



FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 24 SUBPART E
FCC CFR47 PART 27 SUBPART H

WWAN

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE Phone + BT/BLE, DTS b/g/n, ANT+ and NFC

MODEL NUMBER : SM-G611S, SM-G611K, SM-G611L

FCC ID: A3LSMG611KOR

REPORT NUMBER: 4788269334-E6V2

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Prepared for
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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	01/04/18	Initial issue	Junwhan Lee
V2	01/05/18	Revised to address TCB's question	Junwhan Lee

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.

EUT DESCRIPTION: GSM/WCDMA/LTE Phone + BT/BLE, DTS b/g/n, ANT+ and NFC

MODEL NUMBER: SM-G611S, SM-G611K, SM-G611L

SERIAL NUMBER: R39JB04JBP (RADIATED);
R39JB04JEL (CONDUCTED)

DATE TESTED: DEC 18, 2017 - JAN 03, 2018

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H, 24E and 27H	Pass

UL Korea, Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Korea, Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL Korea, Ltd. By:



SungGil Park
Suwon Lab Engineer
UL Korea, Ltd.

Tested By:



Junwhan Lee
Suwon Lab Engineer
UL Korea, Ltd.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC CFR 47 Part 2.
2. FCC CFR 47 Part 22.
3. FCC CFR 47 Part 24.
4. FCC CFR 47 Part 27
5. ANSI TIA-603-E
6. KDB 971168 D01 Power Meas License Digital Systems v03

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

218 Maeyeong-ro	
☐	Chamber 1
☒	Chamber 2

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <http://www.iasonline.org/PDF/TL/TL-637.pdf>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

EIRP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna) + Substitution Antenna Factor (dBi)

ERP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna)

(Path loss = Signal generator output – PSA reading with substitution antenna)

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	2.32 dB
Radiated Disturbance, Below 1GHz	3.86 dB
Radiated Disturbance, Above 1 GHz	5.97 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE Phone + BT/BLE, DTS b/g/n, ANT+ and NFC.

SM-G611S and SM-G611K/SM-G611L are same hardware and only difference is S/W user interface for different network operator. SM-G611S was used for the tests.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted and radiated ERP / EIRP output powers as follows:

Note : Conducted output power results were excerpted from RF exposure test report.(4788269334-S1V1 FCC Report SAR)

GSM

FCC Part 22/24						
Band	Frequency Range	Modulation	Conducted		Radiated	
	[MHz]		Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
GSM1900	1850~1910	GMSK	29.2	831.76		
		GPRS	29.0	794.33	26.92	492.04
		EGPRS	25.8	380.19	24.36	272.90

WCDMA

FCC Part 22/24						
Band	Frequency Range	Modulation	Conducted		Radiated	
	[MHz]		Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 5	824~849	REL99	22.9	194.98	18.85	76.74
		HSDPA	22.7	186.21	19.01	79.62
		HSUPA	22.9	194.98		
Band 2	1850~1910	REL99	22.4	173.78	19.73	93.97
		HSDPA	21.8	151.36	19.87	97.05
		HSUPA	21.6	144.54		

LTE Band 17

FCC Part 27							
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation Peak	Conducted		Radiated	
				Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 17	704 ~ 716	10	QPSK	22.4	173.78	6.41	4.38
			16QAM	21.3	134.90	5.24	3.34
		5	QPSK	22.2	167.11	6.79	4.78
			16QAM	21.2	132.13	5.58	3.61

LTE Band 5

FCC Part 22							
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation Peak	Conducted		Radiated	
				Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 5	824 ~ 849	10	QPSK	24.3	269.77	17.77	59.84
			16QAM	23.2	208.45	17.78	59.98
		5	QPSK	24.1	258.23	19.04	80.17
			16QAM	23.2	207.01	19.05	80.35
		3	QPSK	24.2	264.85	18.92	77.98
			16QAM	23.2	207.49	18.85	76.74
		1.4	QPSK	24.3	268.53	18.09	64.42
			16QAM	23.2	210.86	18.05	63.83

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a internal antenna for the [List the bands supported] with a maximum peak gain as follow:

Frequency (MHz)	Peak Gain (dBi)
GSM850/WCDMA Band 5 / LTE Band 5 824 ~ 849 MHz	-1.7
GSM1900/WCDMA Band 2 1850 ~ 1910 MHz	-6.2
LTE Band 17 704 ~ 716 MHz	-7.4

5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA50KWK	DW2J609DS/A -E	N/A
Data Cable	SAMSUNG	ECB-DU68WE	N/A	N/A
Earphone	SAMSUNG	EHS64AVFWE	N/A	N/A

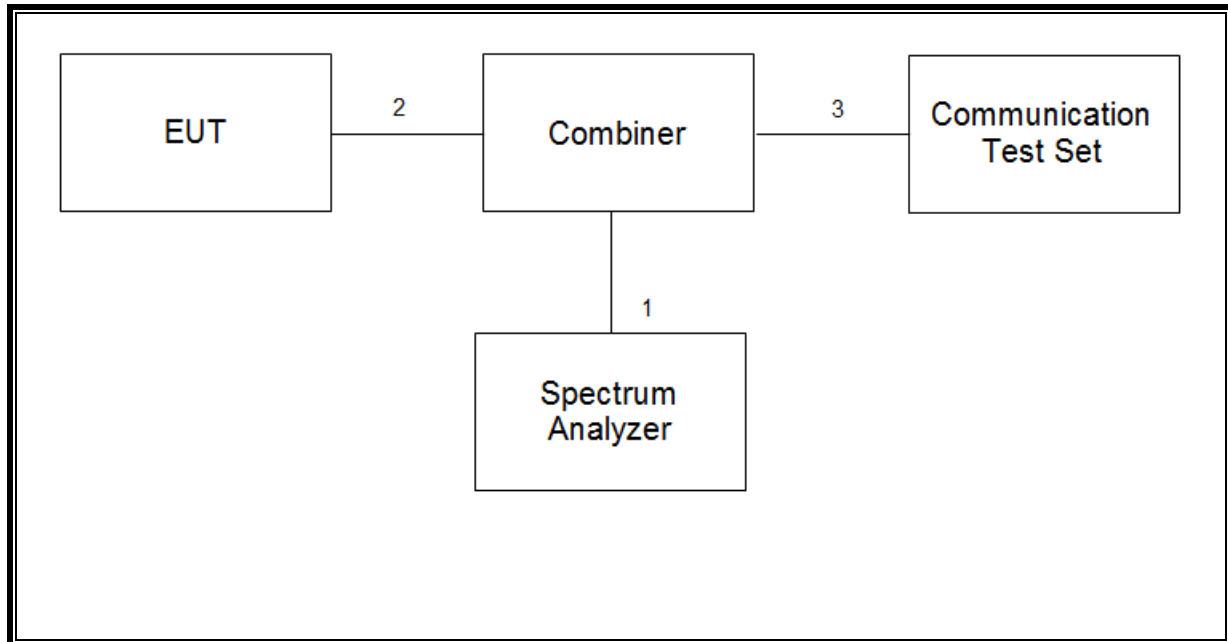
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	2	Mini-Jack	Unshielded	1.2m	N/A

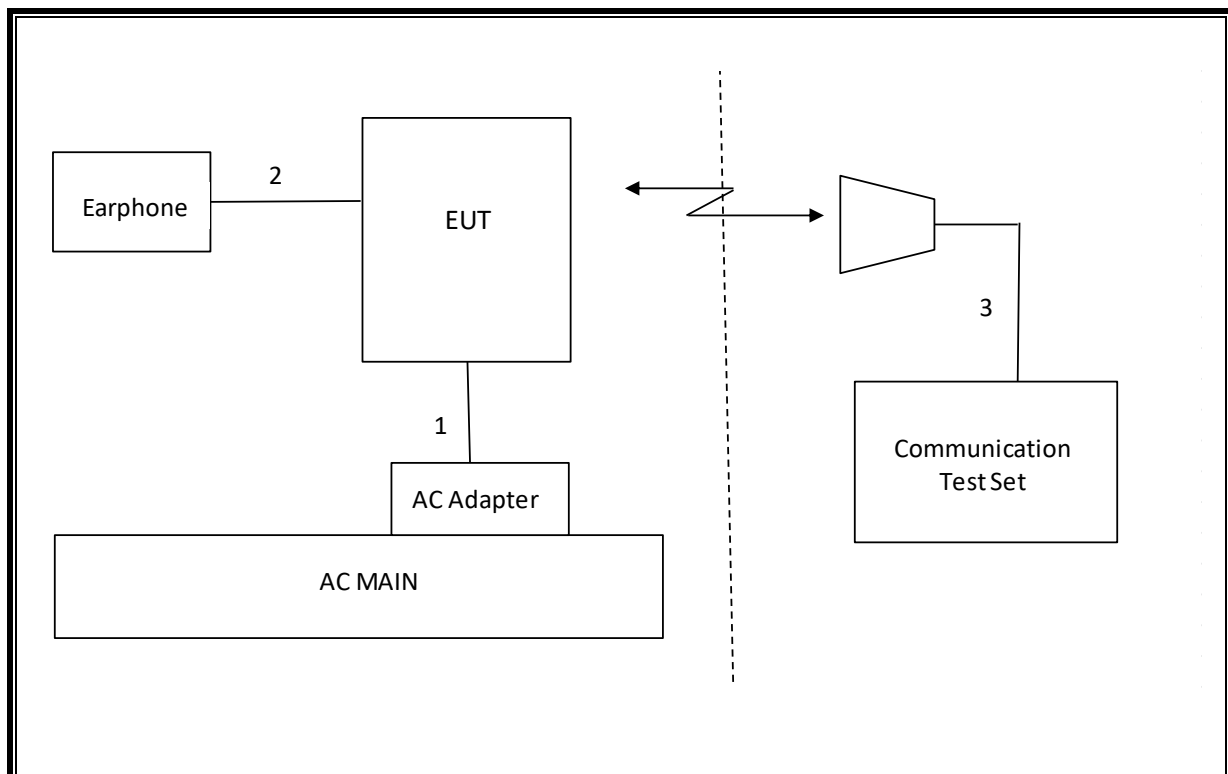
TEST SETUP

The EUT is continuously communicated to the call box during the tests.

