

9.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §27.53 and 90.691

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

Part 27.53:

(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB.

(h) The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.

(m) (4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

(l)(2) For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(n)(2) For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Part 90.691(a):

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10}(f/6.1)$ decibels or $50 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz. (NOTE : Use 100kHz reference bandwidth)

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

- a) Set the RBW = 100KHz for emission below 1GHz and 1MHz for emissions above 1GHz
(Tests were performed 1MHz [Worst case], to sweep 1 time for all frequency range)
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = auto couple;
- e) Detector = rms;
- f) Ensure that the number of measurement points = Max (40001);
- g) Trace mode = average(WCDMA, LTE FDD, 5G NR FDD), Max hold(GSM, LTE TDD, 5G NR TDD);

RESULTS

See the following pages.

NOTE1

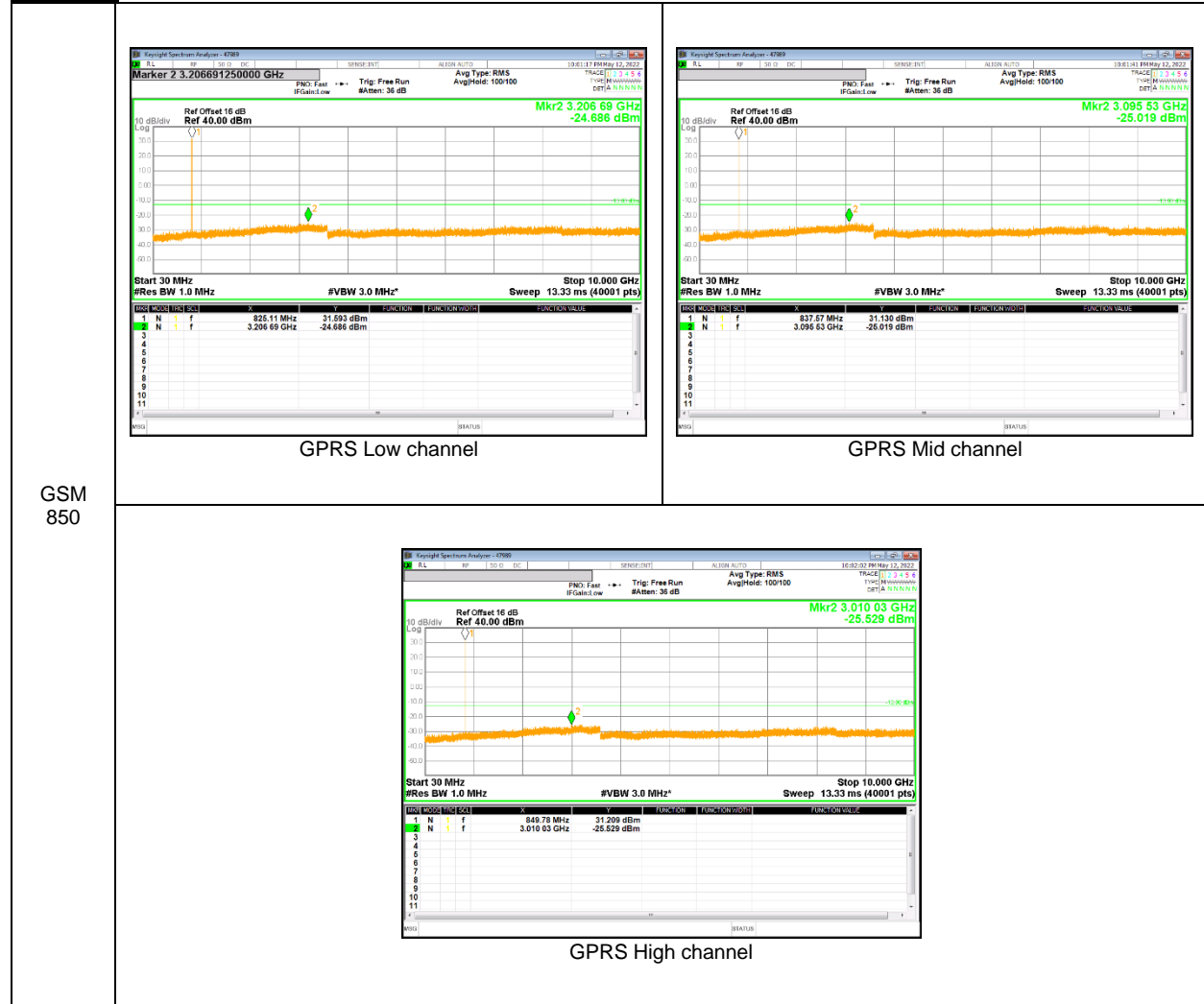
5G NR: All Waveforms (CP-OFDM vs DFT-s OFDM) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

NOTE2

Please refer to section 5.4 for bandwidth and RB setting about LTE, 5G NR Band.

9.3.1. OUT OF BAND EMISSIONS RESULT

GSM 850



GSM 1900



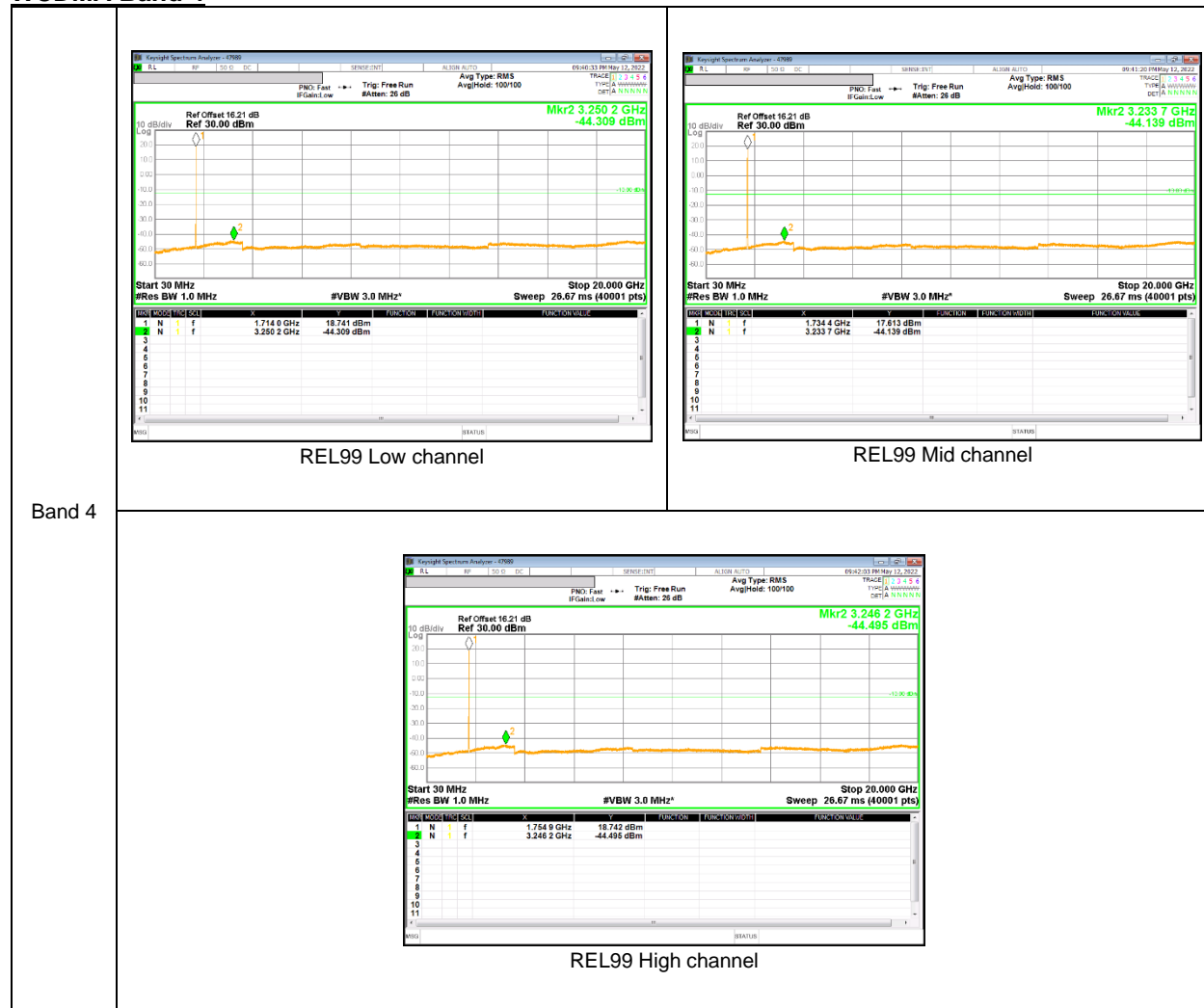
GSM
1900

WCDMA Band 5



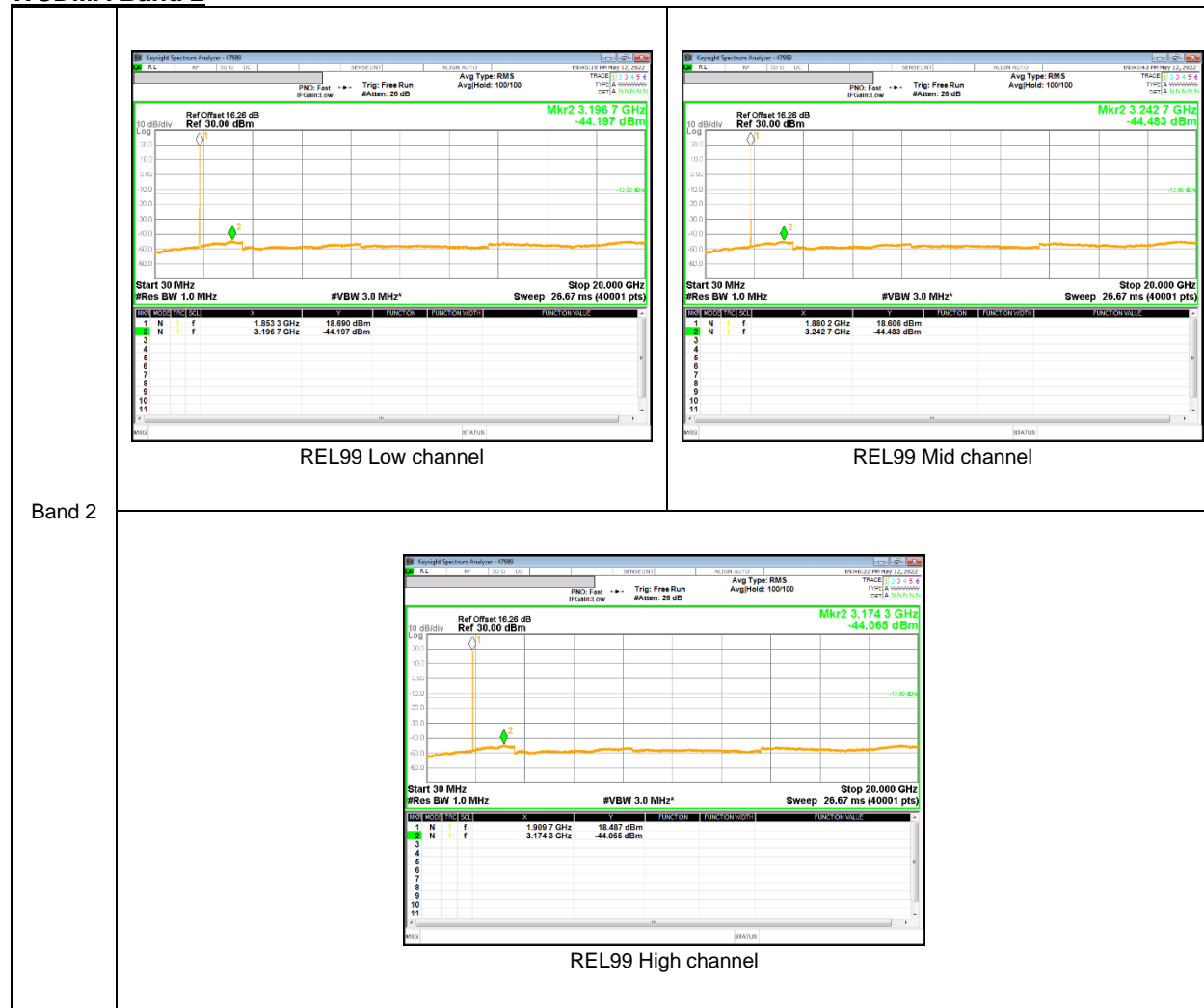
Band 5

WCDMA Band 4

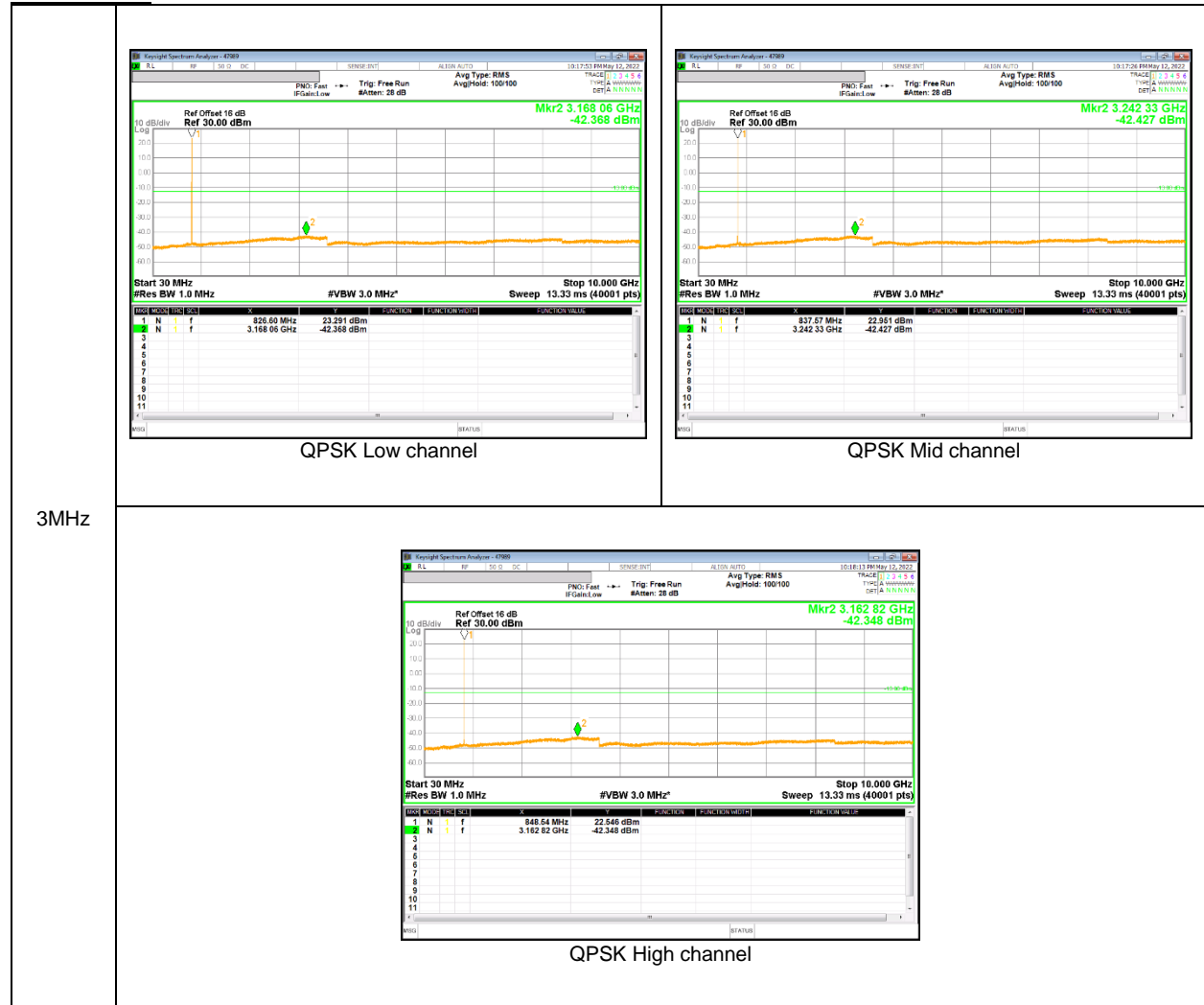


Band 4

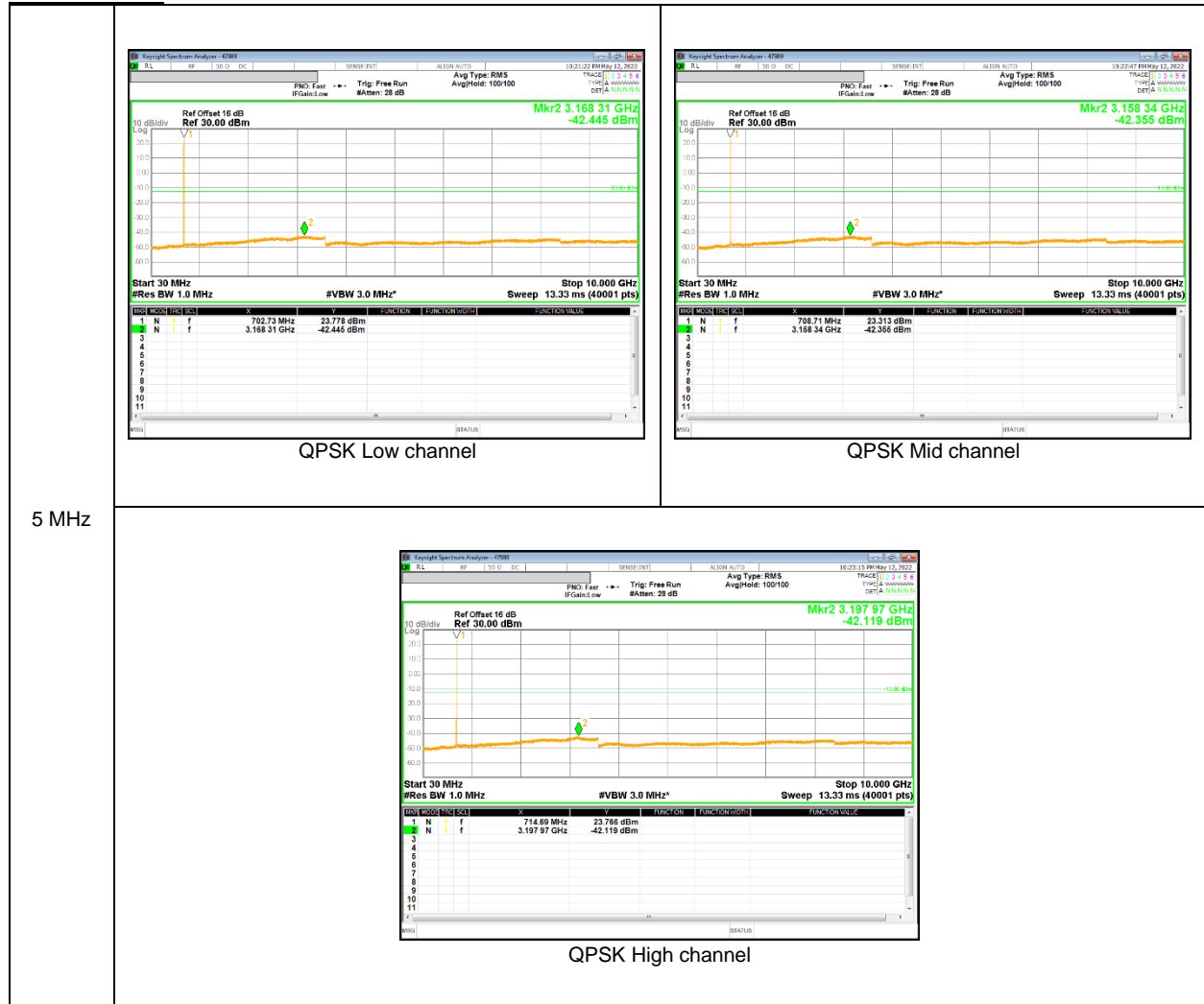
WCDMA Band 2



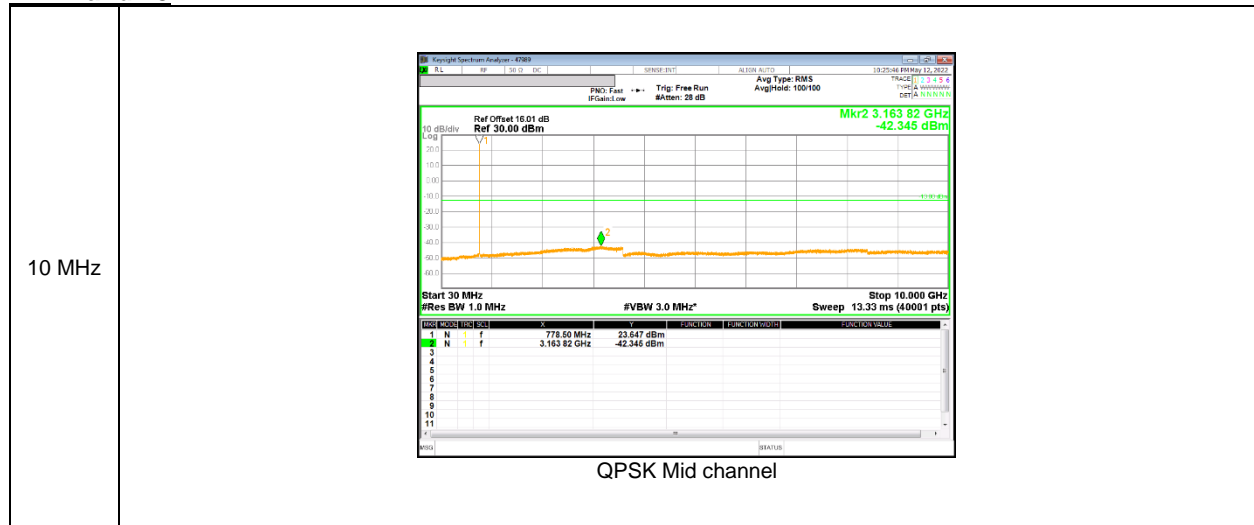
LTE Band 5



LTE Band 12



LTE Band 13



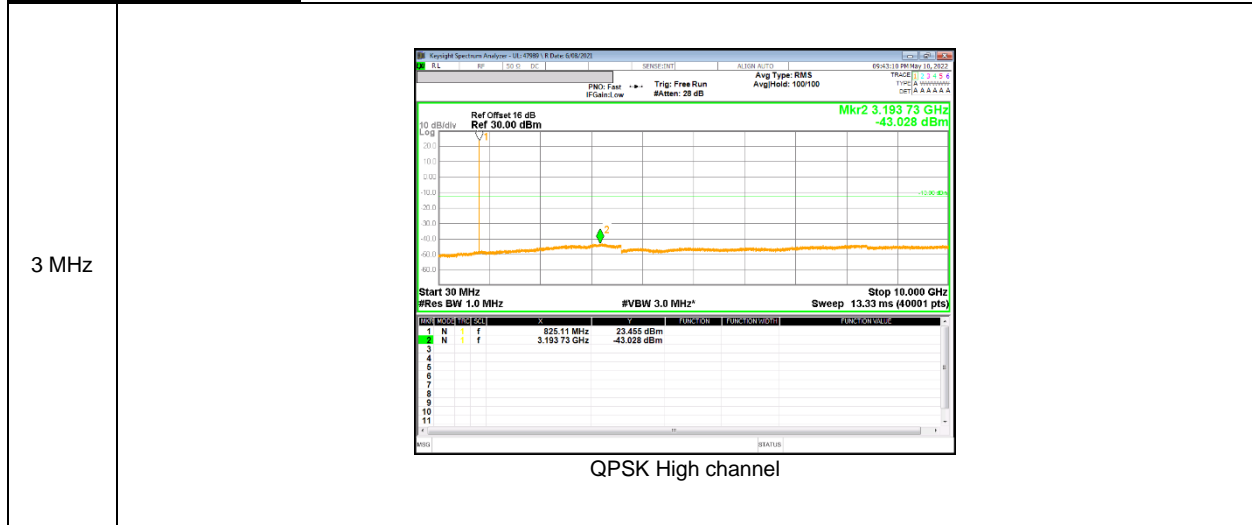
LTE Band 25



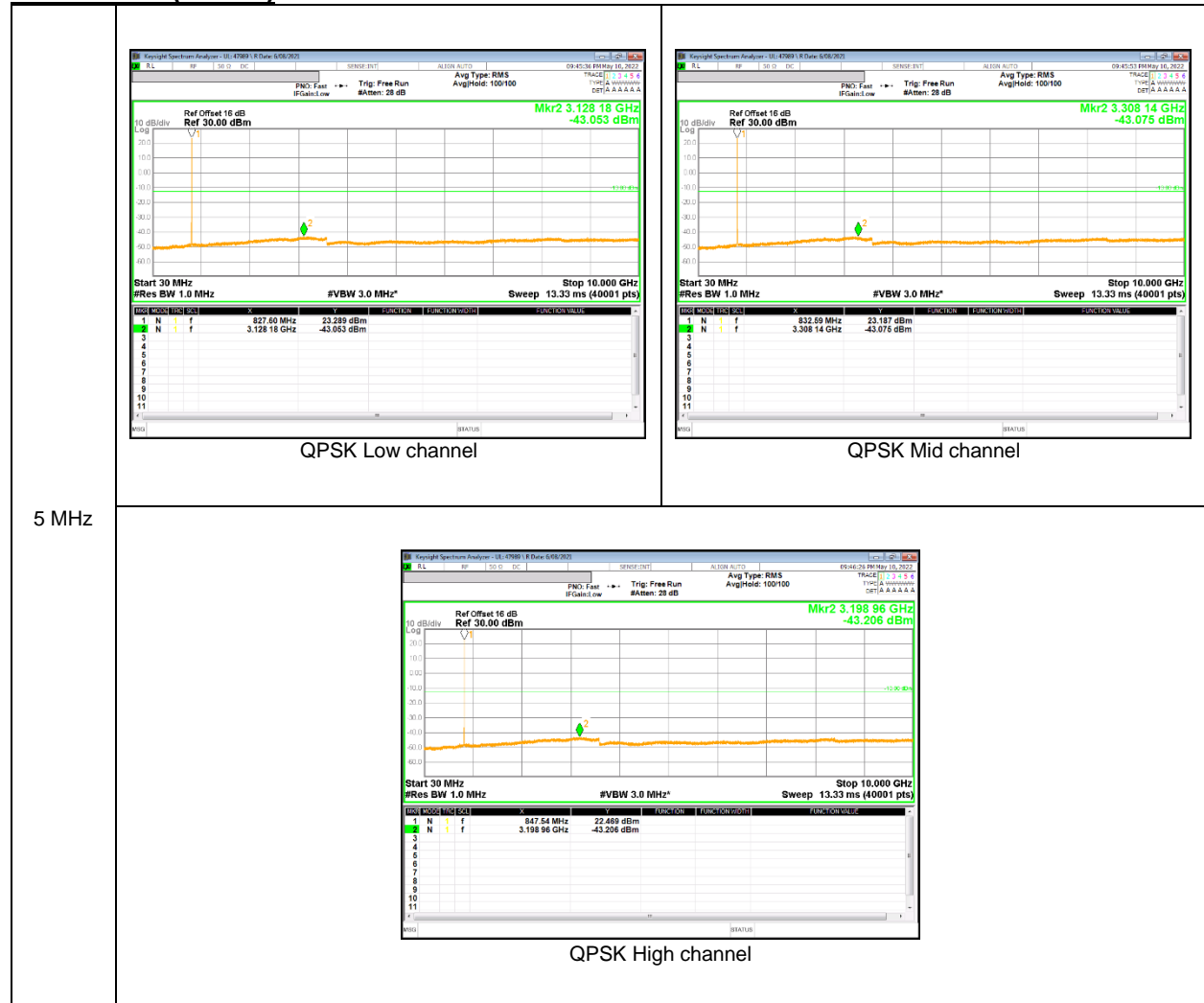
LTE Band 26(Part 90)



