FCC Radio Test Report

FCC ID: KR5-BSRFV1RW0

This report concerns: Original Grant

Project No.	:	2106C224
Equipment	:	Intelligent Antenna Module
Brand Name	:	Continental
Test Model	:	BSRF-V1RWHIGH.0
Series Model	:	N/A
Applicant	:	Continental Automotive GmbH
Address	:	Siemensstrasse 12 SV C TS RBG EMC-Laboratory Regensburg Germany 93055
Manufacturer	:	Continental Automotive GmbH
Address	:	Siemensstrasse 12, 93055 Regensburg, Germany
Factory	:	Continental Automotive Systems S.R.L.
Address	:	Strada Salzburg 8, 550018 Sibiu, Romania
Date of Receipt	:	Jul. 19, 2021
Date of Test	:	Jul. 20, 2021 ~ Aug. 16, 2021
Issued Date	:	Jan. 19, 2022
Report Version	:	R01
Test Sample	:	SN: 213310000FS
Standard(s)	:	47 CFR FCC Part 27 Subpart L 47 CFR FCC Part 27 Subpart M 47 CFR FCC Part 2 ANSI/TIA/EIA-603-E-2016 FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

Treey Chen

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Approved by : Steven Lu

TESTING CERT #5123.02

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

The report must not be used by the client to claim product certification, approval, or endorsement by NIST, A2LA, or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.
Please note that the measurement uncertainty is provided for informational purpose only and is not use in determining the Pass/Fail results.

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Sep. 30, 2021
R01	Modified the comments of TCB.	Jan. 19, 2022

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part 27 Subpart L, M & Part 2			
Standard(s) Section	**Test Item**	**Judgment**	**Remark**
2.1046 27.50(d)(4) 27.50(h)(2)	Equivalent Isotropic Radiated Power	PASS	------
2.1051 27.53(h) 27.53(m)(4)	Band Edge Measurements	PASS	------
2.1049	Occupied Bandwidth	PASS	Note (2)(3)
2.1051 27.53(g) 27.53(m)(4)&(m)(6)	Conducted Spurious Emissions	PASS	Note (2)(3)
2.1053 27.53(h) 27.53(m)(4)	Radiated Spurious Emissions	PASS	Note (2)(3)
-	Peak To Average Ratio	PASS	Note (2)(3)
2.1055 27.54	Frequency Stability	PASS	Note (2)(3)

Note:
(1) “N/A” denotes test is not applicable in this test report.
(2) Please refer to module report RF190315C13-2 with FCC ID: LHJ-BL28RW001, dated 2019-Apr-16.
(3) The test was not performed by the BTL Laboratory.

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town, Dongguan City, Guangdong, People's Republic of China.
BTL's Test Firm Registration Number for FCC: 357015
BTL's Designation Number for FCC: CN1240

1.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty figures shall be calculated according the methods described in the ETSI TR 100 028 and shall correspond to an expansion factor (coverage factor) k=1.96 or k=2(which provide confidence levels of respectively 90% and 95.45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).
Measurement Uncertainty for a Level of Confidence of 95 %, U=2xUc(y).

The BTL measurement uncertainty as below table:

A. Other Measurement:

Parameter	Uncertainty
Maximum Output Power	±0.95 dB
Temperature	±0.08 °C
Time	±0.58 %
Supply voltages	±0.3 %

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
Output Power & EIRP	21.4°C	47%	DC 12V	Tate Liu
Band Edge	21.4°C	47%	DC 12V	Tate Liu

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Intelligent Antenna Module				
Brand Name	Continental				
Test Model	BSRF-V1RWHIGH.0				
Series Model	N/A				
Model Difference(s)	N/A				
RF Module Model	BL28RW-001				
Hardware Version	D5				
Software Version	V15_1.15.1.21.10.30				
Power Source	Supplied from battery.				
Power Rating	DC 12V				
IEMI No.	357997640006249				
Modulation Type	WCDMA/HSDPA/HSUPA		QPSK		
	LTE		QPSK,16QAM		
Max. EIRP	WCDMA Band IV		QPSK	28.22	dBm
	HSDPA Band IV		QPSK	27.13	dBm
	HSUPA Band IV		QPSK	27.08	dBm
	LTE	Channel Bandwidth (MHz)	QPSK (dBm)		16QAM (dBm)
	Band 4	1.4	28.14		27.23
		3	28.31		27.37
		5	28.15		27.07
		10	28.27		27.13
		15	28.24		27.19
		20	28.20		27.00
	Band 7	5	28.91		28.03
		10	29.19		28.29
		15	29.12		28.11
		20	29.18		28.12