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Description	Manufacturer	Model	S/N	Cal Due
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121D DB4	00164753	06-30-19
Antenna, Horn, 40 GHz	ETS	3116C	00166155	12-04-19
Preamplifier	ETS	3116C-PA	00168841	11-13-19
Antenna, Horn, 40 GHz	ETS	3116C	00168645	12-04-19
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	10-14-18
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	04-14-19
Antenna, Horn, 18 GHz	ETS	3115	00167211	10-14-18
Antenna, Horn, 18 GHz	ETS	3115	00161451	03-10-19
Antenna, Horn, 18 GHz	ETS	3117	00168724	05-31-19
Antenna, Horn, 18 GHz	ETS	3117	00168717	05-31-19
Combiner	WEINSCHTEL	1575	2152	08-08-18
Communications Test Set	R&S	CMW500	150312	08-07-18
Communications Test Set	R&S	CMW500	115331	08-07-18
DC Power Supply	Agilent / HP	E3640A	MY54226395	08-07-18
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-09-18
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-07-18
Preamplifier	ETS	3115-PA	00167475	08-09-18
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	08-08-18
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	08-08-18
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-08-18
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-08-18
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G005	08-09-18
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	08-08-18
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	08-09-18
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	08-08-18
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	08-09-18
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	08-08-18
Attenuator	PASTERNAK	PE7087-10	A009	08-08-18
Temperature Chamber	ESPEC	SH-642	93001109	08-08-18
UL Software				
Description	Manufacturer	Model	Version	
Antenna port test software	UL	CLT	Ver 2.2	

7. Summary Table

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result	Note
2.1049	Occupied Band width (99%)	N/A	Conducted	Pass	8.9867 MHz
22.917(a) 24.238(a) 27.53(g)	Band Edge / Conducted Spurious Emission	-13dBm		Pass	-17.038dBm
2.1046	Conducted output power	N/A		Pass	29.2 dBm
22.355 24.235 27.54	Frequency Stability	2.5PPM		Pass	0.037PPM
22.913(a)(2)	Effective Radiated Power	38.45 dBm	Radiated	Pass	19.05 dBm
27.50(c)(10)		34.77dBm		Pass	6.79 dBm
24.232(c)	Equivalent Isotropic Radiated Power	33dBm		Pass	26.92 dBm
22.917(a) 24.238(a) 27.53(g)	Radiated Spurious Emission	-13dBm		Pass	-39.0 dBm

FCC Rule Part	Frequency Range [MHz]	Output Power [W]	Frequency Tolerance	Emission Designator	Emission Bandwidth [MHz]	Communication Type
GSM						
24E	1850.2 - 1909.8	0.492	2.5 ppm	237KGXW		GSM1900
24E	1850.2 - 1909.8	0.273	2.5 ppm	246KG7W		EDGE1900
WCDMA						
22H	826.4 - 846.6	0.080	2.5 ppm	4M14F9W		WCDMA B5
24E	1852.4 - 1907.6	0.097	2.5 ppm	4M15F9W		WCDMA B2
LTE Band 17						
27H	709.0 - 711.0	0.0044	2.5 ppm	8M95G7W	10	QPSK
27H	709.0 - 711.0	0.0033	2.5 ppm	8M96D7W	10	16QAM
27H	706.5 - 713.5	0.0048	2.5 ppm	4M50G7W	5	QPSK
27H	706.5 - 713.5	0.0036	2.5 ppm	4M50D7W	5	16QAM
LTE Band 5						
22H	829.0 - 844.0	0.060	2.5 ppm	8M98G7W	10	QPSK
22H	829.0 - 844.0	0.060	2.5 ppm	8M99D7W	10	16QAM
22H	826.5 - 846.5	0.080	2.5 ppm	4M51G7W	5	QPSK
22H	826.5 - 846.5	0.080	2.5 ppm	4M50D7W	5	16QAM

8. PEAK TO AVERAGE RATIO

Test Procedure

Per KDB 971168 D01 Power Meas License Digital Systems v03;

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The PAR were measured on the Spectrum Analyzer.

Test Spec

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

8.1. CONDUCTED PEAK TO AVERAGE RESULT

GSM

Band	Channel	f [MHz]	Mode	Ratio [dB]	Limit [dB]
GSM1900	661	1880.0	GPRS	0.42	13.00
			EGPRS	3.05	

WCDMA

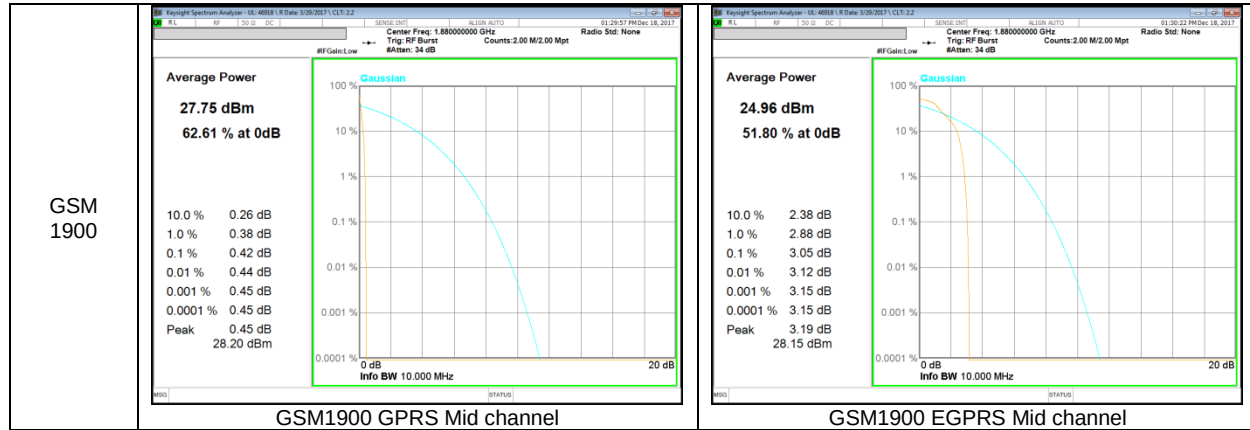
Band	Channel	f [MHz]	Mode	Ratio [dB]	Limit [dB]
Band 5	4183	836.6	REL99	3.04	13.00
			HSDPA	3.12	
Band 2	9400	1880.0	REL99	2.93	
			HSDPA	3.19	