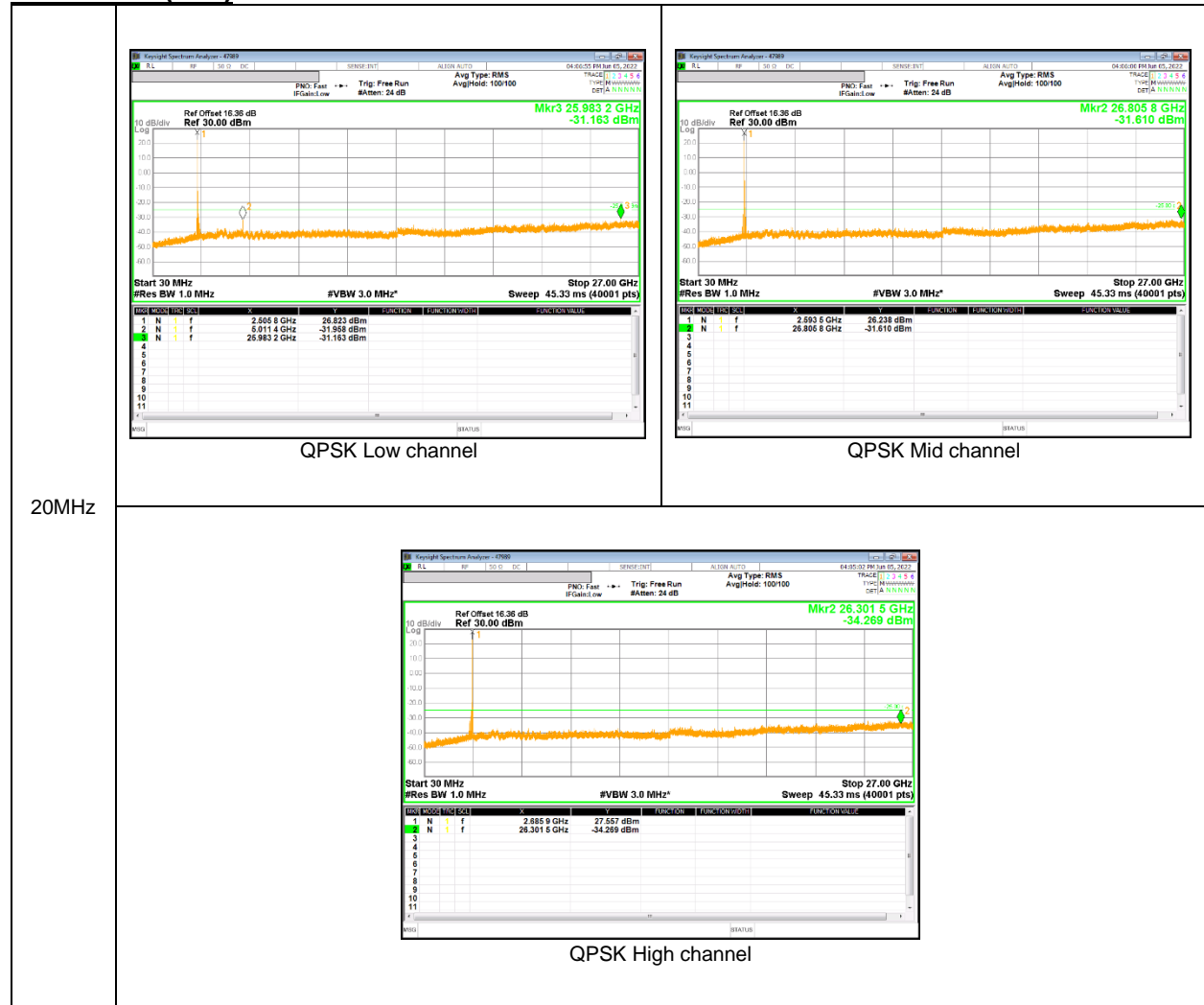
LTE Band 26 (Straddle)



LTE Band 26 (Part 22)



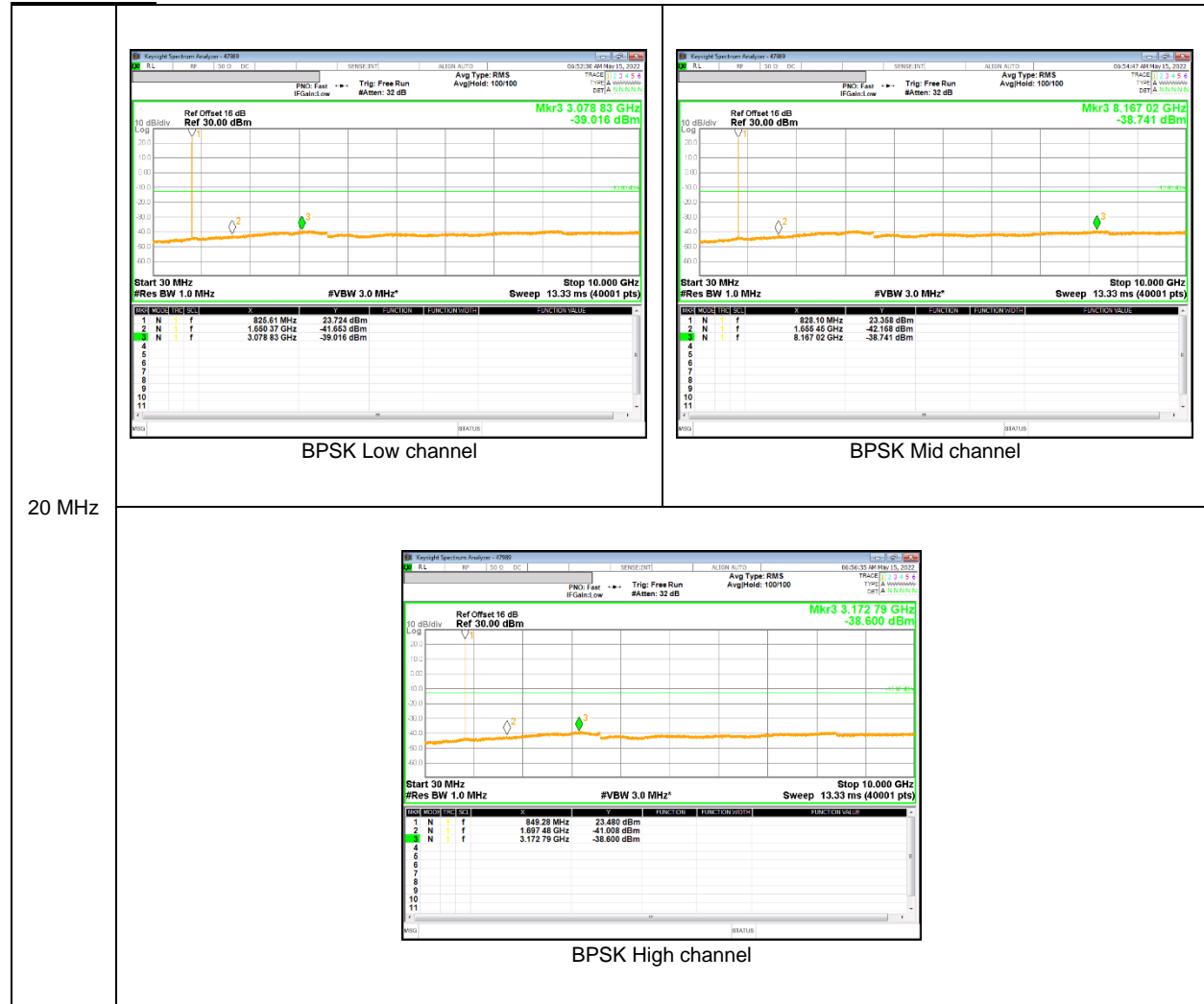
LTE Band 41(PC2)



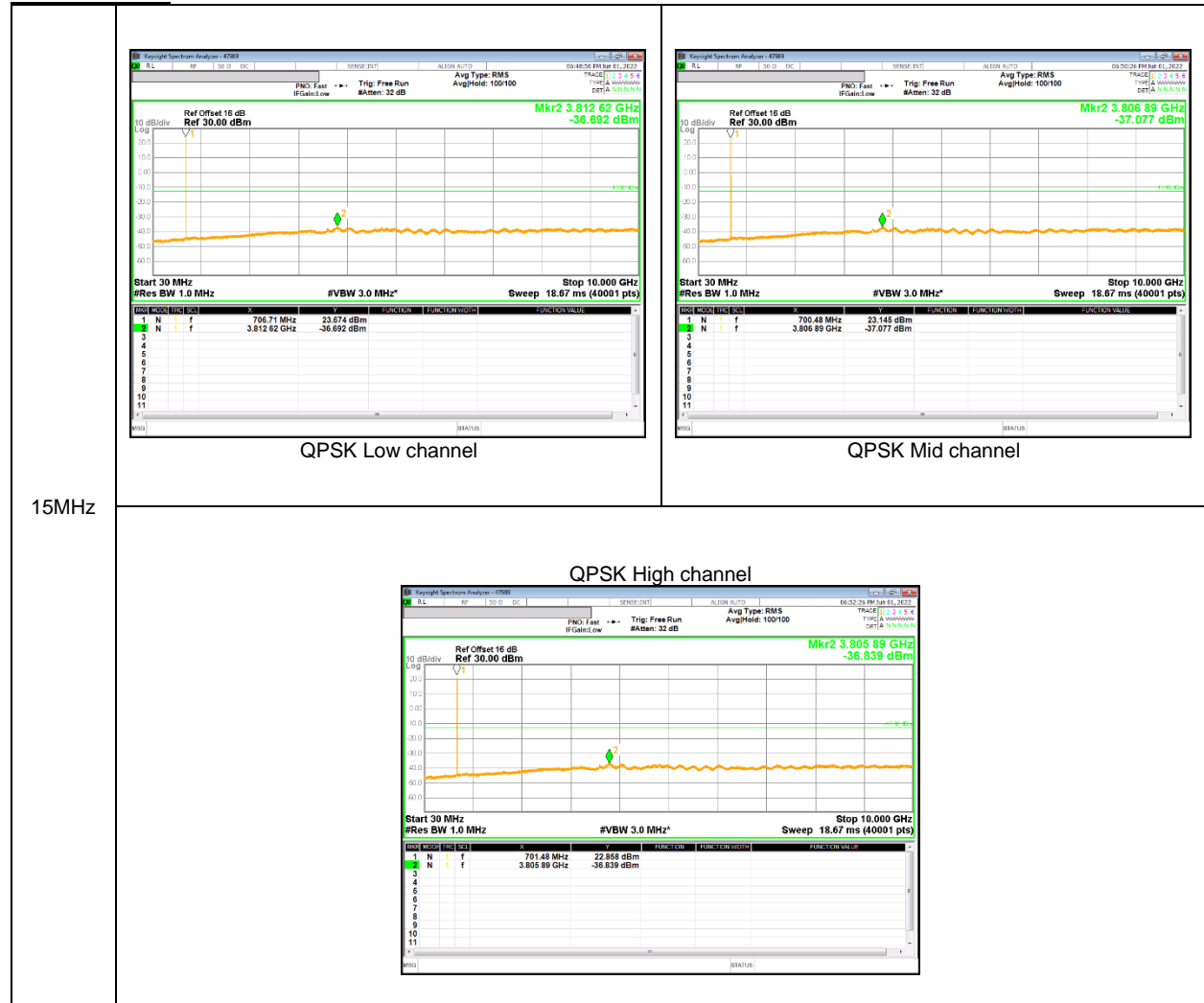
LTE Band 66



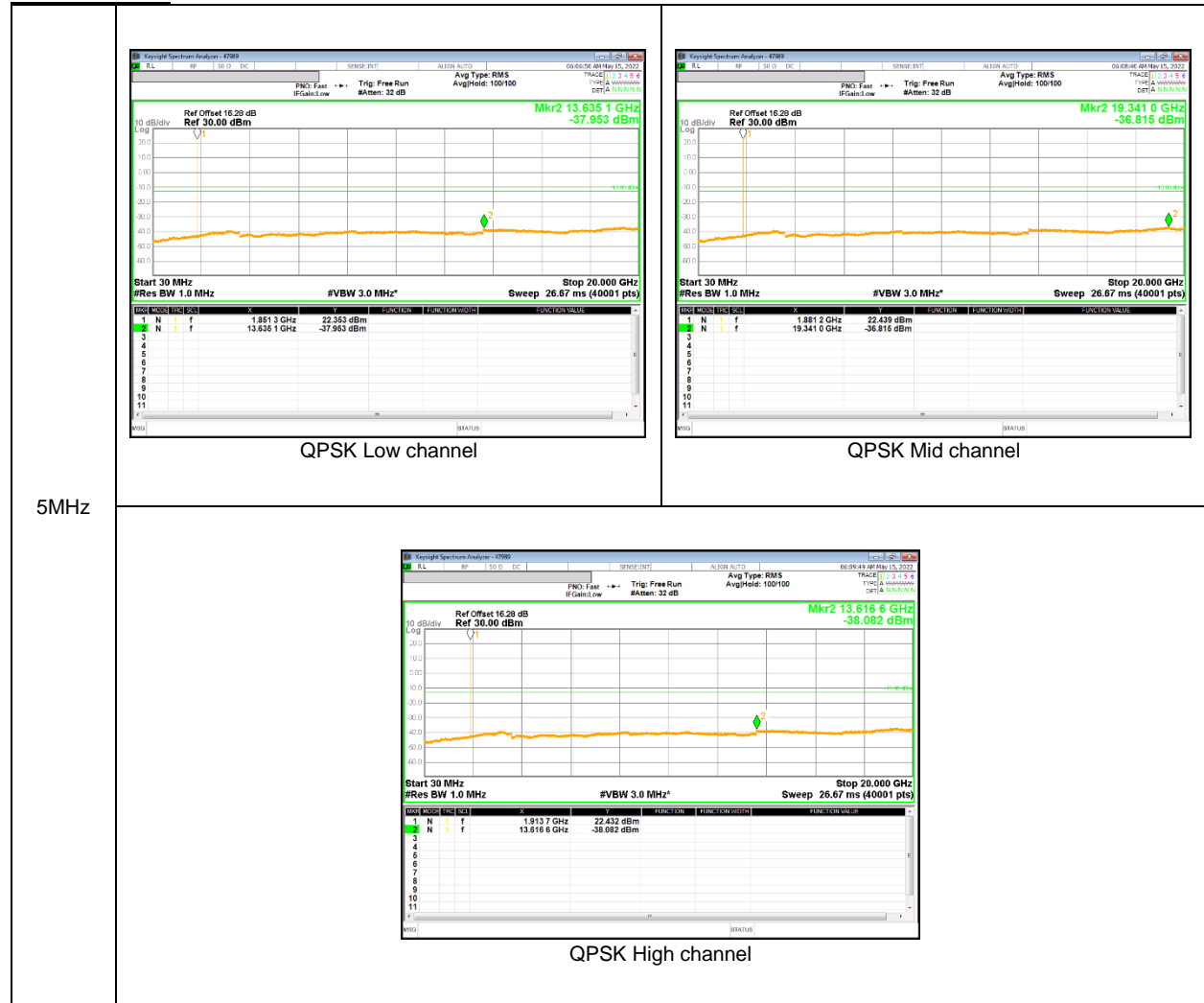
NR Band n5



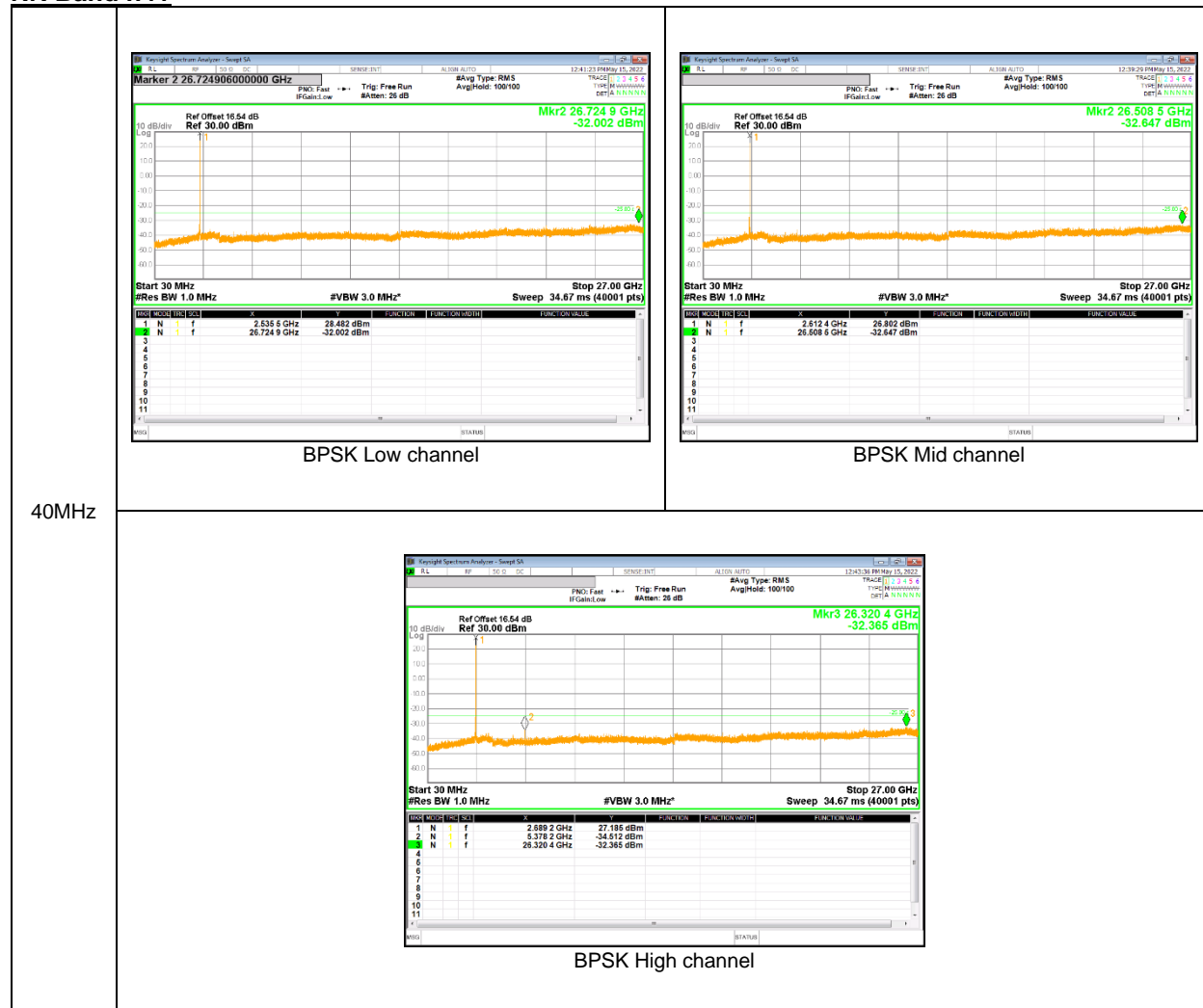
NR Band n12



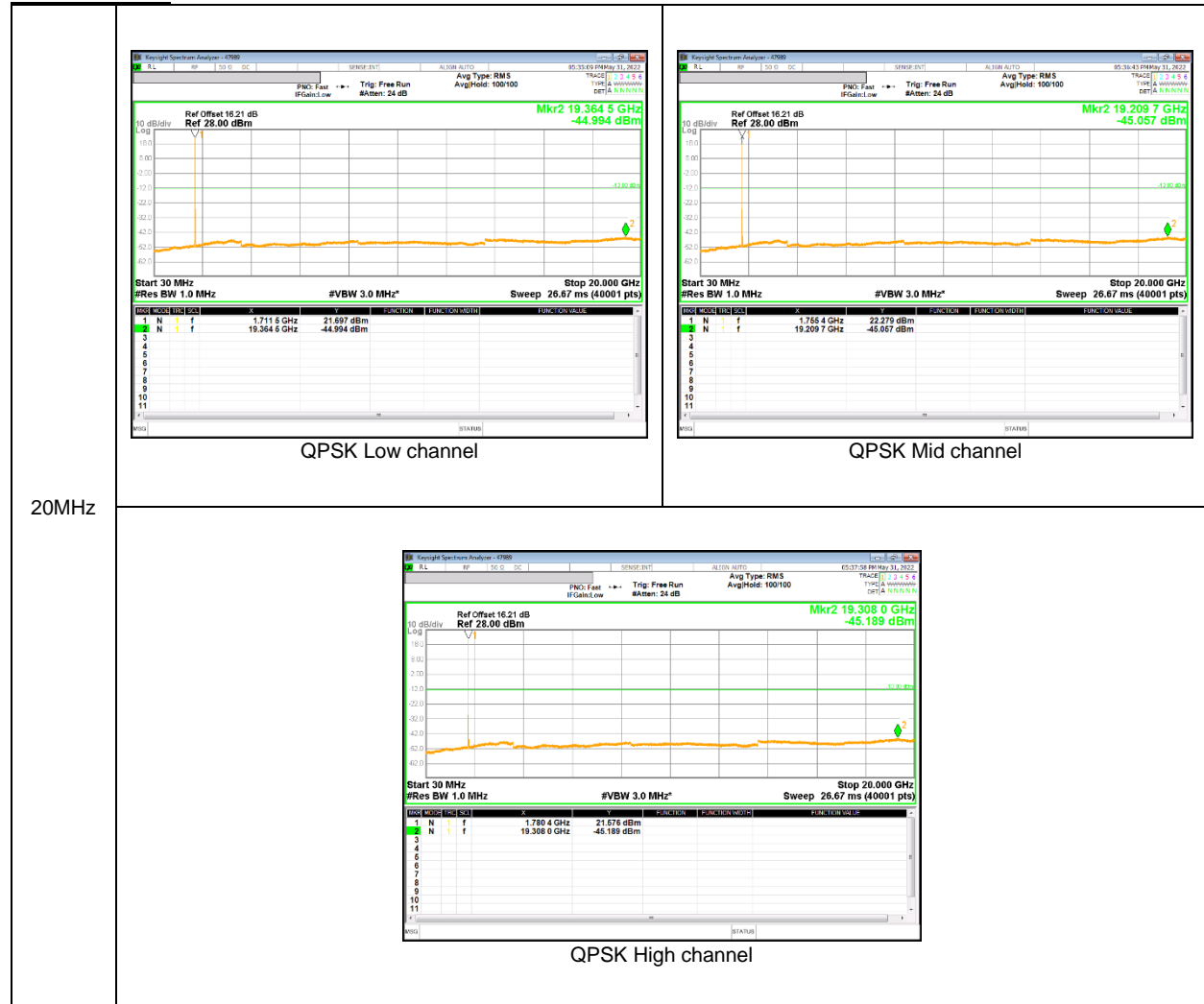
NR Band n25



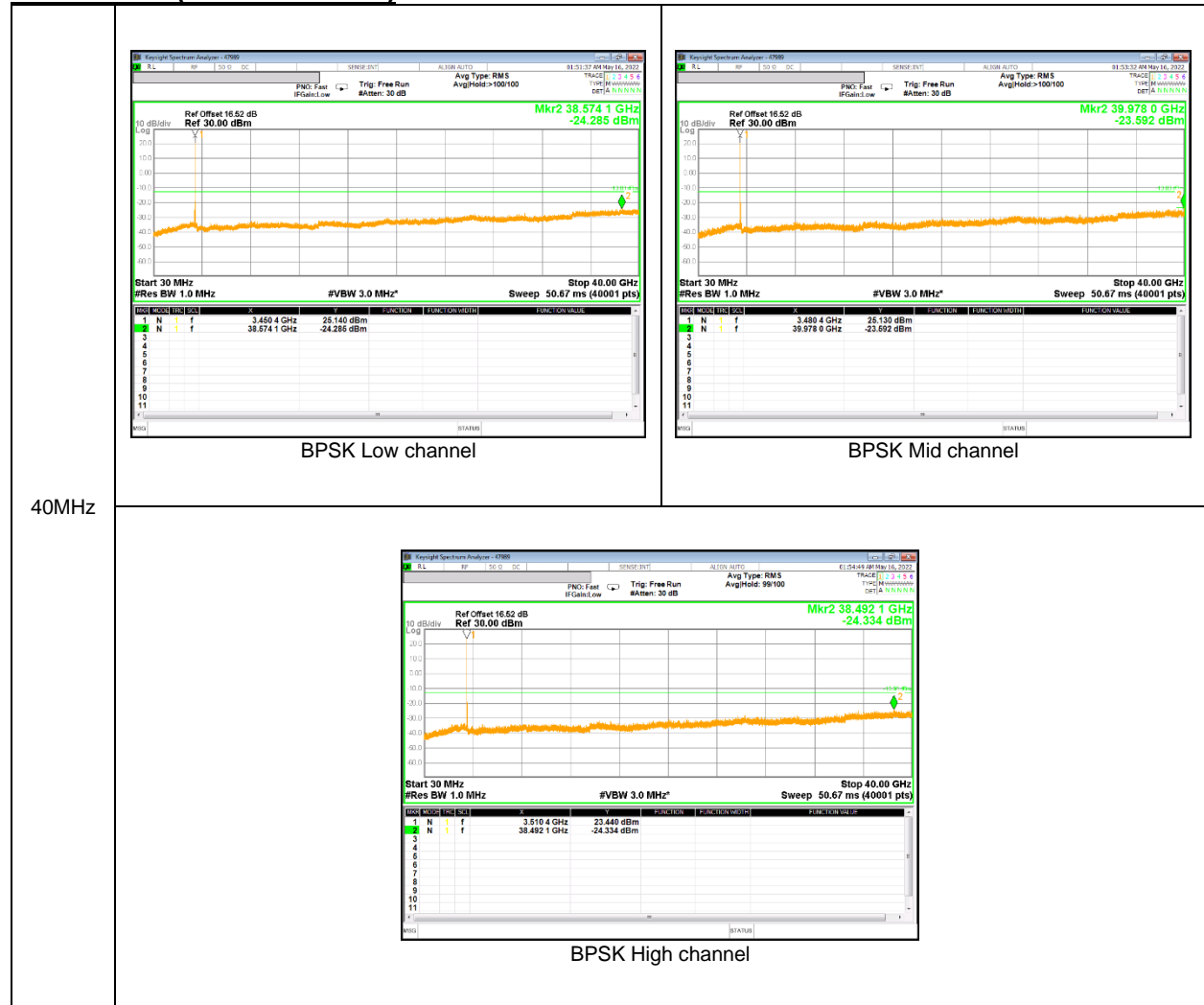
NR Band n41



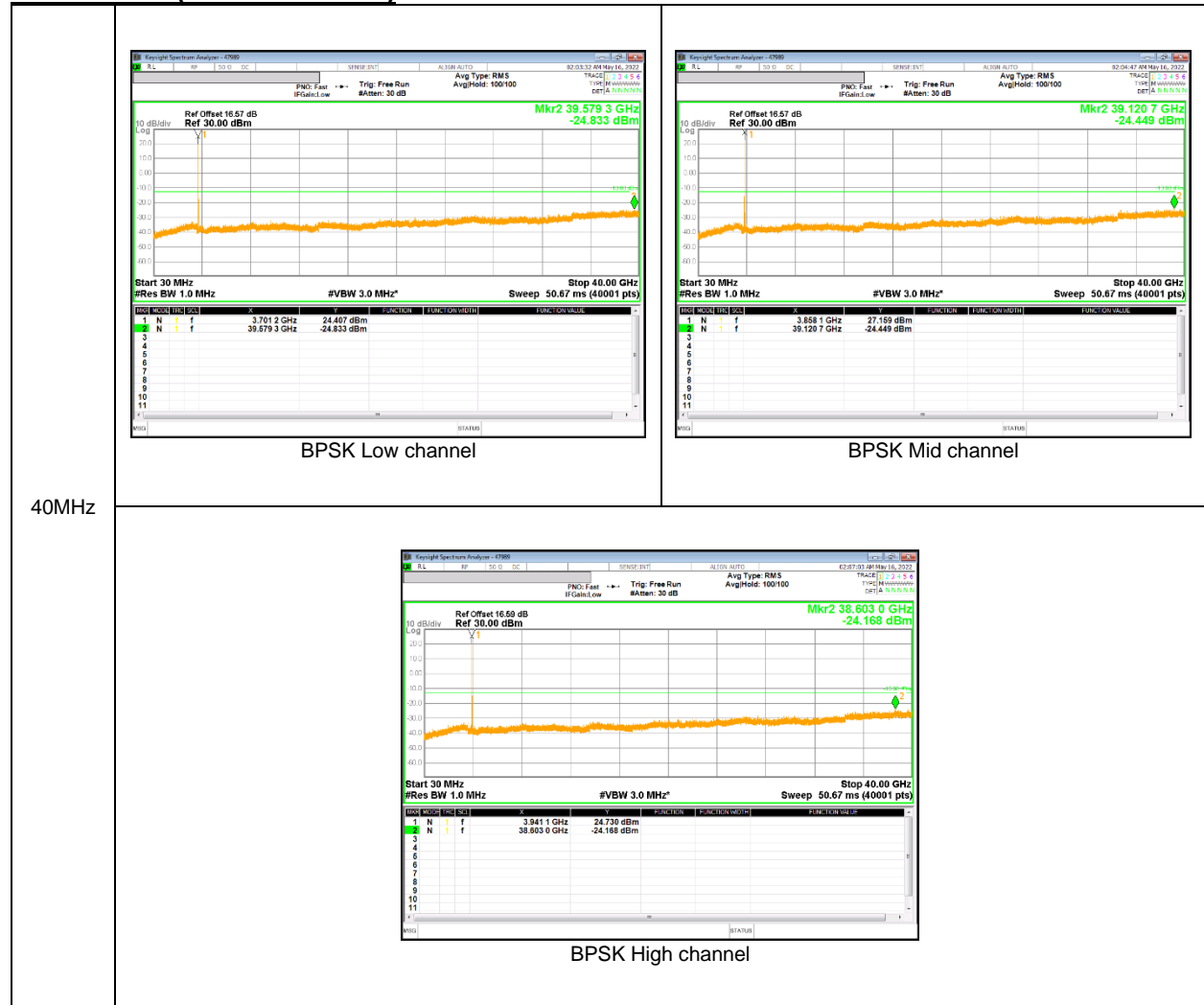
NR Band n66



NR Band n77 (3450 – 3550 MHz)



NR Band n77 (3700 – 3980 MHz)



9.4. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.54 and §90.213

LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations.

