



CERTIFICATION TEST REPORT

Report Number. : 12943451-E9V2

Applicant : APPLE, INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A.

Model : A2218

FCC ID : BCG-E3308A

EUT Description : SMARTPHONE

Test Standard(s) : FCC CFR47 PART 22 H, PART 27

Date Of Issue:
AUGUST 23, 2019

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Revision History

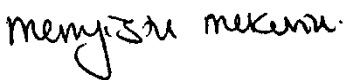
Rev.	Issue Date	Revisions	Revised By
V1	8/21/2019	Initial Review	Lieu Nguyen
V2	8/23/2019	Address TCB Questions	Lieu Nguyen

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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE, INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.		
Model	A2218		
FCC ID	BCG-E3308A		
EUT Description	SMARTPHONE		
Serial Number	G6TYW00BN39Y(Conducted),G6TYW01EN39M(Radiated).		
Date Tested Serial Number	MAY 23, 2019 to AUGUST 05, 2019		
Applicable Standards	FCC CFR47 PART 22H, PART 27		
Test Results	COMPLIES		
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. 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 NVLAP, NIST, any agency of the Federal Government, or any agency of the U.S. government.			
Approved & Released By:		Prepared By:	
			
Mengistu Mekuria Project Engineer UL Verification Services Inc.		Lieu Nguyen Test Engineer UL Verification Services Inc.	

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.26:2015, FCC CFR 47 Part 2, FCC KDB 971168 D01 v03r01/ D02 v02r01, KDB 412172 D01 Determining ERP and EIRP v01r01, Part 22H, Part 27.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, and 47658 Kato Road, Fremont, California, USA. 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.

47173 Benicia Street	47266 Benicia Street	47658 Kato Rd.
☒ Chamber A (ISED:2324B-1)	☐ Chamber D (ISED:22541-1)	☐ Chamber I (ISED: 2324A-5)
☒ Chamber B (ISED:2324B-2)	☐ Chamber E (ISED:22541-2)	☐ Chamber J (ISED: 2324A-6)
☐ Chamber C (ISED:2324B-3)	☐ Chamber F (ISED:22541-3)	☐ Chamber K (ISED: 2324A-1)
	☐ Chamber G (ISED:22541-4)	☐ Chamber L (ISED: 2324A-3)
	☐ Chamber H (ISED:22541-5)	

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers above are covered under Industry Canada company address and respective code.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

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:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \\ &\text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Radiated Disturbance, 9KHz to 30 MHz	2.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.88 dB
Radiated Disturbance, 1000 to 18000 MHz	4.21 dB
Radiated Disturbance, 18000 to 26000 MHz	4.37 dB
Radiated Disturbance, 26000 to 40000 MHz	5.17 dB
Occupied Channel Bandwidth	±0.39 %
Temperature	±0.9 °C
Supply voltages	±0.45 %
Time	±0.02 %

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, TD-SCDMA, CDMA, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, Ultra-Wide band, GPS and NFC. All models support at least one UICC based SIM. The second SIM, if present, is either UICC based pSIM (physical SIM) or e-SIM (electronic SIM). The device has a built-in inductive charging receiver. The rechargeable battery is also not user accessible.

5.2. MAXIMUM OUTPUT POWER

EIRP LIMIT

FCC: §2.1046, §22.913, §27.50

EIRP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.6

$ERP/EIRP = P_{Meas} + GT - LC$

where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as P_{Meas} , typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted and ERP/EIRP output powers as follows:

OUTPUT POWER FOR LTE BAND 5

Part 22H								
ERP Limit (W)		7.00						
Antenna Gain (dBi)		-5.50						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
3+5	QPSK	825.5	846.5	25.0	17.35	0.054	7552.6	7M55G7W
	16QAM			24.0	16.35	0.043	7475.0	7M48D7W
	64QAM			23.2	15.55	0.036	7476.8	7M48D7W
5+3	QPSK	826.5	847.5	24.8	17.15	0.052	7551.0	7M55G7W
	16QAM			24.0	16.35	0.043	7508.4	7M51D7W
	64QAM			23.2	15.55	0.036	7518.9	7M52D7W
5+10	QPSK	826.5	844.0	24.7	17.05	0.051	13881.0	13M9G7W
	16QAM			23.7	16.05	0.040	13841.0	13M8D7W
	64QAM			23.0	15.35	0.034	13774.0	13M8D7W
10+5	QPSK	829.0	846.5	24.9	17.25	0.053	13851.0	13M9G7W
	16QAM			24.0	16.35	0.043	13863.0	13M9D7W
	64QAM			22.9	15.25	0.033	13821.0	13M8D7W
10+10	QPSK	829.0	844.0	25.0	17.35	0.054	19271.0	19M3G7W
	16QAM			24.1	16.45	0.044	19262.0	19M3D7W
	64QAM			22.9	15.25	0.033	19280.0	19M3D7W

OUTPUT POWER FOR LTE BAND 7

Part 27 / RSS 199								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-2.30						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
10+20	QPSK	2505.5	2560.0	24.5	22.20	0.166	28053	28M1G7W
	16QAM			23.8	21.50	0.141	28063	28M1D7W
	64QAM			22.9	20.60	0.115	28068	28M1D7W
20+10	QPSK	2510.0	2564.5	24.4	22.10	0.162	28091	28M1G7W
	16QAM			23.4	21.10	0.129	28059	28M1D7W
	64QAM			22.2	19.90	0.098	28067	28M1D7W
15+15	QPSK	2507.5	2562.5	24.4	22.10	0.162	28619	28M6G7W
	16QAM			23.4	21.10	0.129	28624	28M6D7W
	64QAM			22.2	19.90	0.098	28636	28M6D7W
15+20	QPSK	2507.8	2560.0	24.3	22.00	0.158	32871	32M9G7W
	16QAM			23.1	20.80	0.120	32886	32M9D7W
	64QAM			22.1	19.80	0.095	32858	32M9D7W
20+15	QPSK	2510.0	2562.2	24.4	22.10	0.162	32897	32M9G7W
	16QAM			22.9	20.60	0.115	32864	32M9D7W
	64QAM			21.9	19.60	0.091	32888	32M9D7W
20+20	QPSK	2510.0	2560.0	24.4	22.10	0.162	37737	37M7G7W
	16QAM			23.2	20.90	0.123	37733	37M7D7W
	64QAM			21.8	19.50	0.089	37729	37M7D7W

OUTPUT POWER FOR LTE BAND 41

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-2.30						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5+20	QPSK	2499.3	2680.0	26.5	24.20	0.263	23265	23M3G7W
	16QAM			25.6	23.30	0.214	23341	23M3D7W
	64QAM			24.5	22.20	0.166	23319	23M3D7W
20+5	QPSK	2506.0	2686.7	26.4	24.10	0.257	23301	23M3G7W
	16QAM			25.4	23.10	0.204	23348	23M3D7W
	64QAM			24.2	21.90	0.155	23195	23M2D7W
10+20	QPSK	2501.5	2680.0	26.4	24.10	0.257	27965	28M0G7W
	16QAM			25.3	23.00	0.200	28115	28M1D7W
	64QAM			24.2	21.90	0.155	28083	28M1D7W
20+10	QPSK	2506.0	2684.5	26.4	24.10	0.257	28050	28M1G7W
	16QAM			25.5	23.20	0.209	28077	28M1D7W
	64QAM			24.2	21.90	0.155	28078	28M1D7W
15+15	QPSK	2503.5	2682.5	26.2	23.90	0.245	28634	28M6G7W
	16QAM			25.4	23.10	0.204	28596	28M6D7W
	64QAM			24.1	21.80	0.151	28758	28M8D7W
15+20	QPSK	2503.8	2680.0	26.3	24.00	0.251	32881	32M9G7W
	16QAM			25.4	23.10	0.204	32814	32M8D7W
	64QAM			24.3	22.00	0.158	32929	32M9D7W
20+15	QPSK	2506.0	2682.2	26.4	24.10	0.257	32952	33M0G7W
	16QAM			25.6	23.30	0.214	32814	32M8D7W
	64QAM			24.3	22.00	0.158	32858	32M9D7W
20+20	QPSK	2506.0	2680.0	26.5	24.20	0.263	37645	37M6G7W
	16QAM			25.6	23.30	0.214	37640	37M6D7W
	64QAM			24.3	22.00	0.158	37693	37M7D7W

5.3. SOFTWARE AND FIRMWARE

The EUT Firmware installed during testing was version: 19-01.1919.01_27-0.22.00-27.

5.4. MAXIMUM ANTENNA GAIN

Please see table below:

LTE Bands	Ant 1 Gain (dBi)	Ant 2 Gain (dBi)	Ant 3 Gain (dBi)	Ant 4 Gain (dBi)
LTE Band 5, 824 – 849 MHz	-5.5	-6.3	N/A	N/A
LTE Band 7, 2500 – 2570 MHz	-3.7	-6.3	-2.3	-1.1
LTE Band 41, 2496 – 2690 MHz (FCC)	-3.6	-5.7	-2.3	-1.1

5.5. WORST-CASE CONFIGURATION AND MODE

The EUT supports LTE dual carrier Bands of: Band 5, 7, and Band 41.

The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on QPSK, 16QAM and 64QAM modulations. It was found that QPSK and 16QAM results were worst case. All testing was performed using QPSK and 16QAM modulations to represent the worst case. Tests were performed on the conducted test at Ant 1 antenna as worst case since it has higher output powers.

The EUT was investigated in three orthogonal orientations X/Y/Z on antennas 1, 2, 3, and 4. For ANT 1 antenna, it was determined that X (Flatbed) orientation was worst-case orientation for bands 5, 7, and 41 without AC/DC adapter.

For ANT 2 antenna, it was determined that X (Flatbed) orientation was worst-case orientation for bands 5, 7, and 41 without AC/DC adapter.

For ANT 3 antenna, it was determined that X (Flatbed) orientation was worst-case orientation for bands 7, 41 without AC/DC adapter.

For ANT 4 antenna, it was determined Y (Landscape) orientation was worst-case for bands 7 and 41 without AC/DC adapter.

For Band Edge and Emission Mask: The highest BW combo and sample lower BW combinations were tested. Combination pairs of the same BW are considered generally equivalent. The RB combinations were selected such that the signal is active closest to the band limit, as this is the worst case.

For Out of Band Emissions: The highest combination and a sample lower combination was tested. The highest power RB combination was selected as worst case.

Radiated spurious emissions were investigated below 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found on below 30MHz and 30MHz-1GHz.

For simultaneous transmission of multiple channels in the 2.4GHz/5GH WLAN, UWB, and Cellular bands, tests were conducted for various configurations having the highest power, least separation in frequencies and widest operation bandwidths. No noticeable new emission was found.

For interband transmission of multiple channels in Ant 1 and Ant 3 in Cellular bands, tests were conducted for various configurations having the highest power, least separation in frequencies and widest operation bandwidths. No noticeable new emission was found.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List			
Description	Manufacturer	Model	Serial Number
Laptop AC/DC adapter	Apple	85W MagSafe 2	C0651730MMM6P4AL
Laptop	Apple	Macbook Pro	C02PM012G3QD
Laptop	Apple	Macbook Pro	C02P52HGG085

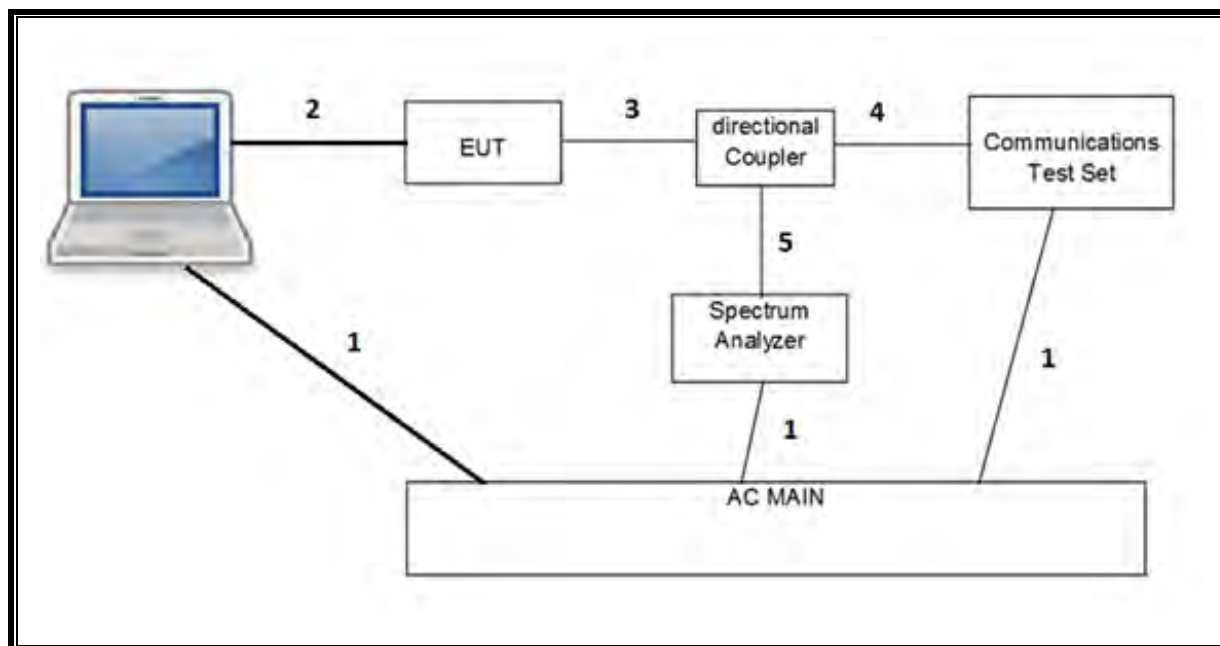
I/O CABLES (RF Conducted Test)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	3	US 115V	Un-shielded	2.0m	N/A
2	USB	1	DC	Un-shielded	1.0m	N/A
3	RF In/Out	1	EUT	Un-shielded	0.6m	N/A
4	RF In/Out	1	Communication Test Set	Un-shielded	1.2m	N/A
5	RF In/Out	1	Barrel	N/A	N/A	N/A

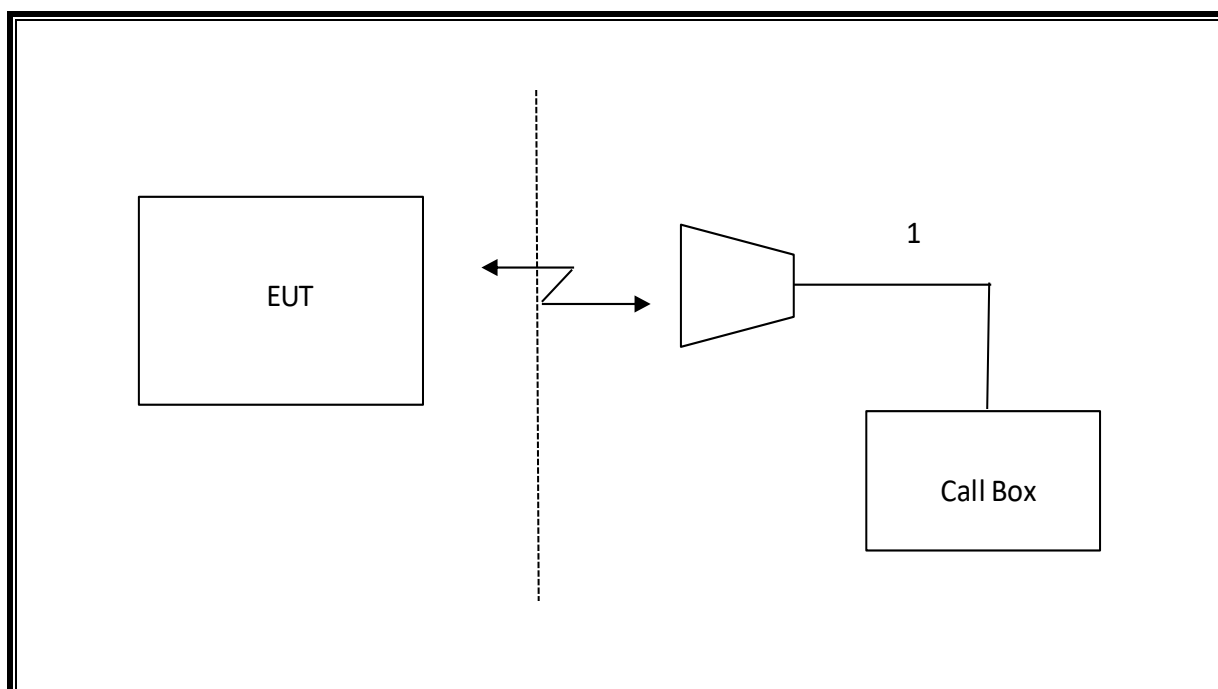
I/O CABLES (RF Radiated Test)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	RF In/Out	1	Antenna	Un-shielded	5.0m	N/A

CONDUCTED SETUP



RADIATED SETUP



6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T15	08/15/2019
Amplifier, 18-26GHz	Agilent	8449B	T404	3/23/2020
Amplifier, 26-40GHz	Miteq	TTA2640	T1804	3/23/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Agilent	N9030A	T905	1/24/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T340	01/22/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T1454	01/23/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T908	01/23/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T339	01/29/2020
Amplifier, 1 to 18GHz	MITEQ	AFS42-00101800-25-S-42	T931	05/11/2020
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	PRE0180176	11/01/2019
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	E4446A	T123	01/28/2020
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	E4440A	T198	01/30/2020
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	E4440A	T99	1/28/2020
Directional Coupler	KRYTAR	152610	T1536	07/09/2020
Directional Coupler	KRYTAR	152610	T1537	07/09/2020
Wireless Communications Test Set, 8960 Series 10	Agilent	E5515C	T211	05/10/2020
Filter, HPF 3.0GHz	Micro-Tronics	HPM17543	T487	12/04/2019
Filter, HPF 1.2GHz	Micro-Tronics	WHKX1.2/15G-6ST	T1182	05/30/2020
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	T459	01/24/2020
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T959	02/16/2020
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T1871	02/18/2020
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T921	02/18/2020
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T376	02/21/2020
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T958	02/20/2020
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	T754	08/15/2019
Power Meter, P-series single channel	Keysight	N1911A	T1268	01/31/2020
Power Sensor	Keysight	N1921A	T1228	03/01/2020
Antenna, Horn 1-18GHz	ETS Lindgren	T3117	T346	05/14/2020
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T344	05/07/2020
Antenna, Horn 18-26GHz	ARA	MWH-1826/B	T447	6/16/2019
Antenna, Horn 26-40GHz	ARA	MWH-2640/B	T446	8/9/2019
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	PRE0181574	08/01/2019
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	PRE0077974	05/13/2020
Antenna, Active Loop 9KHz to 30MHz	EMCO	6502	T1616	10/18/2019
UL AUTOMATION SOFTWARE				
CLT Software	UL	UL RF	Ver 9.5, April 26, 2016	
Power Measurement Software	UL	UL RF	Ver 2.2, June 2017	

NOTES:

- For equipment listed above that had a calibration due during the testing period, its use was paused to allow for calibration.

7. RF OUTPUT POWER VERIFICATION

RULE PART(S)

FCC: §2.1046

MODES TESTED

- LTE Band 5
- LTE Band 7
- LTE Band 41

RESULT

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted output powers as follows:

7.1. LTE BAND 5

ID:	10646	Date:	6/13/19
------------	-------	--------------	---------

OUTPUT POWER FOR LTE BAND 5 (3.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3MHz / 5MHz	825.5	829.4	1	14	1	0	24.8	23.9	23.2	23.4	22.4	20.9
			15	0	25	0	23.8	22.9	22.2	23.3	21.8	20.5
	834.1	838.0	1	14	1	0	25.0	24.0	23.2	23.2	22.2	21.7
			15	0	25	0	24.0	22.5	22.1	23.1	22.1	21.6
	842.6	846.5	1	14	1	0	24.7	23.7	23.0	23.1	22.1	21.8
			15	0	25	0	23.7	22.7	22.0	23.0	22.0	21.7

OUTPUT POWER FOR LTE BAND 5 (5.0MHz + 3.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
5MHz / 3MHz	826.5	830.4	1	24	1	0	24.8	24.0	23.2	23.2	22.4	21.7
			25	0	15	0	22.8	21.8	20.8	21.3	20.5	19.4
	835.0	838.9	1	24	1	0	24.8	23.9	23.1	23.2	22.3	21.7
			25	0	15	0	22.8	21.8	20.7	21.1	20.3	19.3
	842.6	846.5	1	24	1	0	24.8	23.9	23.1	23.0	22.3	21.6
			25	0	15	0	22.8	21.8	20.6	21.1	20.3	19.3

OUTPUT POWER FOR LTE BAND 5 (5.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
5MHz / 10MHz	826.5	833.7	1	24	1	0	24.2	23.3	22.7	23.4	22.5	21.1
			1	0	1	49	15.2	14.3	13.5	14.7	14.1	13.7
			25	0	50	0	21.7	20.7	19.9	21.2	20.3	19.8
	831.6	838.8	1	24	1	0	24.7	23.7	23.0	23.3	22.4	21.1
			1	0	1	49	16.2	15.2	13.5	14.6	14.1	13.6
			25	0	50	0	22.6	21.7	19.9	21.1	20.2	19.7
	836.8	844.0	1	24	1	0	24.2	23.2	22.4	23.1	22.1	20.9
			1	0	1	49	15.0	14.0	13.3	14.5	14.0	13.6
			25	0	50	0	21.6	20.5	19.7	21.1	20.1	19.6

OUTPUT POWER FOR LTE BAND 5 (10.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
10MHz/ 5MHz	829.0	836.2	1	49	1	0	24.9	24.0	22.9	23.5	22.6	21.0
			50	0	25	0	22.7	21.7	20.8	21.3	20.2	19.8
	834.3	841.5	1	49	1	0	24.8	23.9	22.8	23.1	22.2	20.6
			50	0	25	0	22.6	21.6	20.8	21.1	20.1	19.6
	839.3	846.5	1	49	1	0	24.6	23.7	22.7	23.2	22.4	20.8
			50	0	25	0	22.5	21.5	20.6	21.0	20.0	18.7

OUTPUT POWER FOR LTE BAND 5 (10.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
10MHz/ 10MHz	829.0	838.9	1	49	1	0	25.0	24.1	22.9	23.5	22.7	21.7
			1	0	1	49	16.3	15.4	15.2	14.5	13.7	12.7
			50	0	50	0	22.7	21.7	20.7	21.1	20.1	19.3
	831.5	841.4	1	49	1	0	24.9	24.1	22.9	23.3	22.3	20.9
			1	0	1	49	16.2	15.4	15.2	14.6	13.7	12.7
			50	0	50	0	22.7	21.6	20.8	21.1	20.1	18.6
	834.1	844.0	1	49	1	0	24.8	24.0	22.9	23.1	22.1	20.7
			1	0	1	49	16.2	15.2	15.0	14.3	13.4	12.9
			50	0	50	0	22.6	21.6	20.6	21.0	20.0	18.5

