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PART 27 MEASUREMENT REPORT

Applicant Name:
Samsung Electronics Co., Ltd.
129, Samsung-ro,
Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

Date of Testing:
09/02/2025 - 10/10/2025
Test Report Issue Date:
11/5/2025
Test Site/Location:
Element Lab., Columbia, MD, USA
Test Report Serial No.:
1M2508250078-09.A3L

FCC ID:	**A3LSMS948U**
APPLICANT:	**Samsung Electronics Co., Ltd.**

Application Type:	Certification
Model:	SM-S948U
Additional Model(s):	SM-S948U1
EUT Type:	Portable Handset
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part:	27
Test Procedure(s):	ANSI C63.26-2015, KDB 648474 D03 v01r04

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

RJ Ortanez
Executive Vice President

ACCREDITED
CERT #2041.01

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TEST REPORT REVISION HISTORY

Rev. No.	Report S/N	Description	Issue Date
-	1M2508250078-09.A3L	Initial Release	11/5/2025

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PART 27 MEASUREMENT REPORT

Antenna-1						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
LTE Band 30	10 MHz	QPSK	2310.0	0.166	22.19	9M01G7D
		16QAM	2310.0	0.136	21.34	9M01W7D
	5 MHz	QPSK	2307.5 - 2312.5	0.176	22.45	4M52G7D
		16QAM	2307.5 - 2312.5	0.147	21.66	4M54W7D
LTE Band 7	20 MHz	QPSK	2510.0 - 2560.0	0.155	21.90	18M0G7D
		16QAM	2510.0 - 2560.0	0.125	20.98	18M0W7D
	15 MHz	QPSK	2507.5 - 2562.5	0.158	22.00	13M6G7D
		16QAM	2507.5 - 2562.5	0.130	21.16	13M5W7D
	10 MHz	QPSK	2505.0 - 2565.0	0.154	21.88	9M03G7D
		16QAM	2505.0 - 2565.0	0.125	20.96	9M03W7D
	5 MHz	QPSK	2502.5 - 2567.5	0.160	22.04	4M54G7D
		16QAM	2502.5 - 2567.5	0.138	21.41	4M53W7D
LTE Band 41(PC3)	20 MHz	QPSK	2506.0 - 2680.0	0.213	23.29	18M0G7D
		16QAM	2506.0 - 2680.0	0.181	22.57	18M1W7D
	15 MHz	QPSK	2503.5 - 2682.5	0.181	22.58	13M6G7D
		16QAM	2503.5 - 2682.5	0.172	22.36	13M6W7D
	10 MHz	QPSK	2501.0 - 2685.0	0.184	22.65	9M07G7D
		16QAM	2501.0 - 2685.0	0.172	22.35	9M04W7D
	5 MHz	QPSK	2498.5 - 2687.5	0.183	22.64	4M53G7D
		16QAM	2498.5 - 2687.5	0.174	22.39	4M52W7D

Overview Table LTE Band Ant 1

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Antenna-1						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
NR Band n30	10 MHz	π/2 BPSK	2310.0	0.145	21.61	8M98G7D
		QPSK	2310.0	0.146	21.63	9M43G7D
		16QAM	2310.0	0.111	20.44	9M41W7D
	5 MHz	π/2 BPSK	2307.5 - 2312.5	0.157	21.95	4M53G7D
		QPSK	2307.5 - 2312.5	0.159	22.00	4M59G7D
		16QAM	2307.5 - 2312.5	0.103	20.13	4M61W7D
NR Band n7	50MHz	π/2 BPSK	2525.0 - 2545.0	0.145	21.62	48M5G7D
		QPSK	2525.0 - 2545.0	0.144	21.58	48M5G7D
		16QAM	2525.0 - 2545.0	0.107	20.31	48M5W7D
	40MHz	π/2 BPSK	2520.0 - 2550.0	0.136	21.35	38M8G7D
		QPSK	2520.0 - 2550.0	0.136	21.33	39M0G7D
		16QAM	2520.0 - 2550.0	0.106	20.25	38M9W7D
	35MHz	π/2 BPSK	2517.5 - 2552.5	0.141	21.49	32M3G7D
		QPSK	2517.5 - 2552.5	0.137	21.36	33M8G7D
		16QAM	2517.5 - 2552.5	0.106	20.25	33M7W7D
	30MHz	π/2 BPSK	2515.0 - 2555.0	0.139	21.42	28M7G7D
		QPSK	2515.0 - 2555.0	0.136	21.35	28M7G7D
		16QAM	2515.0 - 2555.0	0.107	20.30	28M8W7D
	25MHz	π/2 BPSK	2512.5 - 2557.5	0.139	21.43	23M1G7D
		QPSK	2512.5 - 2557.5	0.135	21.30	23M9G7D
		16QAM	2512.5 - 2557.5	0.109	20.37	23M9W7D
	20MHz	π/2 BPSK	2510.0 - 2560.0	0.139	21.44	18M0G7D
		QPSK	2510.0 - 2560.0	0.137	21.37	19M0G7D
		16QAM	2510.0 - 2560.0	0.106	20.26	19M1W7D
	15 MHz	π/2 BPSK	2507.5 - 2562.5	0.137	21.36	13M5G7D
		QPSK	2507.5 - 2562.5	0.135	21.31	14M2G7D
		16QAM	2507.5 - 2562.5	0.106	20.26	14M2W7D
	10MHz	π/2 BPSK	2505.0 - 2565.0	0.139	21.43	9M01G7D
		QPSK	2505.0 - 2565.0	0.137	21.36	9M37G7D
		16QAM	2505.0 - 2565.0	0.105	20.20	9M37W7D
	5 MHz	π/2 BPSK	2502.5 - 2567.5	0.141	21.51	4M51G7D
		QPSK	2502.5 - 2567.5	0.139	21.42	4M53G7D
		16QAM	2502.5 - 2567.5	0.107	20.28	4M60W7D

Overview Table NR Band Ant 1

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Antenna-1						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
NR Band n41(PC2)	100 MHz	π/2 BPSK	2546.0 - 2640.0	0.331	25.20	97M1G7D
		QPSK	2546.0 - 2640.0	0.330	25.18	98M0G7D
		16QAM	2546.0 - 2640.0	0.283	24.52	97M9W7D
	90 MHz	π/2 BPSK	2541.0 - 2645.0	0.322	25.08	87M2G7D
		QPSK	2541.0 - 2645.0	0.324	25.11	88M0G7D
		16QAM	2541.0 - 2645.0	0.277	24.43	87M8W7D
	80 MHz	π/2 BPSK	2536.0 - 2650.0	0.313	24.96	77M4G7D
		QPSK	2536.0 - 2650.0	0.322	25.08	77M8G7D
		16QAM	2536.0 - 2650.0	0.286	24.56	77M9W7D
	70 MHz	π/2 BPSK	2531.0 - 2655.0	0.313	24.96	64M6G7D
		QPSK	2531.0 - 2655.0	0.326	25.13	67M9G7D
		16QAM	2531.0 - 2655.0	0.286	24.57	67M7W7D
	60 MHz	π/2 BPSK	2526.0 - 2660.0	0.315	24.98	58M1G7D
		QPSK	2526.0 - 2660.0	0.324	25.10	58M3G7D
		16QAM	2526.0 - 2660.0	0.279	24.46	58M3W7D
	50 MHz	π/2 BPSK	2521.0 - 2665.0	0.330	25.19	45M9G7D
		QPSK	2521.0 - 2665.0	0.338	25.29	47M8G7D
		16QAM	2521.0 - 2665.0	0.286	24.57	47M8W7D
	45 MHz	π/2 BPSK	2518.5 - 2667.5	0.343	25.35	38M7G7D
		QPSK	2518.5 - 2667.5	0.355	25.50	42M6G7D
		16QAM	2518.5 - 2667.5	0.303	24.82	42M9W7D
	40 MHz	π/2 BPSK	2516.0 - 2670.0	0.318	25.03	36M0G7D
		QPSK	2516.0 - 2670.0	0.324	25.11	38M1G7D
		16QAM	2516.0 - 2670.0	0.281	24.49	38M0W7D
	35 MHz	π/2 BPSK	2513.5 - 2672.5	0.325	25.12	32M3G7D
		QPSK	2513.5 - 2672.5	0.330	25.19	33M0G7D
		16QAM	2513.5 - 2672.5	0.286	24.56	33M0W7D
	30 MHz	π/2 BPSK	2511.0 - 2675.0	0.318	25.03	27M0G7D
		QPSK	2511.0 - 2675.0	0.326	25.13	28M0G7D
		16QAM	2511.0 - 2675.0	0.285	24.55	28M0W7D
	25 MHz	π/2 BPSK	2508.5 - 2677.5	0.320	25.05	22M9G7D
		QPSK	2508.5 - 2677.5	0.327	25.15	23M3G7D
		16QAM	2508.5 - 2677.5	0.284	24.54	23M3W7D
	20 MHz	π/2 BPSK	2506.0 - 2680.0	0.312	24.94	18M0G7D
		QPSK	2506.0 - 2680.0	0.319	25.04	18M3G7D
		16QAM	2506.0 - 2680.0	0.272	24.35	18M4W7D
	15 MHz	π/2 BPSK	2503.5 - 2682.5	0.313	24.95	13M0G7D
		QPSK	2503.5 - 2682.5	0.318	25.03	13M7G7D
		16QAM	2503.5 - 2682.5	0.277	24.42	13M7W7D
	10 MHz	π/2 BPSK	2501.0 - 2685.0	0.318	25.03	8M69G7D
		QPSK	2501.0 - 2685.0	0.327	25.14	8M68G7D
		16QAM	2501.0 - 2685.0	0.270	24.32	8M74W7D

Overview Table NR Band n41 – Default SRS 1

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Antenna-2						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
LTE Band 30	10 MHz	QPSK	2310.0	0.121	20.84	9M06G7D
		16QAM	2310.0	0.098	19.91	9M06W7D
	5 MHz	QPSK	2307.5 - 2312.5	0.126	21.01	4M53G7D
		16QAM	2307.5 - 2312.5	0.107	20.29	4M53W7D
LTE Band 7	20 MHz	QPSK	2510.0 - 2560.0	0.158	21.98	18M1G7D
		16QAM	2510.0 - 2560.0	0.129	21.11	18M0W7D
	15 MHz	QPSK	2507.5 - 2562.5	0.154	21.87	13M5G7D
		16QAM	2507.5 - 2562.5	0.123	20.91	13M5W7D
	10 MHz	QPSK	2505.0 - 2565.0	0.154	21.89	9M03G7D
		16QAM	2505.0 - 2565.0	0.127	21.04	9M03W7D
	5 MHz	QPSK	2502.5 - 2567.5	0.152	21.81	4M54G7D
		16QAM	2502.5 - 2567.5	0.123	20.91	4M53W7D
LTE Band 41(PC3)	20 MHz	QPSK	2506.0 - 2680.0	0.214	23.31	18M1G7D
		16QAM	2506.0 - 2680.0	0.172	22.36	18M0W7D
	15 MHz	QPSK	2503.5 - 2682.5	0.205	23.11	13M5G7D
		16QAM	2503.5 - 2682.5	0.173	22.38	13M5W7D
	10 MHz	QPSK	2501.0 - 2685.0	0.211	23.25	9M05G7D
		16QAM	2501.0 - 2685.0	0.172	22.35	9M04W7D
	5 MHz	QPSK	2498.5 - 2687.5	0.207	23.16	4M54G7D
		16QAM	2498.5 - 2687.5	0.174	22.41	4M53W7D

Overview Table LTE Band Ant 2

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Antenna-2						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
NR Band n30	10 MHz	π/2 BPSK	2310.0	0.107	20.29	9M00G7D
		QPSK	2310.0	0.106	20.24	9M37G7D
		16QAM	2310.0	0.085	19.30	9M36W7D
	5 MHz	π/2 BPSK	2307.5 - 2312.5	0.109	20.38	4M53G7D
		QPSK	2307.5 - 2312.5	0.109	20.37	4M53G7D
		16QAM	2307.5 - 2312.5	0.087	19.39	4M52W7D
NR Band n7	50MHz	π/2 BPSK	2525.0 - 2545.0	0.153	21.85	48M8G7D
		QPSK	2525.0 - 2545.0	0.155	21.89	49M2G7D
		16QAM	2525.0 - 2545.0	0.118	20.73	49M1W7D
	40MHz	π/2 BPSK	2520.0 - 2550.0	0.141	21.49	38M8G7D
		QPSK	2520.0 - 2550.0	0.145	21.62	39M1G7D
		16QAM	2520.0 - 2550.0	0.113	20.54	38M9W7D
	35MHz	π/2 BPSK	2517.5 - 2552.5	0.143	21.55	32M3G7D
		QPSK	2517.5 - 2552.5	0.147	21.66	33M8G7D
		16QAM	2517.5 - 2552.5	0.113	20.51	33M7W7D
	30MHz	π/2 BPSK	2515.0 - 2555.0	0.145	21.61	28M8G7D
		QPSK	2515.0 - 2555.0	0.142	21.52	28M7G7D
		16QAM	2515.0 - 2555.0	0.110	20.42	28M8W7D
	25MHz	π/2 BPSK	2512.5 - 2557.5	0.143	21.54	23M1G7D
		QPSK	2512.5 - 2557.5	0.147	21.68	23M9G7D
		16QAM	2512.5 - 2557.5	0.110	20.43	23M9W7D
	20MHz	π/2 BPSK	2510.0 - 2560.0	0.139	21.42	18M0G7D
		QPSK	2510.0 - 2560.0	0.146	21.63	19M0G7D
		16QAM	2510.0 - 2560.0	0.110	20.42	19M1W7D
	15 MHz	π/2 BPSK	2507.5 - 2562.5	0.145	21.60	13M5G7D
		QPSK	2507.5 - 2562.5	0.146	21.64	14M2G7D
		16QAM	2507.5 - 2562.5	0.110	20.41	14M2W7D
	10MHz	π/2 BPSK	2505.0 - 2565.0	0.143	21.54	9M01G7D
		QPSK	2505.0 - 2565.0	0.144	21.59	9M38G7D
		16QAM	2505.0 - 2565.0	0.109	20.37	9M37W7D
	5 MHz	π/2 BPSK	2502.5 - 2567.5	0.147	21.66	4M52G7D
		QPSK	2502.5 - 2567.5	0.151	21.79	4M54G7D
		16QAM	2502.5 - 2567.5	0.110	20.40	4M58W7D

Overview Table NR Band Ant 2

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Antenna-1						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
NR Band n41(PC2)	100 MHz	π/2 BPSK	2546.0 - 2640.0	0.334	25.24	96M9G7D
		QPSK	2546.0 - 2640.0	0.360	25.56	98M6G7D
		16QAM	2546.0 - 2640.0	0.294	24.68	98M4W7D
	90 MHz	π/2 BPSK	2541.0 - 2645.0	0.302	24.80	87M4G7D
		QPSK	2541.0 - 2645.0	0.331	25.20	87M8G7D
		16QAM	2541.0 - 2645.0	0.268	24.28	87M9W7D
	80 MHz	π/2 BPSK	2536.0 - 2650.0	0.285	24.54	77M3G7D
		QPSK	2536.0 - 2650.0	0.312	24.93	77M6G7D
		16QAM	2536.0 - 2650.0	0.280	24.47	77M7W7D
	70 MHz	π/2 BPSK	2531.0 - 2655.0	0.304	24.83	64M6G7D
		QPSK	2531.0 - 2655.0	0.337	25.27	67M7G7D
		16QAM	2531.0 - 2655.0	0.282	24.50	67M7W7D
	60 MHz	π/2 BPSK	2526.0 - 2660.0	0.301	24.78	58M1G7D
		QPSK	2526.0 - 2660.0	0.326	25.13	58M3G7D
		16QAM	2526.0 - 2660.0	0.271	24.34	58M3W7D
	50 MHz	π/2 BPSK	2521.0 - 2665.0	0.311	24.93	46M1G7D
		QPSK	2521.0 - 2665.0	0.342	25.34	47M8G7D
		16QAM	2521.0 - 2665.0	0.278	24.44	47M7W7D
	45 MHz	π/2 BPSK	2518.5 - 2667.5	0.310	24.91	38M7G7D
		QPSK	2518.5 - 2667.5	0.344	25.36	42M6G7D
		16QAM	2518.5 - 2667.5	0.284	24.53	42M9W7D
	40 MHz	π/2 BPSK	2516.0 - 2670.0	0.293	24.67	35M9G7D
		QPSK	2516.0 - 2670.0	0.322	25.08	38M0G7D
		16QAM	2516.0 - 2670.0	0.261	24.17	38M0W7D
	35 MHz	π/2 BPSK	2513.5 - 2672.5	0.296	24.71	32M4G7D
		QPSK	2513.5 - 2672.5	0.324	25.10	33M0G7D
		16QAM	2513.5 - 2672.5	0.264	24.22	33M0W7D
	30 MHz	π/2 BPSK	2511.0 - 2675.0	0.297	24.73	27M0G7D
		QPSK	2511.0 - 2675.0	0.328	25.15	28M0G7D
		16QAM	2511.0 - 2675.0	0.271	24.34	28M1W7D
	25 MHz	π/2 BPSK	2508.5 - 2677.5	0.297	24.72	23M0G7D
		QPSK	2508.5 - 2677.5	0.325	25.12	23M3G7D
		16QAM	2508.5 - 2677.5	0.260	24.16	23M3W7D
	20 MHz	π/2 BPSK	2506.0 - 2680.0	0.295	24.69	18M0G7D
		QPSK	2506.0 - 2680.0	0.320	25.05	18M4G7D
		16QAM	2506.0 - 2680.0	0.253	24.04	18M3W7D
	15 MHz	π/2 BPSK	2503.5 - 2682.5	0.298	24.74	13M0G7D
		QPSK	2503.5 - 2682.5	0.328	25.15	13M7G7D
		16QAM	2503.5 - 2682.5	0.262	24.19	13M7W7D
	10 MHz	π/2 BPSK	2501.0 - 2685.0	0.293	24.67	8M67G7D
		QPSK	2501.0 - 2685.0	0.320	25.04	8M69G7D
		16QAM	2501.0 - 2685.0	0.250	23.99	8M72W7D

Overview Table NR Band n41 – Switch SRS 1

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UL-MIMO					
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP	
				Max. Power [W]	Max. Power [dBm]
NR Band n41(PC2)	100 MHz	π/2 BPSK	2546.0 - 2640.0	0.485	26.86
		QPSK	2546.0 - 2640.0	0.487	26.88
		16QAM	2546.0 - 2640.0	0.370	25.68
	90 MHz	π/2 BPSK	2541.0 - 2645.0	0.481	26.82
		QPSK	2541.0 - 2645.0	0.477	26.79
		16QAM	2541.0 - 2645.0	0.374	25.73
	80 MHz	π/2 BPSK	2536.0 - 2650.0	0.482	26.83
		QPSK	2536.0 - 2650.0	0.473	26.75
		16QAM	2536.0 - 2650.0	0.375	25.74
	70 MHz	π/2 BPSK	2531.0 - 2655.0	0.517	27.14
		QPSK	2531.0 - 2655.0	0.502	27.01
		16QAM	2531.0 - 2655.0	0.400	26.02
	60 MHz	π/2 BPSK	2526.0 - 2660.0	0.485	26.86
		QPSK	2526.0 - 2660.0	0.481	26.82
		16QAM	2526.0 - 2660.0	0.363	25.60
	50 MHz	π/2 BPSK	2521.0 - 2665.0	0.501	27.00
		QPSK	2521.0 - 2665.0	0.494	26.94
		16QAM	2521.0 - 2665.0	0.387	25.88
	45 MHz	π/2 BPSK	2518.5 - 2667.5	0.425	26.28
		QPSK	2518.5 - 2667.5	0.422	26.25
		16QAM	2518.5 - 2667.5	0.328	25.16
	40 MHz	π/2 BPSK	2516.0 - 2670.0	0.473	26.75
		QPSK	2516.0 - 2670.0	0.474	26.76
		16QAM	2516.0 - 2670.0	0.362	25.59
	35 MHz	π/2 BPSK	2513.5 - 2672.5	0.170	22.30
		QPSK	2513.5 - 2672.5	0.169	22.29
		16QAM	2513.5 - 2672.5	0.132	21.22
	30 MHz	π/2 BPSK	2511.0 - 2675.0	0.494	26.94
		QPSK	2511.0 - 2675.0	0.483	26.84
		16QAM	2511.0 - 2675.0	0.378	25.78
	25 MHz	π/2 BPSK	2508.5 - 2677.5	0.490	26.90
		QPSK	2508.5 - 2677.5	0.493	26.93
		16QAM	2508.5 - 2677.5	0.379	25.79
	20 MHz	π/2 BPSK	2506.0 - 2680.0	0.502	27.01
		QPSK	2506.0 - 2680.0	0.489	26.89
		16QAM	2506.0 - 2680.0	0.377	25.76
	15 MHz	π/2 BPSK	2503.5 - 2682.5	0.491	26.91
		QPSK	2503.5 - 2682.5	0.501	27.00
		16QAM	2503.5 - 2682.5	0.393	25.94
	10 MHz	π/2 BPSK	2501.0 - 2685.0	0.492	26.92
		QPSK	2501.0 - 2685.0	0.470	26.72
		16QAM	2501.0 - 2685.0	0.372	25.71

Overview Table NR Band n41 – UL-MIMO

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1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2 Element Test Location

Measurements were conducted at the Element laboratory(ies) indicated in Section 1.3 below. All measurement facilities are compliant with the test site requirements specified in ANSI C63.4:2014 and KDB 414788 D01 v01r01.

1.3 Test Facility / Accreditations

Measurements were performed at Element lab located in Columbia, MD 21046, U.S.A.

- Element Washington DC LLC is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.

- Element Washington DC LLC TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).

- Element Washington DC LLC facility is a registered test laboratory with the site description on file with ISED (Wireless Test Lab number 2451B) and FCC (Designation Number US1113).

- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISED Canada as designated by NIST under the U.S. and Canada Mutual Recognition Agreements (MRAs).

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Portable Handset FCC ID: A3LSMS948U**. The test data contained in this report pertains only to the emissions due to the EUT's licensed transmitters that operate under the provisions of Part 27.

Test Device Serial No.: 0532M, 0323M, 0533M, 0545M, 0533M, 0502M, 0789M, 0264M, 0502M, 0490M, 0533M

2.2 Device Capabilities

This device contains the following capabilities:

850/1900 GSM/GPRS/EDGE, 850/1700/1900 WCDMA/HSPA, Multi-band LTE, Multi-band 5G NR (FR1 and FR2), 802.11b/g/n/ac/ax/be WLAN, 802.11a/n/ac/ax/be UNII (5GHz and 6GHz), Bluetooth (1x, EDR, LE), NFC, Wireless Power Transfer, UWB, NTN, SCS

This device supports Tx Device Hopping (ANT Switching) for the multiple 5G NR Bands and can operate on two distinct paths. The paths are labeled as either Main or Switching paths. Testing was done on both paths and is included in this report.

This device can transmit in the 5G NR Band n41 band over four separate antennas labelled SRS-1, SRS-2, SRS-3, and SRS-4. SRS operation can occur on either the main or switching path. With SRS operations, any of these four antennas can transmit an SRS signal to check the channel quality for transmission in the n41 Band. However, these antennas cannot simultaneously transmit and only the SRS-1 antenna is capable of data transmission. The test data is marked to indicate the specific antenna transmitting in the n41 band.

This device supports Uplink MIMO (UL-MIMO) operation for the 5G NR Band n41 and operates in a 2x2 configuration using Ant F and Ant B. During this mode of operation SRS capabilities are additionally supported by four antennas, including the two UL-MIMO antennas, but only the UL-MIMO antennas are capable of data transmission in this mode. The test data is marked to indicate the specific antenna(s) transmitting in the n41 band.

Band	Ant1	Ant2
LTE Band 30	Ant F	Ant A
LTE Band 41 PC3	Ant F	Ant B
LTE Band 7	Ant F	Ant B
NR Band n30	Ant F	Ant A
NR Band n7	Ant F	Ant B

Table 2-1. Antenna Report Naming Convention

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Antenna SRS-Label	Alternate Label
NR Band n41 – Default – SRS-1	Ant F
NR Band n41 – Default – SRS-2	Ant B
NR Band n41 – Default – SRS-3	Ant E
NR Band n41 – Default – SRS-4	Ant D
NR Band n41 – Switch – SRS-1	Ant B
NR Band n41 – Switch – SRS-2	Ant F
NR Band n41 – Switch – SRS-3	Ant D
NR Band n41 – Switch – SRS-4	Ant E
NR Band n41 – UL MIMO – SRS-1	Ant F + Ant B
NR Band n41 – UL MIMO – SRS-3	Ant E
NR Band n41 – UL MIMO – SRS-4	Ant D

Table 2-2. Antenna Labelling Scheme Correlation

2.3 Test Configuration

The EUT was tested per the guidance of ANSI C63.26:2015. See Section 7.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

This device supports wireless charging capability and, thus, is subject to the test requirements of KDB 648474 D03 v01r04. Additional radiated spurious emission measurements were performed with the EUT lying flat on an authorized wireless charging pad (WCP) Model: EP-2400 while operating under normal conditions in a simulated call or data transmission configuration. The worst case radiated emissions data is shown in this report.

2.4 Duty Cycle Information

For all 5G NR and LTE operations in FDD mode, the EUT duty cycle was set to 100%.

For 5G NR operations, the EUT was set to transmit either via a Factory Test Mode (FTM) software provided by the manufacturer or in an online mode. The EUT duty cycle was set to 100% in all cases during FTM operation. During online operation the EUT duty cycle was set to an operational max using a callbox, where the max duty cycle was determined to be 20.0%. Gated and triggered measurement settings were used in this case. SRS and UL-MIMO operations were conducted using FTM while all other cases were conducted in an online mode.

For LTE TDD operation, a call box was used to force maximum transmission for each band. For LTE TDD bands, the maximum duty cycle is 63.3% for PC3 and 43.3% for PC2.

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2.5 Software and Firmware

Testing was performed on device(s) using software/firmware version S948USQU0AYIB installed on the EUT.

2.6 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

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3.0 DESCRIPTION OF TESTS

3.1 Evaluation Procedure

The measurement procedures described in the "American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services" (ANSI C63.26:2015) were used in the measurement of the EUT.

Deviation from Measurement Procedure……..……..None

3.2 Radiated Power and Radiated Spurious Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4:2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. For measurements below 1GHz, the absorbers are removed. A raised turntable is used for radiated measurement. The turn table is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm tall test table made of Styrodur is placed on top of the turn table. A Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer.

For radiated power measurements, substitution method is used per the guidance of ANSI C63.26:2015. For emissions below 1GHz, a half-wave dipole is substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

$$P_{d\ [dBm]} = P_{g\ [dBm]} - \text{cable loss}_{\ [dB]} + \text{antenna gain}_{\ [dBd/dBi]};$$

where P_d is the dipole equivalent power, P_g is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to $P_{g\ [dBm]}$ – cable loss $_{[dB]}$.