§24.235 - The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

§27.54 - The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

§90.213 - The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01

RESULTS

See the following pages.

NOTE

Test were performed each lowest or highest frequency on the modulation condition of more wide bandwidth. (Please refer to section 9.1.1 OBW results)

9.4.1. FREQUENCY STABILITY RESULTS

GSM 850, Channel 128/251, Frequency 824.2/848.8 MHz

Reference Frequency : GSM850 Low Channel 824.2 MHz / High Channel 848.8 MHz @ 20°C							
Limit: +- 2.5 ppm =		Low Channel	2060.500	Hz	High Channel	2122.000	Hz
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				Limit [ppm]	
		Low Channel		High Channel			
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]		
3.88	50	824.20003283	0.002	848.80003251	0.001	2.5	
3.88	40	824.20003199	0.003	848.80003324	0.000	2.5	
3.88	30	824.20002760	0.008	848.80003188	0.002	2.5	
3.88	20	824.20003450	0.000	848.80003340	0.000	2.5	
3.88	10	824.20003674	-0.003	848.80004008	-0.008	2.5	
3.88	0	824.20003629	-0.002	848.80003929	-0.007	2.5	
3.88	-10	824.20003892	-0.005	848.80003306	0.000	2.5	
3.88	-20	824.20003390	0.001	848.80003327	0.000	2.5	
3.88	-30	824.20003237	0.003	848.80003116	0.003	2.5	

Reference Frequency : GSM850 Low Channel 824.2 MHz / High Channel 848.8 MHz @ 20°C							
Limit: +- 2.5 ppm =		Low Channel	2060.500	Hz	High Channel	2122.000	Hz
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				Limit [ppm]	
		Low Channel		High Channel			
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]		
3.88	20	824.20003450	0	848.80003340	0	2.5	
4.40	20	824.20003007	0.005	848.80003016	0.004	2.5	
3.70	20	824.20003297	0.002	848.80004924	-0.019	2.5	

GSM 1900, Channel 512/810, Frequency 1850.0/1910.0 MHz
(Lowest Frequency:GPRS / Highest Frequency: EGPRS)

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW (MHz)	F high @ End of OBW (MHz)		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1850.0788	1909.9238		
Extreme (50C)		1850.0788	1909.9238	33.8	0.018
Extreme (40C)		1850.0788	1909.9238	35.2	0.019
Extreme (30C)		1850.0788	1909.9238	38.4	0.020
Extreme (10C)		1850.0788	1909.9238	39.8	0.021
Extreme (0C)		1850.0788	1909.9238	42.3	0.023
Extreme (-10C)		1850.0788	1909.9238	39.8	0.021
Extreme (-20C)		1850.0788	1909.9238	42.8	0.023
Extreme (-30C)		1850.0788	1909.9238	37.8	0.020
20C		15%	1850.0788	1909.9238	36.8
	-15%	1850.0788	1909.9238	35.3	0.019
	End Point	1850.0788	1909.9238	32.9	0.017

WCDMA Band 5

Reference Frequency : WCDMA Band 5 Low Channel 826.4 MHz / High Channel 846.6 MHz @ 20°C							
Limit: +- 2.5 ppm =		Low Channel	2066.000	Hz	High Channel	2116.500	Hz
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				Limit [ppm]	
		Low Channel		High Channel			
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]		
3.88	50	826.40002638	-0.007	846.60002980	-0.014	2.5	
3.88	40	826.40003128	-0.013	846.60003060	-0.014	2.5	
3.88	30	826.40003091	-0.012	846.60003185	-0.016	2.5	
3.88	20	826.40002064	0.000	846.60001837	0.000	2.5	
3.88	10	826.40002058	0.000	846.60001920	-0.001	2.5	
3.88	0	826.40002426	-0.004	846.60002525	-0.008	2.5	
3.88	-10	826.40002623	-0.007	846.60002968	-0.013	2.5	
3.88	-20	826.40002815	-0.009	846.60003018	-0.014	2.5	
3.88	-30	826.40003018	-0.012	846.60003058	-0.014	2.5	

Reference Frequency : WCDMA Band 5 Low Channel 826.4 MHz / High Channel 846.6 MHz @ 20°C							
Limit: +- 2.5 ppm =		Low Channel	2066.000	Hz	High Channel	2116.500	Hz
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				Limit [ppm]	
		Low Channel		High Channel			
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]		
3.88	20	826.40002064	0	846.60001837	0	2.5	
4.40	20	826.40000502	0.019	846.60000611	0.014	2.5	
3.70	20	826.40000528	0.019	846.60000516	0.016	2.5	

WCDMA Band 4 (Lowest Frequency: Rel99/ Highest Frequency: Rel99)

Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1710.3268	1754.6831		
Extreme (50C)		1710.3268	1754.6831	18.6	0.011
Extreme (40C)		1710.3268	1754.6831	19.2	0.011
Extreme (30C)		1710.3268	1754.6831	16.7	0.010
Extreme (10C)		1710.3268	1754.6831	17.5	0.010
Extreme (0C)		1710.3268	1754.6831	18.2	0.010
Extreme (-10C)		1710.3268	1754.6831	19.1	0.011
Extreme (-20C)		1710.3268	1754.6831	20.2	0.012
Extreme (-30C)		1710.3268	1754.6831	21.7	0.013
20C	15%	1710.3268	1754.6831	14.5	0.008
	-15%	1710.3268	1754.6831	12.7	0.007
	End Point	1710.3268	1754.6831	14.9	0.009

WCDMA Band 2 (Lowest Frequency: Rel99/ Highest Frequency: Rel99)

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1850.3167	1909.6867	32.6	0.017
Extreme (50C)		1850.3167	1909.6867		
Extreme (40C)		1850.3167	1909.6867		
Extreme (30C)		1850.3167	1909.6867		
Extreme (10C)		1850.3167	1909.6867		
Extreme (0C)		1850.3167	1909.6867		
Extreme (-10C)		1850.3167	1909.6867		
Extreme (-20C)		1850.3167	1909.6867		
Extreme (-30C)		1850.3167	1909.6867		
20C		15%	1850.3167		
	-15%	1850.3167	1909.6867	8.9	0.005
	End Point	1850.3167	1909.6867	7.9	0.004

LTE Band 5

Reference Frequency : LTE Band 5 Low Channel 824.7 MHz / High Channel 848.3 MHz @ 20°C							
Limit: +/- 2.5 ppm =		Low Channel	2061.750	Hz	High Channel	2120.750	Hz
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				Limit [ppm]	
		Low Channel		High Channel			
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]		
3.88	50	824.70003058	-0.001	848.30002918	-0.005	2.5	
3.88	40	824.70003028	-0.001	848.30003128	-0.007	2.5	
3.88	30	824.70002822	0.001	848.30002427	0.001	2.5	
3.88	20	824.70002936	0.000	848.30002536	0.000	2.5	
3.88	10	824.70001343	0.019	848.30002501	0.000	2.5	
3.88	0	824.70002727	0.003	848.30001718	0.010	2.5	
3.88	-10	824.70003028	-0.001	848.30001758	0.009	2.5	
3.88	-20	824.70003171	-0.003	848.30002910	-0.004	2.5	
3.88	-30	824.70003263	-0.004	848.30003058	-0.006	2.5	

Reference Frequency : LTE Band 5 Low Channel 824.7 MHz / High Channel 848.3 MHz @ 20°C							
Limit: +/- 2.5 ppm =		Low Channel	2061.750	Hz	High Channel	2120.750	Hz
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				Limit [ppm]	
		Low Channel		High Channel			
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]		
3.88	20	824.70002936	0	848.30002536	0	2.5	
4.40	20	824.70000497	0.030	848.30000993	0.018	2.5	
3.70	20	824.70000417	0.031	848.30000785	0.021	2.5	

LTE Band 12 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Limit		699	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	699.1543	715.8453	16.9	0.024
Extreme (50C)		699.1543	715.8453		
Extreme (40C)		699.1543	715.8453		
Extreme (30C)		699.1543	715.8453		
Extreme (10C)		699.1543	715.8453		
Extreme (0C)		699.1543	715.8453		
Extreme (-10C)		699.1543	715.8453		
Extreme (-20C)		699.1543	715.8453		
Extreme (-30C)		699.1543	715.8453		
20C		15%	699.1543		
	-15%	699.1543	715.8453	4.5	0.006
	End Point	699.1543	715.8453	5.9	0.008

LTE Band 13 (Lowest Frequency: QPSK / Highest Frequency: QPSK)

Limit		777	787	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	777.2477	786.7484	6.9	0.009
Extreme (50C)		777.2477	786.7484		
Extreme (40C)		777.2477	786.7484		
Extreme (30C)		777.2477	786.7484		
Extreme (10C)		777.2477	786.7484		
Extreme (0C)		777.2477	786.7484		
Extreme (-10C)		777.2477	786.7484		
Extreme (-20C)		777.2477	786.7484		
Extreme (-30C)		777.2477	786.7484		
20C		15%	777.2477		
	-15%	777.2477	786.7484	3.7	0.005
	End Point	777.2477	786.7484	5.0	0.006

LTE Band 25 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Limit		1850	1915	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW (MHz)	F high @ End of OBW (MHz)		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1850.1534	1914.8450	18.5	0.010
Extreme (50C)		1850.1534	1914.8450		
Extreme (40C)		1850.1534	1914.8450		
Extreme (30C)		1850.1534	1914.8450		
Extreme (10C)		1850.1534	1914.8450		
Extreme (0C)		1850.1534	1914.8450		
Extreme (-10C)		1850.1534	1914.8450		
Extreme (-20C)		1850.1534	1914.8450		
Extreme (-30C)		1850.1534	1914.8450		
20C		15%	1850.1534		
	-15%	1850.1534	1914.8450	46.7	0.025
	End Point	1850.1534	1914.8450	51.7	0.027

LTE Band 26

Reference Frequency : LTE Band 26 Low Channel 814.7 MHz / High Channel 848.3 MHz @ 20°C						
Limit: +- 2.5 ppm =		Low Channel	2036.750 Hz	High Channel	2120.750 Hz	
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				Limit [ppm]
		Low Channel		High Channel		
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]	
3.88	50	814.70002701	0.002	848.30002480	0.003	2.5
3.88	40	814.70002218	0.007	848.30002150	0.007	2.5
3.88	30	814.70002318	0.006	848.30002268	0.006	2.5
3.88	20	814.70002829	0.000	848.30002762	0.000	2.5
3.88	10	814.70002953	-0.002	848.30002791	0.000	2.5
3.88	0	814.70001286	0.019	848.30000720	0.024	2.5
3.88	-10	814.70001047	0.022	848.30001618	0.013	2.5
3.88	-20	814.70001928	0.011	848.30001850	0.011	2.5
3.88	-30	814.70002304	0.006	848.30002231	0.006	2.5

Reference Frequency : LTE Band 26 Low Channel 814.7 MHz / High Channel 848.3 MHz @ 20°C						
Limit: +- 2.5 ppm =		Low Channel	2036.750 Hz	High Channel	2120.750 Hz	
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				Limit [ppm]
		Low Channel		High Channel		
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]	
3.88	20	814.70002829	0	848.30002762	0	2.5
4.40	20	814.70000520	0.028	848.30001968	0.009	2.5
3.70	20	814.70000504	0.029	848.30001812	0.011	2.5

LTE Band 41(PC2) (Lowest Frequency: 16QAM / Highest Frequency: QPSK)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2496.2547	2689.7455		
Extreme (50C)		2496.2547	2689.7455	27.9	0.011
Extreme (40C)		2496.2547	2689.7455	29.6	0.011
Extreme (30C)		2496.2547	2689.7455	31.2	0.012
Extreme (10C)		2496.2547	2689.7455	27.2	0.010
Extreme (0C)		2496.2547	2689.7455	29.6	0.011
Extreme (-10C)		2496.2547	2689.7455	30.0	0.012
Extreme (-20C)		2496.2547	2689.7455	26.2	0.010
Extreme (-30C)		2496.2547	2689.7455	27.3	0.011
20C	15%	2496.2547	2689.7455	24.1	0.009
	-15%	2496.2547	2689.7455	31.2	0.012
	End Point	2496.2547	2689.7455	24.4	0.009

LTE Band 66 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Limit		1710	1780	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1710.6995	1779.3005		
Extreme (50C)		1710.6995	1779.3006	30.6	0.018
Extreme (40C)		1710.6995	1779.3006	19.2	0.011
Extreme (30C)		1710.6995	1779.3006	18.5	0.011
Extreme (10C)		1710.6995	1779.3006	24.0	0.014
Extreme (0C)		1710.6995	1779.3006	38.7	0.022
Extreme (-10C)		1710.6995	1779.3006	30.6	0.018
Extreme (-20C)		1710.6995	1779.3006	31.6	0.018
Extreme (-30C)		1710.6995	1779.3006	30.4	0.017
20C	15%	1710.6995	1779.3006	25.3	0.015
	-15%	1710.6995	1779.3006	17.9	0.010
	End Point	1710.6995	1779.3006	7.9	0.004

5G NR Band n5

Reference Frequency : NR n5 Low Channel 826.5 MHz / High Channel 846.5 MHz @ 20°C							
Limit: +- 2.5 ppm =		Low Channel	2066.250	Hz	High Channel	2116.250	Hz
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				Limit [ppm]	
		Low Channel		High Channel			
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]		
3.88	50	826.50002814	-0.008	846.50002610	-0.004	2.5	
3.88	40	826.50002703	-0.006	846.50002190	0.001	2.5	
3.88	30	826.50002695	-0.006	846.50002680	-0.005	2.5	
3.88	20	826.50002190	0.000	846.50002293	0.000	2.5	
3.88	10	826.50002814	-0.008	846.50002705	-0.005	2.5	
3.88	0	826.50001950	0.003	846.50002050	0.003	2.5	
3.88	-10	826.50002060	0.002	846.50002518	-0.003	2.5	
3.88	-20	826.50002138	0.001	846.50002608	-0.004	2.5	
3.88	-30	826.50002292	-0.001	846.50002348	-0.001	2.5	

Reference Frequency : NR n5 Low Channel 826.5 MHz / High Channel 846.5 MHz @ 20°C							
Limit: +- 2.5 ppm =		Low Channel	2066.250	Hz	High Channel	2116.250	Hz
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				Limit [ppm]	
		Low Channel		High Channel			
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]		
3.88	20	826.50002190	0	846.50002293	0	2.5	
4.40	20	826.50000576	0.020	846.50000762	0.018	2.5	
3.70	20	826.50000727	0.018	846.50000713	0.019	2.5	

5G NR Band n12 (Lowest Frequency:16QAM / Highest Frequency: QPSK)

Limit		699	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	697.4445	717.5404		
Extreme (50C)		697.4445	717.5404	8.3	0.012
Extreme (40C)		697.4445	717.5404	9.4	0.013
Extreme (30C)		697.4445	717.5404	10.4	0.015
Extreme (10C)		697.4445	717.5404	5.8	0.008
Extreme (0C)		697.4445	717.5404	6.9	0.010
Extreme (-10C)		697.4445	717.5404	8.1	0.012
Extreme (-20C)		697.4445	717.5404	5.5	0.008
Extreme (-30C)		697.4445	717.5404	6.9	0.010
20C	15%	697.4445	717.5404	5.1	0.007
	-15%	697.4445	717.5404	4.9	0.007
	End Point	697.4445	717.5404	7.1	0.010

5G NR Band n25 (Lowest Frequency:16QAM / Highest Frequency: QPSK)

Limit		1850	1915	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1850.2602	1914.7320		
Extreme (50C)		1850.2602	1914.7320	18.1	0.010
Extreme (40C)		1850.2602	1914.7320	15.1	0.008
Extreme (30C)		1850.2602	1914.7320	16.1	0.009
Extreme (10C)		1850.2602	1914.7320	12.8	0.007
Extreme (0C)		1850.2602	1914.7320	11.2	0.006
Extreme (-10C)		1850.2602	1914.7320	14.1	0.007
Extreme (-20C)		1850.2602	1914.7320	13.3	0.007
Extreme (-30C)		1850.2602	1914.7320	10.6	0.006
20C	15%	1850.2602	1914.7320	8.1	0.004
	-15%	1850.2602	1914.7320	7.6	0.004
	End Point	1850.2602	1914.7320	7.7	0.004

5G NR Band n41 (Lowest Frequency: BPSK / Highest Frequency: BPSK)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2496.8845	2689.1095		
Extreme (50C)		2496.8845	2689.1095	30.0	0.012
Extreme (40C)		2496.8845	2689.1095	30.3	0.012
Extreme (30C)		2496.8845	2689.1095	31.5	0.012
Extreme (10C)		2496.8845	2689.1095	32.5	0.013
Extreme (0C)		2496.8845	2689.1095	29.3	0.011
Extreme (-10C)		2496.8845	2689.1095	30.2	0.012
Extreme (-20C)		2496.8845	2689.1095	31.2	0.012
Extreme (-30C)		2496.8845	2689.1095	30.8	0.012
20C	15%	2496.8845	2689.1095	33.2	0.013
	-15%	2496.8845	2689.1095	32.2	0.012
	End Point	2496.8845	2689.1095	30.9	0.012

5G NR Band n66 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Limit		1710	1780	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1710.6995	1779.3005		
Extreme (50C)		1710.6995	1779.3006	29.1	0.017
Extreme (40C)		1710.6995	1779.3006	31.6	0.018
Extreme (30C)		1710.6995	1779.3006	30.3	0.017
Extreme (10C)		1710.6995	1779.3006	33.6	0.019
Extreme (0C)		1710.6995	1779.3006	16.5	0.009
Extreme (-10C)		1710.6995	1779.3006	26.1	0.015
Extreme (-20C)		1710.6995	1779.3006	25.8	0.015
Extreme (-30C)		1710.6995	1779.3006	24.6	0.014
20C	15%	1710.6995	1779.3006	28.2	0.016
	-15%	1710.6995	1779.3006	24.0	0.014
	End Point	1710.6995	1779.3006	27.9	0.016

NR Band n77 (Lowest Frequency:16QAM / Highest Frequency: QPSK)

Limit		3450	3550	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	3450.7007	3549.2851	10.5	0.003
Extreme (50C)		3450.7007	3549.2851		
Extreme (40C)		3450.7007	3549.2851		
Extreme (30C)		3450.7007	3549.2851		
Extreme (10C)		3450.7007	3549.2851		
Extreme (0C)		3450.7007	3549.2851		
Extreme (-10C)		3450.7007	3549.2851		
Extreme (-20C)		3450.7007	3549.2851		
Extreme (-30C)		3450.7007	3549.2851		
20C		15%	3450.7007		
	-15%	3450.7007	3549.2851	6.8	0.002
	End Point	3450.7007	3549.2851	9.3	0.003
Limit		3700	3980	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	3700.7122	3979.2896	11.4	0.003
Extreme (50C)		3700.7122	3979.2896		
Extreme (40C)		3700.7122	3979.2896		
Extreme (30C)		3700.7122	3979.2896		
Extreme (10C)		3700.7122	3979.2896		
Extreme (0C)		3700.7122	3979.2896		
Extreme (-10C)		3700.7122	3979.2896		
Extreme (-20C)		3700.7122	3979.2896		
Extreme (-30C)		3700.7122	3979.2896		
20C		15%	3700.7122		
	-15%	3700.7122	3979.2896	11.9	0.003
	End Point	3700.7122	3979.2896	12.2	0.003

9.5. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, §27.50 and §90.635

LIMITS

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50:

(b)(10) Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

(d)(4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

(h) The following power limits shall apply in the BRS and EBS:

(2) Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

(j)(3) Mobile and portable stations are limited to 1 Watt EIRP. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

(k)(3) Mobile devices are limited to 1Watt (30 dBm) EIRP. Mobile devices operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

90.635(b) The maximum output power of the transmitter for mobile stations is 100 watts (20dBw).

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13dB.

TEST PROCEDURE

ANSI / TIA / EIA 603 E Clause 2.2.17; ESU40 setting reference to 971168 D01 v03r01

For radiated output power measurement with a ESU40:

- a) Set the RBW \geq OBW;
- b) Set VBW \geq 3 \times RBW;
- c) Set span \geq 2 \times RBW;
- d) Sweep time = auto couple or 1 second;
- e) Detector = rms;
- f) Ensure that the number of measurement points \geq span/RBW;
- g) Trace mode = max hold(GSM, WCDMA), average(LTE, 5G NR);

TEST RESULTS

9.5.1. ERP/EIRP Results

GSM

Band	Mode	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)
GSM 850	GPRS	824.20	31.82	V	3.01	-1.33	27.47	558.47	38.50	-11.03
		824.20	27.44	H	3.01	-1.33	23.09	203.70	38.50	-15.41
		836.60	31.83	V	3.03	-1.22	27.58	572.80	38.50	-10.92
		836.60	27.04	H	3.03	-1.22	22.79	190.11	38.50	-15.71
		848.80	30.75	V	3.05	-1.11	26.59	456.04	38.50	-11.91
	848.80	26.74	H	3.05	-1.11	22.57	180.72	38.50	-15.93	
	EGPRS	824.20	26.73	V	3.01	-1.33	22.38	172.98	38.50	-16.12
		824.20	22.43	H	3.01	-1.33	18.08	64.27	38.50	-20.42
		836.60	27.87	V	3.03	-1.22	23.62	230.14	38.50	-14.88
		836.60	22.52	H	3.03	-1.22	18.27	67.14	38.50	-20.23
848.80		26.66	V	3.05	-1.11	22.50	177.83	38.50	-16.00	
848.80	22.59	H	3.05	-1.11	18.42	69.50	38.50	-20.08		

Band	Mode	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
GSM 1900	GPRS	1850.20	26.49	V	4.47	9.64	31.66	1465.55	33.00	-1.34
		1850.20	11.40	H	4.47	9.64	16.58	45.50	33.00	-16.42
		1880.00	26.24	V	4.50	9.37	31.11	1291.22	33.00	-1.89
		1880.00	11.80	H	4.50	9.37	16.67	46.45	33.00	-16.33
		1909.80	25.20	V	4.54	9.07	29.73	939.72	33.00	-3.27
		1909.80	11.76	H	4.54	9.07	16.29	42.56	33.00	-16.71
	EGPRS	1850.20	22.67	V	4.47	9.64	27.84	608.14	33.00	-5.16
		1850.20	7.18	H	4.47	9.64	12.36	17.22	33.00	-20.64
		1880.00	22.95	V	4.50	9.37	27.82	605.34	33.00	-5.18
		1880.00	8.44	H	4.50	9.37	13.31	21.43	33.00	-19.69
		1909.80	21.63	V	4.54	9.07	26.16	413.05	33.00	-6.84
		1909.80	7.82	H	4.54	9.07	12.35	17.18	33.00	-20.65

WCDMA

Band	Mode	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)
Band 5	REL99	826.40	24.95	V	3.01	-1.31	20.62	115.35	38.50	-17.88
		826.40	10.57	H	3.01	-1.31	6.24	4.21	38.50	-32.26
		836.60	25.19	V	3.03	-1.22	20.94	124.17	38.50	-17.56
		836.60	12.23	H	3.03	-1.22	7.98	6.28	38.50	-30.52
		846.60	24.36	V	3.05	-1.13	20.18	104.23	38.50	-18.32
	846.60	12.34	H	3.05	-1.13	8.16	6.55	38.50	-30.34	
	HSDPA	826.40	23.80	V	3.01	-1.31	19.47	88.51	38.50	-19.03
		826.40	9.90	H	3.01	-1.31	5.57	3.61	38.50	-32.93
		836.60	24.00	V	3.03	-1.22	19.75	94.41	38.50	-18.75
		836.60	11.29	H	3.03	-1.22	7.04	5.06	38.50	-31.46
846.60		23.28	V	3.05	-1.13	19.10	81.28	38.50	-19.40	
846.60	11.85	H	3.05	-1.13	7.67	5.85	38.50	-30.83		