LTE

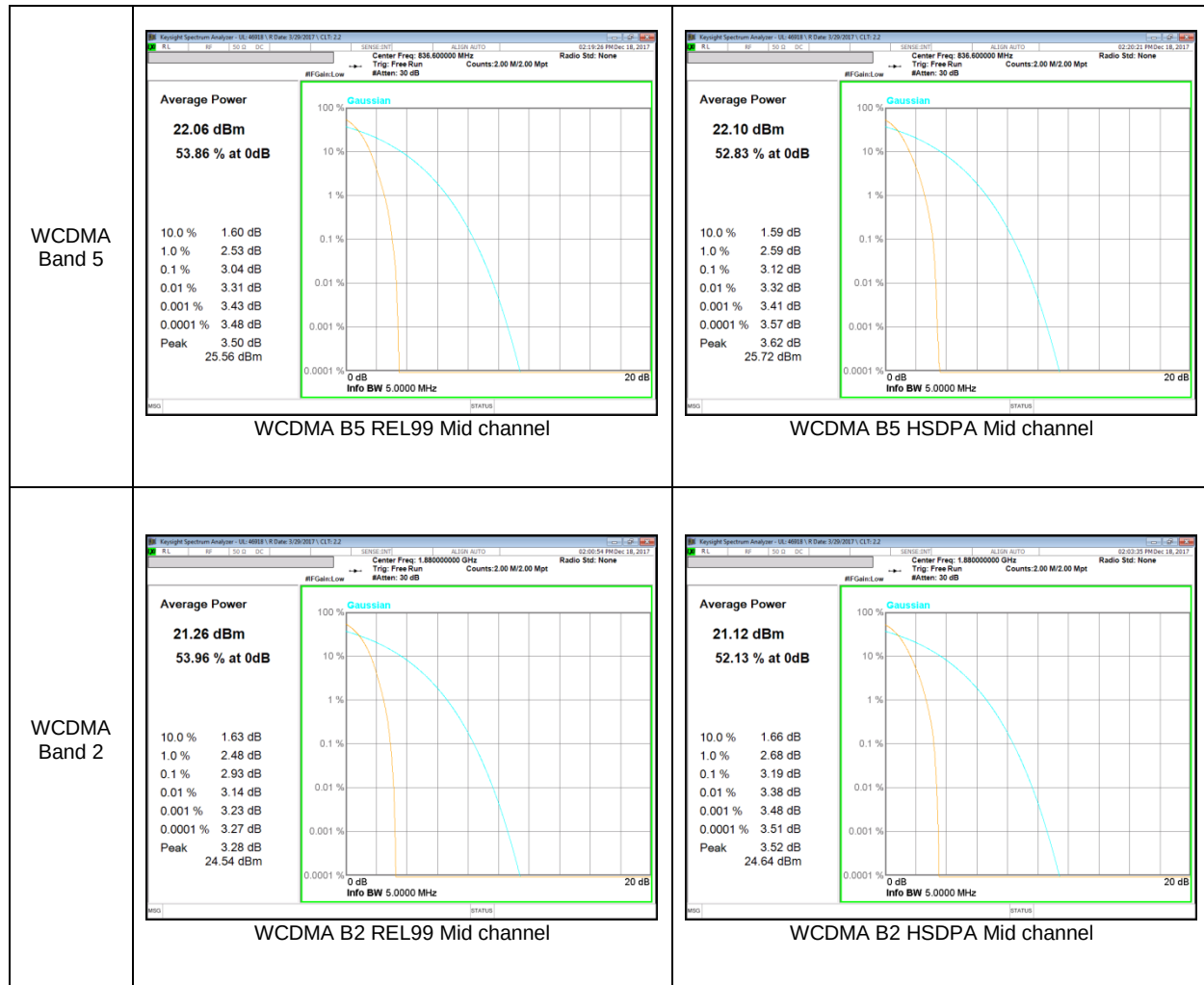
Band	BW [MHz]	Channel	f [MHz]	Mode	Ratio [dB]	Limit [dB]
Band 17	10	23790	710	QPSK	4.56	13.00
				16QAM	5.81	
	5			QPSK	4.53	
				16QAM	5.89	
Band 5	10	20525	836.5	QPSK	4.37	
				16QAM	5.79	
	5			QPSK	4.39	
				16QAM	5.57	
	3			QPSK	4.20	
				16QAM	5.56	
	1.4			QPSK	4.32	
				16QAM	5.36	

8.2. CONDUCTED PEAK TO AVERAGE PLOTS

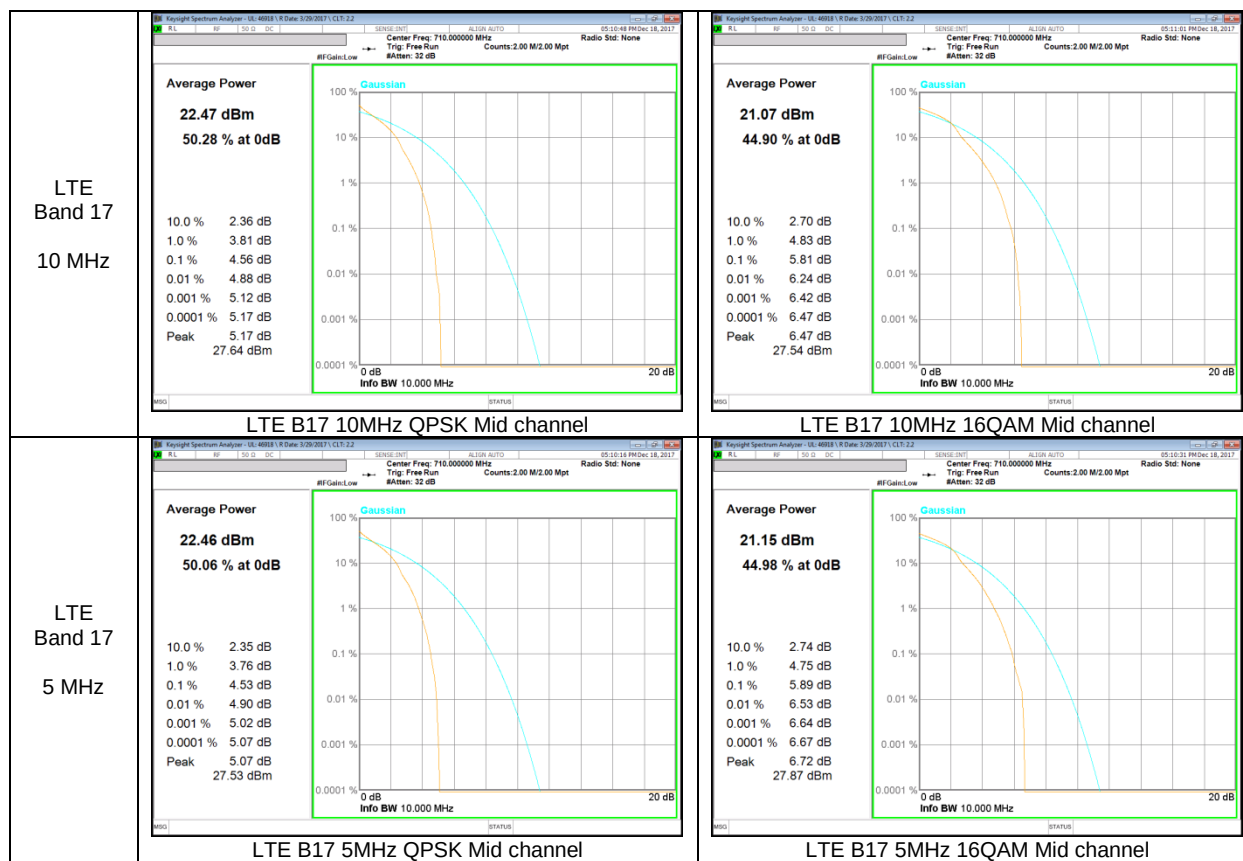
GSM



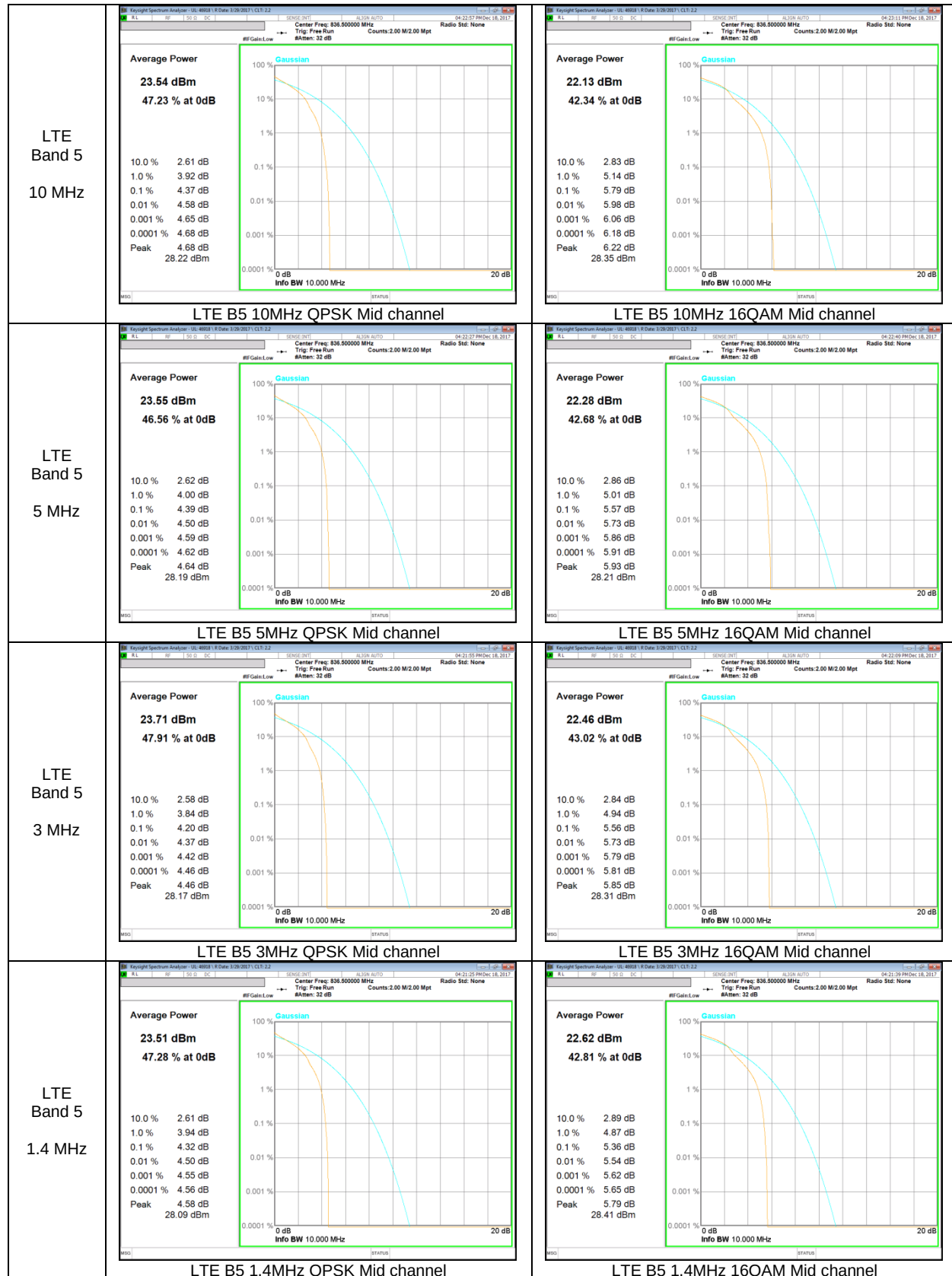
WCDMA



LTE Band 17



LTE Band 5



9. LIMITS AND CONDUCTED RESULTS

9.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded. (KDB 971168 D01 Power Meas License Digital Systems v03)