For radiated spurious emissions measurements, the field strength conversion method is used per the formulas in Section 5.2.7 of ANSI C63.26:2015. Field Strength (EIRP) is calculated using the following formulas:

$$E_{[dB\mu V/m]} = \text{Measured amplitude level}_{[dBm]} + 107 + \text{Cable Loss}_{[dB]} + \text{Antenna Factor}_{[dB/m]}$$

And

$$EIRP_{[dBm]} = E_{[dB\mu V/m]} + 20\log D - 104.8;$$ where D is the measurement distance in meters.

All radiated measurements are performed in a chamber that meets the site requirements per ANSI C63.4:2014. Additionally, radiated emissions below 30MHz are also validated on an Open Area Test Site to assert correlation with the chamber measurements per the requirements of KDB 414788 D01 v01r01.

Radiated power and radiated spurious emission levels are investigated with the receive antenna horizontally and vertically polarized per ANSI C63.26:2015.

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4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Conducted Bench Top Measurements	1.13
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

Table 4-1. Measurement Uncertainty Budget

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5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	MD 1M 40	EMC Cable and Switch System	2/25/2025	Annual	2/25/2026	MD 1M 40
-	AP1-002	EMC Cable and Switch System	2/25/2025	Annual	2/25/2026	AP1-002
-	AP2-001	EMC Cable and Switch System	2/25/2025	Annual	2/25/2026	AP2-001
-	AP2-002	EMC Cable and Switch System	2/25/2025	Annual	2/25/2026	AP2-002
-	ETS-001	EMC Cable and Switch System	12/11/2024	Annual	12/11/2025	ETS-001
-	ETS-002	EMC Cable and Switch System	12/11/2024	Annual	12/11/2025	ETS-002
-	LTx4	Licensed Transmitter Cable Set	2/25/2025	Annual	2/25/2026	LTx4
-	LTx5	Licensed Transmitter Cable Set	2/25/2025	Annual	2/25/2026	LTx5
-	LTx6-40	Licensed Transmitter Cable Set	2/25/2025	Annual	2/25/2026	LTx6-40
-	WL40-1	Conducted Cable Set (40GHz)	2/25/2025	Annual	2/25/2026	WL40-1
-	WL40-2	Conducted Cable Set (40GHz)	2/25/2025	Annual	2/25/2026	WL40-2
Agilent	N9038A	MXE EMI Receiver	9/16/2024	Annual	11/22/2025	MY51210133
Anritsu	MT8000A	Radio Communication Test Station	6/4/2025	Annual	6/4/2026	6261914237
Anritsu	MT8821C	Radio Communication Analyze	9/15/2025	Annual	9/15/2026	6201381794
Anritsu	MT8821C	Radio Communication Analyze	3/14/2025	Annual	3/14/2026	6262044715
EMCO	3115	Horn Antenna (1-18GHz)	9/6/2024	Biennial	9/6/2026	9704-5182
Espec	ESX-2CA	Environmental Chamber	11/20/2024	Biennial	11/20/2026	17620
ETS Lindgren	3117	1-18 GHz DRG Horn (Medium)	6/4/2025	Biennial	6/4/2027	125518
ETS-Lindgren	3164-05	Quad Ridge Horn (Small) 2 - 18GHz	6/4/2025	Biennial	6/4/2027	208255
ETS-Lindgren	3116C	DRG Horn Antenna	4/22/2025	Biennial	4/22/2027	218893
Keysight Technologies	N9030A	3Hz-44GHz PXA Signal Analyzer	9/15/2025	Annual	9/15/2026	MY49430494
Keysight Technologies	N9030A	3Hz-44GHz PXA Signal Analyzer	9/15/2025	Annual	9/15/2026	MY49430494
Keysight Technologies	N9038A	MXE EMI Receiver	9/16/2024	Annual	11/22/2025	MY51210133
Keysight Technologies	N9030A	PXA Signal Analyzer (44GHz)	6/6/2025	Annual	6/6/2026	MY52350166
Keysight Technologies	N9030A	PXA Signal Analyzer	6/16/2025	Annual	6/16/2026	MY55410501
Rohde & Schwarz	FSW67	Signal / Spectrum Analyzer	5/12/2025	Annual	5/12/2026	103200
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	11/25/2024	Annual	11/25/2025	100348
Rohde & Schwarz	ESW44	EMI Test Receiver 2Hz to 44 GHz	3/25/2025	Annual	3/25/2026	101716
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	6/18/2025	Annual	6/18/2026	140148
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	9/11/2024	Biennial	9/11/2026	A051107
Sunol	JB6	Bi-Log Antenna (30M - 5GHz)	3/24/2025	Biennial	3/24/2027	A082816
Sunol Sciences	DRH-118	Horn (Small)	2/13/2024	Biennial	2/13/2026	A042511

Table 5-1. Test Equipment Calibration Table

Notes:

1. For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

2. Equipment with a calibration date of "N/A" shown in this list was not used to make direct calibrated measurements.

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Component	Serial Number
MegaPhase Cable, Model: TM40-K1K1-36	18160102 001
MCL 10dB Attenuator, Model: BW-K10 2W44+	1902

Table 5-2. WL40-1 Conducted Cable Set Components

Component	Serial Number
MegaPhase Cable, Model: TM40-K1K1-30	18165902 001
MCL 10dB Attenuator, Model: BW-K10 2W44+	2108

Table 5-3. WL40-2 Conducted Cable Set Components

Component	Serial Number
Keysight Directional Coupler, Model: 87300C	55300518
MCL 6dB Attenuator, Model: BW K62W44+	2013
MegaPhase Cable, Model: TM40-K1K1-36	19026201 002

Table 5-4. LTx4 Conducted Cable Set Components

Component	Serial Number
Keysight Directional Coupler, Model: 87300C	55300519
MCL 6dB Attenuator, Model: BW-K62W44+	1905
MegaPhase Cable, Model: TM40-K1K1-36	19026201 001

Table 5-5. LTx5 Conducted Cable Set Components

Component	Serial Number
Fairview Microwave Directional Coupler, FM2CP1122-10	2122
MCL 6dB Attenuator, Model: BW-K6 2W44+	2013
MegaPhase Cable, Model: TM40-K1K1-30	20233002 003

Table 5-6. LTx6-40 Conducted Cable Set Components

Component	Serial Number
Pasternack Cable RG214/U	111815
MegaPhase (CAGE 1GVT4) Cable GR18-N5N5-24	14042714 001

Table 5-7. ETS-001 EMC Cable and Switch System Components

Component	Serial Number
MegaPhase (CAGE 1GVT4) Cable GR18-N5N5-24	14042714 001
MegaPhase (CAGE 1GVT4) Cable NC29-N1N1-324	20502201 001
Rohde & Schwarz SF Unit	102134
Minicircuits Cable CBL=0.5M-NMNM+	15440

Table 5-8. ETS-002 EMC Cable and Switch System Components

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Component	Serial Number
Sucoflex 106A Cable	501992
MegaPhase Cable N29-N1N1-324	20335606 001
Rohde & Schwarz SF Unit	102133
MiniCircuits Cable CBL-2FT-SMSM+	77745
MegaPhase Cable 10511-1	15034701 001
MiniCircuits Switch RC 2SPDT-A18	11703270 041
Sucoflex 104 Cable	320259/4
Sucoflex 104 Cable	321999/4
Sucoflex 104 Cable	321995/4

Table 5-9. AP1-002 EMC Cable and Switch System Components

Component	Serial Number
Flex Cable	P2A-0001
Micro-Coax Utilfex Cable UFB311A-Q-3346-50U50U MFR 64639	231978-003
Chamber Passthrough	CP4/X12
Micro-Coax Utilfex Cable UFB311A-1-0629-50U50U MFR 64639	231986-003
Micro-Coax Utiflex Cable UFB142A-0-0629-5GU200 MFR 6463	232069-001
Rohde & Schwarz TS-PR8 Pre-Amplifier	102335
Rohde & Schwarz OSP130 Open Switch and Control Unit	101181

Table 5-10. AP2-001 EMC Cable and Switch System Components

Component	Serial Number
MiniCircuits Cable CBL-0.5M-SMNM+	47261
Micro-Coax Utilfex Cable UFB311A-Q-3346-50U50U MFR 64639	231978-001
Micro-Coax Utilfex Cable UFB311A-1-0629-50U50U MFR 64639	231986-002
MegaPhase (CAGE 1GVT4) Cable NC29-N1N1-324	19046401 001
Megaphase (CAGE 1GVT4) Flex Cable 10511-1	15044701-006
Micro-Coax Utiflex Cable UFB311A-Q-3346-50U50U MFR 64639	231978-002
Micro-Coax Utilfex Cable UFB311A-1-0629-50U50U MFR 64639	231986-004
Micro-Coax Utiflex Cable UFB142A-0-0629-5GU200 MFR 64639	232069-001
Rohde & Schwarz SF Unit	102138
Rohde & Schwarz OSP130 Open Switch and Control Unit	101181
Micro-Coax Utilfex Cable UFB311A-Q-3346-50U50U MFR 64639	231978-003
· Micro-Coax Utilfex Cable UFB311A-1-0629-50U50U MFR 64639	231986-003
Rohde & Schwarz TS-PR8 Pre-Amplifier	102335

Table 5-11. AP2-002 EMC Cable and Switch System Components

Component	Serial Number
MegaPhase Cable TM40-K1K1-30	20233002-004
UTIPLEX Cable, 64639	232063-001
Rohde & Schwarz Pre-amp TS-PR1840 18G-40G	9037.7670.02

Table 5-12. MD 1M 18-40 EMC Cable and Switch System Components

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6.0 SAMPLE EMISSION DESIGNATORS

QPSK Modulation

Emission Designator = 8M62G7D
LTE BW = 8.62 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data transmission, telemetry, telecommand

QAM Modulation

Emission Designator = 8M45W7D
LTE BW = 8.45 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission, telemetry, telecommand

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7.0 TEST RESULTS

7.1 Summary

Company Name: Samsung Electronics Co., Ltd.

FCC ID: A3LSMS948U

FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)

Mode(s): LTE/NR

Test Condition	Test Description	FCC Part Section(s)	Test Limit	Test Result	Reference
CONDUCTED	Transmitter Conducted Output Power*	2.1046(a), 2.1046(c)	N/A	PASS	Section 7.2
	Occupied Bandwidth	2.1049(h)	N/A	PASS	Section 7.3
	Conducted Band Edge / Spurious Emissions (LTE Band 30; NR Band n30)	2.1051, 27.53(a)(4)	Undesirable emissions must meet the limits detailed in 27.53(a)(4)	PASS	Sections 7.4, 7.5
	Conducted Band Edge / Spurious Emissions (LTE Band 7, 38, 41; NR Band n7, n41)	2.1051, 27.53(m)(4)	Undesirable emissions must meet the limits detailed in 27.53(m)(4)	PASS	Sections 7.4, 7.5
	Frequency Stability	2.1055, 27.54	Fundamental emissions stay within authorized frequency block	PASS	Section 7.8
RADIATED	Equivalent Isotropic Radiated Power (LTE Band 30; NR Band n30)	27.50(a)(3)	≤ 250mW / 5MHz max. EIRP	PASS	Section 7.6
	Equivalent Isotropic Radiated Power (LTE Band 7, 38, 41; NR Band n7, n41)	27.50(h)(2)	≤ 2 Watts max. EIRP	PASS	Section 7.6
	Radiated Spurious Emissions (LTE Band 30; NR Band n30)	2.1053, 27.53(a)(4)	Undesirable emissions must meet the limits detailed in 27.53(a)(4)	PASS	Section 7.7
	Radiated Spurious Emissions (LTE Band 7, 38, 41; NR Band n7, n41)	2.1053, 27.53(m)	Undesirable emissions must meet the limits detailed in 27.53(m)	PASS	Section 7.7

* The only transmitter output conducted powers included in this report are those where the Pmax value, per the tune-up document, is higher than any of the DSI power levels. For the remaining conducted power measurements, see the **RF Exposure Report**.

Table 7-1. Summary of Test Results

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Notes:

1) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
2) The analyzer plots were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, directional couplers, and attenuators used as part of the system to maintain a link between the call box and the EUT at all frequencies of interest.
3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables, attenuators, and couplers.
4) All conducted emissions measurements are performed with automated test software to capture the corresponding plots necessary to show compliance. The measurement software utilized is EMC Software Tool v2.3.0.

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7.2 Conducted Output Power Data

Test Overview

All emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst-case configuration. All modes of operation were investigated and the worst-case configuration results are reported in this section.

A-MPR is implemented in this device when operating at Power Class 2 in LTE Band 41 per the A-MPR specification in 3GPP TS 36.101. The conducted powers are shown herein to cover the different A-MPR levels specified in the standard. Measurement equipment was set up with triggering/gating on the spectrum analyzer such that powers were measured only during the on-time of the signal.

Test Procedure Used

ANSI C63.26:2015 – Section 5.2

Test Settings

1. Span = 2 x OBW to 3 x OBW
2. Detector = RMS
3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

Test Setup

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

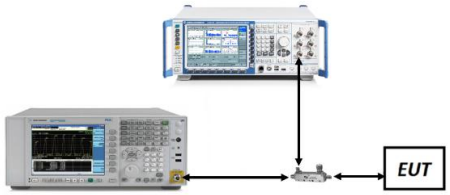

Figure 7-1. Test Instrument & Measurement Setup

Test Notes

1. Conducted power measurements were evaluated using various combinations of RB size, RB offset, modulation, and channel bandwidth. Channel bandwidth data is shown in the tables below based only on the channel bandwidths that were supported in this device.

2. All other conducted power measurements are contained in the RF exposure report for this filing.

3. Conducted power was found to reduce for the higher order QAM modulations when compared to 16QAM. Due to this trend, only the worst-case QAM (16QAM) powers are included in this section.

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 1	26.14
		518598	2592.99	1 / 271	26.29
		528000	2640.00	1 / 1	26.27
	QPSK	509202	2546.01	1 / 1	27.17
		518598	2592.99	1 / 271	26.14
		528000	2640.00	1 / 1	26.26
	16-QAM	518598	2592.99	1 / 271	25.08
90 MHz	π/2 BPSK	508200	2541.00	1 / 1	25.81
		518598	2592.99	1 / 122	26.17
		528996	2644.98	1 / 1	26.13
	QPSK	508200	2541.00	1 / 243	25.78
		518598	2592.99	1 / 122	26.07
		528996	2644.98	1 / 1	26.19
	16-QAM	518598	2592.99	1 / 243	24.99
80 MHz	π/2 BPSK	507204	2536.02	1 / 1	25.86
		518598	2592.99	1 / 108	26.05
		529998	2649.99	1 / 1	26.17
	QPSK	507204	2536.02	1 / 1	25.87
		518598	2592.99	1 / 215	26.04
		529998	2649.99	1 / 1	26.08
	16-QAM	518598	2592.99	1 / 215	25.12
70 MHz	π/2 BPSK	506202	2531.01	1 / 187	25.91
		518598	2592.99	1 / 94	26.05
		531000	2655.00	1 / 1	26.09
	QPSK	506202	2531.01	1 / 187	25.92
		518598	2592.99	1 / 94	26.09
		531000	2655.00	1 / 1	26.15
	16-QAM	518598	2592.99	1 / 187	25.13
60 MHz	π/2 BPSK	505200	2526.00	1 / 1	25.77
		518598	2592.99	1 / 160	26.07
		531996	2659.98	1 / 1	26.00
	QPSK	505200	2526.00	1 / 1	25.76
		518598	2592.99	1 / 160	26.06
		531996	2659.98	1 / 1	25.93
	16-QAM	518598	2592.99	1 / 160	25.02
50 MHz	π/2 BPSK	504204	2521.02	1 / 1	25.93
		518598	2592.99	1 / 131	26.28
		532998	2664.99	1 / 1	26.12
	QPSK	504204	2521.02	1 / 1	25.91
		518598	2592.99	1 / 131	26.25
		532998	2664.99	1 / 1	26.09
	16-QAM	518598	2592.99	1 / 131	25.13
45 MHz	π/2 BPSK	503703	2518.50	1 / 1	26.18
		518598	2592.99	1 / 117	26.44
		533449	2667.50	1 / 1	26.26
	QPSK	503703	2518.50	1 / 1	26.23
		518598	2592.99	1 / 117	26.46
		533449	2667.50	1 / 1	26.31
	16-QAM	518598	2592.99	1 / 117	25.38
40 MHz	π/2 BPSK	503202	2516.01	1 / 1	25.84
		518598	2592.99	1 / 104	26.12
		534000	2670.00	1 / 53	25.86
	QPSK	503202	2516.01	1 / 53	25.78
		518598	2592.99	1 / 104	26.07
		534000	2670.00	1 / 1	25.81
	16-QAM	518598	2592.99	1 / 104	25.05
35 MHz	π/2 BPSK	502701	2513.50	1 / 46	26.05
		518598	2592.99	1 / 46	26.21
		534448	2672.50	1 / 1	26.03
	QPSK	502701	2513.50	1 / 46	25.98
		518598	2592.99	1 / 46	26.15
		534448	2672.50	1 / 1	26.00
	16-QAM	518598	2592.99	1 / 90	25.12
30 MHz	π/2 BPSK	502200	2511.00	1 / 1	25.99
		518598	2592.99	1 / 76	26.12
		534996	2674.98	1 / 1	26.02
	QPSK	502200	2511.00	1 / 1	25.97
		518598	2592.99	1 / 76	26.09
		534996	2674.98	1 / 1	25.91
	16-QAM	518598	2592.99	1 / 76	25.11
25 MHz	π/2 BPSK	501702	2508.50	1 / 1	26.01
		518598	2592.99	1 / 32	26.14
		535497	2677.50	1 / 1	25.94
	QPSK	501702	2508.50	1 / 1	25.95
		518598	2592.99	1 / 32	26.11
		535497	2677.50	1 / 1	25.87
	16-QAM	518598	2592.99	1 / 63	25.10
20 MHz	π/2 BPSK	501204	2506.02	1 / 25	25.84
		518598	2592.99	1 / 25	26.03
		535998	2679.99	1 / 1	25.93
	QPSK	501204	2506.02	1 / 25	25.78
		518598	2592.99	1 / 49	26.00
		535998	2679.99	1 / 1	25.91
	16-QAM	518598	2592.99	1 / 49	24.91
15 MHz	π/2 BPSK	500706	2503.50	1 / 19	25.89
		518598	2592.99	1 / 36	26.04
		536449	2682.50	1 / 1	25.95
	QPSK	500706	2503.50	1 / 19	25.81
		518598	2592.99	1 / 19	25.99
		536449	2682.50	1 / 36	25.88
	16-QAM	518598	2592.99	1 / 36	24.98
10 MHz	π/2 BPSK	500208	2501.00	1 / 22	25.85
		518598	2592.99	1 / 22	26.12
		537000	2685.00	1 / 22	25.87
	QPSK	500208	2501.00	1 / 22	25.83
		518598	2592.99	1 / 22	26.10
		537000	2685.00	1 / 22	25.85
	16-QAM	518598	2592.99	1 / 22	24.88

Table 7-2. Conducted Power Results – NR Band n41 PC2 – Main – Ant1

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 136	26.65
		518598	2592.99	1 / 136	26.74
		528000	2640.00	1 / 136	26.97
	QPSK	509202	2546.01	1 / 136	26.60
		518598	2592.99	1 / 1	26.61
		528000	2640.00	1 / 136	26.86
	16-QAM	518598	2592.99	1 / 271	26.09
90 MHz	π/2 BPSK	508200	2541.00	1 / 1	25.97
		518598	2592.99	1 / 243	26.30
		528996	2644.98	1 / 122	26.18
	QPSK	508200	2541.00	1 / 1	26.00
		518598	2592.99	1 / 243	26.26
		528996	2644.98	1 / 122	26.19
	16-QAM	528996	2644.98	1 / 122	25.00
80 MHz	π/2 BPSK	507204	2536.02	1 / 1	26.19
		518598	2592.99	1 / 108	26.04
		529998	2649.99	1 / 1	26.26
	QPSK	507204	2536.02	1 / 1	26.18
		518598	2592.99	1 / 108	25.99
		529998	2649.99	1 / 1	26.22
	16-QAM	529998	2649.99	1 / 1	25.19
70 MHz	π/2 BPSK	506202	2531.01	1 / 1	25.91
		518598	2592.99	1 / 187	26.33
		531000	2655.00	1 / 1	26.28
	QPSK	506202	2531.01	1 / 187	25.90
		518598	2592.99	1 / 187	26.33
		531000	2655.00	1 / 1	26.30
	16-QAM	531000	2655.00	1 / 1	25.22
60 MHz	π/2 BPSK	505200	2526.00	1 / 1	25.86
		518598	2592.99	1 / 160	26.28
		531996	2659.98	1 / 1	26.10
	QPSK	505200	2526.00	1 / 1	25.86
		518598	2592.99	1 / 160	26.19
		531996	2659.98	1 / 1	26.09
	16-QAM	531996	2659.98	1 / 1	25.06
50 MHz	π/2 BPSK	504204	2521.02	1 / 1	26.09
		518598	2592.99	1 / 131	26.43
		532998	2664.99	1 / 1	26.30
	QPSK	504204	2521.02	1 / 1	26.10
		518598	2592.99	1 / 131	26.40
		532998	2664.99	1 / 1	26.15
	16-QAM	532998	2664.99	1 / 1	25.16
45 MHz	π/2 BPSK	503703	2518.50	1 / 1	26.15
		518598	2592.99	1 / 117	26.41
		533449	2667.50	1 / 1	26.29
	QPSK	503703	2518.50	1 / 1	26.16
		518598	2592.99	1 / 117	26.42
		533449	2667.50	1 / 1	26.17
	16-QAM	533449	2667.50	1 / 1	25.25
40 MHz	π/2 BPSK	503202	2516.01	1 / 1	25.88
		518598	2592.99	1 / 104	26.17
		534000	2670.00	1 / 1	25.98
	QPSK	503202	2516.01	1 / 1	25.87
		518598	2592.99	1 / 104	26.14
		534000	2670.00	1 / 1	25.94
	16-QAM	534000	2670.00	1 / 1	24.89
35 MHz	π/2 BPSK	502701	2513.50	1 / 46	26.03
		518598	2592.99	1 / 90	26.21
		534448	2672.50	1 / 46	26.05
	QPSK	502701	2513.50	1 / 46	25.96
		518598	2592.99	1 / 90	26.16
		534448	2672.50	1 / 1	26.00
	16-QAM	534448	2672.50	1 / 1	24.94
30 MHz	π/2 BPSK	502200	2511.00	1 / 1	26.10
		518598	2592.99	1 / 76	26.23
		534996	2674.98	1 / 1	26.12
	QPSK	502200	2511.00	1 / 1	26.04
		518598	2592.99	1 / 76	26.21
		534996	2674.98	1 / 1	26.07
	16-QAM	534996	2674.98	1 / 1	25.06
25 MHz	π/2 BPSK	501702	2508.50	1 / 1	26.10
		518598	2592.99	1 / 63	26.22
		535497	2677.50	1 / 1	26.00
	QPSK	501702	2508.50	1 / 1	26.05
		518598	2592.99	1 / 63	26.18
		535497	2677.50	1 / 1	25.92
	16-QAM	535497	2677.50	1 / 1	24.88
20 MHz	π/2 BPSK	501204	2506.02	1 / 25	25.92
		518598	2592.99	1 / 49	26.19
		535998	2679.99	1 / 1	25.98
	QPSK	501204	2506.02	1 / 1	25.87
		518598	2592.99	50 / 0	26.11
		535998	2679.99	1 / 1	25.94
	16-QAM	535998	2679.99	1 / 25	24.76
15 MHz	π/2 BPSK	500706	2503.50	1 / 36	25.97
		518598	2592.99	1 / 36	26.24
		536449	2682.50	1 / 1	25.98
	QPSK	500706	2503.50	1 / 1	25.90
		518598	2592.99	1 / 36	26.21
		536449	2682.50	1 / 1	25.90
	16-QAM	536449	2682.50	1 / 1	24.91
10 MHz	π/2 BPSK	500208	2501.00	1 / 22	25.98
		518598	2592.99	1 / 22	26.17
		537000	2685.00	1 / 22	25.86
	QPSK	500208	2501.00	1 / 1	25.93
		518598	2592.99	1 / 22	26.10
		537000	2685.00	1 / 1	25.82
	16-QAM	537000	2685.00	1 / 22	24.71