Band	Mode	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
Band 4	REL99	1712.40	16.36	V	4.44	9.58	21.50	141.25	30.00	-8.50
		1712.40	2.40	H	4.44	9.58	7.54	5.68	30.00	-22.46
		1732.60	17.00	V	4.46	9.65	22.18	165.20	30.00	-7.82
		1732.60	4.02	H	4.46	9.65	9.21	8.34	30.00	-20.79
		1752.60	18.34	V	4.48	9.70	23.55	226.46	30.00	-6.45
	1752.60	4.09	H	4.48	9.70	9.30	8.51	30.00	-20.70	
	HSDPA	1712.40	15.43	V	4.44	9.58	20.57	114.02	30.00	-9.43
		1712.40	1.15	H	4.44	9.58	6.29	4.26	30.00	-23.71
		1732.60	16.20	V	4.46	9.65	21.38	137.40	30.00	-8.62
		1732.60	3.05	H	4.46	9.65	8.24	6.67	30.00	-21.76
1752.60		17.51	V	4.48	9.70	22.72	187.07	30.00	-7.28	
1752.60	3.11	H	4.48	9.70	8.32	6.79	30.00	-21.68		

Band	Mode	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
Band 2	REL99	1852.40	21.76	V	4.47	9.58	26.87	486.41	33.00	-6.13
		1852.40	6.23	H	4.47	9.58	11.34	13.61	33.00	-21.66
		1880.00	21.16	V	4.50	9.39	26.04	401.79	33.00	-6.96
		1880.00	7.34	H	4.50	9.39	12.22	16.67	33.00	-20.78
		1907.60	19.97	V	4.54	9.15	24.58	287.08	33.00	-8.42
	1907.60	6.52	H	4.54	9.15	11.13	12.97	33.00	-21.87	
	HSDPA	1852.40	20.79	V	4.47	9.62	25.94	392.64	33.00	-7.06
		1852.40	5.11	H	4.47	9.62	10.26	10.62	33.00	-22.74
		1880.00	20.24	V	4.50	9.37	25.11	324.34	33.00	-7.89
		1880.00	6.06	H	4.50	9.37	10.93	12.39	33.00	-22.07
1907.60		18.98	V	4.54	9.10	23.53	225.42	33.00	-9.47	
1907.60	5.86	H	4.54	9.10	10.41	10.99	33.00	-22.59		

LTE Band 5

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
1.4	QPSK	824.70	24.55	V	3.11	-0.82	20.62	115.27	38.50	-17.88	1/3
		836.50	24.28	V	3.13	-0.93	20.22	105.30	38.50	-18.28	1/3
		848.30	24.63	V	3.15	-1.03	20.45	110.93	38.50	-18.05	1/5
	16-QAM	824.70	23.33	V	3.11	-0.82	19.40	87.04	38.50	-19.10	1/5
		836.50	23.09	V	3.13	-0.93	19.03	80.06	38.50	-19.47	1/3
		848.30	23.55	V	3.15	-1.03	19.37	86.51	38.50	-19.13	1/3
3	QPSK	825.50	24.42	V	3.10	-0.83	20.49	111.83	38.50	-18.01	1/8
		836.50	24.12	V	3.13	-0.93	20.06	101.49	38.50	-18.44	1/8
		847.50	24.63	V	3.15	-1.03	20.45	111.04	38.50	-18.05	1/8
	16-QAM	825.50	23.52	V	3.10	-0.83	19.59	90.90	38.50	-18.91	1/8
		836.50	22.96	V	3.13	-0.93	18.90	77.70	38.50	-19.60	1/8
		847.50	23.56	V	3.15	-1.03	19.38	86.79	38.50	-19.12	1/8
5	QPSK	826.50	24.53	V	3.11	-0.84	20.58	114.27	38.50	-17.92	1/12
		836.50	24.10	V	3.13	-0.93	20.04	101.03	38.50	-18.46	1/12
		846.50	24.52	V	3.14	-1.02	20.36	108.57	38.50	-18.14	1/12
	16-QAM	826.50	23.47	V	3.11	-0.84	19.52	89.52	38.50	-18.98	1/12
		836.50	22.98	V	3.13	-0.93	18.92	78.06	38.50	-19.58	1/12
		846.50	23.54	V	3.14	-1.02	19.38	86.64	38.50	-19.12	1/12
10	QPSK	829.00	24.53	V	3.11	-0.86	20.56	113.67	38.50	-17.94	1/0
		836.50	24.26	V	3.13	-0.93	20.20	104.82	38.50	-18.30	1/0
		844.00	24.22	V	3.14	-1.00	20.08	101.95	38.50	-18.42	1/25
	16-QAM	829.00	23.52	V	3.11	-0.86	19.55	90.08	38.50	-18.95	1/0
		836.50	23.26	V	3.13	-0.93	19.20	83.26	38.50	-19.30	1/0
		844.00	23.14	V	3.14	-1.00	19.00	79.51	38.50	-19.50	1/25

LTE Band 12

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
1.4	QPSK	699.70	24.27	H	2.87	-0.80	20.60	114.82	34.77	-14.17	1/3
		707.50	24.48	H	2.89	-0.79	20.81	120.50	34.77	-13.96	1/3
		715.30	24.26	H	2.90	-0.77	20.59	114.55	34.77	-14.18	1/3
	16-QAM	699.70	23.35	H	2.87	-0.80	19.68	92.90	34.77	-15.09	1/3
		707.50	23.62	H	2.89	-0.79	19.65	92.26	34.77	-14.82	1/3
		715.30	23.25	H	2.90	-0.77	19.58	90.78	34.77	-15.19	1/3
3	QPSK	700.50	24.19	H	2.88	-0.80	20.51	112.46	34.77	-14.26	1/8
		707.50	24.45	H	2.89	-0.79	20.78	119.67	34.77	-13.99	1/8
		714.50	24.39	H	2.90	-0.77	20.72	118.03	34.77	-14.05	1/8
	16-QAM	700.50	23.24	H	2.88	-0.80	19.56	90.36	34.77	-15.21	1/18
		707.50	23.50	H	2.89	-0.79	19.83	96.16	34.77	-14.94	1/8
		714.50	23.18	H	2.90	-0.77	19.51	89.33	34.77	-15.26	1/8
5	QPSK	701.50	24.42	H	2.88	-0.80	20.75	118.85	34.77	-14.02	1/12
		707.50	24.22	H	2.89	-0.79	20.55	113.50	34.77	-14.22	1/12
		713.50	24.23	H	2.90	-0.77	20.56	113.76	34.77	-14.21	1/12
	16-QAM	701.50	23.35	H	2.88	-0.80	19.68	92.90	34.77	-15.09	1/12
		707.50	23.12	H	2.89	-0.79	19.45	88.10	34.77	-15.32	1/12
		713.50	22.92	H	2.90	-0.77	19.25	84.14	34.77	-15.52	1/12
10	QPSK	704.00	24.85	H	2.88	-0.79	21.18	131.22	34.77	-13.59	1/25
		707.50	24.13	H	2.89	-0.79	20.46	111.17	34.77	-14.31	1/0
		711.00	24.50	H	2.89	-0.78	20.83	121.06	34.77	-13.94	1/0
	16-QAM	704.00	23.75	H	2.88	-0.79	20.08	101.86	34.77	-14.69	1/25
		707.50	22.95	H	2.89	-0.79	19.28	84.72	34.77	-15.49	1/49
		711.00	23.33	H	2.89	-0.78	19.66	92.47	34.77	-15.11	1/0

LTE Band 13

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	779.50	22.58	V	3.02	-0.64	18.92	77.98	34.77	-15.85	1/12
		782.00	22.68	V	3.02	-0.64	19.02	79.80	34.77	-15.75	1/12
		784.50	22.73	V	3.04	-0.63	19.06	80.54	34.77	-15.71	1/12
	16-QAM	779.50	21.27	V	3.02	-0.64	17.61	57.68	34.77	-17.16	1/12
		782.00	21.40	V	3.02	-0.64	17.74	59.43	34.77	-17.03	1/12
		784.50	21.48	V	3.04	-0.63	17.81	60.39	34.77	-16.96	1/12
10	QPSK	782.00	22.25	V	3.02	-0.64	18.59	72.28	34.77	-16.18	1/0
	16-QAM	782.00	21.39	V	3.02	-0.64	17.73	59.29	34.77	-17.04	1/25

LTE Band 25

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
1.4	QPSK	1850.70	16.02	H	4.62	9.64	21.04	127.06	33.00	-11.96	1/3
		1882.50	18.78	H	4.65	9.35	23.47	222.33	33.00	-9.53	1/3
		1914.30	18.44	H	4.70	9.01	22.76	188.80	33.00	-10.24	1/0
	16-QAM	1850.70	15.31	H	4.62	9.64	20.33	107.89	33.00	-12.67	1/5
		1882.50	18.20	H	4.65	9.35	22.89	194.54	33.00	-10.11	1/3
		1914.30	18.01	H	4.70	9.01	22.33	171.00	33.00	-10.67	1/0
3	QPSK	1851.50	15.60	H	4.62	9.63	20.60	114.82	33.00	-12.40	1/8
		1882.50	18.57	H	4.65	9.35	23.26	211.84	33.00	-9.74	1/8
		1913.50	17.36	H	4.69	9.02	21.69	147.57	33.00	-11.31	1/0
	16-QAM	1851.50	14.99	H	4.62	9.63	19.99	99.77	33.00	-13.01	1/8
		1882.50	17.94	H	4.65	9.35	22.63	183.23	33.00	-10.37	1/8
		1913.50	16.59	H	4.69	9.02	20.92	123.59	33.00	-12.08	1/0
5	QPSK	1852.50	15.95	H	4.62	9.62	20.95	124.45	33.00	-12.05	1/12
		1882.50	18.97	H	4.65	9.35	23.66	232.27	33.00	-9.34	1/12
		1912.50	17.58	H	4.69	9.03	21.92	155.60	33.00	-11.08	1/0
	16-QAM	1852.50	15.28	H	4.62	9.62	20.28	106.66	33.00	-12.72	1/12
		1882.50	18.17	H	4.65	9.35	22.86	193.20	33.00	-10.14	1/12
		1912.50	16.97	H	4.69	9.03	21.31	135.21	33.00	-11.69	1/0
10	QPSK	1855.00	16.09	H	4.62	9.60	21.07	127.94	33.00	-11.93	1/25
		1882.50	18.03	H	4.65	9.35	22.72	187.07	33.00	-10.28	1/25
		1910.00	18.02	H	4.68	9.07	22.41	174.18	33.00	-10.59	1/49
	16-QAM	1855.00	15.51	H	4.62	9.60	20.49	111.94	33.00	-12.51	1/25
		1882.50	17.42	H	4.65	9.35	22.11	162.55	33.00	-10.89	1/25
		1910.00	17.45	H	4.68	9.07	21.84	152.76	33.00	-11.16	1/49
15	QPSK	1857.50	16.39	H	4.63	9.58	21.34	136.14	33.00	-11.66	1/37
		1882.50	19.44	H	4.65	9.35	24.13	258.82	33.00	-8.87	1/74
		1907.50	19.26	H	4.69	9.10	23.67	232.81	33.00	-9.33	1/0
	16-QAM	1857.50	15.64	H	4.63	9.58	20.59	114.55	33.00	-12.41	1/37
		1882.50	18.53	H	4.65	9.35	23.22	209.89	33.00	-9.78	1/74
		1907.50	18.51	H	4.69	9.10	22.92	195.88	33.00	-10.08	1/0
20	QPSK	1860.00	17.65	H	4.63	9.53	22.55	179.89	33.00	-10.45	1/49
		1882.50	18.64	H	4.65	9.37	23.35	216.27	33.00	-9.65	1/99
		1905.00	19.04	H	4.68	9.18	23.54	225.94	33.00	-9.46	1/49
	16-QAM	1860.00	16.68	H	4.63	9.53	21.58	143.88	33.00	-11.42	1/49
		1882.50	18.08	H	4.65	9.37	22.79	190.11	33.00	-10.21	1/99
		1905.00	18.34	H	4.68	9.18	22.84	192.31	33.00	-10.16	1/49

LTE Band 26

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB	
1.4	QPSK	814.70	23.80	V	3.09	-0.73	19.99	99.77	50.00	-30.01	1/3	
		823.30	24.80	V	3.10	-0.81	20.90	123.03	50.00	-29.10	1/3	
		824.70	24.88	V	3.11	-0.82	20.95	124.45	38.50	-17.55	1/3	
		831.50	24.92	V	3.11	-0.88	20.92	123.59	38.50	-17.58	1/3	
		848.30	25.16	V	3.15	-1.03	20.98	125.31	38.50	-17.52	1/3	
	16-QAM	814.70	22.62	V	3.09	-0.73	18.81	76.03	50.00	-31.19	1/0	
		823.30	23.95	V	3.10	-0.81	20.05	101.16	50.00	-29.95	1/3	
		824.70	23.66	V	3.11	-0.82	19.73	93.97	38.50	-18.77	1/3	
		831.50	23.55	V	3.11	-0.88	19.55	90.16	38.50	-18.95	1/5	
		848.30	23.97	V	3.15	-1.03	19.79	95.28	38.50	-18.71	1/3	
3	QPSK	815.50	23.84	V	3.08	-0.74	20.02	100.46	50.00	-29.98	1/8	
		822.50	24.86	V	3.10	-0.80	20.96	124.74	50.00	-29.04	1/8	
		825.50	23.79	V	3.10	-0.83	19.86	96.83	38.50	-18.64	1/8	
		831.50	23.47	V	3.11	-0.88	19.47	88.51	38.50	-19.03	1/8	
		847.50	24.04	V	3.15	-1.03	19.86	96.83	38.50	-18.64	1/8	
	16-QAM	815.50	22.69	V	3.08	-0.74	18.87	77.09	50.00	-31.13	1/8	
		822.50	23.73	V	3.10	-0.80	19.83	96.16	50.00	-30.17	1/8	
		825.50	22.91	V	3.10	-0.83	18.98	79.07	38.50	-19.52	1/8	
		831.50	22.37	V	3.11	-0.88	18.37	68.71	38.50	-20.13	1/8	
		847.50	23.08	V	3.15	-1.03	18.90	77.62	38.50	-19.60	1/8	
5	QPSK	816.50	23.84	V	3.09	-0.75	20.00	100.00	50.00	-30.00	1/12	
		821.50	24.82	V	3.10	-0.79	20.92	123.59	50.00	-29.08	1/12	
		826.50	25.03	V	3.11	-0.84	21.08	128.23	38.50	-17.42	1/12	
		831.50	24.68	V	3.11	-0.88	20.68	116.95	38.50	-17.82	1/12	
		846.50	25.04	V	3.14	-1.02	20.88	122.46	38.50	-17.62	1/12	
	16-QAM	816.50	22.86	V	3.09	-0.75	19.02	79.80	50.00	-30.98	1/12	
		821.50	23.83	V	3.10	-0.79	19.93	98.40	50.00	-30.07	1/12	
		826.50	23.91	V	3.11	-0.84	19.96	99.08	38.50	-18.54	1/12	
		831.50	23.49	V	3.11	-0.88	19.49	88.92	38.50	-19.01	1/12	
		846.50	24.03	V	3.14	-1.02	19.87	97.05	38.50	-18.63	1/12	
10	QPSK	819.00	23.88	V	3.09	-0.77	20.02	100.46	50.00	-29.98	1/0	
		829.00	24.99	V	3.11	-0.86	21.02	126.47	38.50	-17.48	1/0	
		831.50	25.12	V	3.11	-0.88	21.12	129.42	38.50	-17.38	1/0	
		844.00	24.53	V	3.14	-1.00	20.39	109.40	38.50	-18.11	1/0	
	16-QAM	819.00	22.86	V	3.09	-0.77	19.00	79.43	50.00	-31.00	1/0	
		829.00	24.01	V	3.11	-0.86	20.04	100.93	38.50	-18.46	1/0	
		831.50	24.02	V	3.11	-0.88	20.02	100.46	38.50	-18.48	1/0	
		844.00	23.57	V	3.14	-1.00	19.43	87.70	38.50	-19.07	1/0	
	15	QPSK	821.50	22.38	V	3.10	-0.79	18.48	70.47	50.00	-31.52	1/0
			831.50	24.94	V	3.11	-0.88	20.94	124.17	38.50	-17.56	1/0
841.50			24.19	V	3.13	-0.97	20.08	101.86	38.50	-18.42	1/37	
16-QAM		821.50	23.26	V	3.10	-0.79	19.36	86.30	50.00	-30.64	1/37	
		831.50	23.02	V	3.11	-0.88	19.02	79.80	38.50	-19.48	1/37	
		841.50	23.29	V	3.13	-0.97	19.18	82.79	38.50	-19.32	1/37	

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
1.4	QPSK	824.00	24.71	V	3.10	-0.82	20.79	119.95	38.50	-17.71	1/5
	16-QAM		23.65	V	3.10	-0.82	19.73	93.97	38.50	-18.77	1/5
3	QPSK		23.90	V	3.10	-0.82	19.98	99.54	38.50	-18.52	1/8
	16-QAM		22.79	V	3.10	-0.82	18.87	77.09	38.50	-19.63	1/8
5	QPSK		24.89	V	3.10	-0.82	20.97	125.03	38.50	-17.53	1/12
	16-QAM		23.70	V	3.10	-0.82	19.78	95.06	38.50	-18.72	1/12
10	QPSK		24.64	V	3.10	-0.82	20.72	118.03	38.50	-17.78	1/0
	16-QAM		23.56	V	3.10	-0.82	19.64	92.04	38.50	-18.86	1/0
15	QPSK		24.16	V	3.10	-0.82	20.24	105.68	38.50	-18.26	1/0
	16-QAM		22.92	V	3.10	-0.82	19.00	79.43	38.50	-19.50	1/0

LTE Band 41(PC2)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	2498.50	16.24	H	5.36	10.18	21.05	127.35	33.00	-11.95	1/12
		2593.00	18.72	H	5.47	10.03	23.28	212.81	33.00	-9.72	1/12
		2687.50	17.45	H	5.57	10.05	21.94	156.31	33.00	-11.06	1/12
	16-QAM	2498.50	15.50	H	5.36	10.18	20.31	107.40	33.00	-12.69	1/12
		2593.00	17.79	H	5.47	10.03	22.35	171.79	33.00	-10.65	1/12
		2687.50	16.56	H	5.57	10.05	21.05	127.35	33.00	-11.95	1/12
10	QPSK	2501.00	16.64	H	5.38	10.17	21.43	139.00	33.00	-11.57	1/49
		2593.00	18.86	H	5.47	10.03	23.42	219.79	33.00	-9.58	1/25
		2685.00	18.04	H	5.56	10.05	22.54	179.47	33.00	-10.46	1/25
	16-QAM	2501.00	16.08	H	5.38	10.17	20.87	122.18	33.00	-12.13	1/49
		2593.00	18.12	H	5.47	10.03	22.68	185.35	33.00	-10.32	1/25
		2685.00	17.12	H	5.56	10.05	21.62	145.21	33.00	-11.38	1/25
15	QPSK	2503.50	16.58	H	5.37	10.17	21.38	137.40	33.00	-11.62	1/74
		2593.00	18.81	H	5.47	10.03	23.37	217.27	33.00	-9.63	1/37
		2682.50	17.97	H	5.56	10.05	22.46	176.20	33.00	-10.54	1/37
	16-QAM	2503.50	15.86	H	5.37	10.17	20.66	116.41	33.00	-12.34	1/74
		2593.00	17.95	H	5.47	10.03	22.51	178.24	33.00	-10.49	1/37
		2682.50	17.26	H	5.56	10.05	21.75	149.62	33.00	-11.25	1/37
20	QPSK	2506.00	16.80	H	5.37	10.16	21.59	144.21	33.00	-11.41	1/99
		2593.00	18.68	H	5.47	10.03	23.24	210.86	33.00	-9.76	1/49
		2680.00	17.66	H	5.56	10.05	22.15	164.06	33.00	-10.85	1/49
	16-QAM	2506.00	16.01	H	5.37	10.16	20.80	120.23	33.00	-12.20	1/49
		2593.00	18.08	H	5.47	10.03	22.64	183.65	33.00	-10.36	1/49
		2680.00	16.85	H	5.56	10.05	21.34	136.14	33.00	-11.66	1/49

LTE Band 66

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
1.4	QPSK	1710.70	16.52	H	4.43	9.57	21.66	146.55	30.00	-8.34	1/3
		1745.00	15.68	H	4.47	9.68	20.88	122.46	30.00	-9.12	1/0
		1779.30	16.23	H	4.52	9.70	21.42	138.68	30.00	-8.58	1/3
	16-QAM	1710.70	16.06	H	4.43	9.57	21.20	131.83	30.00	-8.80	1/5
		1745.00	14.77	H	4.47	9.68	19.97	99.31	30.00	-10.03	1/0
		1779.30	15.31	H	4.52	9.70	20.50	112.20	30.00	-9.50	1/0
3	QPSK	1711.50	16.74	H	4.44	9.57	21.88	154.17	30.00	-8.12	1/14
		1745.00	16.69	H	4.47	9.68	21.89	154.53	30.00	-8.11	1/14
		1778.50	16.21	H	4.52	9.70	21.39	137.72	30.00	-8.61	1/8
	16-QAM	1711.50	16.02	H	4.44	9.57	21.16	130.62	30.00	-8.84	1/14
		1745.00	15.67	H	4.47	9.68	20.87	122.18	30.00	-9.13	1/14
		1778.50	15.64	H	4.52	9.70	20.82	120.78	30.00	-9.18	1/8
5	QPSK	1712.50	16.39	H	4.44	9.57	21.53	142.23	30.00	-8.47	1/24
		1745.00	16.42	H	4.47	9.68	21.62	145.21	30.00	-8.38	1/12
		1777.50	16.61	H	4.52	9.70	21.79	151.01	30.00	-8.21	1/12
	16-QAM	1712.50	15.74	H	4.44	9.57	20.88	122.46	30.00	-9.12	1/24
		1745.00	15.51	H	4.47	9.68	20.71	117.76	30.00	-9.29	1/12
		1777.50	16.07	H	4.52	9.70	21.25	133.35	30.00	-8.75	1/12
10	QPSK	1715.00	15.09	H	4.44	9.58	20.24	105.68	30.00	-9.76	1/25
		1745.00	16.67	H	4.47	9.68	21.87	153.82	30.00	-8.13	1/25
		1775.00	16.50	H	4.51	9.70	21.69	147.57	30.00	-8.31	1/25
	16-QAM	1715.00	14.43	H	4.44	9.58	19.58	90.78	30.00	-10.42	1/25
		1745.00	15.77	H	4.47	9.68	20.97	125.03	30.00	-9.03	1/25
		1775.00	15.74	H	4.51	9.70	20.93	123.88	30.00	-9.07	1/25
15	QPSK	1717.50	16.85	H	4.44	9.59	22.00	158.49	30.00	-8.00	1/37
		1745.00	17.31	H	4.47	9.68	22.51	178.24	30.00	-7.49	1/37
		1772.50	16.82	H	4.51	9.70	22.01	158.85	30.00	-7.99	1/74
	16-QAM	1717.50	16.24	H	4.44	9.59	21.39	137.72	30.00	-8.61	1/37
		1745.00	16.37	H	4.47	9.68	21.57	143.55	30.00	-8.43	1/37
		1772.50	16.21	H	4.51	9.70	21.40	138.04	30.00	-8.60	1/74
20	QPSK	1720.00	14.67	H	4.44	9.60	19.83	96.16	30.00	-10.17	1/49
		1745.00	14.98	H	4.47	9.68	20.18	104.23	30.00	-9.82	1/49
		1770.00	15.45	H	4.51	9.70	20.64	115.88	30.00	-9.36	1/49
	16-QAM	1720.00	15.14	H	4.44	9.60	20.30	107.15	30.00	-9.70	1/49
		1745.00	15.84	H	4.47	9.68	21.04	127.06	30.00	-8.96	1/49
		1770.00	16.54	H	4.51	9.70	21.73	148.94	30.00	-8.27	1/0

5G NR n5

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	BPSK	826.50	22.19	H	3.11	-0.84	18.24	66.68	38.50	-20.26	1/1
		836.50	22.77	H	3.13	-0.93	18.71	74.30	38.50	-19.79	1/1
		846.50	22.36	H	3.14	-1.02	18.20	66.07	38.50	-20.30	1/1
	16-QAM	826.50	20.96	H	3.11	-0.84	17.01	50.23	38.50	-21.49	1/1
		836.50	21.10	H	3.13	-0.93	17.04	50.58	38.50	-21.46	1/1
		846.50	20.97	H	3.14	-1.02	16.81	47.97	38.50	-21.69	1/1
10	BPSK	829.00	21.93	H	3.11	-0.86	17.96	62.52	38.50	-20.54	1/1
		836.50	22.42	H	3.13	-0.93	18.36	68.55	38.50	-20.14	1/1
		844.00	22.12	H	3.14	-1.00	17.99	62.95	38.50	-20.51	1/50
	16-QAM	829.00	21.04	H	3.11	-0.86	17.07	50.93	38.50	-21.43	1/1
		836.50	21.15	H	3.13	-0.93	17.09	51.17	38.50	-21.41	1/1
		844.00	20.64	H	3.14	-1.00	16.51	44.77	38.50	-21.99	1/50
15	BPSK	831.50	22.32	H	3.11	-0.88	18.32	67.92	38.50	-20.18	1/1
		836.50	22.79	H	3.13	-0.93	18.73	74.64	38.50	-19.77	1/1
		841.50	22.40	H	3.13	-0.97	18.30	67.61	38.50	-20.20	1/40
	16-QAM	831.50	21.27	H	3.11	-0.88	17.27	53.33	38.50	-21.23	1/1
		836.50	21.96	H	3.13	-0.93	17.90	61.66	38.50	-20.60	1/1
		841.50	20.04	H	3.13	-0.97	15.94	39.26	38.50	-22.56	1/40
20	BPSK	834.00	22.50	H	3.12	-0.91	18.47	70.31	38.50	-20.03	1/1
		836.50	22.79	H	3.13	-0.93	18.73	74.64	38.50	-19.77	1/1
		839.00	21.82	H	3.13	-0.95	17.74	59.43	38.50	-20.76	1/104
	16-QAM	834.00	21.37	H	3.12	-0.91	17.34	54.20	38.50	-21.16	1/1
		836.50	21.70	H	3.13	-0.93	17.64	58.08	38.50	-20.86	1/1
		839.00	20.32	H	3.13	-0.95	16.24	42.07	38.50	-22.26	1/104

5G NR n12

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	701.50	23.28	H	2.88	-0.80	19.61	91.41	34.77	-15.16	1/13
		707.50	23.12	H	2.89	-0.79	19.45	88.10	34.77	-15.32	1/13
		713.50	23.00	H	2.90	-0.77	19.33	85.70	34.77	-15.44	1/1
	16-QAM	701.50	22.47	H	2.88	-0.80	18.80	75.86	34.77	-15.97	1/13
		707.50	22.79	H	2.89	-0.79	19.12	81.66	34.77	-15.65	1/13
		713.50	22.46	H	2.90	-0.77	18.79	75.68	34.77	-15.98	1/1
10	QPSK	704.00	23.41	H	2.88	-0.79	19.74	94.19	34.77	-15.03	1/50
		707.50	23.31	H	2.89	-0.79	19.64	92.04	34.77	-15.13	1/26
		711.00	23.14	H	2.89	-0.78	19.47	88.51	34.77	-15.30	1/26
	16-QAM	704.00	22.76	H	2.88	-0.79	19.09	81.10	34.77	-15.68	1/50
		707.50	22.97	H	2.89	-0.79	19.30	85.11	34.77	-15.47	1/26
		711.00	22.64	H	2.89	-0.78	18.97	78.89	34.77	-15.80	1/26
15	QPSK	706.50	23.13	H	2.88	-0.79	19.46	88.31	34.77	-15.31	1/40
		707.50	23.54	H	2.89	-0.79	19.87	97.05	34.77	-14.90	1/1
		708.50	22.93	H	2.89	-0.78	19.25	84.14	34.77	-15.52	1/1
	16-QAM	706.50	22.30	H	2.88	-0.79	18.63	72.95	34.77	-16.14	1/40
		707.50	22.89	H	2.89	-0.79	19.22	83.56	34.77	-15.55	1/1
		708.50	22.56	H	2.89	-0.78	18.88	77.27	34.77	-15.89	1/1

