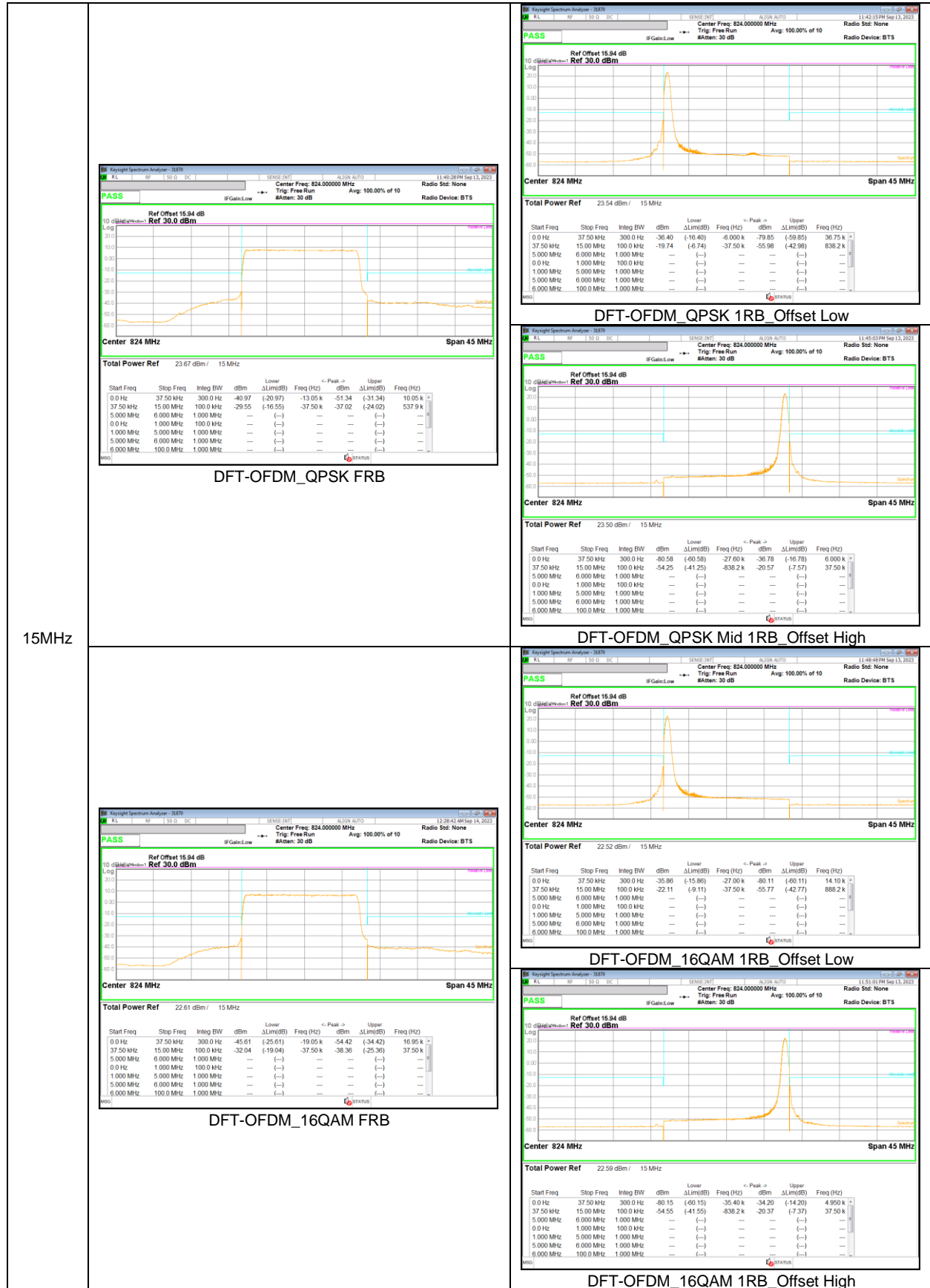
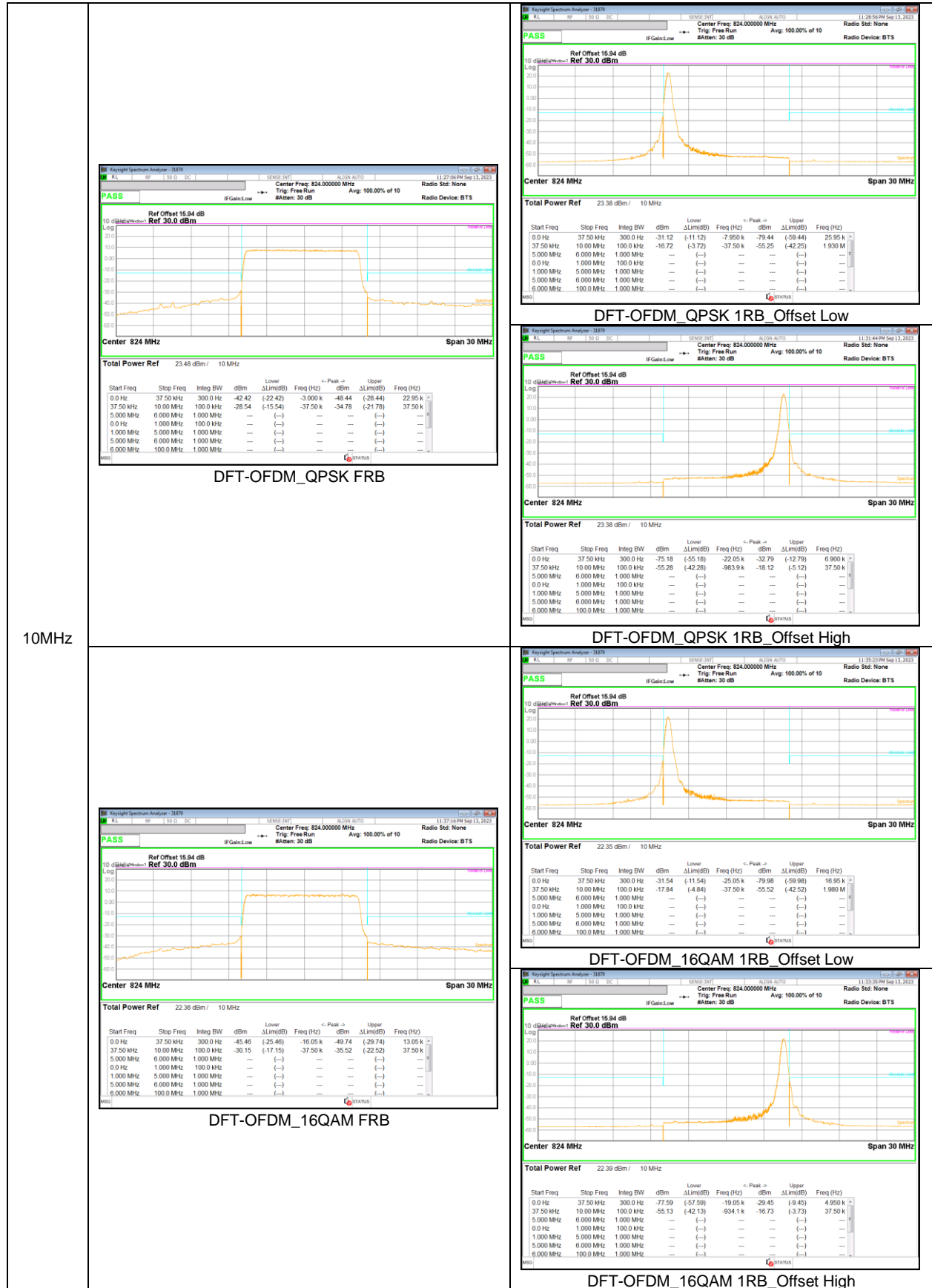




NR Band n26 (Straddle)









8.5. CONDUCTED SPURIOUS EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917 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 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 = 100 kHz for emission below 1 GHz.
(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, 5G NR), Max hold(GSM);

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.

RESULTS

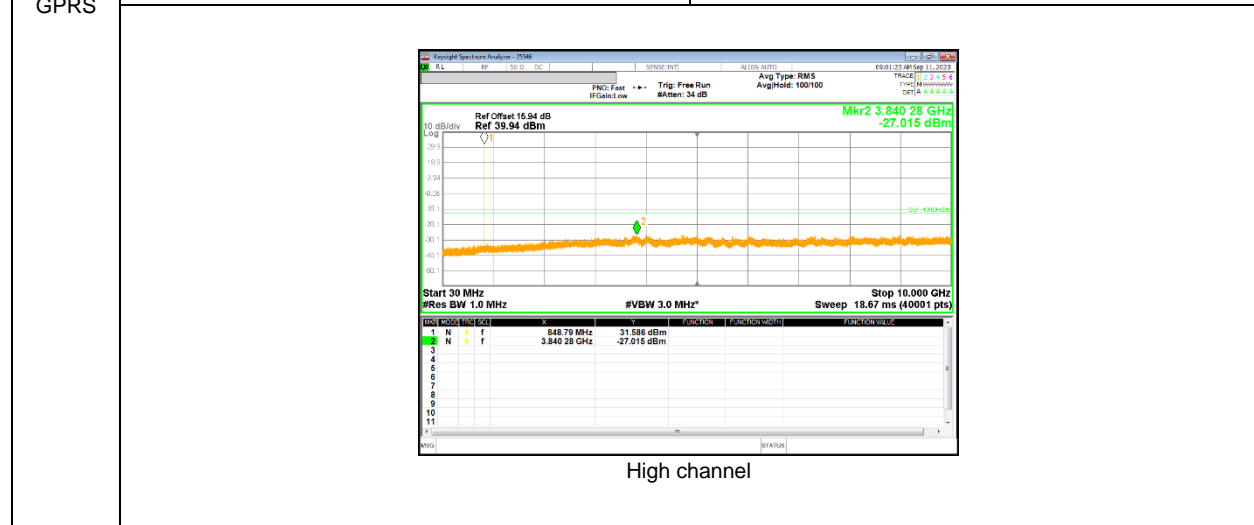
See the following pages.