Table 7-3. Conducted Power Results – NR Band n41 PC2 – Switch – Ant1

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]		
					ANT 1	ANT 2	UL_MIMO
100 MHz	π/2 BPSK	509202	2546.01	1 / 1	26.08	25.69	28.90
		518598	2592.99	1 / 271	25.87	25.92	28.91
		528000	2640.00	1 / 1	26.01	26.07	29.05
	QPSK	509202	2546.01	1 / 271	25.94	25.76	28.86
		518598	2592.99	1 / 271	25.98	26.08	29.04
		528000	2640.00	1 / 1	25.80	25.89	28.86
	16-QAM	518598	2592.99	1 / 271	24.87	24.83	27.86
90 MHz	π/2 BPSK	508200	2541.00	1 / 243	25.71	25.64	28.69
		518598	2592.99	1 / 243	25.79	25.93	28.87
		528996	2644.98	1 / 1	25.73	25.75	28.75
	QPSK	508200	2541.00	1 / 243	25.85	25.67	28.77
		518598	2592.99	1 / 243	25.89	25.99	28.95
		528996	2644.98	1 / 122	25.81	25.86	28.85
	16-QAM	518598	2592.99	1 / 243	24.88	24.92	27.91
80 MHz	π/2 BPSK	507204	2536.02	1 / 215	25.82	25.62	28.73
		518598	2592.99	1 / 215	25.89	25.84	28.88
		529998	2649.99	1 / 1	25.90	25.92	28.92
	QPSK	507204	2536.02	1 / 1	25.94	25.81	28.89
		518598	2592.99	1 / 215	25.93	25.86	28.91
		529998	2649.99	1 / 1	25.86	26.00	28.94
	16-QAM	518598	2592.99	1 / 1	24.88	24.93	27.92
70 MHz	π/2 BPSK	506202	2531.01	1 / 1	25.81	26.19	29.01
		518598	2592.99	1 / 1	25.71	26.61	29.19
		531000	2655.00	1 / 1	25.97	26.32	29.16
	QPSK	506202	2531.01	1 / 1	26.03	26.05	29.05
		518598	2592.99	1 / 1	25.82	26.48	29.17
		531000	2655.00	1 / 1	25.99	26.28	29.15
	16-QAM	518598	2592.99	1 / 1	24.72	25.61	28.20
60 MHz	π/2 BPSK	505200	2526.00	1 / 1	25.85	25.62	28.75
		518598	2592.99	1 / 1	25.72	26.07	28.91
		531996	2659.98	1 / 1	25.83	25.88	28.87
	QPSK	505200	2526.00	1 / 1	25.90	25.70	28.81
		518598	2592.99	1 / 1	25.77	26.16	28.98
		531996	2659.98	1 / 1	25.78	26.07	28.94
	16-QAM	518598	2592.99	1 / 1	24.67	24.87	27.78
50 MHz	π/2 BPSK	504204	2521.02	1 / 1	26.11	25.78	28.96
		518598	2592.99	1 / 1	26.01	26.07	29.05
		532998	2664.99	1 / 1	25.99	26.00	29.01
	QPSK	504204	2521.02	1 / 1	26.04	25.97	29.02
		518598	2592.99	1 / 1	25.97	26.21	29.10
		532998	2664.99	1 / 1	26.07	26.07	29.08
	16-QAM	518598	2592.99	1 / 1	24.92	25.17	28.06
45 MHz	π/2 BPSK	503703	2518.50	1 / 1	25.35	25.12	28.25
		518598	2592.99	1 / 1	25.22	25.42	28.33
		533449	2667.50	1 / 1	25.29	25.36	28.34
	QPSK	503703	2518.50	1 / 1	25.43	25.29	28.37
		518598	2592.99	1 / 1	25.31	25.49	28.41
		533449	2667.50	1 / 1	25.32	25.47	28.41
	16-QAM	518598	2592.99	1 / 1	24.25	24.40	27.34
40 MHz	π/2 BPSK	503202	2516.01	1 / 1	25.78	25.67	28.74
		518598	2592.99	1 / 1	25.76	25.82	28.80
		534000	2670.00	1 / 1	25.73	25.76	28.76
	QPSK	503202	2516.01	1 / 1	25.93	25.74	28.85
		518598	2592.99	1 / 1	25.79	26.03	28.92
		534000	2670.00	1 / 1	25.80	25.93	28.88
	16-QAM	518598	2592.99	1 / 1	24.84	24.68	27.77
35 MHz	π/2 BPSK	502701	2513.50	1 / 1	21.39	21.19	24.30
		518598	2592.99	1 / 1	21.35	21.33	24.35
		534448	2672.50	1 / 90	21.14	21.34	24.25
	QPSK	502701	2513.50	1 / 1	21.43	21.42	24.44
		518598	2592.99	1 / 1	21.45	21.43	24.45
		534448	2672.50	1 / 1	21.26	21.41	24.35
	16-QAM	518598	2592.99	1 / 1	20.35	20.42	23.40
30 MHz	π/2 BPSK	502200	2511.00	1 / 1	26.16	25.78	28.98
		518598	2592.99	1 / 1	25.93	26.03	28.99
		534996	2674.98	1 / 1	25.89	25.99	28.95
	QPSK	502200	2511.00	1 / 1	26.04	25.90	28.98
		518598	2592.99	1 / 76	25.97	26.01	29.00
		534996	2674.98	1 / 1	25.90	26.03	28.98
	16-QAM	518598	2592.99	1 / 76	24.87	25.03	27.96
25 MHz	π/2 BPSK	501702	2508.50	1 / 1	25.92	25.80	28.87
		518598	2592.99	1 / 63	25.93	25.94	28.95
		535497	2677.50	1 / 1	25.89	25.86	28.89
	QPSK	501702	2508.50	1 / 1	26.09	25.92	29.02
		518598	2592.99	1 / 63	26.11	26.04	29.09
		535497	2677.50	1 / 1	25.93	26.06	29.01
	16-QAM	518598	2592.99	1 / 63	24.98	24.94	27.97
20 MHz	π/2 BPSK	501204	2506.02	1 / 49	25.79	25.66	28.74
		518598	2592.99	1 / 49	25.93	26.16	29.06
		535998	2679.99	1 / 49	25.72	25.76	28.75
	QPSK	501204	2506.02	1 / 49	25.91	25.81	28.87
		518598	2592.99	1 / 25	25.97	26.10	29.05
		535998	2679.99	1 / 25	25.89	25.79	28.85
	16-QAM	518598	2592.99	1 / 25	24.79	25.07	27.94
15 MHz	π/2 BPSK	500706	2503.50	1 / 1	25.93	25.82	28.89
		518598	2592.99	1 / 1	25.78	26.11	28.96
		536449	2682.50	1 / 36	25.76	25.91	28.85
	QPSK	500706	2503.50	1 / 36	26.13	25.88	29.02
		518598	2592.99	1 / 1	26.06	26.24	29.16
		536449	2682.50	1 / 36	25.96	26.00	28.99
	16-QAM	518598	2592.99	1 / 1	24.92	25.29	28.12
10 MHz	π/2 BPSK	500208	2501.00	1 / 12	26.08	25.82	28.96
		518598	2592.99	1 / 12	25.84	26.07	28.97
		537000	2685.00	1 / 12	25.69	25.61	28.66
	QPSK	500208	2501.00	1 / 22	25.99	25.69	28.85
		518598	2592.99	1 / 12	25.87	25.86	28.88
		537000	2685.00	1 / 12	25.87	25.73	28.81
	16-QAM	518598	2592.99	1 / 12	24.72	25.03	27.89

Table 7-4. EIRP Data (NR Band n41 (PC2) – UL-MIMO)

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
10 M	QPSK	27710	2310.0	1 / 25	22.15
	16-QAM	27710	2310.0	1 / 25	21.27
5 MHz	QPSK	27685	2307.5	1 / 0	22.42
		27710	2310.0	1 / 0	22.26
		27735	2312.5	1 / 24	22.16
	16-QAM	27710	2310.0	1 / 0	21.59

Table 7-5. Conducted Power Results – LTE Band 30 – Ant1

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
20 MHz	QPSK	39750	2506.0	1 / 50	24.91
		40620	2593.0	1 / 0	24.86
		41490	2680.0	1 / 0	24.73
	16-QAM	39750	2506.0	1 / 50	23.35
15 MHz	QPSK	39725	2503.5	1 / 74	24.08
		40620	2593.0	1 / 37	24.44
		41515	2682.5	1 / 37	24.25
	16-QAM	39725	2503.5	1 / 74	23.13
10 MHz	QPSK	39700	2501.0	1 / 49	23.98
		40620	2593.0	1 / 25	24.51
		41540	2685.0	1 / 25	24.25
	16-QAM	40620	2593.0	1 / 25	23.55
5 MHz	QPSK	39675	2498.5	1 / 12	24.09
		40620	2593.0	1 / 12	24.50
		41565	2687.5	1 / 12	24.30
	16-QAM	40620	2593.0	1 / 12	23.59

Table 7-6. Conducted Power Results – LTE Band 41 – Ant1

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
20 MHz	QPSK	20850	2510.0	1 / 0	23.53
		21100	2535.0	1 / 0	23.11
		21350	2560.0	1 / 99	23.28
	16-QAM	21350	2560.0	1 / 99	22.18
15 MHz	QPSK	20825	2507.5	1 / 0	23.41
		21100	2535.0	1 / 0	23.36
		21375	2562.5	1 / 37	23.39
	16-QAM	20825	2507.5	1 / 0	22.65
10 MHz	QPSK	20800	2505.0	1 / 0	23.40
		21100	2535.0	1 / 0	23.28
		21400	2565.0	1 / 0	23.10
	16-QAM	21100	2535.0	1 / 0	22.57
5 MHz	QPSK	20775	2502.5	1 / 12	23.58
		21100	2535.0	1 / 12	23.39
		21425	2567.5	1 / 12	23.43
	16-QAM	20775	2502.5	1 / 12	22.90

Table 7-7. Conducted Power Results – LTE Band 7 – Ant1

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
10 MHz	π/2 BPSK	27710	2310.0	1 / 1	22.63
	QPSK	27710	2310.0	1 / 1	22.62
	16-QAM	27710	2310.0	1 / 1	21.63
5 MHz	π/2 BPSK	27685	2307.5	1 / 12	22.97
		27710	2310.0	1 / 1	22.90
		27735	2312.5	1 / 1	22.58
	QPSK	27685	2307.5	1 / 12	22.98
		27710	2310.0	1 / 1	22.99
		27735	2312.5	1 / 1	22.54
	16-QAM	27685	2307.5	1 / 12	21.32

Table 7-8. Conducted Power Results – NR Band n30 – Ant1

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 136	22.56
		518598	2592.99	1 / 136	22.69
		528000	2640.00	1 / 136	22.59
	QPSK	509202	2546.01	1 / 136	22.44
		518598	2592.99	1 / 136	22.64
		528000	2640.00	1 / 136	22.50
	16-QAM	509202	2546.01	1 / 136	22.44
		518598	2592.99	1 / 136	22.60
		528000	2640.00	1 / 136	22.51

Table 7-9. Conducted Power Results – NR Band n41 PC2 – Main – Ant2

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 136	21.10
		518598	2592.99	1 / 136	21.32
		528000	2640.00	1 / 136	21.62
	QPSK	509202	2546.01	1 / 136	20.94
		518598	2592.99	1 / 136	21.28
		528000	2640.00	1 / 136	21.61
	16-QAM	509202	2546.01	1 / 136	20.82
		518598	2592.99	1 / 136	21.23
		528000	2640.00	1 / 136	21.59

Table 7-10. Conducted Power Results – NR Band n41 PC2 – Switch – Ant2

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
50 MHz	π/2 BPSK	505000	2525.0	1 / 1	23.19
		507000	2535.0	1 / 1	23.12
		509000	2545.0	1 / 1	23.16
	QPSK	505000	2525.0	1 / 1	23.19
		507000	2535.0	1 / 1	23.14
		509000	2545.0	1 / 1	23.15
	16-QAM	507000	2535.0	1 / 1	21.77
40 MHz	π/2 BPSK	504000	2520.0	1 / 108	22.97
		507000	2535.0	1 / 1	22.91
		510000	2550.0	1 / 1	22.87
	QPSK	504000	2520.0	1 / 108	22.95
		507000	2535.0	1 / 1	22.90
		510000	2550.0	1 / 1	22.90
	16-QAM	507000	2535.0	1 / 1	21.71
35 MHz	π/2 BPSK	503500	2517.5	1 / 94	23.13
		507000	2535.0	1 / 1	23.05
		511500	2557.5	1 / 94	22.93
	QPSK	503500	2517.5	1 / 94	23.06
		507000	2535.0	1 / 1	23.01
		511500	2557.5	1 / 94	22.84
	16-QAM	507000	2535.0	1 / 1	21.71
30 MHz	π/2 BPSK	503000	2515.0	1 / 1	23.13
		507000	2535.0	1 / 1	22.98
		511000	2555.0	1 / 80	22.81
	QPSK	503000	2515.0	1 / 1	22.98
		507000	2535.0	1 / 1	23.00
		511000	2555.0	1 / 1	22.82
	16-QAM	507000	2535.0	1 / 1	21.76
25 MHz	π/2 BPSK	502500	2512.5	1 / 66	22.84
		507000	2535.0	1 / 1	22.99
		511500	2557.5	1 / 1	22.81
	QPSK	502500	2512.5	1 / 1	22.75
		507000	2535.0	1 / 1	22.95
		511500	2557.5	1 / 1	22.78
	16-QAM	507000	2535.0	1 / 1	21.83
20 MHz	π/2 BPSK	502000	2510.0	1 / 1	22.94
		507000	2535.0	1 / 1	23.00
		512000	2560.0	1 / 1	22.85
	QPSK	502000	2510.0	1 / 104	23.00
		507000	2535.0	1 / 1	23.02
		512000	2560.0	1 / 1	22.82
	16-QAM	507000	2535.0	1 / 104	21.72
15 MHz	π/2 BPSK	501500	2507.5	1 / 1	22.95
		507000	2535.0	1 / 1	22.92
		512500	2562.5	1 / 1	22.88
	QPSK	501500	2507.5	1 / 1	22.98
		507000	2535.0	1 / 1	22.94
		512500	2562.5	1 / 1	22.88
	16-QAM	507000	2535.0	1 / 77	21.72
10 MHz	π/2 BPSK	501000	2505.0	1 / 50	22.84
		507000	2535.0	1 / 1	22.99
		513000	2565.0	1 / 1	22.80
	QPSK	501000	2505.0	1 / 50	22.80
		507000	2535.0	1 / 1	23.01
		513000	2565.0	1 / 26	22.80
	16-QAM	507000	2535.0	1 / 1	21.66
5 MHz	π/2 BPSK	500500	2502.5	1 / 1	22.86
		507000	2535.0	1 / 23	23.07
		513500	2567.5	1 / 12	22.88
	QPSK	500500	2502.5	1 / 12	22.83
		507000	2535.0	1 / 1	23.07
		513500	2567.5	1 / 1	22.86
	16-QAM	507000	2535.0	1 / 23	21.74

Table 7-11. Conducted Power Results – NR Band n7 – Ant1

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 136	24.52
		518598	2592.99	1 / 136	24.66
		528000	2640.00	1 / 136	24.58
	QPSK	509202	2546.01	1 / 136	24.46
		518598	2592.99	1 / 136	24.56
		528000	2640.00	1 / 136	24.45
	16-QAM	509202	2546.01	1 / 136	24.43
		518598	2592.99	1 / 136	24.46
		528000	2640.00	1 / 136	24.35

Table 7-12. Conducted Power Results – NR Band n41 PC2 – Main – Ant3

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 136	24.40
		518598	2592.99	1 / 136	24.51
		528000	2640.00	1 / 136	24.47
	QPSK	509202	2546.01	1 / 136	24.27
		518598	2592.99	1 / 136	24.44
		528000	2640.00	1 / 136	24.44
	16-QAM	509202	2546.01	1 / 136	24.27
		518598	2592.99	1 / 136	24.47
		528000	2640.00	1 / 136	24.48

Table 7-13. Conducted Power Results – NR Band n41 PC2 – Switch – Ant3

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 1	21.58
		518598	2592.99	1 / 136	21.74
		528000	2640.00	1 / 136	21.56
	QPSK	509202	2546.01	1 / 1	21.35
		518598	2592.99	1 / 136	21.71
		528000	2640.00	1 / 136	21.58
	16-QAM	509202	2546.01	1 / 1	21.54
		518598	2592.99	1 / 136	21.47
		528000	2640.00	1 / 136	21.31

Table 7-14. Conducted Power Results – NR Band n41 PC2 – Main – Ant4

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 136	21.90
		518598	2592.99	1 / 136	22.17
		528000	2640.00	1 / 136	22.28
	QPSK	509202	2546.01	1 / 136	21.90
		518598	2592.99	1 / 136	22.10
		528000	2640.00	1 / 136	22.27
	16-QAM	509202	2546.01	1 / 136	21.74
		518598	2592.99	1 / 136	22.10
		528000	2640.00	1 / 136	22.13

Table 7-15. Conducted Power Results – NR Band n41 PC2 – Switch – Ant4

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7.3 Occupied Bandwidth

Test Overview

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Procedure Used

ANSI C63.26:2015 – Section 5.4.4

Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5% of the 99% occupied bandwidth observed in Step 7

Test Setup

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

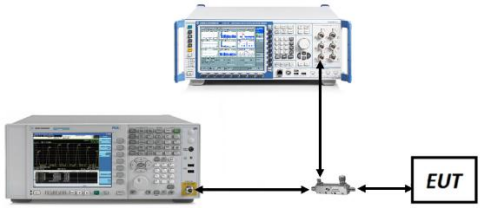

Figure 7-2. Test Instrument & Measurement Setup

Test Notes

Only the highest target power SRS-1 antenna for n41 default (Antenna F) and n41 switching (Antenna B) are reported for the overall n41 SRS worst case.

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Mode	Bandwidth	Modulation	OBW [MHz]
LTE-B30	10MHz	QPSK	9.01
		16QAM	9.01
	5MHz	QPSK	4.52
		16QAM	4.54
LTE-B7	20MHz	QPSK	18.04
		16QAM	18.01
	15MHz	QPSK	13.55
		16QAM	13.55
	10MHz	QPSK	9.03
		16QAM	9.03
	5MHz	QPSK	4.54
		16QAM	4.53
LTE-B41PC3-38	20MHz	QPSK	18.02
		16QAM	18.07
	15MHz	QPSK	13.55
		16QAM	13.57
	10MHz	QPSK	9.07
		16QAM	9.04
	5MHz	QPSK	4.53
		16QAM	4.52

Table 7-16. Occupied Bandwidth Test Results – LTE – Ant 1

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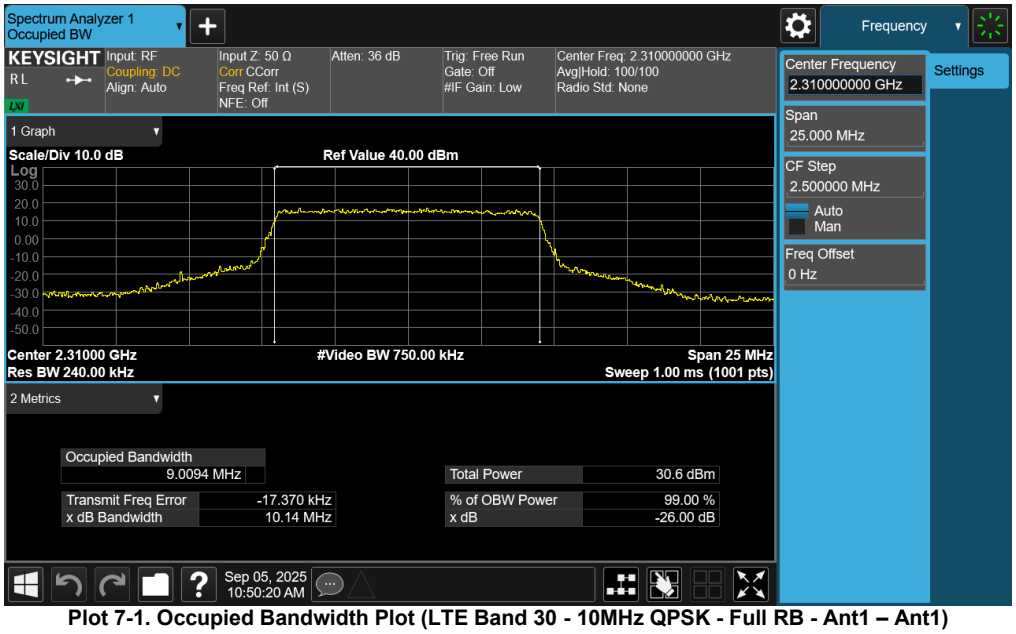
LTE Band 30 – Ant1



Plot 7-1. Occupied Bandwidth Plot (LTE Band 30 - 10MHz QPSK - Full RB - Ant1 – Ant1)

Plot 7-2. Occupied Bandwidth Plot (LTE Band 30 - 10MHz 16-QAM - Full RB - Ant1)

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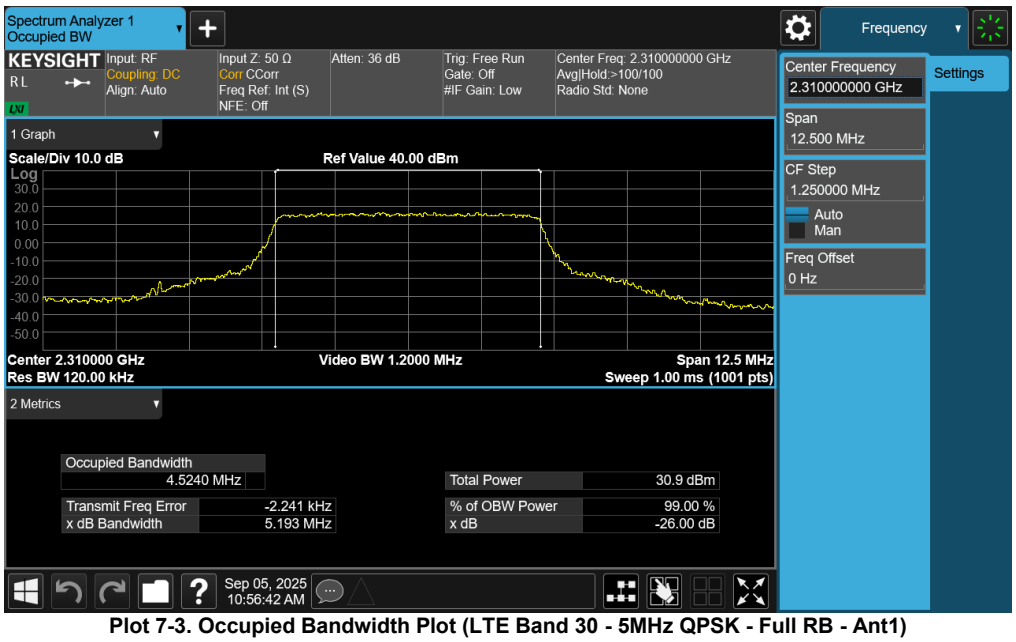
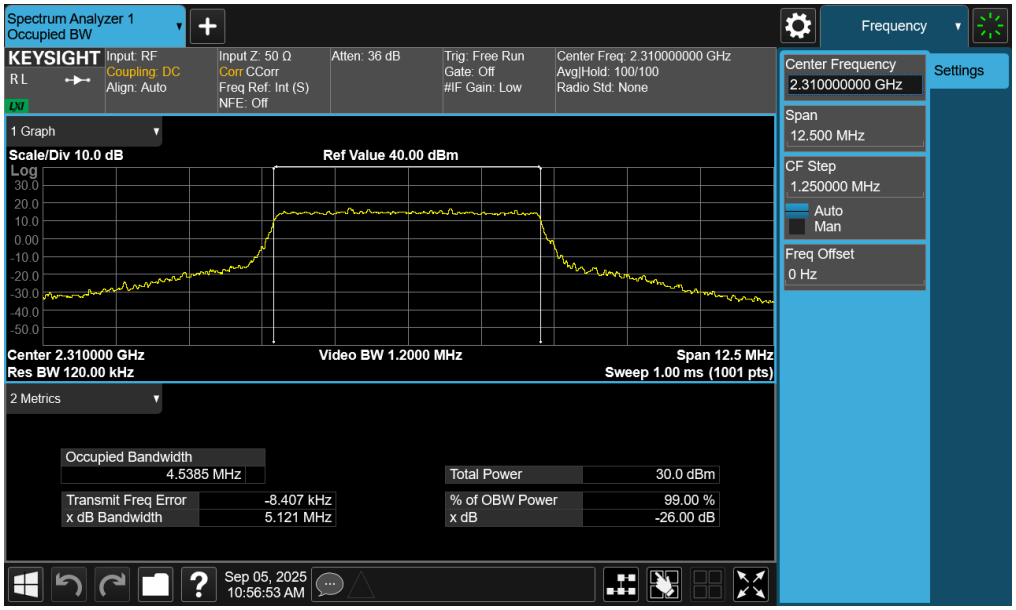


Plot 7-3. Occupied Bandwidth Plot (LTE Band 30 - 5MHz QPSK - Full RB - Ant1)



Plot 7-4. Occupied Bandwidth Plot (LTE Band 30 - 5MHz 16-QAM - Full RB - Ant1)

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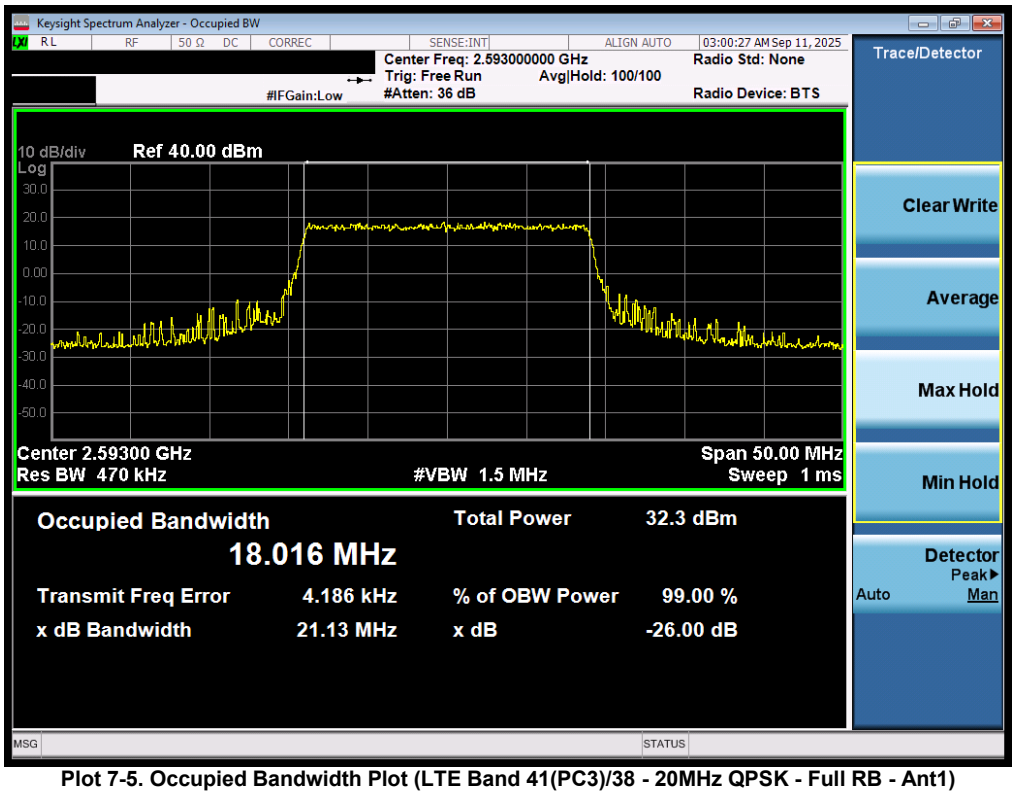
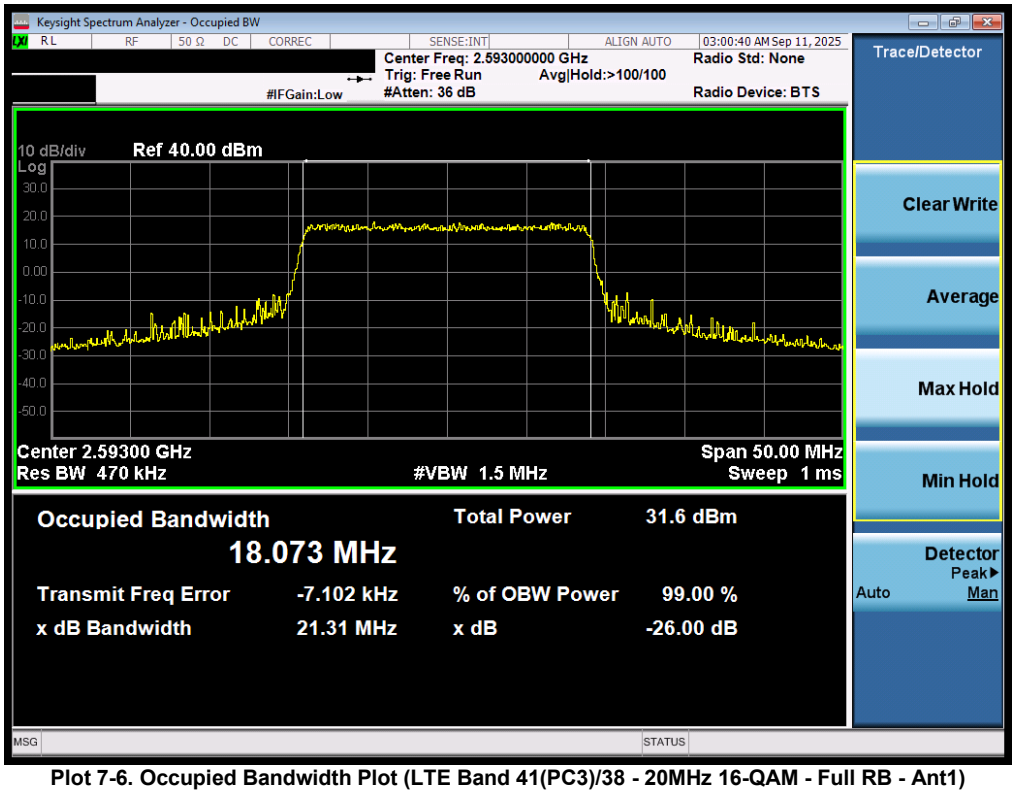
LTE Band 41(PC3)/38 – Ant1