5G NR n25(Main Ant)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	1852.50	18.27	H	4.62	9.58	23.23	210.50	33.00	-9.77	1/1
		1882.50	19.57	H	4.65	9.37	24.28	267.85	33.00	-8.72	1/1
		1912.50	20.91	H	4.69	9.09	25.31	339.83	33.00	-7.69	1/13
	16-QAM	1852.50	17.14	H	4.62	9.58	22.10	162.28	33.00	-10.90	1/1
		1882.50	18.62	H	4.65	9.37	23.33	215.23	33.00	-9.67	1/1
		1912.50	20.46	H	4.69	9.09	24.86	306.38	33.00	-8.14	1/13
10	QPSK	1855.00	18.64	H	4.62	9.56	23.58	228.04	33.00	-9.42	1/26
		1882.50	20.09	H	4.65	9.37	24.80	301.92	33.00	-8.20	1/26
		1910.00	19.71	H	4.68	9.12	24.16	260.34	33.00	-8.84	1/50
	16-QAM	1855.00	18.41	H	4.62	9.56	23.35	216.28	33.00	-9.65	1/26
		1882.50	18.62	H	4.65	9.37	23.33	215.23	33.00	-9.67	1/26
		1910.00	18.24	H	4.68	9.12	22.69	185.59	33.00	-10.31	1/50
15	QPSK	1857.50	20.15	H	4.63	9.55	25.07	321.50	33.00	-7.93	1/40
		1882.50	19.80	H	4.65	9.37	24.51	282.42	33.00	-8.49	1/1
		1907.50	18.90	H	4.69	9.15	23.37	217.24	33.00	-9.63	1/77
	16-QAM	1857.50	18.57	H	4.63	9.55	23.49	223.45	33.00	-9.51	1/40
		1882.50	18.68	H	4.65	9.37	23.39	218.22	33.00	-9.61	1/1
		1907.50	18.48	H	4.69	9.15	22.95	197.22	33.00	-10.05	1/77
20	QPSK	1860.00	20.38	H	4.63	9.53	25.28	337.23	33.00	-7.72	1/53
		1882.50	20.42	H	4.65	9.37	25.13	325.76	33.00	-7.87	1/1
		1905.00	22.34	H	4.68	9.18	26.84	483.27	33.00	-6.16	1/53
	16-QAM	1860.00	19.42	H	4.63	9.53	24.32	270.35	33.00	-8.68	1/53
		1882.50	19.60	H	4.65	9.37	24.31	269.71	33.00	-8.69	1/1
		1905.00	20.97	H	4.68	9.18	25.47	352.52	33.00	-7.53	1/53

5G NR n25(Sub Ant)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK										
	16-QAM										
10	QPSK										
	16-QAM										
15	QPSK	1857.50	18.72	H	4.63	9.55	23.64	231.21	33.00	-9.36	1/40
		1882.50	19.24	H	4.65	9.37	23.95	248.31	33.00	-9.05	1/1
		1907.50	15.98	H	4.69	9.15	20.45	110.92	33.00	-12.55	1/77
	16-QAM	1857.50	17.50	H	4.63	9.55	22.42	174.58	33.00	-10.58	1/40
		1882.50	18.40	H	4.65	9.37	23.11	204.64	33.00	-9.89	1/1
1907.50	14.78	H	4.69	9.15	19.25	84.14	33.00	-13.75	1/77		
20	QPSK										
	16-QAM										

5G NR n41

BW	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
20	BPSK	2506.02	17.56	H	5.37	10.16	22.35	171.79	33.00	-10.65	1/49
		2592.99	20.05	H	5.47	10.03	24.61	289.07	33.00	-8.39	1/49
		2679.99	19.84	H	5.56	10.05	24.33	271.02	33.00	-8.67	1/1
	16-QAM	2506.02	16.58	H	5.37	10.16	21.37	137.09	33.00	-11.63	1/49
		2592.99	19.18	H	5.47	10.03	23.74	236.59	33.00	-9.26	1/49
		2679.99	18.81	H	5.56	10.05	23.30	213.80	33.00	-9.70	1/49
30	BPSK	2511.00	17.36	H	5.39	10.16	22.13	163.31	33.00	-10.87	1/76
		2592.99	19.96	H	5.47	10.03	24.52	283.14	33.00	-8.48	1/76
		2674.98	19.94	H	5.56	10.05	24.43	277.33	33.00	-8.57	1/76
	16-QAM	2511.00	16.37	H	5.39	10.16	21.14	130.02	33.00	-11.86	1/76
		2592.99	18.94	H	5.47	10.03	23.50	223.87	33.00	-9.50	1/76
		2674.98	18.99	H	5.56	10.05	23.48	222.84	33.00	-9.52	1/76
40	BPSK	2516.01	18.00	H	5.38	10.15	22.77	189.23	33.00	-10.23	1/104
		2592.99	20.06	H	5.47	10.03	24.62	289.73	33.00	-8.38	1/104
		2670.00	19.83	H	5.55	10.04	24.33	271.02	33.00	-8.67	1/104
	16-QAM	2516.01	16.99	H	5.38	10.15	21.76	149.97	33.00	-11.24	1/104
		2592.99	19.13	H	5.47	10.03	23.69	233.88	33.00	-9.31	1/104
		2670.00	18.73	H	5.55	10.04	23.23	210.38	33.00	-9.77	1/104
50	BPSK	2521.02	18.02	H	5.40	10.14	22.76	188.80	33.00	-10.24	1/131
		2592.99	19.83	H	5.47	10.03	24.39	274.79	33.00	-8.61	1/131
		2664.99	19.65	H	5.55	10.04	24.14	259.42	33.00	-8.86	1/131
	16-QAM	2521.02	17.01	H	5.40	10.14	21.75	149.62	33.00	-11.25	1/131
		2592.99	18.90	H	5.47	10.03	23.46	221.82	33.00	-9.54	1/131
		2664.99	18.80	H	5.55	10.04	23.29	213.30	33.00	-9.71	1/131
60	BPSK	2526.00	17.54	H	5.38	10.13	22.29	169.43	33.00	-10.71	1/81
		2592.99	19.86	H	5.47	10.03	24.42	276.69	33.00	-8.58	1/160
		2659.98	19.50	H	5.56	10.04	23.98	250.03	33.00	-9.02	1/160
	16-QAM	2526.00	16.50	H	5.38	10.13	21.25	133.35	33.00	-11.75	1/81
		2592.99	18.86	H	5.47	10.03	23.42	219.79	33.00	-9.58	1/160
		2659.98	18.40	H	5.56	10.04	22.88	194.09	33.00	-10.12	1/160
80	BPSK	2536.02	17.72	H	5.41	10.11	22.42	174.58	33.00	-10.58	1/109
		2592.99	19.69	H	5.47	10.03	24.25	266.07	33.00	-8.75	1/109
		2649.99	19.61	H	5.53	10.03	24.11	257.63	33.00	-8.89	1/109
	16-QAM	2536.02	16.79	H	5.41	10.11	21.49	140.93	33.00	-11.51	1/1
		2592.99	18.73	H	5.47	10.03	23.29	213.30	33.00	-9.71	1/1
		2649.99	18.61	H	5.53	10.03	23.11	204.64	33.00	-9.89	1/1
90	BPSK	2541.00	18.28	H	5.43	10.10	22.96	197.70	33.00	-10.04	1/123
		2592.99	19.56	H	5.47	10.03	24.12	258.23	33.00	-8.88	1/243
		2644.98	19.42	H	5.53	10.03	23.92	246.60	33.00	-9.08	1/243
	16-QAM	2541.00	17.27	H	5.43	10.10	21.95	156.68	33.00	-11.05	1/123
		2592.99	18.52	H	5.47	10.03	23.08	203.24	33.00	-9.92	1/243
		2644.98	18.40	H	5.53	10.03	22.90	194.98	33.00	-10.10	1/243
100	BPSK	2546.01	18.13	H	5.42	10.09	22.80	190.55	33.00	-10.20	1/137
		2592.99	19.34	H	5.47	10.03	23.90	245.47	33.00	-9.10	1/271
		2640.00	19.37	H	5.52	10.03	23.88	244.34	33.00	-9.12	1/271
	16-QAM	2546.01	17.10	H	5.42	10.09	21.77	150.31	33.00	-11.23	1/137
		2592.99	18.39	H	5.47	10.03	22.95	197.24	33.00	-10.05	1/271
		2640.00	18.28	H	5.52	10.03	22.79	190.11	33.00	-10.21	1/271

5G NR n41 (SRS1)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
20	2506.01								
	2592.99								
	2680.00								
30	2511.01	11.84	V	5.39	10.19	16.64	46.13	33.00	-16.36
	2592.99	13.52	V	5.47	10.12	18.17	65.61	33.00	-14.83
	2675.00	12.67	V	5.56	10.18	17.29	53.58	33.00	-15.71
40	2516.01								
	2592.99								
	2670.00								
50	2521.01								
	2592.99								
	2665.00								
60	2526.01								
	2592.99								
	2660.00								
80	2536.01								
	2592.99								
	2650.00								
90	2541.01								
	2592.99								
	2645.00								
100	2546.01								
	2592.99								
	2640.00								

5G NR n41 (SRS2)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
20	2506.01								
	2592.99								
	2680.00								
30	2511.01								
	2592.99								
	2675.00								
40	2516.01	10.051	V	5.38	10.18	14.85	30.55	33.00	-18.15
	2592.99	10.2188	V	5.47	10.12	14.87	30.69	33.00	-18.13
	2670.00	7.93	V	5.55	10.17	12.55	17.99	33.00	-20.45
50	2521.01								
	2592.99								
	2665.00								
60	2526.01								
	2592.99								
	2660.00								
80	2536.01								
	2592.99								
	2650.00								
90	2541.01								
	2592.99								
	2645.00								
100	2546.01								
	2592.99								
	2640.00								

5G NR n41 (SRS3)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
20	2506.01								
	2592.99								
	2680.00								
30	2511.01								
	2592.99								
	2675.00								
40	2516.01	4.981	V	5.38	10.18	9.78	9.51	33.00	-23.22
	2592.99	5.2888	V	5.47	10.12	9.94	9.86	33.00	-23.06
	2670.00	9.01	H	5.55	10.17	13.63	23.07	33.00	-19.37
50	2521.01								
	2592.99								
	2665.00								
60	2526.01								
	2592.99								
	2660.00								
80	2536.01								
	2592.99								
	2650.00								
90	2541.01								
	2592.99								
	2645.00								
100	2546.01								
	2592.99								
	2640.00								

5G NR n66(Main Ant)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	1712.50	14.32	H	4.44	9.58	19.47	88.50	30.00	-10.53	1/13
		1745.00	15.51	H	4.47	9.69	20.72	117.95	30.00	-9.28	1/23
		1777.50	14.42	H	4.52	9.71	19.61	91.33	30.00	-10.39	1/23
	16-QAM	1712.50	13.65	H	4.44	9.58	18.80	75.85	30.00	-11.20	1/13
		1745.00	14.64	H	4.47	9.69	19.85	96.54	30.00	-10.15	1/23
		1777.50	13.77	H	4.52	9.71	18.96	78.64	30.00	-11.04	1/23
10	QPSK	1715.00	14.82	H	4.44	9.59	19.98	99.43	30.00	-10.02	1/50
		1745.00	14.91	H	4.47	9.69	20.12	102.73	30.00	-9.88	1/50
		1775.00	14.75	H	4.51	9.71	19.94	98.70	30.00	-10.06	1/50
	16-QAM	1715.00	13.92	H	4.44	9.59	19.08	80.82	30.00	-10.92	1/50
		1745.00	14.15	H	4.47	9.69	19.36	86.24	30.00	-10.64	1/50
		1775.00	13.84	H	4.51	9.71	19.03	80.04	30.00	-10.97	1/50
15	QPSK	1717.50	15.22	H	4.44	9.60	20.37	109.01	30.00	-9.63	1/77
		1745.00	14.45	H	4.47	9.69	19.66	92.41	30.00	-10.34	1/77
		1772.50	14.59	H	4.51	9.71	19.79	95.19	30.00	-10.21	1/77
	16-QAM	1717.50	14.51	H	4.44	9.60	19.66	92.57	30.00	-10.34	1/77
		1745.00	13.47	H	4.47	9.69	18.68	73.74	30.00	-11.32	1/77
		1772.50	13.41	H	4.51	9.71	18.61	72.54	30.00	-11.39	1/77
20	QPSK	1720.00	14.99	H	4.44	9.60	20.15	103.50	30.00	-9.85	1/1
		1745.00	14.63	H	4.47	9.68	19.83	96.15	30.00	-10.17	1/104
		1770.00	13.77	H	4.51	9.70	18.96	78.77	30.00	-11.04	1/1
	16-QAM	1720.00	13.66	H	4.44	9.60	18.82	76.20	30.00	-11.18	1/1
		1745.00	14.17	H	4.47	9.68	19.37	86.49	30.00	-10.63	1/104
		1770.00	12.39	H	4.51	9.70	17.58	57.33	30.00	-12.42	1/1

5G NR n66(Sub Ant)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	1720.00	17.94	H	4.44	9.61	23.11	204.57	30.00	-6.89	1/13
		1745.00	17.94	H	4.47	9.69	23.15	206.40	30.00	-6.85	1/13
		1770.00	17.91	H	4.51	9.71	23.11	204.63	30.00	-6.89	1/23
	16-QAM	1720.00	16.93	H	4.44	9.61	22.10	162.12	30.00	-7.90	1/13
		1745.00	17.15	H	4.47	9.69	22.36	172.07	30.00	-7.64	1/13
10	16-QAM	1770.00	16.91	H	4.51	9.71	22.11	162.55	30.00	-7.89	1/23
15	16-QAM										
20	16-QAM										

5G NR n77 (3450 ~ 3550 MHz)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
10	BPSK	3455.01	20.88	H	6.31	10.60	25.17	328.85	30.00	-4.83	1/1
		3499.98	20.52	H	6.36	10.65	24.81	302.69	30.00	-5.19	1/1
		3544.98	20.50	H	6.39	10.72	24.82	303.39	30.00	-5.18	1/22
	16-QAM	3455.01	18.94	H	6.31	10.60	23.23	210.38	30.00	-6.77	1/22
		3499.98	19.54	H	6.36	10.65	23.83	241.55	30.00	-6.17	1/1
		3544.98	19.48	H	6.39	10.72	23.80	239.88	30.00	-6.20	1/1
15	BPSK	3457.50	21.15	H	6.31	10.60	25.43	349.14	30.00	-4.57	1/36
		3499.98	20.65	H	6.36	10.65	24.94	311.89	30.00	-5.06	1/1
		3542.49	20.48	H	6.39	10.72	24.81	302.69	30.00	-5.19	1/1
	16-QAM	3457.50	20.25	H	6.31	10.60	24.53	283.79	30.00	-5.47	1/36
		3499.98	19.70	H	6.36	10.65	23.99	250.61	30.00	-6.01	1/36
		3542.49	19.57	H	6.39	10.72	23.90	245.47	30.00	-6.10	1/1
20	BPSK	3460.02	21.17	H	6.32	10.60	25.45	350.75	30.00	-4.55	1/1
		3499.98	20.86	H	6.36	10.65	25.15	327.34	30.00	-4.85	1/1
		3540.00	20.30	H	6.38	10.71	24.64	291.07	30.00	-5.36	1/1
	16-QAM	3460.02	20.39	H	6.32	10.60	24.67	293.09	30.00	-5.33	1/1
		3499.98	19.95	H	6.36	10.65	24.24	265.46	30.00	-5.76	1/1
		3540.00	19.48	H	6.38	10.71	23.82	240.99	30.00	-6.18	1/1
30	BPSK	3465.00	21.31	H	6.32	10.93	25.92	390.84	30.00	-4.08	1/1
		3499.98	20.79	H	6.36	10.94	25.37	344.35	30.00	-4.63	1/1
		3535.02	20.21	H	6.38	10.96	24.79	301.30	30.00	-5.21	1/1
	16-QAM	3465.00	20.35	H	6.32	10.93	24.96	313.33	30.00	-5.04	1/1
		3499.98	19.79	H	6.36	10.94	24.37	273.53	30.00	-5.63	1/1
		3535.02	19.18	H	6.38	10.96	23.76	237.68	30.00	-6.24	1/1
40	BPSK	3470.01	18.92	H	6.33	10.93	23.52	224.91	30.00	-6.48	1/1
		3499.98	20.53	H	6.36	10.94	25.11	324.34	30.00	-4.89	1/1
		3529.98	20.26	H	6.38	10.96	24.84	304.79	30.00	-5.16	1/1
	16-QAM	3470.01	19.00	H	6.33	10.93	23.60	229.09	30.00	-6.40	1/1
		3499.98	19.36	H	6.36	10.94	23.94	247.74	30.00	-6.06	1/1
		3529.98	19.32	H	6.38	10.96	23.90	245.47	30.00	-6.10	1/1
50	BPSK	3475.02	21.24	H	6.34	10.62	25.52	356.45	30.00	-4.48	1/1
		3499.98	20.91	H	6.36	10.65	25.20	331.13	30.00	-4.80	1/1
		3525.00	20.68	H	6.38	10.69	24.99	315.50	30.00	-5.01	1/1
	16-QAM	3475.02	20.37	H	6.34	10.62	24.65	291.74	30.00	-5.35	1/1
		3499.98	19.93	H	6.36	10.65	24.22	264.24	30.00	-5.78	1/1
		3525.00	19.72	H	6.38	10.69	24.03	252.93	30.00	-5.97	1/1
60	BPSK	3480.00	21.10	H	6.34	10.62	25.38	345.14	30.00	-4.62	1/1
		3499.98	21.20	H	6.36	10.65	25.49	354.00	30.00	-4.51	1/1
		3519.99	20.78	H	6.38	10.68	25.08	322.11	30.00	-4.92	1/1
	16-QAM	3480.00	19.88	H	6.34	10.62	24.16	260.62	30.00	-5.84	1/81
		3499.98	20.09	H	6.36	10.65	24.38	274.16	30.00	-5.62	1/1
		3519.99	19.90	H	6.38	10.68	24.20	263.03	30.00	-5.80	1/1
70	BPSK	3485.01	21.00	H	6.34	10.63	25.28	337.29	30.00	-4.72	1/1
		3499.98	20.71	H	6.36	10.65	25.00	316.23	30.00	-5.00	1/1
		3514.98	20.75	H	6.37	10.67	25.05	319.89	30.00	-4.95	1/1
	16-QAM	3485.01	20.27	H	6.34	10.63	24.55	285.10	30.00	-5.45	1/1
		3499.98	19.64	H	6.36	10.65	23.93	247.17	30.00	-6.07	1/1
		3514.98	19.93	H	6.37	10.67	24.23	264.85	30.00	-5.77	1/1
80	BPSK	3490.02	20.93	H	6.35	10.63	25.22	332.66	30.00	-4.78	1/1
		3499.98	20.99	H	6.36	10.65	25.28	337.29	30.00	-4.72	1/1
		3510.00	20.79	H	6.37	10.66	25.08	322.11	30.00	-4.92	1/1
	16-QAM	3490.02	19.99	H	6.35	10.63	24.28	267.92	30.00	-5.72	1/1
		3499.98	19.99	H	6.36	10.65	24.28	267.92	30.00	-5.72	1/1
		3510.00	19.87	H	6.37	10.66	24.16	260.62	30.00	-5.84	1/1
90	BPSK	3495.00	20.95	H	6.35	10.64	25.24	334.20	30.00	-4.76	1/1
		3499.98	20.86	H	6.36	10.65	25.15	327.34	30.00	-4.85	1/1
		3504.99	21.03	H	6.37	10.65	25.31	339.63	30.00	-4.69	1/1
	16-QAM	3495.00	20.00	H	6.35	10.64	24.29	268.53	30.00	-5.71	1/1
		3499.98	19.93	H	6.36	10.65	24.22	264.24	30.00	-5.78	1/1
		3504.99	20.09	H	6.37	10.65	24.37	273.53	30.00	-5.63	1/1
100	BPSK	3499.98	20.97	H	6.36	10.94	25.55	358.92	30.00	-4.45	1/1
	16-QAM	3499.98	20.02	H	6.36	10.94	24.60	288.40	30.00	-5.40	1/1

5G NR n77 (3450 ~ 3550 MHz, SRS1)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
10	3455.01								
	3499.98								
	3544.98								
15	3457.50								
	3499.98								
	3542.29								
20	3460.02								
	3499.98								
	3540.00								
30	3465.00	11.48	H	6.32	10.61	15.76	37.67	30.00	-14.24
	3499.98	11.92	H	6.36	10.65	16.21	41.78	30.00	-13.79
	3535.02	12.06	H	6.38	10.71	16.39	43.55	30.00	-13.61
40	3470.01								
	3499.98								
	3529.98								
50	3475.02								
	3499.98								
	3525.00								
60	3480.00								
	3499.98								
	3519.99								
70	3485.01								
	3499.98								
	3514.98								
80	3490.02								
	3499.98								
	3510.00								
90	3495.00								
	3499.98								
	3504.99								
100	3949.98								

5G NR n77 (3450 ~ 3550 MHz, SRS2)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
10	3455.01								
	3499.98								
	3544.98								
15	3457.50								
	3499.98								
	3542.29								
20	3460.02								
	3499.98								
	3540.00								
30	3465.00								
	3499.98								
	3535.02								
40	3470.01	15.34	H	6.33	10.61	19.62	91.62	30.00	-10.38
	3499.98	14.92	H	6.36	10.65	19.21	83.37	30.00	-10.79
	3529.98	15.01	H	6.38	10.70	19.32	85.51	30.00	-10.68
50	3475.02								
	3499.98								
	3525.00								
60	3480.00								
	3499.98								
	3519.99								
70	3485.01								
	3499.98								
	3514.98								
80	3490.02								
	3499.98								
	3510.00								
90	3495.00								
	3499.98								
	3504.99								
100	3949.98								

5G NR n77 (3450 ~ 3550 MHz, SRS3)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
10	3455.01								
	3499.98								
	3544.98								
15	3457.50								
	3499.98								
	3542.29								
20	3460.02								
	3499.98								
	3540.00								
30	3465.00								
	3499.98								
	3535.02								
40	3470.01								
	3499.98								
	3529.98								
50	3475.02								
	3499.98								
	3525.00								
60	3480.00								
	3499.98								
	3519.99								
70	3485.01								
	3499.98								
	3514.98								
80	3490.02								
	3499.98								
	3510.00								
90	3495.00								
	3499.98								
	3504.99								
100	3499.98	9.71	H	6.36	10.65	14.00	25.12	30.00	-16.00

5G NR n77 (3700 ~ 3980 MHz)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
10	BPSK	3705.00	21.92	H	6.54	10.81	26.19	415.91	30.00	-3.81	1/12
		3840.00	20.57	H	6.65	10.65	24.56	285.76	30.00	-5.44	1/12
		3975.00	19.99	H	6.77	10.63	23.84	242.10	30.00	-6.16	1/1
	16-QAM	3705.00	20.66	H	6.54	10.81	24.93	311.17	30.00	-5.07	1/12
		3840.00	19.62	H	6.65	10.65	23.61	229.61	30.00	-6.39	1/12
		3975.00	19.25	H	6.77	10.63	23.10	204.17	30.00	-6.90	1/1
15	BPSK	3707.52	21.72	H	6.55	10.81	25.98	396.28	30.00	-4.02	1/1
		3840.00	20.95	H	6.65	10.65	24.94	311.89	30.00	-5.06	1/1
		3972.48	20.26	H	6.78	10.63	24.10	257.04	30.00	-5.90	1/1
	16-QAM	3707.52	20.71	H	6.55	10.81	24.97	314.05	30.00	-5.03	1/1
		3840.00	19.95	H	6.65	10.65	23.94	247.74	30.00	-6.06	1/36
		3972.48	19.21	H	6.78	10.63	23.05	201.84	30.00	-6.95	1/36
20	BPSK	3710.01	21.54	H	6.55	10.80	25.80	380.19	30.00	-4.20	1/1
		3840.00	20.57	H	6.65	10.65	24.56	285.76	30.00	-5.44	1/1
		3969.99	20.33	H	6.77	10.62	24.18	261.82	30.00	-5.82	1/1
	16-QAM	3710.01	20.63	H	6.55	10.80	24.89	308.32	30.00	-5.11	1/1
		3840.00	19.49	H	6.65	10.65	23.48	222.84	30.00	-6.52	1/1
		3969.99	19.12	H	6.77	10.62	22.97	198.15	30.00	-7.03	1/49
30	BPSK	3715.02	21.76	H	6.55	10.80	26.01	399.02	30.00	-3.99	1/1
		3840.00	20.54	H	6.65	10.65	24.53	283.79	30.00	-5.47	1/76
		3964.98	20.65	H	6.77	10.62	24.50	281.84	30.00	-5.50	1/1
	16-QAM	3715.02	20.85	H	6.55	10.80	25.10	323.59	30.00	-4.90	1/1
		3840.00	19.60	H	6.65	10.65	23.59	228.56	30.00	-6.41	1/76
		3964.98	19.63	H	6.77	10.62	23.48	222.84	30.00	-6.52	1/1
40	BPSK	3720.02	22.25	H	6.55	10.79	26.48	444.63	30.00	-3.52	1/1
		3840.00	20.23	H	6.65	10.65	24.22	264.24	30.00	-5.78	1/104
		3960.00	20.91	H	6.77	10.62	24.76	299.23	30.00	-5.24	1/1
	16-QAM	3720.02	21.99	H	6.55	10.79	26.22	418.79	30.00	-3.78	1/1
		3840.00	19.34	H	6.65	10.65	23.33	215.28	30.00	-6.67	1/1
		3960.00	19.91	H	6.77	10.62	23.76	237.68	30.00	-6.24	1/1
50	BPSK	3725.01	22.22	H	6.56	10.79	26.44	440.55	30.00	-3.56	1/1
		3840.00	19.65	H	6.65	10.65	23.64	231.21	30.00	-6.36	1/67
		3954.99	20.47	H	6.75	10.62	24.33	271.02	30.00	-5.67	1/1
	16-QAM	3725.01	21.80	H	6.56	10.79	26.02	399.94	30.00	-3.98	1/1
		3840.00	18.70	H	6.65	10.65	22.69	185.78	30.00	-7.31	1/67
		3954.99	19.54	H	6.75	10.62	23.40	218.78	30.00	-6.60	1/1
60	BPSK	3730.02	22.12	H	6.56	10.78	26.33	429.54	30.00	-3.67	1/1
		3840.00	19.76	H	6.65	10.65	23.75	237.14	30.00	-6.25	1/81
		3949.98	20.44	H	6.75	10.62	24.31	269.77	30.00	-5.69	1/1
	16-QAM	3730.02	21.63	H	6.56	10.78	25.84	383.71	30.00	-4.16	1/1
		3840.00	18.88	H	6.65	10.65	22.87	193.64	30.00	-7.13	1/81
		3949.98	19.43	H	6.75	10.62	23.30	213.80	30.00	-6.70	1/1
70	BPSK	3735.02	22.12	H	6.57	10.77	26.32	428.55	30.00	-3.68	1/1
		3840.00	19.32	H	6.65	10.65	23.31	214.29	30.00	-6.69	1/188
		3944.98	20.31	H	6.75	10.62	24.18	261.82	30.00	-5.82	1/1
	16-QAM	3735.02	21.55	H	6.57	10.77	25.75	375.84	30.00	-4.25	1/1
		3840.00	18.96	H	6.65	10.65	22.95	197.24	30.00	-7.05	1/188
		3944.98	19.34	H	6.75	10.62	23.21	209.41	30.00	-6.79	1/1
80	BPSK	3740.01	21.71	H	6.58	10.77	25.90	389.05	30.00	-4.10	1/1
		3840.00	19.85	H	6.65	10.65	23.84	242.10	30.00	-6.16	1/109
		3939.99	20.24	H	6.74	10.62	24.11	257.63	30.00	-5.89	1/1
	16-QAM	3740.01	21.67	H	6.58	10.77	25.86	385.48	30.00	-4.14	1/1
		3840.00	18.80	H	6.65	10.65	22.79	190.11	30.00	-7.21	1/109
		3939.99	19.37	H	6.74	10.62	23.24	210.86	30.00	-6.76	1/1
90	BPSK	3745.02	22.14	H	6.57	10.76	26.33	429.54	30.00	-3.67	1/1
		3840.00	19.77	H	6.65	10.65	23.76	237.68	30.00	-6.24	1/123
		3934.98	20.03	H	6.75	10.62	23.90	245.47	30.00	-6.10	1/1
	16-QAM	3745.02	21.65	H	6.57	10.76	25.84	383.71	30.00	-4.16	1/1
		3840.00	18.83	H	6.65	10.65	22.82	191.43	30.00	-7.18	1/123
		3934.98	19.04	H	6.75	10.62	22.91	195.43	30.00	-7.09	1/1
100	BPSK	3750.00	20.84	H	6.58	10.75	25.01	316.96	30.00	-4.99	1/271
		3840.00	20.12	H	6.65	10.65	24.11	257.63	30.00	-5.89	1/137
		3930.00	20.16	H	6.75	10.62	24.03	252.93	30.00	-5.97	1/1
	16-QAM	3750.00	18.98	H	6.58	10.75	23.15	206.54	30.00	-6.85	1/271
		3840.00	19.00	H	6.65	10.65	22.99	199.07	30.00	-7.01	1/137
		3930.00	19.25	H	6.75	10.62	23.12	205.12	30.00	-6.88	1/1