8.5.1. OUT OF BAND EMISSIONS RESULT

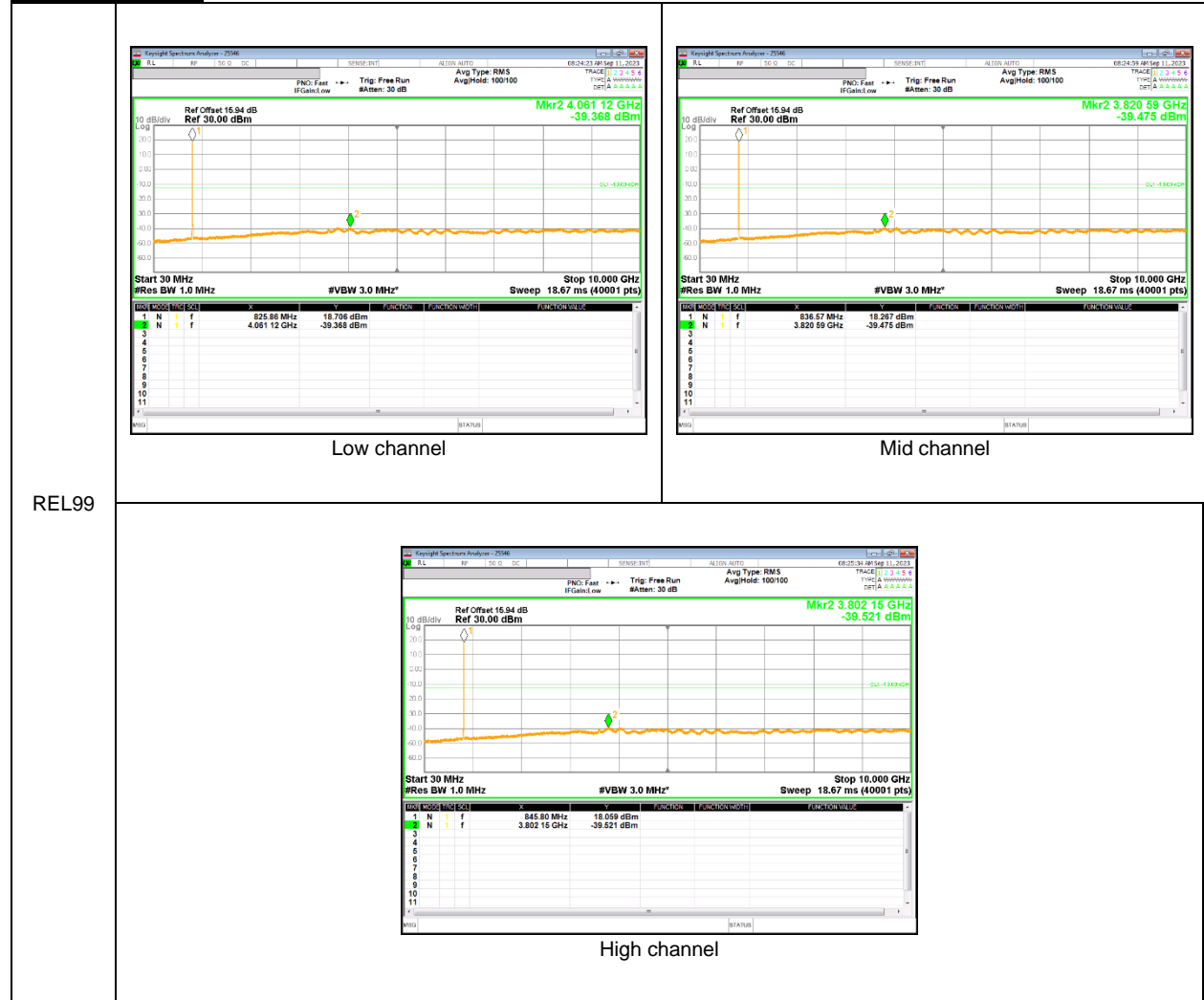
GSM 850



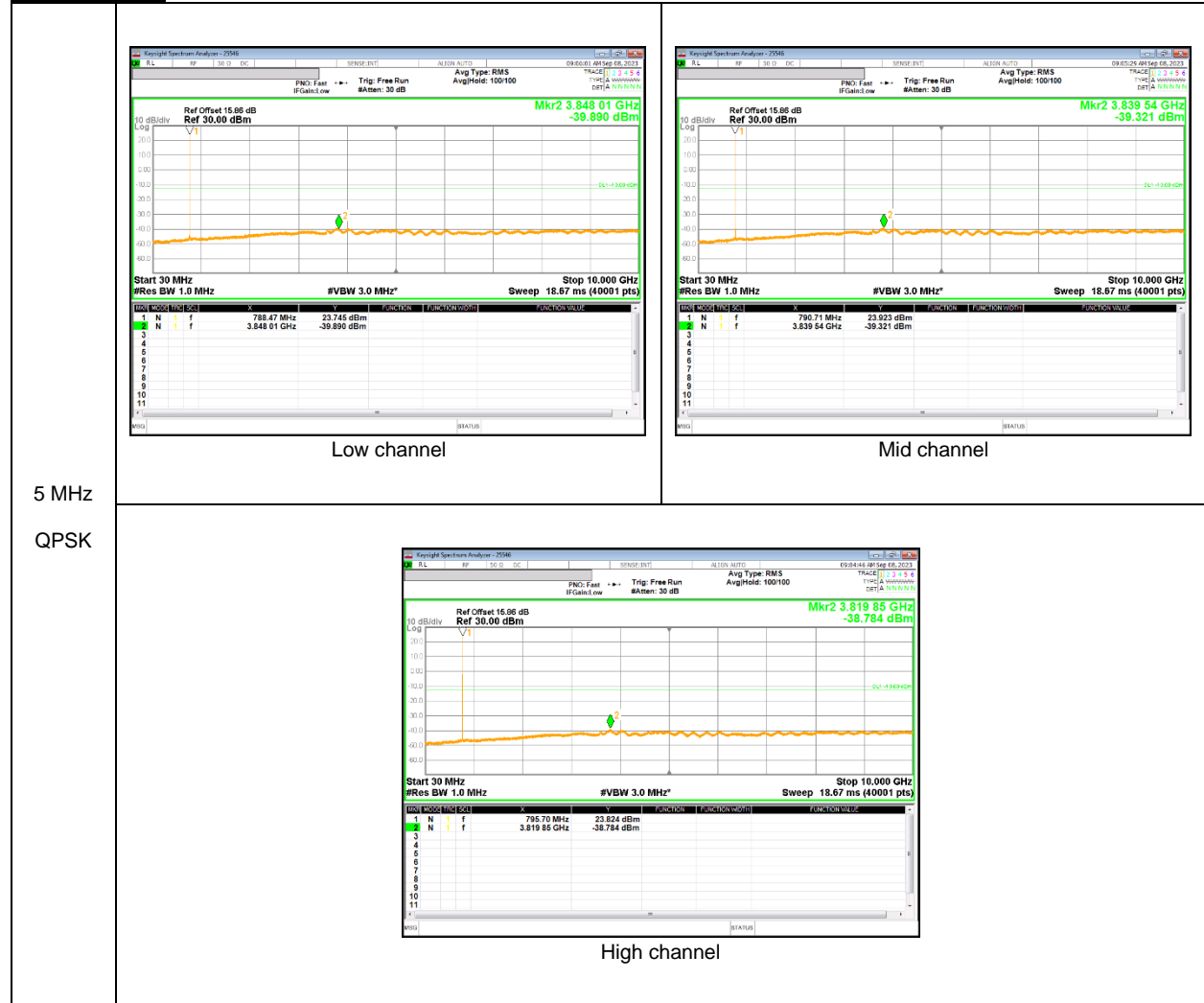
GPRS



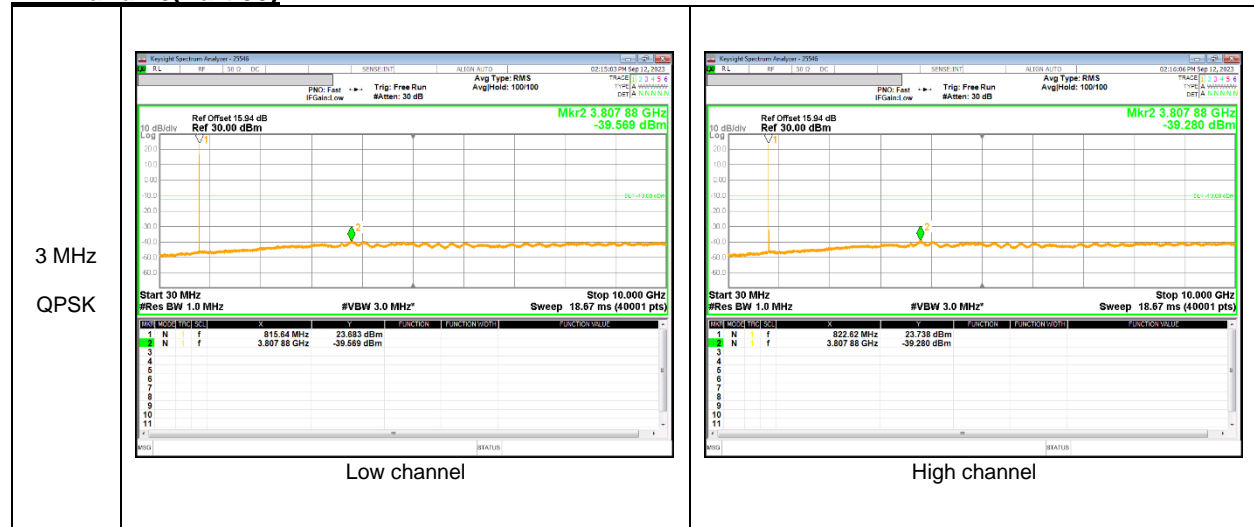
WCDMA Band 5



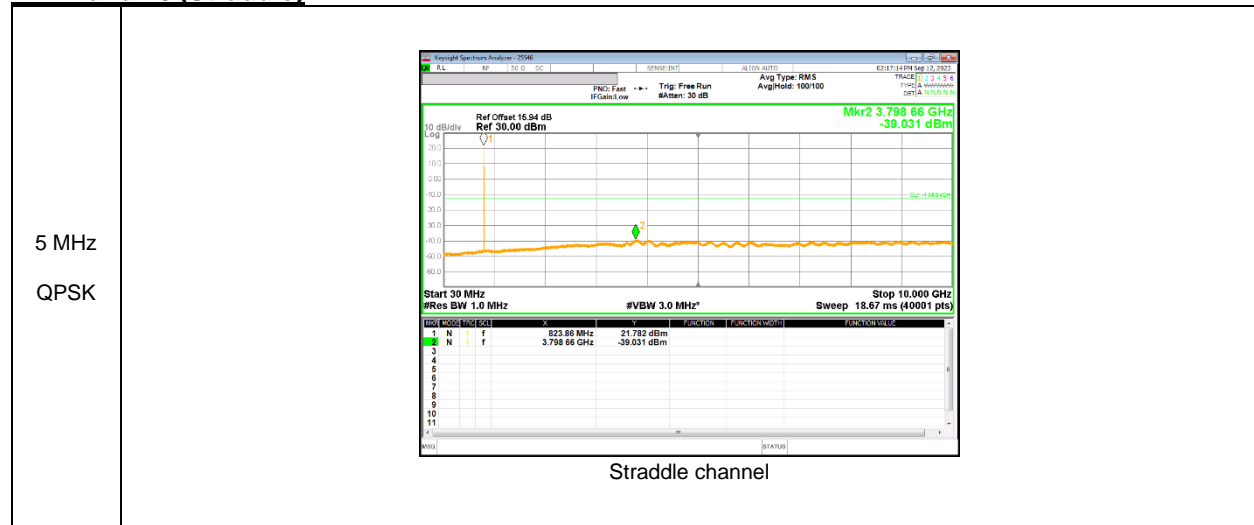
LTE Band 14



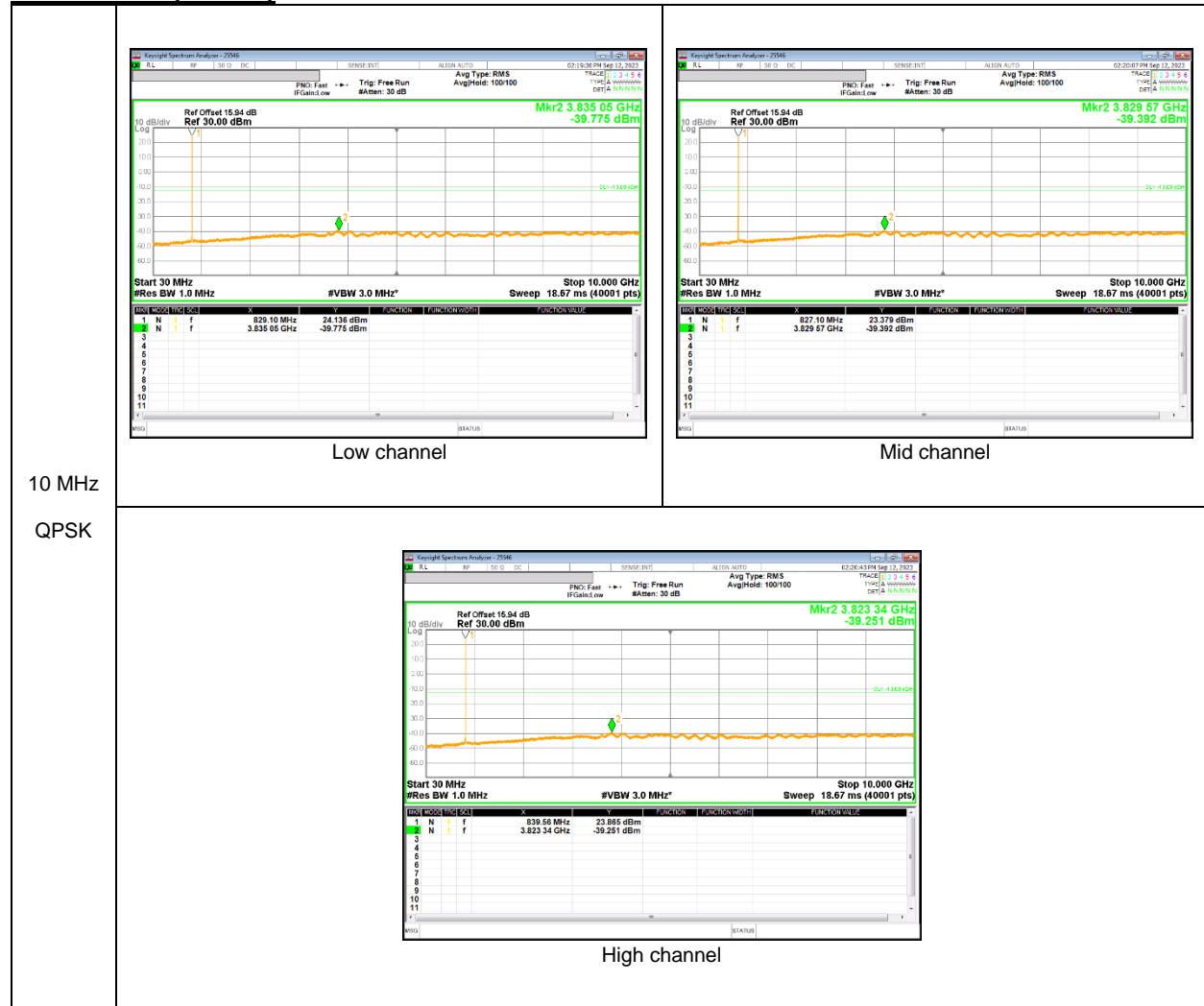
LTE Band 26(Part 90)



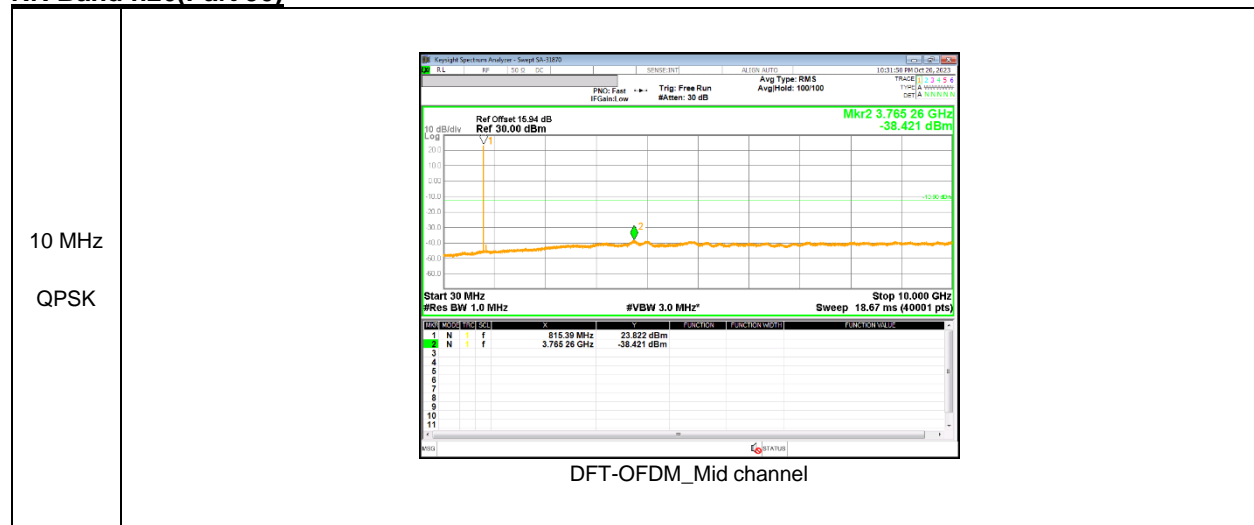
LTE Band 26 (Straddle)



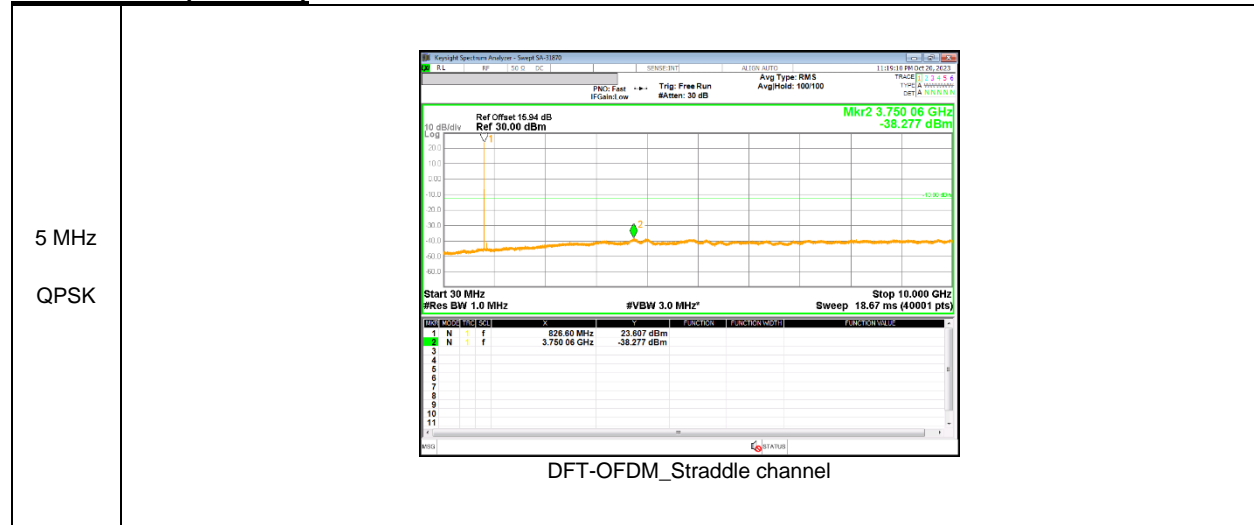
LTE Band 26 (Part 22)



NR Band n26(Part 90)



NR Band n26 (Straddle)



NR Band n26 (Part 22)



8.6. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355 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.

§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

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)

RESULTS

See the following pages.

8.6.1. FREQUENCY STABILITY RESULTS

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

Test Date	2023-10-04
Test Engineer	31870

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	824.20004461	-0.028	848.80003151	-0.011	2.5
3.88	40	824.20004156	-0.024	848.80002863	-0.008	2.5
3.88	30	824.20001064	0.013	848.80001268	0.011	2.5
3.88	20	824.20002155	0.000	848.80002175	0.000	2.5
3.88	10	824.20003466	-0.016	848.80002844	-0.008	2.5
3.88	0	824.20002578	-0.005	848.80002722	-0.006	2.5
3.88	-10	824.20003311	-0.014	848.80001096	0.013	2.5
3.88	-20	824.20001693	0.006	848.80001594	0.007	2.5
3.88	-30	824.20002735	-0.007	848.80002131	0.001	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	824.20002155	0	848.80002175	0	2.5
4.45	20	824.20001333	0.010	848.80002766	-0.007	2.5
3.70	20	824.20003358	-0.015	848.80004133	-0.023	2.5

WCDMA Band 5

Test Date	2023-10-05
Test Engineer	31870

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	826.40002851	-0.008	846.60002963	-0.013	2.5
3.88	40	826.40003126	-0.012	846.60002895	-0.012	2.5
3.88	30	826.40001658	0.006	846.60002058	-0.003	2.5
3.88	20	826.40002166	0.000	846.60001839	0.000	2.5
3.88	10	826.40003325	-0.014	846.60003991	-0.025	2.5
3.88	0	826.40001820	0.004	846.60002255	-0.005	2.5
3.88	-10	826.40001461	0.009	846.60001214	0.007	2.5
3.88	-20	826.40002222	-0.001	846.60002536	-0.008	2.5
3.88	-30	826.40003323	-0.014	846.60002853	-0.012	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	826.40002166	0	846.60001839	0	2.5
4.45	20	826.40004137	-0.024	846.60003690	-0.022	2.5
3.70	20	826.40003551	-0.017	846.60003161	-0.016	2.5

LTE Band 14 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Test Date	2023-10-06
Test Engineer	31870

Limit		788	798	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	788.2517	797.7522	1.3	0.002
Extreme (50C)		788.2517	797.7522		