Plot 7-5. Occupied Bandwidth Plot (LTE Band 41(PC3)/38 - 20MHz QPSK - Full RB - Ant1)



Plot 7-6. Occupied Bandwidth Plot (LTE Band 41(PC3)/38 - 20MHz 16-QAM - Full RB - Ant1)

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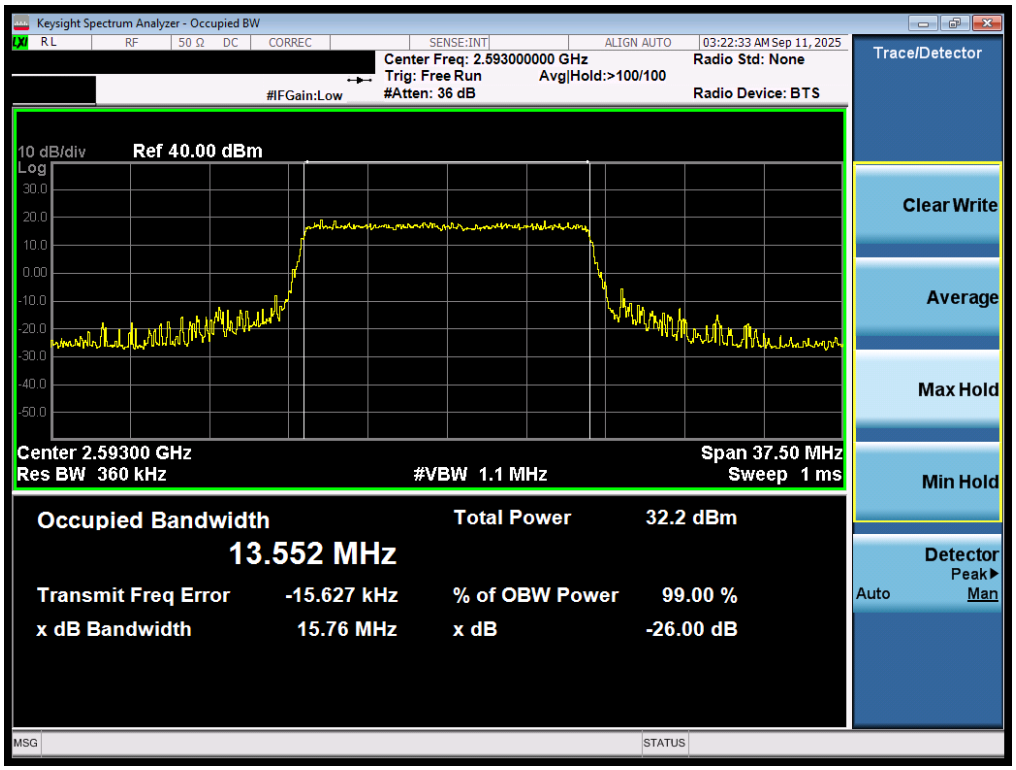
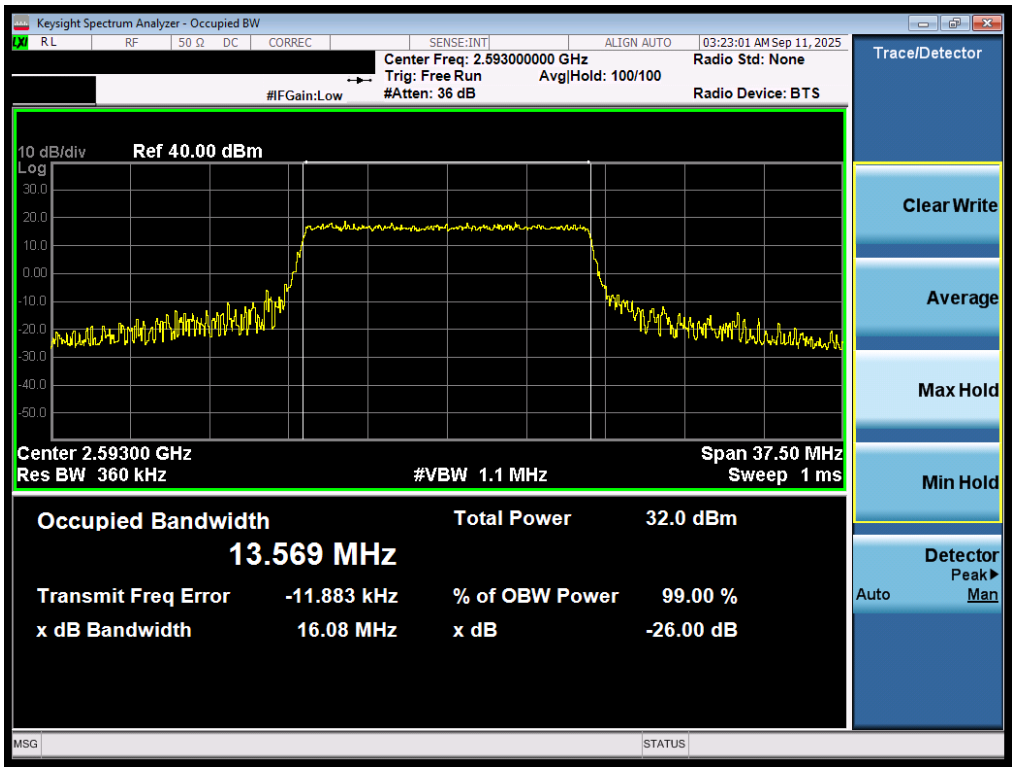


Plot 7-7. Occupied Bandwidth Plot (LTE Band 41(PC3)/38 - 15MHz QPSK - Full RB - Ant1)



Plot 7-8. Occupied Bandwidth Plot (LTE Band 41(PC3)/38 - 15MHz 16-QAM - Full RB - Ant1)

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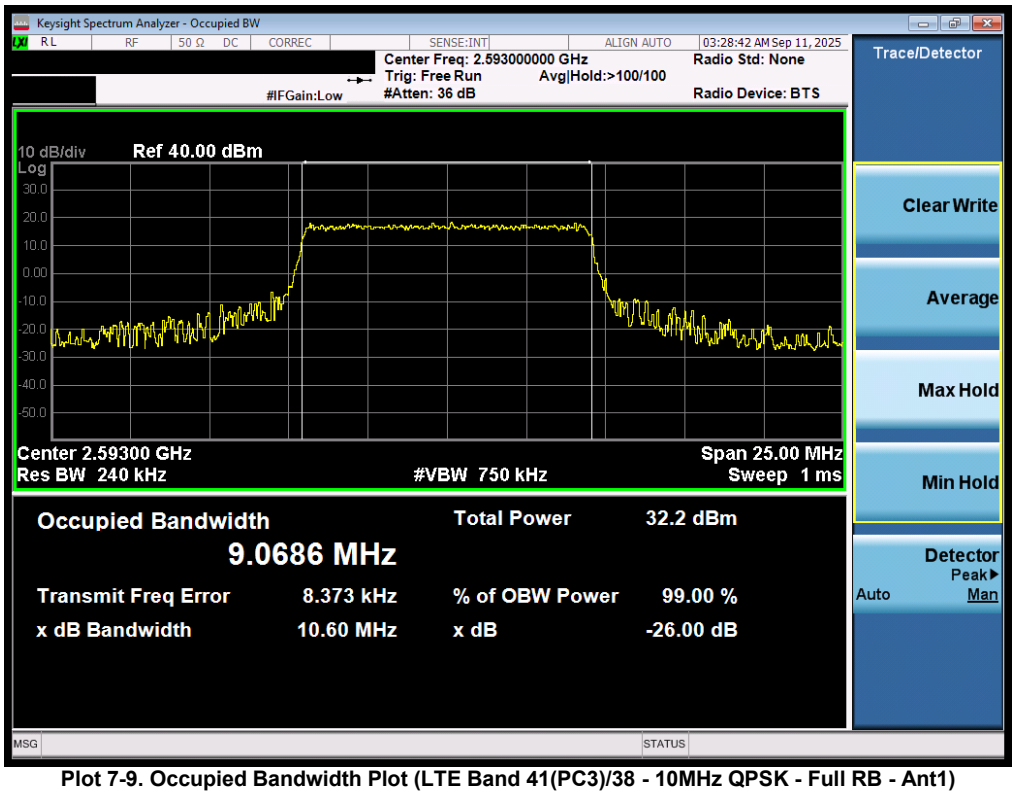
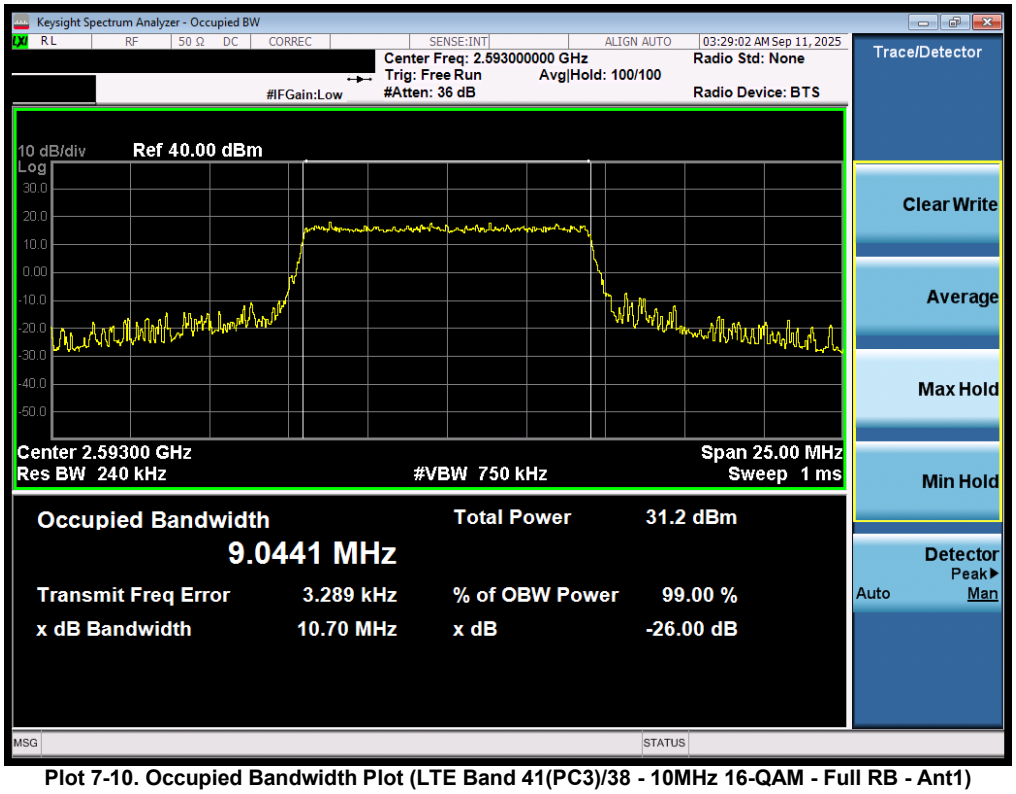


Plot 7-9. Occupied Bandwidth Plot (LTE Band 41(PC3)/38 - 10MHz QPSK - Full RB - Ant1)



Plot 7-10. Occupied Bandwidth Plot (LTE Band 41(PC3)/38 - 10MHz 16-QAM - Full RB - Ant1)

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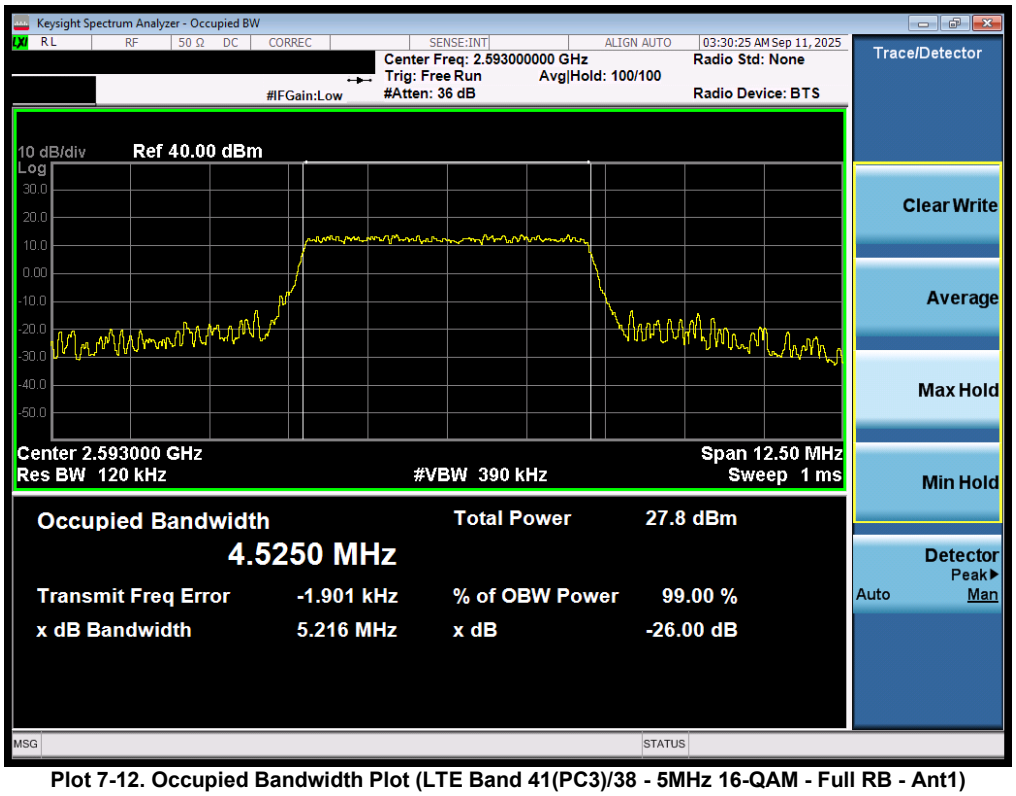
Plot 7-11. Occupied Bandwidth Plot (LTE Band 41(PC3)/38 - 5MHz QPSK - Full RB - Ant1)



Plot 7-12. Occupied Bandwidth Plot (LTE Band 41(PC3)/38 - 5MHz 16-QAM - Full RB - Ant1)

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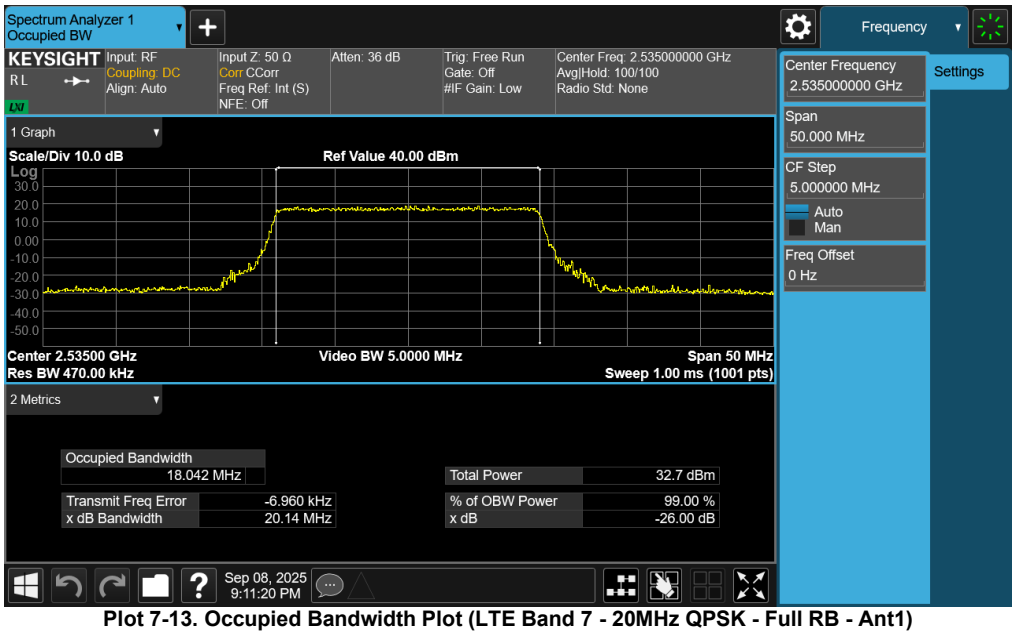
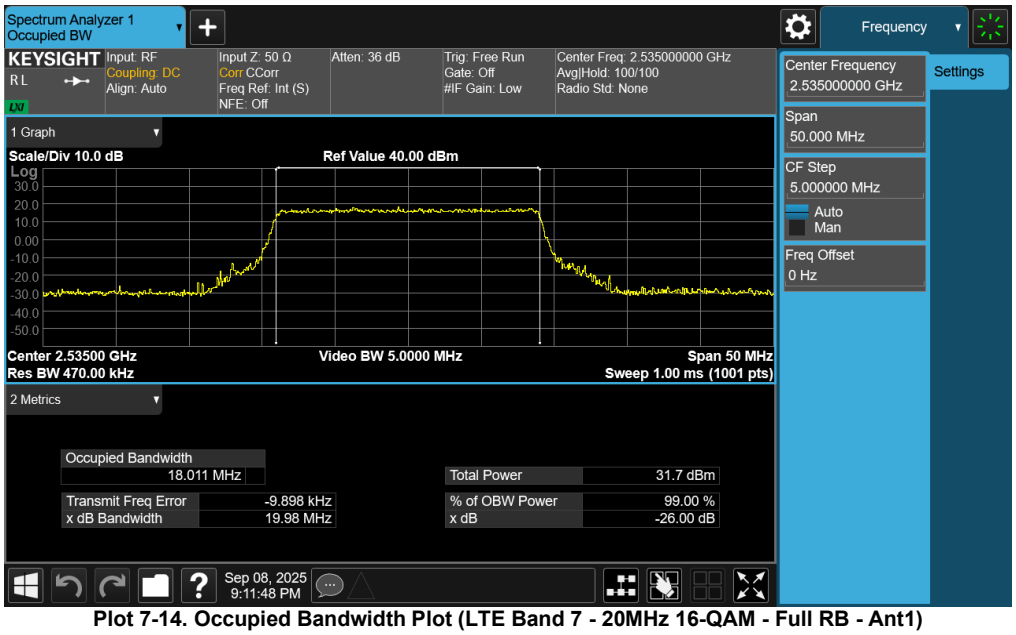
LTE Band 7 – Ant1



Plot 7-13. Occupied Bandwidth Plot (LTE Band 7 - 20MHz QPSK - Full RB - Ant1)



Plot 7-14. Occupied Bandwidth Plot (LTE Band 7 - 20MHz 16-QAM - Full RB - Ant1)

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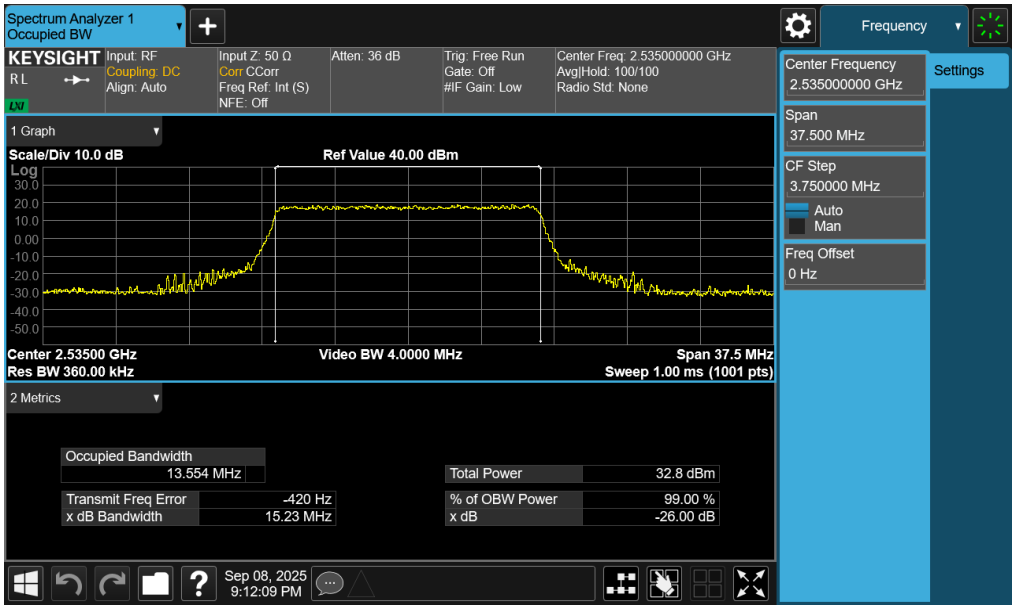

Plot 7-15. Occupied Bandwidth Plot (LTE Band 7 - 15MHz QPSK - Full RB - Ant1)

Plot 7-16. Occupied Bandwidth Plot (LTE Band 7 - 15MHz 16-QAM - Full RB - Ant1)

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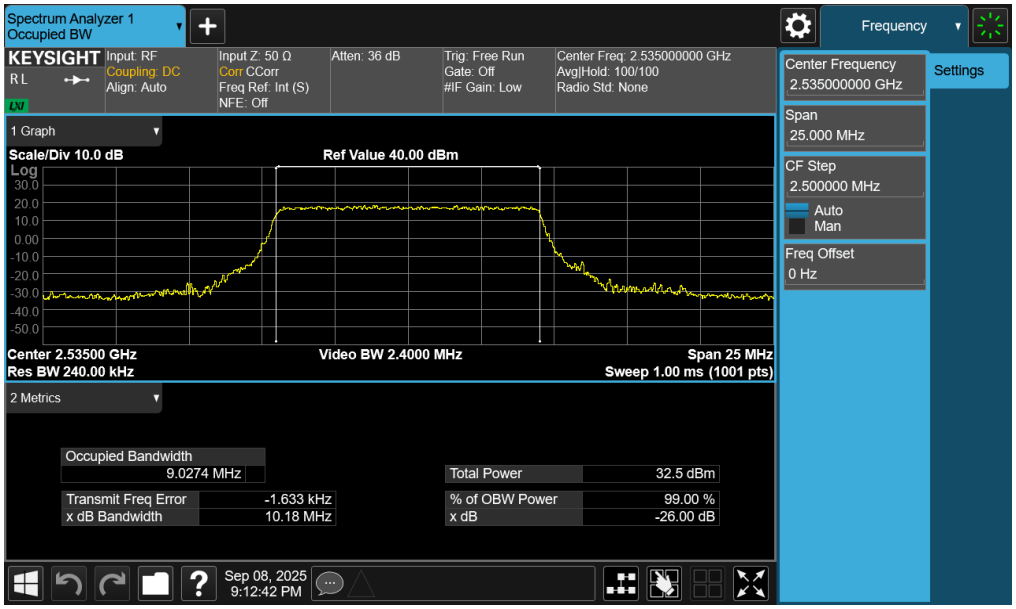
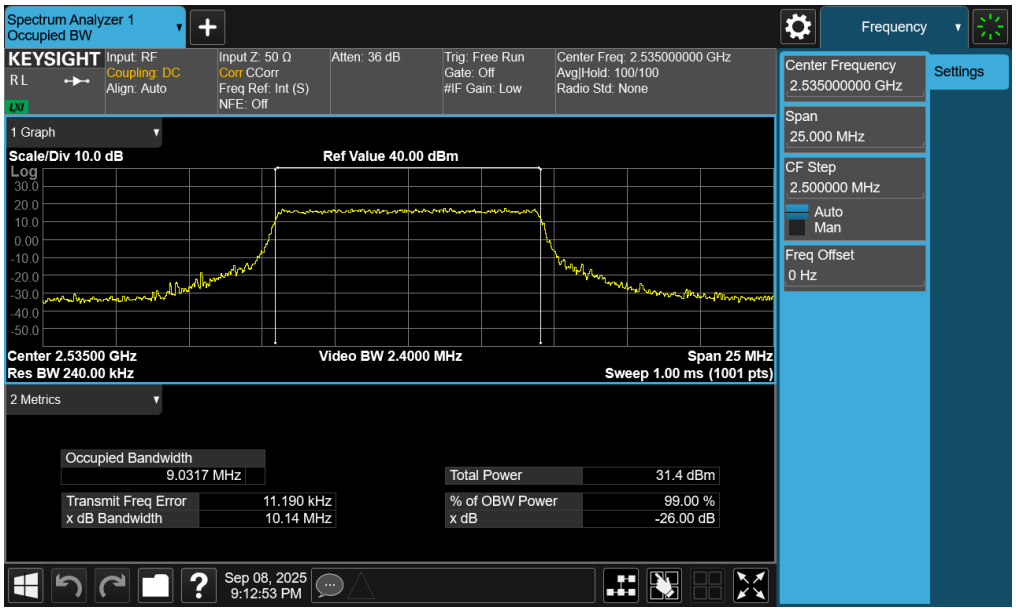


Plot 7-17. Occupied Bandwidth Plot (LTE Band 7 - 10MHz QPSK - Full RB - Ant1)



Plot 7-18. Occupied Bandwidth Plot (LTE Band 7 - 10MHz 16-QAM - Full RB - Ant1)

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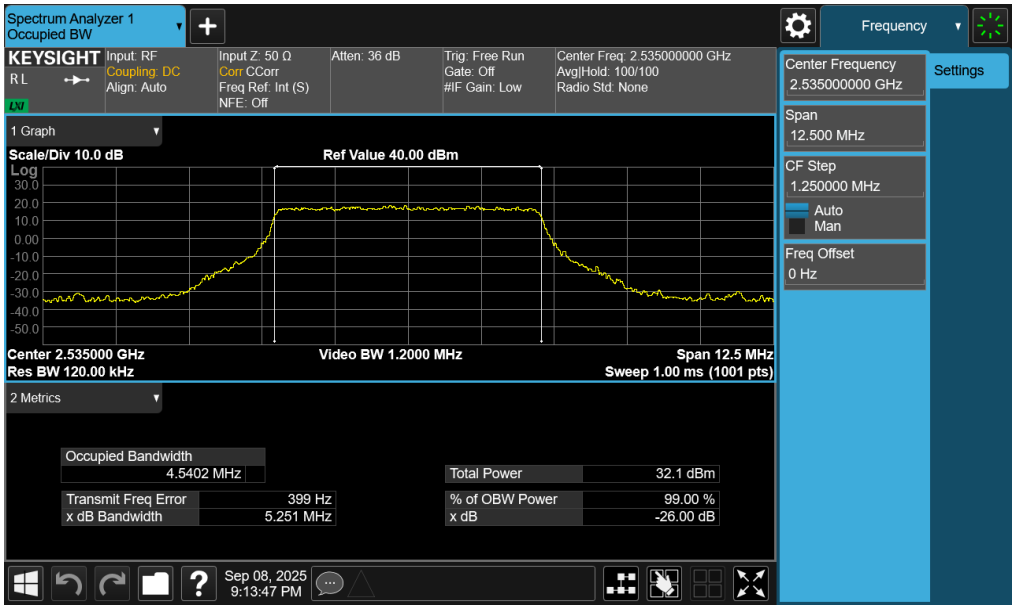