5G NR n77 (3700 ~ 3980 MHz, SRS1)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
10	3705.00								
	3840.00								
	3975.00								
15	3707.52								
	3840.00								
	3972.48								
20	3710.01								
	3840.00								
	3969.99								
30	3715.02								
	3840.00								
	3964.98								
40	3720.00								
	3840.00								
	3960.00								
50	3725.01								
	3840.00								
	3954.99								
60	3730.02								
	3840.00								
	3949.98								
70	3735.02								
	3840.00								
	3944.98								
80	3740.01								
	3840.00								
	3939.99								
90	3745.02								
	3840.00								
	3934.98								
100	3750.00	11.06	H	6.58	10.75	15.24	33.42	30.00	-14.76
	3840.00	8.90	H	6.65	10.65	12.89	19.45	30.00	-17.11
	3930.00	9.16	H	6.75	10.62	13.03	20.09	30.00	-16.97

5G NR n77 (3700 ~ 3980 MHz, SRS2)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
10	3705.00								
	3840.00								
	3975.00								
15	3707.52								
	3840.00								
	3972.48								
20	3710.01								
	3840.00								
	3969.99								
30	3715.02								
	3840.00								
	3964.98								
40	3720.00								
	3840.00								
	3960.00								
50	3725.01								
	3840.00								
	3954.99								
60	3730.02								
	3840.00								
	3949.98								
70	3735.02								
	3840.00								
	3944.98								
80	3740.01								
	3840.00								
	3939.99								
90	3745.02								
	3840.00								
	3934.98								
100	3750.00	17.70	H	6.58	10.75	21.88	154.17	30.00	-8.12
	3840.00	18.27	H	6.65	10.65	22.26	168.27	30.00	-7.74
	3930.00	17.55	H	6.75	10.62	21.42	138.68	30.00	-8.58

5G NR n77 (3700 ~ 3980 MHz, SRS3)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
10	3705.00								
	3840.00								
	3975.00								
15	3707.52								
	3840.00								
	3972.48								
20	3710.01								
	3840.00								
	3969.99								
30	3715.02								
	3840.00								
	3964.98								
40	3720.00								
	3840.00								
	3960.00								
50	3725.01								
	3840.00								
	3954.99								
60	3730.02								
	3840.00								
	3949.98								
70	3735.02								
	3840.00								
	3944.98								
80	3740.01								
	3840.00								
	3939.99								
90	3745.02								
	3840.00								
	3934.98								
100	3750.00	3.99	H	6.58	10.75	8.17	6.56	30.00	-21.83
	3840.00	7.06	H	6.65	10.65	11.05	12.74	30.00	-18.95
	3930.00	10.71	H	6.75	10.62	14.58	28.71	30.00	-15.42

9.6. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53 and §90.691

LIMIT

Part 22.917(a) & Part 24.238(a) & Part 27.53(h) The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

Part 27.53:

(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB.

(h) The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.

(m) (4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

(l)(2) For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(n)(2) For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Part 90.691(a):

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 $\text{Log}_{10}(f/6.1)$ decibels or $50 + 10 \text{Log}_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10\text{Log}_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz. (NOTE : Use 100kHz reference bandwidth)

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

TEST PROCEDURE

ANSI / TIA / EIA 603 E Clause 2.2.12; ESU40 setting reference to 971168 D01 v03r01

For peak power measurement with a ESU40:

- a) Set the RBW = 100 KHz for emission below 1GHz and 1MHz for emissions above 1GHz
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = auto couple;
- e) Detector = rms;
- f) Ensure that the number of measurement points \geq span/RBW;
- g) Trace mode = average(WCDMA, LTE FDD, 5G NR FDD), Maxhold(GSM, LTE TDD, 5G NR TDD);

RESULTS

See the following pages.

NOTE1

5G NR: All Waveforms (CP-OFDM vs DFT-s OFDM) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) 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.

NOTE2

Please refer to section 5.4 for bandwidth and RB setting about LTE, 5G NR Bands.

9.6.1. SPURIOUS RADIATION PLOTS

GSM850

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung Project #: 4790357232 Date: 4/25/2022 Test Engineer: 19568 Configuration: EUT / AC Adapter, Z-Position, HF Location: Chamber 2 Mode: GPRS 850 MHz Harmonics Test Voltage: AC 120 V, 60 Hz								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 824.2MHz										
1648.40	-10.0	V	3.0	40.9	1.0	-50.0	-13.0	-37.0		
2472.60	-7.1	V	3.0	41.5	1.0	-47.6	-13.0	-34.6		
3296.80	-4.7	V	3.0	42.3	1.0	-46.1	-13.0	-33.1		
1648.40	-11.2	H	3.0	40.9	1.0	-51.1	-13.0	-38.1		
2472.60	-8.1	H	3.0	41.5	1.0	-48.6	-13.0	-35.6		
3296.80	-4.8	H	3.0	42.3	1.0	-46.1	-13.0	-33.1		
Mid Ch, 836.6MHz										
1673.20	-10.9	V	3.0	40.9	1.0	-50.8	-13.0	-37.8		
2509.80	-7.3	V	3.0	41.6	1.0	-47.9	-13.0	-34.9		
3346.40	-4.8	V	3.0	42.3	1.0	-46.1	-13.0	-33.1		
1673.20	-11.3	H	3.0	40.9	1.0	-51.2	-13.0	-38.2		
2509.80	-7.5	H	3.0	41.6	1.0	-48.1	-13.0	-35.1		
3346.40	-4.4	H	3.0	42.3	1.0	-45.7	-13.0	-32.7		
High Ch, 848.8MHz										
1697.60	-9.9	V	3.0	40.9	1.0	-49.9	-13.0	-36.9		
2546.40	-7.0	V	3.0	41.6	1.0	-47.6	-13.0	-34.6		
3395.20	-4.2	V	3.0	42.3	1.0	-45.5	-13.0	-32.5		
1697.60	-11.4	H	3.0	40.9	1.0	-51.4	-13.0	-38.4		
2546.40	-7.5	H	3.0	41.6	1.0	-48.2	-13.0	-35.2		
3395.20	-4.5	H	3.0	42.3	1.0	-45.8	-13.0	-32.8		

GSM850
GPRS

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
GSM850 EGPRS		Company:		Samsung							
		Project #:		4790357232							
		Date:		4/25/2022							
		Test Engineer:		19568							
		Configuration:		EUT / AC Adapter, Z-Position, HF							
		Location:		Chamber 2							
		Mode:		EGPRS 850 MHz Harmonics							
		Test Voltage:		AC 120 V, 60 Hz							
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 824.2MHz									
1648.40	-10.8	V	3.0	40.9	1.0	-50.7	-13.0	-37.7			
2472.60	-7.4	V	3.0	41.5	1.0	-47.9	-13.0	-34.9			
3296.80	-5.1	V	3.0	42.3	1.0	-46.4	-13.0	-33.4			
1648.40	-11.3	H	3.0	40.9	1.0	-51.2	-13.0	-38.2			
2472.60	-8.0	H	3.0	41.5	1.0	-48.5	-13.0	-35.5			
3296.80	-5.2	H	3.0	42.3	1.0	-46.5	-13.0	-33.5			
Mid Ch, 836.6MHz											
1673.20	-10.8	V	3.0	40.9	1.0	-50.7	-13.0	-37.7			
2509.80	-7.2	V	3.0	41.6	1.0	-47.8	-13.0	-34.8			
3346.40	-4.6	V	3.0	42.3	1.0	-45.9	-13.0	-32.9			
1673.20	-11.4	H	3.0	40.9	1.0	-51.3	-13.0	-38.3			
2509.80	-7.8	H	3.0	41.6	1.0	-48.4	-13.0	-35.4			
3346.40	-4.7	H	3.0	42.3	1.0	-46.0	-13.0	-33.0			
High Ch, 848.8MHz											
1697.60	-10.7	V	3.0	40.9	1.0	-50.6	-13.0	-37.6			
2546.40	-7.4	V	3.0	41.6	1.0	-48.1	-13.0	-35.1			
3395.20	-4.2	V	3.0	42.3	1.0	-45.5	-13.0	-32.5			
1697.60	-10.7	H	3.0	40.9	1.0	-50.7	-13.0	-37.7			
2546.40	-7.5	H	3.0	41.6	1.0	-48.2	-13.0	-35.2			
3395.20	-4.5	H	3.0	42.3	1.0	-45.9	-13.0	-32.9			

GSM1900

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		4/25/2022							
Test Engineer:		19568							
Configuration:		EUT / AC Adapter, Y-Position, Open							
Location:		Chamber 2							
Mode:		GPRS 1900 MHz Harmonics							
Test Votage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.2MHz									
3700.40	-9.1	V	3.0	42.3	1.0	-50.4	-13.0	-37.4	
5550.60	-5.5	V	3.0	43.1	1.0	-47.6	-13.0	-34.6	
7400.80	-3.9	V	3.0	42.7	1.0	-45.6	-13.0	-32.6	
3700.40	-8.7	H	3.0	42.3	1.0	-50.0	-13.0	-37.0	
5550.60	-5.6	H	3.0	43.1	1.0	-47.8	-13.0	-34.8	
7400.80	-3.8	H	3.0	42.7	1.0	-45.6	-13.0	-32.6	
Mid Ch, 1880MHz									
3760.00	-8.5	V	3.0	42.3	1.0	-49.9	-13.0	-36.9	
5640.00	-5.3	V	3.0	43.2	1.0	-47.5	-13.0	-34.5	
7520.00	-3.0	V	3.0	42.7	1.0	-44.6	-13.0	-31.6	
3760.00	-8.7	H	3.0	42.3	1.0	-50.0	-13.0	-37.0	
5640.00	-5.4	H	3.0	43.2	1.0	-47.5	-13.0	-34.5	
7520.00	-3.7	H	3.0	42.7	1.0	-45.4	-13.0	-32.4	
High Ch, 1909.8MHz									
3819.60	-8.5	V	3.0	42.3	1.0	-49.9	-13.0	-36.9	
5729.40	-5.3	V	3.0	43.2	1.0	-47.4	-13.0	-34.4	
7639.20	-3.5	V	3.0	42.6	1.0	-45.1	-13.0	-32.1	
3819.60	-8.4	H	3.0	42.3	1.0	-49.7	-13.0	-36.7	
5729.40	-5.3	H	3.0	43.2	1.0	-47.5	-13.0	-34.5	
7639.20	-3.4	H	3.0	42.6	1.0	-45.0	-13.0	-32.0	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		4/26/2022							
Test Engineer:		19568							
Configuration:		EUT / AC Adapter, Y-Position, Open							
Location:		Chamber 2							
Mode:		EGPRS 1900 MHz Harmonics							
Test Votage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.2MHz									
3700.40	-8.9	V	3.0	42.3	1.0	-50.2	-13.0	-37.2	
5550.60	-5.9	V	3.0	43.1	1.0	-48.0	-13.0	-35.0	
7400.80	-4.0	V	3.0	42.7	1.0	-45.7	-13.0	-32.7	
3700.40	-8.9	H	3.0	42.3	1.0	-50.2	-13.0	-37.2	
5550.60	-5.7	H	3.0	43.1	1.0	-47.9	-13.0	-34.9	
7400.80	-4.2	H	3.0	42.7	1.0	-45.9	-13.0	-32.9	
Mid Ch, 1880MHz									
3760.00	-8.6	V	3.0	42.3	1.0	-49.9	-13.0	-36.9	
5640.00	-5.4	V	3.0	43.2	1.0	-47.6	-13.0	-34.6	
7520.00	-3.4	V	3.0	42.7	1.0	-45.0	-13.0	-32.0	
3760.00	-8.8	H	3.0	42.3	1.0	-50.1	-13.0	-37.1	
5640.00	-5.6	H	3.0	43.2	1.0	-47.8	-13.0	-34.8	
7520.00	-3.7	H	3.0	42.7	1.0	-45.4	-13.0	-32.4	
High Ch, 1909.8MHz									
3819.60	-8.6	V	3.0	42.3	1.0	-49.9	-13.0	-36.9	
5729.40	-5.4	V	3.0	43.2	1.0	-47.6	-13.0	-34.6	
7639.20	-3.7	V	3.0	42.6	1.0	-45.3	-13.0	-32.3	
3819.60	-8.5	H	3.0	42.3	1.0	-49.8	-13.0	-36.8	
5729.40	-5.5	H	3.0	43.2	1.0	-47.7	-13.0	-34.7	
7639.20	-3.4	H	3.0	42.6	1.0	-45.0	-13.0	-32.0	

WCDMA Band 5

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Band 5 REL99		Company:		Samsung							
		Project #:		4790357232							
		Date:		4/25/2022							
		Test Engineer:		19568							
		Configuration:		EUT / AC Adapter, Z-Position, Open							
		Location:		Chamber 2							
		Mode:		Rel99 Band 5 Harmonics							
		Test Voltage:		AC 120 V, 60 Hz							
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 826.4MHz									
1652.80	-16.1	V	3.0	40.9	1.0	-56.0	-13.0	-43.0			
2479.20	-13.1	V	3.0	41.6	1.0	-53.7	-13.0	-40.7			
3305.60	-10.1	V	3.0	42.3	1.0	-51.4	-13.0	-38.4			
1652.80	-16.7	H	3.0	40.9	1.0	-56.6	-13.0	-43.6			
2479.20	-13.4	H	3.0	41.6	1.0	-54.0	-13.0	-41.0			
3305.60	-10.2	H	3.0	42.3	1.0	-51.5	-13.0	-38.5			
Mid Ch, 836.6MHz											
1673.20	-15.9	V	3.0	40.9	1.0	-55.9	-13.0	-42.9			
2509.80	-13.1	V	3.0	41.6	1.0	-53.7	-13.0	-40.7			
3346.40	-9.9	V	3.0	42.3	1.0	-51.2	-13.0	-38.2			
1673.20	-16.5	H	3.0	40.9	1.0	-56.5	-13.0	-43.5			
2509.80	-13.3	H	3.0	41.6	1.0	-53.9	-13.0	-40.9			
3346.40	-9.8	H	3.0	42.3	1.0	-51.1	-13.0	-38.1			
High Ch, 846.6MHz											
1693.20	-15.8	V	3.0	40.9	1.0	-55.7	-13.0	-42.7			
2539.80	-12.8	V	3.0	41.6	1.0	-53.5	-13.0	-40.5			
3386.40	-9.8	V	3.0	42.3	1.0	-51.1	-13.0	-38.1			
1693.20	-16.4	H	3.0	40.9	1.0	-56.4	-13.0	-43.4			
2539.80	-13.4	H	3.0	41.6	1.0	-54.0	-13.0	-41.0			
3386.40	-9.7	H	3.0	42.3	1.0	-51.0	-13.0	-38.0			
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Band 5 HSDPA		Company:		Samsung							
		Project #:		4790357232							
		Date:		4/25/2022							
		Test Engineer:		19568							
		Configuration:		EUT / AC Adapter, Z-Position, Open							
		Location:		Chamber 2							
		Mode:		HSDPA Band 5 Harmonics							
		Test Voltage:		AC 120 V, 60 Hz							
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 826.4MHz									
1652.80	-16.0	V	3.0	40.9	1.0	-55.9	-13.0	-42.9			
2479.20	-13.0	V	3.0	41.6	1.0	-53.6	-13.0	-40.6			
3305.60	-10.3	V	3.0	42.3	1.0	-51.6	-13.0	-38.6			
1652.80	-16.7	H	3.0	40.9	1.0	-56.7	-13.0	-43.7			
2479.20	-13.5	H	3.0	41.6	1.0	-54.0	-13.0	-41.0			
3305.60	-10.2	H	3.0	42.3	1.0	-51.5	-13.0	-38.5			
Mid Ch, 836.6MHz											
1673.20	-16.0	V	3.0	40.9	1.0	-55.9	-13.0	-42.9			
2509.80	-13.0	V	3.0	41.6	1.0	-53.6	-13.0	-40.6			
3346.40	-10.0	V	3.0	42.3	1.0	-51.3	-13.0	-38.3			
1673.20	-16.6	H	3.0	40.9	1.0	-56.5	-13.0	-43.5			
2509.80	-13.4	H	3.0	41.6	1.0	-53.9	-13.0	-40.9			
3346.40	-9.9	H	3.0	42.3	1.0	-51.2	-13.0	-38.2			
High Ch, 846.6MHz											
1693.20	-15.9	V	3.0	40.9	1.0	-55.8	-13.0	-42.8			
2539.80	-12.9	V	3.0	41.6	1.0	-53.5	-13.0	-40.5			
3386.40	-9.8	V	3.0	42.3	1.0	-51.1	-13.0	-38.1			
1693.20	-16.5	H	3.0	40.9	1.0	-56.5	-13.0	-43.5			
2539.80	-13.2	H	3.0	41.6	1.0	-53.8	-13.0	-40.8			
3386.40	-9.8	H	3.0	42.3	1.0	-51.1	-13.0	-38.1			

WCDMA Band 4

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Band 4 REL99		Company:		Samsung							
		Project #:		4790357232							
		Date:		4/25/2022							
		Test Engineer:		19568							
		Configuration:		EUT / AC Adapter, Y-Position, HF							
		Location:		Chamber 2							
		Mode:		Rel99 Band 4 Harmonics							
		Test Voltage:		AC 120 V, 60 Hz							
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 1712.4MHz									
3424.80	-9.6	V	3.0	42.3	1.0	-50.9	-13.0	-37.9			
5137.20	-9.3	V	3.0	43.1	1.0	-51.4	-13.0	-38.4			
6849.60	-6.7	V	3.0	43.0	1.0	-48.6	-13.0	-35.6			
3424.80	-9.7	H	3.0	42.3	1.0	-51.0	-13.0	-38.0			
5137.20	-9.1	H	3.0	43.1	1.0	-51.2	-13.0	-38.2			
6849.60	-6.5	H	3.0	43.0	1.0	-48.5	-13.0	-35.5			
Mid Ch, 1732.6MHz											
3465.20	-9.1	V	3.0	42.3	1.0	-50.4	-13.0	-37.4			
5197.80	-9.1	V	3.0	43.1	1.0	-51.1	-13.0	-38.1			
6930.40	-6.7	V	3.0	43.0	1.0	-48.6	-13.0	-35.6			
3465.20	-9.1	H	3.0	42.3	1.0	-50.4	-13.0	-37.4			
5197.80	-9.0	H	3.0	43.1	1.0	-51.0	-13.0	-38.0			
6930.40	-6.5	H	3.0	43.0	1.0	-48.4	-13.0	-35.4			
High Ch, 1752.6MHz											
3505.20	-9.1	V	3.0	42.3	1.0	-50.4	-13.0	-37.4			
5257.80	-9.2	V	3.0	43.1	1.0	-51.2	-13.0	-38.2			
7010.40	-6.4	V	3.0	42.9	1.0	-48.3	-13.0	-35.3			
3505.20	-9.0	H	3.0	42.3	1.0	-50.3	-13.0	-37.3			
5257.80	-9.0	H	3.0	43.1	1.0	-51.1	-13.0	-38.1			
7010.40	-6.2	H	3.0	42.9	1.0	-48.2	-13.0	-35.2			
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Band 4 HSDPA		Company:		Samsung							
		Project #:		4790357232							
		Date:		4/25/2022							
		Test Engineer:		19568							
		Configuration:		EUT / AC Adapter, Y-Position, HF							
		Location:		Chamber 2							
		Mode:		HSDPA Band 4 Harmonics							
		Test Voltage:		AC 120 V, 60 Hz							
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 1712.4MHz									
3424.80	-9.5	V	3.0	42.3	1.0	-50.8	-13.0	-37.8			
5137.20	-9.4	V	3.0	43.1	1.0	-51.4	-13.0	-38.4			
6849.60	-6.6	V	3.0	43.0	1.0	-48.6	-13.0	-35.6			
3424.80	-9.4	H	3.0	42.3	1.0	-50.7	-13.0	-37.7			
5137.20	-9.2	H	3.0	43.1	1.0	-51.2	-13.0	-38.2			
6849.60	-6.6	H	3.0	43.0	1.0	-48.5	-13.0	-35.5			
Mid Ch, 1732.6MHz											
3465.20	-13.0	V	3.0	42.3	1.0	-54.3	-13.0	-41.3			
5197.80	-9.1	V	3.0	43.1	1.0	-51.2	-13.0	-38.2			
6930.40	-6.7	V	3.0	43.0	1.0	-48.6	-13.0	-35.6			
3465.20	-9.0	H	3.0	42.3	1.0	-50.3	-13.0	-37.3			
5197.80	-8.9	H	3.0	43.1	1.0	-51.0	-13.0	-38.0			
6930.40	-6.5	H	3.0	43.0	1.0	-48.4	-13.0	-35.4			
High Ch, 1752.6MHz											
3505.20	-8.7	V	3.0	42.3	1.0	-50.0	-13.0	-37.0			
5257.80	-9.1	V	3.0	43.1	1.0	-51.2	-13.0	-38.2			
7010.40	-6.4	V	3.0	42.9	1.0	-48.3	-13.0	-35.3			
3505.20	-8.6	H	3.0	42.3	1.0	-49.9	-13.0	-36.9			
5257.80	-8.9	H	3.0	43.1	1.0	-51.0	-13.0	-38.0			
7010.40	-6.2	H	3.0	42.9	1.0	-48.2	-13.0	-35.2			

WCDMA Band 2

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		4/25/2022							
Test Engineer:		19568							
Configuration:		EUT / AC Adapter, Y-Position, HF							
Location:		Chamber 2							
Mode:		Rel99 Band 2 Harmonics							
Test Voltage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3704.80	-11.6	V	3.0	42.3	1.0	-52.9	-13.0	-39.9	
5557.20	-8.4	V	3.0	43.1	1.0	-50.5	-13.0	-37.5	
7409.60	-6.5	V	3.0	42.7	1.0	-48.3	-13.0	-35.3	
3704.80	-11.4	H	3.0	42.3	1.0	-52.7	-13.0	-39.7	
5557.20	-8.4	H	3.0	43.1	1.0	-50.6	-13.0	-37.6	
7409.60	-6.5	H	3.0	42.7	1.0	-48.2	-13.0	-35.2	
Mid Ch, 1880MHz									
3760.00	-11.5	V	3.0	42.3	1.0	-52.8	-13.0	-39.8	
5640.00	-8.2	V	3.0	43.2	1.0	-50.4	-13.0	-37.4	
7520.00	-6.6	V	3.0	42.7	1.0	-48.3	-13.0	-35.3	
3760.00	-11.3	H	3.0	42.3	1.0	-52.7	-13.0	-39.7	
5640.00	-8.2	H	3.0	43.2	1.0	-50.3	-13.0	-37.3	
7520.00	-6.6	H	3.0	42.7	1.0	-48.3	-13.0	-35.3	
High Ch, 1907.6MHz									
3815.20	-11.4	V	3.0	42.3	1.0	-52.7	-13.0	-39.7	
5722.80	-8.3	V	3.0	43.2	1.0	-50.5	-13.0	-37.5	
7630.40	-6.5	V	3.0	42.6	1.0	-48.1	-13.0	-35.1	
3815.20	-11.2	H	3.0	42.3	1.0	-52.5	-13.0	-39.5	
5722.80	-8.4	H	3.0	43.2	1.0	-50.6	-13.0	-37.6	
7630.40	-6.6	H	3.0	42.6	1.0	-48.2	-13.0	-35.2	

Band 2
REL99

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		4/25/2022							
Test Engineer:		19568							
Configuration:		EUT / AC Adapter, Y-Position, HF							
Location:		Chamber 2							
Mode:		HSDPA Band 2 Harmonics							
Test Voltage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3704.80	-11.7	V	3.0	42.3	1.0	-53.0	-13.0	-40.0	
5557.20	-8.3	V	3.0	43.1	1.0	-50.5	-13.0	-37.5	
7409.60	-6.5	V	3.0	42.7	1.0	-48.2	-13.0	-35.2	
3704.80	-11.4	H	3.0	42.3	1.0	-52.7	-13.0	-39.7	
5557.20	-8.5	H	3.0	43.1	1.0	-50.6	-13.0	-37.6	
7409.60	-6.5	H	3.0	42.7	1.0	-48.2	-13.0	-35.2	
Mid Ch, 1880MHz									
3760.00	-11.5	V	3.0	42.3	1.0	-52.8	-13.0	-39.8	
5640.00	-8.2	V	3.0	43.2	1.0	-50.4	-13.0	-37.4	
7520.00	-6.5	V	3.0	42.7	1.0	-48.2	-13.0	-35.2	
3760.00	-11.3	H	3.0	42.3	1.0	-52.7	-13.0	-39.7	
5640.00	-8.3	H	3.0	43.2	1.0	-50.4	-13.0	-37.4	
7520.00	-6.6	H	3.0	42.7	1.0	-48.3	-13.0	-35.3	
High Ch, 1907.6MHz									
3815.20	-11.4	V	3.0	42.3	1.0	-52.7	-13.0	-39.7	
5722.80	-8.3	V	3.0	43.2	1.0	-50.5	-13.0	-37.5	
7630.40	-6.5	V	3.0	42.6	1.0	-48.1	-13.0	-35.1	
3815.20	-11.2	H	3.0	42.3	1.0	-52.5	-13.0	-39.5	
5722.80	-8.4	H	3.0	43.2	1.0	-50.6	-13.0	-37.6	
7630.40	-6.5	H	3.0	42.6	1.0	-48.1	-13.0	-35.1	