7.2. LTE BAND 7

ID:	10646	Date:	5/23/19
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OUTPUT POWER FOR LTE BAND 7 (10.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
10MHz / 20MHz	2505.5	2519.9	1	49	1	0	25.0	24.2	23.0	20.3	19.4	18.3
			50	0	100	0	22.9	21.9	20.9	18.6	17.5	16.4
	2525.6	2540.0	1	49	1	0	25.0	24.2	23.1	19.5	18.8	18.5
			50	0	100	0	22.8	21.8	20.8	18.4	17.4	16.3
	2545.5	2560.0	1	49	1	0	24.8	24.0	23.0	20.2	19.5	18.0
			50	0	100	0	22.7	21.5	20.7	18.2	17.2	16.3

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
10MHz / 20MHz	2505.5	2519.9	1	49	1	0	23.5	22.9	22.9	17.5	17.3	16.0
			50	0	100	0	22.5	21.8	21.0	16.1	15.0	13.9
	2525.6	2540.0	1	49	1	0	24.5	23.4	20.4	18.2	17.5	15.8
			50	0	100	0	23.2	22.2	18.2	16.3	15.2	13.9
	2545.5	2560.0	1	49	1	0	24.2	23.8	22.2	18.2	17.4	16.1
			50	0	100	0	22.7	21.8	20.2	16.0	14.9	13.8

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz / 10MHz	2510.0	2524.4	1	99	1	0	25.0	24.0	23.0	20.4	19.5	18.4
			1	0	1	49	16.4	15.4	14.5	13.7	12.6	11.6
			100	0	50	0	22.9	21.9	20.9	18.2	16.3	15.0
	2530.1	2544.5	1	99	1	0	24.9	23.8	23.0	20.2	19.1	18.1
			1	0	1	49	16.3	15.3	14.3	13.5	12.4	11.5
			100	0	50	0	22.8	21.8	20.8	18.1	16.0	15.0
	2550.1	2564.5	1	99	1	0	24.8	23.7	22.9	20.3	19.3	18.3
			1	0	1	49	16.1	15.1	14.2	13.3	12.3	11.5
			100	0	50	0	22.7	21.6	20.7	17.8	15.9	15.0

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz / 10MHz	2510.0	2524.4	1	99	1	0	24.4	23.4	20.2	18.5	17.5	16.7
			1	0	1	49	15.6	14.6	13.8	13.5	12.5	11.4
			100	0	50	0	22.3	19.4	18.5	16.2	15.1	15.0
	2530.1	2544.5	1	99	1	0	24.3	23.1	20.0	18.4	17.4	16.4
			1	0	1	49	15.7	14.7	14.0	13.7	12.6	11.3
			100	0	50	0	22.4	19.4	18.5	16.1	15.3	14.8
	2550.1	2564.5	1	99	1	0	23.8	22.7	22.2	18.3	17.4	16.6
			1	0	1	49	15.2	14.2	13.0	13.4	12.5	11.3
			100	0	50	0	21.9	18.9	18.4	15.9	15.0	14.7

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
15MHz / 15MHz	2507.5	2522.5	1	74	1	0	25.0	24.1	23.2	20.5	19.6	18.4
			75	0	75	0	22.8	21.9	20.1	18.3	17.3	15.2
	2527.5	2542.5	1	74	1	0	24.8	24.0	23.1	20.4	19.4	18.3
			75	0	75	0	22.7	21.8	19.9	18.2	17.2	15.1
	2547.5	2562.5	1	74	1	0	24.8	23.9	23.1	20.2	19.3	18.2
			75	0	75	0	22.6	21.7	19.9	18.0	17.5	15.0

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
15MHz / 15MHz	2507.5	2522.5	1	74	1	0	24.4	23.4	22.2	18.2	17.3	16.1
			75	0	75	0	22.2	21.3	19.9	16.1	15.1	14.0
	2527.5	2542.5	1	74	1	0	23.6	23.4	19.5	18.4	17.5	15.9
			75	0	75	0	22.2	21.4	18.7	16.2	15.3	13.8
	2547.5	2562.5	1	74	1	0	23.2	22.8	19.4	18.1	17.2	16.0
			75	0	75	0	22.0	21.0	18.4	16.0	14.9	13.8

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
15MHz / 20MHz	2507.8	2524.9	1	74	1	0	24.9	24.3	23.2	20.3	19.2	18.3
			75	0	100	0	22.4	22.0	21.0	18.2	17.1	16.1
	2525.3	2542.4	1	74	1	0	24.5	24.2	23.2	20.3	19.2	18.2
			75	0	100	0	22.3	21.8	20.8	18.1	17.1	16.0
	2542.9	2560.0	1	74	1	0	24.3	24.1	22.7	20.0	19.0	18.1
			75	0	100	0	22.1	21.8	20.8	17.8	16.9	16.0

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
15MHz / 20MHz	2507.8	2524.9	1	74	1	0	24.3	22.9	22.1	18.1	17.0	15.8
			75	0	100	0	23.0	22.1	22.0	15.9	14.9	14.8
	2525.3	2542.4	1	74	1	0	24.3	22.5	22.0	18.1	17.1	15.9
			75	0	100	0	23.3	22.3	22.1	16.1	15.0	14.7
	2542.9	2560.0	1	74	1	0	24.3	23.1	22.0	18.0	17.1	15.8
			75	0	100	0	22.9	21.9	21.8	15.8	14.8	14.6

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz / 15MHz	2510.0	2527.1	1	99	1	0	25.0	24.1	23.1	20.5	19.5	18.3
			100	0	75	0	23.0	22.0	21.0	18.2	17.2	16.1
	2527.6	2544.7	1	99	1	0	24.8	23.9	23.1	20.2	19.2	18.1
			100	0	75	0	22.9	22.0	20.8	18.0	17.0	16.0
	2545.1	2562.2	1	99	1	0	24.8	23.9	23.0	20.1	19.1	18.2
			100	0	75	0	22.8	21.7	20.8	17.8	16.8	16.0

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz / 15MHz	2510.0	2527.1	1	99	1	0	24.4	22.9	21.9	18.5	17.5	15.8
			100	0	75	0	22.8	21.9	20.2	16.3	15.3	14.1
	2527.6	2544.7	1	99	1	0	24.4	22.8	21.6	18.3	17.5	15.6
			100	0	75	0	22.9	22.0	20.2	16.4	15.3	13.8
	2545.1	2562.2	1	99	1	0	24.1	22.5	21.4	18.3	17.4	15.5
			100	0	75	0	22.7	21.7	19.9	16.1	15.1	13.9

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz/ 20MHz	2510.0	2529.8	1	99	1	0	25.0	23.8	23.1	20.4	19.6	18.5
			1	0	1	99	15.9	15.6	14.9	11.2	10.8	10.3
			100	0	100	0	22.8	21.8	20.7	18.2	17.2	16.1
	2525.1	2544.9	1	99	1	0	24.8	24.3	22.9	20.3	19.3	18.3
			1	0	1	99	15.7	15.6	15.0	11.1	10.6	10.1
			100	0	100	0	22.7	21.7	20.7	18.1	17.0	16.0
	2540.2	2560.0	1	99	1	0	24.7	23.6	22.9	20.0	19.0	18.0
			1	0	1	99	15.8	15.4	15.0	11.0	10.6	9.8
			100	0	100	0	22.5	21.5	20.5	17.7	16.8	15.3

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz/ 20MHz	2510.0	2529.8	1	99	1	0	24.4	23.2	21.8	18.4	17.5	16.3
			1	0	1	99	15.9	15.1	14.3	13.2	12.3	11.3
			100	0	100	0	23.0	22.1	20.6	16.2	15.3	14.0
	2525.1	2544.9	1	99	1	0	24.4	23.1	21.6	18.4	16.5	16.1
			1	0	1	99	16.4	15.4	14.6	13.5	13.3	11.3
			100	0	100	0	23.1	22.2	20.6	16.2	14.3	13.8
	2540.2	2560.0	1	99	1	0	24.4	22.8	21.6	18.3	17.2	16.0
			1	0	1	99	15.9	15.0	14.8	13.4	12.3	11.1
			100	0	100	0	22.8	21.9	20.4	16.1	15.1	13.8

7.3. LTE BAND 41

ID:	10646	Date:	6/10/19
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OUTPUT POWER FOR LTE BAND 41 (5.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
5MHz / 20MHz	2499.3	2511.0	1	24	1	0	25.9	25.5	24.3	22.5	21.4	19.7
			25	0	100	0	24.0	23.0	21.1	20.9	19.8	18.6
	2583.8	2595.5	1	24	1	0	26.3	25.3	23.2	22.9	22.0	19.7
			25	0	100	0	24.3	22.7	20.9	20.9	19.9	18.7
	2668.3	2680.0	1	24	1	0	26.8	25.8	24.3	23.1	22.1	19.9
			25	0	100	0	24.7	22.8	21.0	21.0	19.9	18.7

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
5MHz / 20MHz	2499.3	2511.0	1	24	1	0	26.5	25.6	24.5	19.1	18.1	16.7
			25	0	100	0	24.1	23.2	23.0	18.3	16.8	16.2
	2583.8	2595.5	1	24	1	0	26.4	25.3	23.7	19.7	18.3	16.8
			25	0	100	0	24.0	23.0	22.8	17.7	16.7	15.5
	2668.3	2680.0	1	24	1	0	25.8	24.6	23.6	19.3	17.3	17.1
			25	0	100	0	23.7	22.7	22.4	17.4	16.5	15.7

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz / 5MHz	2506.0	2517.7	1	99	1	0	26.7	25.8	24.8	23.1	22.3	20.9
			1	0	1	24	18.5	17.4	16.2	14.3	13.4	12.1
			100	0	25	0	24.1	23.2	22.6	20.9	19.9	18.6
	2590.5	2602.2	1	99	1	0	26.5	25.6	24.7	23.0	22.1	20.8
			1	0	1	24	17.9	16.9	16.1	14.3	13.3	12.3
			100	0	25	0	24.4	23.4	22.5	20.9	19.9	18.7
	2675.0	2686.7	1	99	1	0	27.0	26.1	24.7	23.2	22.3	21.0
			1	0	1	24	18.4	17.5	16.2	14.5	13.6	12.2
			100	0	25	0	24.9	23.9	22.6	21.0	20.0	18.8

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz / 5MHz	2506.0	2517.7	1	99	1	0	26.4	25.4	24.2	19.6	18.2	16.9
			1	0	1	24	17.6	16.7	15.5	10.5	9.4	9.0
			100	0	25	0	24.3	23.3	23.1	16.8	15.8	15.5
	2590.5	2602.2	1	99	1	0	26.2	25.4	23.9	18.6	17.8	16.0
			1	0	1	24	17.6	16.7	15.3	9.8	9.4	7.9
			100	0	25	0	24.1	23.2	22.7	16.6	15.5	15.2
	2675.0	2686.7	1	99	1	0	26.0	25.1	23.7	18.5	17.6	16.6
			1	0	1	24	17.2	16.3	14.9	9.6	9.1	8.0
			100	0	25	0	23.7	22.7	22.4	16.3	15.3	15.2

OUTPUT POWER FOR LTE BAND 41 (10.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
10MHz / 20MHz	2501.5	2515.9	1	49	1	0	26.8	25.3	24.6	22.9	21.8	20.5
			50	0	100	0	24.3	23.3	23.2	20.9	19.9	19.6
	2583.6	2598.0	1	49	1	0	26.3	25.2	24.2	23.2	22.2	20.8
			50	0	100	0	24.1	23.2	23.1	20.9	19.9	19.7
	2665.6	2680.0	1	49	1	0	26.5	25.5	24.6	23.3	22.2	19.5
			50	0	100	0	24.3	23.3	23.3	21.1	20.0	19.8

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
10MHz / 20MHz	2501.5	2515.9	1	49	1	0	26.3	25.2	24.1	18.6	17.8	17.6
			50	0	100	0	24.2	23.2	22.0	18.3	16.6	15.6
	2583.6	2598.0	1	49	1	0	26.4	25.3	24.2	18.4	17.5	17.2
			50	0	100	0	24.0	23.1	21.8	18.2	16.5	14.9
	2665.6	2680.0	1	49	1	0	25.8	24.9	23.8	19.7	18.7	17.5
			50	0	100	0	23.7	22.7	21.5	18.3	16.6	15.1

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz / 10MHz	2506.0	2520.4	1	99	1	0	26.2	25.3	24.5	23.2	22.4	20.9
			100	0	50	0	24.0	23.0	22.3	20.9	19.9	18.7
	2588.1	2602.5	1	99	1	0	26.0	25.0	24.3	23.1	22.2	20.9
			100	0	50	0	23.9	22.8	22.2	20.9	19.9	18.7
	2670.1	2684.5	1	99	1	0	26.0	25.1	24.4	23.3	22.4	20.9
			100	0	50	0	24.0	23.0	22.4	21.1	20.0	18.8

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz / 10MHz	2506.0	2520.4	1	99	1	0	26.4	25.5	24.2	19.6	18.6	18.2
			100	0	50	0	24.2	23.3	23.0	17.3	16.4	15.9
	2588.1	2602.5	1	99	1	0	25.7	25.3	23.9	19.3	18.5	17.5
			100	0	50	0	24.1	23.1	22.7	17.2	16.2	15.5
	2670.1	2684.5	1	99	1	0	25.9	25.1	23.6	19.4	18.5	17.7
			100	0	50	0	23.7	22.7	22.5	17.3	16.3	15.5

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
15MHz / 15MHz	2503.5	2518.5	1	74	1	0	26.9	25.9	24.7	23.3	22.3	21.0
			75	0	75	0	24.7	23.7	22.6	21.2	20.2	18.9
	2585.5	2600.5	1	74	1	0	26.8	25.8	24.6	23.4	22.5	21.1
			75	0	75	0	24.6	23.6	22.5	21.2	20.2	19.0
	2667.5	2682.5	1	74	1	0	26.8	25.9	24.7	23.5	22.6	21.2
			75	0	75	0	24.7	23.7	22.7	21.3	20.3	19.1

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
15MHz / 15MHz	2503.5	2518.5	1	74	1	0	26.2	25.4	24.1	19.7	18.7	18.3
			75	0	75	0	24.1	23.1	21.9	17.6	16.6	16.1
	2585.5	2600.5	1	74	1	0	26.2	25.3	23.7	19.6	18.5	18.0
			75	0	75	0	23.9	23.1	21.7	17.5	16.5	15.7
	2667.5	2682.5	1	74	1	0	25.8	24.8	23.3	19.7	18.5	17.9
			75	0	75	0	23.6	22.6	21.3	17.6	16.6	15.8

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant1			Ant2		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
15MHz / 20MHz	2503.8	2520.9	1	74	1	0	26.7	26.0	24.6	23.1	22.2	20.8
			75	0	100	0	24.9	24.0	23.5	21.0	20.0	16.9
	2583.3	2600.4	1	74	1	0	26.8	25.8	24.5	23.2	22.1	20.8
			75	0	100	0	24.8	23.8	23.4	21.1	20.0	19.9
	2662.9	2680.0	1	74	1	0	27.0	26.0	24.5	23.3	22.3	17.1
			75	0	100	0	24.9	23.9	23.6	21.1	20.1	19.8

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
			Size	Offset	Size	Offset	Ant3			Ant4		
							QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
15MHz / 20MHz	2503.8	2520.9	1	74	1	0	26.3	25.3	24.3	19.5	18.4	17.7
			75	0	100	0	24.3	23.4	23.1	17.5	16.5	16.0
	2583.3	2600.4	1	74	1	0	26.1	25.4	24.1	19.4	18.4	17.4
			75	0	100	0	24.1	23.2	22.9	17.4	16.4	15.6
	2662.9	2680.0	1	74	1	0	25.9	25.0	23.7	19.5	18.5	17.3
			75	0	100	0	23.7	22.8	22.6	17.6	16.5	14.8

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
							Ant1			Ant2		
			Size	Offset	Size	Offset	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz / 15MHz	2506.0	2523.1	1	99	1	0	26.9	25.9	24.4	23.2	22.4	20.9
			100	0	75	0	24.6	23.6	23.2	21.0	20.0	18.9
	2585.6	2602.7	1	99	1	0	26.7	25.7	24.2	23.2	22.2	21.0
			100	0	75	0	24.5	23.5	23.1	21.0	20.0	19.0
	2665.1	2682.2	1	99	1	0	26.8	25.8	21.2	23.3	22.3	20.8
			100	0	75	0	24.6	23.6	23.2	21.1	20.1	18.9

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
							Ant3			Ant4		
			Size	Offset	Size	Offset	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz / 15MHz	2506.0	2523.1	1	99	1	0	26.3	25.6	24.3	19.6	18.7	17.8
			100	0	75	0	24.3	23.5	22.2	17.5	16.5	15.9
	2585.6	2602.7	1	99	1	0	26.4	25.5	24.0	19.4	18.6	17.3
			100	0	75	0	24.1	23.2	21.9	17.3	16.3	15.6
	2665.1	2682.2	1	99	1	0	25.9	25.0	23.6	19.6	18.6	17.3
			100	0	75	0	23.8	22.8	21.5	17.4	16.4	15.5

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
							Ant1			Ant2		
			Size	Offset	Size	Offset	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz/ 20MHz	2506.0	2525.8	1	99	1	0	26.7	25.4	24.9	23.2	22.3	21.0
			1	0	1	99	17.6	16.7	16.1	13.9	13.8	12.5
			100	0	100	0	24.2	23.2	22.7	21.0	20.1	19.7
	2583.1	2602.9	1	99	1	0	26.3	25.3	24.8	23.2	22.2	21.0
			1	0	1	99	17.1	16.1	15.7	14.2	13.9	12.4
			100	0	100	0	24.0	23.0	22.6	21.0	20.0	19.8
	2660.2	2680.0	1	99	1	0	26.3	25.3	24.9	23.3	22.4	21.0
			1	0	1	99	17.2	16.4	16.1	14.2	13.8	12.6
			100	0	100	0	24.2	23.2	22.8	21.1	20.1	19.9

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)					
							Ant3			Ant4		
			Size	Offset	Size	Offset	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20MHz/ 20MHz	2506.0	2525.8	1	99	1	0	26.5	25.6	24.3	19.7	18.7	18.4
			1	0	1	99	17.4	16.4	15.1	12.9	12.6	12.0
			100	0	100	0	24.3	23.3	22.0	17.7	16.6	16.0
	2583.1	2602.9	1	99	1	0	26.4	25.4	24.0	19.5	18.6	18.1
			1	0	1	99	17.4	16.3	14.9	12.4	12.1	11.8
			100	0	100	0	24.1	23.1	21.9	17.4	16.3	15.6
	2660.2	2680.0	1	99	1	0	26.0	24.9	23.6	19.7	18.7	17.9
			1	0	1	99	16.9	16.0	14.7	12.7	12.2	11.6
			100	0	100	0	23.8	22.8	21.6	17.6	17.3	14.9

8. CONDUCTED TEST RESULTS

8.1. 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 middle channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

MODES TESTED

- LTE Band 5
- LTE Band 7
- LTE Band 41
-

RESULTS

There is no limit required and power is the same for low, middle and high channel; therefore, only middle channel was tested

LTE BAND 5

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 5	3MHz + 5MHz BAND QPSK	15/0 + 25/0	836.5	7.5526	7.975
	3MHz + 5MHz BAND 16QAM			7.4750	7.906
	3MHz + 5MHz BAND 64QAM			7.4768	7.971
	5MHz + 3MHz BAND QPSK	25/0 + 15/0		7.5510	8.047
	5MHz + 3MHz BAND 16QAM			7.5084	8.037
	5MHz + 3MHz BAND 64QAM			7.5189	8.062
	5MHz + 10MHz BAND QPSK	25/0 + 50/0		13.881	14.38
	5MHz + 10MHz BAND 16QAM			13.841	14.60
	5MHz + 10MHz BAND 64QAM			13.774	14.60
	10MHz + 5MHz BAND QPSK	50/0 + 25/0		13.851	14.53
	10MHz + 5MHz BAND 16QAM			13.863	14.34
	10MHz + 5MHz BAND 64QAM			13.821	14.37
	10MHz + 10MHz BAND QPSK	50/0 + 50/0		19.271	21.20
	10MHz + 10MHz BAND 16QAM			19.262	21.15
	10MHz + 10MHz BAND 64QAM			19.280	21.15

LTE BAND 7

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 7	10MHz + 20MHz BAND QPSK	50/0 + 100/0	2535	28.053	30.14
	10MHz + 20MHz BAND 16QAM			28.063	30.10
	10MHz + 20MHz BAND 64QAM			28.068	30.10
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.091	30.12
	20MHz + 10MHz BAND 16QAM			28.059	30.11
	20MHz + 10MHz BAND 64QAM			28.067	30.14
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.619	30.82
	15MHz + 15MHz BAND 16QAM			28.624	30.81
	15MHz + 15MHz BAND 64QAM			28.636	30.83
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.871	35.15
	15MHz + 20MHz BAND 16QAM			32.886	35.14
	15MHz + 20MHz BAND 64QAM			32.858	35.14
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.897	35.13
	20MHz + 15MHz BAND 16QAM			32.864	35.10
	20MHz + 15MHz BAND 64QAM			32.888	35.12
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.737	40.09
	20MHz + 20MHz BAND 16QAM			37.733	40.19
	20MHz + 20MHz BAND 64QAM			37.729	40.15

LTE BAND 41

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 41 (FCC)	5MHz + 20MHz BAND QPSK	25/0 + 100/0	2593	23.265	25.04
	5MHz + 20MHz BAND 16QAM			23.341	24.99
	5MHz + 20MHz BAND 64QAM			23.319	25.02
	20MHz + 5MHz BAND QPSK	100/0 + 25/0		23.301	25.04
	20MHz + 5MHz BAND 16QAM			23.348	25.08
	20MHz + 5MHz BAND 64QAM			23.195	24.98
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		27.965	30.02
	10MHz + 20MHz BAND 16QAM			28.115	30.08
	10MHz + 20MHz BAND 64QAM			28.083	30.05
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.050	29.98
	20MHz + 10MHz BAND 16QAM			28.077	29.91
	20MHz + 10MHz BAND 64QAM			28.078	30.14
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.634	30.73
	15MHz + 15MHz BAND 16QAM			28.596	30.58
	15MHz + 15MHz BAND 64QAM			28.758	30.78
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.881	35.08
	15MHz + 20MHz BAND 16QAM			32.814	35.14
	15MHz + 20MHz BAND 64QAM			32.929	35.10
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.952	35.00
	20MHz + 15MHz BAND 16QAM			32.814	34.90
	20MHz + 15MHz BAND 64QAM			32.858	35.10
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.645	40.06
	20MHz + 20MHz BAND 16QAM			37.640	39.97
	20MHz + 20MHz BAND 64QAM			37.693	40.13