Plot 7-19. Occupied Bandwidth Plot (LTE Band 7 - 5MHz QPSK - Full RB - Ant1)

Plot 7-20. Occupied Bandwidth Plot (LTE Band 7 - 5MHz 16-QAM - Full RB - Ant1)

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Mode	Bandwidth	Modulation	OBW [MHz]
NR-n30	10MHz	π/2 BPSK	8.98
		QPSK	9.43
		16QAM	9.41
	5MHz	π/2 BPSK	4.53
		QPSK	4.59
		16QAM	4.61
NR-n7	50MHz	π/2 BPSK	48.47
		QPSK	48.50
		16QAM	48.51
	40MHz	π/2 BPSK	38.80
		QPSK	39.05
		16QAM	38.87
	30MHz	π/2 BPSK	28.74
		QPSK	28.74
		16QAM	28.79
	25MHz	π/2 BPSK	23.08
		QPSK	23.92
		16QAM	23.91
	20MHz	π/2 BPSK	18.01
		QPSK	19.04
		16QAM	19.09
	15MHz	π/2 BPSK	13.50
		QPSK	14.21
		16QAM	14.22
	10MHz	π/2 BPSK	9.01
		QPSK	9.37
		16QAM	9.37
	5MHz	π/2 BPSK	4.51
		QPSK	4.53
		16QAM	4.60

Table 7-17. Occupied Bandwidth Test Results – NR – Ant 1

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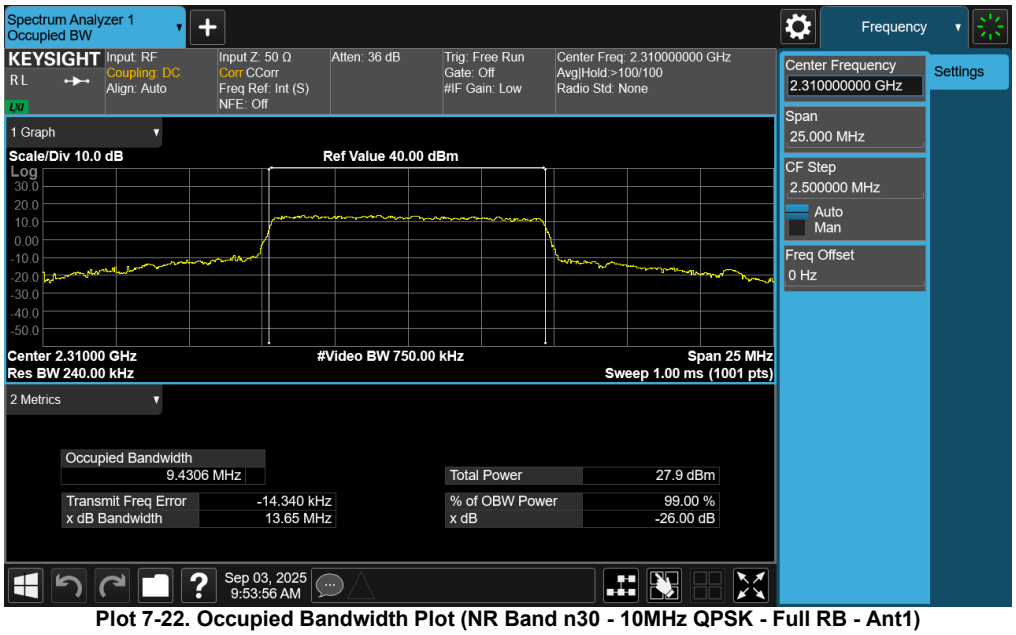
NR Band n30 – Ant1

Plot 7-21. Occupied Bandwidth Plot (NR Band n30 - 10MHz π/2 BPSK - Full RB - Ant1)



Plot 7-22. Occupied Bandwidth Plot (NR Band n30 - 10MHz QPSK - Full RB - Ant1)

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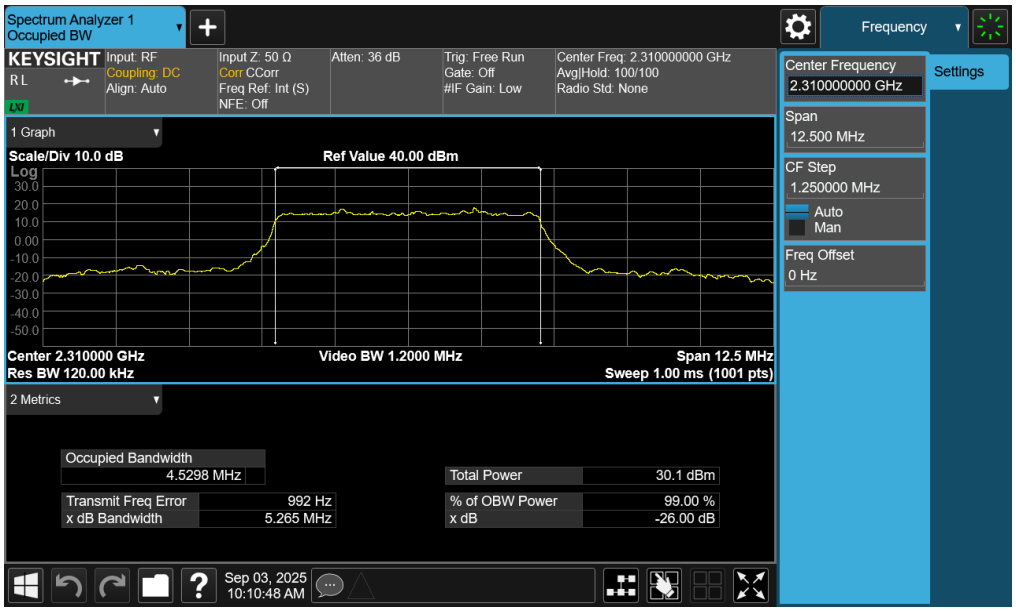
Plot 7-23. Occupied Bandwidth Plot (NR Band n30 - 10MHz 16-QAM - Full RB - Ant1)



Plot 7-24. Occupied Bandwidth Plot (NR Band n30 - 5MHz π/2 BPSK - Full RB - Ant1)

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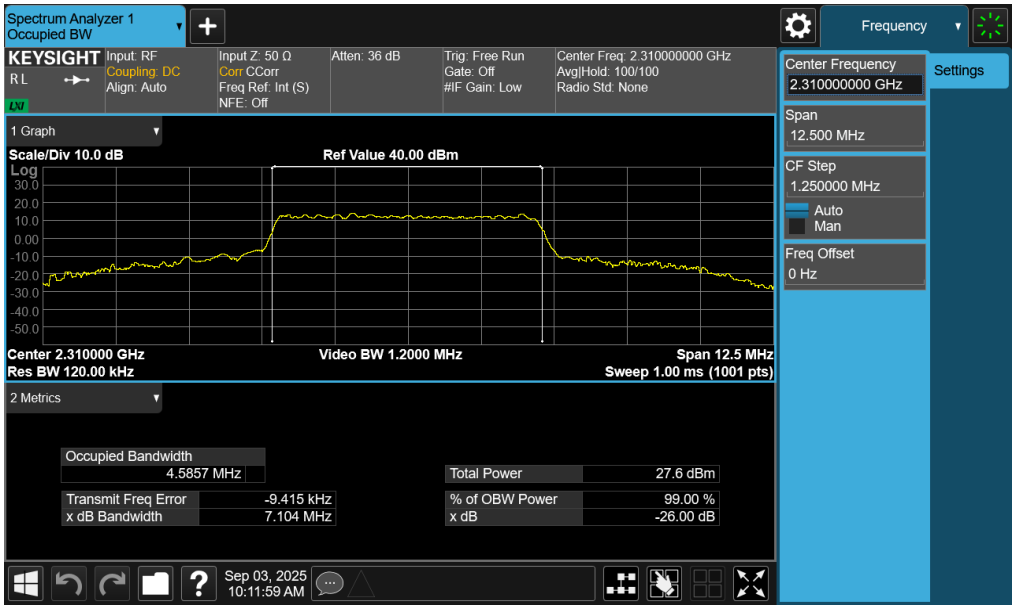
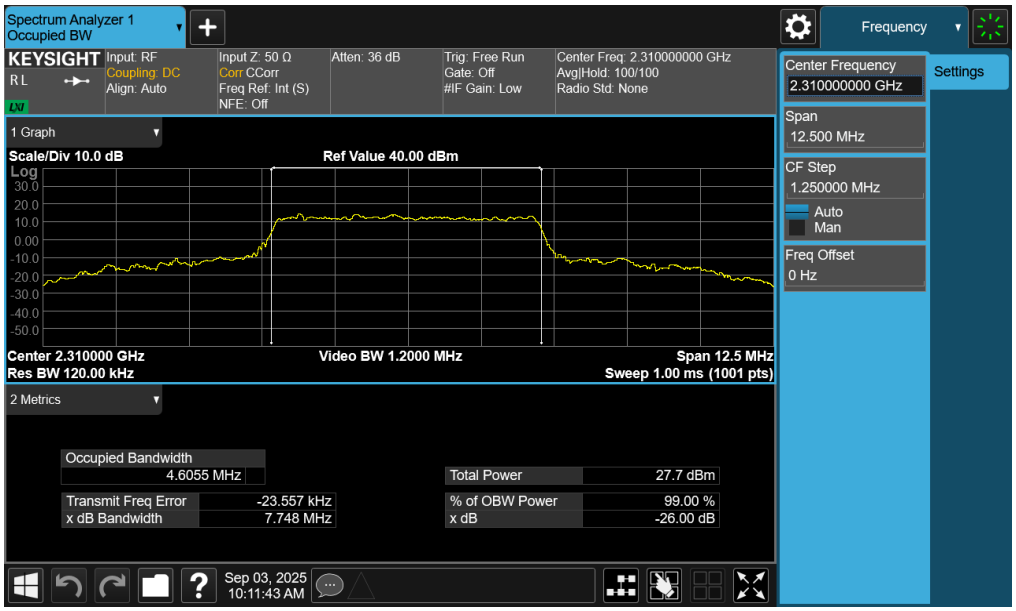


Plot 7-25. Occupied Bandwidth Plot (NR Band n30 - 5MHz QPSK - Full RB - Ant1)



Plot 7-26. Occupied Bandwidth Plot (NR Band n30 - 5MHz 16-QAM - Full RB - Ant1)

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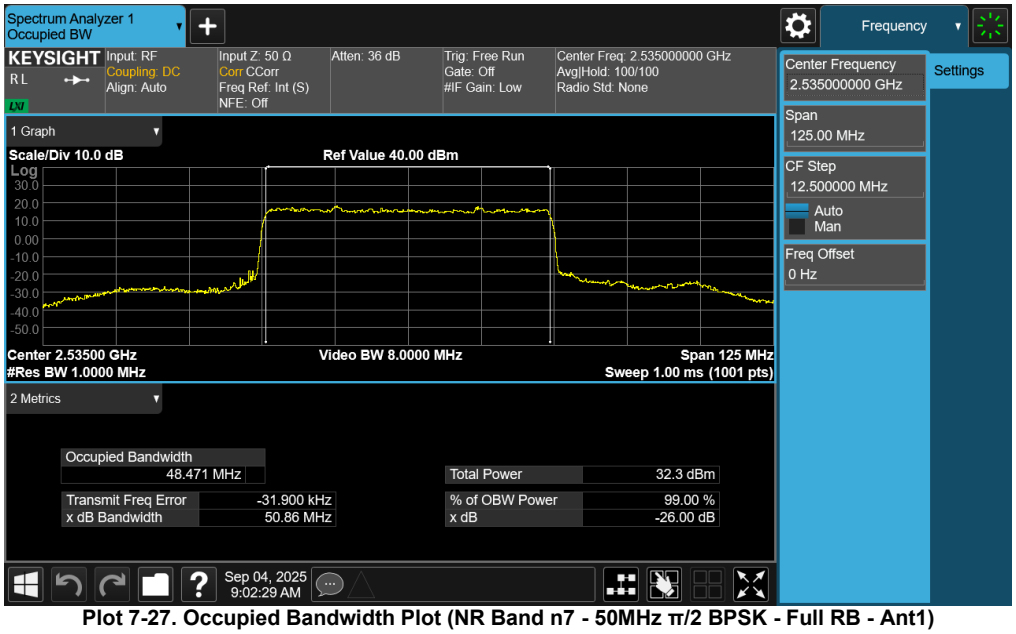
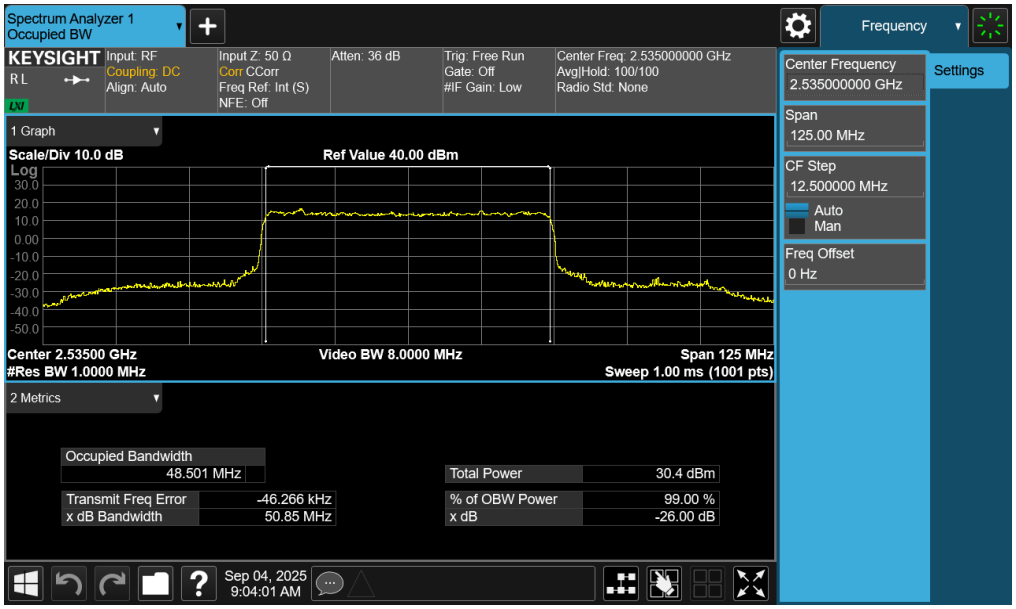
NR Band n7 – Ant1



Plot 7-27. Occupied Bandwidth Plot (NR Band n7 - 50MHz π/2 BPSK - Full RB - Ant1)



Plot 7-28. Occupied Bandwidth Plot (NR Band n7 - 50MHz QPSK - Full RB - Ant1)

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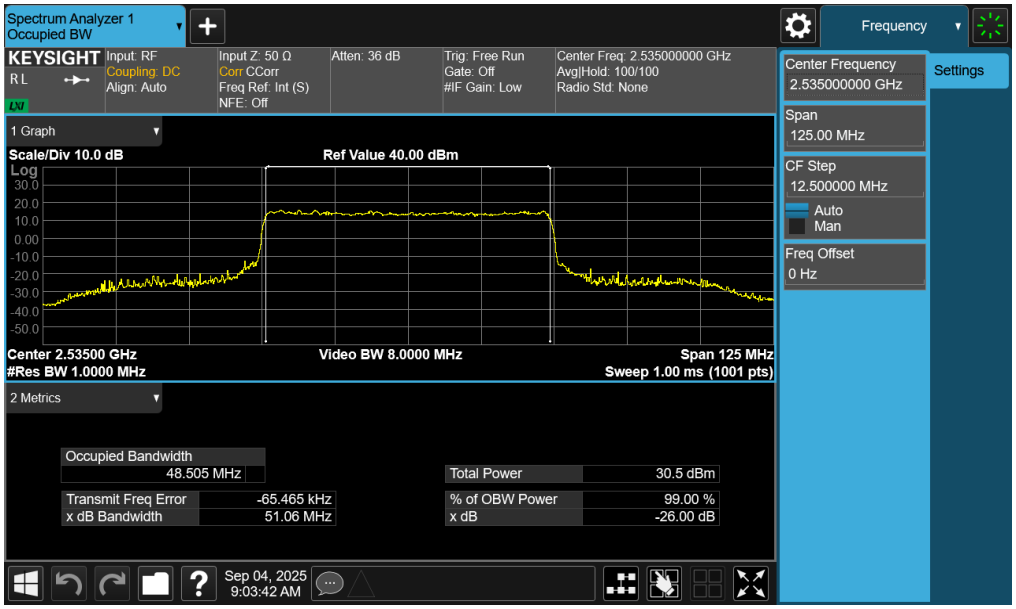
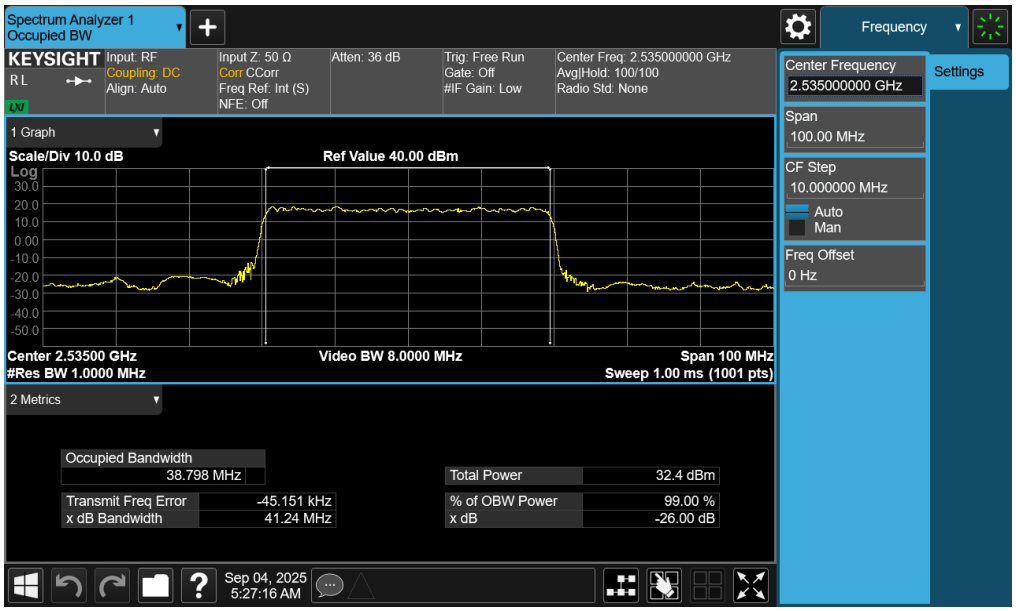


Plot 7-29. Occupied Bandwidth Plot (NR Band n7 - 50MHz 16-QAM - Full RB - Ant1)



Plot 7-30. Occupied Bandwidth Plot (NR Band n7 - 40MHz π/2 BPSK - Full RB - Ant1)

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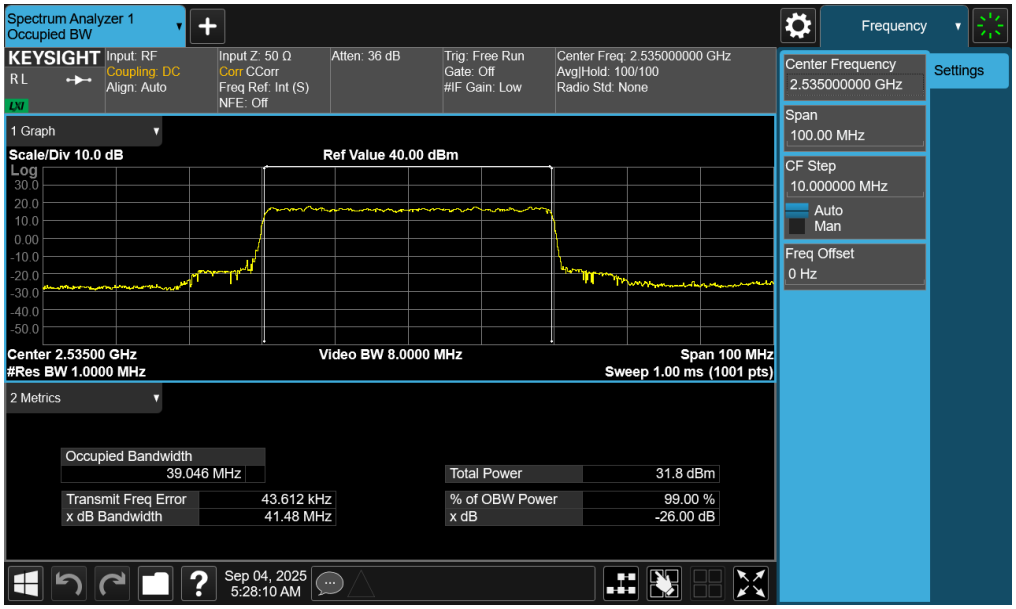
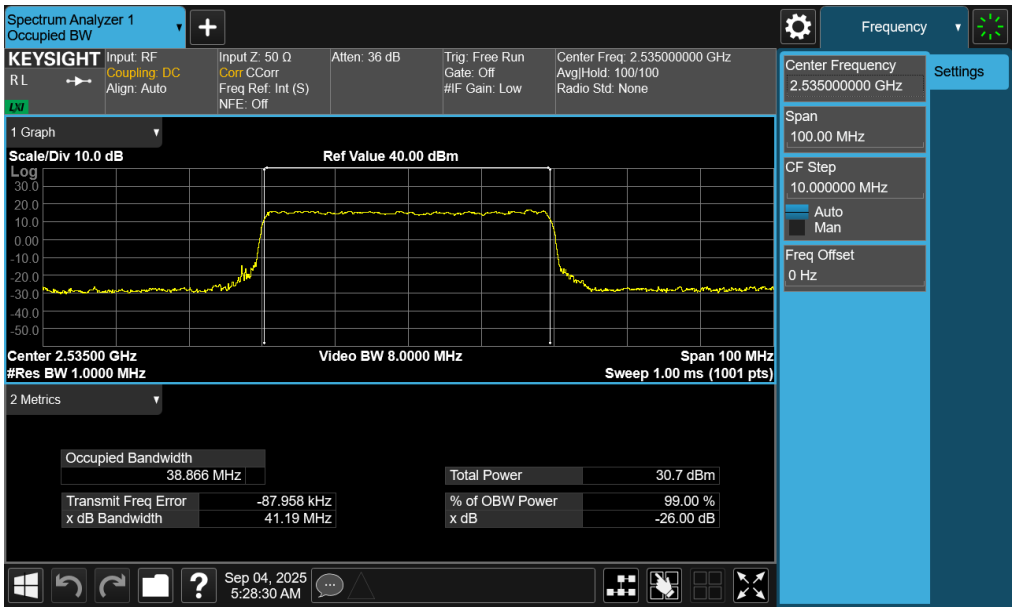


Plot 7-31. Occupied Bandwidth Plot (NR Band n7 - 40MHz QPSK - Full RB - Ant1)



Plot 7-32. Occupied Bandwidth Plot (NR Band n7 - 40MHz 16-QAM - Full RB - Ant1)

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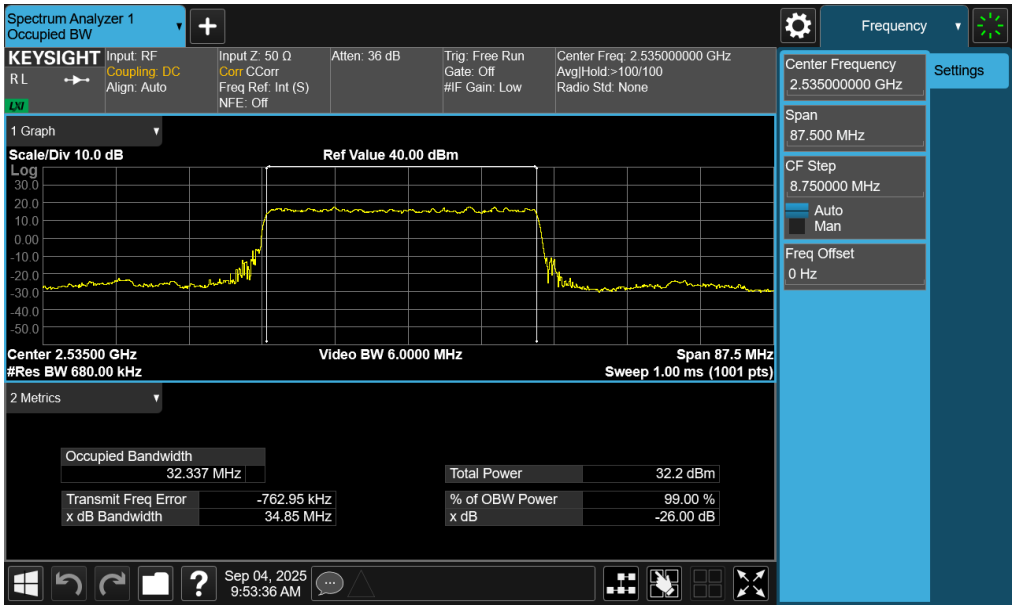
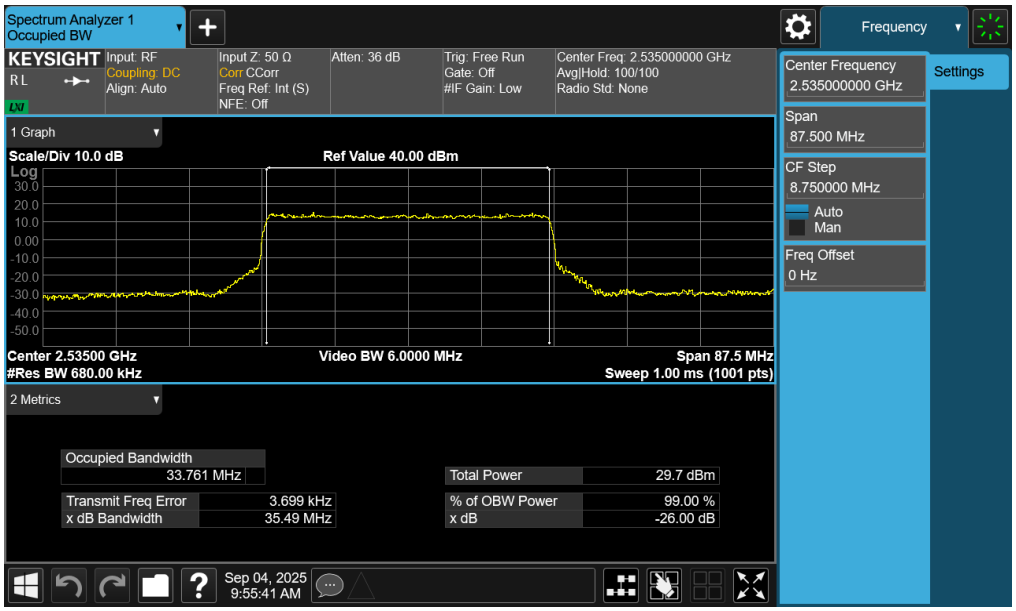


Plot 7-33. Occupied Bandwidth Plot (NR Band n7 - 35MHz π/2 BPSK - Full RB - Ant1)