Band 2
HSDPA

LTE Band 5

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		4/27/2022							
Test Engineer:		19568							
Configuration:		EUT / AC Adapter, Z-Position, Open							
Location:		Chamber 2							
Mode:		LTE_QPSK Band 5 Harmonics, 3MHz Bandwidth							
Test Voltage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 825.5MHz									
1651.00	-15.9	V	3.0	40.9	1.0	-55.8	-13.0	-42.8	
2476.50	-12.9	V	3.0	41.5	1.0	-53.4	-13.0	-40.4	
3302.00	-10.1	V	3.0	42.3	1.0	-51.4	-13.0	-38.4	
1651.00	-16.5	H	3.0	40.9	1.0	-56.4	-13.0	-43.4	
2476.50	-13.3	H	3.0	41.5	1.0	-53.8	-13.0	-40.8	
3302.00	-10.1	H	3.0	42.3	1.0	-51.4	-13.0	-38.4	
Mid Ch, 836.5MHz									
1673.00	-15.7	V	3.0	40.9	1.0	-55.7	-13.0	-42.7	
2509.50	-12.9	V	3.0	41.6	1.0	-53.5	-13.0	-40.5	
3346.00	-9.8	V	3.0	42.3	1.0	-51.1	-13.0	-38.1	
1673.00	-16.5	H	3.0	40.9	1.0	-56.4	-13.0	-43.4	
2509.50	-13.2	H	3.0	41.6	1.0	-53.8	-13.0	-40.8	
3346.00	-9.7	H	3.0	42.3	1.0	-51.0	-13.0	-38.0	
High Ch, 847.5MHz									
1695.00	-15.7	V	3.0	40.9	1.0	-55.6	-13.0	-42.6	
2542.50	-12.8	V	3.0	41.6	1.0	-53.4	-13.0	-40.4	
3390.00	-9.5	V	3.0	42.3	1.0	-50.8	-13.0	-37.8	
1695.00	-16.3	H	3.0	40.9	1.0	-56.3	-13.0	-43.3	
2542.50	-12.9	H	3.0	41.6	1.0	-53.6	-13.0	-40.6	
3390.00	-9.6	H	3.0	42.3	1.0	-50.9	-13.0	-37.9	

LTE
 Band 5
 3MHz
 QPSK

LTE Band 12

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		4/27/2022							
Test Engineer:		19568							
Configuration:		EUT / AC Adapter, Z-Position, Open							
Location:		Chamber 2							
Mode:		LTE_QPSK Band 12 Harmonics, 5MHz Bandwidth							
Test Votage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 701.5MHz									
1403.00	-16.9	V	3.0	41.0	1.0	-56.9	-13.0	-43.9	
2104.50	-14.4	V	3.0	41.0	1.0	-54.4	-13.0	-41.4	
2806.00	-11.7	V	3.0	42.0	1.0	-52.7	-13.0	-39.7	
1403.00	-17.7	H	3.0	41.0	1.0	-57.7	-13.0	-44.7	
2104.50	-14.9	H	3.0	41.0	1.0	-54.9	-13.0	-41.9	
2806.00	-11.9	H	3.0	42.0	1.0	-52.9	-13.0	-39.9	
Mid Ch, 707.5MHz									
1415.00	-16.8	V	3.0	41.0	1.0	-56.8	-13.0	-43.8	
2122.50	-14.3	V	3.0	41.0	1.0	-54.3	-13.0	-41.3	
2830.00	-11.7	V	3.0	42.0	1.0	-52.7	-13.0	-39.7	
1415.00	-17.6	H	3.0	41.0	1.0	-57.6	-13.0	-44.6	
2122.50	-14.8	H	3.0	41.0	1.0	-54.8	-13.0	-41.8	
2830.00	-11.9	H	3.0	42.0	1.0	-52.9	-13.0	-39.9	
High Ch, 713.5MHz									
1427.00	-16.8	V	3.0	41.0	1.0	-56.7	-13.0	-43.7	
2140.50	-14.3	V	3.0	41.1	1.0	-54.4	-13.0	-41.4	
2854.00	-11.4	V	3.0	42.1	1.0	-52.5	-13.0	-39.5	
1427.00	-17.5	H	3.0	41.0	1.0	-57.5	-13.0	-44.5	
2140.50	-14.7	H	3.0	41.1	1.0	-54.8	-13.0	-41.8	
2854.00	-11.6	H	3.0	42.1	1.0	-52.7	-13.0	-39.7	

LTE Band 13

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		4/27/2022							
Test Engineer:		19568							
Configuration:		EUT / AC Adapter, Z-Position, Open							
Location:		Chamber 2							
Mode:		LTE_QPSK Band 13 Harmonics, 10MHz Bandwidth							
Test Votage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Mid Ch, 782MHz									
1564.00	-16.3	V	3.0	40.9	1.0	-56.2	-13.0	-43.2	
2346.00	-13.3	V	3.0	41.4	1.0	-53.6	-13.0	-40.6	
3128.00	-10.4	V	3.0	42.3	1.0	-51.7	-13.0	-38.7	
1564.00	-17.0	H	3.0	40.9	1.0	-56.9	-13.0	-43.9	
2346.00	-13.7	H	3.0	41.4	1.0	-54.1	-13.0	-41.1	
3128.00	-10.5	H	3.0	42.3	1.0	-51.8	-13.0	-38.8	

LTE Band 25

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		5/4/2022							
Test Engineer:		19568							
Configuration:		EUT / AC Adapter, X-Position. Open							
Location:		Chamber 1							
Mode:		LTE_QPSK Band 25 Harmonics, 1.4MHz Bandwidth							
Test Votage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7MHz									
3701.40	-10.9	V	3.0	45.8	1.0	-55.7	-13.0	-42.7	
5552.10	-7.8	V	3.0	45.7	1.0	-52.6	-13.0	-39.6	
7402.80	-5.7	V	3.0	44.6	1.0	-49.2	-13.0	-36.2	
3701.40	-11.0	H	3.0	45.8	1.0	-55.8	-13.0	-42.8	
5552.10	-7.9	H	3.0	45.7	1.0	-52.7	-13.0	-39.7	
7402.80	-5.7	H	3.0	44.6	1.0	-49.3	-13.0	-36.3	
Mid Ch, 1882.5MHz									
3765.00	-10.7	V	3.0	45.8	1.0	-55.5	-13.0	-42.5	
5647.50	-7.8	V	3.0	45.7	1.0	-52.5	-13.0	-39.5	
7530.00	-5.7	V	3.0	44.5	1.0	-49.2	-13.0	-36.2	
3765.00	-10.7	H	3.0	45.8	1.0	-55.6	-13.0	-42.6	
5647.50	-7.8	H	3.0	45.7	1.0	-52.5	-13.0	-39.5	
7530.00	-5.8	H	3.0	44.5	1.0	-49.3	-13.0	-36.3	
High Ch, 1914.3MHz									
3828.60	-10.6	V	3.0	45.9	1.0	-55.5	-13.0	-42.5	
5742.90	-7.6	V	3.0	45.7	1.0	-52.3	-13.0	-39.3	
7657.20	-5.6	V	3.0	44.4	1.0	-49.0	-13.0	-36.0	
3828.60	-10.7	H	3.0	45.9	1.0	-55.6	-13.0	-42.6	
5742.90	-7.7	H	3.0	45.7	1.0	-52.4	-13.0	-39.4	
7657.20	-5.5	H	3.0	44.4	1.0	-48.9	-13.0	-35.9	

LTE
 Band 25
 1.4 MHz
 QPSK

LTE Band 26 (Part 90 & Straddle)

.. UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		5/4/2022							
Test Engineer:		19568							
Configuration:		EUT / AC Adapter, Z-Position, Open							
Location:		Chamber 2							
Mode:		LTE_QPSK Band 26 Harmonics, 3MHz Bandwidth							
Test Voltage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 815.5MHz									
1653.00	-15.9	V	3.0	40.9	1.0	-55.9	-13.0	-42.9	
2479.50	-13.0	V	3.0	41.6	1.0	-53.6	-13.0	-40.6	
3306.00	-10.0	V	3.0	42.3	1.0	-51.3	-13.0	-38.3	
1653.00	-16.6	H	3.0	40.9	1.0	-56.5	-13.0	-43.5	
2479.50	-13.2	H	3.0	41.6	1.0	-53.7	-13.0	-40.7	
3306.00	-10.0	H	3.0	42.3	1.0	-51.3	-13.0	-38.3	
Mid Ch, 822.5MHz									
1645.00	-15.9	V	3.0	40.9	1.0	-55.9	-13.0	-42.9	
2467.50	-13.0	V	3.0	41.5	1.0	-53.5	-13.0	-40.5	
3290.00	-10.2	V	3.0	42.3	1.0	-51.5	-13.0	-38.5	
1645.00	-16.6	H	3.0	40.9	1.0	-56.5	-13.0	-43.5	
2467.50	-13.3	H	3.0	41.5	1.0	-53.8	-13.0	-40.8	
3290.00	-10.1	H	3.0	42.3	1.0	-51.4	-13.0	-38.4	
High Ch, 824MHz									
1648.00	-15.9	V	3.0	40.9	1.0	-55.8	-13.0	-42.8	
2472.00	-12.9	V	3.0	41.5	1.0	-53.5	-13.0	-40.5	
3296.00	-10.2	V	3.0	42.3	1.0	-51.5	-13.0	-38.5	
1648.00	-16.5	H	3.0	40.9	1.0	-56.5	-13.0	-43.5	
2472.00	-13.3	H	3.0	41.5	1.0	-53.8	-13.0	-40.8	
3296.00	-10.0	H	3.0	42.3	1.0	-51.3	-13.0	-38.3	

LTE
 Band 26
 3 MHz
 QPSK

LTE Band 26 (Part 22)

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		5/4/2022							
Test Engineer:		19568							
Configuration:		EUT / AC Adapter, Z-Position, Open							
Location:		Chamber 2							
Mode:		LTE_QPSK Band 26 Harmonics, 5MHz Bandwidth							
Test Votage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.5MHz									
1653.00	-15.8	V	3.0	40.9	1.0	-55.8	-13.0	-42.8	
2479.50	-13.0	V	3.0	41.6	1.0	-53.5	-13.0	-40.5	
3306.00	-9.9	V	3.0	42.3	1.0	-51.2	-13.0	-38.2	
1653.00	-16.6	H	3.0	40.9	1.0	-56.5	-13.0	-43.5	
2479.50	-13.3	H	3.0	41.6	1.0	-53.8	-13.0	-40.8	
3306.00	-9.8	H	3.0	42.3	1.0	-51.1	-13.0	-38.1	
Mid Ch, 831.5MHz									
1663.00	-15.7	V	3.0	40.9	1.0	-55.7	-13.0	-42.7	
2494.50	-12.9	V	3.0	41.6	1.0	-53.5	-13.0	-40.5	
3326.00	-10.0	V	3.0	42.3	1.0	-51.3	-13.0	-38.3	
1663.00	-16.4	H	3.0	40.9	1.0	-56.3	-13.0	-43.3	
2494.50	-13.3	H	3.0	41.6	1.0	-53.8	-13.0	-40.8	
3326.00	-10.0	H	3.0	42.3	1.0	-51.3	-13.0	-38.3	
High Ch, 846.5MHz									
1693.00	-15.7	V	3.0	40.9	1.0	-55.7	-13.0	-42.7	
2539.50	-12.7	V	3.0	41.6	1.0	-53.4	-13.0	-40.4	
3386.00	-9.5	V	3.0	42.3	1.0	-50.8	-13.0	-37.8	
1693.00	-16.3	H	3.0	40.9	1.0	-56.3	-13.0	-43.3	
2539.50	-13.1	H	3.0	41.6	1.0	-53.7	-13.0	-40.7	
3386.00	-9.4	H	3.0	42.3	1.0	-50.7	-13.0	-37.7	

LTE
 Band 26
 5MHz
 QPSK

LTE Band 41(PC2)

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		5/31/2022							
Test Engineer:		25546							
Configuration:		EUT / AC Adapter, Y-Position, Open							
Location:		Chamber 2							
Mode:		LTE_QPSK Band 41 Harmonics, 10MHz Bandwidth							
Test Votage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2501MHz									
5002.00	-17.7	V	3.0	43.0	1.0	-59.7	-25.0	-34.7	
7503.00	-16.8	V	3.0	42.7	1.0	-58.5	-25.0	-33.5	
10004.00	-12.7	V	3.0	41.1	1.0	-52.8	-25.0	-27.8	
10MHz									
5002.00	-16.2	H	3.0	43.0	1.0	-58.2	-25.0	-33.2	
7503.00	-17.1	H	3.0	42.7	1.0	-58.8	-25.0	-33.8	
10004.00	-12.6	H	3.0	41.1	1.0	-52.7	-25.0	-27.7	
QPSK									
Mid Ch, 2593MHz									
5186.00	-17.5	V	3.0	43.1	1.0	-59.5	-25.0	-34.5	
7779.00	-16.6	V	3.0	42.5	1.0	-58.1	-25.0	-33.1	
10372.00	-11.8	V	3.0	41.3	1.0	-52.0	-25.0	-27.0	
5186.00	-14.1	H	3.0	43.1	1.0	-56.2	-25.0	-31.2	
7779.00	-17.5	H	3.0	42.5	1.0	-59.0	-25.0	-34.0	
10372.00	0.0	H	3.0	41.3	1.0	-40.3	-25.0	-15.3	
High Ch, 2685MHz									
5370.00	-15.7	V	3.0	43.1	1.0	-57.8	-25.0	-32.8	
8055.00	-15.8	V	3.0	42.4	1.0	-57.2	-25.0	-32.2	
10740.00	-11.5	V	3.0	41.4	1.0	-51.9	-25.0	-26.9	
5370.00	-16.2	H	3.0	43.1	1.0	-58.3	-25.0	-33.3	
8055.00	-14.9	H	3.0	42.4	1.0	-56.3	-25.0	-31.3	
10740.00	-11.6	H	3.0	41.4	1.0	-52.1	-25.0	-27.1	

LTE Band 66

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
LTE Band 66 5 MHz QPSK		Company: Samsung Project #: 4790357232 Date: 5/4/2022 Test Engineer: 19568 Configuration: EUT / AC Adapter, X-Position, HF Location: Chamber 1 Mode: LTE_QPSK Band 66 Harmonics, 5MHz Bandwidth Test Voltage: AC 120 V, 60 Hz									
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 1712.5MHz									
		3425.00	-8.8	V	3.0	45.7	1.0	-53.5	-13.0	-40.5	
		5137.50	-9.1	V	3.0	45.8	1.0	-53.9	-13.0	-40.9	
		6850.00	-6.0	V	3.0	44.9	1.0	-49.9	-13.0	-36.9	
		3425.00	-8.9	H	3.0	45.7	1.0	-53.6	-13.0	-40.6	
		5137.50	-9.0	H	3.0	45.8	1.0	-53.8	-13.0	-40.8	
		6850.00	-6.0	H	3.0	44.9	1.0	-49.9	-13.0	-36.9	
		Mid Ch, 1745MHz									
3490.00	-8.5	V	3.0	45.7	1.0	-53.3	-13.0	-40.3			
5235.00	-8.6	V	3.0	45.8	1.0	-53.4	-13.0	-40.4			
6980.00	-6.0	V	3.0	44.8	1.0	-49.8	-13.0	-36.8			
3490.00	-8.5	H	3.0	45.7	1.0	-53.2	-13.0	-40.2			
5235.00	-8.6	H	3.0	45.8	1.0	-53.4	-13.0	-40.4			
6980.00	-6.1	H	3.0	44.8	1.0	-49.9	-13.0	-36.9			
High Ch, 1777.5MHz											
3555.00	-8.2	V	3.0	45.8	1.0	-52.9	-13.0	-39.9			
5332.50	-8.2	V	3.0	45.8	1.0	-53.0	-13.0	-40.0			
7110.00	-5.7	V	3.0	44.7	1.0	-49.5	-13.0	-36.5			
3555.00	-8.2	H	3.0	45.8	1.0	-52.9	-13.0	-39.9			
5332.50	-8.2	H	3.0	45.8	1.0	-53.0	-13.0	-40.0			
7110.00	-5.8	H	3.0	44.7	1.0	-49.5	-13.0	-36.5			

NR Band n5

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4790357232							
Date:		5/31/2022							
Test Engineer:		19568							
Configuration:		EUT / AC Adapter, X-Position, Open							
Location:		Chamber 1							
Mode:		5G NR_BPSK NR n5 Harmonics, 20MHz Bandwidth							
Test Voltage:		AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 834MHz									
1668.00	-11.1	V	3.0	45.6	1.0	-55.7	-13.0	-42.7	
2502.00	-7.7	V	3.0	45.5	1.0	-52.1	-13.0	-39.1	
3336.00	-5.1	V	3.0	45.7	1.0	-49.8	-13.0	-36.8	
1668.00	-12.1	H	3.0	45.6	1.0	-56.7	-13.0	-43.7	
2502.00	-8.2	H	3.0	45.5	1.0	-52.6	-13.0	-39.6	
3336.00	-5.1	H	3.0	45.7	1.0	-49.8	-13.0	-36.8	
Mid Ch, 836.5MHz									
1673.00	-11.0	V	3.0	45.6	1.0	-55.6	-13.0	-42.6	
2509.50	-7.7	V	3.0	45.5	1.0	-52.2	-13.0	-39.2	
3346.00	-5.1	V	3.0	45.7	1.0	-49.8	-13.0	-36.8	
1673.00	-12.1	H	3.0	45.6	1.0	-56.7	-13.0	-43.7	
2509.50	-8.3	H	3.0	45.5	1.0	-52.7	-13.0	-39.7	
3346.00	-5.1	H	3.0	45.7	1.0	-49.8	-13.0	-36.8	
High Ch, 839MHz									
1678.00	-11.0	V	3.0	45.6	1.0	-55.6	-13.0	-42.6	
2517.00	-7.7	V	3.0	45.5	1.0	-52.2	-13.0	-39.2	
3356.00	-5.0	V	3.0	45.7	1.0	-49.7	-13.0	-36.7	
1678.00	-12.0	H	3.0	45.6	1.0	-56.6	-13.0	-43.6	
2517.00	-8.2	H	3.0	45.5	1.0	-52.7	-13.0	-39.7	
3356.00	-5.0	H	3.0	45.7	1.0	-49.7	-13.0	-36.7	

NR n5
20 MHz
BPSK

NR Band n12

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
NR n12 15 MHz QPSK		Company: Samsung Project #: 4790357232 Date: 6/7/2022 Test Engineer: 26087 Configuration: EUT / AC Adapter, X-Position, Open Location: Chamber 1 Mode: 5G NR_QPSK NR n12 Harmonics, 15MHz Bandwidth Test Voltage: AC 120 V, 60 Hz									
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 706.5MHz									
		1413.00	-12.6	V	3.0	45.8	1.0	-57.4	-13.0	-44.4	
		2119.50	-9.1	V	3.0	45.4	1.0	-53.4	-13.0	-40.4	
		2826.00	-6.7	V	3.0	45.5	1.0	-51.3	-13.0	-38.3	
		1413.00	-13.6	H	3.0	45.8	1.0	-58.4	-13.0	-45.4	
		2119.50	-9.9	H	3.0	45.4	1.0	-54.3	-13.0	-41.3	
		2826.00	-6.9	H	3.0	45.5	1.0	-51.4	-13.0	-38.4	
		Mid Ch, 707.5MHz									
1415.00	-12.6	V	3.0	45.8	1.0	-57.4	-13.0	-44.4			
2122.50	-9.1	V	3.0	45.4	1.0	-53.4	-13.0	-40.4			
2830.00	-6.5	V	3.0	45.5	1.0	-51.0	-13.0	-38.0			
1415.00	-13.6	H	3.0	45.8	1.0	-58.4	-13.0	-45.4			
2122.50	-9.8	H	3.0	45.4	1.0	-54.2	-13.0	-41.2			
2830.00	-6.8	H	3.0	45.5	1.0	-51.3	-13.0	-38.3			
High Ch, 708.5MHz											
1417.00	-12.6	V	3.0	45.8	1.0	-57.4	-13.0	-44.4			
2125.50	-9.0	V	3.0	45.4	1.0	-53.4	-13.0	-40.4			
2834.00	-6.7	V	3.0	45.5	1.0	-51.2	-13.0	-38.2			
1417.00	-13.5	H	3.0	45.8	1.0	-58.3	-13.0	-45.3			
2125.50	-9.9	H	3.0	45.4	1.0	-54.3	-13.0	-41.3			
2834.00	-6.8	H	3.0	45.5	1.0	-51.4	-13.0	-38.4			

NR Band n25

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4790357232 Date: 5/10/2022 Test Engineer: 19568 Configuration: EUT / AC Adapter, X-Position, Open Location: Chamber 1 Mode: NR_QPSK Band 25 Harmonics, 5MHz Bandwidth Test Votage: AC 120 V, 60 Hz									
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
NR n25 Main Ant 5MHz QPSK	Low Ch, 1852.5MHz										
		3705.00	-10.3	V	3.0	45.8	1.0	-55.1	-13.0	-42.1	
		5557.50	-7.9	V	3.0	45.7	1.0	-52.6	-13.0	-39.6	
		7410.00	-5.3	V	3.0	44.6	1.0	-48.9	-13.0	-35.9	
		3705.00	-10.6	H	3.0	45.8	1.0	-55.4	-13.0	-42.4	
		5557.50	-7.9	H	3.0	45.7	1.0	-52.6	-13.0	-39.6	
		7410.00	-5.2	H	3.0	44.6	1.0	-48.8	-13.0	-35.8	
	Mid Ch, 1882.5MHz										
		3765.00	-10.7	V	3.0	45.8	1.0	-55.6	-13.0	-42.6	
		5647.50	-7.4	V	3.0	45.7	1.0	-52.1	-13.0	-39.1	
		7530.00	-5.8	V	3.0	44.5	1.0	-49.3	-13.0	-36.3	
		3765.00	-10.4	H	3.0	45.8	1.0	-55.3	-13.0	-42.3	
		5647.50	-7.6	H	3.0	45.7	1.0	-52.3	-13.0	-39.3	
		7530.00	-5.8	H	3.0	44.5	1.0	-49.3	-13.0	-36.3	
	High Ch, 1912.5MHz										
		3825.00	-10.6	V	3.0	45.9	1.0	-55.4	-13.0	-42.4	
		5737.50	-7.7	V	3.0	45.7	1.0	-52.5	-13.0	-39.5	
		7650.00	-5.4	V	3.0	44.4	1.0	-48.9	-13.0	-35.9	
		3825.00	-10.7	H	3.0	45.9	1.0	-55.6	-13.0	-42.6	
		5737.50	-7.7	H	3.0	45.7	1.0	-52.4	-13.0	-39.4	
		7650.00	-5.5	H	3.0	44.4	1.0	-48.9	-13.0	-35.9	
			UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
			Company: Samsung Project #: 4790357232 Date: 5/10/2022 Test Engineer: 19568 Configuration: EUT / AC Adapter, X-Position, Open Location: Chamber 1 Mode: NR_QPSK Band 25 Harmonics, 5MHz Bandwidth Test Votage: AC 120 V, 60 Hz								
			f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)
NR n25 Sub Ant 5MHz QPSK	Low Ch, 1852.5MHz										
		3705.00	-10.3	V	3.0	45.8	1.0	-55.1	-13.0	-42.1	
		5557.50	-7.9	V	3.0	45.7	1.0	-52.6	-13.0	-39.6	
		7410.00	-5.3	V	3.0	44.6	1.0	-48.9	-13.0	-35.9	
		3705.00	-10.6	H	3.0	45.8	1.0	-55.4	-13.0	-42.4	
		5557.50	-7.9	H	3.0	45.7	1.0	-52.6	-13.0	-39.6	
		7410.00	-5.2	H	3.0	44.6	1.0	-48.8	-13.0	-35.8	
	Mid Ch, 1882.5MHz										
		3765.00	-10.7	V	3.0	45.8	1.0	-55.6	-13.0	-42.6	
		5647.50	-7.4	V	3.0	45.7	1.0	-52.1	-13.0	-39.1	
		7530.00	-5.8	V	3.0	44.5	1.0	-49.3	-13.0	-36.3	
		3765.00	-10.4	H	3.0	45.8	1.0	-55.3	-13.0	-42.3	
		5647.50	-7.6	H	3.0	45.7	1.0	-52.3	-13.0	-39.3	
		7530.00	-5.8	H	3.0	44.5	1.0	-49.3	-13.0	-36.3	
	High Ch, 1912.5MHz										
		3825.00	-10.6	V	3.0	45.9	1.0	-55.4	-13.0	-42.4	
		5737.50	-7.7	V	3.0	45.7	1.0	-52.5	-13.0	-39.5	
		7650.00	-5.4	V	3.0	44.4	1.0	-48.9	-13.0	-35.9	
		3825.00	-10.7	H	3.0	45.9	1.0	-55.6	-13.0	-42.6	
		5737.50	-7.7	H	3.0	45.7	1.0	-52.4	-13.0	-39.4	
		7650.00	-5.5	H	3.0	44.4	1.0	-48.9	-13.0	-35.9	

