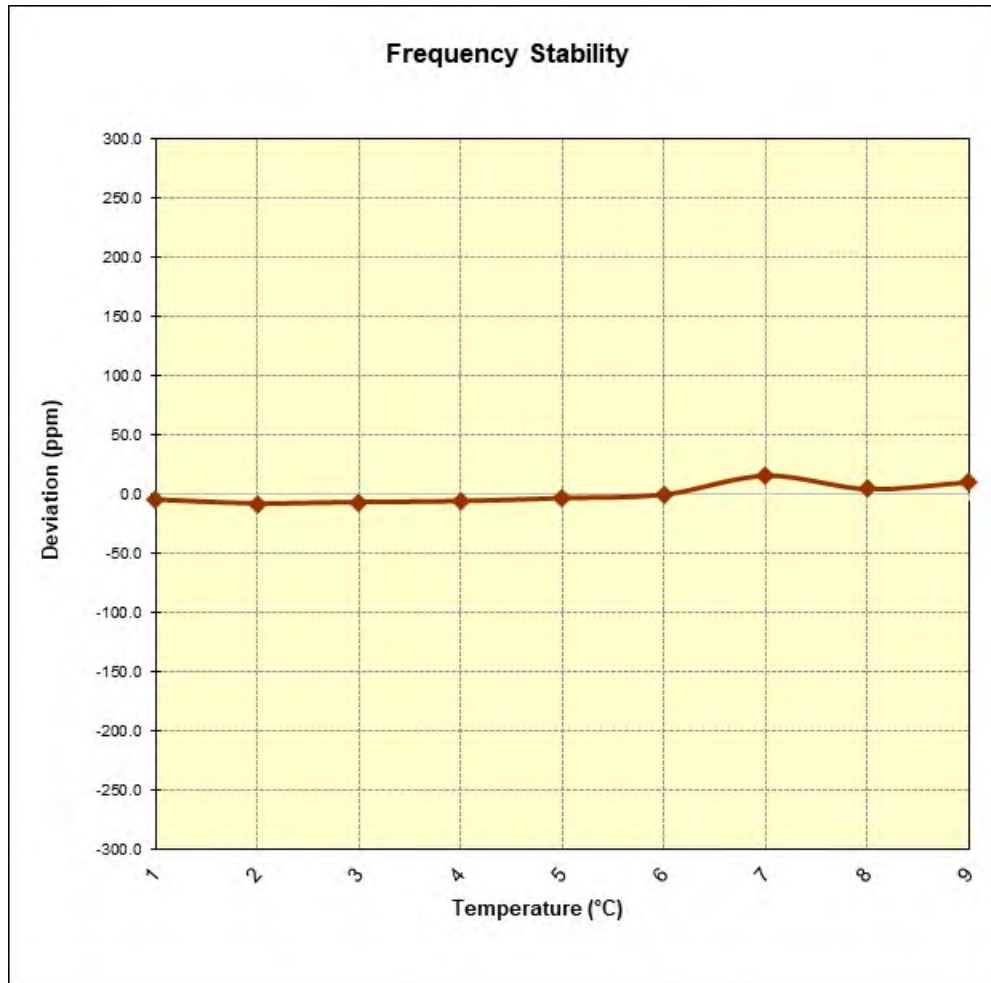


Figure 7-1. Frequency Stability Graph(n261)

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Frequency Stability Measurements (n260)

\$2.1055

OPERATING FREQUENCY: 38,495,520,000 Hz
 CHANNEL: 2254091
 REFERENCE VOLTAGE: 4.29 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.29	+ 20 (Ref)	38,495,281,765,313	0	0.0000000
100 %		- 30	38,495,342,349,282	-60,583,968	-0.0001574
100 %		- 20	38,495,355,282,345	-73,517,032	-0.0001910
100 %		- 10	38,495,513,372,892	-231,607,579	-0.0006017
100 %		0	38,495,424,265,533	-142,500,220	-0.0003702
100 %		+ 10	38,495,798,518,874	-516,753,561	-0.0013424
100 %		+ 20	38,495,255,159,026	26,606,287	0.0000691
100 %		+ 30	38,495,332,659,358	-50,894,044	-0.0001322
100 %		+ 40	38,495,251,232,030	30,533,284	0.0000793
100 %		+ 50	38,495,365,956,337	-84,191,024	-0.0002187
BATT. ENDPOINT	3.37	+ 20	38,495,262,110,262	19,655,052	0.0000511