Plot 7-34. Occupied Bandwidth Plot (NR Band n7 - 35MHz QPSK - Full RB - Ant1)

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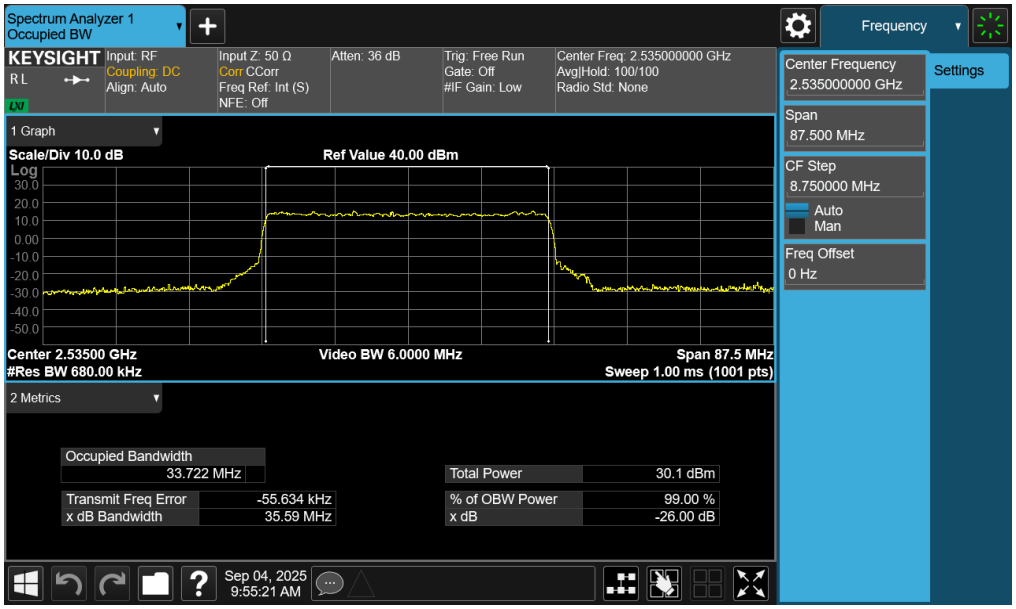
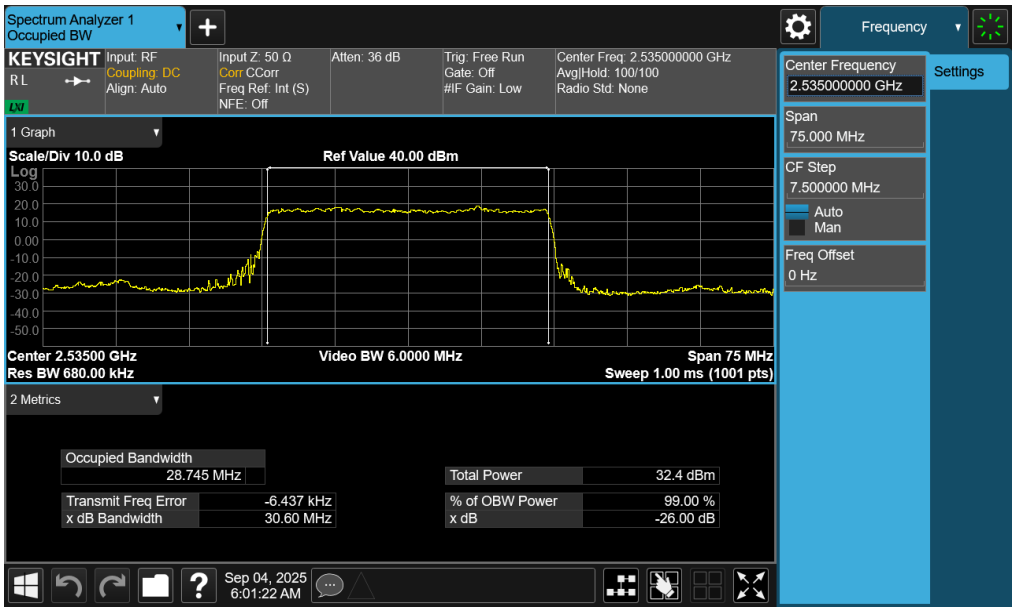


Plot 7-35. Occupied Bandwidth Plot (NR Band n7 - 35MHz 16-QAM - Full RB - Ant1)



Plot 7-36. Occupied Bandwidth Plot (NR Band n7 - 30MHz π/2 BPSK - Full RB - Ant1)

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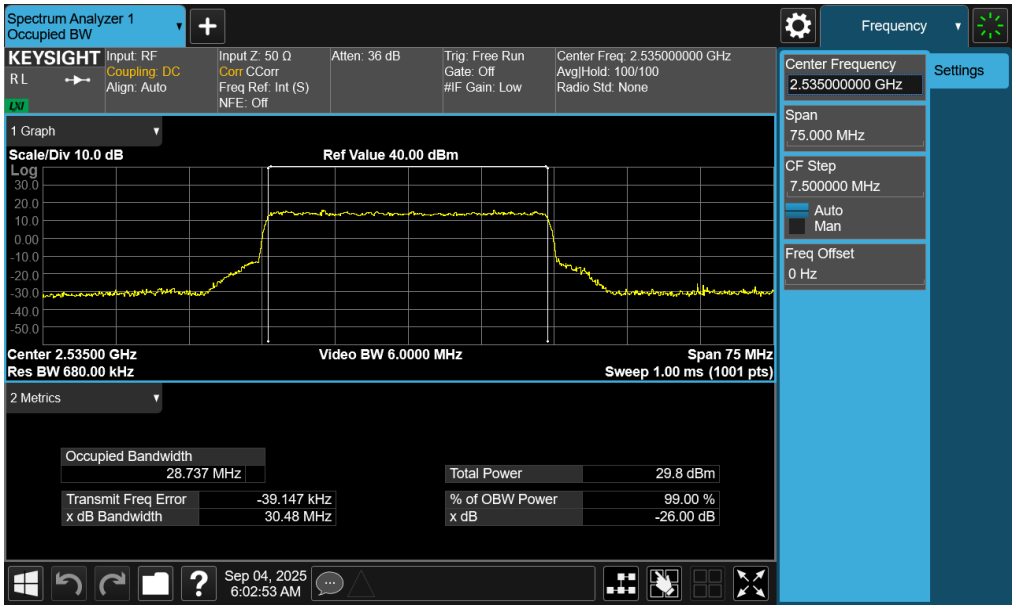
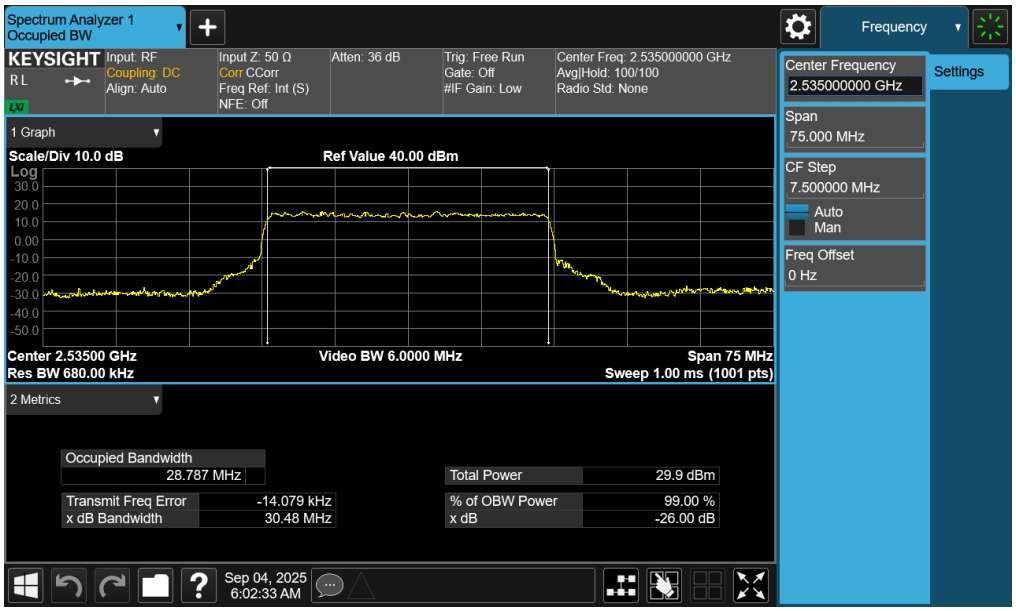


Plot 7-37. Occupied Bandwidth Plot (NR Band n7 - 30MHz QPSK - Full RB - Ant1)



Plot 7-38. Occupied Bandwidth Plot (NR Band n7 - 30MHz 16-QAM - Full RB - Ant1)

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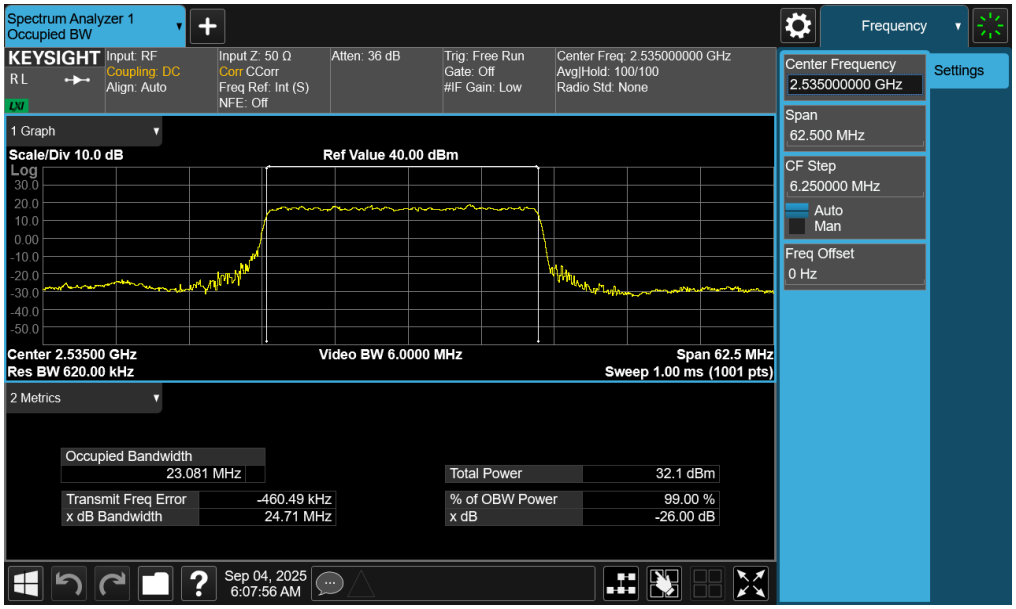
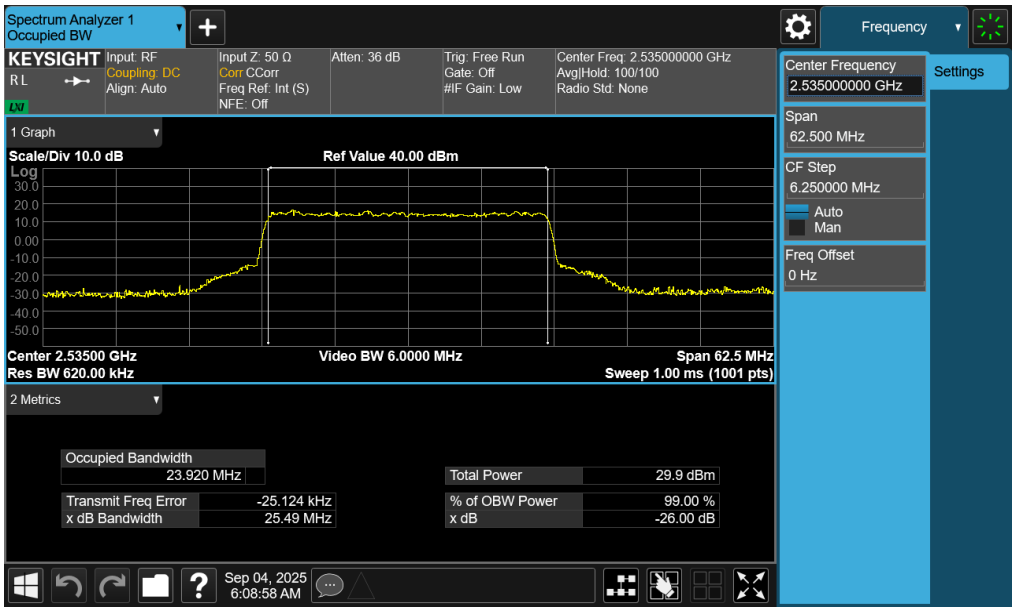


Plot 7-39. Occupied Bandwidth Plot (NR Band n7 - 25MHz π/2 BPSK - Full RB - Ant1)



Plot 7-40. Occupied Bandwidth Plot (NR Band n7 - 25MHz QPSK - Full RB - Ant1)

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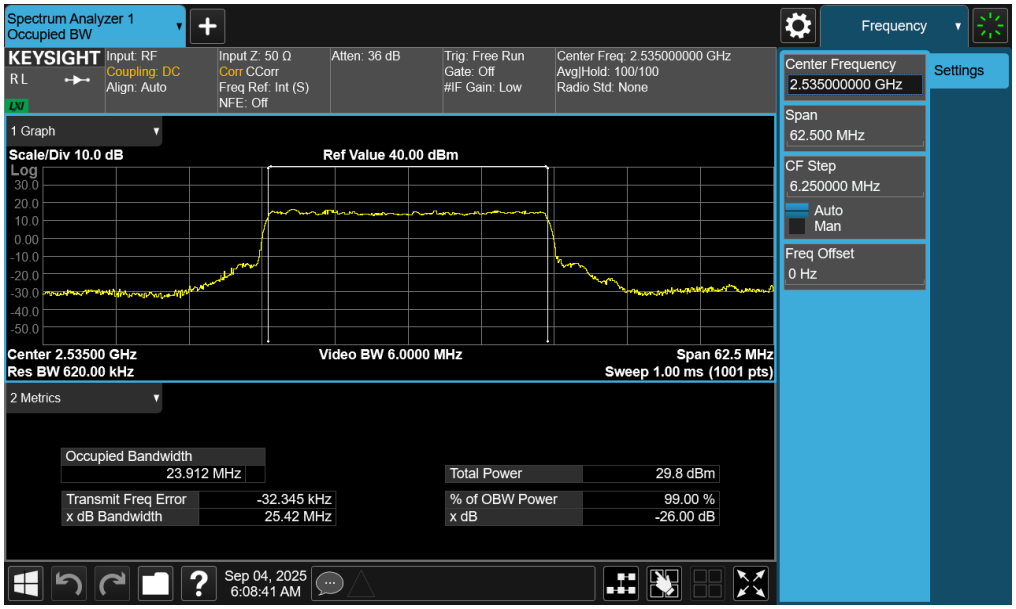
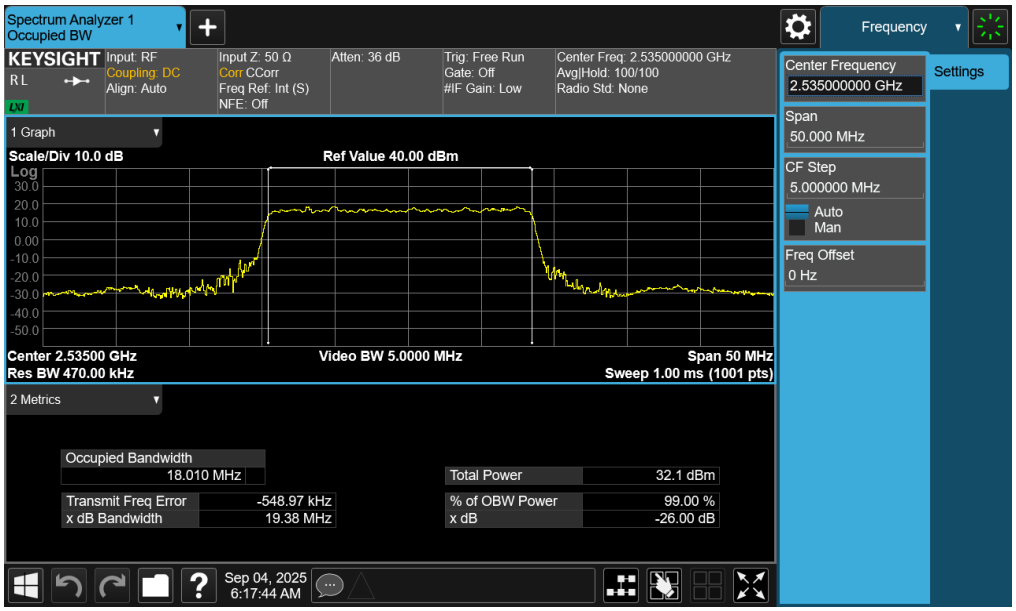


Plot 7-41. Occupied Bandwidth Plot (NR Band n7 - 25MHz 16-QAM - Full RB - Ant1)



Plot 7-42. Occupied Bandwidth Plot (NR Band n7 - 20MHz π/2 BPSK - Full RB - Ant1)

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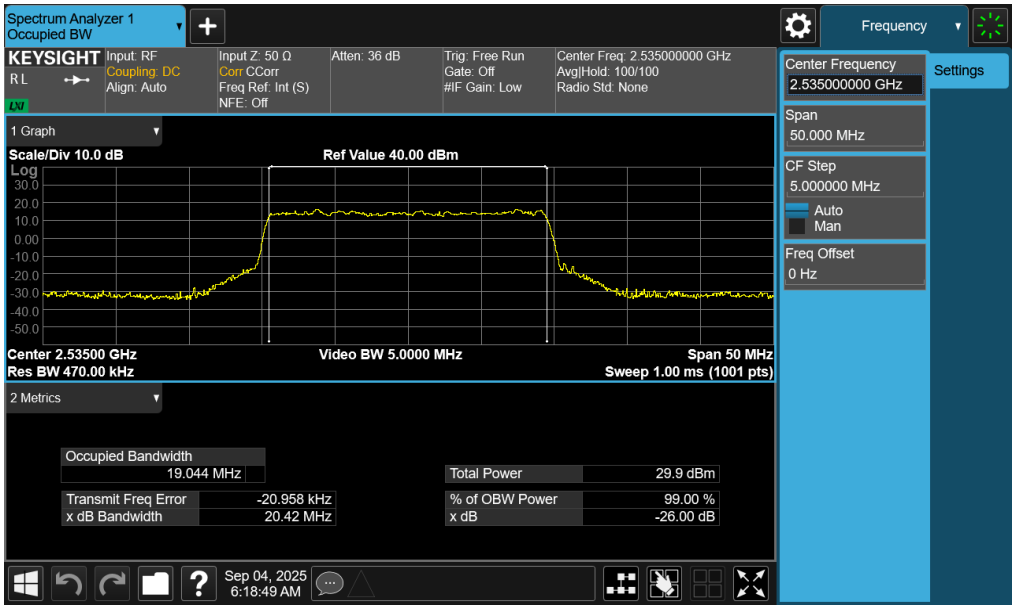
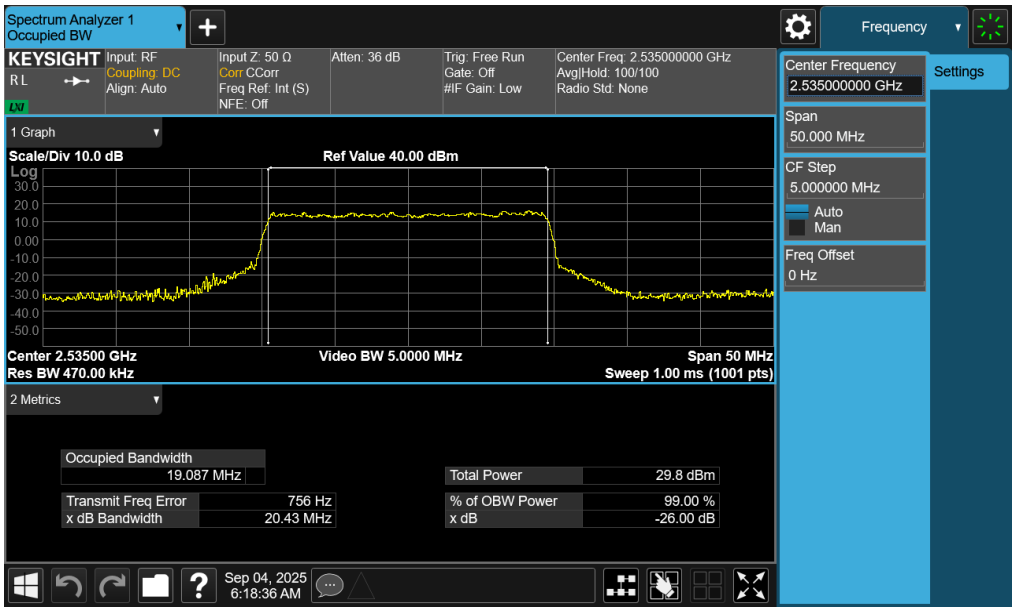


Plot 7-43. Occupied Bandwidth Plot (NR Band n7 - 20MHz QPSK - Full RB - Ant1)



Plot 7-44. Occupied Bandwidth Plot (NR Band n7 - 20MHz 16-QAM - Full RB - Ant1)

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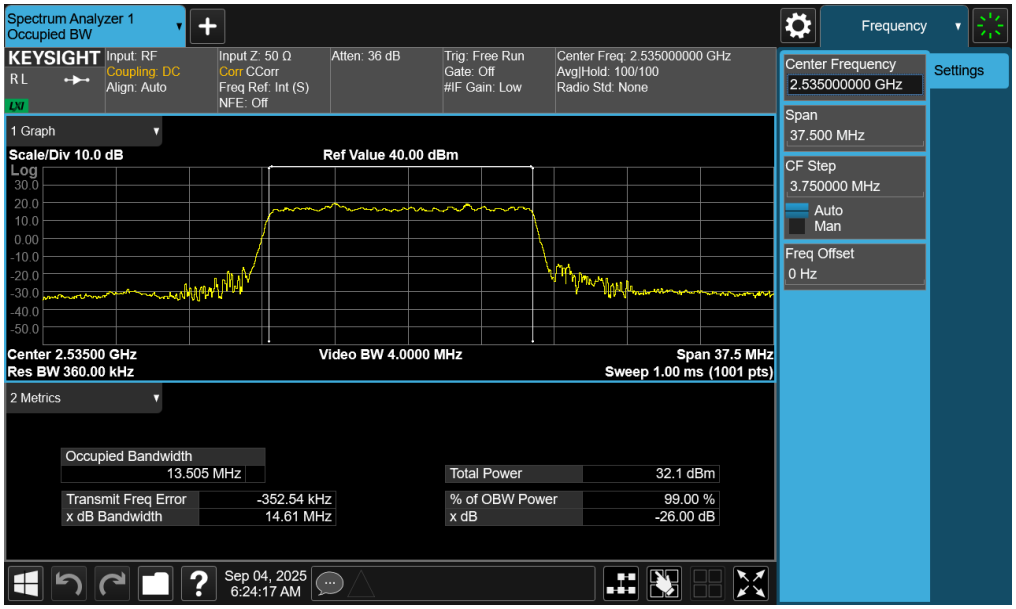
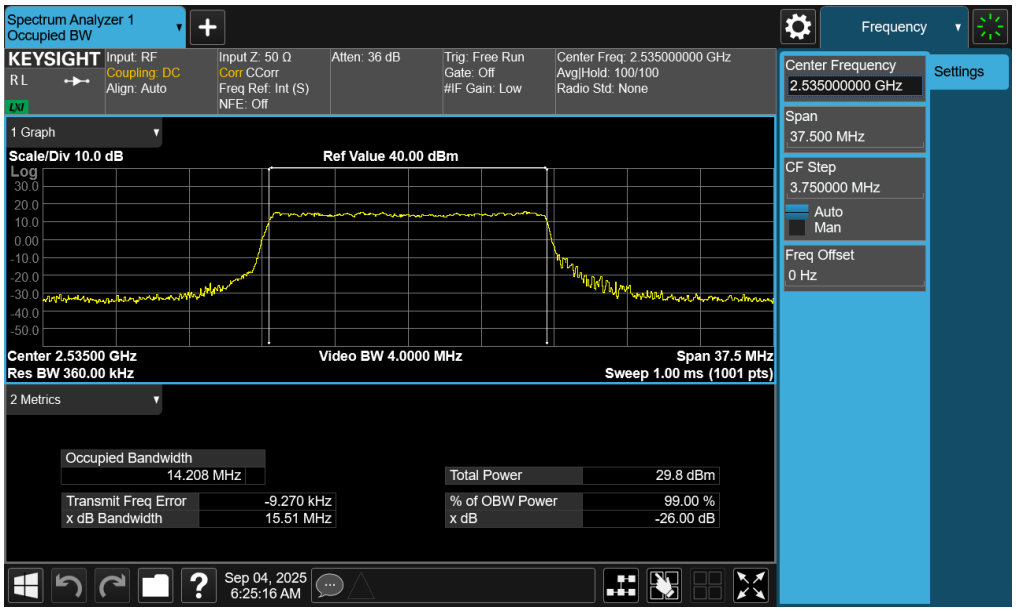


Plot 7-45. Occupied Bandwidth Plot (NR Band n7 - 15MHz π/2 BPSK - Full RB - Ant1)



Plot 7-46. Occupied Bandwidth Plot (NR Band n7 - 15MHz QPSK - Full RB - Ant1)