Note:
1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

WCDMA Band IV				
Test Frequency ID	UARFCN	Frequency of Uplink (MHz)	UARFCN	Frequency of Downlink (MHz)
Low Range	1312	1712.4	1537	2112.4
Mid Range	1413	1732.6	1638	2132.6
High Range	1513	1752.6	1738	2152.6

LTE Band 4					
Test Frequency ID	Bandwidth (MHz)	N_{UL}	Frequency of Uplink (MHz)	N_{DL}	Frequency of Downlink (MHz)
Low Range	1.4	19957	1710.7	1957	2110.7
	3	19965	1711.5	1965	2111.5
	5	19975	1712.5	1975	2112.5
	10	20000	1715	2000	2115
	15	20025	1717.5	2025	2117.5
	20	20050	1720	2050	2120
Mid Range	1.4/3/5/10/15/20	20175	1732.5	2175	2132.5
High Range	1.4	20393	1754.3	2393	2154.3
	3	20385	1753.5	2385	2153.5
	5	20375	1752.5	2375	2152.5
	10	20350	1750	2350	2150
	15	20325	1747.5	2325	2147.5
	20	20300	1740	2300	2145

LTE Band 7					
Test Frequency ID	Bandwidth (MHz)	N_{UL}	Frequency of Uplink (MHz)	N_{DL}	Frequency of Downlink (MHz)
Low Range	5	20775	2502.5	2775	2622.5
	10	20800	2505	2800	2625
	15	20825	2507.5	2825	2627.5
	20	20850	2510	2850	2630
Mid Range	5/10/15/20	21100	2535	3100	2655
High Range	5	21425	2567.5	3425	2687.5
	10	21400	2565	3400	2685
	15	21375	2562.5	3375	2682.5
	20	21350	2560	3350	2680

3. Table for Filed Antenna:

Main Antenna

Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
N/A	N/A	PCB	N/A	5.5	WCDMA Band IV
N/A	N/A	PCB	N/A	5.5	LTE Band 4
N/A	N/A	PCB	N/A	6.8	LTE Band 7

Second Antenna

Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
N/A	N/A	PCB	N/A	-5.0	WCDMA Band IV
N/A	N/A	PCB	N/A	-5.0	LTE Band 4
N/A	N/A	PCB	N/A	-5.0	LTE Band 7

Note: The antenna gain is provided by the manufacturer.

2.2 DESCRIPTION OF TEST MODES

Following mode(s) is (were) found to be the worst case(s) and selected for the final test.

WCDMA BAND IV MODE			
Test Item	Available Channel	Tested Channel	Mode
Output Power & EIRP	1312 to 1513	1312, 1413, 1513	WCDMA,HSDPA, HSUPA
Band Edge	1312 to 1513	1312, 1513	WCDMA,HSDPA, HSUPA

LTE BAND 4 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1RB/3RB/6RB
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1RB/8RB/15RB
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1RB/25RB/50RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1RB/36RB/75RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1RB/50RB/100RB
Band Edge	19957 to 20393	19957, 20393	1.4MHz	QPSK	1RB/6RB
	19965 to 20385	19965, 20385	3MHz	QPSK	1RB/15RB
	19975 to 20375	19975, 20375	5MHz	QPSK	1RB/25RB
	20000 to 20350	20000, 20350	10MHz	QPSK	1RB/50RB
	20025 to 20325	20025, 20325	15MHz	QPSK	1RB/75RB
	20050 to 20300	20050, 20300	20MHz	QPSK	1RB/100RB

LTE BAND 7 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	1RB/25RB/50RB
	20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	1RB/36RB/75RB
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	1RB/50RB/100RB
Band Edge	20775 to 21425	20775, 21425	5MHz	QPSK	1RB/25RB
	20800 to 21400	20800, 21400	10MHz	QPSK	1RB/50RB
	20825 to 21375	20825, 21375	15MHz	QPSK	1RB/75RB
	20850 to 21350	20850, 21350	20MHz	QPSK	1RB/100RB

Note: For output power test, all antennas had been pre-tested, the main antenna is found to be the worst case. So all test item result of main antenna have been recorded in this report.