NR Band n41

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company:	Samsung							
		Project #:	4790357232							
		Date:	5/17/2022							
		Test Engineer:	25546							
		Configuration:	EUT / AC Adapter, X-Position, Open							
		Location:	Chamber 1							
		Mode:	5G NR_BPSK NR n41 Harmonics, 40MHz Bandwidth							
		Test Voltage:	AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2516.01MHz										
NR n41	5032.02	-17.0	V	3.0	45.8	1.0	-61.8	-25.0	-36.8	
	7548.03	-15.2	V	3.0	44.5	1.0	-58.7	-25.0	-33.7	
40MHz	10064.04	-11.3	V	3.0	42.6	1.0	-52.9	-25.0	-27.9	
	5032.02	-16.8	H	3.0	45.8	1.0	-61.6	-25.0	-36.6	
BPSK	7548.03	-15.0	H	3.0	44.5	1.0	-58.4	-25.0	-33.4	
	10064.04	-11.4	H	3.0	42.6	1.0	-53.0	-25.0	-28.0	
Mid Ch, 2592.99MHz										
	5185.98	-16.4	V	3.0	45.8	1.0	-61.2	-25.0	-36.2	
	7778.97	-15.6	V	3.0	44.4	1.0	-59.0	-25.0	-34.0	
	10371.96	-11.0	V	3.0	42.7	1.0	-52.7	-25.0	-27.7	
	5185.98	-16.5	H	3.0	45.8	1.0	-61.3	-25.0	-36.3	
	7778.97	-14.9	H	3.0	44.4	1.0	-58.3	-25.0	-33.3	
	10371.96	-11.0	H	3.0	42.7	1.0	-52.8	-25.0	-27.8	
High Ch, 2670MHz										
	5340.00	-19.8	V	3.0	45.8	1.0	-64.6	-25.0	-39.6	
	8010.00	-15.1	V	3.0	44.2	1.0	-58.3	-25.0	-33.3	
	10680.00	-10.4	V	3.0	42.8	1.0	-52.2	-25.0	-27.2	
	5340.00	-15.8	H	3.0	45.8	1.0	-60.6	-25.0	-35.6	
	8010.00	-15.2	H	3.0	44.2	1.0	-58.4	-25.0	-33.4	
	10680.00	-10.7	H	3.0	42.8	1.0	-52.5	-25.0	-27.5	
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company:	Samsung							
		Project #:	4790357232							
		Date:	6/8/2022							
		Test Engineer:	26087							
		Configuration:	EUT / AC Adapter, Y-Position, Open							
		Location:	Chamber 2							
		Mode:	5G NR n41 Harmonics, 30MHz Bandwidth							
		Test Voltage:	AC 120 V, 60 Hz							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2511.01MHz										
NR n41	5022.02	-21.1	V	3.0	43.0	1.0	-63.2	-25.0	-38.2	
	7533.03	-19.7	V	3.0	42.7	1.0	-61.4	-25.0	-36.4	
SRS1	10044.04	-15.0	V	3.0	41.1	1.0	-55.1	-25.0	-30.1	
	5022.02	-20.9	H	3.0	43.0	1.0	-63.0	-25.0	-38.0	
30MHz	7533.03	-19.7	H	3.0	42.7	1.0	-61.3	-25.0	-36.3	
	10044.04	-14.8	H	3.0	41.1	1.0	-55.0	-25.0	-30.0	
Mid Ch, 2592.99MHz										
	5185.98	-21.1	V	3.0	43.1	1.0	-63.1	-25.0	-38.1	
	7778.97	-19.8	V	3.0	42.5	1.0	-61.3	-25.0	-36.3	
	10371.96	-14.9	V	3.0	41.3	1.0	-55.2	-25.0	-30.2	
	5185.98	-22.2	H	3.0	43.1	1.0	-64.3	-25.0	-39.3	
	7778.97	-19.9	H	3.0	42.5	1.0	-61.5	-25.0	-36.5	
	10371.96	-14.8	H	3.0	41.3	1.0	-55.1	-25.0	-30.1	
High Ch, 2675MHz										
	5350.00	-20.4	V	3.0	43.1	1.0	-62.5	-25.0	-37.5	
	8025.00	-19.3	V	3.0	42.4	1.0	-60.7	-25.0	-35.7	
	10700.00	-14.1	V	3.0	41.4	1.0	-54.5	-25.0	-29.5	
	5350.00	-20.3	H	3.0	43.1	1.0	-62.4	-25.0	-37.4	
	8025.00	-19.5	H	3.0	42.4	1.0	-60.9	-25.0	-35.9	
	10700.00	-14.0	H	3.0	41.4	1.0	-54.4	-25.0	-29.4	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Samsung Project #: 4790357232 Date: 6/9/2022 Test Engineer: 45574 Configuration: EUT / Z-Position, Open Location: Chamber 2 Mode: 5G NR n41 Harmonics, 40MHz Bandwidth Test Voltage: AC 120 V, 60 Hz										
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
NR n41										
SRS2										
40MHz										
Low Ch, 2516.01MHz										
5032.02	-21.1	V	3.0	43.0	1.0	-63.2	-25.0	-38.2		
7548.03	-17.2	V	3.0	42.7	1.0	-58.9	-25.0	-33.9		
10064.04	-15.0	V	3.0	41.1	1.0	-55.1	-25.0	-30.1		
5032.02	-20.9	H	3.0	43.0	1.0	-63.0	-25.0	-38.0		
7548.03	-15.9	H	3.0	42.7	1.0	-57.6	-25.0	-32.6		
10064.04	-14.9	H	3.0	41.1	1.0	-55.0	-25.0	-30.0		
Mid Ch, 2592.99MHz										
5185.98	-19.7	V	3.0	43.1	1.0	-61.8	-25.0	-36.8		
7778.97	-17.2	V	3.0	42.5	1.0	-58.8	-25.0	-33.8		
10371.96	-16.2	V	3.0	41.3	1.0	-56.4	-25.0	-31.4		
5185.98	-19.5	H	3.0	43.1	1.0	-61.6	-25.0	-36.6		
7778.97	-14.2	H	3.0	42.5	1.0	-55.8	-25.0	-30.8		
10371.96	-16.1	H	3.0	41.3	1.0	-56.3	-25.0	-31.3		
High Ch, 2670MHz										
5340.00	-20.6	V	3.0	43.1	1.0	-62.7	-25.0	-37.7		
8010.00	-17.0	V	3.0	42.4	1.0	-58.4	-25.0	-33.4		
10680.00	-14.2	V	3.0	41.4	1.0	-54.6	-25.0	-29.6		
5340.00	-20.5	H	3.0	43.1	1.0	-62.6	-25.0	-37.6		
8010.00	-13.1	H	3.0	42.4	1.0	-54.6	-25.0	-29.6		
10680.00	-14.1	H	3.0	41.4	1.0	-54.5	-25.0	-29.5		
UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Samsung Project #: 4790357232 Date: 6/15/2022 Test Engineer: 19568 Configuration: EUT / AC Adapter, Z-Position, Open Location: Chamber 2 Mode: 5G NR n41 Harmonics, 40MHz Bandwidth Test Voltage: AC 120 V, 60 Hz										
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
NR n41										
SRS3										
40MHz										
Low Ch, 2516.01MHz										
5032.02	-17.8	V	3.0	43.0	1.0	-59.8	-25.0	-34.8		
7548.03	-17.3	V	3.0	42.7	1.0	-59.0	-25.0	-34.0		
10064.04	-14.9	V	3.0	41.1	1.0	-55.1	-25.0	-30.1		
5032.02	-20.3	H	3.0	43.0	1.0	-62.3	-25.0	-37.3		
7548.03	-15.5	H	3.0	42.7	1.0	-57.1	-25.0	-32.1		
10064.04	-14.3	H	3.0	41.1	1.0	-54.5	-25.0	-29.5		
Mid Ch, 2592.99MHz										
5185.98	-19.9	V	3.0	43.1	1.0	-62.0	-25.0	-37.0		
7778.97	-17.2	V	3.0	42.5	1.0	-58.8	-25.0	-33.8		
10371.96	-14.4	V	3.0	41.3	1.0	-54.6	-25.0	-29.6		
5185.98	-21.2	H	3.0	43.1	1.0	-63.2	-25.0	-38.2		
7778.97	-15.1	H	3.0	42.5	1.0	-56.7	-25.0	-31.7		
10371.96	-13.0	H	3.0	41.3	1.0	-53.3	-25.0	-28.3		
High Ch, 2670MHz										
5340.00	-19.6	V	3.0	43.1	1.0	-61.7	-25.0	-36.7		
8010.00	-15.5	V	3.0	42.4	1.0	-56.9	-25.0	-31.9		
10680.00	-13.2	V	3.0	41.4	1.0	-53.6	-25.0	-28.6		
5340.00	-20.0	H	3.0	43.1	1.0	-62.1	-25.0	-37.1		
8010.00	-11.2	H	3.0	42.4	1.0	-52.6	-25.0	-27.6		
10680.00	-8.9	H	3.0	41.4	1.0	-49.3	-25.0	-24.3		

NR Band n66

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung Project #: 4790357232 Date: 5/31/2022 Test Engineer: 19568 Configuration: EUT / AC Adapter, X-Position, Open Location: Chamber 1 Mode: 5G NR_QPSK NR n66 Harmonics, 20MHz Bandwidth Test Voltage: AC 120 V, 60 Hz								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
NR n66										
Main Ant										
20 MHz										
QPSK										
Low Ch, 1720MHz										
3440.00	-4.5	V	3.0	45.7	1.0	-49.3	-13.0	-36.3		
5160.00	-4.5	V	3.0	45.8	1.0	-49.3	-13.0	-36.3		
6880.00	-1.7	V	3.0	44.9	1.0	-45.5	-13.0	-32.5		
3440.00	-4.5	H	3.0	45.7	1.0	-49.3	-13.0	-36.3		
5160.00	-4.5	H	3.0	45.8	1.0	-49.3	-13.0	-36.3		
6880.00	-1.8	H	3.0	44.9	1.0	-45.7	-13.0	-32.7		
Mid Ch, 1745MHz										
3490.00	-4.2	V	3.0	45.7	1.0	-49.0	-13.0	-36.0		
5235.00	-4.4	V	3.0	45.8	1.0	-49.2	-13.0	-36.2		
6980.00	-0.3	V	3.0	44.8	1.0	-44.1	-13.0	-31.1		
3490.00	-4.2	H	3.0	45.7	1.0	-48.9	-13.0	-35.9		
5235.00	-4.4	H	3.0	45.8	1.0	-49.2	-13.0	-36.2		
6980.00	-1.7	H	3.0	44.8	1.0	-45.4	-13.0	-32.4		
High Ch, 1770MHz										
3540.00	-3.9	V	3.0	45.8	1.0	-48.6	-13.0	-35.6		
5310.00	-4.1	V	3.0	45.8	1.0	-48.9	-13.0	-35.9		
7080.00	-1.4	V	3.0	44.7	1.0	-45.2	-13.0	-32.2		
3540.00	-4.0	H	3.0	45.8	1.0	-48.7	-13.0	-35.7		
5310.00	-4.1	H	3.0	45.8	1.0	-48.9	-13.0	-35.9		
7080.00	-1.5	H	3.0	44.7	1.0	-45.2	-13.0	-32.2		
UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Samsung Project #: 4790357232 Date: 6/7/2022 Test Engineer: 25570 Configuration: EUT / X-Position, HF Location: Chamber 1 Mode: 5G NR_QPSK NR n66 Harmonics, 20MHz Bandwidth Test Voltage: AC 120 V, 60 Hz										
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
NR n66										
Sub Ant										
20 MHz										
QPSK										
Low Ch, 1720MHz										
3440.00	-6.6	V	3.0	45.7	1.0	-51.3	-13.0	-38.3		
5160.00	-7.2	V	3.0	45.8	1.0	-52.0	-13.0	-39.0		
6880.00	-5.5	V	3.0	44.9	1.0	-49.4	-13.0	-36.4		
3440.00	-8.2	H	3.0	45.7	1.0	-52.9	-13.0	-39.9		
5160.00	-7.6	H	3.0	45.8	1.0	-52.4	-13.0	-39.4		
6880.00	-4.9	H	3.0	44.9	1.0	-48.8	-13.0	-35.8		
Mid Ch, 1745MHz										
3490.00	-6.6	V	3.0	45.7	1.0	-51.3	-13.0	-38.3		
5235.00	-6.6	V	3.0	45.8	1.0	-51.4	-13.0	-38.4		
6980.00	-4.2	V	3.0	44.8	1.0	-48.0	-13.0	-35.0		
3490.00	-6.9	H	3.0	45.7	1.0	-51.6	-13.0	-38.6		
5235.00	-7.1	H	3.0	45.8	1.0	-51.9	-13.0	-38.9		
6980.00	-4.4	H	3.0	44.8	1.0	-48.2	-13.0	-35.2		
High Ch, 1770MHz										
3540.00	-7.6	V	3.0	45.8	1.0	-52.3	-13.0	-39.3		
5310.00	-7.0	V	3.0	45.8	1.0	-51.8	-13.0	-38.8		
7080.00	-4.1	V	3.0	44.7	1.0	-47.9	-13.0	-34.9		
3540.00	-6.7	H	3.0	45.8	1.0	-51.4	-13.0	-38.4		
5310.00	-6.9	H	3.0	45.8	1.0	-51.7	-13.0	-38.7		
7080.00	-3.8	H	3.0	44.7	1.0	-47.5	-13.0	-34.5		

NR Band n77 (3450 – 3550 MHz)

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4790357232 Date: 6/7/2022 Test Engineer: 25770 Configuration: EUT / Z-Position, HF Location: Chamber 1 Mode: 5G NR_BPSK NR n77 LO Harmonics, 40MHz Bandwidth Test Votage: AC 120 V, 60 Hz									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 3470.01MHz									
NR n77	6940.02	-4.1	V	3.0	44.8	1.0	-47.9	-13.0	-34.9
	10410.03	1.6	V	3.0	42.7	1.0	-40.1	-13.0	-27.1
	13880.04	3.5	V	3.0	44.8	1.0	-40.3	-13.0	-27.3
40MHz	6940.02	-4.8	H	3.0	44.8	1.0	-48.7	-13.0	-35.7
	10410.03	0.9	H	3.0	42.7	1.0	-40.9	-13.0	-27.9
BPSK	13880.04	4.3	H	3.0	44.8	1.0	-39.5	-13.0	-26.5
Mid Ch, 3499.98MHz									
	6999.96	-4.3	V	3.0	44.8	1.0	-48.1	-13.0	-35.1
	10499.94	2.2	V	3.0	42.7	1.0	-39.5	-13.0	-26.5
	13999.92	3.0	V	3.0	44.9	1.0	-40.9	-13.0	-27.9
	6999.96	-4.2	H	3.0	44.8	1.0	-48.0	-13.0	-35.0
	10499.94	0.5	H	3.0	42.7	1.0	-41.2	-13.0	-28.2
	13999.92	3.5	H	3.0	44.9	1.0	-40.4	-13.0	-27.4
High Ch, 3529.98MHz									
	7059.96	-4.3	V	3.0	44.7	1.0	-48.1	-13.0	-35.1
	10589.94	1.0	V	3.0	42.8	1.0	-40.8	-13.0	-27.8
	14119.92	3.8	V	3.0	45.0	1.0	-40.2	-13.0	-27.2
	7059.96	-4.6	H	3.0	44.7	1.0	-48.3	-13.0	-35.3
	10589.94	1.6	H	3.0	42.8	1.0	-40.2	-13.0	-27.2
	14119.92	3.4	H	3.0	45.0	1.0	-40.6	-13.0	-27.6
UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4790357232 Date: 6/8/2022 Test Engineer: 45574 Configuration: EUT / AC Adapter, X-Position, Open Location: Chamber 1 Mode: 5G NR n77 LO Harmonics, 30MHz Bandwidth Test Votage: AC 120 V, 60 Hz									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 3465MHz									
NR n77	6930.00	-5.6	V	3.0	44.8	1.0	-49.4	-13.0	-36.4
	10395.00	0.3	V	3.0	42.7	1.0	-41.5	-13.0	-28.5
	13860.00	2.7	V	3.0	44.8	1.0	-41.1	-13.0	-28.1
SRS1	6930.00	-5.7	H	3.0	44.8	1.0	-49.6	-13.0	-36.6
	10395.00	0.1	H	3.0	42.7	1.0	-41.6	-13.0	-28.6
30MHz	13860.00	2.8	H	3.0	44.8	1.0	-41.0	-13.0	-28.0
Mid Ch, 3499.98MHz									
	6999.96	-5.9	V	3.0	44.8	1.0	-49.7	-13.0	-36.7
	10499.94	0.2	V	3.0	42.7	1.0	-41.6	-13.0	-28.6
	13999.92	2.7	V	3.0	44.9	1.0	-41.2	-13.0	-28.2
	6999.96	-6.1	H	3.0	44.8	1.0	-49.9	-13.0	-36.9
	10499.94	0.1	H	3.0	42.7	1.0	-41.7	-13.0	-28.7
	13999.92	2.8	H	3.0	44.9	1.0	-41.1	-13.0	-28.1
High Ch, 3535.02MHz									
	7070.04	-5.8	V	3.0	44.7	1.0	-49.5	-13.0	-36.5
	10605.06	0.5	V	3.0	42.8	1.0	-41.3	-13.0	-28.3
	14140.08	2.9	V	3.0	45.0	1.0	-41.1	-13.0	-28.1
	7070.04	-5.9	H	3.0	44.7	1.0	-49.6	-13.0	-36.6
	10605.06	0.4	H	3.0	42.8	1.0	-41.4	-13.0	-28.4
	14140.08	2.8	H	3.0	45.0	1.0	-41.2	-13.0	-28.2

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
NR n77 SRS2 40MHz		td Company: Samsung Project #: 4790357232 Date: 6/9/2022 Test Engineer: 45574 Configuration: EUT / AC Adapter, X-Position, HF Location: Chamber 1 Mode: 5G NR_n77 UP Harmonics, 40MHz Bandwidth Test Voltage: AC 120 V, 60 Hz									
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 3470.01MHz									
		6940.02	-5.7	V	3.0	44.8	1.0	-49.5	-13.0	-36.5	
		10410.03	0.4	V	3.0	42.7	1.0	-41.3	-13.0	-28.3	
		13880.04	2.7	V	3.0	44.8	1.0	-41.1	-13.0	-28.1	
		6940.02	-5.8	H	3.0	44.8	1.0	-49.6	-13.0	-36.6	
		10410.03	0.3	H	3.0	42.7	1.0	-41.4	-13.0	-28.4	
		13880.04	2.9	H	3.0	44.8	1.0	-40.9	-13.0	-27.9	
		Mid Ch, 3499.98MHz									
		6999.96	-5.7	V	3.0	44.8	1.0	-49.5	-13.0	-36.5	
		10499.94	0.5	V	3.0	42.7	1.0	-41.2	-13.0	-28.2	
		13999.92	2.7	V	3.0	44.9	1.0	-41.2	-13.0	-28.2	
		6999.96	-5.7	H	3.0	44.8	1.0	-49.5	-13.0	-36.5	
		10499.94	0.4	H	3.0	42.7	1.0	-41.3	-13.0	-28.3	
13999.92	2.8	H	3.0	44.9	1.0	-41.1	-13.0	-28.1			
High Ch, 3529.98MHz											
7059.96	-5.9	V	3.0	44.7	1.0	-49.6	-13.0	-36.6			
10589.94	0.4	V	3.0	42.8	1.0	-41.4	-13.0	-28.4			
14119.92	2.6	V	3.0	45.0	1.0	-41.4	-13.0	-28.4			
7059.96	-5.8	H	3.0	44.7	1.0	-49.6	-13.0	-36.6			
10589.94	0.3	H	3.0	42.8	1.0	-41.5	-13.0	-28.5			
14119.92	2.8	H	3.0	45.0	1.0	-41.2	-13.0	-28.2			
NR n77 SRS3 100 MHz		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4790357232 Date: 2022-06-15 Test Engineer: 19568 Configuration: EUT / AC Adapter, X-Position, Open Location: Chamber 1 Mode: 5G NR_n77 LO Harmonics, 100MHz Bandwidth Test Voltage: AC 120 V, 60 Hz									
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Mid Ch, 3499.98MHz									
		6999.96	-6.4	V	3.0	44.8	1.0	-50.1	-13.0	-37.1	
		10499.94	0.2	V	3.0	42.7	1.0	-41.6	-13.0	-28.6	
		13999.92	2.8	V	3.0	44.9	1.0	-41.1	-13.0	-28.1	
		6999.96	-6.1	H	3.0	44.8	1.0	-49.9	-13.0	-36.9	
		10499.94	0.0	H	3.0	42.7	1.0	-41.8	-13.0	-28.8	
		13999.92	3.0	H	3.0	44.9	1.0	-40.9	-13.0	-27.9	

NR Band n77(3700 – 3980 MHz)

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement												
NR n77 40MHz BPSK	Company: Samsung Project #: 4790357232 Date: 6/7/2022 Test Engineer: 25770 Configuration: EUT / Z-Position, HF Location: Chamber 1 Mode: 5G NR_BPSK NR n77 UP Harmonics, 40MHz Bandwidth Test Votage: AC 120 V, 60 Hz											
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes		
	Low Ch, 3720.02MHz											
	7440.04	-3.7	V	3.0	44.5	1.0	-47.2	-13.0	-34.2			
	11160.06	3.1	V	3.0	43.0	1.0	-38.8	-13.0	-25.8			
	14880.08	4.9	V	3.0	45.6	1.0	-39.7	-13.0	-26.7			
	7440.04	-4.2	H	3.0	44.5	1.0	-47.8	-13.0	-34.8			
	11160.06	3.6	H	3.0	43.0	1.0	-38.3	-13.0	-25.3			
	14880.08	5.2	H	3.0	45.6	1.0	-39.5	-13.0	-26.5			
	Mid Ch, 3840MHz											
	7680.00	-3.3	V	3.0	44.4	1.0	-46.7	-13.0	-33.7			
	11520.00	3.0	V	3.0	43.1	1.0	-39.1	-13.0	-26.1			
	15360.00	4.2	V	3.0	45.0	1.0	-39.8	-13.0	-26.8			
	7680.00	-3.4	H	3.0	44.4	1.0	-46.8	-13.0	-33.8			
	11520.00	3.6	H	3.0	43.1	1.0	-38.5	-13.0	-25.5			
	15360.00	5.6	H	3.0	45.0	1.0	-38.4	-13.0	-25.4			
	High Ch, 3960MHz											
	7920.00	-3.6	V	3.0	44.3	1.0	-46.9	-13.0	-33.9			
	11880.00	4.9	V	3.0	43.2	1.0	-37.3	-13.0	-24.3			
	15840.00	6.3	V	3.0	44.0	1.0	-36.7	-13.0	-23.7			
	7920.00	-3.7	H	3.0	44.3	1.0	-47.0	-13.0	-34.0			
	11880.00	4.0	H	3.0	43.2	1.0	-38.2	-13.0	-25.2			
	15840.00	6.2	H	3.0	44.0	1.0	-36.8	-13.0	-23.8			
	NR n77 SRS1 100 MHz	Company: Samsung Project #: 4790357232 Date: 6/9/2022 Test Engineer: 25770 Configuration: EUT / AC Adapter, X-Position, Open Location: Chamber 1 Mode: 5G NR_n77 UP Harmonics, 100MHz Bandwidth Test Votage: AC 120 V, 60 Hz										
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
		Low Ch, 3750MHz										
		7500.00	-3.8	V	3.0	44.5	1.0	-47.3	-13.0	-34.3		
		11250.00	3.1	V	3.0	43.0	1.0	-38.9	-13.0	-25.9		
		15000.00	5.3	V	3.0	45.7	1.0	-39.4	-13.0	-26.4		
		7500.00	-4.9	H	3.0	44.5	1.0	-48.4	-13.0	-35.4		
		11250.00	2.9	H	3.0	43.0	1.0	-39.1	-13.0	-26.1		
		15000.00	5.2	H	3.0	45.7	1.0	-39.6	-13.0	-26.6		
		Mid Ch, 3840MHz										
		7680.00	-5.0	V	3.0	44.4	1.0	-48.4	-13.0	-35.4		
		11520.00	2.9	V	3.0	43.1	1.0	-39.2	-13.0	-26.2		
15360.00		5.1	V	3.0	45.0	1.0	-38.9	-13.0	-25.9			
7680.00		-4.3	H	3.0	44.4	1.0	-47.7	-13.0	-34.7			
11520.00		2.1	H	3.0	43.1	1.0	-40.0	-13.0	-27.0			
15360.00		4.9	H	3.0	45.0	1.0	-39.1	-13.0	-26.1			
High Ch, 3930MHz												
7860.00		-3.7	V	3.0	44.3	1.0	-47.0	-13.0	-34.0			
11790.00		4.2	V	3.0	43.2	1.0	-38.0	-13.0	-25.0			
15720.00		4.8	V	3.0	44.2	1.0	-38.5	-13.0	-25.5			
7860.00		-5.1	H	3.0	44.3	1.0	-48.4	-13.0	-35.4			
11790.00		4.1	H	3.0	43.2	1.0	-38.1	-13.0	-25.1			
15720.00		5.0	H	3.0	44.2	1.0	-38.2	-13.0	-25.2			

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4790357232 Date: 6/9/2022 Test Engineer: 25770 Configuration: EUT / AC Adapter, Y-Position, Open Location: Chamber 1 Mode: 5G NR n77 UP Harmonics, 100MHz Bandwidth Test Votage: AC 120 V, 60 Hz									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
NR n77									
SRS2									
100 MHz									
Low Ch, 3750MHz									
7500.00	-4.1	V	3.0	44.5	1.0	-47.6	-13.0	-34.6	
11250.00	2.8	V	3.0	43.0	1.0	-39.2	-13.0	-26.2	
15000.00	4.1	V	3.0	45.7	1.0	-40.7	-13.0	-27.7	
7500.00	-4.1	H	3.0	44.5	1.0	-47.6	-13.0	-34.6	
11250.00	2.3	H	3.0	43.0	1.0	-39.7	-13.0	-26.7	
15000.00	4.9	H	3.0	45.7	1.0	-39.9	-13.0	-26.9	
Mid Ch, 3840MHz									
7680.00	-5.0	V	3.0	44.4	1.0	-48.4	-13.0	-35.4	
11520.00	3.0	V	3.0	43.1	1.0	-39.0	-13.0	-26.0	
15360.00	4.0	V	3.0	45.0	1.0	-40.0	-13.0	-27.0	
7680.00	-4.0	H	3.0	44.4	1.0	-47.4	-13.0	-34.4	
11520.00	2.7	H	3.0	43.1	1.0	-39.3	-13.0	-26.3	
15360.00	4.9	H	3.0	45.0	1.0	-39.1	-13.0	-26.1	
High Ch, 3930MHz									
7860.00	-4.5	V	3.0	44.3	1.0	-47.8	-13.0	-34.8	
11790.00	3.7	V	3.0	43.2	1.0	-38.4	-13.0	-25.4	
15720.00	5.7	V	3.0	44.2	1.0	-37.5	-13.0	-24.5	
7860.00	-3.7	H	3.0	44.3	1.0	-47.0	-13.0	-34.0	
11790.00	3.6	H	3.0	43.2	1.0	-38.6	-13.0	-25.6	
15720.00	5.6	H	3.0	44.2	1.0	-37.6	-13.0	-24.6	
UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4790357232 Date: 2022-06-15 Test Engineer: 19568 Configuration: EUT / AC Adapter, X-Position, Open Location: Chamber 1 Mode: 5G NR_n77 UP Harmonics, 100MHz Bandwidth Test Votage: AC 120 V, 60 Hz									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
NR n77									
SRS3									
100 MHz									
Low Ch, 3750MHz									
7500.00	-5.6	V	3.0	44.5	1.0	-49.1	-13.0	-36.1	
11250.00	1.5	V	3.0	43.0	1.0	-40.5	-13.0	-27.5	
15000.00	3.5	V	3.0	45.7	1.0	-41.3	-13.0	-28.3	
7500.00	-5.8	H	3.0	44.5	1.0	-49.3	-13.0	-36.3	
11250.00	1.6	H	3.0	43.0	1.0	-40.3	-13.0	-27.3	
15000.00	3.5	H	3.0	45.7	1.0	-41.2	-13.0	-28.2	
Mid Ch, 3840MHz									
7680.00	-5.7	V	3.0	44.4	1.0	-49.1	-13.0	-36.1	
11520.00	1.3	V	3.0	43.1	1.0	-40.7	-13.0	-27.7	
15360.00	3.7	V	3.0	45.0	1.0	-40.3	-13.0	-27.3	
7680.00	-5.5	H	3.0	44.4	1.0	-48.9	-13.0	-35.9	
11520.00	1.4	H	3.0	43.1	1.0	-40.7	-13.0	-27.7	
15360.00	3.7	H	3.0	45.0	1.0	-40.3	-13.0	-27.3	
High Ch, 3930MHz									
7860.00	-5.6	V	3.0	44.3	1.0	-48.9	-13.0	-35.9	
11790.00	2.1	V	3.0	43.2	1.0	-40.1	-13.0	-27.1	
15720.00	4.1	V	3.0	44.2	1.0	-39.1	-13.0	-26.1	
7860.00	-5.5	H	3.0	44.3	1.0	-48.9	-13.0	-35.9	
11790.00	2.2	H	3.0	43.2	1.0	-40.0	-13.0	-27.0	
15720.00	4.2	H	3.0	44.2	1.0	-39.0	-13.0	-26.0	

END OF REPORT