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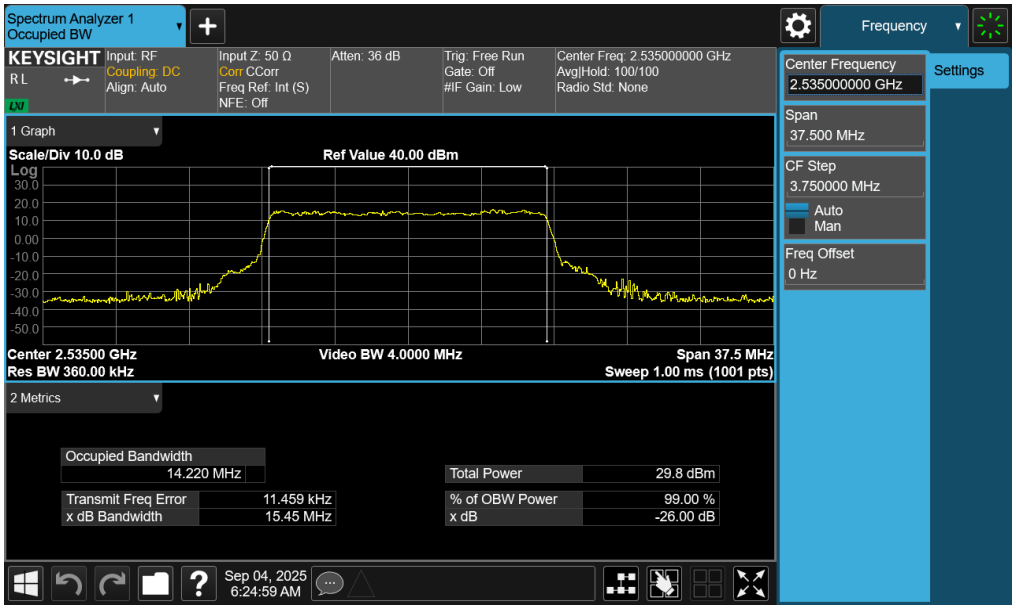
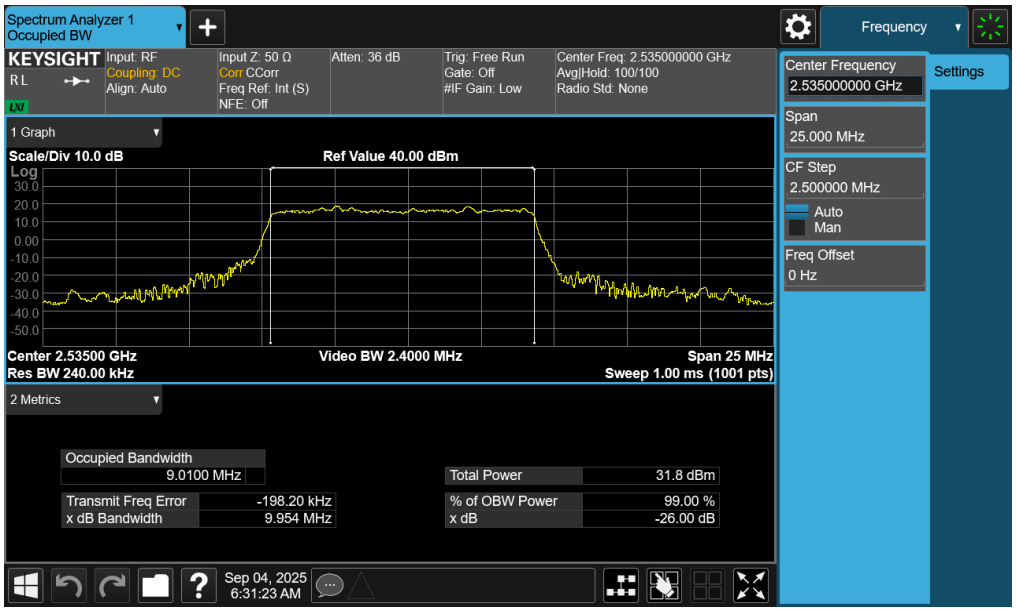


Plot 7-47. Occupied Bandwidth Plot (NR Band n7 - 15MHz 16-QAM - Full RB - Ant1)



Plot 7-48. Occupied Bandwidth Plot (NR Band n7 - 10MHz π/2 BPSK - Full RB - Ant1)

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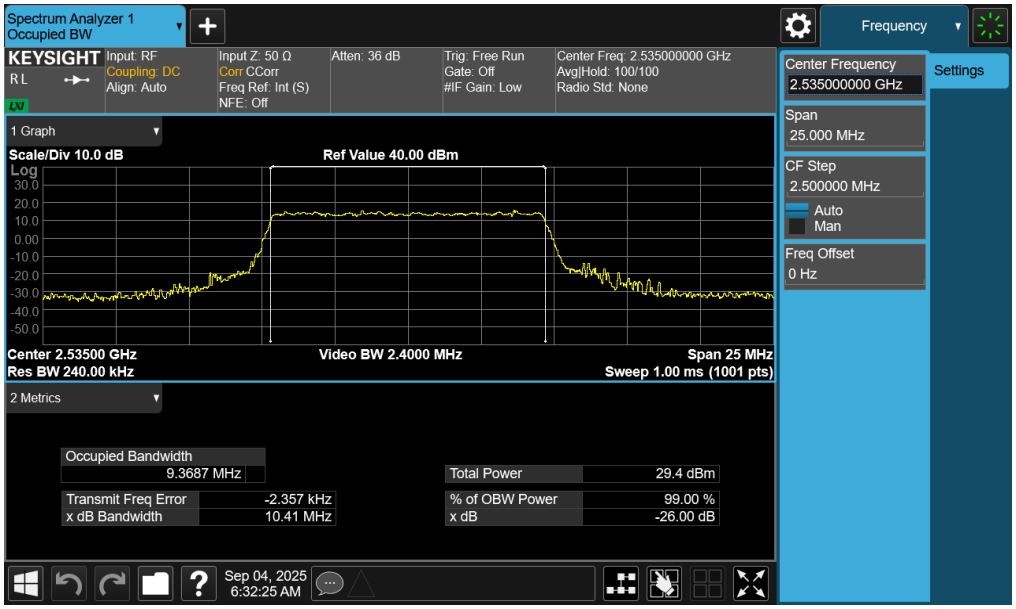
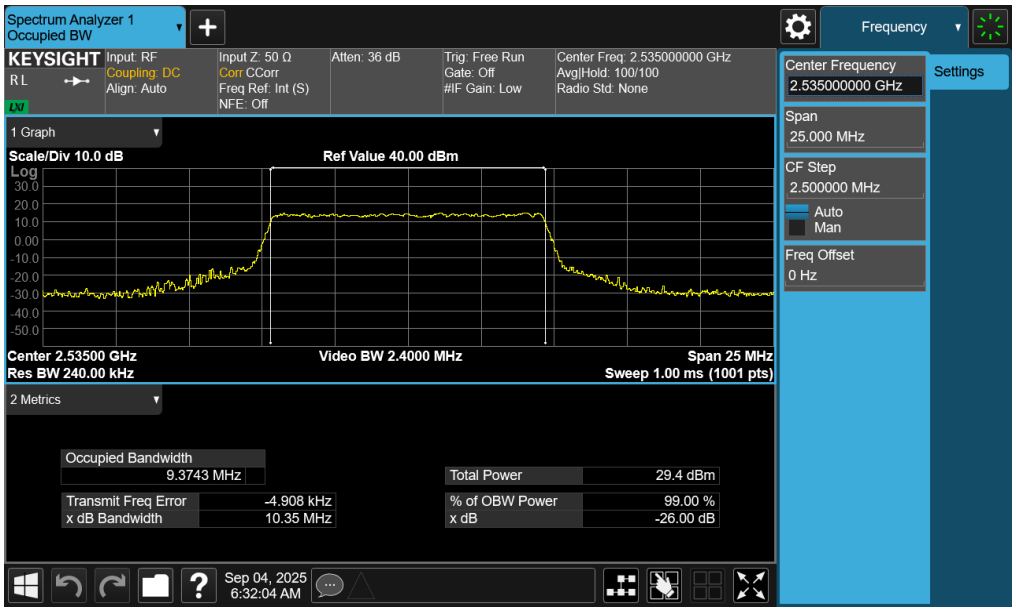


Plot 7-49. Occupied Bandwidth Plot (NR Band n7 - 10MHz QPSK - Full RB - Ant1)



Plot 7-50. Occupied Bandwidth Plot (NR Band n7 - 10MHz 16-QAM - Full RB - Ant1)

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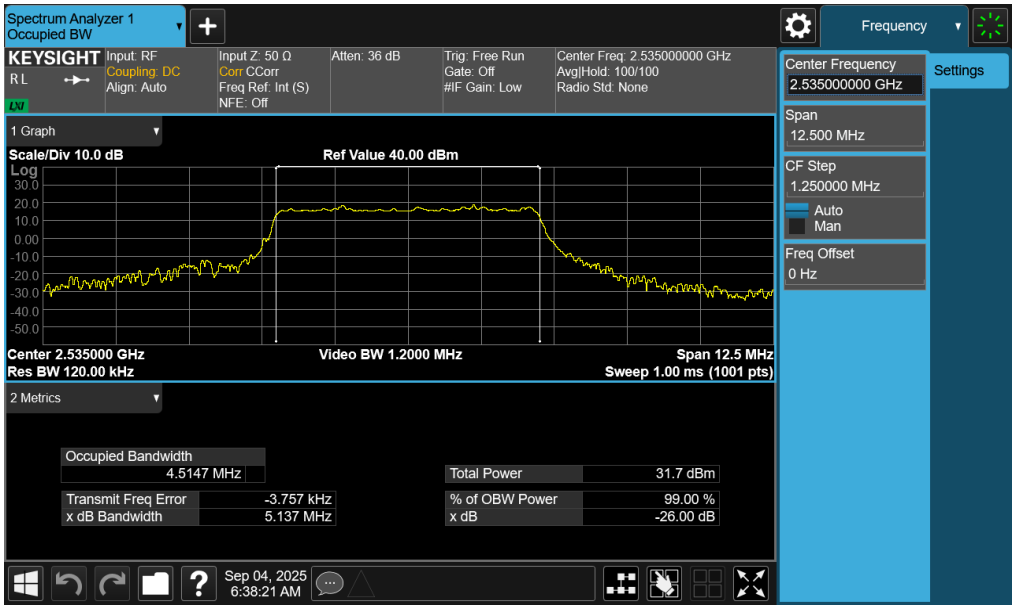
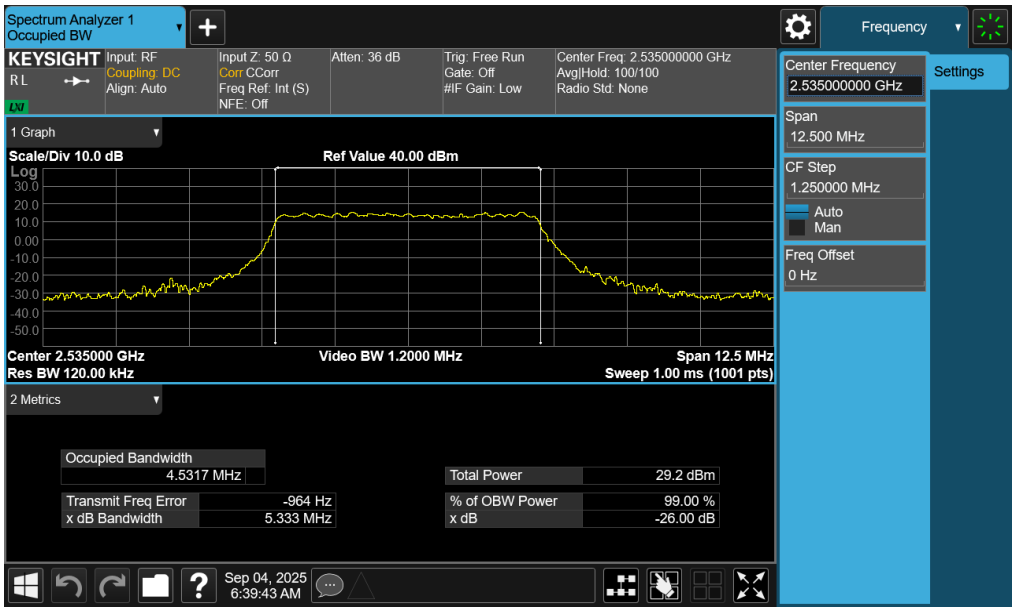


Plot 7-51. Occupied Bandwidth Plot (NR Band n7 - 5MHz π/2 BPSK - Full RB - Ant1)



Plot 7-52. Occupied Bandwidth Plot (NR Band n7 - 5MHz QPSK - Full RB - Ant1)

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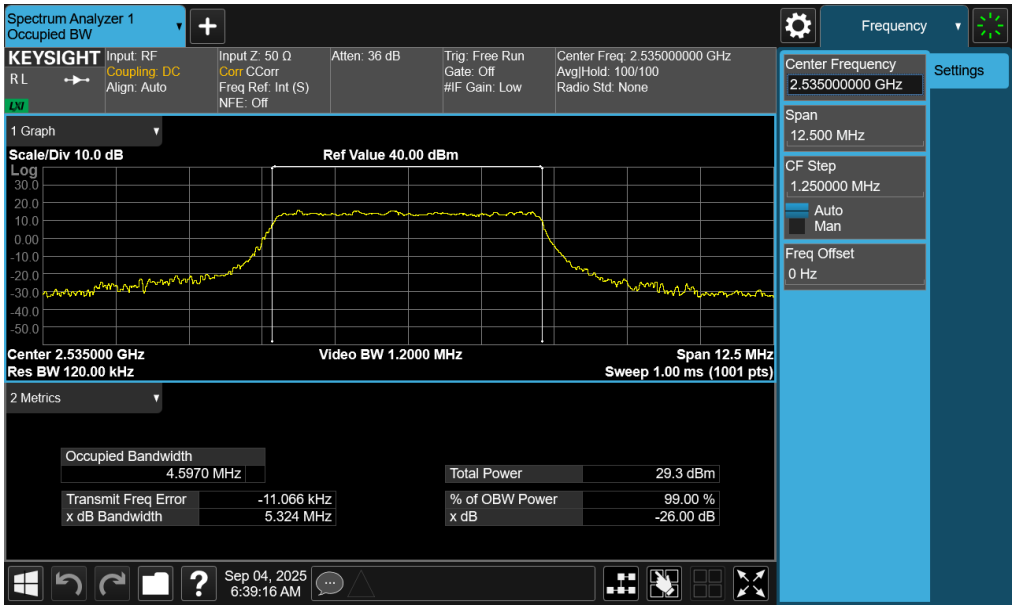

Plot 7-53. Occupied Bandwidth Plot (NR Band n7 - 5MHz 16-QAM - Full RB - Ant1)

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Mode	Bandwidth	Modulation	OBW [MHz]
NR-n41PC2	100MHz	π/2 BPSK	97.12
		QPSK	98.02
		16QAM	97.90
	90MHz	π/2 BPSK	87.17
		QPSK	87.98
		16QAM	87.83
	80MHz	π/2 BPSK	77.43
		QPSK	77.79
		16QAM	77.86
	70MHz	π/2 BPSK	64.57
		QPSK	67.85
		16QAM	67.65
	60MHz	π/2 BPSK	58.13
		QPSK	58.26
		16QAM	58.27
	50MHz	π/2 BPSK	45.89
		QPSK	47.79
		16QAM	47.79
	45MHz	π/2 BPSK	38.69
		QPSK	42.64
		16QAM	42.93
	40MHz	π/2 BPSK	35.97
		QPSK	38.05
		16QAM	38.03
	35MHz	π/2 BPSK	32.33
		QPSK	33.00
		16QAM	32.98
	30MHz	π/2 BPSK	27.02
		QPSK	28.00
		16QAM	27.98
	25MHz	π/2 BPSK	22.94
		QPSK	23.31
		16QAM	23.32
	20MHz	π/2 BPSK	18.04
		QPSK	18.31
		16QAM	18.38
	15MHz	π/2 BPSK	13.00
		QPSK	13.73
		16QAM	13.69
	10MHz	π/2 BPSK	8.69
		QPSK	8.68
		16QAM	8.74

Table 7-18. Occupied Bandwidth Test Results – NR n41 Default – Ant 1

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Mode	Bandwidth	Modulation	OBW [MHz]
NR-n41PC2	100MHz	π/2 BPSK	96.91
		QPSK	98.58
		16QAM	98.39
	90MHz	π/2 BPSK	87.42
		QPSK	87.79
		16QAM	87.85
	80MHz	π/2 BPSK	77.27
		QPSK	77.63
		16QAM	77.67
	70MHz	π/2 BPSK	64.60
		QPSK	67.67
		16QAM	67.68
	60MHz	π/2 BPSK	58.07
		QPSK	58.31
		16QAM	58.29
	50MHz	π/2 BPSK	46.10
		QPSK	47.79
		16QAM	47.70
	45MHz	π/2 BPSK	38.69
		QPSK	42.60
		16QAM	42.87
	40MHz	π/2 BPSK	35.92
		QPSK	37.96
		16QAM	38.05
	35MHz	π/2 BPSK	32.37
		QPSK	32.96
		16QAM	32.99
	30MHz	π/2 BPSK	27.04
		QPSK	28.00
		16QAM	28.10
	25MHz	π/2 BPSK	22.96
		QPSK	23.29
		16QAM	23.33
	20MHz	π/2 BPSK	18.01
		QPSK	18.36
		16QAM	18.31
	15MHz	π/2 BPSK	13.04
		QPSK	13.74
		16QAM	13.71
	10MHz	π/2 BPSK	8.67
		QPSK	8.69
		16QAM	8.72

Table 7-19. Occupied Bandwidth Test Results – NR n41 switch – Ant 1

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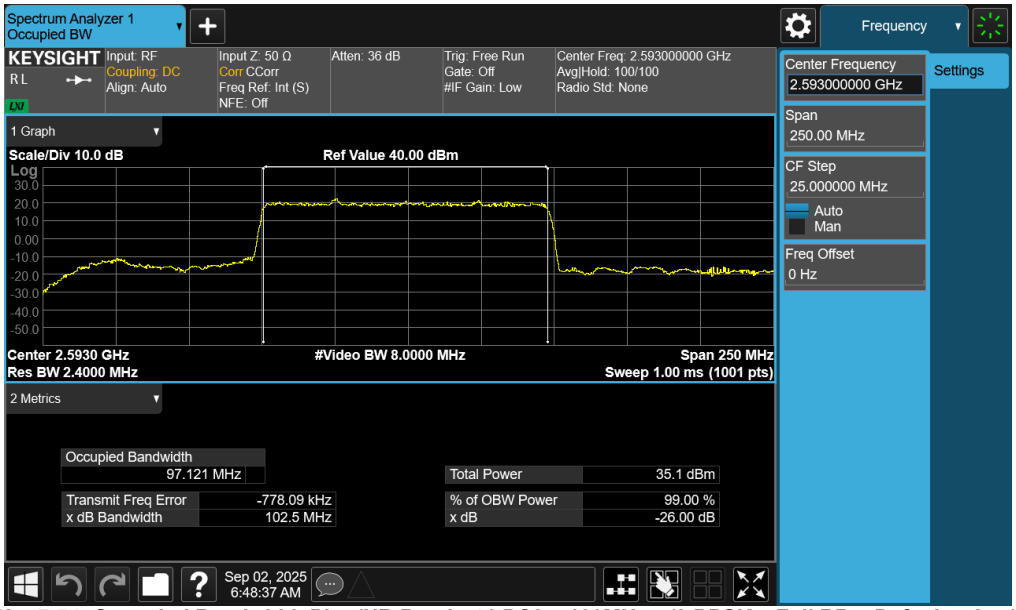
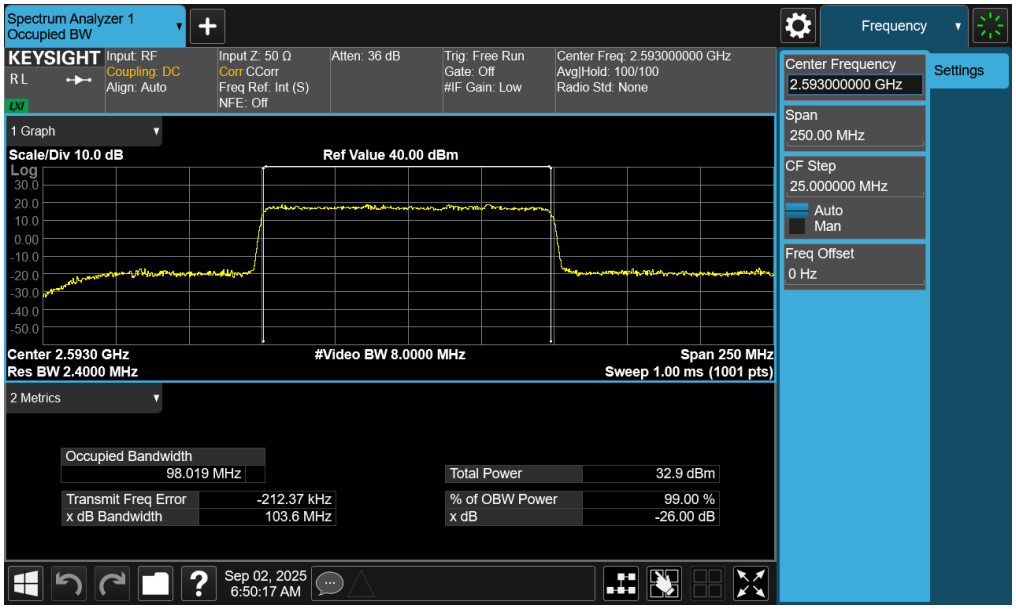
NR Band n41 PC2 – Default – Ant1



Plot 7-54. Occupied Bandwidth Plot (NR Band n41 PC2 – 100MHz π/2 BPSK – Full RB – Default – Ant1)



Plot 7-55. Occupied Bandwidth Plot (NR Band n41 PC2 – 100MHz QPSK – Full RB – Default – Ant1)

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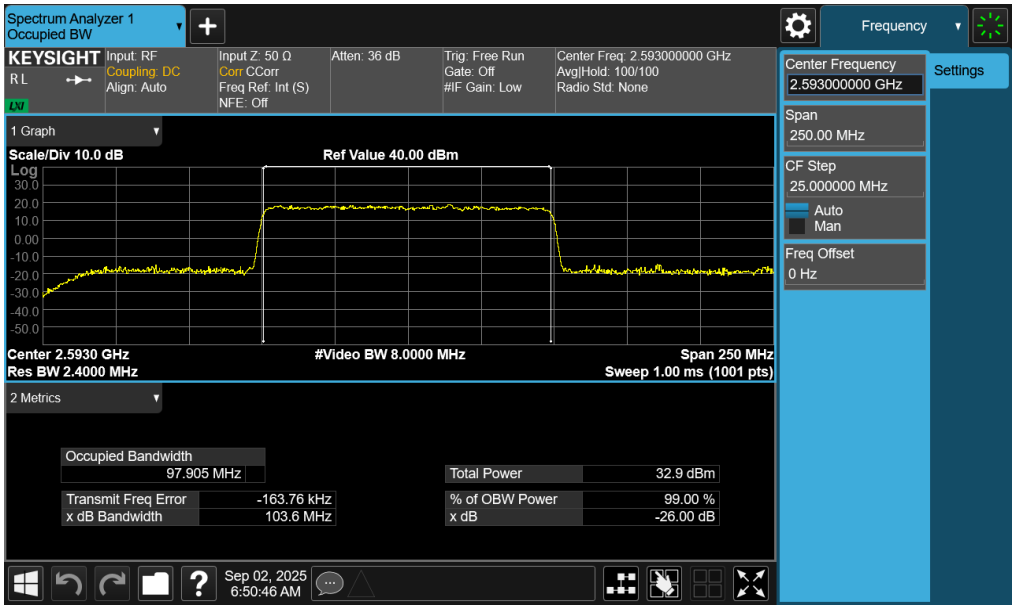
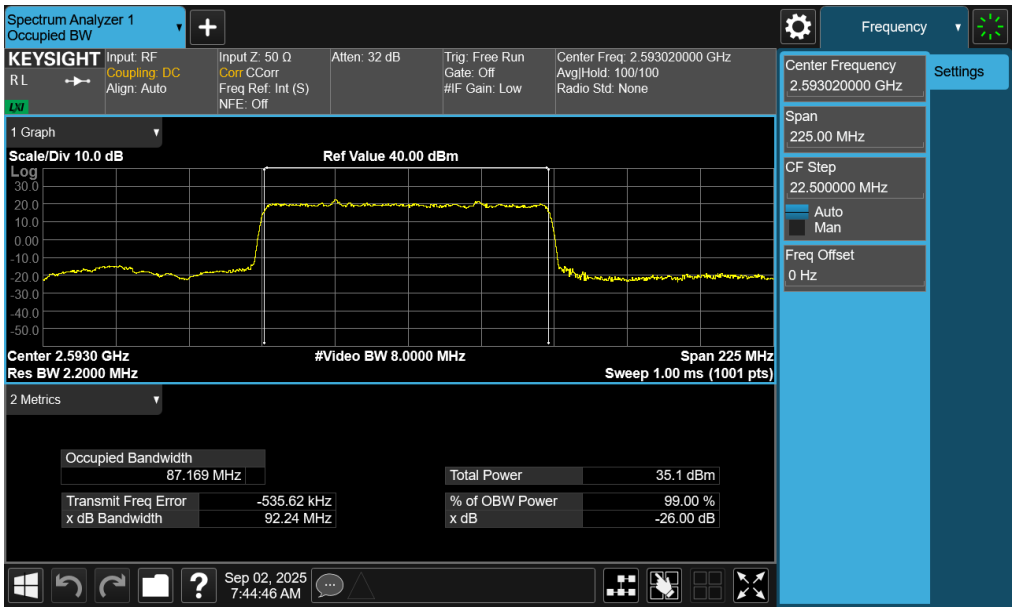


Plot 7-56. Occupied Bandwidth Plot (NR Band n41 PC2 – 100MHz 16-QAM – Full RB – Default – Ant1)



Plot 7-57. Occupied Bandwidth Plot (NR Band n41 PC2 – 90MHz π/2 BPSK – Full RB – Default – Ant1)

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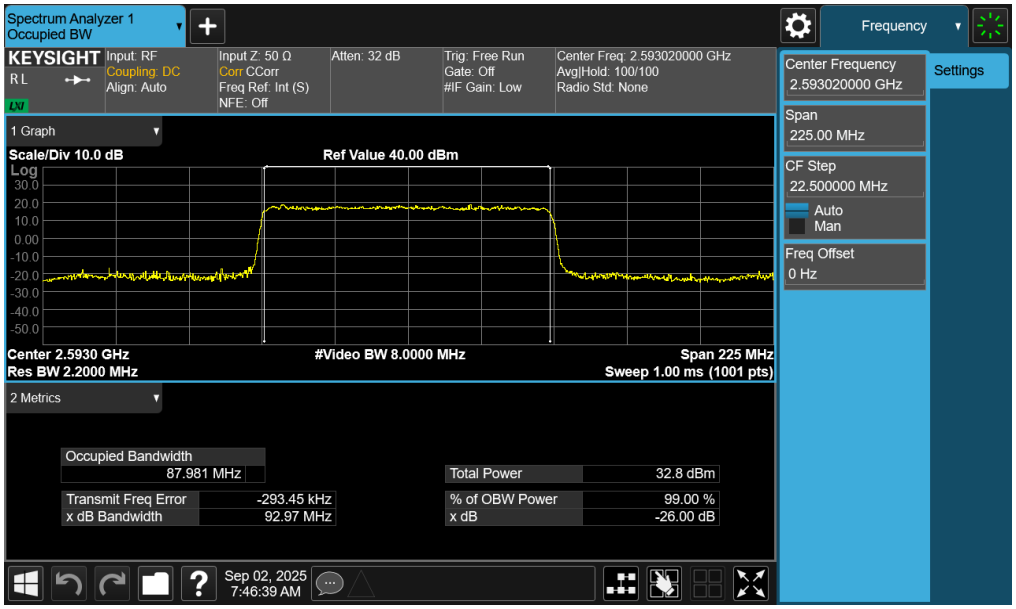
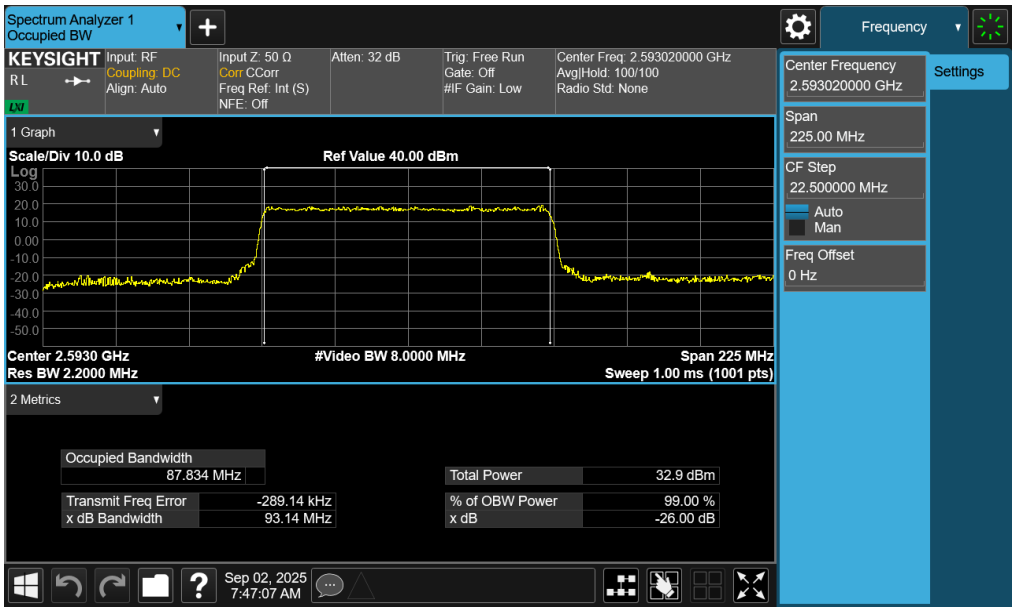