3. TEST RESULT

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMIT

Mobile / Portable station are limited to 1 watts e.i.r.p. (Part 27 Subpart L)
Mobile / Portable station are limited to 2 watts e.i.r.p. (Part 27 Subpart M)

3.1.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 5.

EIRP:

EIRP = Output Power + Antenan gain

Output Power:

The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

3.1.3 TEST SETUP LAYOUT

Output Power Measurement

3.1.4 TEST DEVIATION

No deviation

3.1.5 TEST RESULTS

Please refer to the APPENDIX A.

3.2 BAND EDGE MEASUREMENT

3.2.1 LIMIT

The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed. (Part 27 Subpart L)

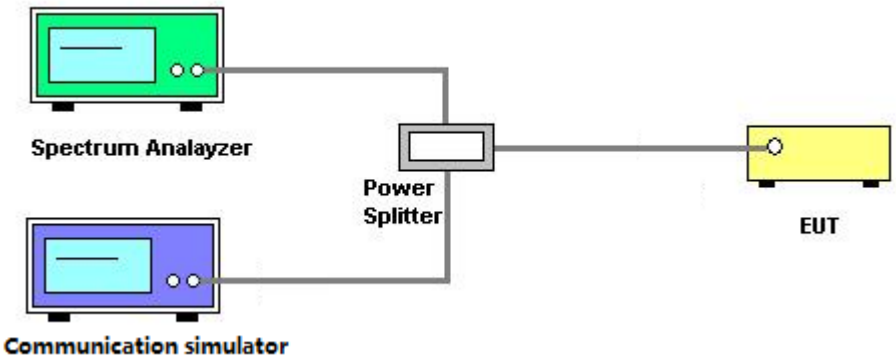
For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all 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 that 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. (Part 27 Subpart M)

3.2.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.

1. All measurements were done at low and high operational frequency range.
2. Record the max trace plot into the test report.

3.2.3 TEST SETUP LAYOUT



3.2.4 TEST DEVIATION

No deviation

3.2.5 TEST RESULTS

Please refer to the APPENDIX B.

4. LIST OF MEASUREMENT EQUIPMENTS

Conducted Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Wireless Communication Test SET	Agilent	E5515C	MY48364183	Feb. 28, 2022
2	EXA Spectrum Analyzer	Agilent	N9010A	MY50520044	Feb. 28, 2022
3	POWER SPLITTER	Mini-Circuits	ZFRSC-123-S+	331000910-1	Feb. 27, 2022
4	wideband radio communication tester	R&S	CMW500	152372	Feb. 27, 2022

Remark: "N/A" denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

APPENDIX A - OUTPUT POWER

Output Power (dBm):

Modulation	Band	WCDMA Band IV		
	Tx Channel	1312CH	1413CH	1513CH
	Frequency	1712.4MHz	1732.6MHz	1752.6MHz
QPSK	RMC 12.2K	22.7	22.14	22.07
	RMC 64K	22.7	22.14	22.07
	RMC 144K	22.7	22.14	22.07
	RMC 384K	22.72	22.15	22.08
	HSDPA Subtest-1	21.63	21.33	21.2
	HSDPA Subtest-2	21.59	21.32	21.3
	HSDPA Subtest-3	21.05	20.8	20.8
	HSDPA Subtest-4	21.16	20.79	20.72
	HSUPA Subtest-1	21.3	20.63	21.15
	HSUPA Subtest-2	20.55	20.21	19.72
	HSUPA Subtest-3	20.23	19.89	19.39
	HSUPA Subtest-4	20.85	20.51	20.73
	HSUPA Subtest-5	21.58	21.33	21.14