Table 7-74. Frequency Stability Data(n260)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: A3LSMN976V	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Frequency Stability Measurements (n260)

\$2.1055

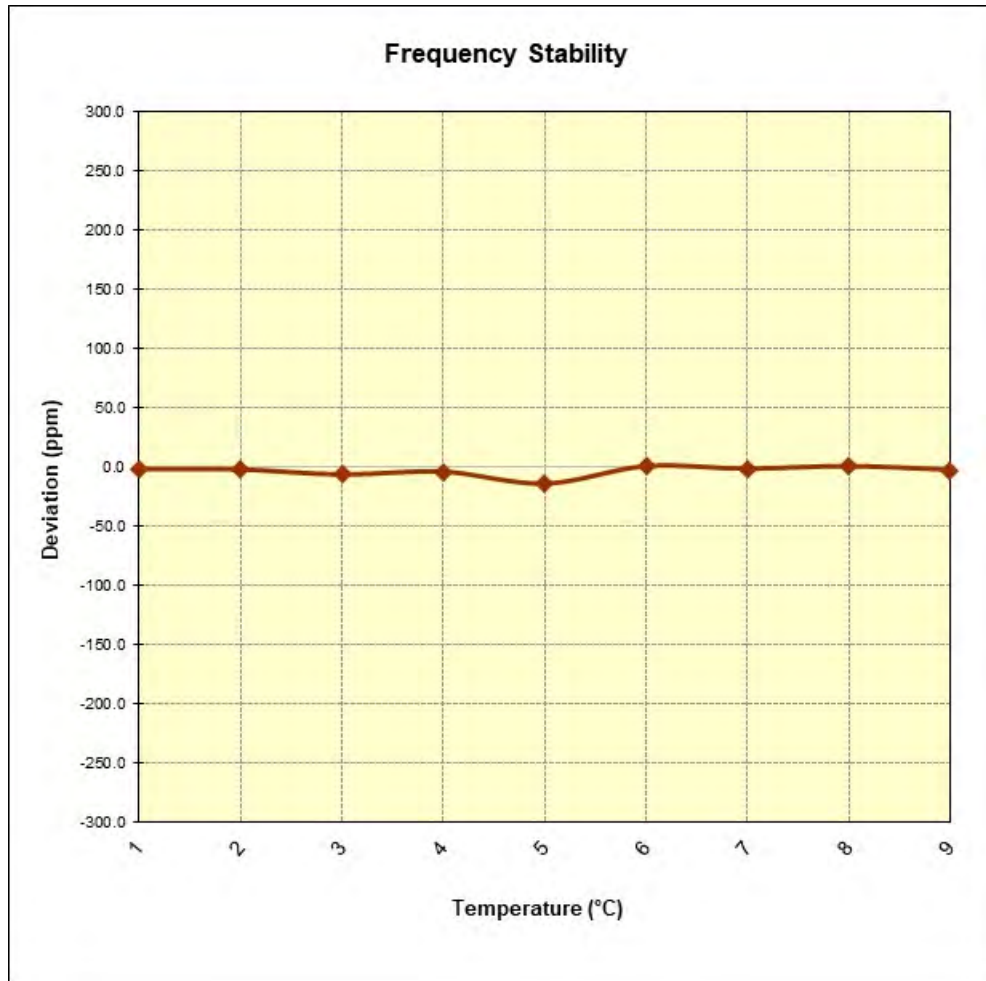


Figure 7-2. Frequency Stability Graph(n260)

FCC ID: A3LSMN976V	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMN976V** complies with all the requirements of Part 30.