Plot 7-58. Occupied Bandwidth Plot (NR Band n41 PC2 – 90MHz QPSK – Full RB – Default – Ant1)



Plot 7-59. Occupied Bandwidth Plot (NR Band n41 PC2 – 90MHz 16-QAM – Full RB – Default – Ant1)

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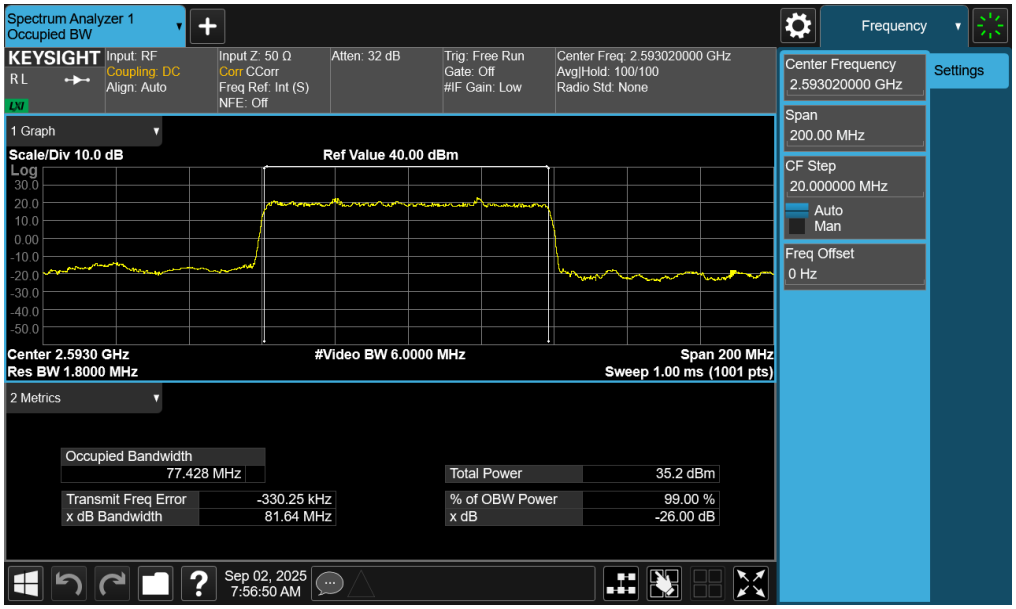
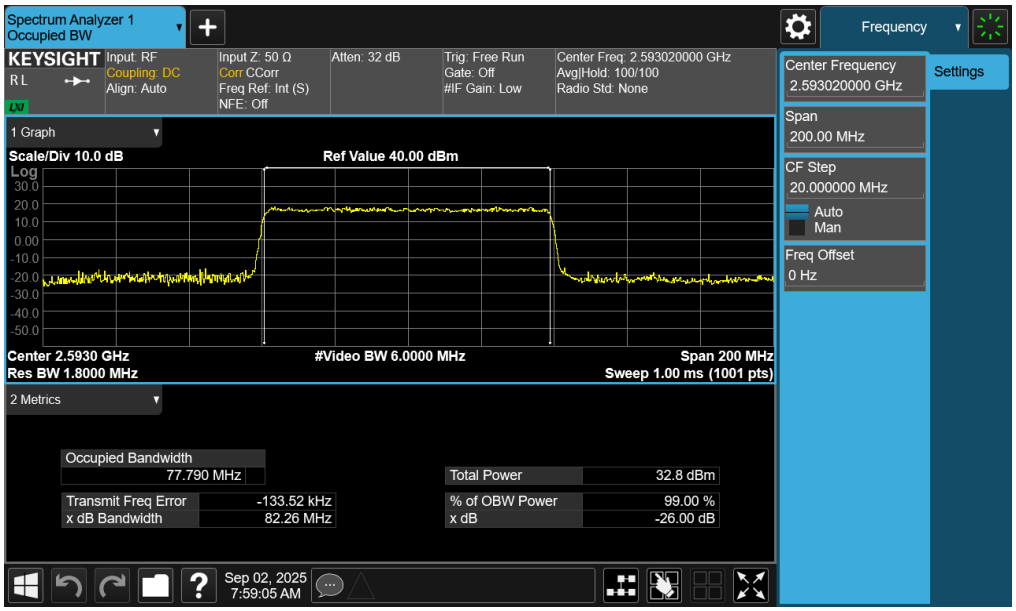


Plot 7-60. Occupied Bandwidth Plot (NR Band n41 PC2 – 80MHz π/2 BPSK – Full RB – Default – Ant1)



Plot 7-61. Occupied Bandwidth Plot (NR Band n41 PC2 – 80MHz QPSK – Full RB – Default – Ant1)

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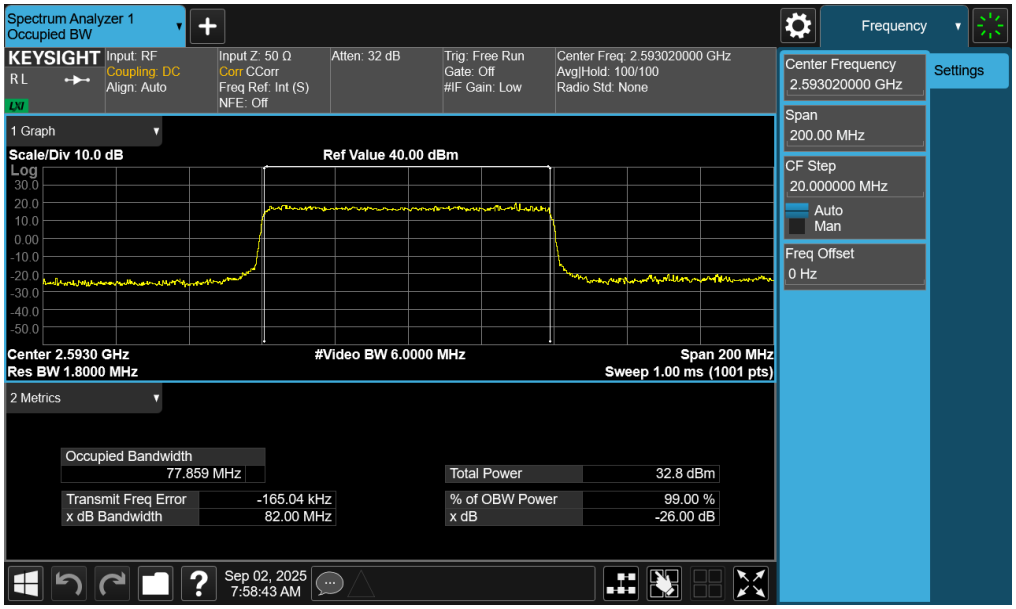
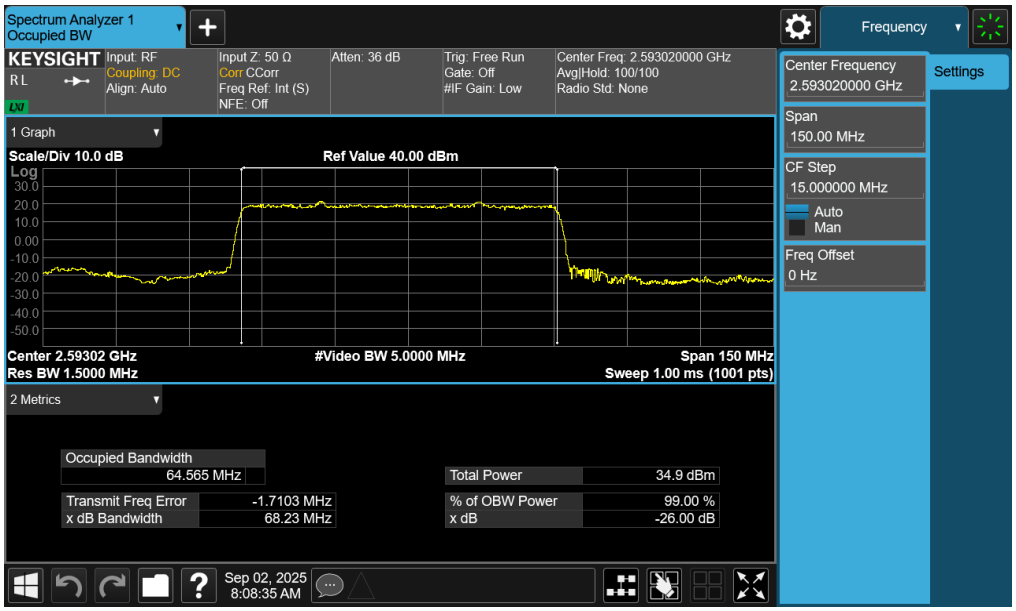


Plot 7-62. Occupied Bandwidth Plot (NR Band n41 PC2 – 80MHz 16-QAM – Full RB – Default – Ant1)



Plot 7-63. Occupied Bandwidth Plot (NR Band n41 PC2 – 70MHz π/2 BPSK – Full RB – Default – Ant1)

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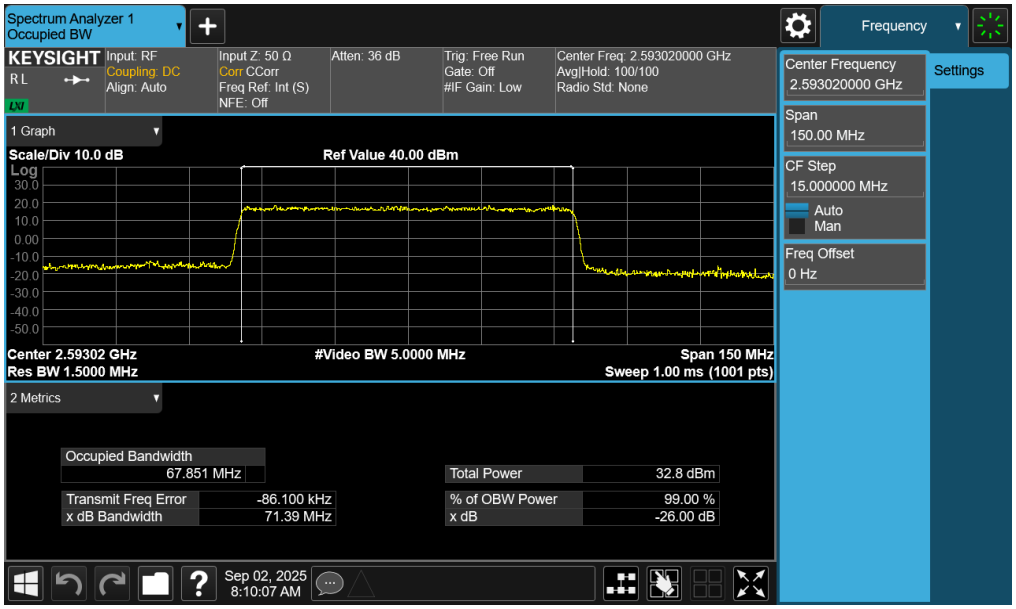
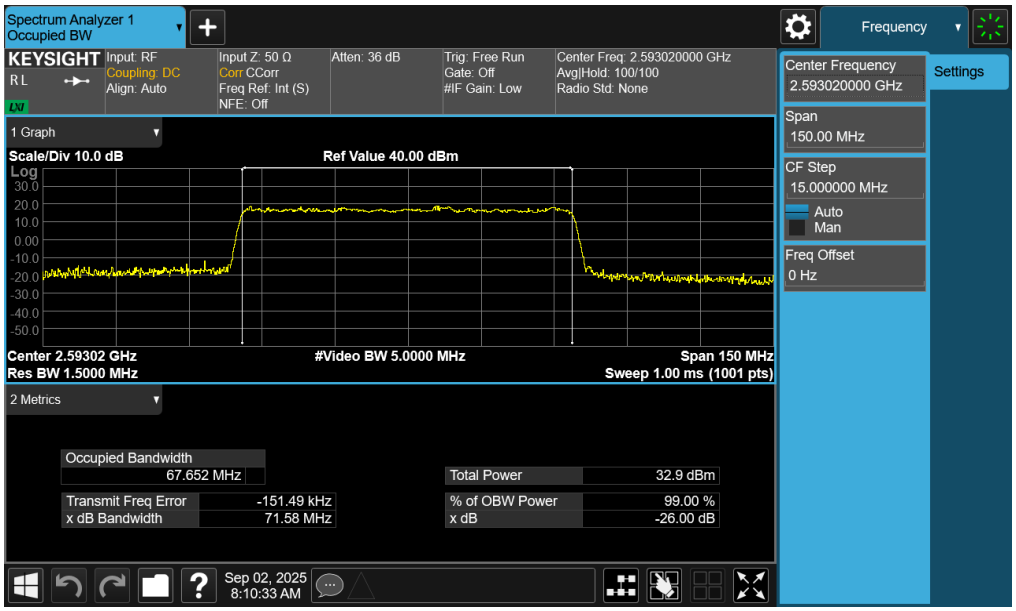


Plot 7-64. Occupied Bandwidth Plot (NR Band n41 PC2 – 70MHz QPSK – Full RB – Default – Ant1)



Plot 7-65. Occupied Bandwidth Plot (NR Band n41 PC2 – 70MHz 16-QAM – Full RB – Default – Ant1)

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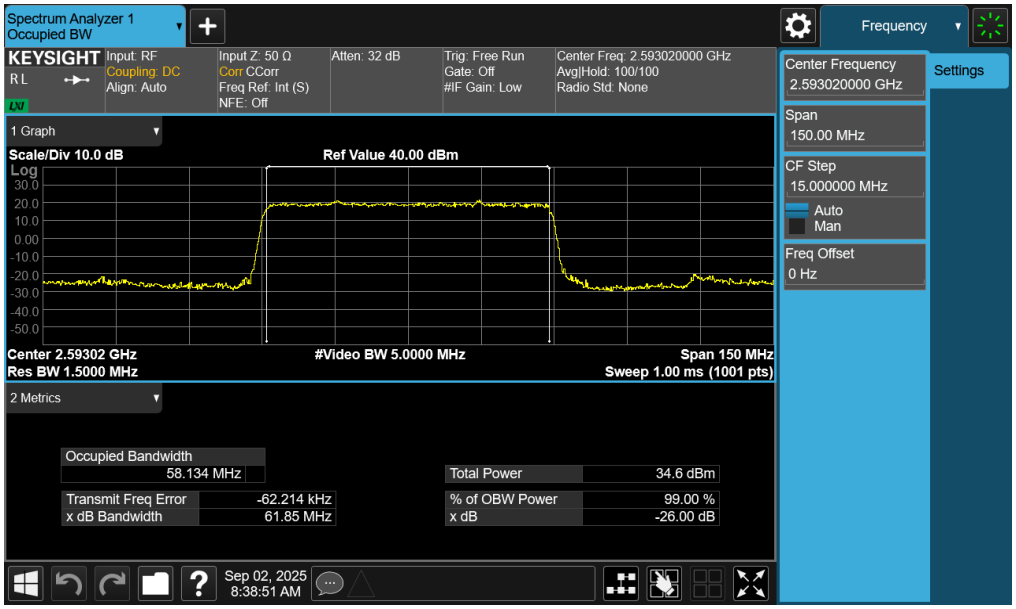
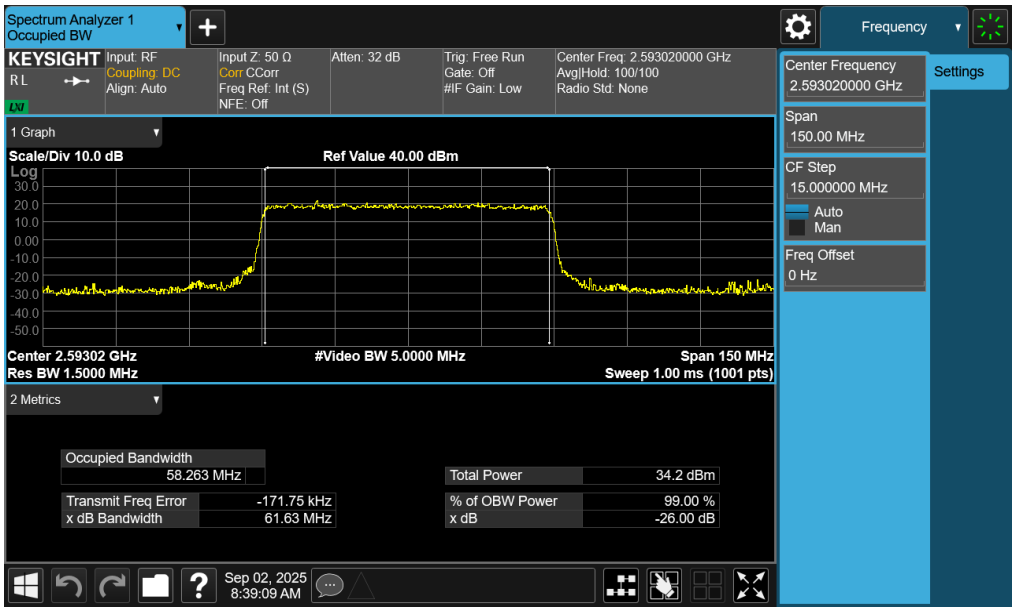


Plot 7-66. Occupied Bandwidth Plot (NR Band n41 PC2 – 60MHz π/2 BPSK – Full RB – Default – Ant1)



Plot 7-67. Occupied Bandwidth Plot (NR Band n41 PC2 – 60MHz QPSK – Full RB – Default – Ant1)

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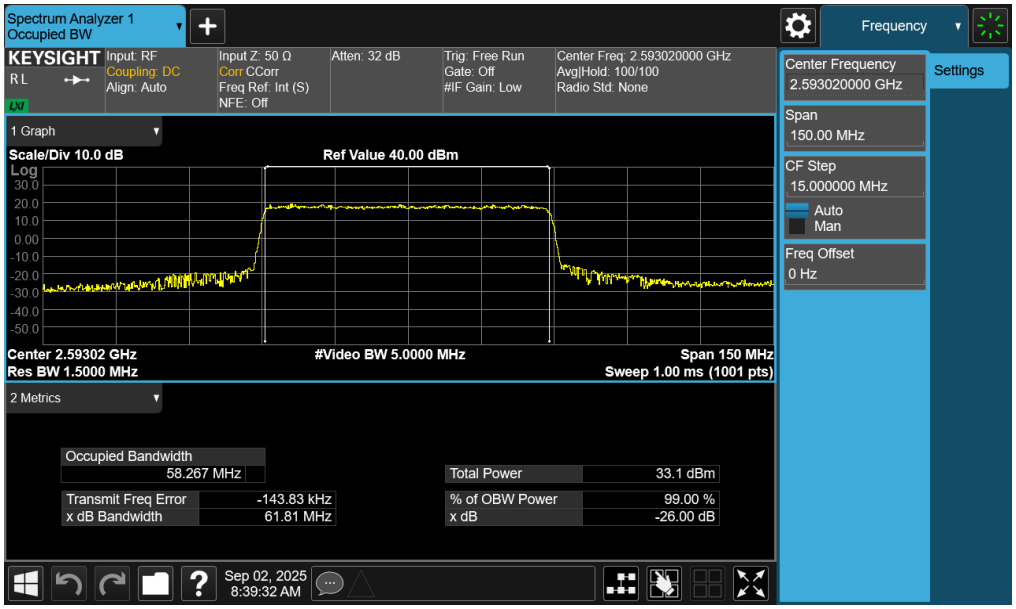
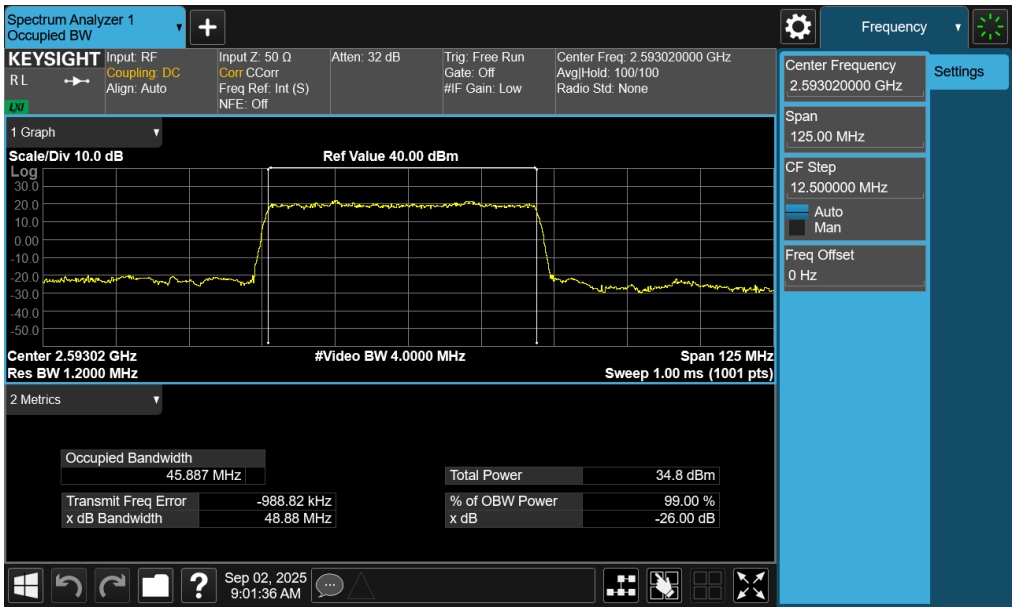


Plot 7-68. Occupied Bandwidth Plot (NR Band n41 PC2 – 60MHz 16-QAM – Full RB – Default – Ant1)



Plot 7-69. Occupied Bandwidth Plot (NR Band n41 PC2 – 50MHz π/2 BPSK – Full RB – Default – Ant1)

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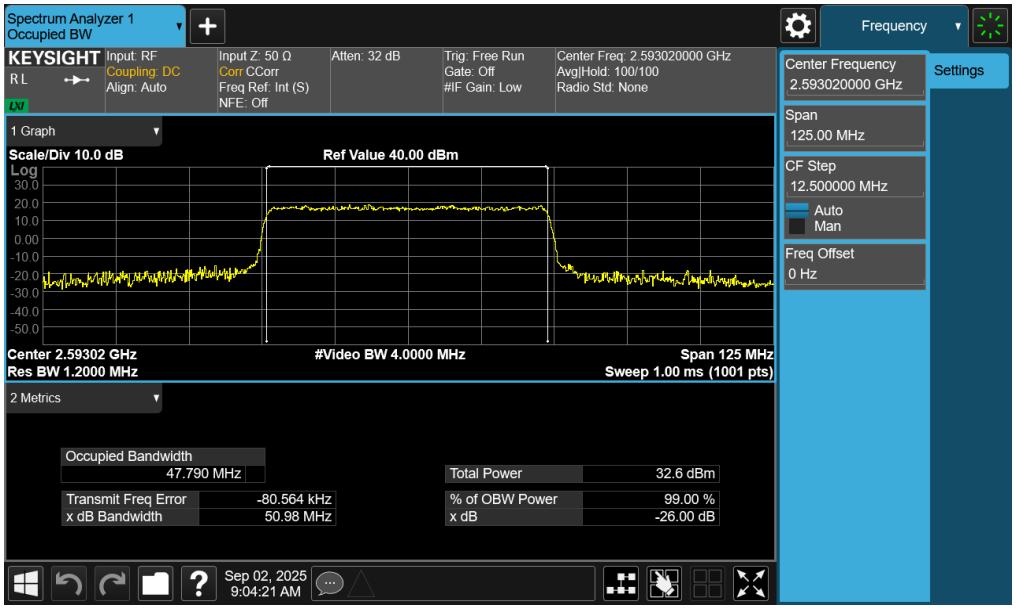
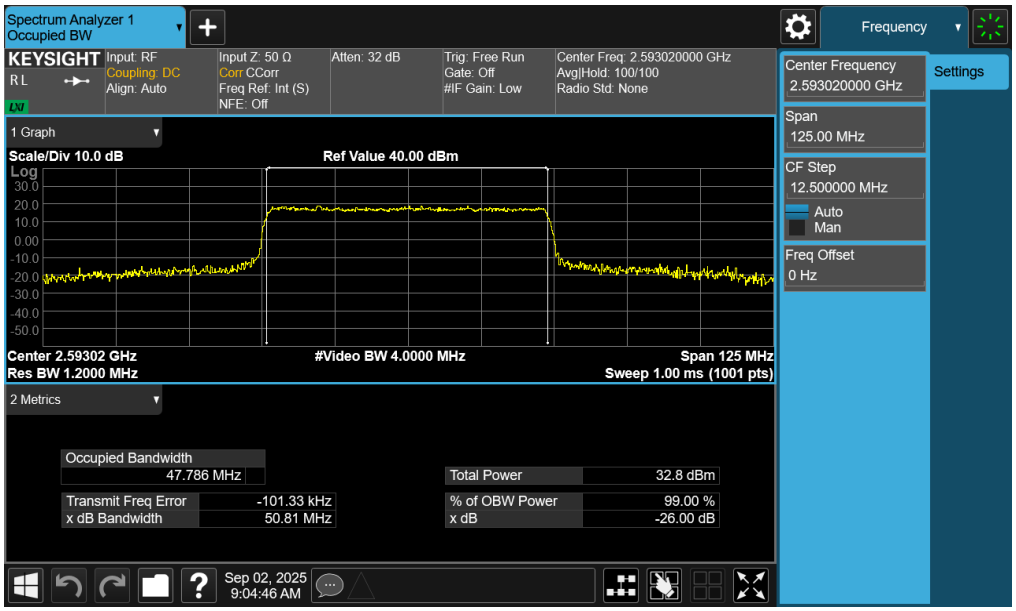


Plot 7-70. Occupied Bandwidth Plot (NR Band n41 PC2 – 50MHz QPSK – Full RB – Default – Ant1)



Plot 7-71. Occupied Bandwidth Plot (NR Band n41 PC2 – 50MHz 16-QAM – Full RB – Default – Ant1)

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