9.1.1. OCCUPIED BANDWIDTH RESULTS

GSM

Band	Mode	Channel	f [MHz]	99% BW [KHz]	26dB BW [KHz]
GSM1900	GPRS	512	1850.2	235.91	298.2
		661	1880.0	237.09	293.7
		810	1909.8	237.31	297.5
	EGPRS	512	1850.2	241.39	312.2
		661	1880.0	243.34	313.1
		810	1909.8	246.49	314.0

WCDMA

Band	Mode	Channel	f [MHz]	99% BW [MHz]	26dB BW [MHz]
Band 5	REL99	4132	826.4	4.1380	4.696
		4183	836.6	4.1431	4.695
		4233	846.6	4.1357	4.673
	HSDPA	4132	826.4	4.1421	4.691
		4183	836.6	4.1332	4.702
		4233	846.6	4.1308	4.694
Band 2	REL99	9262	1852.4	4.1462	4.705
		9400	1880.0	4.1312	4.695
		9538	1907.6	4.1401	4.716
	HSDPA	9262	1852.4	4.1428	4.692
		9400	1880.0	4.1462	4.680
		9538	1907.6	4.1440	4.675

LTE Band 17

Band	BW [MHz]	Channel	f [MHz]	Mode	99% BW [MHz]	26dB BW [MHz]
Band 17	10	23780	709.0	QPSK	8.9413	10.10
				16QAM	8.9307	10.04
		23790	710.0	QPSK	8.9468	10.28
				16QAM	8.9597	10.05
		23799	711.0	QPSK	8.9525	10.16
				16QAM	8.9641	10.43
	5	23755	706.5	QPSK	4.4831	5.320
				16QAM	4.4968	5.154
		23790	710.0	QPSK	4.4991	5.280
				16QAM	4.4903	5.241
		23824	713.5	QPSK	4.5031	5.306
				16QAM	4.4992	5.210

LTE Band 5

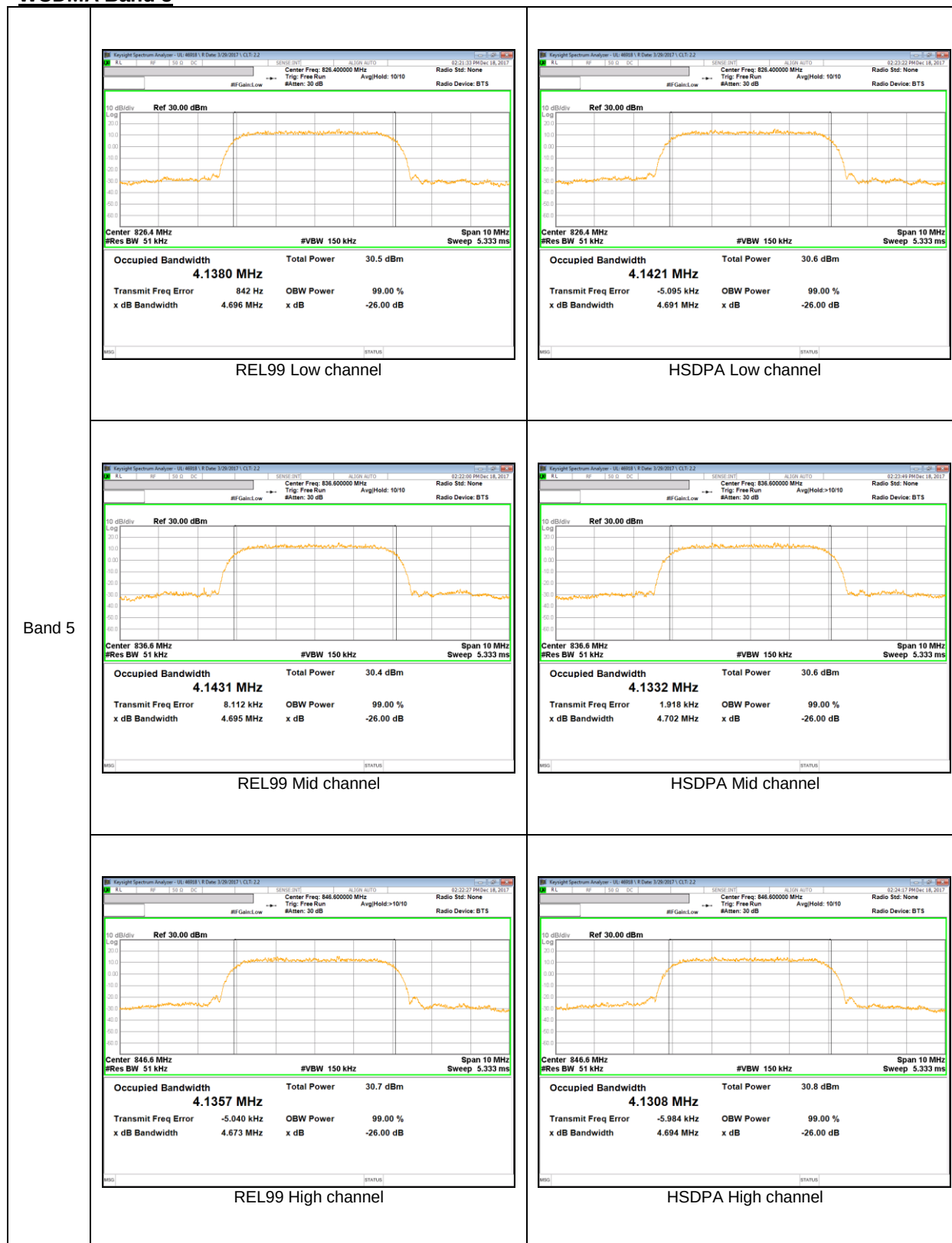
Band	BW [MHz]	Channel	f [MHz]	Mode	99% BW [MHz]	26dB BW [MHz]
Band 5	10	20450	829.0	QPSK	8.9837	10.40
				16QAM	8.9867	10.31
		20524	836.5	QPSK	8.9520	10.22
				16QAM	8.9563	10.15
		20599	844.0	QPSK	8.9797	10.17
				16QAM	8.9773	10.20
	5	20425	826.5	QPSK	4.5047	5.182
				16QAM	4.4909	5.305
		20524	836.5	QPSK	4.4970	5.220
				16QAM	4.4906	5.143
		20624	846.5	QPSK	4.5093	5.296
				16QAM	4.5041	5.315
	3	20415	825.5	QPSK	2.7040	3.096
				16QAM	2.7003	3.089
		20524	836.5	QPSK	2.7078	3.087
				16QAM	2.6994	3.082
		20634	847.5	QPSK	2.7004	3.074
				16QAM	2.6961	3.066
	1.4	20407	824.7	QPSK	1.0885	1.363
				16QAM	1.0917	1.397
		20524	836.5	QPSK	1.0916	1.363
				16QAM	1.0929	1.391
		20624	848.3	QPSK	1.0900	1.406
				16QAM	1.0952	1.380