8.1.1. LTE BAND 5



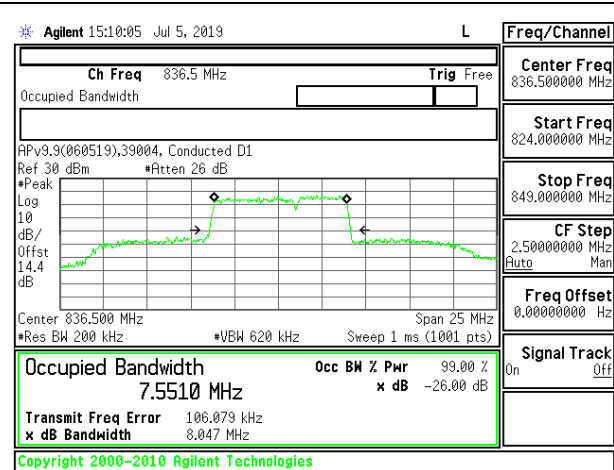
LTE B5 3MHz + 5MHz QPSK RB15-0 + RB25-0



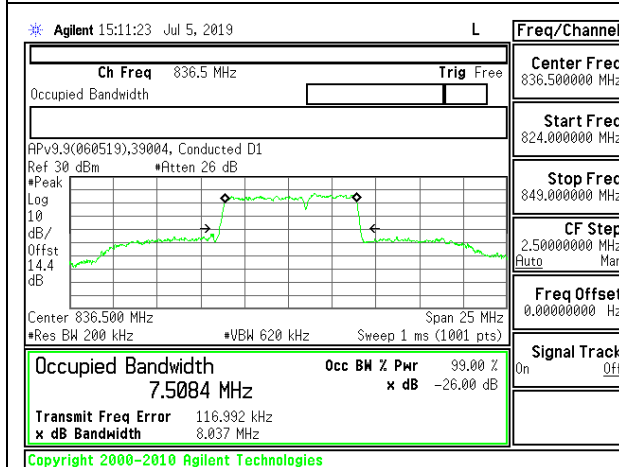
LTE B5 3MHz + 5MHz 16QAM RB15-0 + RB25-0



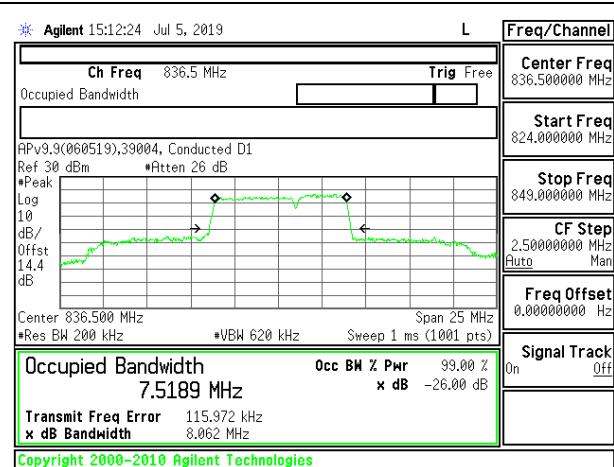
LTE B5 3MHz + 5MHz 64QAM RB15-0 + RB25-0



LTE B5 5MHz + 3MHz QPSK RB25-0 + RB15-0



LTE B5 5MHz + 3MHz 16QAM RB25-0 + RB15-0



LTE B5 5MHz + 3MHz 64QAM RB25-0 + RB15-0



LTE B5 5MHz + 10MHz QPSK RB25-0 + RB50-0



LTE B5 5MHz + 10MHz 16QAM RB25-0 + RB50-0



LTE B5 5MHz + 10MHz 64QAM RB25-0 + RB50-0



LTE B5 10MHz + 5MHz QPSK RB50-0 + RB25-0



LTE B5 10MHz + 5MHz 16QAM RB50-0 + RB25-0



LTE B5 10MHz + 5MHz 64QAM RB50-0 + RB25-0



LTE B5 10MHz + 10MHz QPSK RB50-0 + RB50-0



LTE B5 10MHz + 10MHz 16QAM RB50-0 + RB50-0



LTE B5 10MHz + 10MHz 64QAM RB50-0 + RB50-0

8.1.2. LTE BAND 7



LTE B7 10MHz + 20MHz QPSK RB50-0 + RB100-0



LTE B7 10MHz + 20MHz 16QAM RB50-0 + RB100-0



LTE B7 10MHz + 20MHz 64QAM RB50-0 + RB100-0



LTE B7 20MHz + 10MHz QPSK RB100-0 + RB50-0



LTE B7 20MHz + 10MHz 16QAM RB100-0 + RB50-0



LTE B7 20MHz + 10MHz 64QAM RB100-0 + RB50-0



LTE B7 15MHz + 15MHz QPSK RB75-0 + RB75-0



LTE B7 15MHz + 15MHz 16QAM RB75-0 + RB75-0



LTE B7 15MHz + 15MHz 64QAM RB75-0 + RB75-0



LTE B7 15MHz + 20MHz QPSK RB75-0 + RB100-0



LTE B7 15MHz + 20MHz 16QAM RB75-0 + RB100-0



LTE B7 15MHz + 20MHz 64QAM RB75-0 + RB100-0



LTE B7 20MHz + 15MHz QPSK RB100-0 + RB75-0



LTE B7 20MHz + 15MHz 16QAM RB100-0 + RB75-0



LTE B7 20MHz + 15MHz 64QAM RB100-0 + RB75-0



LTE B7 20MHz + 20MHz QPSK RB100-0 + RB100-0



LTE B7 20MHz + 20MHz 16QAM RB100-0 + RB100-0



LTE B7 20MHz + 20MHz 64QAM RB100-0 + RB100-0

8.1.3. LTE BAND 41



LTE B41 5MHz + 20MHz QPSK RB25-0 + RB100-0



LTE B41 5MHz + 20MHz 16QAM RB25-0 + RB100-0



LTE B41 5MHz + 20MHz 64QAM RB25-0 + RB100-0



LTE B41 20MHz + 5MHz QPSK RB100-0 + RB25-0



LTE B41 20MHz + 5MHz 16QAM RB100-0 + RB25-0



LTE B41 20MHz + 5MHz 64QAM RB100-0 + RB25-0





LTE B41 15MHz + 15MHz QPSK RB75-0 + RB75-0



LTE B41 15MHz + 15MHz 16QAM RB75-0 + RB75-0



LTE B41 15MHz + 15MHz 64QAM RB75-0 + RB75-0



LTE B41 15MHz + 20MHz QPSK RB75-0 + RB100-0



LTE B41 15MHz + 20MHz 16QAM RB75-0 + RB100-0



LTE B41 15MHz + 20MHz 64QAM RB75-0 + RB100-0



LTE B41 20MHz + 15MHz QPSK RB100-0 + RB75-0



LTE B41 20MHz + 15MHz 16QAM RB100-0 + RB75-0



LTE B41 20MHz + 15MHz 64QAM RB100-0 + RB75-0



LTE B41 20MHz + 20MHz QPSK RB100-0 + RB100-0



LTE B41 20MHz + 20MHz 16QAM RB100-0 + RB100-0



LTE B41 20MHz + 20MHz 64QAM RB100-0 + RB100-0

8.2. BAND EDGE AND EMISSION MASK

RULE PART(S)

FCC: §2.1051, §22.917, §27.53

LIMITS

FCC: §22.917, §24.238, §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.

FCC: §27.53(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.

TEST PROCEDURE FOR FCC PART 27

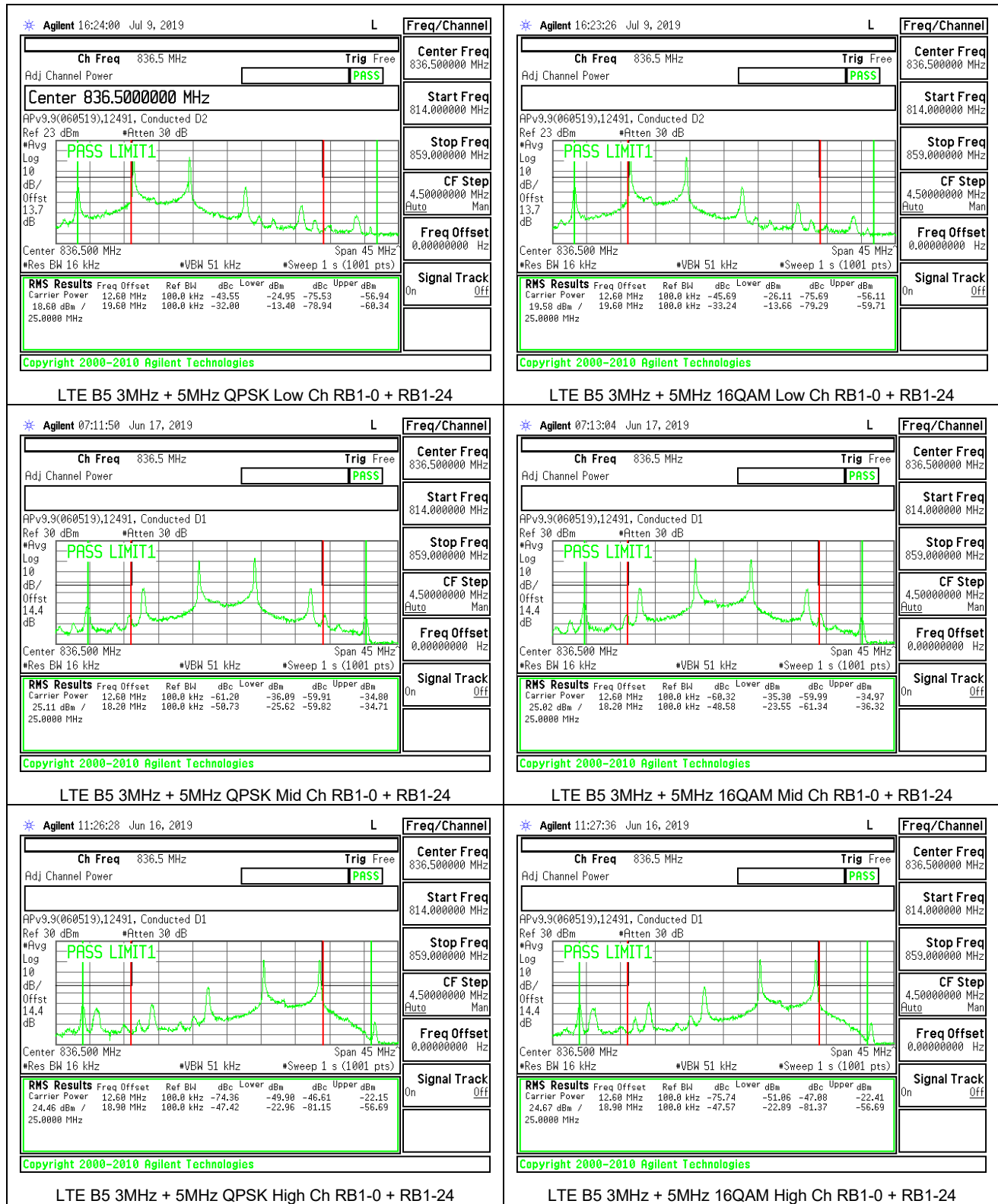
(m)(6) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). 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. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