Extreme (40C)		788.2517	797.7522	2.3	0.003
Extreme (30C)		788.2517	797.7522	1.6	0.002
Extreme (10C)		788.2517	797.7522	3.3	0.004
Extreme (0C)		788.2517	797.7522	2.2	0.003
Extreme (-10C)		788.2517	797.7522	1.3	0.002
Extreme (-20C)		788.2517	797.7522	2.0	0.002
Extreme (-30C)		788.2517	797.7522	1.3	0.002
20C	15%	788.2517	797.7522	1.2	0.001
	-15%	788.2517	797.7522	0.4	0.001
	End Point	788.2517	797.7522	0.7	0.001

LTE Band 26

Test Date	2023-10-06
Test Engineer	31870

Reference Frequency : 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		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	814.70003851	-0.033	848.30004130	-0.038	2.5
3.88	40	814.70002153	-0.012	848.30003367	-0.029	2.5
3.88	30	814.70001068	0.001	848.30001760	-0.010	2.5
3.88	20	814.70001150	0.000	848.30000940	0.000	2.5
3.88	10	814.70002153	-0.012	848.30002160	-0.014	2.5
3.88	0	814.70002835	-0.021	848.30001187	-0.003	2.5
3.88	-10	814.70001655	-0.006	848.30001050	-0.001	2.5
3.88	-20	814.70003133	-0.024	848.30002563	-0.019	2.5
3.88	-30	814.70002941	-0.022	848.30001761	-0.010	2.5

Reference Frequency : 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		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	814.70001150	0	848.30000940	0	2.5
4.45	20	814.70001861	-0.009	848.30002169	-0.014	2.5
3.70	20	814.70002133	-0.012	848.30003163	-0.026	2.5

NR Band n26

Test Date	2023-10-11
Test Engineer	31870

Reference Frequency : Low Channel 816.5 MHz / High Channel 846.5 MHz @ 20°C							
Limit: +- 2.5 ppm =		Low Channel	2041.250	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	816.50000584	-0.003	846.50000617	-0.002	2.5	
3.88	40	816.50000264	0.001	846.50000653	-0.002	2.5	
3.88	30	816.50000484	-0.002	846.50000533	-0.001	2.5	
3.88	20	816.50000358	0.000	846.50000454	0.000	2.5	
3.88	10	816.50000255	0.001	846.50000223	0.003	2.5	
3.88	0	816.50000558	-0.002	846.50000669	-0.003	2.5	
3.88	-10	816.50000555	-0.002	846.50000755	-0.004	2.5	
3.88	-20	816.50000488	-0.002	846.50000322	0.002	2.5	
3.88	-30	816.50000315	0.001	846.50000258	0.002	2.5	

Reference Frequency : Low Channel 816.5 MHz / High Channel 846.5 MHz @ 20°C							
Limit: +- 2.5 ppm =		Low Channel	2041.250	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	816.50000358	0	846.50000454	0	2.5	
4.45	20	816.50000221	0.002	846.50000325	0.002	2.5	
3.70	20	816.50000226	0.002	846.50000558	-0.001	2.5	

9. RADIATED RESULTS

9.1. RADIATED POWER (ERP)

RULE PART(S)

FCC: §2.1046, §22.913, §90.542 and §90.635

LIMITS

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

90.542(a)(7) - Portable stations (hand-held devices) transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 3 watts ERP.