9.1.2. OCCUPIED BANDWIDTH PLOTS

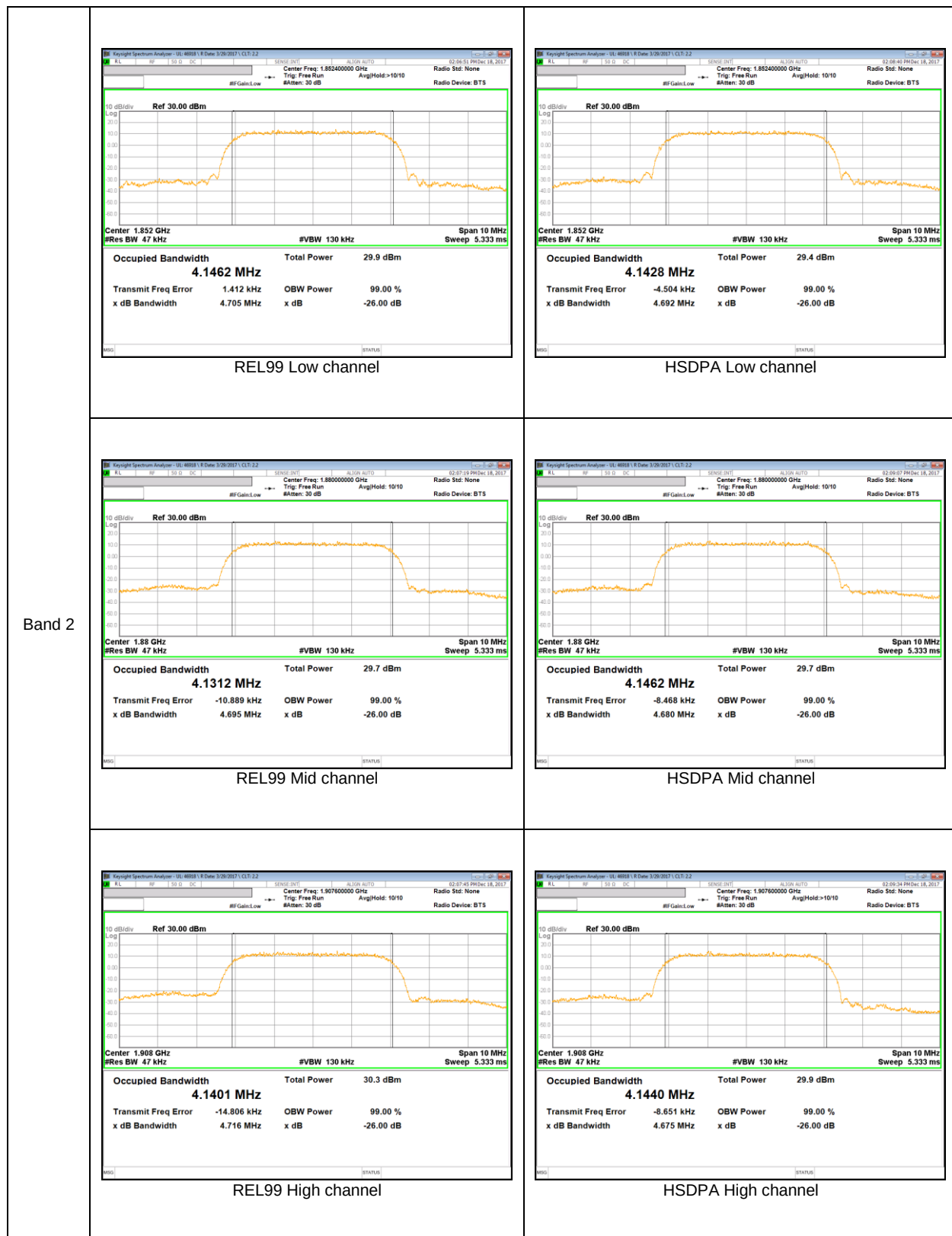
GSM 1900



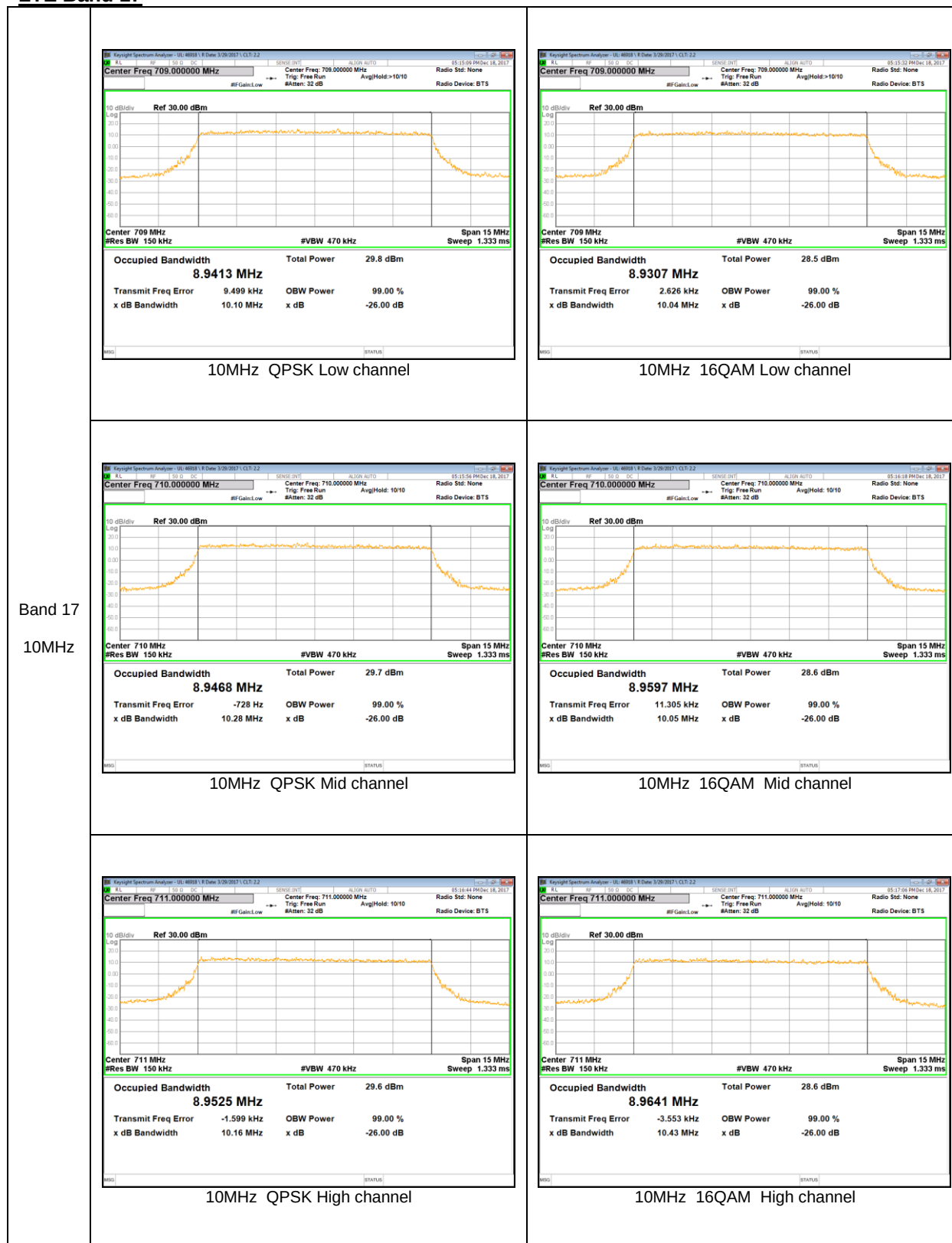
WCDMA Band 5

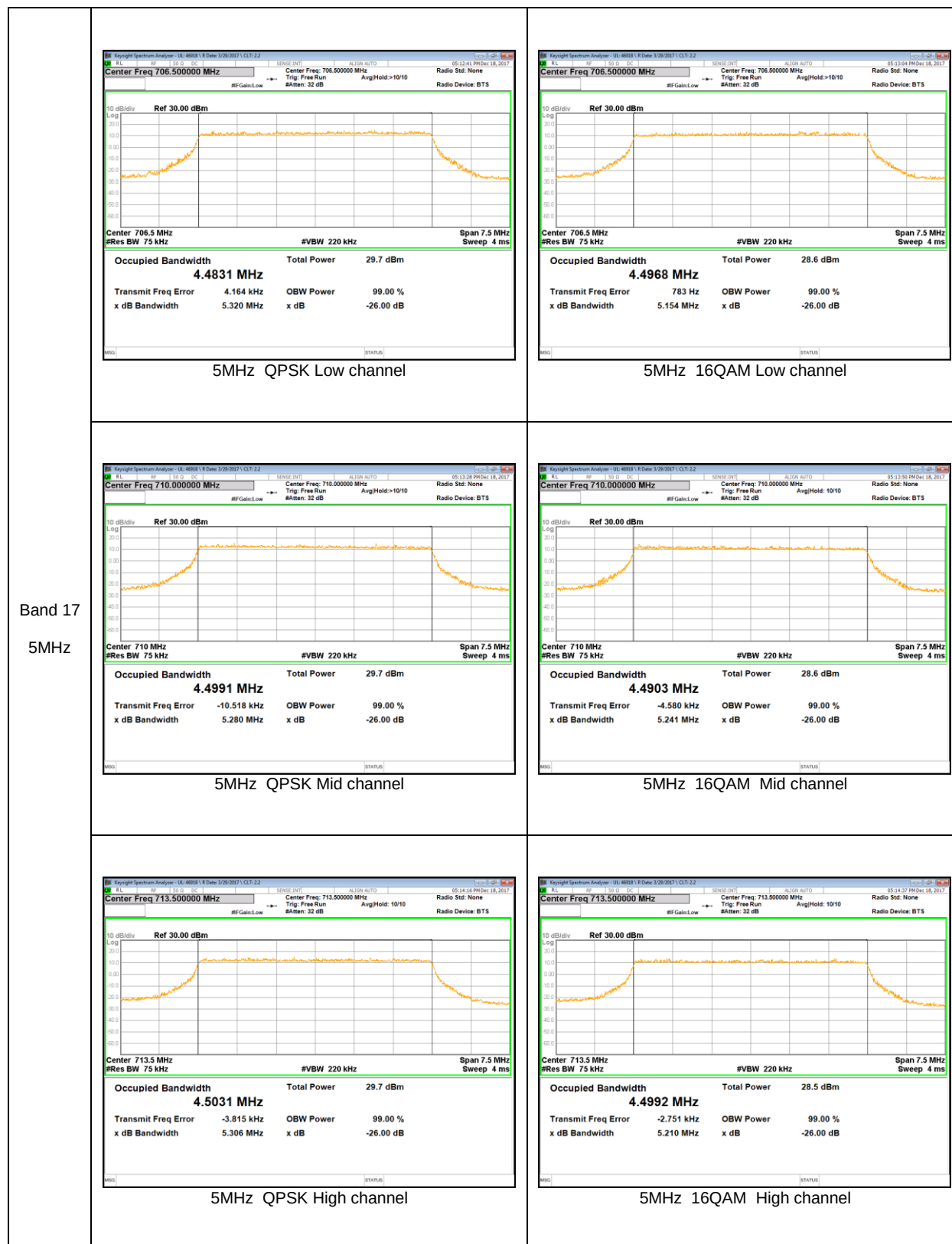


WCDMA Band 2

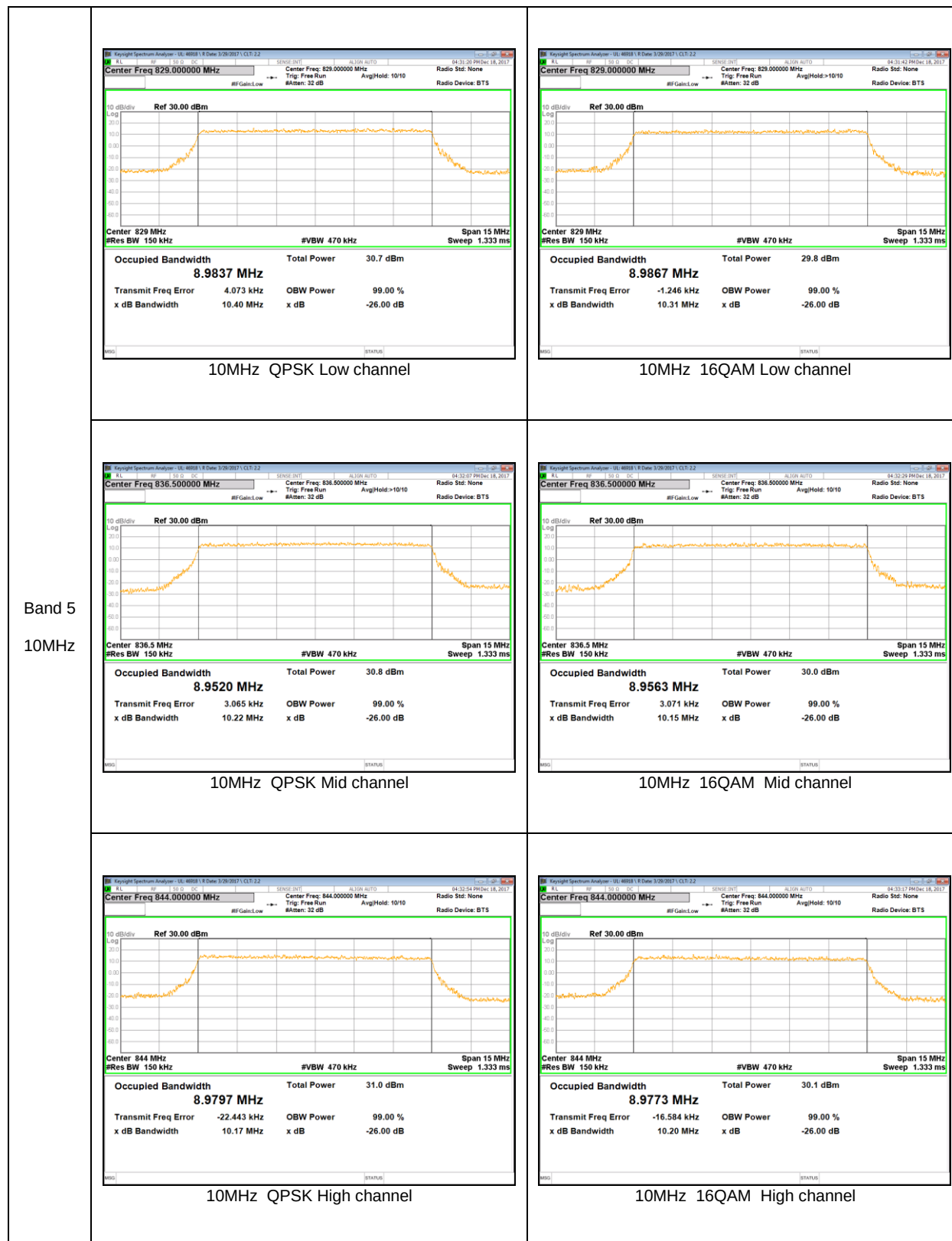


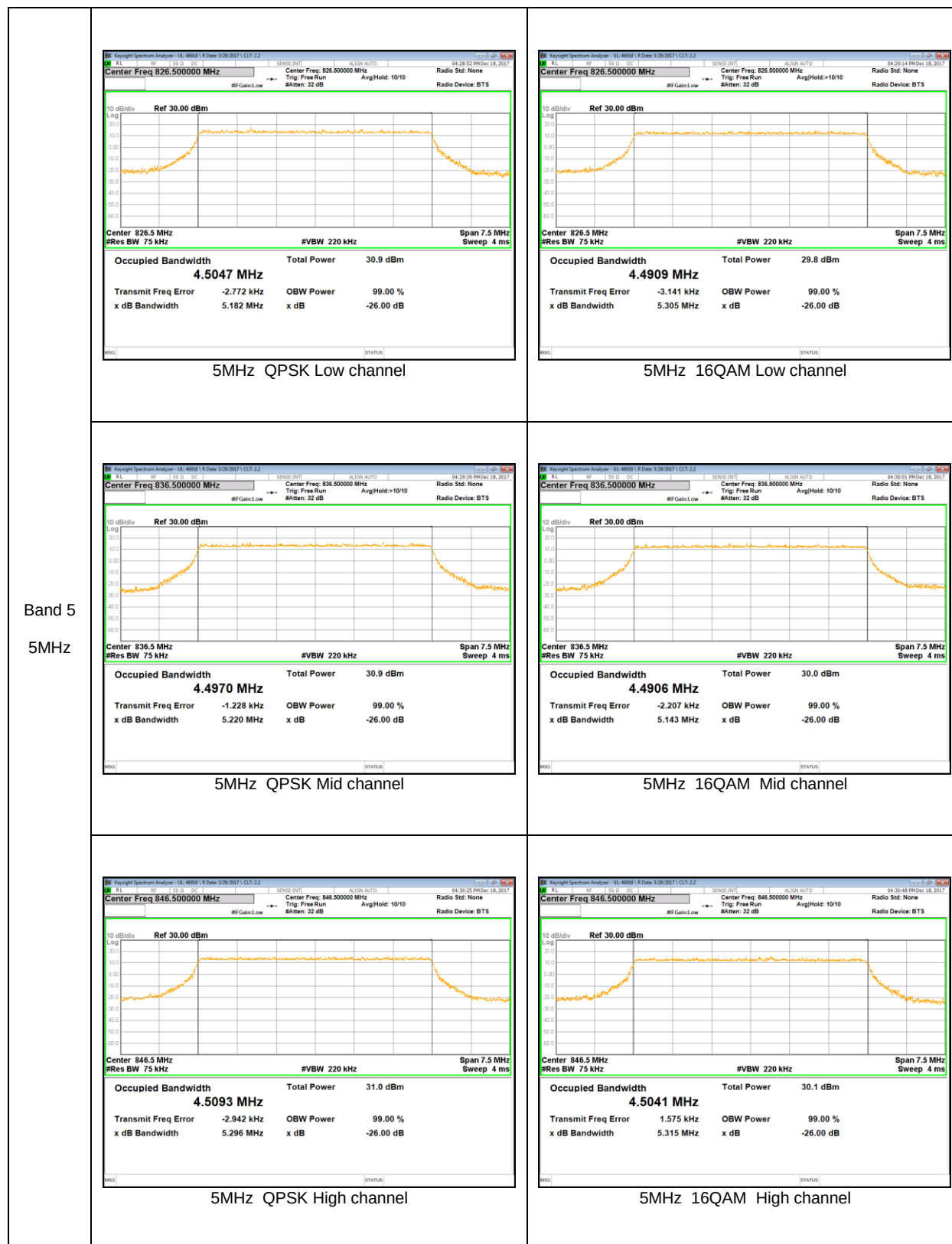
LTE Band 17

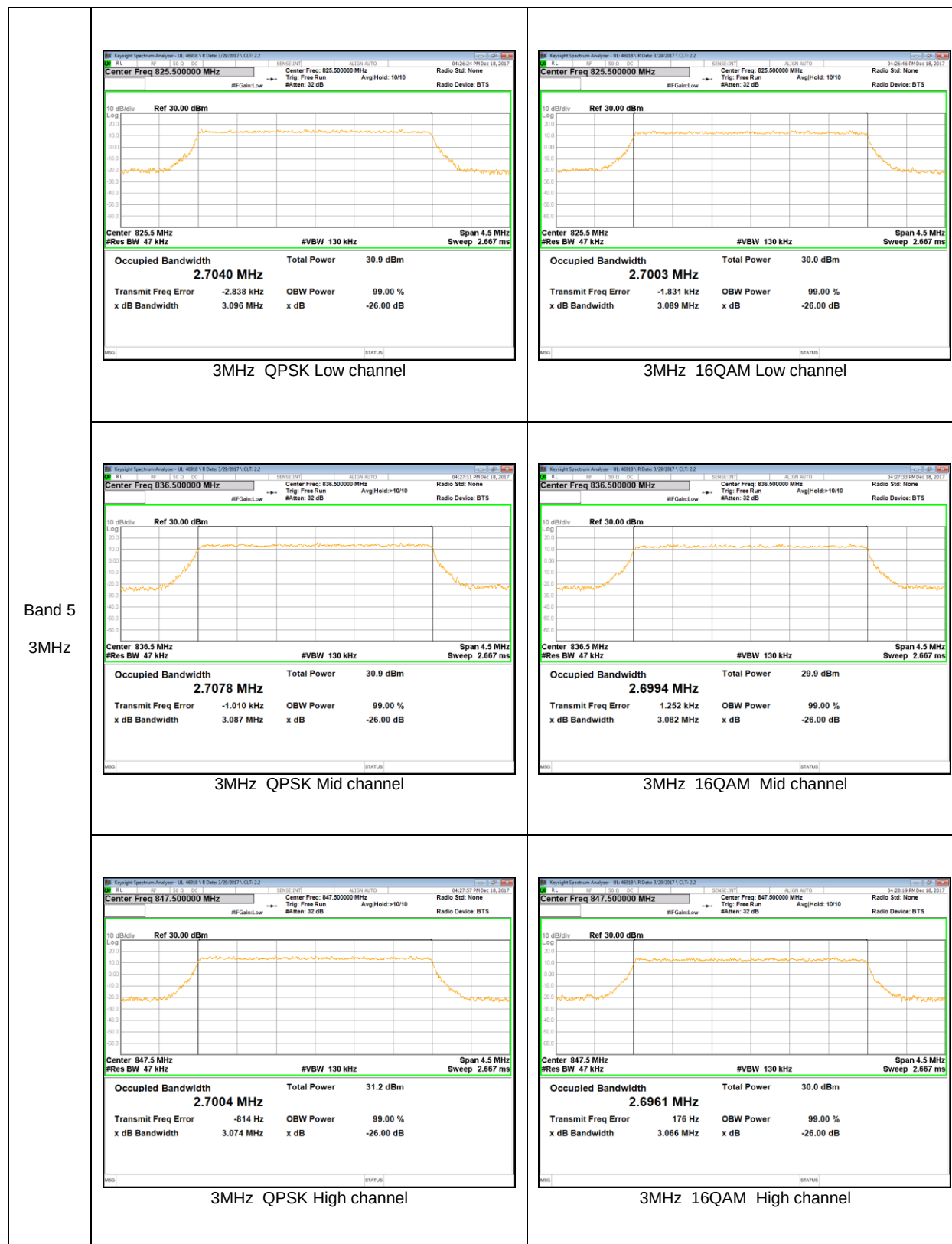


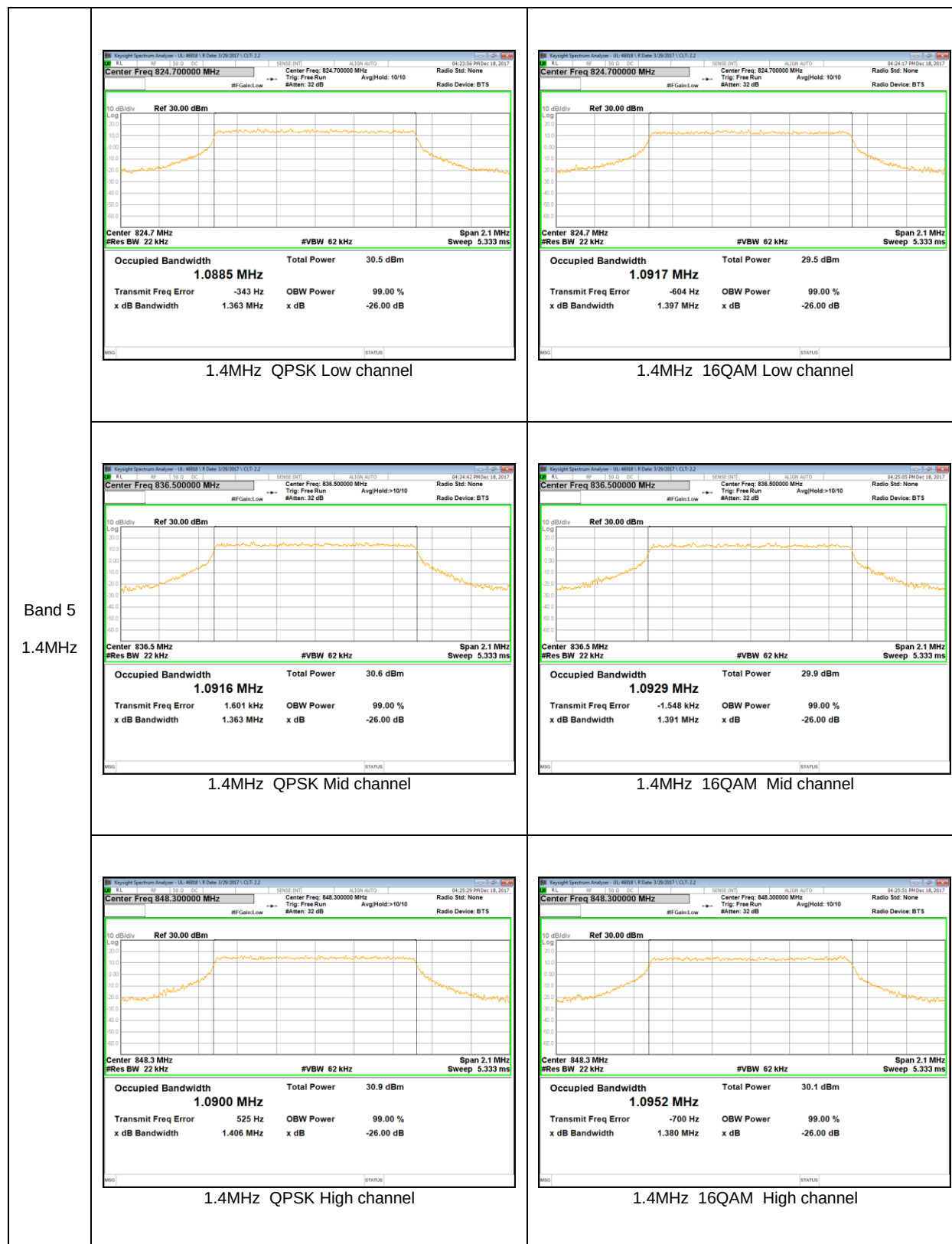


LTE Band 5









9.1. BAND EDGE EMISSIONS

RULE PART(S)

FCC: §22.359, §24.238 and §27. 53

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.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

GSM

- a) Set the RBW = 1 ~ 5% of OBW(GSM850 – 8.2KHz, GSM1900 – 9.1KHz)
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = 1S ;
- e) Detector = RMS;