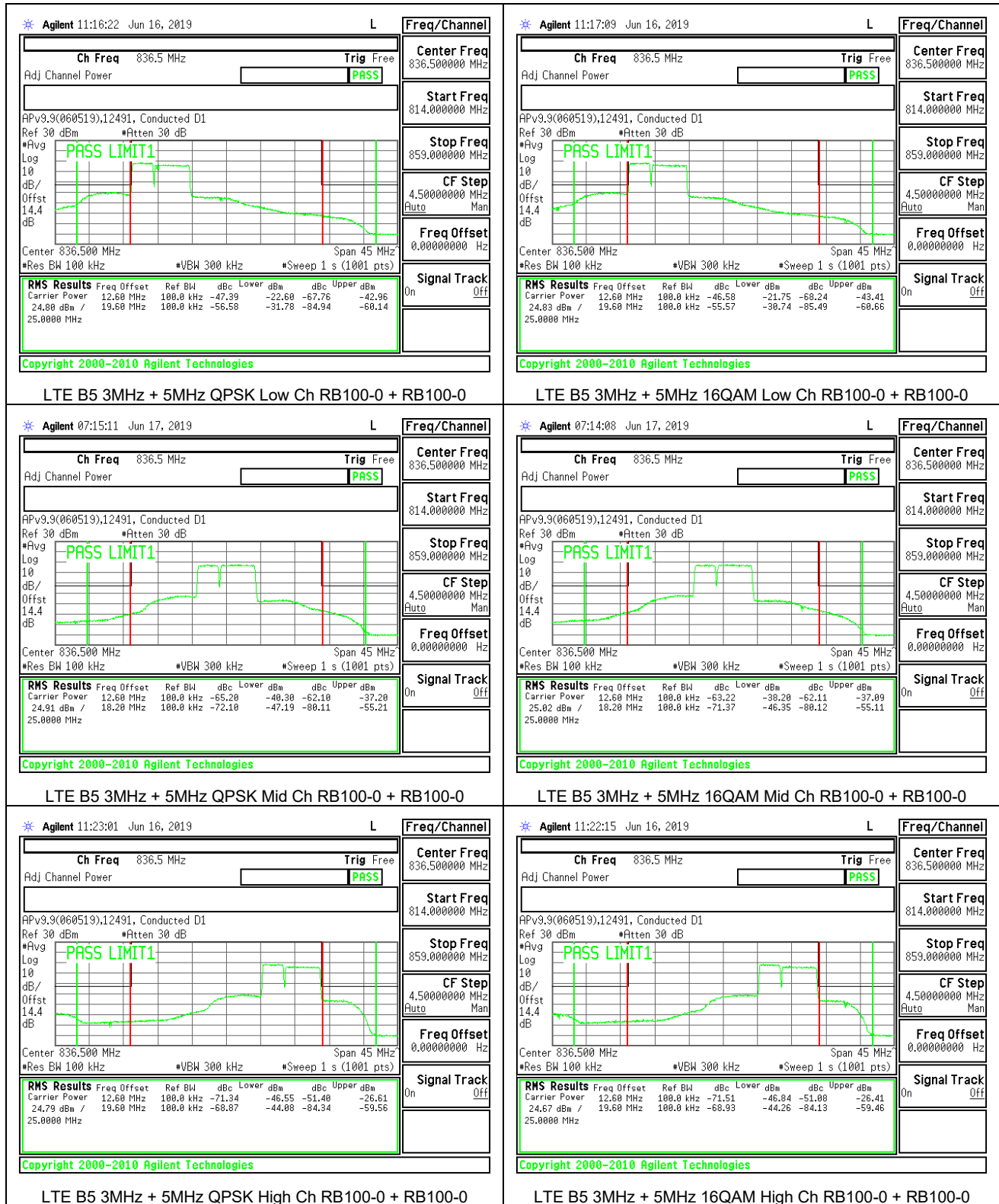
MODES TESTED

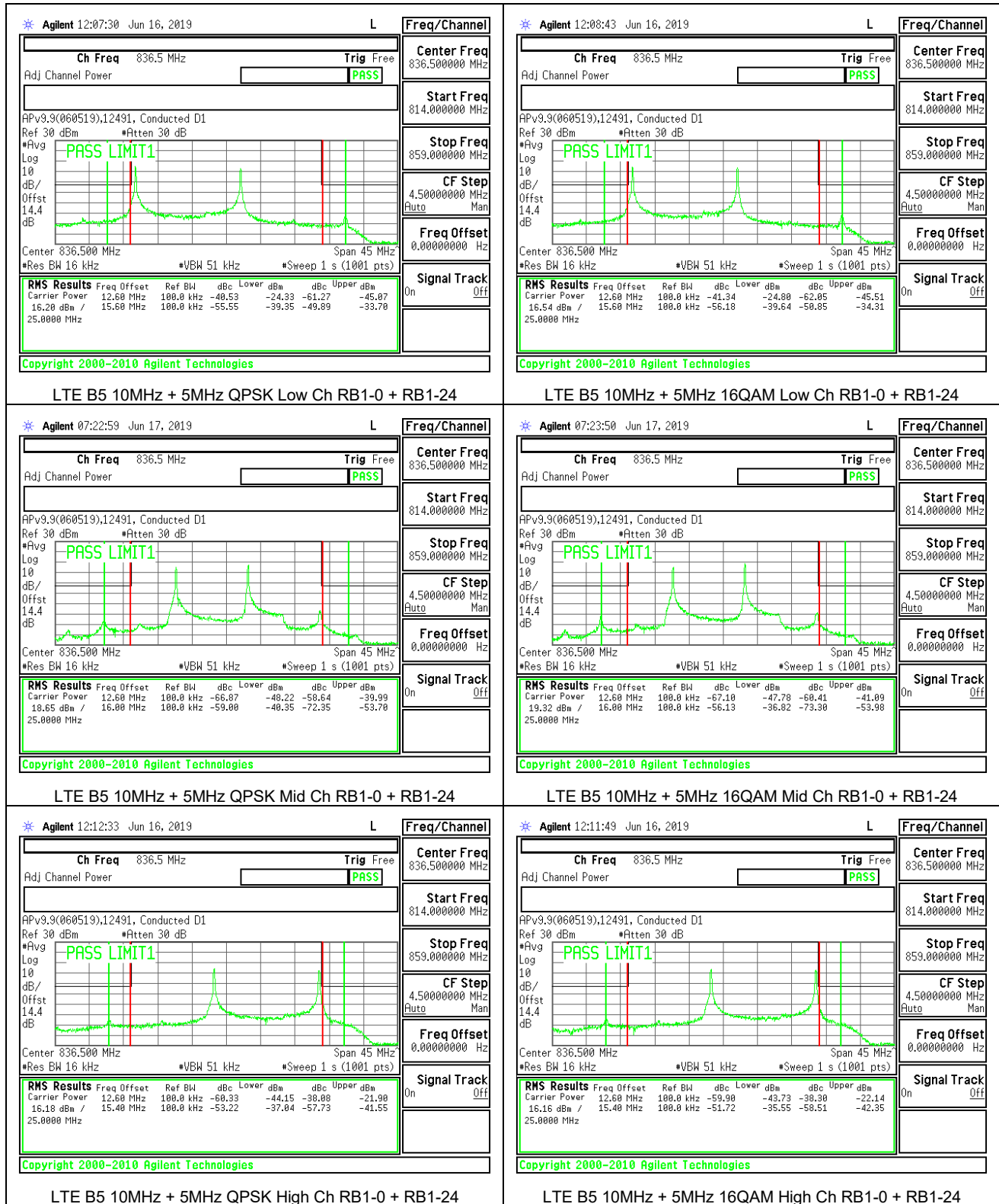
- LTE Band 5
- LTE Band 7
- LTE Band 41

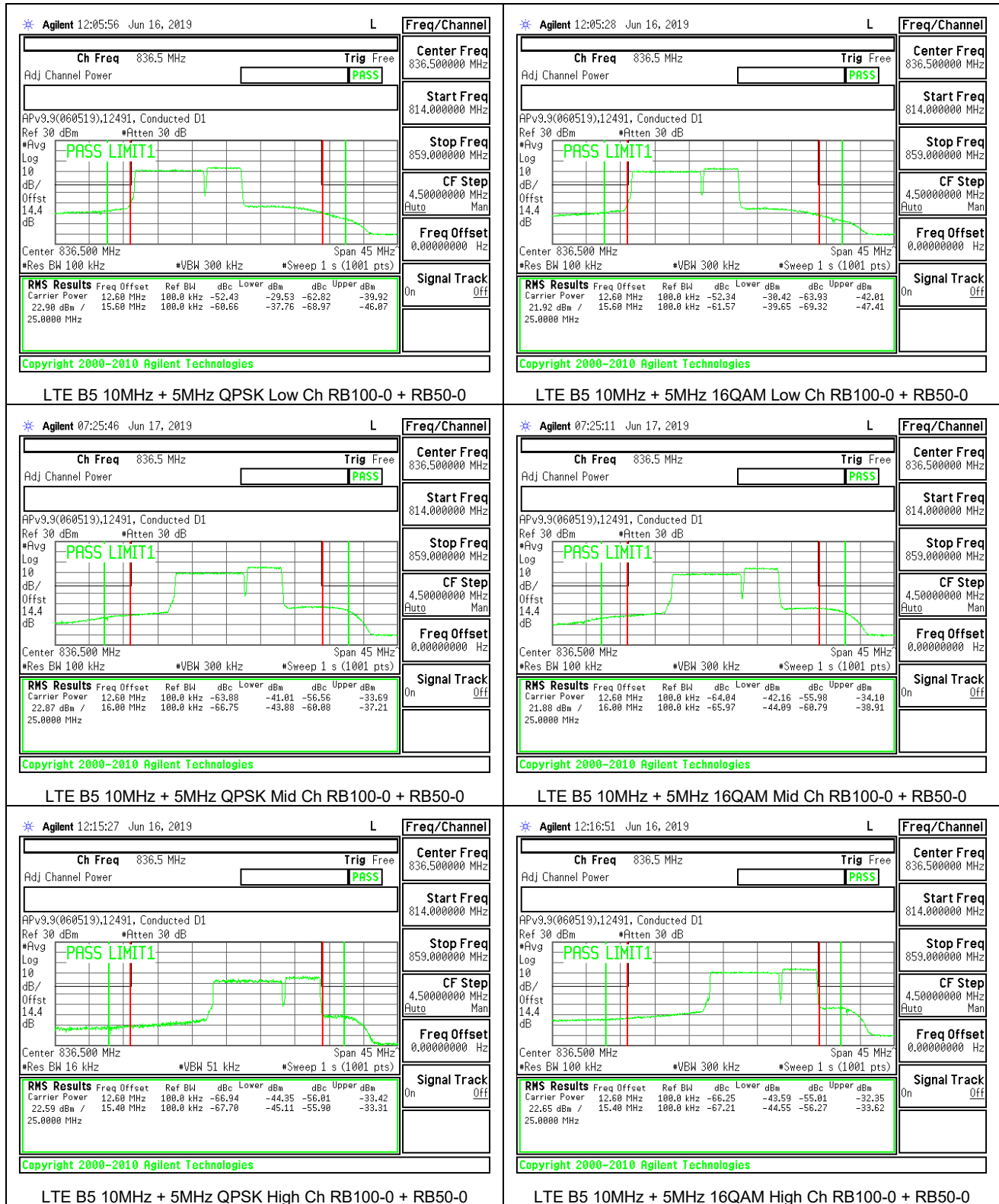
RESULTS

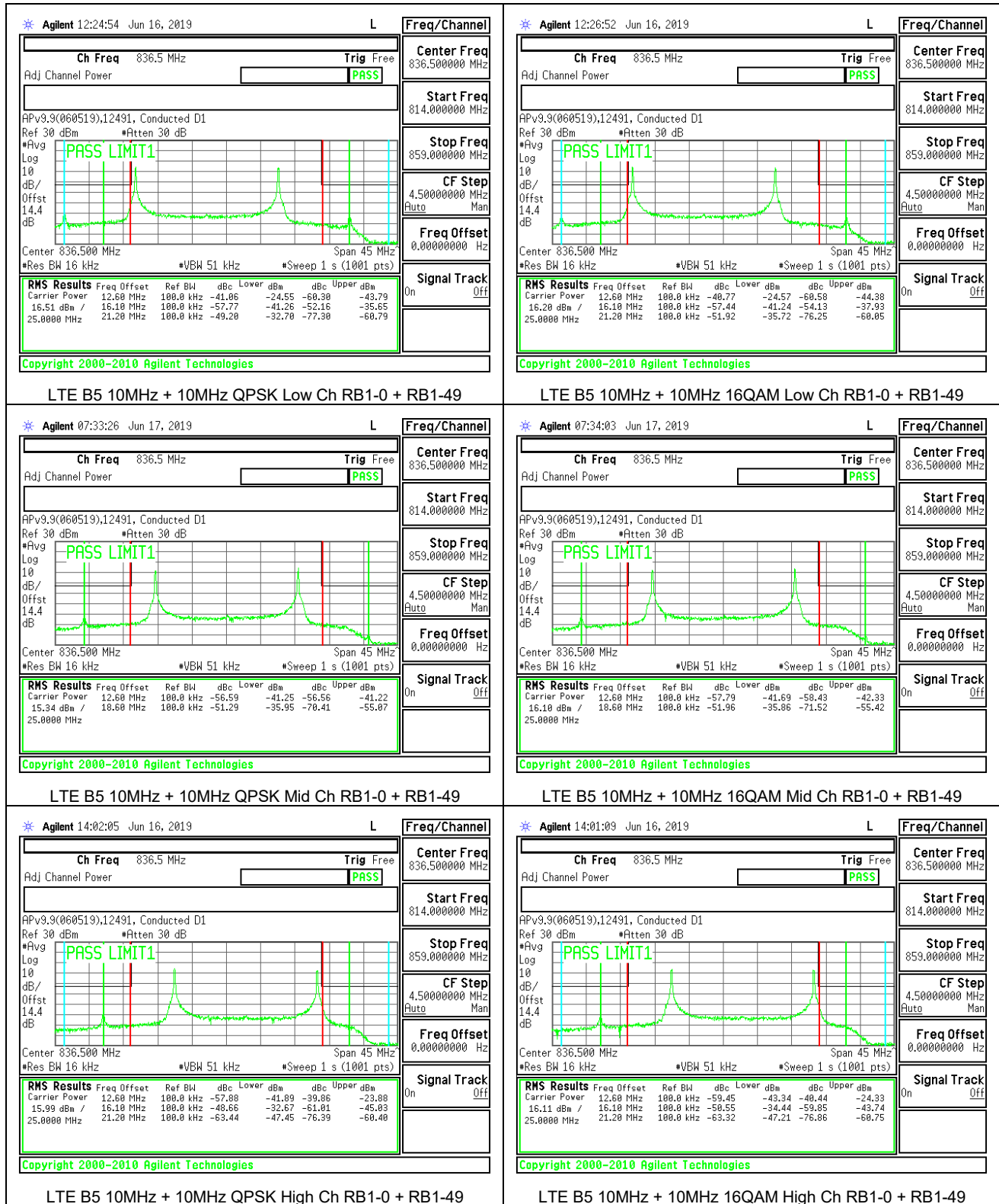
8.2.1. LTE BAND 5

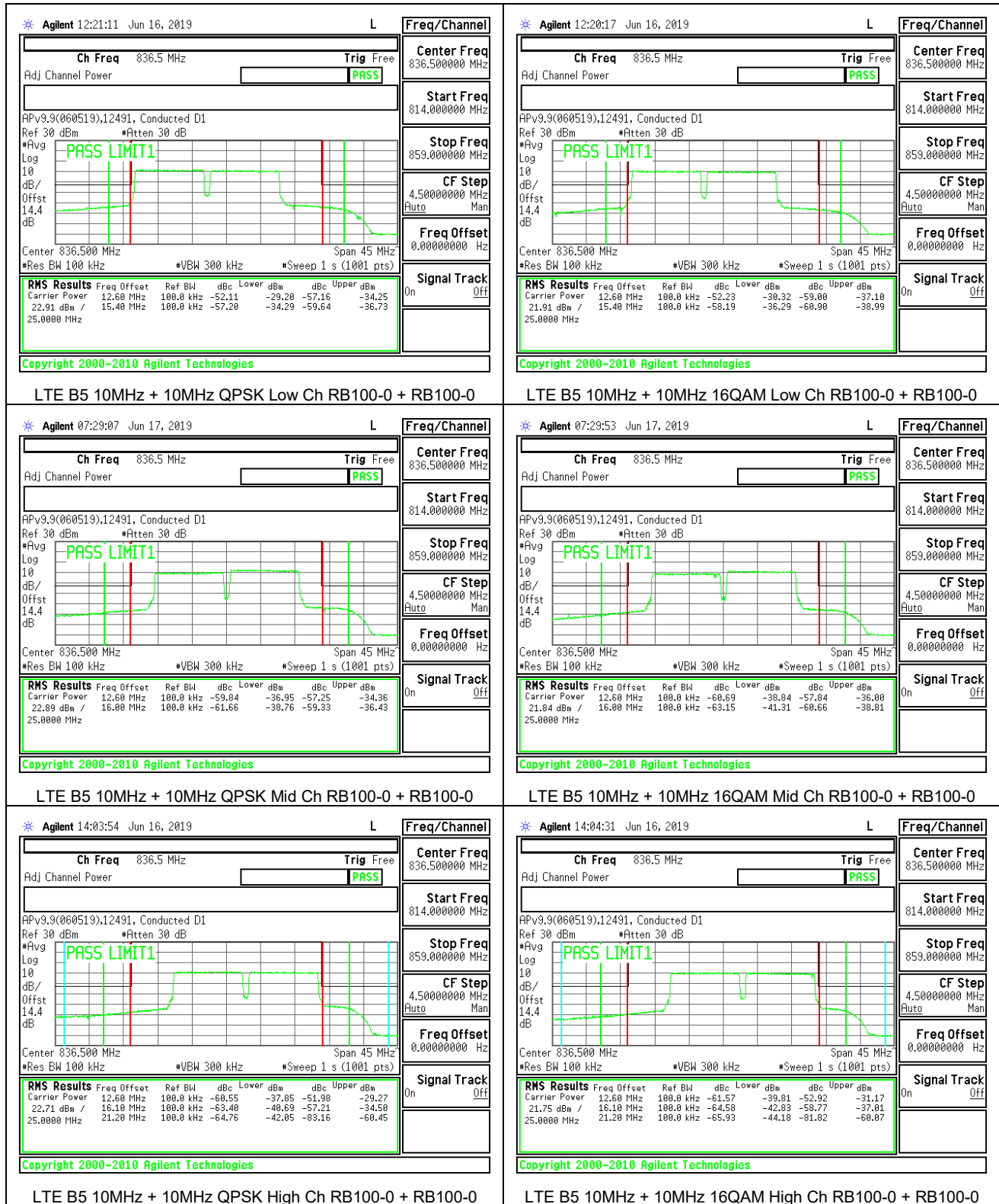




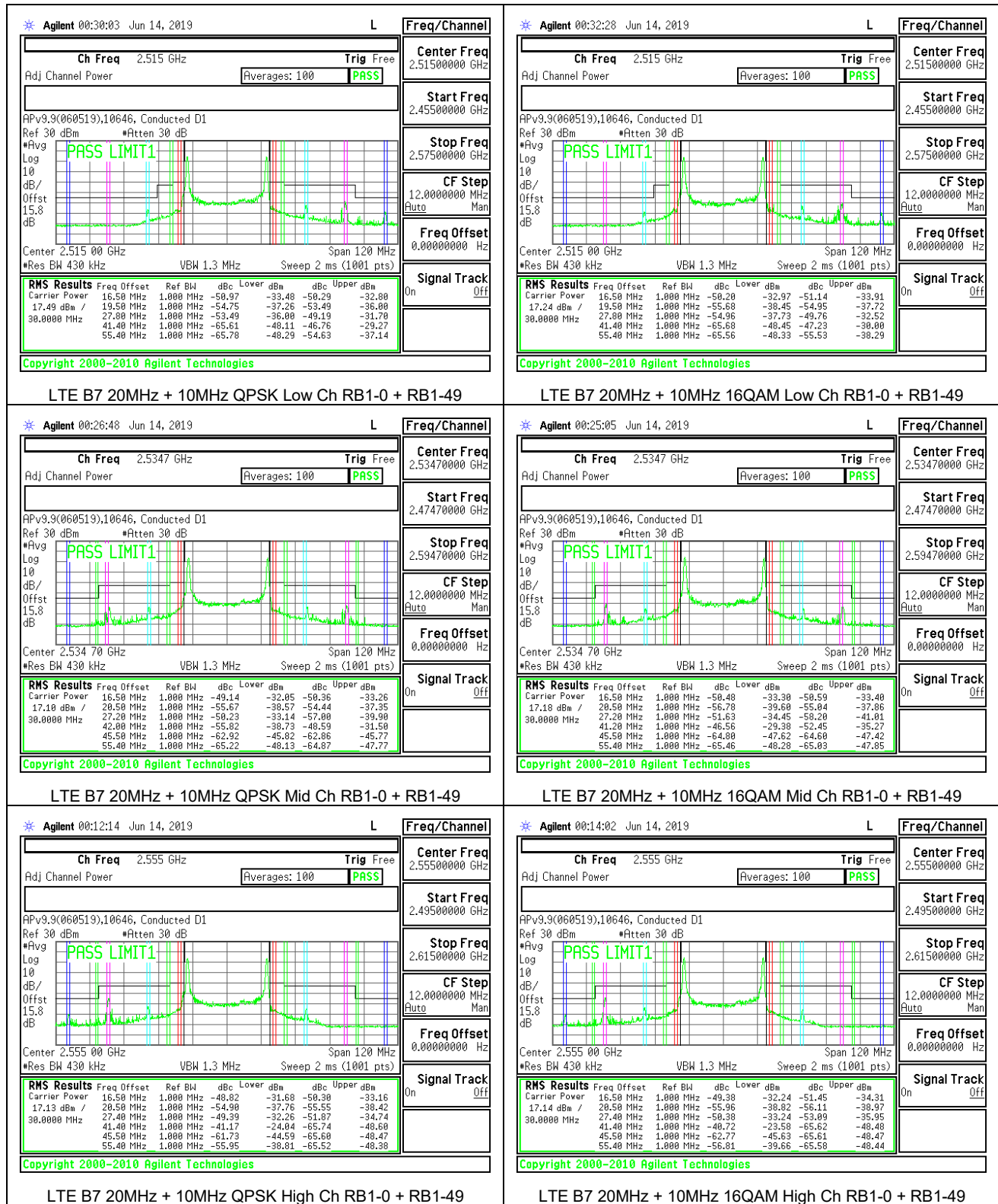


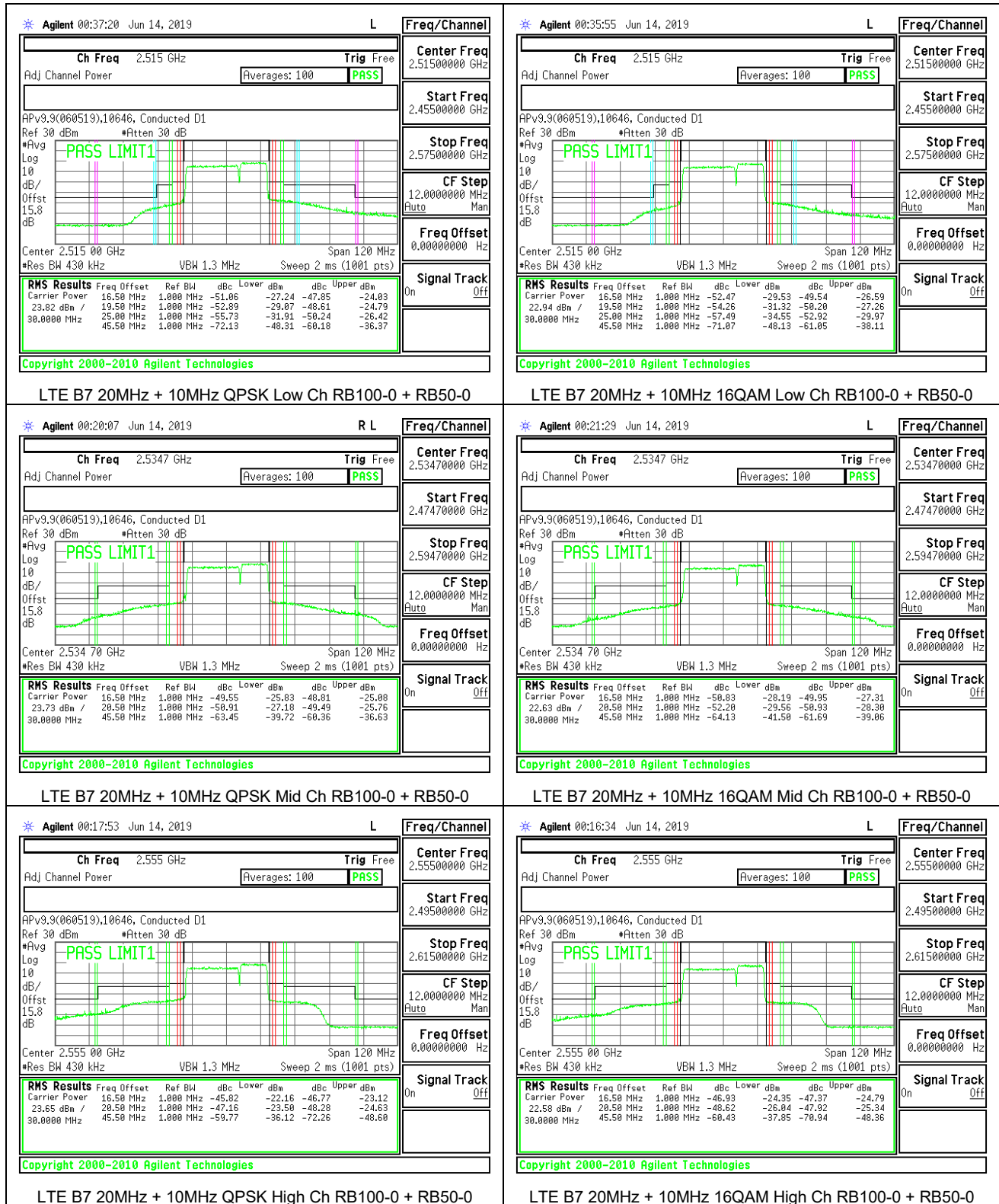


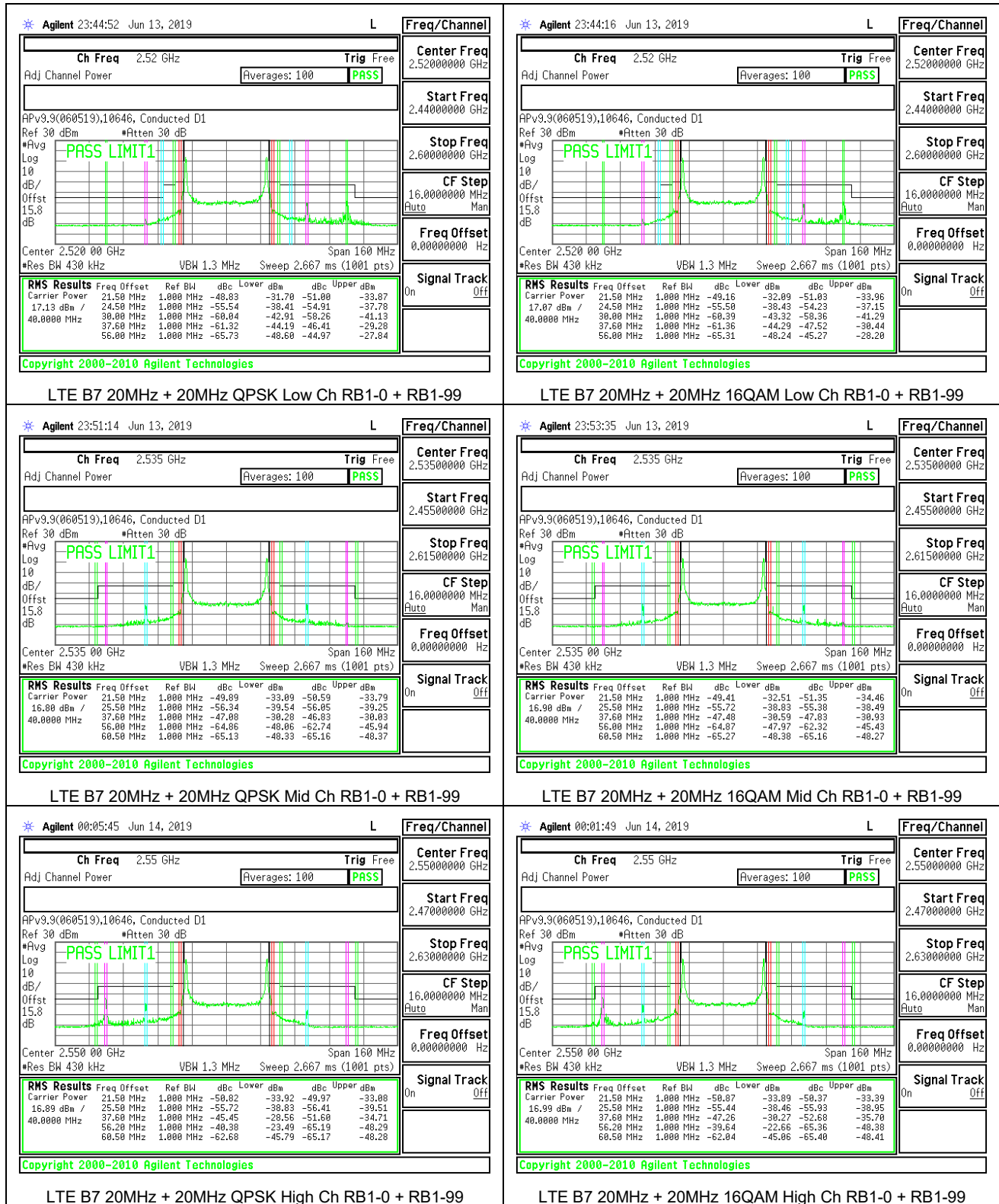


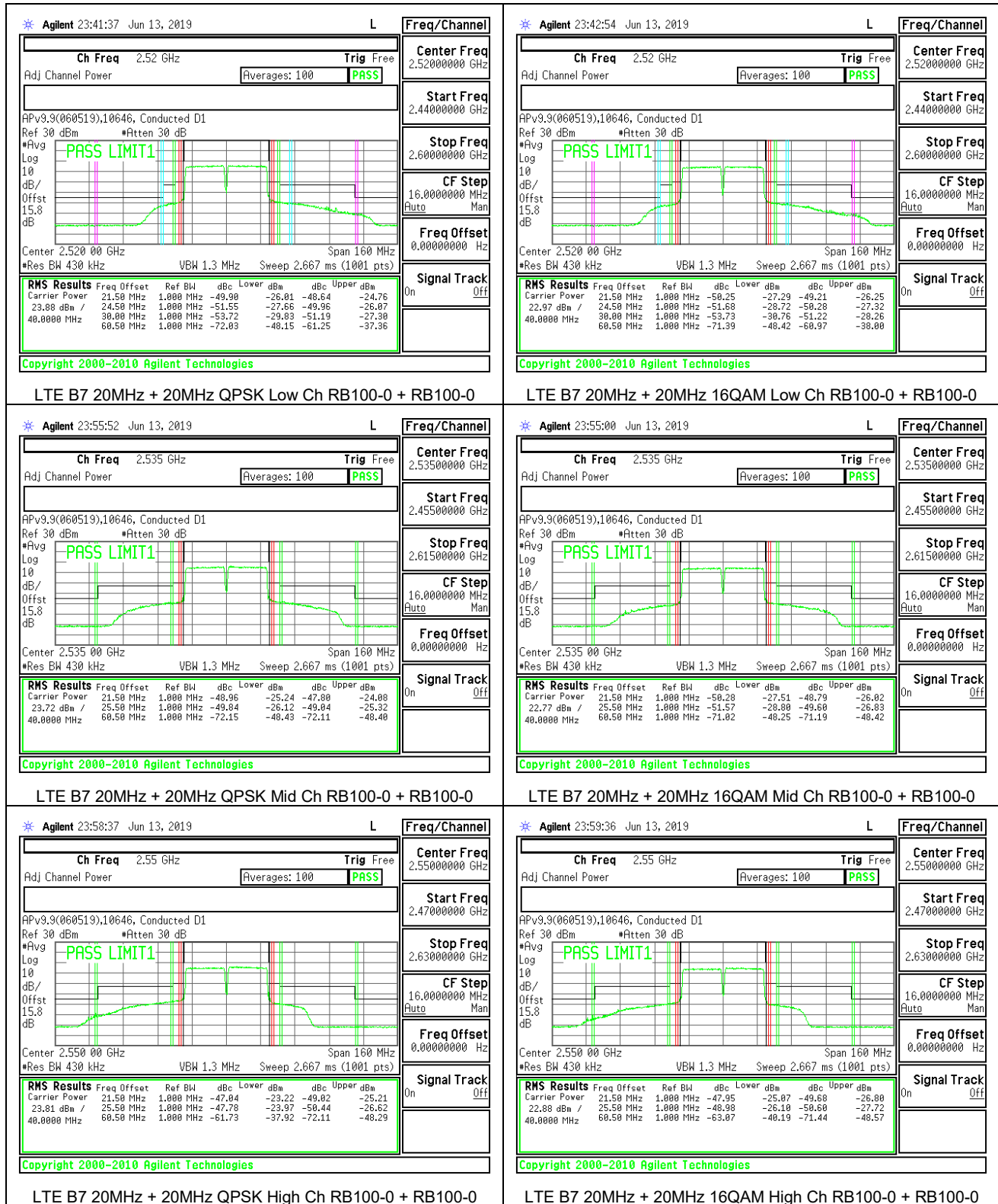


8.2.2. LTE BAND 7

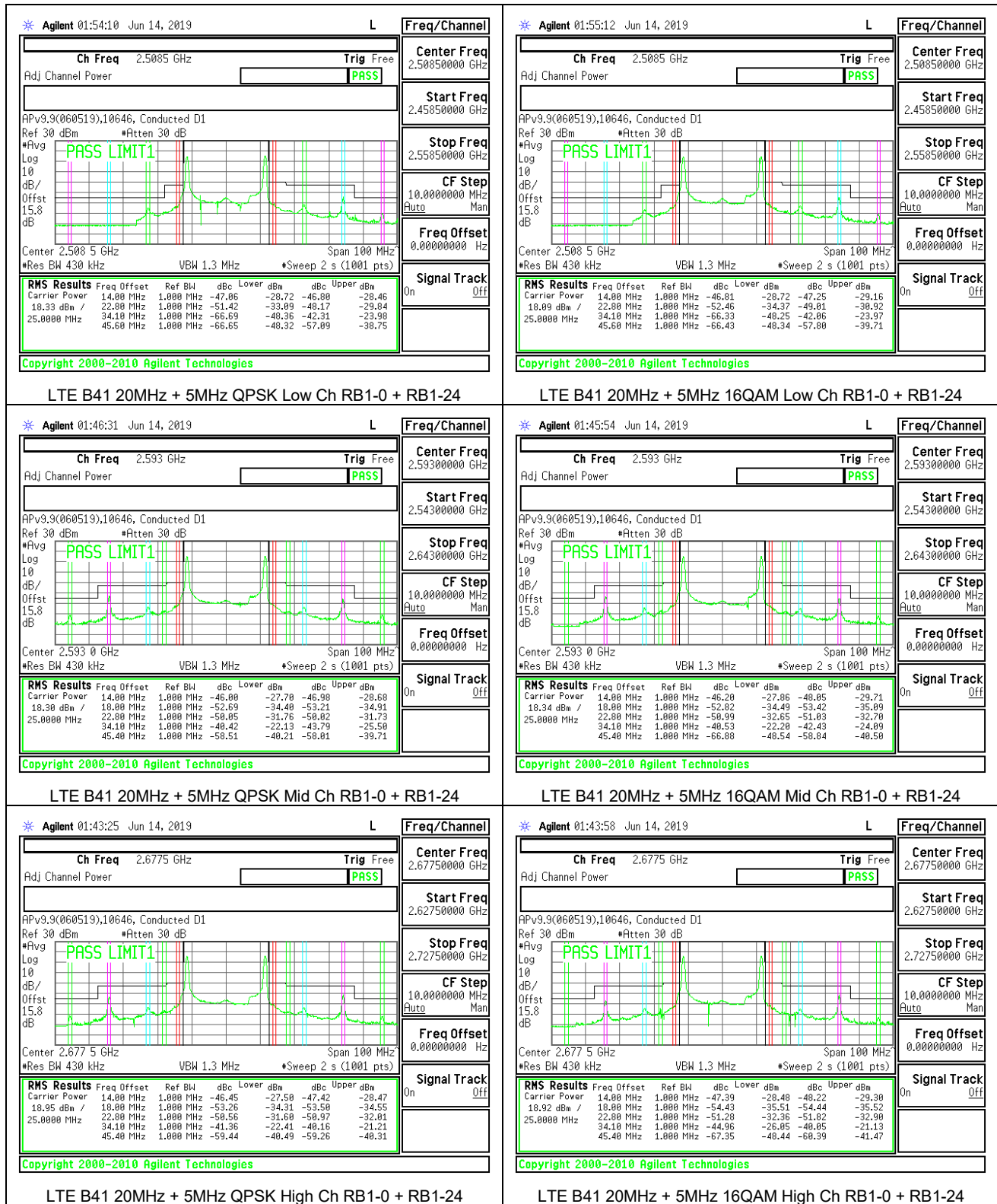


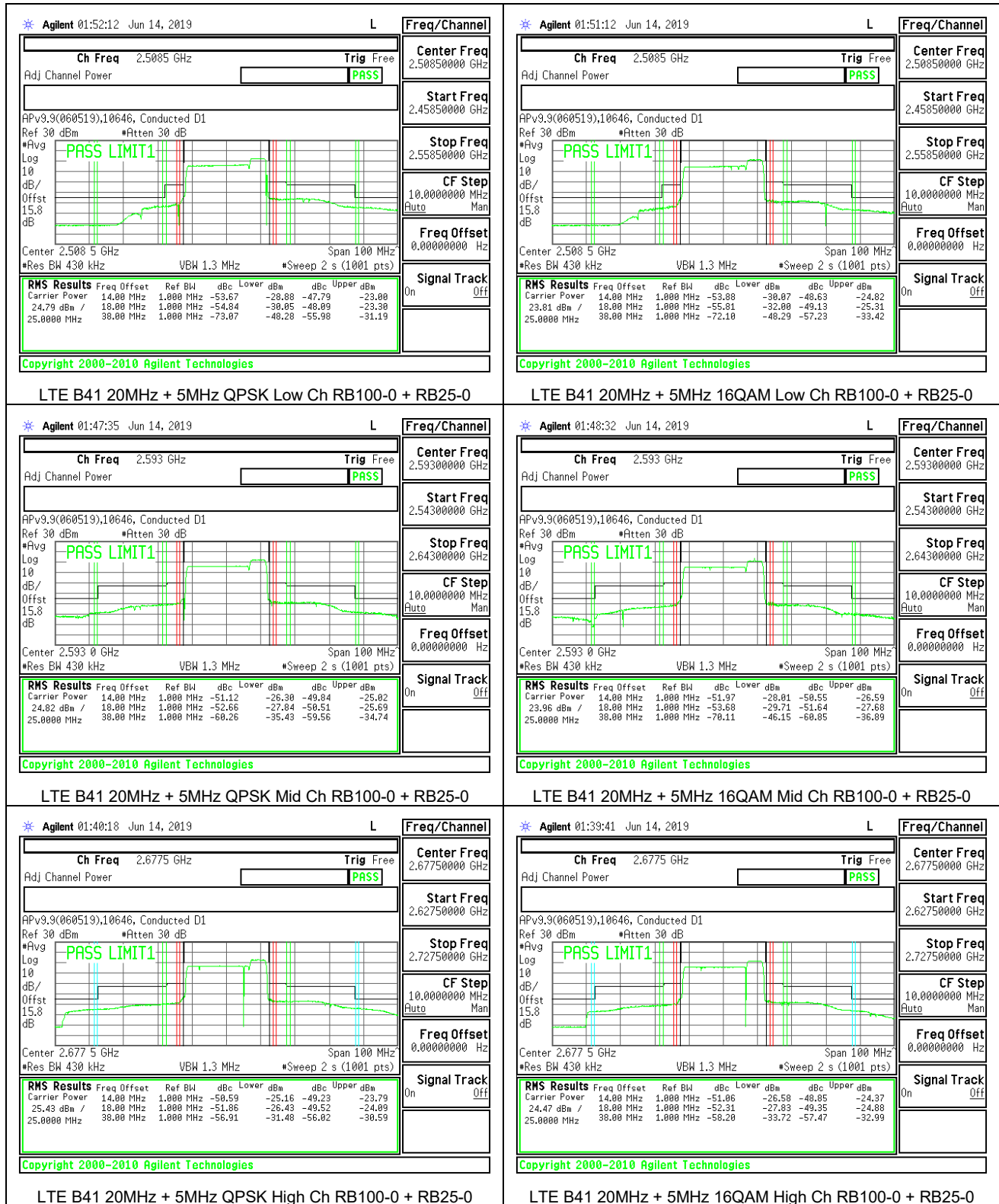


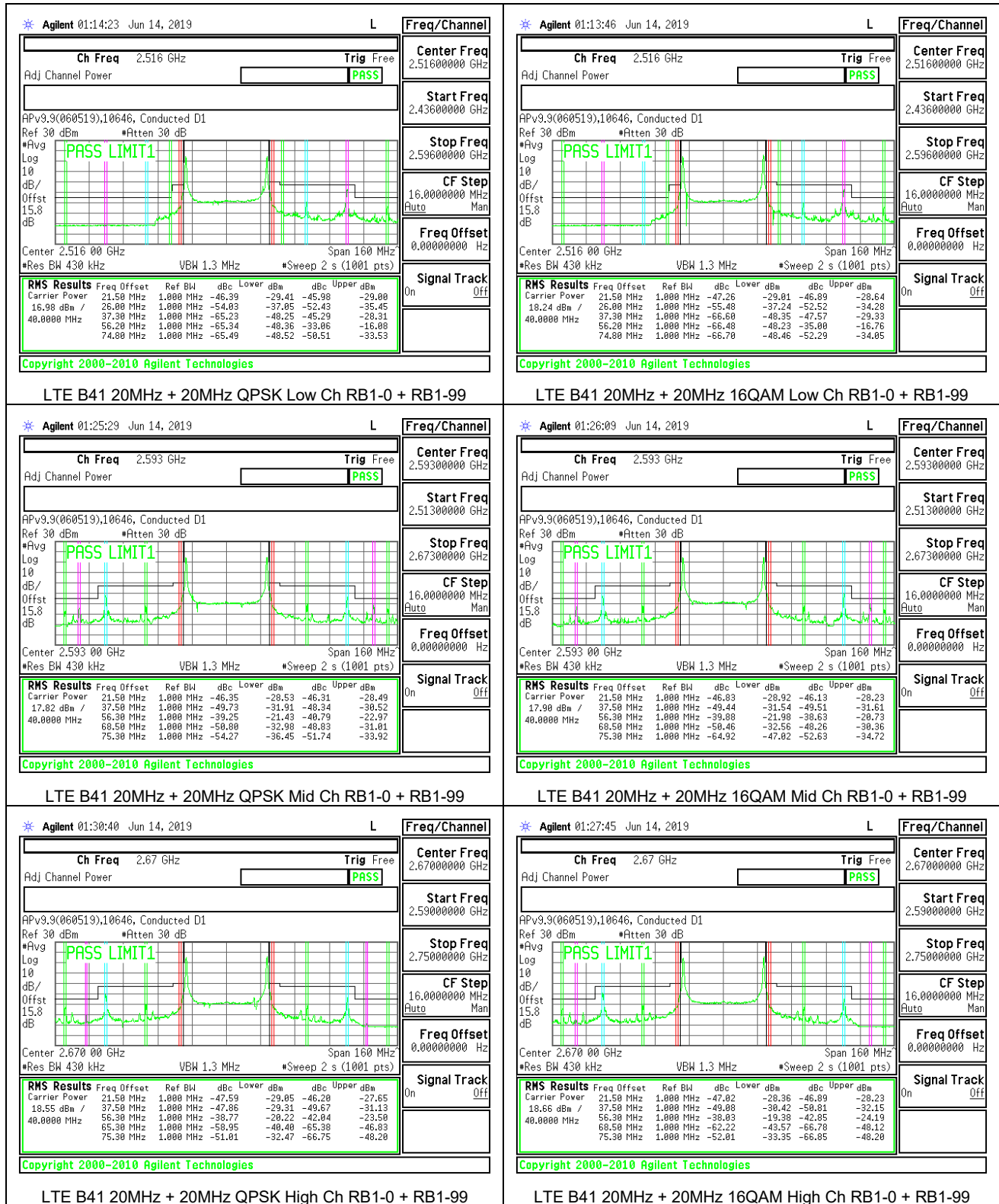


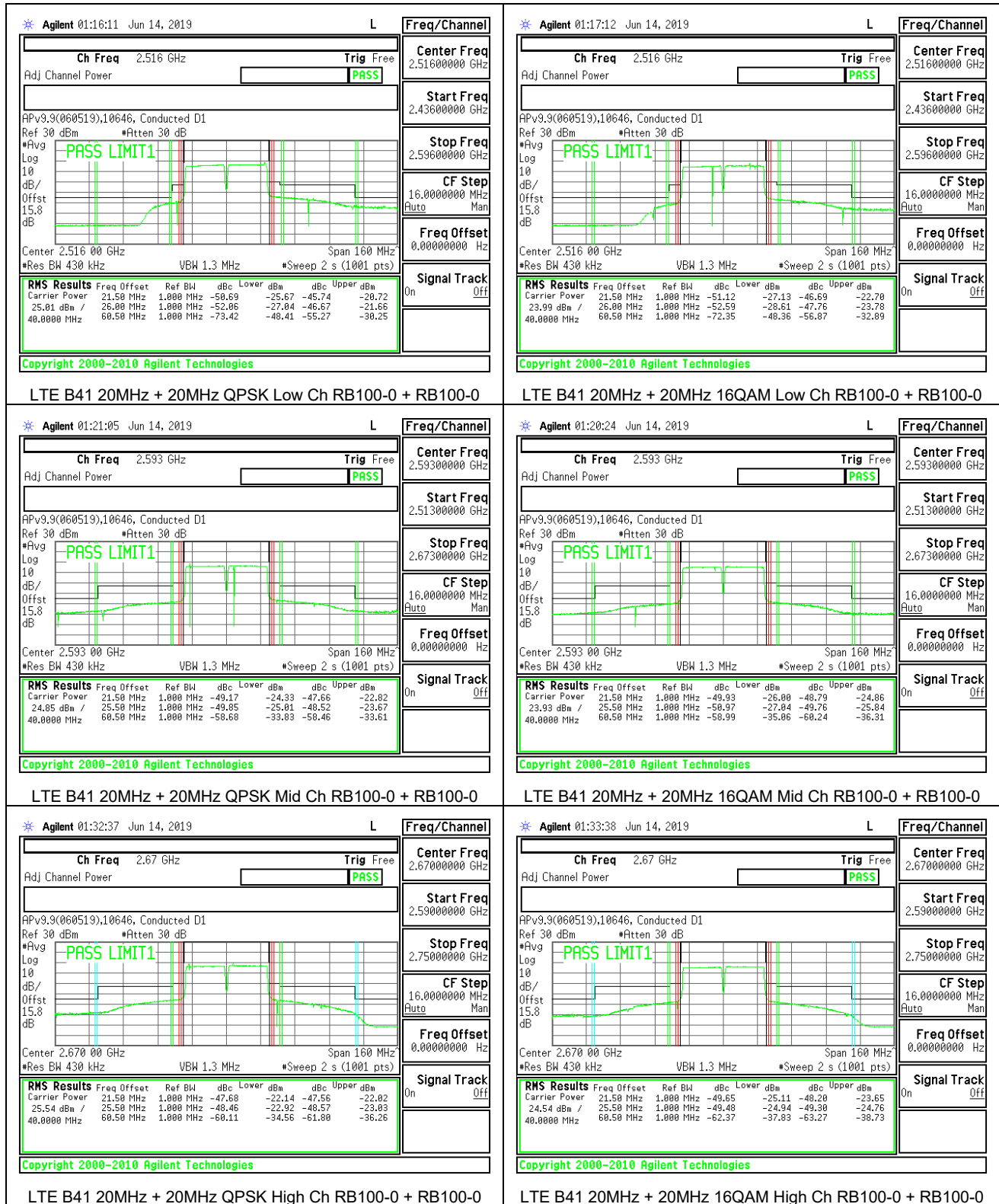


8.2.3. LTE BAND 41









8.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.917, §27.53