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

See the following pages.

9.1.1. ERP Results

GSM (ANT A)

Band	Mode	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)
GSM 850_ANT A	GPRS	824.20	31.58	V	3.01	-1.03	27.55	568.85	38.50	-10.95
		836.60	32.19	V	3.03	-0.97	28.18	657.66	38.50	-10.32
		848.80	32.33	V	3.05	-0.91	28.37	687.07	38.50	-10.13
	EGPRS	824.20	27.77	V	3.01	-1.03	23.74	236.59	38.50	-14.76
		836.60	28.05	V	3.03	-0.97	24.05	254.10	38.50	-14.45
		848.80	28.26	V	3.05	-0.91	24.30	269.15	38.50	-14.20

GSM (ANT E)

Band	Mode	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)
GSM 850_ANT E	GPRS	824.20	33.25	V	3.01	-1.03	29.22	834.70	38.50	-9.28
		836.60	33.11	V	3.03	-0.97	29.11	815.61	38.50	-9.39
		848.80	33.13	V	3.05	-0.91	29.17	826.73	38.50	-9.33
	EGPRS	824.20	28.83	V	3.01	-1.03	24.80	301.67	38.50	-13.70
		836.60	28.76	V	3.03	-0.97	24.76	299.56	38.50	-13.74
		848.80	28.28	V	3.05	-0.91	24.32	270.62	38.50	-14.18

WCDMA (ANT A)

Band	Mode	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)
Band 5_ANT A	REL99	826.40	22.65	V	3.01	-1.02	18.62	72.82	38.50	-19.88
		836.60	23.52	V	3.03	-0.97	19.52	89.64	38.50	-18.98
		846.60	23.83	V	3.05	-0.92	19.86	96.86	38.50	-18.64
	HSDPA	826.40	21.54	V	3.01	-1.02	17.51	56.40	38.50	-20.99
		836.60	22.84	V	3.03	-0.97	18.84	76.65	38.50	-19.66
		846.60	23.25	V	3.05	-0.92	19.28	84.75	38.50	-19.22

WCDMA (ANT E)

Band	Mode	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)
Band 5	REL99	826.40	25.56	V	3.01	-1.02	21.53	142.31	38.50	-16.97
		836.60	26.29	V	3.03	-0.97	22.29	169.62	38.50	-16.21
		846.60	25.97	V	3.05	-0.92	22.00	158.54	38.50	-16.50
	HSDPA	826.40	24.98	V	3.01	-1.02	20.95	124.52	38.50	-17.55
		836.60	25.72	V	3.03	-0.97	21.72	148.76	38.50	-16.78
		846.60	25.26	V	3.05	-0.92	21.29	134.63	38.50	-17.21

LTE Band 14 (ANT A)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	793.00	25.02	V	2.95	-1.16	20.91	123.31	34.77	-13.86	1/0
	16-QAM	793.00	23.92	V	2.95	-1.16	19.81	95.72	34.77	-14.96	1/0
5	QPSK	790.50	25.26	V	2.95	-1.17	21.14	130.02	34.77	-13.63	1/0
		793.00	24.70	V	2.95	-1.16	20.59	114.55	34.77	-14.18	1/0
		795.50	24.95	V	2.96	-1.16	20.83	121.06	34.77	-13.94	1/12
	16-QAM	790.50	23.99	V	2.95	-1.17	19.87	97.05	34.77	-14.90	1/0
		793.00	23.74	V	2.95	-1.16	19.63	91.83	34.77	-15.14	1/0
		795.50	23.81	V	2.96	-1.16	19.69	93.11	34.77	-15.08	1/12

LTE Band 14 (ANT E)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	793.00	23.04	V	2.95	-1.16	18.93	78.11	34.77	-15.84	1/25
	16-QAM	793.00	22.12	V	2.95	-1.16	18.01	63.20	34.77	-16.76	1/25
5	QPSK	790.50	23.33	V	2.95	-1.17	19.21	83.38	34.77	-15.56	1/12
		793.00	23.03	V	2.95	-1.16	18.92	77.93	34.77	-15.85	1/12
		795.50	22.96	V	2.96	-1.16	18.84	76.55	34.77	-15.93	1/0
	16-QAM	790.50	22.12	V	2.95	-1.17	18.00	63.11	34.77	-16.77	1/12
		793.00	22.08	V	2.95	-1.16	17.97	62.62	34.77	-16.80	1/12
		795.50	21.87	V	2.96	-1.16	17.75	59.56	34.77	-17.02	1/0

LTE Band 26 (ANT A)

BW (MHz)	Modulation	f (MHz)	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	ERP	ERP (mW)	Limit (dBm)	Delta (dB)	RB
15	QPSK	821.50	22.14	V	3.01	-1.04	18.09	64.42	50.00	-31.91	1/37
		831.50	23.06	V	3.02	-0.99	19.04	80.18	38.50	-19.46	1/0
		836.50	24.01	V	3.03	-0.97	20.02	100.36	38.50	-18.48	1/0
		841.50	23.63	V	3.04	-0.94	19.65	92.23	38.50	-18.85	1/74
	16-QAM	821.50	21.19	V	3.01	-1.04	17.14	51.76	50.00	-32.86	1/37
		831.50	22.13	V	3.02	-0.99	18.11	64.73	38.50	-20.39	1/0
		836.50	23.09	V	3.03	-0.97	19.10	81.20	38.50	-19.40	1/0
		841.50	22.58	V	3.04	-0.94	18.60	72.42	38.50	-19.90	1/37
10	QPSK	819.00	21.95	V	3.00	-1.06	17.90	61.66	50.00	-32.10	1/25
		829.00	22.89	V	3.02	-1.01	18.86	76.91	38.50	-19.64	1/25
		831.50	22.94	V	3.02	-0.99	18.92	77.98	38.50	-19.58	1/0
		844.00	23.67	V	3.04	-0.93	19.69	93.11	38.50	-18.81	1/0
	16-QAM	819.00	21.00	V	3.00	-1.06	16.95	49.55	50.00	-33.05	1/0
		829.00	21.79	V	3.02	-1.01	17.76	59.70	38.50	-20.74	1/25
		831.50	21.94	V	3.02	-0.99	17.92	61.94	38.50	-20.58	1/0
		844.00	23.21	V	3.04	-0.93	19.23	83.75	38.50	-19.27	1/49
5	QPSK	816.50	21.89	V	3.00	-1.07	17.82	60.53	50.00	-32.18	1/12
		821.50	22.18	V	3.01	-1.04	18.13	65.01	50.00	-31.87	1/12
		826.50	22.68	V	3.01	-1.02	18.65	73.28	38.50	-19.85	1/12
		831.50	23.20	V	3.02	-0.99	19.18	82.79	38.50	-19.32	1/0
	846.50	24.00	V	3.05	-0.92	20.03	100.69	38.50	-18.47	1/12	
	16-QAM	816.50	20.76	V	3.00	-1.07	16.69	46.67	50.00	-33.31	1/12
		821.50	21.38	V	3.01	-1.04	17.33	54.08	50.00	-32.67	1/12
		826.50	21.75	V	3.01	-1.02	17.72	59.16	38.50	-20.78	1/12
831.50		22.07	V	3.02	-0.99	18.05	63.83	38.50	-20.45	1/0	
846.50	22.96	V	3.05	-0.92	18.99	79.25	38.50	-19.51	1/24		
3	QPSK	815.50	21.97	V	2.99	-1.07	17.90	61.66	50.00	-32.10	1/8
		822.50	22.43	V	3.01	-1.04	18.38	68.87	50.00	-31.62	1/8
		825.50	22.58	V	3.01	-1.02	18.55	71.61	38.50	-19.95	1/8
		831.50	23.22	V	3.02	-0.99	19.20	83.18	38.50	-19.30	1/8
	847.50	24.15	V	3.05	-0.91	20.19	104.47	38.50	-18.31	1/8	
	16-QAM	815.50	20.97	V	2.99	-1.07	16.90	48.98	50.00	-33.10	1/8
		822.50	21.40	V	3.01	-1.04	17.35	54.33	50.00	-32.65	1/8
		825.50	21.57	V	3.01	-1.02	17.54	56.75	38.50	-20.96	1/8
831.50		22.25	V	3.02	-0.99	18.23	66.53	38.50	-20.27	1/8	
847.50	23.13	V	3.05	-0.91	19.17	82.60	38.50	-19.33	1/8		
1.4	QPSK	814.70	22.14	V	2.99	-1.08	18.07	64.12	50.00	-31.93	1/3
		823.30	22.48	V	3.01	-1.03	18.44	69.82	50.00	-31.56	1/3
		824.70	22.59	V	3.01	-1.03	18.55	71.61	38.50	-19.95	1/3
		831.50	23.13	V	3.02	-0.99	19.11	81.47	38.50	-19.39	1/3
	848.30	22.38	V	3.05	-0.91	18.42	69.50	38.50	-20.08	1/3	
	16-QAM	814.70	20.98	V	2.99	-1.08	16.91	49.09	50.00	-33.09	1/3
		823.30	21.40	V	3.01	-1.03	17.36	54.45	50.00	-32.64	1/3
		824.70	21.58	V	3.01	-1.03	17.54	56.75	38.50	-20.96	1/3
831.50		22.26	V	3.02	-0.99	18.24	66.68	38.50	-20.26	1/3	
848.30	21.47	V	3.05	-0.91	17.51	56.36	38.50	-20.99	1/3		

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
15	QPSK	824.00	22.37	V	3.01	-1.03	18.33	68.08	38.50	-20.17	1/37
	16-QAM		21.39	V	3.01	-1.03	17.35	54.33	38.50	-21.15	1/37
10	QPSK		22.29	V	3.01	-1.03	18.35	68.39	38.50	-20.15	1/25
	16-QAM		21.38	V	3.01	-1.03	17.34	54.20	38.50	-21.16	1/25
5	QPSK		22.28	V	3.01	-1.03	18.24	66.68	38.50	-20.26	1/12
	16-QAM		21.24	V	3.01	-1.03	17.20	52.48	38.50	-21.30	1/12
3	QPSK		22.43	V	3.01	-1.03	18.39	69.02	38.50	-20.11	1/8
	16-QAM		21.44	V	3.01	-1.03	17.40	54.95	38.50	-21.10	1/8
1.4	QPSK		22.09	V	3.01	-1.03	18.05	63.83	38.50	-20.45	1/3
	16-QAM		21.16	V	3.01	-1.03	17.12	51.52	38.50	-21.38	1/3

LTE Band 26 (ANT E)