- f) Ensure that the number of measurement points $\geq 2 \times \text{Span} / \text{RBW}$;
- g) Trace mode = Average(100);
- h) Add duty cycle correction factor (9dB)

WCDMA/LTE

- b) Set the RBW = 1 ~ 1.5 % of OBW(Typically limited to a minimum RBW of 1% of the OBW)
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = Auto;
- e) Detector = RMS;
- f) Ensure that the number of measurement points $\geq 2 \times \text{Span} / \text{RBW}$;
- g) Trace mode = Average (100);

RESULTS

GSM

Band	Mode	Side	f [MHz]	Level [dBm]	Limit [dBm]
GSM1900	GPRS	Lower	1849.982	-18.075	-13.00
		Upper	1910.008	-17.080	
	EGPRS	Lower	1849.987	-27.436	
		Upper	1910.000	-26.403	

WCDMA

Band	Mode	Side	f [MHz]	Level [dBm]	Limit [dBm]
Band 5	REL99	Lower	824	-25.216	-13.00
		Upper	849	-30.485	
	HSDPA	Lower	824	-27.653	
		Upper	849	-29.466	
Band 2	REL99	Lower	1850	-26.730	
		Upper	1910	-25.450	
	HSDPA	Lower	1850	-31.425	
		Upper	1910	-28.790	

LTE 17

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
10 MHz	QPSK	Lower	1RB	704.000	-34.770	-13.00
			FRB	704.000	-29.931	
		Upper	1RB	716.000	-32.915	
			FRB	716.000	-28.437	
	16QAM	Lower	1RB	704.000	-36.758	
			FRB	704.000	-30.196	
		Upper	1RB	716.000	-32.468	
			FRB	716.000	-32.238	
5 MHz	QPSK	Lower	1RB	704.000	-23.704	-13.00
			FRB	704.000	-26.380	
		Upper	1RB	716.000	-21.859	
			FRB	716.000	-25.311	
	16QAM	Lower	1RB	704.000	-22.784	
			FRB	704.000	-25.294	
		Upper	1RB	716.000	-23.813	
			FRB	716.000	-26.541	