LIMITS

FCC: §27.53 (m)

The minimum permissible attenuation level of any spurious emissions is $55 + 10 \log (P)$ dB where transmitting power (P) in Watts.

TEST PROCEDURE

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.

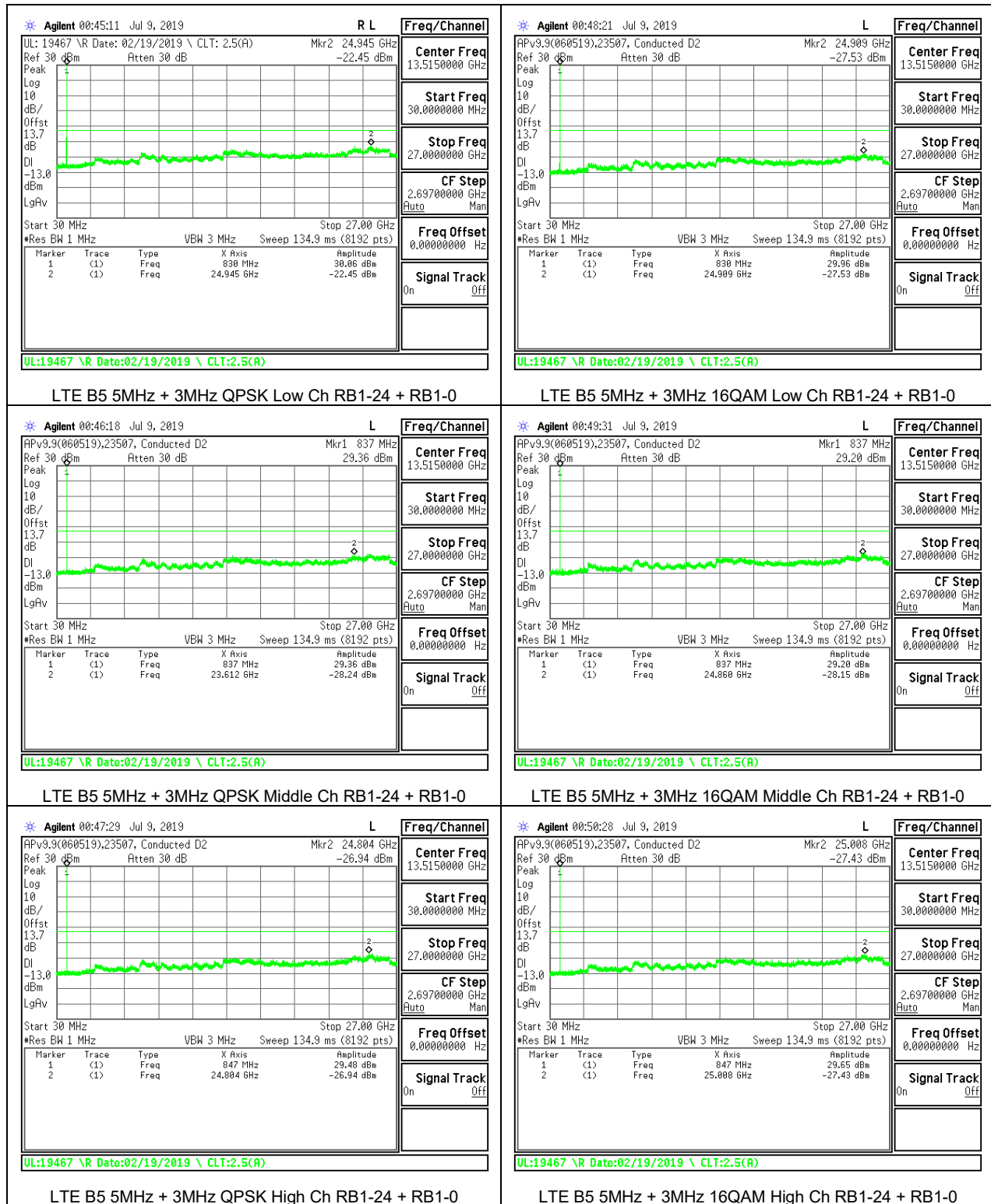
For each out of band emissions measurement:

- Set display line at -25 dBm
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.
(NOTE: Worst case set RBW/VBW to 1MHz/3MHz)

MODES TESTED

- LTE Band 5
- LTE Band 7
- LTE Band 41

8.3.1. LTE BAND 5

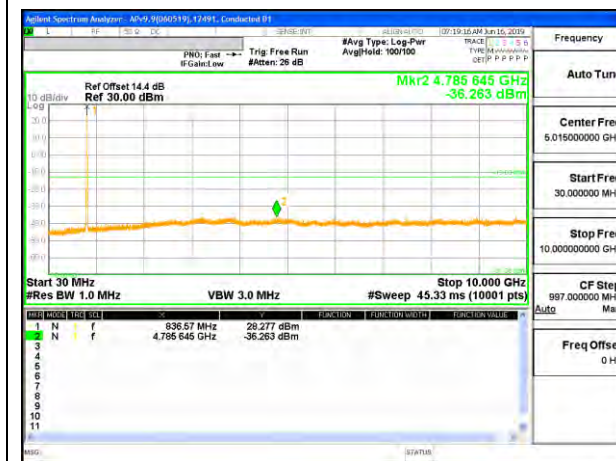




LTE B5 10MHz + 10MHz QPSK Low Ch RB1-49 + RB1-0



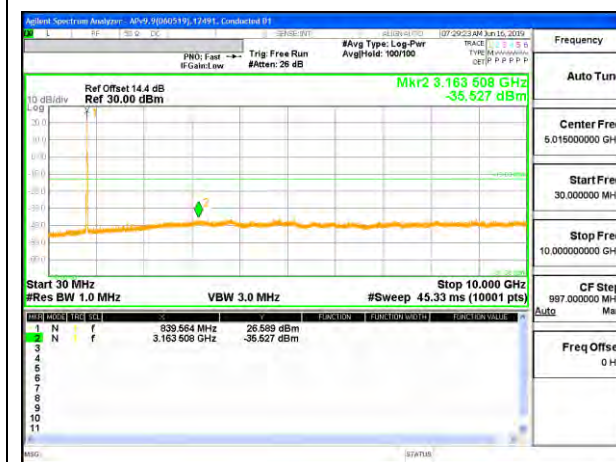
LTE B5 10MHz + 10MHz 16QAM Low Ch RB1-49 + RB1-0