BW (MHz)	Modulation	f (MHz)	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	ERP	ERP (mW)	Limit (dBm)	Delta (dB)	RB		
15	QPSK	821.50	25.02	V	3.01	-1.04	20.97	125.15	50.00	-29.03	1/37		
		831.50	25.81	V	3.02	-0.99	21.79	151.04	38.50	-16.71	1/0		
		836.50	26.20	V	3.03	-0.97	22.21	166.17	38.50	-16.29	1/37		
		841.50	25.94	V	3.04	-0.94	21.96	156.99	38.50	-16.54	1/74		
	16-QAM	821.50	24.11	V	3.01	-1.04	20.06	101.49	50.00	-29.94	1/37		
		831.50	24.94	V	3.02	-0.99	20.92	123.62	38.50	-17.58	1/37		
10	QPSK	836.50	25.16	V	3.03	-0.97	21.17	130.79	38.50	-17.33	1/37		
		841.50	25.05	V	3.04	-0.94	21.07	127.90	38.50	-17.43	1/37		
		819.00	24.73	V	3.00	-1.06	20.68	116.94	50.00	-29.32	1/49		
		829.00	25.80	V	3.02	-1.01	21.77	150.45	38.50	-16.73	1/25		
		831.50	25.81	V	3.02	-0.99	21.79	151.04	38.50	-16.71	1/25		
		844.00	25.88	V	3.04	-0.93	21.90	154.97	38.50	-16.60	1/25		
	16-QAM	819.00	23.70	V	3.00	-1.06	19.65	92.25	50.00	-30.35	1/49		
		829.00	24.74	V	3.02	-1.01	20.71	117.86	38.50	-17.79	1/25		
		831.50	24.77	V	3.02	-0.99	20.75	118.87	38.50	-17.75	1/25		
		844.00	24.94	V	3.04	-0.93	20.96	124.81	38.50	-17.54	1/25		
		816.50	24.80	V	3.00	-1.07	20.73	118.36	50.00	-29.27	1/12		
		821.50	25.13	V	3.01	-1.04	21.08	128.36	50.00	-28.92	1/12		
5	QPSK	826.50	25.46	V	3.01	-1.02	21.43	139.01	38.50	-17.07	1/12		
		831.50	26.24	V	3.02	-0.99	22.22	166.76	38.50	-16.28	1/0		
		846.50	25.91	V	3.05	-0.92	21.94	156.30	38.50	-16.56	1/12		
		816.50	23.70	V	3.00	-1.07	19.63	91.88	50.00	-30.37	1/24		
		821.50	24.13	V	3.01	-1.04	20.08	101.96	50.00	-29.92	1/12		
		826.50	24.46	V	3.01	-1.02	20.43	110.42	38.50	-18.07	1/12		
	16-QAM	831.50	24.93	V	3.02	-0.99	20.91	123.33	38.50	-17.59	1/0		
		846.50	24.86	V	3.05	-0.92	20.89	122.74	38.50	-17.61	1/12		
		3	QPSK	815.50	24.73	V	2.99	-1.07	20.66	116.40	50.00	-29.34	1/8
				822.50	25.28	V	3.01	-1.04	21.23	132.87	50.00	-28.77	1/8
				825.50	25.37	V	3.01	-1.02	21.34	136.11	38.50	-17.16	1/8
				831.50	26.01	V	3.02	-0.99	21.99	158.15	38.50	-16.51	1/8
16-QAM	847.50		25.55	V	3.05	-0.91	21.59	144.19	38.50	-16.91	1/8		
	815.50		23.82	V	2.99	-1.07	19.75	94.40	50.00	-30.25	1/8		
1.4	QPSK	822.50	24.22	V	3.01	-1.04	20.17	104.10	50.00	-29.83	1/8		
		825.50	24.37	V	3.01	-1.02	20.34	108.11	38.50	-18.16	1/8		
		831.50	24.88	V	3.02	-0.99	20.86	121.92	38.50	-17.64	1/0		
		847.50	24.52	V	3.05	-0.91	20.56	113.75	38.50	-17.94	1/8		
		16-QAM	814.70	23.79	V	2.99	-1.08	19.72	93.74	50.00	-30.28	1/3	
			823.30	25.21	V	3.01	-1.03	21.17	130.77	50.00	-28.83	1/3	
	824.70		25.36	V	3.01	-1.03	21.32	135.60	38.50	-17.18	1/3		
	831.50		26.00	V	3.02	-0.99	21.98	157.79	38.50	-16.52	1/3		
	848.30		25.49	V	3.05	-0.91	21.53	142.21	38.50	-16.97	1/3		
	814.70		22.66	V	2.99	-1.08	18.59	72.26	50.00	-31.41	1/0		
	1.4	QPSK	823.30	24.31	V	3.01	-1.03	20.27	106.30	50.00	-29.73	1/3	
			824.70	24.22	V	3.01	-1.03	20.18	104.29	38.50	-18.32	1/3	
16-QAM		831.50	24.98	V	3.02	-0.99	20.96	124.76	38.50	-17.54	1/3		
		848.30	24.50	V	3.05	-0.91	20.54	113.22	38.50	-17.96	1/3		

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
15	QPSK	824.00	25.05	V	3.01	-1.03	21.01	126.25	38.50	-17.49	1/37
	16-QAM		24.26	V	3.01	-1.03	20.22	105.25	38.50	-18.28	1/37
10	QPSK		25.23	V	3.01	-1.03	21.19	131.60	38.50	-17.31	1/25
	16-QAM		24.22	V	3.01	-1.03	20.18	104.29	38.50	-18.32	1/25
5	QPSK		25.25	V	3.01	-1.03	21.21	132.20	38.50	-17.29	1/12
	16-QAM		24.09	V	3.01	-1.03	20.05	101.21	38.50	-18.45	1/12
3	QPSK		25.24	V	3.01	-1.03	21.20	131.90	38.50	-17.30	1/8
	16-QAM		24.22	V	3.01	-1.03	20.18	104.29	38.50	-18.32	1/8
1.4	QPSK		25.15	V	3.01	-1.03	21.11	129.19	38.50	-17.39	1/3
	16-QAM		24.08	V	3.01	-1.03	20.04	100.98	38.50	-18.46	1/3

NR Band n26 (ANT A)

DFT-OFDM

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
20	QPSK	834.00	24.09	V	3.03	-0.98	20.08	101.84	38.50	-18.42	1/53
		836.50	24.26	V	3.03	-0.97	20.27	106.31	38.50	-18.23	1/53
		839.00	23.65	V	3.03	-0.96	19.66	92.50	38.50	-18.84	1/1
	16-QAM	834.00	22.84	V	3.03	-0.98	18.83	76.37	38.50	-19.67	1/53
		836.50	23.28	V	3.03	-0.97	19.29	84.83	38.50	-19.21	1/53
		839.00	22.53	V	3.03	-0.96	18.54	71.47	38.50	-19.96	1/1
15	QPSK	821.50	22.34	V	3.01	-1.04	18.29	67.52	50.00	-31.71	1/1
		831.50	23.69	V	3.02	-0.99	19.67	92.70	38.50	-18.83	1/1
		836.50	24.19	V	3.03	-0.97	20.20	104.61	38.50	-18.30	1/40
	16-QAM	841.50	23.99	V	3.04	-0.94	20.01	100.20	38.50	-18.49	1/1
		821.50	21.25	V	3.01	-1.04	17.20	52.53	50.00	-32.80	1/1
		831.50	22.49	V	3.02	-0.99	18.47	70.32	38.50	-20.03	1/1
10	QPSK	836.50	23.24	V	3.03	-0.97	19.25	84.05	38.50	-19.25	1/40
		841.50	23.14	V	3.04	-0.94	19.16	82.39	38.50	-19.34	1/1
		819.00	22.50	V	3.00	-1.06	18.45	69.98	50.00	-31.55	1/1
	16-QAM	829.00	23.36	V	3.02	-1.01	19.33	86.78	38.50	-19.17	1/26
		831.50	23.71	V	3.02	-0.99	19.69	93.13	38.50	-18.81	1/50
		844.00	24.25	V	3.04	-0.93	20.27	106.47	38.50	-18.23	1/50
5	QPSK	819.00	21.28	V	3.00	-1.06	17.23	52.84	50.00	-32.77	1/1
		829.00	22.26	V	3.02	-1.01	18.23	66.59	38.50	-20.27	1/26
		831.50	22.58	V	3.02	-0.99	18.56	71.79	38.50	-19.94	1/50
	16-QAM	844.00	23.17	V	3.04	-0.93	19.19	83.03	38.50	-19.31	1/50
		816.50	22.89	V	3.00	-1.07	18.82	76.25	50.00	-31.18	1/13
		821.50	22.74	V	3.01	-1.04	18.69	74.03	50.00	-31.31	1/13
5	QPSK	826.50	23.17	V	3.01	-1.02	19.14	82.04	38.50	-19.36	1/13
		831.50	23.78	V	3.02	-0.99	19.76	94.64	38.50	-18.74	1/13
		846.50	24.27	V	3.05	-0.92	20.30	107.14	38.50	-18.20	1/23
	16-QAM	816.50	21.81	V	3.00	-1.07	17.74	59.46	50.00	-32.26	1/13
		821.50	21.67	V	3.01	-1.04	17.62	57.87	50.00	-32.38	1/13
		826.50	21.96	V	3.01	-1.02	17.93	62.09	38.50	-20.57	1/13
5	QPSK	831.50	22.66	V	3.02	-0.99	18.64	73.13	38.50	-19.86	1/13
		846.50	23.17	V	3.05	-0.92	19.20	83.17	38.50	-19.30	1/23
		816.50	21.81	V	3.00	-1.07	17.74	59.46	50.00	-32.26	1/13
20	QPSK	824.00	22.72	V	3.01	-1.03	18.68	73.83	38.50	-19.82	1/53
			21.62	V	3.01	-1.03	17.58	57.31	38.50	-20.92	1/53
	16-QAM		22.86	V	3.01	-1.03	18.82	76.25	38.50	-19.68	1/40
			21.91	V	3.01	-1.03	17.87	61.27	38.50	-20.63	1/40
	QPSK		22.77	V	3.01	-1.03	18.73	74.69	38.50	-19.77	1/26
			21.80	V	3.01	-1.03	17.76	59.74	38.50	-20.74	1/26
16-QAM	23.01	V	3.01	-1.03	18.97	78.93	38.50	-19.53	1/13		
	21.79	V	3.01	-1.03	17.75	59.60	38.50	-20.75	1/13		

NR Band n26 (ANT E)