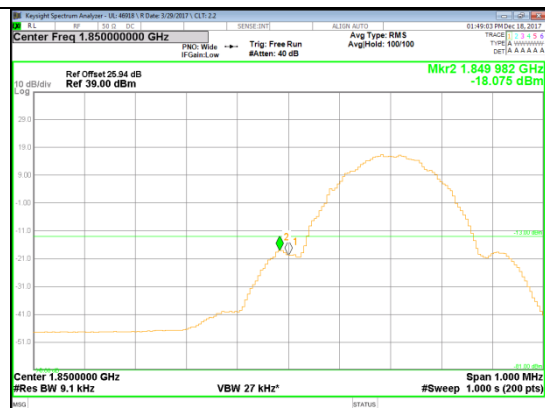
LTE 5

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
10 MHz	QPSK	Lower	1RB	824.000	-32.175	-13.00
			FRB	824.000	-27.282	
		Upper	1RB	849.000	-30.705	
			FRB	849.000	-24.748	
	16QAM	Lower	1RB	824.000	-30.350	
			FRB	824.000	-30.695	
		Upper	1RB	849.000	-32.066	
			FRB	849.000	-30.101	
5 MHz	QPSK	Lower	1RB	824.000	-19.670	
			FRB	824.000	-23.665	
		Upper	1RB	849.000	-19.270	
			FRB	849.000	-25.728	
	16QAM	Lower	1RB	824.000	-22.018	
			FRB	824.000	-25.383	
		Upper	1RB	849.000	-23.087	
			FRB	849.000	-25.717	
3 MHz	QPSK	Lower	1RB	824.000	-17.102	
			FRB	824.000	-23.498	
		Upper	1RB	849.000	-17.038	
			FRB	849.000	-22.816	
	16QAM	Lower	1RB	824.000	-17.731	
			FRB	824.000	-24.277	
		Upper	1RB	849.000	-18.180	
			FRB	849.000	-24.097	
1.4 MHz	QPSK	Lower	1RB	824.000	-22.407	
			FRB	824.000	-23.604	
		Upper	1RB	849.000	-21.185	
			FRB	849.000	-24.091	
	16QAM	Lower	1RB	824.000	-25.442	
			FRB	824.000	-22.632	
		Upper	1RB	849.000	-22.621	
			FRB	849.000	-23.406	

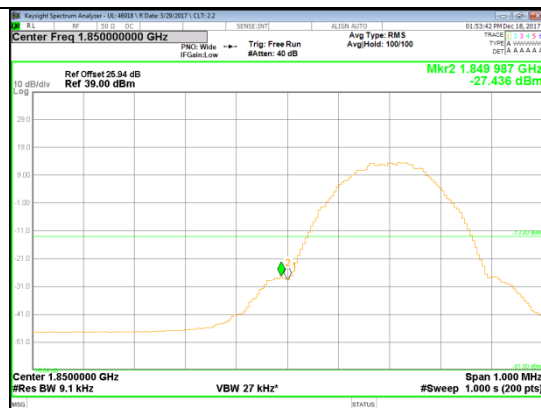
9.1.1. BAND EDGE PLOTS

GSM

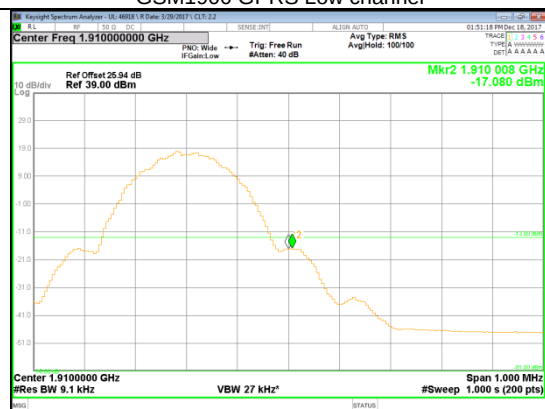
GSM
1900



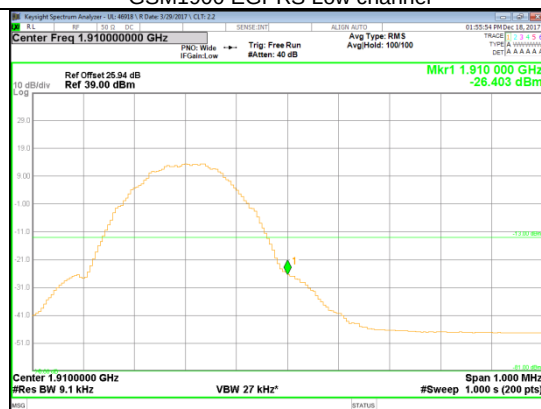
GSM1900 GPRS Low channel



GSM1900 EGPRS Low channel



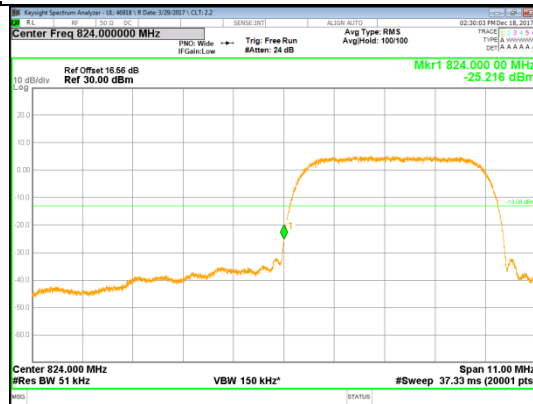
GSM1900 GPRS High channel



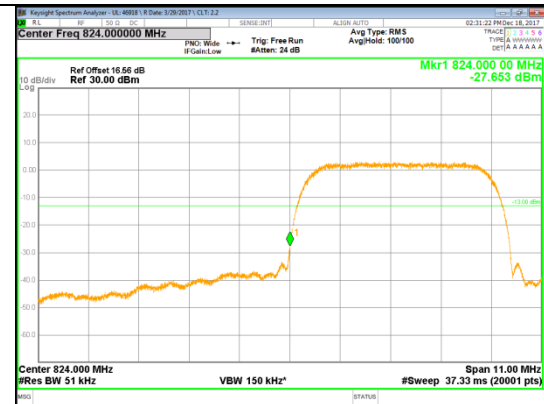
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WCDMA

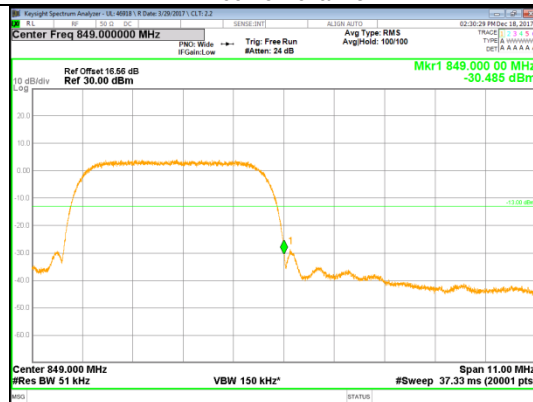
Band 5



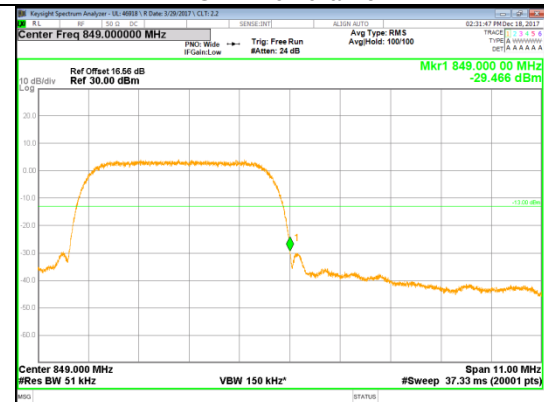
REL99 Low channel



HSDPA Low channel

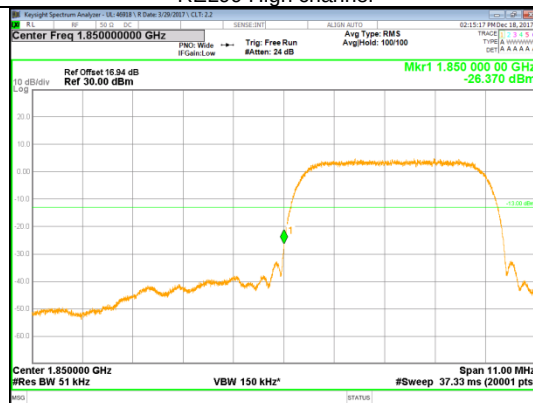


REL99 High channel

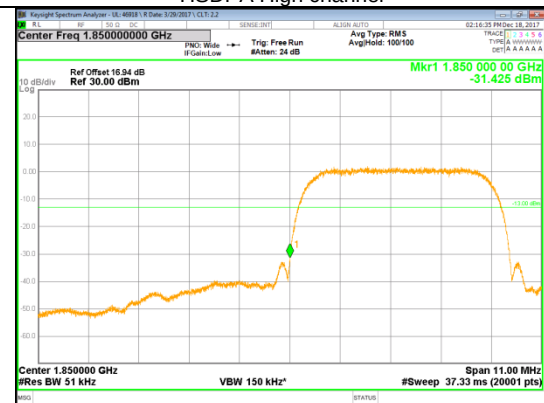


HSDPA High channel

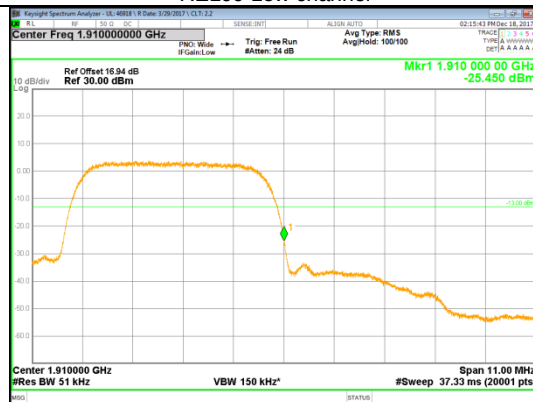
Band 2



REL99 Low channel



HSDPA Low channel



REL99 High channel



HSDPA High channel

LTE Band 17