LTE B5 10MHz + 10MHz QPSK Middle Ch RB1-49 + RB1-0



LTE B5 10MHz + 10MHz 16QAM Middle Ch RB1-49 + RB1-0

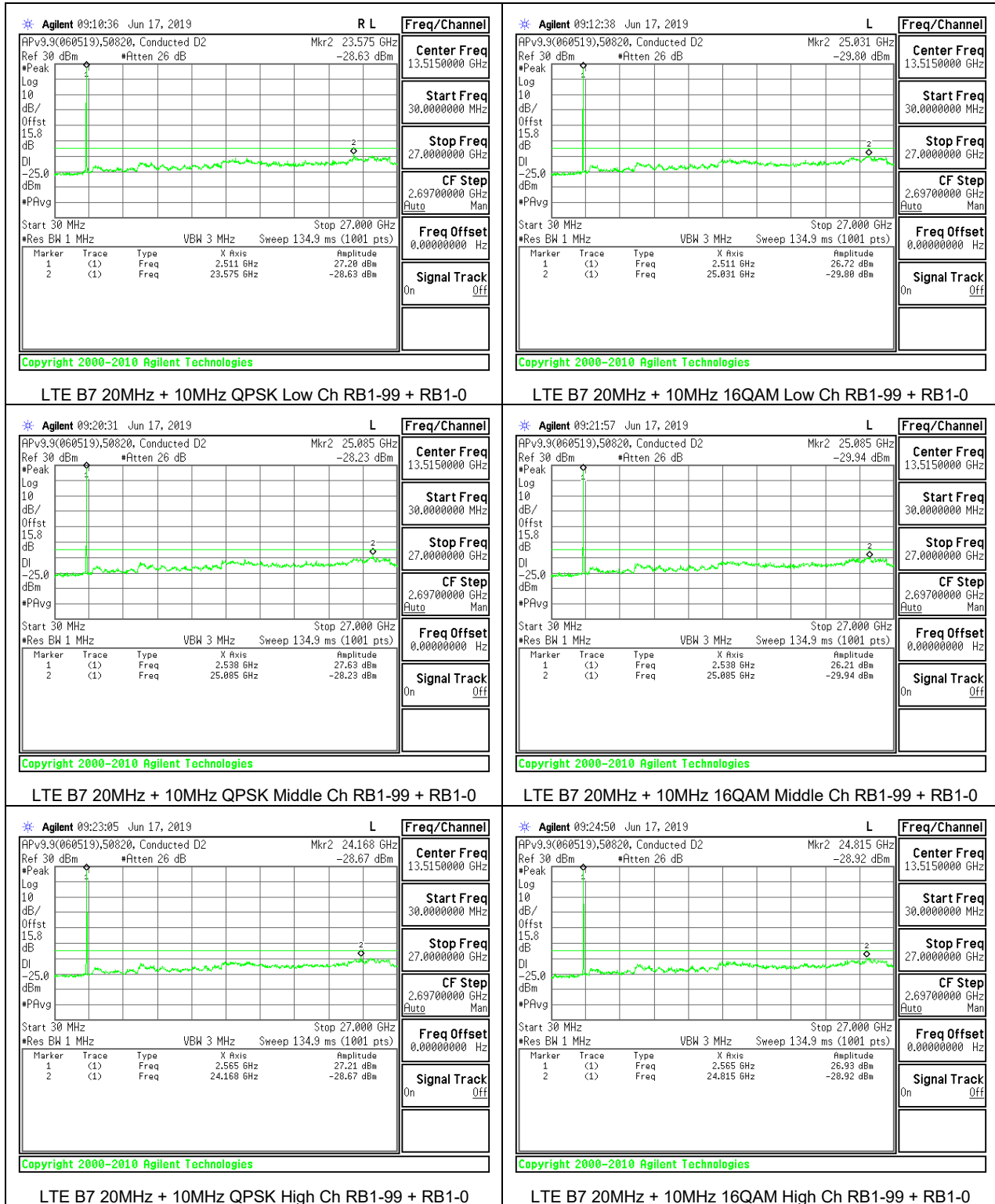


LTE B5 10MHz + 10MHz QPSK High Ch RB1-49 + RB1-0



LTE B5 10MHz + 10MHz 16QAM High Ch RB1-49 + RB1-0

8.3.2. LTE BAND 7

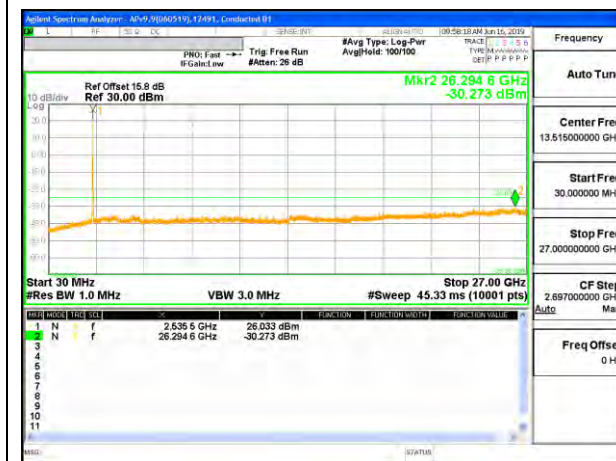




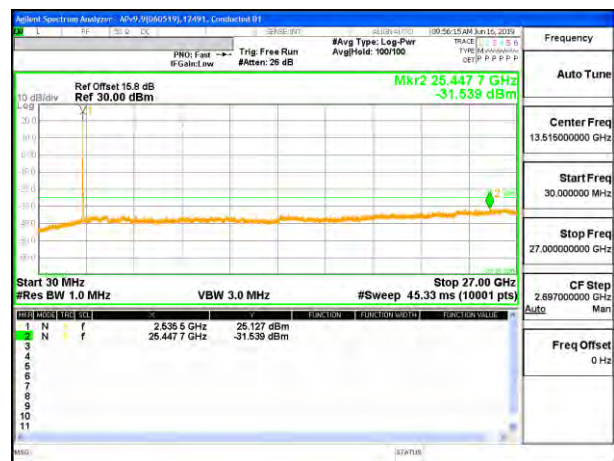
LTE B7 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0



LTE B7 20MHz + 20MHz 16QAM Low Ch RB1-99 + RB1-0



LTE B7 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0



LTE B7 20MHz + 20MHz 16QAM Middle Ch RB1-99 + RB1-0

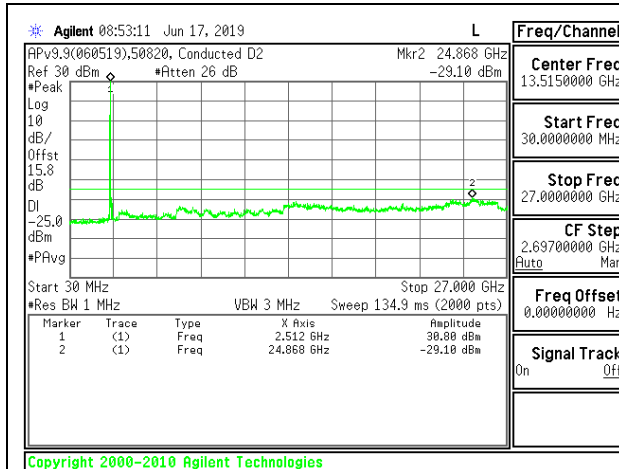


LTE B7 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

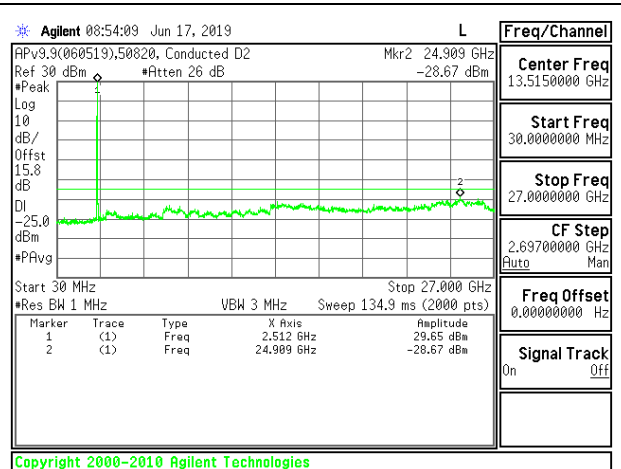


LTE B7 20MHz + 20MHz 16QAM High Ch RB1-99 + RB1-0

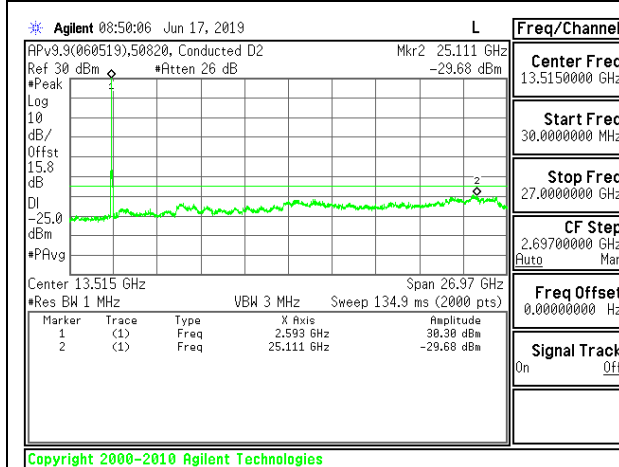
8.3.3. LTE BAND 41



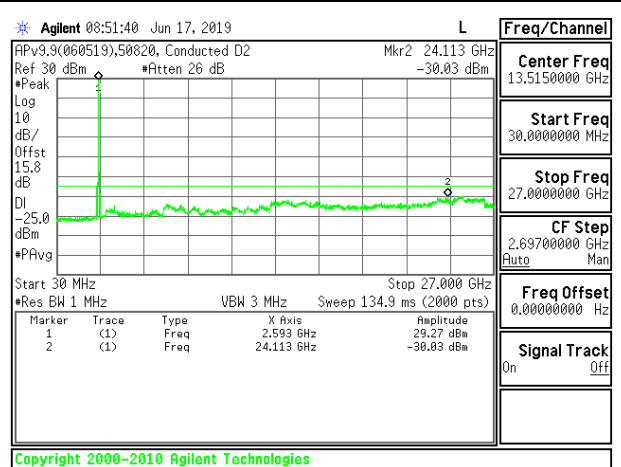
LTE B41 20MHz + 5MHz QPSK Low Ch RB1-99 + RB1-0



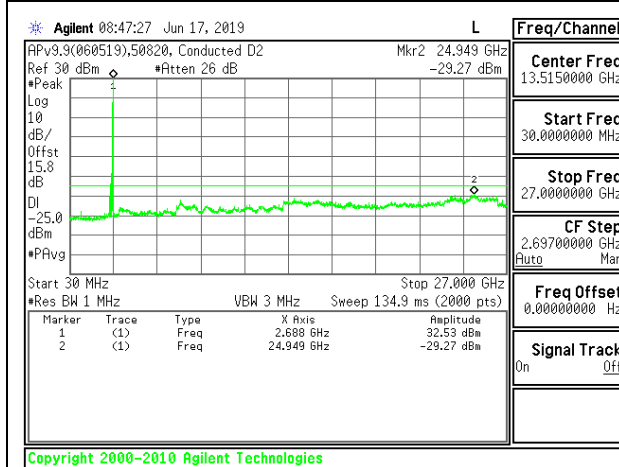
LTE B41 20MHz + 5MHz 16QAM Low Ch RB1-99 + RB1-0



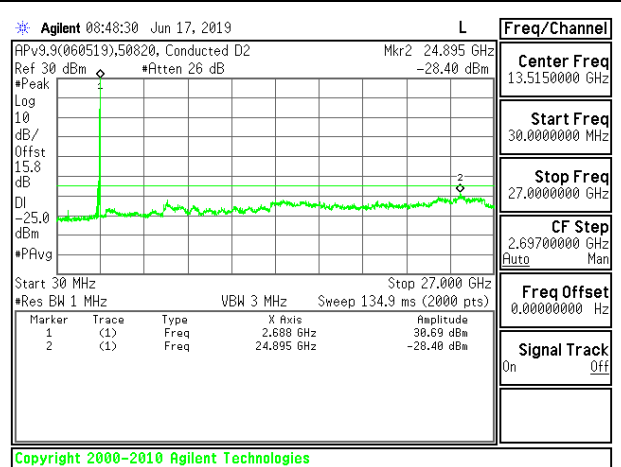
LTE B41 20MHz + 5MHz QPSK Middle Ch RB1-99 + RB1-0



LTE B41 20MHz + 5MHz 16QAM Middle Ch RB1-99 + RB1-0



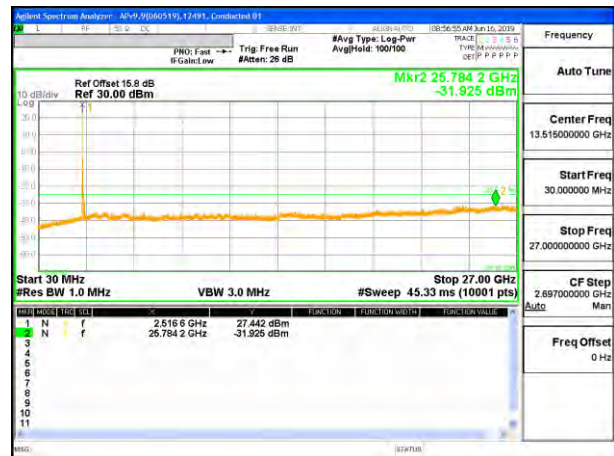
LTE B41 20MHz + 5MHz QPSK High Ch RB1-99 + RB1-0



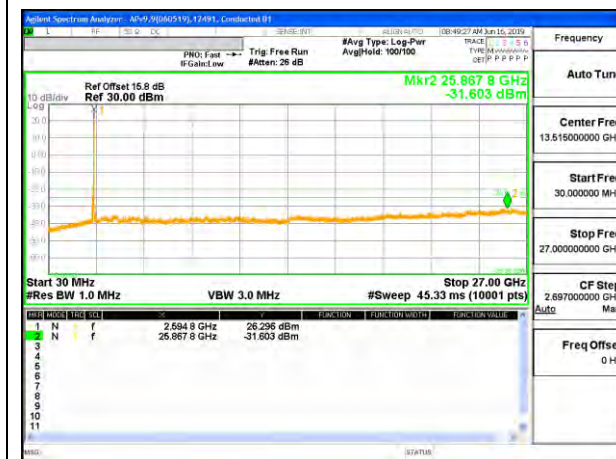
LTE B41 20MHz + 5MHz 16QAM High Ch RB1-99 + RB1-0



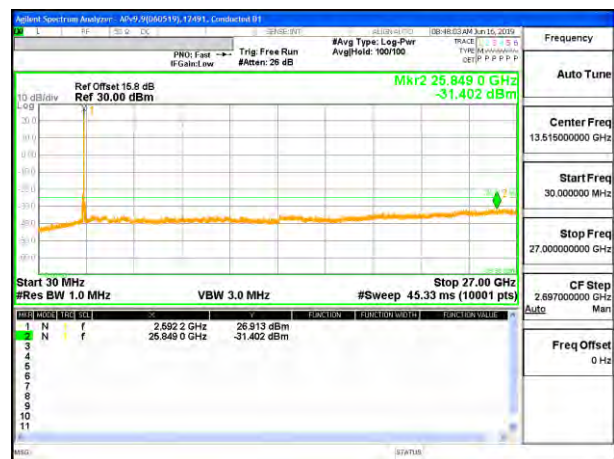
LTE B41 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0



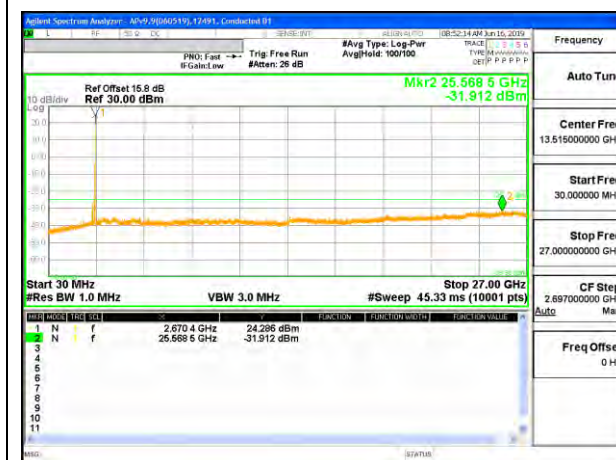
LTE B41 20MHz + 20MHz 16QAM Low Ch RB1-99 + RB1-0



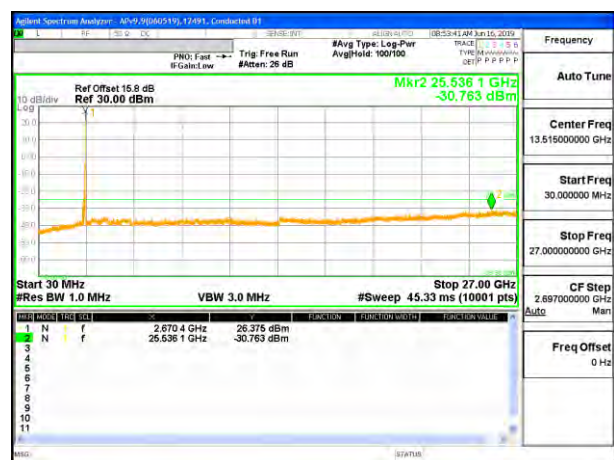
LTE B41 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0



LTE B41 20MHz + 20MHz 16QAM Middle Ch RB1-99 + RB1-0



LTE B41 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0



LTE B41 20MHz + 20MHz 16QAM High Ch RB1-99 + RB1-0

8.4. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §27.54

LIMITS

FCC: §27.54

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

FCC: §22.355

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

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = -30°C to $+50^{\circ}\text{C}$
- Voltage = (85% - 115%)
Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.
End Voltage, 3.2VDC.

Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to 20°C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until $+50^{\circ}\text{C}$ is reached.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

MODES TESTED

- LTE Band 5
- LTE Band 7
- LTE Band 41

RESULTS

See the following pages.

8.4.1. LTE BAND 5

ID:	38602	Date:	5/31/19
-----	-------	-------	---------

QPSK, (10MHz + 5MHz BANDWIDTH)

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.5058	848.4922		
Extreme (50C)		824.5058	848.4922	19.7	0.024
Extreme (40C)		824.5058	848.4922	18.3	0.022
Extreme (30C)		824.5058	848.4922	12.7	0.015
Extreme (10C)		824.5058	848.4922	13.4	0.016
Extreme (0C)		824.5058	848.4922	7.7	0.009
Extreme (-10C)		824.5058	848.4922	1.6	0.002
Extreme (-20C)		824.5058	848.4922	-2.2	-0.003
Extreme (-30C)		824.5058	848.4922	-4.5	-0.005
20C	15%	824.5058	848.4922	11.6	0.014
	-15%	824.5058	848.4922	9.0	0.011
	End Point	824.5058	848.4922	2.8	0.003

QPSK, (10MHz + 10MHz BANDWIDTH)

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.5099	848.4928		
Extreme (50C)		824.5099	848.4928	41.9	0.050
Extreme (40C)		824.5099	848.4928	38.4	0.046
Extreme (30C)		824.5099	848.4928	28.1	0.034
Extreme (10C)		824.5099	848.4928	7.3	0.009
Extreme (0C)		824.5099	848.4928	15.2	0.018
Extreme (-10C)		824.5099	848.4928	-11.7	-0.014
Extreme (-20C)		824.5099	848.4928	-17.4	-0.021
Extreme (-30C)		824.5099	848.4928	-12.0	-0.014
20C	15%	824.5099	848.4928	13.0	0.015
	-15%	824.5099	848.4928	16.5	0.020
	End Point	824.5099	848.4928	14.3	0.017

8.4.2. LTE BAND 7

ID:	38602	Date:	5/31/19
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QPSK, (20MHz + 10MHz BANDWIDTH)

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	2501.0580	2568.6521		
Extreme (50C)		2501.0580	2568.6521	47.6	0.019
Extreme (40C)		2501.0580	2568.6521	41.2	0.016
Extreme (30C)		2501.0580	2568.6521	40.7	0.016
Extreme (10C)		2501.0580	2568.6521	21.7	0.009
Extreme (0C)		2501.0580	2568.6521	-15.7	-0.006
Extreme (-10C)		2501.0580	2568.6521	-24.1	-0.010
Extreme (-20C)		2501.0580	2568.6521	-27.6	-0.011
Extreme (-30C)		2501.0580	2568.6521	-26.6	-0.010
20C	15%	2501.0580	2568.6521	23.6	0.009
	-15%	2501.0580	2568.6521	24.2	0.010
	End Point	2501.0580	2568.6521	23.9	0.009

QPSK, (20MHz + 20MHz BANDWIDTH)

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	2501.0531	2568.6427		
Extreme (50C)		2501.0532	2568.6428	82.4	0.033
Extreme (40C)		2501.0532	2568.6428	78.2	0.031
Extreme (30C)		2501.0532	2568.6428	66.3	0.026
Extreme (10C)		2501.0531	2568.6427	41.1	0.016
Extreme (0C)		2501.0531	2568.6427	-15.5	-0.006
Extreme (-10C)		2501.0531	2568.6427	-40.9	-0.016
Extreme (-20C)		2501.0531	2568.6427	-47.8	-0.019
Extreme (-30C)		2501.0531	2568.6427	-38.2	-0.015
20C	15%	2501.0531	2568.6427	33.5	0.013
	-15%	2501.0531	2568.6427	34.7	0.014
	End Point	2501.0531	2568.6427	33.0	0.013

8.4.3. LTE BAND 41

ID:	31300	Date:	5/31/19
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QPSK, (20MHz + 5MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	2496.8498	2689.2835		
Extreme (50C)		2496.8498	2689.2835	32.3	0.012
Extreme (40C)		2496.8498	2689.2835	26.3	0.010
Extreme (30C)		2496.8498	2689.2835	20.3	0.008
Extreme (10C)		2496.8498	2689.2835	15.6	0.006
Extreme (0C)		2496.8498	2689.2835	-11.5	-0.004
Extreme (-10C)		2496.8498	2689.2835	-19.7	-0.008
Extreme (-20C)		2496.8498	2689.2835	-20.7	-0.008
Extreme (-30C)		2496.8498	2689.2835	-19.9	-0.008
20C	15%	2496.8498	2689.2835	12.7	0.005
	-15%	2496.8498	2689.2835	15.4	0.006
	End Point	2496.8498	2689.2835	16.7	0.006

QPSK, (20MHz + 20MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	2496.8492	2689.2123		
Extreme (50C)		2496.8493	2689.2124	75.6	0.029
Extreme (40C)		2496.8493	2689.2124	63.5	0.025
Extreme (30C)		2496.8493	2689.2124	54.8	0.021
Extreme (10C)		2496.8492	2689.2123	20.7	0.008
Extreme (0C)		2496.8492	2689.2123	-22.4	-0.009
Extreme (-10C)		2496.8492	2689.2123	-40.4	-0.016
Extreme (-20C)		2496.8492	2689.2123	-42.0	-0.016
Extreme (-30C)		2496.8492	2689.2123	-47.2	-0.018
20C	15%	2496.8492	2689.2123	20.1	0.008
	-15%	2496.8492	2689.2123	23.8	0.009
	End Point	2496.8492	2689.2123	22.2	0.009

8.5. PEAK-TO-AVERAGE POWER RATIO

LIMIT

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

RESULT

Test was performed on Ant 1; full resource block (FRB) for each bandwidth was used to measure as the worst case. The results from all CCDF measurements are passed with 13dB peak-to-average ratio criteria.