DFT-OFDM

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
20	QPSK	834.00	26.88	V	3.03	-0.98	22.87	193.60	38.50	-15.63	1/1
		836.50	26.68	V	3.03	-0.97	22.69	185.59	38.50	-15.81	1/53
		839.00	26.83	V	3.03	-0.96	22.84	192.37	38.50	-15.66	1/1
	16-QAM	834.00	25.68	V	3.03	-0.98	21.67	146.86	38.50	-16.83	1/1
		836.50	25.55	V	3.03	-0.97	21.56	143.07	38.50	-16.94	1/53
		839.00	25.48	V	3.03	-0.96	21.49	140.97	38.50	-17.01	1/1
15	QPSK	821.50	25.88	V	3.01	-1.04	21.83	152.56	50.00	-28.17	1/77
		831.50	27.01	V	3.02	-0.99	22.99	199.10	38.50	-15.51	1/1
		836.50	26.75	V	3.03	-0.97	22.76	188.61	38.50	-15.74	1/40
	16-QAM	841.50	26.60	V	3.04	-0.94	22.62	182.75	38.50	-15.88	1/77
		821.50	24.54	V	3.01	-1.04	20.49	112.05	50.00	-29.51	1/77
		831.50	25.78	V	3.02	-0.99	21.76	150.00	38.50	-16.74	1/1
		836.50	25.47	V	3.03	-0.97	21.48	140.46	38.50	-17.02	1/40
		841.50	25.65	V	3.04	-0.94	21.67	146.85	38.50	-16.83	1/77
		10	QPSK	819.00	25.60	V	3.00	-1.06	21.55	142.88	50.00
829.00	26.51			V	3.02	-1.01	22.48	177.17	38.50	-16.02	1/26
831.50	26.76			V	3.02	-0.99	22.74	187.97	38.50	-15.76	1/1
844.00	26.81			V	3.04	-0.93	22.83	191.98	38.50	-15.67	1/26
16-QAM	819.00		24.39	V	3.00	-1.06	20.34	108.14	50.00	-29.66	1/26
	829.00		25.54	V	3.02	-1.01	21.51	141.70	38.50	-16.99	1/26
	831.50		25.72	V	3.02	-0.99	21.70	147.94	38.50	-16.80	1/1
	844.00		25.70	V	3.04	-0.93	21.72	148.68	38.50	-16.78	1/26
	5		QPSK	816.50	25.54	V	3.00	-1.07	21.47	140.35	50.00
821.50		25.81		V	3.01	-1.04	21.76	150.12	50.00	-28.24	1/13
826.50		26.35		V	3.01	-1.02	22.32	170.62	38.50	-16.18	1/13
831.50		26.92		V	3.02	-0.99	22.90	195.02	38.50	-15.60	1/13
846.50		26.42		V	3.05	-0.92	22.45	175.78	38.50	-16.05	1/13
16-QAM		816.50		24.54	V	3.00	-1.07	20.47	111.49	50.00	-29.53
		821.50	24.61	V	3.01	-1.04	20.56	113.88	50.00	-29.44	1/13
		826.50	25.12	V	3.01	-1.02	21.09	128.54	38.50	-17.41	1/13
5		16-QAM	831.50	25.72	V	3.02	-0.99	21.70	147.94	38.50	-16.80
	846.50		25.29	V	3.05	-0.92	21.32	135.51	38.50	-17.18	1/13

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
20	QPSK	824.00	26.04	V	3.01	-1.03	22.00	158.58	38.50	-16.50	1/53
	16-QAM		25.16	V	3.01	-1.03	21.12	129.49	38.50	-17.38	1/53
15	QPSK		26.01	V	3.01	-1.03	21.97	157.49	38.50	-16.53	1/40
	16-QAM		24.83	V	3.01	-1.03	20.79	120.02	38.50	-17.71	1/40
10	QPSK		26.07	V	3.01	-1.03	22.03	159.68	38.50	-16.47	1/26
	16-QAM		24.99	V	3.01	-1.03	20.95	124.52	38.50	-17.55	1/26
5	QPSK		26.13	V	3.01	-1.03	22.09	161.90	38.50	-16.41	1/13
	16-QAM		24.96	V	3.01	-1.03	20.92	123.66	38.50	-17.58	1/13

9.2. RADIATED SPURIOUS EMISSION

RULE PART(S)

FCC: §2.1053, §22.917, §90.543 and §90.691

LIMIT

Part 22.917(a)

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 90.543(c)

On any frequency outside of the frequency ranges covered by the ACP tables in this section, the power of any emission must be reduced below the mean output power (P) by at least $43 + 10 \log(P)$ dB measured in a 100 kHz bandwidth for frequencies less than 1 GHz, and in a 1 MHz bandwidth for frequencies greater than 1 GHz

Part 90.543(f)

For operations in the 758–775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation

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

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 1 GHz.
- 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, 5G NR), Maxhold(GSM);

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.

RESULTS

See the following pages.

9.2.1. SPURIOUS RADIATION PLOTS

GSM850

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
GPRS ANT A	Company:	Samsung									
	Project #:	4790976523									
	Date:	2023-09-05									
	Test Engineer:	24542									
	Configuration:	EUT / AC Adapter, Z-Position									
	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	40.8	1.0	-49.8	-13.0	-36.8		
	2472.60	-6.3	V	3.0	41.4	1.0	-46.8	-13.0	-33.8		
	3296.80	-4.1	V	3.0	42.2	1.0	-45.3	-13.0	-32.3		
	1648.40	-10.2	H	3.0	40.8	1.0	-50.0	-13.0	-37.0		
	2472.60	-6.6	H	3.0	41.4	1.0	-47.0	-13.0	-34.0		
	3296.80	-3.7	H	3.0	42.2	1.0	-44.9	-13.0	-31.9		
	Mid Ch, 836.6MHz										
	1673.20	-9.0	V	3.0	40.8	1.0	-48.8	-13.0	-35.8		
	2509.80	-6.3	V	3.0	41.5	1.0	-46.8	-13.0	-33.8		
	3346.40	-4.2	V	3.0	42.2	1.0	-45.4	-13.0	-32.4		
	1673.20	-10.5	H	3.0	40.8	1.0	-50.3	-13.0	-37.3		
	2509.80	-6.5	H	3.0	41.5	1.0	-47.0	-13.0	-34.0		
	3346.40	-3.6	H	3.0	42.2	1.0	-44.8	-13.0	-31.8		
	High Ch, 848.8MHz										
	1697.60	-9.3	V	3.0	40.8	1.0	-49.1	-13.0	-36.1		
	2546.40	-6.5	V	3.0	41.5	1.0	-47.0	-13.0	-34.0		
	3395.20	-3.8	V	3.0	42.2	1.0	-45.0	-13.0	-32.0		
	1697.60	-9.6	H	3.0	40.8	1.0	-49.4	-13.0	-36.4		
2546.40	-5.8	H	3.0	41.5	1.0	-46.4	-13.0	-33.4			
3395.20	-3.8	H	3.0	42.2	1.0	-45.0	-13.0	-32.0			
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
GPRS ANT E	Company:	Samsung									
	Project #:	4790976523									
	Date:	2023-10-03									
	Test Engineer:	47989									
	Configuration:	EUT / AC Adapter, Z-Position									
	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	-9.2	V	3.0	40.8	1.0	-49.0	-13.0	-36.0		
	2472.60	-6.6	V	3.0	41.4	1.0	-47.0	-13.0	-34.0		
	3296.80	-3.9	V	3.0	42.2	1.0	-45.1	-13.0	-32.1		
	1648.40	-10.6	H	3.0	40.8	1.0	-50.4	-13.0	-37.4		
	2472.60	-5.8	H	3.0	41.4	1.0	-46.2	-13.0	-33.2		
	3296.80	-3.5	H	3.0	42.2	1.0	-44.7	-13.0	-31.7		
	Mid Ch, 836.6MHz										
	1673.20	-9.4	V	3.0	40.8	1.0	-49.2	-13.0	-36.2		
	2509.80	-6.2	V	3.0	41.5	1.0	-46.7	-13.0	-33.7		
	3346.40	-4.0	V	3.0	42.2	1.0	-45.2	-13.0	-32.2		
	1673.20	-10.5	H	3.0	40.8	1.0	-50.3	-13.0	-37.3		
	2509.80	-6.1	H	3.0	41.5	1.0	-46.6	-13.0	-33.6		
	3346.40	-2.7	H	3.0	42.2	1.0	-43.9	-13.0	-30.9		
	High Ch, 848.8MHz										
	1697.60	-10.0	V	3.0	40.8	1.0	-49.8	-13.0	-36.8		
	2546.40	-6.1	V	3.0	41.5	1.0	-46.6	-13.0	-33.6		
	3395.20	-3.7	V	3.0	42.2	1.0	-44.9	-13.0	-31.9		
	1697.60	-10.7	H	3.0	40.8	1.0	-50.6	-13.0	-37.6		
2546.40	-5.7	H	3.0	41.5	1.0	-46.3	-13.0	-33.3			
3395.20	-2.5	H	3.0	42.2	1.0	-43.7	-13.0	-30.7			

WCDMA Band 5

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company:	Samsung							
		Project #:	4790976523							
		Date:	2023-09-07							
		Test Engineer:	24542							
		Configuration:	EUT / AC Adapter, Z-Position							
		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	
REL99										
ANT A										
Low Ch, 826.4MHz										
1652.80	-15.0	V	3.0	40.8	1.0	-54.8	-13.0	-41.8		
2479.20	-11.8	V	3.0	41.4	1.0	-52.3	-13.0	-39.3		
3305.60	-9.4	V	3.0	42.2	1.0	-50.6	-13.0	-37.6		
1652.80	-16.0	H	3.0	40.8	1.0	-55.8	-13.0	-42.8		
2479.20	-11.8	H	3.0	41.4	1.0	-52.2	-13.0	-39.2		
3305.60	-8.9	H	3.0	42.2	1.0	-50.1	-13.0	-37.1		
Mid Ch, 836.6MHz										
1673.20	-14.9	V	3.0	40.8	1.0	-54.7	-13.0	-41.7		
2509.80	-11.7	V	3.0	41.5	1.0	-52.2	-13.0	-39.2		
3346.40	-9.1	V	3.0	42.2	1.0	-50.3	-13.0	-37.3		
1673.20	-15.9	H	3.0	40.8	1.0	-55.7	-13.0	-42.7		
2509.80	-11.6	H	3.0	41.5	1.0	-52.1	-13.0	-39.1		
3346.40	-8.5	H	3.0	42.2	1.0	-49.7	-13.0	-36.7		
High Ch, 846.6MHz										
1693.20	-14.9	V	3.0	40.8	1.0	-54.7	-13.0	-41.7		
2539.80	-11.7	V	3.0	41.5	1.0	-52.3	-13.0	-39.3		
3386.40	-8.7	V	3.0	42.2	1.0	-49.9	-13.0	-36.9		
1693.20	-15.7	H	3.0	40.8	1.0	-55.5	-13.0	-42.5		
2539.80	-11.5	H	3.0	41.5	1.0	-52.1	-13.0	-39.1		
3386.40	-8.5	H	3.0	42.2	1.0	-49.7	-13.0	-36.7		
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company:	Samsung							
		Project #:	4790976523							
		Date:	2023-09-24							
		Test Engineer:	26087							
		Configuration:	EUT / AC Adapter, Z-Position							
		Location:	Chamber 1							
		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	
REL99										
ANT E										
Low Ch, 826.4MHz										
1652.80	-15.2	V	3.0	43.3	1.0	-57.6	-13.0	-44.6		
2479.20	-11.9	V	3.0	43.6	1.0	-54.5	-13.0	-41.5		
3305.60	-9.5	V	3.0	43.9	1.0	-52.4	-13.0	-39.4		
1652.80	-16.4	H	3.0	43.3	1.0	-58.7	-13.0	-45.7		
2479.20	-12.2	H	3.0	43.6	1.0	-54.7	-13.0	-41.7		
3305.60	-9.3	H	3.0	43.9	1.0	-52.2	-13.0	-39.2		
Mid Ch, 836.6MHz										
1673.20	-15.1	V	3.0	43.3	1.0	-57.4	-13.0	-44.4		
2509.80	-11.8	V	3.0	43.6	1.0	-54.4	-13.0	-41.4		
3346.40	-9.2	V	3.0	43.9	1.0	-52.1	-13.0	-39.1		
1673.20	-16.2	H	3.0	43.3	1.0	-58.5	-13.0	-45.5		
2509.80	-12.2	H	3.0	43.6	1.0	-54.8	-13.0	-41.8		
3346.40	-9.0	H	3.0	43.9	1.0	-52.0	-13.0	-39.0		
High Ch, 846.6MHz										
1693.20	-15.0	V	3.0	43.3	1.0	-57.3	-13.0	-44.3		
2539.80	-11.8	V	3.0	43.6	1.0	-54.4	-13.0	-41.4		
3386.40	-8.9	V	3.0	44.0	1.0	-51.8	-13.0	-38.8		
1693.20	-16.2	H	3.0	43.3	1.0	-58.5	-13.0	-45.5		
2539.80	-12.1	H	3.0	43.6	1.0	-54.7	-13.0	-41.7		
3386.40	-8.8	H	3.0	44.0	1.0	-51.7	-13.0	-38.7		