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9.0 APPENDIX A

9.1 VDI Mixer Verification Certificate



Virginia Diodes, Inc
979 2nd St. SE
Suite 309
Charlottesville, VA 22902
Phone: 434-297-3257
Fax: 434-297-3258

Certificate of Conformance

To: PCTEST Engineering Laboratory
6660-B Dobbin Road
Columbia, MD 21045
United States

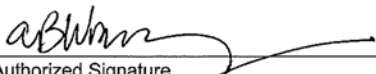
From: Virginia Diodes, Inc
979 2nd St. SE
Suite 309
Charlottesville, VA 22902

Shipping Date: 05/14/18

Today's Date: 05/14/18

Quantity	Shipped	Unit	Description
1	EA	VDIWR12.0SAX	WR12SAX - Spectrum Analyzer Extension Module / SN: SAX 252

The VDI product(s) in this shipment meet(s) the guidelines for performance specifications established in accordance with the corresponding Purchase Order. Data presented in the User Guide, where applicable, has been obtained in accordance with VDI's Quality Management System. All instruments, used to obtain data, which require calibration have been calibrated with equipment traceable to the National Institute of Standards and Technology (NIST) and through NIST to the International System of Units (SI).


Authorized Signature
Virginia Diodes, Inc

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FCC ID: A3LSMN976V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1905130071-06-R1.A3L	Test Dates: 05/14 - 07/12/2019	EUT Type: Portable Handset		Page 369 of 371



Virginia Diodes, Inc
979 2nd St. SE
Suite 309
Charlottesville, VA 22902
Phone: 434-297-3257
Fax: 434-297-3258

Certificate of Conformance

To: PCTEST Engineering Laboratory
6660-B Dobbin Road
Columbia, MD 21045
United States

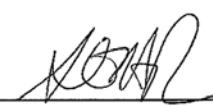
From: Virginia Diodes, Inc
979 2nd St. SE
Suite 309
Charlottesville, VA 22902

Shipping Date: 05/08/18

Today's Date: 05/08/18

Quantity		
<u>Shipped</u>	<u>Unit</u>	<u>Description</u>
1	EA	VDIWR8.0SAX WR8.0SAX - Spectrum Analyzer Extension Module; SN: SAX 253.

The VDI product(s) in this shipment meet(s) the guidelines for performance specifications established in accordance with the corresponding Purchase Order. Data presented in the User Guide, where applicable, has been obtained in accordance with VDI's Quality Management System. All instruments, used to obtain data, which require calibration have been calibrated with equipment traceable to the National Institute of Standards and Technology (NIST) and through NIST to the International System of Units (SI).



Authorized Signature
Virginia Diodes, Inc

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FCC ID: A3LSMN976V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Virginia Diodes, Inc
979 2nd St. SE
Suite 309
Charlottesville, VA 22902
Phone: 434-297-3257
Fax: 434-297-3258

Certificate of Conformance

To: PCTEST Engineering Laboratory
6660-B Dobbin Road
Columbia, MD 21045
United States

From: Virginia Diodes, Inc
979 2nd St. SE
Suite 309
Charlottesville, VA 22902

Shipping Date: 05/21/18	Today's Date: 05/22/18
-------------------------	------------------------

Quantity	Shipped	Unit	Description
	1	EA	VDIWR5.1SAX WR5.1SAX - Spectrum Analyzer Extension Module; SN: SAX 254.

The VDI product(s) in this shipment meet(s) the guidelines for performance specifications established in accordance with the corresponding Purchase Order. Data presented in the User Guide, where applicable, has been obtained in accordance with VDI's Quality Management System. All instruments, used to obtain data, which require calibration have been calibrated with equipment traceable to the National Institute of Standards and Technology (NIST) and through NIST to the International System of Units (SI).


Authorized Signature
Virginia Diodes, Inc

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FCC ID: A3LSMN976V		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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