8.5.1. LTE BAND 5

ID:	10646	Date:	6/16/19
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Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 5	3MHz / 5MHz	834.1	838.0	QPSK	32.71	25.78	6.93
				16QAM	32.80	25.83	6.97
	5 MHz / 3MHz	835.1	839.0	QPSK	31.97	23.08	8.89
				16QAM	31.52	22.05	9.47
	5MHz / 10MHz	831.8	839.0	QPSK	32.49	23.60	8.89
				16QAM	32.45	22.61	9.84
	10MHz / 5MHz	834.3	841.5	QPSK	32.38	23.48	8.90
				16QAM	32.41	22.56	9.85
	10MHz / 10MHz	831.6	841.5	QPSK	31.84	23.42	8.42
				16QAM	31.78	22.44	9.34
Duty Cycle Correction Factor (dB) =			0.00				

8.5.2. LTE BAND 7

ID:	10646	Date:	6/16/19
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Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 7	10MHz / 20MHz	2525.6	2540.0	QPSK	31.07	24.04	7.03
				16QAM	31.07	23.07	8.00
	15 MHz / 15MHz	2527.5	2542.5	QPSK	31.05	24.05	7.00
				16QAM	31.04	23.02	8.02
	15MHz / 20MHz	2525.3	2542.4	QPSK	31.01	24.10	6.91
				16QAM	30.89	23.10	7.79
	20MHz / 10MHz	2530.1	2544.5	QPSK	31.45	24.04	7.41
				16QAM	31.31	23.06	8.25
	20MHz / 15MHz	2527.6	2544.7	QPSK	31.26	24.08	7.18
				16QAM	31.28	23.13	8.15
20MHz / 20MHz	2525.1	2544.9	QPSK	31.17	24.09	7.08	
			16QAM	31.18	23.10	8.08	
Duty Cycle Correction Factor (dB) =			0.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

8.5.3. LTE BAND 41

ID:	10646	Date:	6/16/19
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Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 41 (FCC)	5MHz / 20MHz	2583.8	2595.5	QPSK	33.62	18.34	8.28
				16QAM	33.20	17.32	8.88
	10MHz / 20MHz	2583.6	2598.0	QPSK	33.28	18.26	8.02
				16QAM	33.14	17.31	8.83
	15MHz / 15MHz	2585.5	2600.5	QPSK	33.49	18.32	8.17
				16QAM	33.44	17.36	9.08
	15MHz / 20MHz	2583.3	2600.4	QPSK	33.40	18.35	8.05
				16QAM	33.14	17.35	8.79
	20MHz / 5MHz	2590.5	2602.2	QPSK	33.76	18.40	8.36
				16QAM	33.61	17.45	9.16
	20MHz / 10MHz	2588.1	2602.5	QPSK	33.65	18.34	8.31
				16QAM	33.70	17.35	9.35
	20MHz / 15MHz	2585.6	2602.7	QPSK	33.70	18.37	8.33
				16QAM	33.14	17.37	8.77
	20MHz / 20MHz	2583.1	2602.9	QPSK	33.02	18.33	7.69
				16QAM	33.28	17.37	8.91
Duty Cycle Correction Factor (dB) =			7.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9. RADIATED TEST RESULTS

9.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 1

RULE PART(S)

FCC: §2.1053, §22.917, §27.53

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ 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.

TEST PROCEDURE

KDB 971168 D01/D02 v03r01/v02r01

MODES TESTED

- LTE Band 5
- LTE Band 7
- LTE Band 41

9.1.1. LTE BAND 5

Company:	
Project #:	12886634
Date:	6/3/2019
Test Engineer:	50822
Configuration:	EUT Only
Mode:	LTE 5 QPSK 10MHz + 10MHz
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz									
1.681	-66.34	Pk	28.7	-32.7	10.9	-59.44	-13	-46.44	H
1.687	-67.53	Pk	28.7	-32.8	9.8	-61.83	-13	-48.83	V
2.502	-65.74	Pk	32.4	-31.6	9.4	-55.54	-13	-42.54	V
2.511	-67.59	Pk	32.4	-31.5	9.1	-57.59	-13	-44.59	H
3.36	-68.21	Pk	32.8	-30.3	9.9	-55.81	-13	-42.81	V
3.674	-67.46	Pk	33.1	-30	10.4	-53.96	-13	-40.96	V
Mid Channel 831.5MHz + 841.4MHz									
1.669	-66.75	Pk	28.6	-32.8	8.9	-62.05	-13	-49.05	V
1.689	-66.53	Pk	28.7	-32.7	10.5	-60.03	-13	-47.03	H
2.53	-66.85	Pk	32.4	-31.4	9.5	-56.35	-13	-43.35	V
2.54	-67.63	Pk	32.3	-31.4	8.8	-57.93	-13	-44.93	H
3.667	-67.8	Pk	33	-30.2	10	-55.00	-13	-42.00	H
3.674	-67.46	Pk	33.1	-30	10.4	-53.96	-13	-40.96	V
High Channel 834.1MHz + 844MHz									
1.678	-66.14	Pk	28.7	-32.7	9.1	-61.04	-13	-48.04	V
1.698	-65.46	Pk	28.7	-32.7	10	-59.46	-13	-46.46	H
2.517	-66.53	Pk	32.4	-31.5	9.5	-56.13	-13	-43.13	V
2.526	-66.81	Pk	32.4	-31.4	9.2	-56.61	-13	-43.61	H
3.367	-67.04	Pk	32.8	-30.3	9.9	-54.64	-13	-41.64	V
3.371	-67.52	Pk	32.7	-30.3	9.4	-55.72	-13	-42.72	H

Pk - Peak detector

Company:	
Project #:	12886634
Date:	6/3/2019
Test Engineer:	50822
Configuration:	EUT Only
Mode:	LTE 5 16QAM 10MHz + 10MHz
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz									
1.669	-66.96	Pk	28.6	-32.8	8.9	-62.26	-13	-49.26	V
1.674	-66.94	Pk	28.7	-32.9	10.5	-60.64	-13	-47.64	H
2.51	-66.8	Pk	32.4	-31.6	9.3	-56.70	-13	-43.70	V
2.515	-67.5	Pk	32.4	-31.5	9.2	-57.40	-13	-44.40	H
3.346	-68.41	Pk	32.8	-30.4	9.3	-56.71	-13	-43.71	V
3.364	-68.04	Pk	32.8	-30.3	9.5	-56.04	-13	-43.04	H
Mid Channel 831.5MHz + 841.4MHz									
1.687	-66.83	Pk	28.7	-32.8	10.7	-60.23	-13	-47.23	H
1.689	-66.89	Pk	28.7	-32.7	9.7	-61.19	-13	-48.19	V
2.529	-67.61	Pk	32.4	-31.4	9.6	-57.01	-13	-44.01	V
2.534	-66.98	Pk	32.3	-31.4	9.1	-56.98	-13	-43.98	H
3.359	-67.45	Pk	32.8	-30.3	9.9	-55.05	-13	-42.05	V
3.364	-67.48	Pk	32.8	-30.3	9.5	-55.48	-13	-42.48	H
High Channel 834.1MHz + 844MHz									
1.644	-65.4	Pk	28.5	-32.9	10.7	-59.10	-13	-46.10	V
1.677	-66.4	Pk	28.7	-32.8	10.5	-60.00	-13	-47.00	H
2.518	-65.9	Pk	32.4	-31.5	9.4	-55.60	-13	-42.60	V
2.524	-66.53	Pk	32.3	-31.5	9.2	-56.53	-13	-43.53	H
3.363	-67.8	Pk	32.8	-30.2	9.7	-55.50	-13	-42.50	V
3.37	-67.86	Pk	32.7	-30.3	9.5	-55.96	-13	-42.96	H

Pk - Peak detector

9.1.2. LTE BAND 7

Company:	
Project #:	12886634
Date:	5/29/2019
Test Engineer:	50822
Configuration:	EUT Only
Mode:	LTE Band 7 20/20 QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz									
4.388	-78.47	Pk	33.7	-29	9.1	-64.67	-25	-39.67	H
10.603	-82.39	Pk	37.9	-22.1	8.1	-58.49	-25	-33.49	V
5.151	-78.08	Pk	34.3	-28.7	9.1	-63.38	-25	-38.38	V
6.778	-79.42	Pk	35.5	-27.3	7.4	-63.82	-25	-38.82	V
7.814	-79.73	Pk	35.8	-25.9	7.8	-62.03	-25	-37.03	H
12.829	-82.63	Pk	39.1	-21.4	9.5	-55.43	-25	-30.43	H
Mid Channel 2525.1MHz + 2544.9MHz									
3.635	-77.9	Pk	32.9	-29.8	9.3	-65.50	-25	-40.50	H
4.4	-78.21	Pk	33.6	-29	9.9	-63.71	-25	-38.71	H
5.002	-78.97	Pk	34.1	-28.5	9.4	-63.97	-25	-38.97	H
3.826	-77.58	Pk	33.6	-29.6	9.7	-63.88	-25	-38.88	V
4.241	-78.21	Pk	33.5	-29.2	9.3	-64.61	-25	-39.61	V
5.557	-78.67	Pk	34.7	-28.4	8.8	-63.57	-25	-38.57	V
High Channel 2540.2MHz + 2560MHz									
5.091	-68.99	Pk	34.2	-28.7	8.9	-54.59	-25	-29.59	V
5.094	-68.67	Pk	34.2	-28.7	9.2	-53.97	-25	-28.97	H
7.644	-70.69	Pk	35.7	-26.1	7.5	-53.59	-25	-28.59	V
7.647	-70.66	Pk	35.7	-26.1	7.6	-53.46	-25	-28.46	H
10.195	-72.38	Pk	37.3	-22.4	7.1	-50.38	-25	-25.38	H
10.199	-71.1	Pk	37.3	-22.5	7	-49.30	-25	-24.30	V

Pk - Peak detector

Company:	
Project #:	12886634
Date:	5/29/2019
Test Engineer:	50822
Configuration:	EUT Only
Mode:	LTE Band 7 20/20 16QAM
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz									
4.997	-69.7	Pk	34.1	-28.3	9.9	-54.00	-25	-29.00	V
5.021	-69.13	Pk	34.1	-28.6	8.6	-55.03	-25	-30.03	H
7.555	-70.73	Pk	35.7	-26.5	7.2	-54.33	-25	-29.33	V
7.556	-70.55	Pk	35.7	-26.5	7.3	-54.05	-25	-29.05	H
10.064	-73.03	Pk	37.2	-22.8	8	-50.63	-25	-25.63	V
10.068	-72.35	Pk	37.2	-22.8	7.9	-50.05	-25	-25.05	H
Mid Channel 2525.1MHz + 2544.9MHz									
5.056	-69.1	Pk	34.2	-28.7	8.9	-54.70	-25	-29.70	H
5.064	-67.93	Pk	34.2	-28.8	8.8	-53.73	-25	-28.73	V
7.593	-70.74	Pk	35.6	-26.2	7	-54.34	-25	-29.34	V
7.604	-71.02	Pk	35.7	-26.3	7.7	-53.92	-25	-28.92	H
10.119	-72.61	Pk	37.2	-22.7	6.9	-51.21	-25	-26.21	V
10.123	-72.9	Pk	37.2	-22.8	6.7	-51.80	-25	-26.80	H
High Channel 2540.2MHz + 2560MHz									
5.095	-69.26	Pk	34.2	-28.7	9.1	-54.66	-25	-29.66	V
5.1	-68.17	Pk	34.2	-28.9	9.5	-53.37	-25	-28.37	H
7.637	-70.22	Pk	35.6	-26.3	7.4	-53.52	-25	-28.52	H
7.642	-70.34	Pk	35.7	-26.1	7.4	-53.34	-25	-28.34	V
10.192	-72.47	Pk	37.3	-22.5	7.1	-50.57	-25	-25.57	H
10.201	-72.44	Pk	37.3	-22.5	6.9	-50.74	-25	-25.74	V

Pk - Peak detector

9.1.3. LTE BAND 41

Company:	
Project #:	12886634
Date:	5/29/2019
Test Engineer:	50822
Configuration:	EUT Only
Mode:	LTE Band 41 20/20 QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.032	-59.96	Pk	34.2	-28.6	8.7	-45.66	-25	-20.66	V
5.036	-69.6	Pk	34.1	-28.8	8.8	-55.50	-25	-30.50	H
7.5	-70.33	Pk	35.6	-26.4	7.7	-53.43	-25	-28.43	V
7.55	-70.78	Pk	35.7	-26.5	7.4	-54.18	-25	-29.18	H
10.19	-71.53	Pk	37.3	-22.5	7.1	-49.63	-25	-24.63	H
10.587	-72.7	Pk	37.9	-22.1	7.8	-49.10	-25	-24.10	V
Mid Channel 2583.1MHz + 2602.9MHz									
5.186	-68.47	Pk	34.2	-28.9	9	-54.17	-25	-29.17	H
5.189	-69.38	Pk	34.2	-28.8	8.6	-55.38	-25	-30.38	V
7.761	-70.44	Pk	35.7	-26	8	-52.74	-25	-27.74	V
7.773	-70.51	Pk	35.8	-26	7.9	-52.81	-25	-27.81	H
10.349	-72.8	Pk	37.5	-22.4	6.9	-50.80	-25	-25.80	H
10.351	-73.16	Pk	37.5	-22.4	6.9	-51.16	-25	-26.16	V
High Channel 2660.2MHz + 2680MHz									
5.338	-57.37	Pk	34.5	-29.1	7.5	-44.47	-25	-19.47	H
5.345	-69.16	Pk	34.4	-29	7.7	-56.06	-25	-31.06	V
8.003	-71.56	Pk	35.7	-25.5	7.9	-53.46	-25	-28.46	H
8.037	-70.95	Pk	35.7	-25.4	8.1	-52.55	-25	-27.55	V
10.66	-72.48	Pk	38	-22	7.5	-48.98	-25	-23.98	V
10.664	-72.53	Pk	37.9	-22	7.5	-49.13	-25	-24.13	H

Pk - Peak detector

Company:	
Project #:	12886634
Date:	5/29/2019
Test Engineer:	50822
Configuration:	EUT Only
Mode:	LTE Band 41 20/20 16QAM
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.022	-68.89	Pk	34.1	-28.6	8.6	-54.79	-25	-29.79	H
5.03	-67.54	Pk	34.2	-28.6	8.5	-53.44	-25	-28.44	V
7.532	-70.51	Pk	35.7	-26.3	7.3	-53.81	-25	-28.81	V
7.54	-70.22	Pk	35.6	-26.5	7.3	-53.82	-25	-28.82	H
10.054	-72.6	Pk	37.1	-22.9	8	-50.40	-25	-25.40	V
10.055	-72.38	Pk	37.1	-22.9	7.9	-50.28	-25	-25.28	H
Mid Channel 2583.1MHz + 2602.9MHz									
5.184	-68.78	Pk	34.2	-28.9	9	-54.48	-25	-29.48	H
5.192	-68.79	Pk	34.2	-28.8	8.7	-54.69	-25	-29.69	V
7.758	-70.78	Pk	35.7	-26	7.6	-53.48	-25	-28.48	H
7.938	-71.32	Pk	35.8	-25.3	8	-52.82	-25	-27.82	V
10.349	-73.17	Pk	37.5	-22.4	6.8	-51.27	-25	-26.27	V
10.353	-72.72	Pk	37.5	-22.4	7	-50.62	-25	-25.62	H
High Channel 2660.2MHz + 2680MHz									
5.34	-69.75	Pk	34.5	-29.1	7.6	-56.75	-25	-31.75	H
5.341	-68.98	Pk	34.5	-29.1	7.2	-56.38	-25	-31.38	V
8.01	-70.56	Pk	35.7	-25.6	7.6	-52.86	-25	-27.86	H
8.043	-70.84	Pk	35.7	-25.2	8	-52.34	-25	-27.34	V
10.658	-71.74	Pk	38	-22	7.5	-48.24	-25	-23.24	H
10.685	-72.87	Pk	37.9	-22.1	8.1	-48.97	-25	-23.97	V

Pk - Peak detector

9.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 2

9.2.1. LTE BAND 5

Company:	
Project #:	12886634
Date:	6/12/2019
Test Engineer:	39006
Configuration:	EUT Only
Mode:	LTE Band 5 10/10 QPSK
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBm)	Det	AF T346 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz									
1.64	-66.45	Pk	28.6	-32.3	11.5	-58.65	-13	-45.65	V
1.651	-66.35	Pk	28.7	-32.3	12	-57.95	-13	-44.95	H
2.511	-66.82	Pk	32.6	-31.5	11.6	-54.12	-13	-41.12	V
2.523	-66.9	Pk	32.6	-31.5	11.8	-54.00	-13	-41.00	H
3.357	-67.02	Pk	32.8	-30.1	11.6	-52.72	-13	-39.72	V
3.36	-67.75	Pk	32.8	-30.2	11	-54.15	-13	-41.15	H
Mid Channel 831.5MHz + 841.4MHz									
1.653	-65.96	Pk	28.7	-32.4	11.4	-58.26	-13	-45.26	V
1.654	-66.07	Pk	28.7	-32.4	12.2	-57.57	-13	-44.57	H
2.47	-66.62	Pk	32.6	-31.5	11.3	-54.22	-13	-41.22	V
2.485	-66.87	Pk	32.6	-31.5	11	-54.77	-13	-41.77	H
3.301	-72.55	Pk	32.9	-30.4	11.2	-58.85	-13	-45.85	V
3.323	-68.04	Pk	32.8	-30.2	11	-54.44	-13	-41.44	H
High Channel 834.1MHz + 844MHz									
1.658	-65.31	Pk	28.7	-32.5	11.7	-57.41	-13	-44.41	V
1.661	-65.58	Pk	28.8	-32.4	12.2	-56.98	-13	-43.98	H
2.486	-66.57	Pk	32.6	-31.5	11.5	-53.97	-13	-40.97	V
2.498	-67.24	Pk	32.6	-31.5	11.4	-54.74	-13	-41.74	H
3.353	-66.78	Pk	32.8	-30.1	10.8	-53.28	-13	-40.28	H
3.353	-67.81	Pk	32.8	-30.1	11.5	-53.61	-13	-40.61	V

Pk - Peak detector

Company:	
Project #:	12886634
Date:	6/12/2019
Test Engineer:	39006
Configuration:	EUT Only
Mode:	LTE Band 5 10/10 16QAM
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBm)	Det	AF T346 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz									
1.681	-65.76	Pk	28.9	-32.4	10.9	-58.36	-13	-45.36	V
1.682	-77.39	Pk	28.9	-32.4	12.1	-68.79	-13	-55.79	H
2.509	-67.42	Pk	32.6	-31.4	11.5	-54.72	-13	-41.72	V
2.511	-78.24	Pk	32.6	-31.5	11.4	-65.74	-13	-52.74	H
3.333	-67.75	Pk	32.8	-30.1	10.9	-54.15	-13	-41.15	V
3.354	-67.7	Pk	32.8	-30.1	10.9	-54.10	-13	-41.10	H
Mid Channel 831.5MHz + 841.4MHz									
1.668	-66.09	Pk	28.8	-32.4	12.6	-57.09	-13	-44.09	H
1.675	-65.77	Pk	28.9	-32.4	11.2	-58.07	-13	-45.07	V
2.481	-66.31	Pk	32.6	-31.5	11.5	-53.71	-13	-40.71	V
2.486	-66.2	Pk	32.6	-31.5	10.9	-54.20	-13	-41.20	H
3.318	-67.64	Pk	32.8	-30.2	10.9	-54.14	-13	-41.14	V
3.322	-67.37	Pk	32.8	-30.2	11	-53.77	-13	-40.77	H
High Channel 834.1MHz + 844MHz									
1.672	-66.04	Pk	28.9	-32.3	12.7	-56.74	-13	-43.74	H
1.677	-66.14	Pk	28.9	-32.4	12.1	-57.54	-13	-44.54	H
2.486	-66.27	Pk	32.6	-31.5	10.9	-54.27	-13	-41.27	H
2.501	-67.12	Pk	32.6	-31.5	11.3	-54.72	-13	-41.72	H
3.318	-67.87	Pk	32.8	-30.2	11.2	-54.07	-13	-41.07	H
3.321	-67.59	Pk	32.8	-30.2	11	-53.99	-13	-40.99	H

Pk - Peak detector

9.2.2. LTE BAND 7

Company:	
Project #:	12886634
Date:	6/2/2019
Test Engineer:	19459
Configuration:	EUT Only
Mode:	LTE Band 7 20/20 QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz									
5.036	-68.68	Pk	34.1	-28.8	8.8	-54.58	-25	-29.58	H
7.575	-70.75	Pk	35.6	-26.3	7.3	-54.15	-25	-29.15	H
5.044	-68.13	Pk	34.2	-28.8	9.1	-53.63	-25	-28.63	V
7.578	-69.93	Pk	35.6	-26.3	7.2	-53.43	-25	-28.43	V
10.078	-72.24	Pk	37.2	-22.8	7.9	-49.94	-25	-24.94	H
10.107	-72.19	Pk	37.1	-22.8	7.1	-50.79	-25	-25.79	V
Mid Channel 2525.1MHz + 2544.9MHz									
5.067	-68.3	Pk	34.2	-28.7	8.7	-54.1	-25	-29.1	H
5.092	-68.59	Pk	34.2	-28.7	9	-54.09	-25	-29.09	V
7.506	-70.04	Pk	35.6	-26.4	7.9	-52.94	-25	-27.94	V
7.588	-70.49	Pk	35.6	-26.3	6.9	-54.29	-25	-29.29	H
10.104	-72.72	Pk	37.1	-22.8	7	-51.42	-25	-26.42	H
10.112	-72.75	Pk	37.2	-22.8	7.1	-51.25	-25	-26.25	V
High Channel 2540.2MHz + 2560MHz									
5.056	-67.78	Pk	34.2	-28.7	8.9	-53.38	-25	-28.38	H
5.083	-68.27	Pk	34.2	-28.8	8.2	-54.67	-25	-29.67	V
7.669	-70.65	Pk	35.7	-26	8	-52.95	-25	-27.95	H
7.697	-70.43	Pk	35.8	-25.9	7.4	-53.13	-25	-28.13	V
10.307	-72.68	Pk	37.5	-22.4	7.2	-50.38	-25	-25.38	H
10.395	-71.71	Pk	37.5	-22.2	7.4	-49.01	-25	-24.01	V