LTE Band 14

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
Company: Samsung Project #: 4790976523 Date: 2023-09-07 Test Engineer: 24542 Configuration: EUT / AC Adapter, Z-Position Location: Chamber 2 Mode: LTE_QPSK Band 14 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		
5 MHz QPSK ANT A	Low Ch, 790.5MHz										
	1581.00	-28.1	V	3.0	40.8	1.0	-67.9	-40.0	-27.9		
	2371.50	-10.4	V	3.0	41.3	1.0	-50.7	-13.0	-37.7		
	3162.00	-9.4	V	3.0	42.2	1.0	-50.6	-13.0	-37.6		
	1581.00	-28.8	H	3.0	40.8	1.0	-68.7	-40.0	-28.7		
	2371.50	-10.4	H	3.0	41.3	1.0	-50.7	-13.0	-37.7		
	3162.00	-8.6	H	3.0	42.2	1.0	-49.8	-13.0	-36.8		
	Mid Ch, 793MHz										
	1586.00	-23.5	V	3.0	40.8	1.0	-63.3	-40.0	-23.3		
	2379.00	-10.9	V	3.0	41.3	1.0	-51.2	-13.0	-38.2		
	3172.00	-9.5	V	3.0	42.2	1.0	-50.7	-13.0	-37.7		
	1586.00	-30.5	H	3.0	40.8	1.0	-70.3	-40.0	-30.3		
	2379.00	-11.1	H	3.0	41.3	1.0	-51.4	-13.0	-38.4		
	3172.00	-8.7	H	3.0	42.2	1.0	-49.9	-13.0	-36.9		
	High Ch, 795.5MHz										
	1591.00	-29.0	V	3.0	40.8	1.0	-68.8	-40.0	-28.8		
	2386.50	-10.4	V	3.0	41.3	1.0	-50.7	-13.0	-37.7		
	3182.00	-9.4	V	3.0	42.2	1.0	-50.6	-13.0	-37.6		
	1591.00	-29.8	H	3.0	40.8	1.0	-69.6	-40.0	-29.6		
	2386.50	-10.6	H	3.0	41.3	1.0	-50.9	-13.0	-37.9		
	3182.00	-8.7	H	3.0	42.2	1.0	-49.9	-13.0	-36.9		
	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
	Company: Samsung Project #: 4790976523 Date: 2023-09-24 Test Engineer: 26087 Configuration: EUT / AC Adapter, Z-Position Location: Chamber 1 Mode: LTE_QPSK Band 14 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	
5 MHz QPSK ANT E	Low Ch, 790.5MHz										
	1581.00	-25.6	V	3.0	43.3	1.0	-67.9	-40.0	-27.9		
	2371.50	-12.2	V	3.0	43.5	1.0	-54.7	-13.0	-41.7		
	3162.00	-9.9	V	3.0	43.8	1.0	-52.7	-13.0	-39.7		
	1581.00	-26.8	H	3.0	43.3	1.0	-69.1	-40.0	-29.1		
	2371.50	-12.7	H	3.0	43.5	1.0	-55.2	-13.0	-42.2		
	3162.00	-9.6	H	3.0	43.8	1.0	-52.4	-13.0	-39.4		
	Mid Ch, 793MHz										
	1586.00	-25.6	V	3.0	43.3	1.0	-67.9	-40.0	-27.9		
	2379.00	-12.2	V	3.0	43.5	1.0	-54.8	-13.0	-41.8		
	3172.00	-9.9	V	3.0	43.9	1.0	-52.8	-13.0	-39.8		
	1586.00	-26.7	H	3.0	43.3	1.0	-69.0	-40.0	-29.0		
	2379.00	-12.5	H	3.0	43.5	1.0	-55.1	-13.0	-42.1		
	3172.00	-9.7	H	3.0	43.9	1.0	-52.5	-13.0	-39.5		
	High Ch, 795.5MHz										
	1591.00	-25.5	V	3.0	43.3	1.0	-67.8	-40.0	-27.8		
	2386.50	-12.0	V	3.0	43.5	1.0	-54.6	-13.0	-41.6		
	3182.00	-9.8	V	3.0	43.9	1.0	-52.7	-13.0	-39.7		
	1591.00	-26.7	H	3.0	43.3	1.0	-69.0	-40.0	-29.0		
	2386.50	-12.6	H	3.0	43.5	1.0	-55.1	-13.0	-42.1		
	3182.00	-9.6	H	3.0	43.9	1.0	-52.5	-13.0	-39.5		

LTE Band 26 (Part 90)

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4790976523 Date: 2023-09-08 Test Engineer: 24542 Configuration: EUT / AC Adapter, Z-Position Location: Chamber 2 Mode: LTE_QPSK Band 26 Harmonics, 1.4MHz Bandwidth Test Votage: AC 120 V, 60 Hz									
1.4 MHz		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
QPSK		Low Ch, 814.7MHz									
		1629.40	-15.1	V	3.0	40.8	1.0	-54.9	-13.0	-41.9	
		2444.10	-11.8	V	3.0	41.4	1.0	-52.2	-13.0	-39.2	
ANT A		3258.80	-9.5	V	3.0	42.2	1.0	-50.7	-13.0	-37.7	
		1629.40	-16.1	H	3.0	40.8	1.0	-55.9	-13.0	-42.9	
		2444.10	-11.9	H	3.0	41.4	1.0	-52.3	-13.0	-39.3	
		3258.80	-8.9	H	3.0	42.2	1.0	-50.1	-13.0	-37.1	
		Mid Ch, 823.3MHz									
		1646.60	-14.9	V	3.0	40.8	1.0	-54.7	-13.0	-41.7	
		2469.90	-11.9	V	3.0	41.4	1.0	-52.3	-13.0	-39.3	
		3293.20	-9.5	V	3.0	42.2	1.0	-50.7	-13.0	-37.7	
		1646.60	-15.9	H	3.0	40.8	1.0	-55.7	-13.0	-42.7	
		2469.90	-11.9	H	3.0	41.4	1.0	-52.3	-13.0	-39.3	
		3293.20	-9.0	H	3.0	42.2	1.0	-50.2	-13.0	-37.2	
		Company: Samsung Project #: 4790976523 Date: 2023-10-03 Test Engineer: 47989 Configuration: EUT / AC Adapter, Z-Position Location: Chamber 2 Mode: LTE_QPSK Band 26 Harmonics, 3MHz Bandwidth Test Votage: AC 120 V, 60 Hz									
3 MHz		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
QPSK		Low Ch, 815.5MHz									
		1631.00	-10.2	V	3.0	40.8	1.0	-50.0	-13.0	-37.0	
		2446.50	-11.9	V	3.0	41.4	1.0	-52.3	-13.0	-39.3	
ANT E		3262.00	-9.6	V	3.0	42.2	1.0	-50.8	-13.0	-37.8	
		1631.00	-14.8	H	3.0	40.8	1.0	-54.6	-13.0	-41.6	
		2446.50	-12.0	H	3.0	41.4	1.0	-52.4	-13.0	-39.4	
		3262.00	-9.0	H	3.0	42.2	1.0	-50.2	-13.0	-37.2	
		Mid Ch, 822.5MHz									
		1645.00	-10.9	V	3.0	40.8	1.0	-50.7	-13.0	-37.7	
		2467.50	-11.3	V	3.0	41.4	1.0	-51.7	-13.0	-38.7	
		3290.00	-9.5	V	3.0	42.2	1.0	-50.7	-13.0	-37.7	
		1645.00	-15.1	H	3.0	40.8	1.0	-54.9	-13.0	-41.9	
		2467.50	-12.0	H	3.0	41.4	1.0	-52.4	-13.0	-39.4	
		3290.00	-9.0	H	3.0	42.2	1.0	-50.2	-13.0	-37.2	

LTE Band 26 (Straddle)

3 MHz QPSK ANT A	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung Project #: 4790976523 Date: 2023-09-08 Test Engineer: 24542 Configuration: EUT / AC Adapter, Z-Position 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
	Straddle Ch, 824MHz									
	1648.00	-15.0	V	3.0	40.8	1.0	-54.8	-13.0	-41.8	
	2472.00	-11.8	V	3.0	41.4	1.0	-52.2	-13.0	-39.2	
	3296.00	-9.4	V	3.0	42.2	1.0	-50.6	-13.0	-37.6	
	1648.00	-15.8	H	3.0	40.8	1.0	-55.6	-13.0	-42.6	
	2472.00	-11.8	H	3.0	41.4	1.0	-52.2	-13.0	-39.2	
	3296.00	-8.9	H	3.0	42.2	1.0	-50.1	-13.0	-37.1	
5 MHz QPSK ANT E	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung Project #: 4790976523 Date: 2023-09-27 Test Engineer: 24542 Configuration: EUT / AC Adapter, Z-Position Location: Chamber 2 Mode: LTE_QPSK Band 26 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
	Straddle Ch, 824MHz									
	1648.00	-14.9	V	3.0	40.8	1.0	-54.7	-13.0	-41.7	
	2472.00	-11.9	V	3.0	41.4	1.0	-52.3	-13.0	-39.3	
	3296.00	-9.4	V	3.0	42.2	1.0	-50.6	-13.0	-37.6	
	1648.00	-16.0	H	3.0	40.8	1.0	-55.8	-13.0	-42.8	
	2472.00	-11.9	H	3.0	41.4	1.0	-52.3	-13.0	-39.3	
	3296.00	-8.9	H	3.0	42.2	1.0	-50.1	-13.0	-37.1	

LTE Band 26 (Part 22)