Pk - Peak detector

Company:	
Project #:	12886634
Date:	6/2/2019
Test Engineer:	19459
Configuration:	EUT
Mode:	LTE Band 7 20/20 16QAM
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz									
5.042	-68.33	Pk	34.2	-28.8	9	-53.93	-25	-28.93	H
7.556	-70.4	Pk	35.7	-26.5	7.3	-53.90	-25	-28.90	H
5.051	-68.33	Pk	34.2	-28.6	9.6	-53.13	-25	-28.13	V
7.556	-70.16	Pk	35.7	-26.5	7.2	-53.76	-25	-28.76	V
9.994	-72.36	Pk	37	-22.7	7.9	-50.16	-25	-25.16	V
10.072	-72.22	Pk	37.1	-22.8	8	-49.92	-25	-24.92	H
Mid Channel 2525.1MHz + 2544.9MHz									
5.075	-68.76	Pk	34.2	-28.7	8.5	-54.76	-25	-29.76	H
7.611	-70.72	Pk	35.6	-26.3	7.4	-54.02	-25	-29.02	H
5.107	-68.15	Pk	34.2	-28.7	9.4	-53.25	-25	-28.25	V
7.661	-70.37	Pk	35.7	-26	7.8	-52.87	-25	-27.87	V
10.121	-72.38	Pk	37.2	-22.7	6.7	-51.18	-25	-26.18	H
10.173	-72.53	Pk	37.2	-22.5	7.5	-50.33	-25	-25.33	V
High Channel 2540.2MHz + 2560MHz									
5.101	-68.82	Pk	34.2	-28.9	9.5	-54.02	-25	-29.02	H
5.107	-68.33	Pk	34.2	-28.7	9.4	-53.43	-25	-28.43	V
7.618	-70.4	Pk	35.6	-26.4	7.5	-53.70	-25	-28.70	V
7.637	-70.24	Pk	35.6	-26.3	7.4	-53.54	-25	-28.54	H
10.185	-71.49	Pk	37.2	-22.5	7.3	-49.49	-25	-24.49	H
10.232	-72.07	Pk	37.4	-22.6	7.5	-49.77	-25	-24.77	V

Pk - Peak detector

9.2.3. LTE BAND 41

Company:	
Project #:	12886634
Date:	6/1/2019
Test Engineer:	19459
Configuration:	EUT Only
Mode:	LTE Band 41 20/20 QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.012	-69.35	Pk	34.2	-28.6	8.8	-54.95	-25	-29.95	H
5.019	-73.1	Pk	34.2	-28.6	8.7	-58.80	-25	-33.80	V
7.532	-70.7	Pk	35.7	-26.3	7.5	-53.80	-25	-28.80	H
7.535	-70.75	Pk	35.6	-26.4	7.3	-54.25	-25	-29.25	V
10.037	-72.59	Pk	37.1	-22.7	8	-50.19	-25	-25.19	H
10.043	-72.95	Pk	37.2	-22.8	7.9	-50.65	-25	-25.65	V
Mid Channel 2583.1MHz + 2602.9MHz									
5.175	-68.78	Pk	34.2	-28.8	8.8	-54.58	-25	-29.58	V
5.195	-68.1	Pk	34.2	-28.9	9.1	-53.70	-25	-28.70	H
7.76	-70.77	Pk	35.7	-26	7.9	-53.17	-25	-28.17	V
7.762	-70.75	Pk	35.7	-26	7.8	-53.25	-25	-28.25	H
10.33	-71.38	Pk	37.4	-22.4	7	-49.38	-25	-24.38	H
10.352	-72.6	Pk	37.5	-22.4	6.9	-50.60	-25	-25.60	V
High Channel 2660.2MHz + 2680MHz									
5.324	-68.91	Pk	34.5	-29.1	7.8	-55.71	-25	-30.71	H
5.331	-69.1	Pk	34.5	-29	7.6	-56.00	-25	-31.00	V
7.999	-70.87	Pk	35.7	-25.6	7.9	-52.87	-25	-27.87	V
8.011	-71.24	Pk	35.7	-25.7	7.4	-53.84	-25	-28.84	H
10.657	-72.25	Pk	38	-22.1	7.5	-48.85	-25	-23.85	V
10.69	-71.75	Pk	37.9	-22.1	8.2	-47.75	-25	-22.75	H

Pk - Peak detector

Company:	
Project #:	12886634
Date:	6/1/2019
Test Engineer:	19459
Configuration:	EUT Only
Mode:	LTE Band 41 20/20 16QAM
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.026	-68.8	Pk	34.1	-28.8	8.3	-55.20	-25	-30.20	H
7.548	-70.35	Pk	35.7	-26.5	7.5	-53.65	-25	-28.65	H
7.558	-70.44	Pk	35.6	-26.5	7.3	-54.04	-25	-29.04	V
5.034	-66.88	Pk	34.1	-28.7	8.8	-52.68	-25	-27.68	V
10.051	-72.18	Pk	37.1	-22.9	7.8	-50.18	-25	-25.18	V
10.057	-72.41	Pk	37.1	-22.9	7.9	-50.31	-25	-25.31	H
Mid Channel 2583.1MHz + 2602.9MHz									
5.184	-65.18	Pk	34.2	-28.9	8.6	-51.28	-25	-26.28	V
5.188	-68.47	Pk	34.2	-28.8	8.9	-54.17	-25	-29.17	H
7.773	-70.36	Pk	35.8	-26	8	-52.56	-25	-27.56	V
7.779	-70.71	Pk	35.8	-25.9	7.7	-53.11	-25	-28.11	H
10.37	-72.19	Pk	37.5	-22.4	7.9	-49.19	-25	-24.19	V
10.373	-72.44	Pk	37.5	-22.4	7.8	-49.54	-25	-24.54	H
High Channel 2660.2MHz + 2680MHz									
5.34	-67.28	Pk	34.5	-29.1	7.6	-54.28	-25	-29.28	H
5.356	-68.09	Pk	34.5	-29	8.3	-54.29	-25	-29.29	V
7.989	-70.97	Pk	35.8	-25.5	8	-52.67	-25	-27.67	H
8.038	-70.61	Pk	35.7	-25.4	8.1	-52.21	-25	-27.21	V
10.66	-72.1	Pk	38	-22	7.5	-48.60	-25	-23.60	H
10.677	-72.72	Pk	37.9	-22	8	-48.82	-25	-23.82	V

Pk - Peak detector

9.3. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 3

9.3.1. LTE BAND 7

Company:	
Project #:	12886634
Date:	6/4/2019
Test Engineer:	23509
Configuration:	EUT Only
Mode:	LTE Band 7 20/20 QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz									
4.584	-77.97	Pk	34.1	-29.3	10	-63.17	-25	-38.17	H
5.374	-78.47	Pk	34.4	-29.2	9	-64.27	-25	-39.27	V
11.11	-83.04	Pk	38	-21.7	8.4	-58.34	-25	-33.34	V
7.137	-80.43	Pk	35.6	-26.5	7.3	-64.03	-25	-39.03	H
8.577	-80.53	Pk	35.9	-24.9	8.2	-61.33	-25	-36.33	V
12.816	-83.58	Pk	39.2	-21.3	9.3	-56.38	-25	-31.38	H
Mid Channel 2525.1MHz + 2544.9MHz									
5.052	-71.63	Pk	34.2	-28.6	9.3	-56.73	-25	-31.73	H
4.522	-78.51	Pk	34	-29.1	10.4	-63.21	-25	-38.21	V
7.348	-79.76	Pk	35.5	-26.4	7.7	-62.96	-25	-37.96	V
3.233	-77.57	Pk	32.8	-30.3	9.6	-65.47	-25	-40.47	H
10.385	-81.69	Pk	37.5	-22.1	7.9	-58.39	-25	-33.39	H
14.399	-83.02	Pk	39.5	-20.4	10.3	-53.62	-25	-28.62	V
High Channel 2540.2MHz + 2560MHz									
3.71	-77.94	Pk	33.2	-29.9	10	-64.64	-25	-39.64	H
9.332	-82.23	Pk	36.5	-23.9	8.1	-61.53	-25	-36.53	H
11.642	-83.23	Pk	38.3	-21.2	9.1	-57.03	-25	-32.03	V
4.407	-78.32	Pk	33.6	-29.2	10.1	-63.82	-25	-38.82	V
6.646	-80.04	Pk	35.5	-27.4	7.6	-64.34	-25	-39.34	H
7.037	-80.14	Pk	35.6	-26.6	7	-64.14	-25	-39.14	V

Pk - Peak detector

Company:	
Project #:	12886634
Date:	6/4/2019
Test Engineer:	23509
Configuration:	EUT Only
Mode:	LTE Band 7 20/20 16QAM
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz									
3.85	-77.11	Pk	33.5	-29.9	9.4	-64.11	-25	-39.11	H
4.681	-77.77	Pk	34.1	-29.6	9.7	-63.57	-25	-38.57	V
6.505	-79.28	Pk	35.5	-27.3	8.1	-62.98	-25	-37.98	H
7.017	-80.14	Pk	35.6	-26.8	7.2	-64.14	-25	-39.14	V
9.555	-81.79	Pk	36.7	-23.3	7.9	-60.49	-25	-35.49	H
12.778	-83.33	Pk	39.1	-21.4	9.8	-55.83	-25	-30.83	V
Mid Channel 2525.1MHz + 2544.9MHz									
3.923	-77.5	Pk	33.4	-30	9.7	-64.4	-25	-39.4	H
4.995	-79.08	Pk	34.1	-28.1	9.9	-63.18	-25	-38.18	V
6.629	-80	Pk	35.5	-27.3	7.5	-64.30	-25	-39.30	H
7.188	-80.55	Pk	35.5	-26.3	7.7	-63.65	-25	-38.65	V
9.208	-82.05	Pk	36.3	-23.8	8.1	-61.45	-25	-36.45	H
12.961	-83.7	Pk	39.2	-20.9	9.5	-55.90	-25	-30.90	V
High Channel 2540.2MHz + 2560MHz									
3.923	-77.68	Pk	33.4	-30	9.7	-64.58	-25	-39.58	H
3.87	-78.11	Pk	33.5	-30	9.6	-65.01	-25	-40.01	V
11.526	-82.71	Pk	38.2	-21.6	8.4	-57.71	-25	-32.71	V
5.974	-78.67	Pk	35.2	-28.2	8	-63.67	-25	-38.67	H
6.126	-79.36	Pk	35.6	-28.5	7.9	-64.36	-25	-39.36	V
9.933	-81.8	Pk	37	-22.8	8	-59.60	-25	-34.60	H

Pk - Peak detector

9.3.2. LTE BAND 41

Company:	
Project #:	12886634
Date:	6/4/2019
Test Engineer:	50822
Configuration:	EUT Only
Mode:	LTE Band 41 20/20 QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
4.995	-68.99	Pk	34.1	-28.1	10	-52.99	-25	-27.99	V
5.036	-69.07	Pk	34.1	-28.8	8.8	-54.97	-25	-29.97	H
7.559	-71.11	Pk	35.6	-26.5	7.3	-54.71	-25	-29.71	H
7.596	-70.99	Pk	35.6	-26.2	7.1	-54.49	-25	-29.49	V
10.06	-72.34	Pk	37.2	-22.8	7.9	-50.04	-25	-25.04	H
10.063	-72.06	Pk	37.2	-22.8	8	-49.66	-25	-24.66	V
Mid Channel 2583.1MHz + 2602.9MHz									
5.182	-67.97	Pk	34.2	-28.9	8.9	-53.77	-25	-28.77	H
5.187	-68.11	Pk	34.2	-28.9	8.6	-54.21	-25	-29.21	V
7.774	-69.96	Pk	35.8	-26	7.9	-52.26	-25	-27.26	H
7.802	-70.04	Pk	35.7	-25.9	7.7	-52.54	-25	-27.54	V
10.361	-71.97	Pk	37.5	-22.4	7.4	-49.47	-25	-24.47	H
10.376	-72.23	Pk	37.5	-22.3	7.9	-49.13	-25	-24.13	V
High Channel 2660.2MHz + 2680MHz									
5.316	-68.35	Pk	34.4	-29.1	8	-55.05	-25	-30.05	V
5.33	-69.1	Pk	34.4	-29	8	-55.70	-25	-30.70	H
8.001	-70.89	Pk	35.7	-25.5	7.9	-52.79	-25	-27.79	V
8.006	-71.09	Pk	35.7	-25.6	7.8	-53.19	-25	-28.19	H
10.644	-72.84	Pk	37.9	-22.1	7.4	-49.64	-25	-24.64	V
10.68	-72.97	Pk	38	-22	8.1	-48.87	-25	-23.87	H

Pk - Peak detector

Company:	
Project #:	12886634
Date:	6/4/2019
Test Engineer:	50822
Configuration:	EUT Only
Mode:	LTE Band 41 20/20 16QAM
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.009	-68.92	Pk	34.1	-28.6	9.3	-54.12	-25	-29.12	V
5.016	-69.59	Pk	34.2	-28.6	8.6	-55.39	-25	-30.39	H
7.507	-71.04	Pk	35.6	-26.4	7.9	-53.94	-25	-28.94	V
7.536	-70.73	Pk	35.6	-26.4	7.3	-54.23	-25	-29.23	H
10.056	-72.15	Pk	37.1	-22.9	7.9	-50.05	-25	-25.05	H
10.104	-72.32	Pk	37.1	-22.8	7.2	-50.82	-25	-25.82	V
Mid Channel 2583.1MHz + 2602.9MHz									
5.184	-68.17	Pk	34.2	-28.9	9	-53.87	-25	-28.87	H
5.184	-68.51	Pk	34.2	-28.9	9	-54.21	-25	-29.21	H
7.768	-70.72	Pk	35.8	-26	7.7	-53.22	-25	-28.22	H
7.774	-70.01	Pk	35.8	-26	8	-52.21	-25	-27.21	V
10.319	-72.4	Pk	37.4	-22.3	7	-50.30	-25	-25.30	V
10.349	-73.02	Pk	37.5	-22.4	6.9	-51.02	-25	-26.02	H
High Channel 2660.2MHz + 2680MHz									
5.332	-69.22	Pk	34.5	-29.1	7.5	-56.32	-25	-31.32	V
5.344	-68.94	Pk	34.4	-29	8.1	-55.44	-25	-30.44	H
7.998	-70.28	Pk	35.7	-25.6	8	-52.18	-25	-27.18	V
8.004	-71.52	Pk	35.7	-25.5	7.9	-53.42	-25	-28.42	H
10.664	-72.97	Pk	37.9	-22	7.5	-49.57	-25	-24.57	H
10.68	-71.95	Pk	38	-22	8.1	-47.85	-25	-22.85	V

Pk - Peak detector

9.4. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 4

9.4.1. LTE BAND 7

Company:	
Project #:	12886634
Date:	6/4/2019
Test Engineer:	50822
Configuration:	EUT Only
Mode:	LTE Band 7 20/20 QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz									
5.037	-68.58	Pk	34.1	-28.8	8.9	-54.38	-25	-29.38	V
5.04	-56.7	Pk	34.1	-28.8	8.9	-42.50	-25	-17.50	H
7.72	-70.51	Pk	35.8	-25.8	7.5	-53.01	-25	-28.01	V
7.741	-70.87	Pk	35.8	-26	7.3	-53.77	-25	-28.77	H
10.226	-71.9	Pk	37.3	-22.7	7.7	-49.60	-25	-24.60	H
10.237	-72.52	Pk	37.3	-22.6	7.5	-50.32	-25	-25.32	V
Mid Channel 2525.1MHz + 2544.9MHz									
5.068	-67.71	Pk	34.2	-28.7	8.6	-53.61	-25	-28.61	V
5.07	-62.22	Pk	34.2	-28.7	8.6	-48.12	-25	-23.12	H
7.612	-70.12	Pk	35.6	-26.4	7.3	-53.62	-25	-28.62	V
7.613	-70.24	Pk	35.6	-26.4	7.5	-53.54	-25	-28.54	H
10.083	-72.31	Pk	37.2	-22.9	7.8	-50.21	-25	-25.21	V
10.142	-72.96	Pk	37.2	-22.6	6.5	-51.86	-25	-26.86	H
High Channel 2540.2MHz + 2560MHz									
4.528	-78.41	Pk	34.1	-29.4	10.2	-63.51	-25	-38.51	H
3.848	-78.19	Pk	33.5	-29.9	9.6	-64.99	-25	-39.99	V
5.944	-79.49	Pk	35.3	-28.2	8.4	-63.99	-25	-38.99	V
6.569	-79.79	Pk	35.5	-26.9	7.3	-63.89	-25	-38.89	H
8.634	-81.71	Pk	35.9	-24.2	8.3	-61.71	-25	-36.71	H
8.691	-81.37	Pk	35.9	-24.5	8.1	-61.87	-25	-36.87	V

Pk - Peak detector

Company:	
Project #:	12886634
Date:	6/4/2019
Test Engineer:	50822
Configuration:	EUT
Mode:	LTE Band 7 20/20 16QAM
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz									
4.997	-68.67	Pk	34.1	-28.3	9.9	-52.97	-25	-27.97	V
5.041	-68.51	Pk	34.1	-28.8	8.9	-54.31	-25	-29.31	H
7.531	-70.27	Pk	35.7	-26.3	7.3	-53.57	-25	-28.57	V
7.559	-70.76	Pk	35.6	-26.5	7.3	-54.36	-25	-29.36	H
10.071	-72.37	Pk	37.1	-22.8	8	-50.07	-25	-25.07	H
10.072	-72.84	Pk	37.1	-22.8	7.9	-50.64	-25	-25.64	V
Mid Channel 2525.1MHz + 2544.9MHz									
5.052	-59.27	Pk	34.2	-28.6	9.3	-44.37	-25	-19.37	H
11.337	-83.86	Pk	38	-21.6	7.6	-59.86	-25	-34.86	H
5.052	-73.21	Pk	34.2	-28.6	9.6	-58.01	-25	-33.01	V
7.67	-80.25	Pk	35.7	-26	7.9	-62.65	-25	-37.65	V
12.266	-83.16	Pk	38.9	-21.4	8.8	-56.86	-25	-31.86	V
10.525	-81.75	Pk	37.7	-22.1	8.1	-58.05	-25	-33.05	H
High Channel 2540.2MHz + 2560MHz									
4.392	-78.12	Pk	33.7	-29.1	9	-64.52	-25	-39.52	H
11.641	-82.84	Pk	38.3	-21.2	9	-56.74	-25	-31.74	V
5.537	-79.19	Pk	34.7	-28.5	8.7	-64.29	-25	-39.29	V
7.097	-80.23	Pk	35.6	-26.5	7.3	-63.83	-25	-38.83	H
7.103	-80.43	Pk	35.6	-26.6	7.1	-64.33	-25	-39.33	V
10.492	-83.09	Pk	37.7	-22.1	8.4	-59.09	-25	-34.09	H

Pk - Peak detector

9.4.2. LTE BAND 41

Company:	
Project #:	12886634
Date:	6/4/2019
Test Engineer:	50822
Configuration:	EUT Only
Mode:	LTE Band 41 20/20 QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
4.997	-68.65	Pk	34.1	-28.3	9.9	-52.95	-25	-27.95	V
5.025	-69.49	Pk	34.1	-28.7	8.4	-55.69	-25	-30.69	H
7.556	-70.32	Pk	35.7	-26.5	7.2	-53.92	-25	-28.92	V
7.558	-70.62	Pk	35.6	-26.5	7.3	-54.22	-25	-29.22	H
10.061	-72.75	Pk	37.1	-22.8	7.9	-50.55	-25	-25.55	H
10.075	-72.58	Pk	37.2	-22.8	7.9	-50.28	-25	-25.28	V
Mid Channel 2583.1MHz + 2602.9MHz									
5.156	-69.66	Pk	34.3	-28.6	9.3	-54.66	-25	-29.66	V
5.188	-69.19	Pk	34.2	-28.8	8.9	-54.89	-25	-29.89	H
7.762	-70.8	Pk	35.7	-26	7.8	-53.30	-25	-28.30	H
7.776	-70.86	Pk	35.8	-26	8	-53.06	-25	-28.06	V
10.318	-72.08	Pk	37.4	-22.3	7.1	-49.88	-25	-24.88	V
10.358	-72.77	Pk	37.5	-22.3	7.2	-50.37	-25	-25.37	H
High Channel 2660.2MHz + 2680MHz									
5.328	-69.55	Pk	34.4	-29	7.5	-56.65	-25	-31.65	V
5.344	-69.45	Pk	34.4	-29	8.1	-55.95	-25	-30.95	H
7.979	-71.08	Pk	35.7	-25.7	8	-53.08	-25	-28.08	V
8.01	-71.13	Pk	35.7	-25.6	7.5	-53.53	-25	-28.53	H
10.652	-72.56	Pk	37.9	-22.1	7.4	-49.36	-25	-24.36	V
10.669	-72.61	Pk	37.9	-21.9	7.8	-48.81	-25	-23.81	H

Pk - Peak detector

Company:	
Project #:	12886634
Date:	6/4/2019
Test Engineer:	50822
Configuration:	EUT Only
Mode:	LTE Band 41 20/20 16QAM
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBm)	Det	AF T344 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.013	-68.75	Pk	34.2	-28.6	8.9	-54.25	-25	-29.25	V
5.033	-68.65	Pk	34.1	-28.6	8.7	-54.45	-25	-29.45	H
7.541	-70.78	Pk	35.6	-26.5	7.3	-54.38	-25	-29.38	V
7.551	-70.69	Pk	35.7	-26.5	7.3	-54.19	-25	-29.19	H
10.052	-72.1	Pk	37.1	-22.9	7.9	-50.00	-25	-25.00	H
10.068	-72.53	Pk	37.2	-22.8	7.9	-50.23	-25	-25.23	V
Mid Channel 2583.1MHz + 2602.9MHz									
5.169	-68.94	Pk	34.3	-28.7	9.4	-53.94	-25	-28.94	V
5.189	-68.14	Pk	34.2	-28.8	8.9	-53.84	-25	-28.84	H
7.765	-71.01	Pk	35.8	-26	7.7	-53.51	-25	-28.51	H
7.785	-69.86	Pk	35.8	-25.8	7.8	-52.06	-25	-27.06	V
10.362	-72.48	Pk	37.5	-22.5	7.5	-49.98	-25	-24.98	H
10.382	-72.57	Pk	37.6	-22.2	7.9	-49.27	-25	-24.27	V
High Channel 2660.2MHz + 2680MHz									
5.316	-69.01	Pk	34.4	-29.1	8	-55.71	-25	-30.71	V
5.344	-68.36	Pk	34.4	-29	8	-54.96	-25	-29.96	H
7.993	-71.23	Pk	35.8	-25.6	7.9	-53.13	-25	-28.13	V
8.01	-70.73	Pk	35.7	-25.6	7.5	-53.13	-25	-28.13	H
10.663	-72.37	Pk	38	-22	7.5	-48.87	-25	-23.87	V
10.68	-72.61	Pk	38	-22	8.1	-48.51	-25	-23.51	H

Pk - Peak detector

10. SETUP PHOTOS

Please see setup photo report 12943451-EP1V1

END OF REPORT