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Samsung Project #: 4790976523 Date: 2023-09-08 Test Engineer: 24542 Configuration: EUT / AC Adapter, Z-Position 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	
3 MHz QPSK ANT A										
Low Ch, 825.5MHz										
1651.00	-15.0	V	3.0	40.8	1.0	-54.8	-13.0	-41.8		
2476.50	-11.9	V	3.0	41.4	1.0	-52.3	-13.0	-39.3		
3302.00	-9.5	V	3.0	42.2	1.0	-50.7	-13.0	-37.7		
1651.00	-16.0	H	3.0	40.8	1.0	-55.8	-13.0	-42.8		
2476.50	-11.8	H	3.0	41.4	1.0	-52.3	-13.0	-39.3		
3302.00	-8.9	H	3.0	42.2	1.0	-50.1	-13.0	-37.1		
Mid Ch, 831.5MHz										
1663.00	-14.9	V	3.0	40.8	1.0	-54.7	-13.0	-41.7		
2494.50	-11.3	V	3.0	41.5	1.0	-51.8	-13.0	-38.8		
3326.00	-9.3	V	3.0	42.2	1.0	-50.5	-13.0	-37.5		
1663.00	-15.9	H	3.0	40.8	1.0	-55.7	-13.0	-42.7		
2494.50	-11.3	H	3.0	41.5	1.0	-51.7	-13.0	-38.7		
3326.00	-8.8	H	3.0	42.2	1.0	-50.0	-13.0	-37.0		
High Ch, 847.5MHz										
1695.00	-14.9	V	3.0	40.8	1.0	-54.7	-13.0	-41.7		
2542.50	-11.7	V	3.0	41.5	1.0	-52.2	-13.0	-39.2		
3390.00	-8.8	V	3.0	42.2	1.0	-50.0	-13.0	-37.0		
1695.00	-15.8	H	3.0	40.8	1.0	-55.6	-13.0	-42.6		
2542.50	-11.4	H	3.0	41.5	1.0	-52.0	-13.0	-39.0		
3390.00	-8.5	H	3.0	42.2	1.0	-49.7	-13.0	-36.7		
UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Samsung Project #: 4790976523 Date: 2023-09-27 Test Engineer: 24542 Configuration: EUT / AC Adapter, Z-Position Location: Chamber 2 Mode: LTE_QPSK Band 26 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	
5 MHz QPSK ANT E										
Low Ch, 816.5MHz										
1633.00	-15.1	V	3.0	40.8	1.0	-54.9	-13.0	-41.9		
2449.50	-12.0	V	3.0	41.4	1.0	-52.4	-13.0	-39.4		
3266.00	-9.6	V	3.0	42.2	1.0	-50.8	-13.0	-37.8		
1633.00	-16.0	H	3.0	40.8	1.0	-55.8	-13.0	-42.8		
2449.50	-11.9	H	3.0	41.4	1.0	-52.3	-13.0	-39.3		
3266.00	-9.0	H	3.0	42.2	1.0	-50.2	-13.0	-37.2		
Mid Ch, 831.5MHz										
1663.00	-15.0	V	3.0	40.8	1.0	-54.8	-13.0	-41.8		
2494.50	-11.9	V	3.0	41.5	1.0	-52.3	-13.0	-39.3		
3326.00	-9.2	V	3.0	42.2	1.0	-50.4	-13.0	-37.4		
1663.00	-15.9	H	3.0	40.8	1.0	-55.7	-13.0	-42.7		
2494.50	-11.8	H	3.0	41.5	1.0	-52.3	-13.0	-39.3		
3326.00	-8.8	H	3.0	42.2	1.0	-50.0	-13.0	-37.0		
High Ch, 846.5MHz										
1693.00	-14.9	V	3.0	40.8	1.0	-54.7	-13.0	-41.7		
2539.50	-11.7	V	3.0	41.5	1.0	-52.2	-13.0	-39.2		
3386.00	-8.9	V	3.0	42.2	1.0	-50.1	-13.0	-37.1		
1693.00	-15.8	H	3.0	40.8	1.0	-55.6	-13.0	-42.6		
2539.50	-11.6	H	3.0	41.5	1.0	-52.1	-13.0	-39.1		
3386.00	-8.5	H	3.0	42.2	1.0	-49.7	-13.0	-36.7		

NR Band n26 (Part 90)

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
5 MHz DFT-OFDM QPSK ANT A	Company: Samsung Project #: 4790976523 Date: 2023-09-16 Test Engineer: 24542 Configuration: EUT, Z-Position Location: Chamber 2 Mode: 5G NR_QPSK NR n26 Harmonics, 5MHz Bandwidth Test Voltage: AC 120 V, 60 Hz											
	Low Ch, 816.5MHz											
		1633.00	-14.9	V	3.0	40.8	1.0	-54.8	-13.0	-41.8		
		2449.50	-10.7	V	3.0	41.4	1.0	-51.1	-13.0	-38.1		
		3266.00	-9.4	V	3.0	42.2	1.0	-50.6	-13.0	-37.6		
		1633.00	-15.9	H	3.0	40.8	1.0	-55.7	-13.0	-42.7		
		2449.50	-10.9	H	3.0	41.4	1.0	-51.3	-13.0	-38.3		
		3266.00	-8.8	H	3.0	42.2	1.0	-50.0	-13.0	-37.0		
		Mid Ch, 821.5MHz										
		1643.00	-14.8	V	3.0	40.8	1.0	-54.6	-13.0	-41.6		
		2464.50	-10.8	V	3.0	41.4	1.0	-51.2	-13.0	-38.2		
		3286.00	-9.3	V	3.0	42.2	1.0	-50.5	-13.0	-37.5		
		1643.00	-15.8	H	3.0	40.8	1.0	-55.6	-13.0	-42.6		
		2464.50	-11.0	H	3.0	41.4	1.0	-51.4	-13.0	-38.4		
		3286.00	-8.8	H	3.0	42.2	1.0	-50.0	-13.0	-37.0		
	15 MHz DFT-OFDM QPSK ANT E	Company: Samsung Project #: 4790976523 Date: 2023-10-06 Test Engineer: 26087 Configuration: EUT / AC Adapter, Z-Position Location: Chamber 1 Mode: 5G NR_QPSK NR n26 Harmonics, 15MHz Bandwidth Test Voltage: AC 120 V, 60 Hz										
		Low Ch, 821.5MHz										
			1643.00	-15.2	V	3.0	43.3	1.0	-57.5	-13.0	-44.5	
			2464.50	-11.9	V	3.0	43.6	1.0	-54.4	-13.0	-41.4	
			3286.00	-9.4	V	3.0	43.9	1.0	-52.3	-13.0	-39.3	
		1643.00	-16.4	H	3.0	43.3	1.0	-58.7	-13.0	-45.7		
		2464.50	-12.3	H	3.0	43.6	1.0	-54.9	-13.0	-41.9		
		3286.00	-9.1	H	3.0	43.9	1.0	-52.0	-13.0	-39.0		

NR Band n26 (Straddle)

5 MHz DFT-OFDM QPSK ANT A	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung Project #: 4790976523 Date: 2023-09-16 Test Engineer: 24542 Configuration: EUT, Z-Position Location: Chamber 2 Mode: 5G NR_QPSK NR n26 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
	Straddle Ch, 824MHz									
	1648.00	-14.8	V	3.0	40.8	1.0	-54.7	-13.0	-41.7	
	2472.00	-10.5	V	3.0	41.4	1.0	-50.9	-13.0	-37.9	
	3296.00	-9.3	V	3.0	42.2	1.0	-50.5	-13.0	-37.5	
	1648.00	-15.8	H	3.0	40.8	1.0	-55.6	-13.0	-42.6	
	2472.00	-10.8	H	3.0	41.4	1.0	-51.2	-13.0	-38.2	
	3296.00	-8.8	H	3.0	42.2	1.0	-50.0	-13.0	-37.0	
5 MHz DFT-OFDM QPSK ANT E	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung Project #: 4790976523 Date: 2023-10-06 Test Engineer: 26087 Configuration: EUT / AC Adapter, Z-Position Location: Chamber 1 Mode: 5G NR_QPSK NR n26 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
	Straddle Ch, 824MHz									
	1648.00	-15.1	V	3.0	43.3	1.0	-57.5	-13.0	-44.5	
	2472.00	-11.9	V	3.0	43.6	1.0	-54.5	-13.0	-41.5	
	3296.00	-9.5	V	3.0	43.9	1.0	-52.4	-13.0	-39.4	
	1648.00	-16.3	H	3.0	43.3	1.0	-58.6	-13.0	-45.6	
	2472.00	-12.3	H	3.0	43.6	1.0	-54.9	-13.0	-41.9	
	3296.00	-9.2	H	3.0	43.9	1.0	-52.1	-13.0	-39.1	

NR Band n26 (Part 22)

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4790976523 Date: 2023-09-15 Test Engineer: 24542 Configuration: EUT, Z-Position Location: Chamber 2 Mode: 5G NR_QPSK NR n26 Harmonics, 5MHz Bandwidth Test Voltage: AC 120 V, 60 Hz									
5 MHz		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
DFT-OFDM	QPSK	Low Ch, 826.5MHz									
		1653.00	-14.9	V	3.0	40.8	1.0	-54.7	-13.0	-41.7	
		2479.50	-10.9	V	3.0	41.4	1.0	-51.3	-13.0	-38.3	
		3306.00	-9.3	V	3.0	42.2	1.0	-50.5	-13.0	-37.5	
		1653.00	-15.8	H	3.0	40.8	1.0	-55.6	-13.0	-42.6	
		2479.50	-11.0	H	3.0	41.4	1.0	-51.4	-13.0	-38.4	
		3306.00	-8.8	H	3.0	42.2	1.0	-50.0	-13.0	-37.0	
		Mid Ch, 831.5MHz									
		1663.00	-14.8	V	3.0	40.8	1.0	-54.6	-13.0	-41.6	
		2494.50	-10.8	V	3.0	41.5	1.0	-51.2	-13.0	-38.2	
		3326.00	-9.1	V	3.0	42.2	1.0	-50.3	-13.0	-37.3	
		1663.00	-15.7	H	3.0	40.8	1.0	-55.5	-13.0	-42.5	
		2494.50	-10.8	H	3.0	41.5	1.0	-51.3	-13.0	-38.3	
		3326.00	-8.7	H	3.0	42.2	1.0	-49.9	-13.0	-36.9	
		High Ch, 846.5MHz									
		1693.00	-14.7	V	3.0	40.8	1.0	-54.5	-13.0	-41.5	
		2539.50	-11.0	V	3.0	41.5	1.0	-51.6	-13.0	-38.6	
		3386.00	-8.7	V	3.0	42.2	1.0	-49.9	-13.0	-36.9	
		1693.00	-15.6	H	3.0	40.8	1.0	-55.4	-13.0	-42.4	
		2539.50	-10.5	H	3.0	41.5	1.0	-51.0	-13.0	-38.0	
3386.00	-8.4	H	3.0	42.2	1.0	-49.6	-13.0	-36.6			
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4790976523 Date: 2023-10-05 Test Engineer: 26087 Configuration: EUT / AC Adapter, Z-Position Location: Chamber 1 Mode: 5G NR_QPSK NR n26 Harmonics, 15MHz Bandwidth Test Voltage: AC 120 V, 60 Hz									
15 MHz		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
DFT-OFDM	QPSK	Low Ch, 831.5MHz									
		1663.00	-15.1	V	3.0	43.3	1.0	-57.4	-13.0	-44.4	
		2494.50	-11.3	V	3.0	43.6	1.0	-53.9	-13.0	-40.9	
		3326.00	-9.8	V	3.0	43.9	1.0	-52.7	-13.0	-39.7	
		1663.00	-16.3	H	3.0	43.3	1.0	-58.6	-13.0	-45.6	
		2494.50	-11.9	H	3.0	43.6	1.0	-54.5	-13.0	-41.5	
		3326.00	-9.7	H	3.0	43.9	1.0	-52.6	-13.0	-39.6	
		Mid Ch, 836.5MHz									
		1673.00	-15.1	V	3.0	43.3	1.0	-57.4	-13.0	-44.4	
		2509.50	-8.5	V	3.0	43.6	1.0	-51.1	-13.0	-38.1	
		3346.00	-9.2	V	3.0	43.9	1.0	-52.1	-13.0	-39.1	
		1673.00	-16.2	H	3.0	43.3	1.0	-58.5	-13.0	-45.5	
		2509.50	-9.5	H	3.0	43.6	1.0	-52.0	-13.0	-39.0	
		3346.00	-8.9	H	3.0	43.9	1.0	-51.8	-13.0	-38.8	
		High Ch, 841.5MHz									
		1683.00	-15.1	V	3.0	43.3	1.0	-57.4	-13.0	-44.4	
		2524.50	-11.2	V	3.0	43.6	1.0	-53.8	-13.0	-40.8	
		3366.00	-9.0	V	3.0	43.9	1.0	-52.0	-13.0	-39.0	
		1683.00	-16.1	H	3.0	43.3	1.0	-58.4	-13.0	-45.4	
		2524.50	-11.6	H	3.0	43.6	1.0	-54.2	-13.0	-41.2	
3366.00	-8.8	H	3.0	43.9	1.0	-51.8	-13.0	-38.8			

END OF REPORT