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19957CH	20175CH	20393CH
				1710.7MHz	1732.5MHz	1754.3MHz
4 / 1.4M	QPSK	1	0	22.53	22.48	22.46
		1	2	22.59	22.60	22.55
		1	5	22.52	22.52	22.64
		3	0	22.61	22.36	22.35
		3	1	22.61	22.41	22.44
		3	2	22.62	22.36	22.47
		6	0	21.61	21.45	21.42
	16QAM	1	0	21.43	21.44	21.25
		1	2	21.48	21.59	21.35
		1	5	21.49	21.44	21.37
		3	0	21.71	21.36	21.42
		3	1	21.73	21.47	21.42
		3	2	21.71	21.42	21.55
		6	0	20.52	20.32	20.28

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19965CH	20175CH	20385CH
				1711.5MHz	1732.5MHz	1753.5MHz
4 / 3M	QPSK	1	0	22.74	22.33	22.45
		1	7	22.80	22.47	22.81
		1	14	22.58	22.43	22.72
		8	0	21.64	21.48	21.37
		8	4	21.61	21.47	21.45
		8	7	21.63	21.45	21.44
		15	0	21.59	21.47	21.39
	16QAM	1	0	21.71	21.38	21.18
		1	7	21.87	21.59	21.44
		1	14	21.57	21.57	21.30
		8	0	20.60	20.29	20.25
		8	4	20.58	20.31	20.31
		8	7	20.50	20.33	20.39
		15	0	20.53	20.35	20.40

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19975CH	20175CH	20375CH
				1712.5MHz	1732.5MHz	1752.5MHz
4 / 5M	QPSK	1	0	22.56	22.43	22.29
		1	13	22.64	22.42	22.45
		1	24	22.42	22.51	22.65
		12	0	21.67	21.56	21.65
		12	6	21.65	21.48	21.55
		12	11	21.53	21.59	21.60
		25	0	21.66	21.51	21.36
	16QAM	1	0	21.41	21.36	21.37
		1	13	21.40	21.49	21.43
		1	24	21.35	21.50	21.57
		12	0	20.50	20.57	20.52
		12	6	20.73	20.45	20.51
		12	11	20.68	20.42	20.64
		25	0	20.66	20.57	20.43

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20000CH	20175CH	20350CH
				1715MHz	1732.5MHz	1750MHz
4 / 10M	QPSK	1	0	22.68	22.35	22.57
		1	25	22.68	22.37	22.57
		1	49	22.68	22.31	22.77
		25	0	21.55	21.45	21.44
		25	13	21.60	21.42	21.44
		25	25	21.53	21.42	21.36
		50	0	21.57	21.47	21.36
	16QAM	1	0	21.45	21.18	21.49
		1	25	21.60	21.48	21.54
		1	49	21.43	21.15	21.63
		25	0	20.48	20.38	20.32
		25	13	20.48	20.35	20.33
		25	25	20.47	20.38	20.32
		50	0	20.46	20.39	20.34

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20025CH	20175CH	20325CH
				1717.5MHz	1732.5MHz	1747.5MHz
4 / 15M	QPSK	1	0	22.67	22.49	22.42
		1	38	22.54	22.26	22.33
		1	74	22.74	22.35	22.46
		36	0	21.54	21.47	21.41
		36	18	21.58	21.42	21.43
		36	39	21.52	21.38	21.38
		75	0	21.49	21.41	21.36
	16QAM	1	0	21.45	21.39	21.58
		1	38	21.44	21.35	21.54
		1	74	21.48	21.26	21.69
		36	0	20.46	20.38	20.36
		36	18	20.47	20.39	20.38
		36	39	20.47	20.37	20.38
		75	0	20.46	20.38	20.36

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20050CH	20175CH	20300CH
				1720MHz	1732.5MHz	1740MHz
4 / 20M	QPSK	1	0	22.38	22.53	22.70
		1	50	22.46	22.37	22.59
		1	99	22.38	22.28	22.69
		50	0	21.58	21.47	21.49
		50	25	21.49	21.50	21.45
		50	50	21.55	21.44	21.41
		100	0	21.55	21.46	21.55
	16QAM	1	0	21.13	21.37	21.50
		1	50	21.39	21.32	21.44
		1	99	21.21	21.17	21.49
		50	0	20.48	20.38	20.48
		50	25	20.46	20.38	20.36
		50	50	20.46	20.37	20.35
		100	0	20.49	20.39	20.46

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20775CH	21100CH	21425CH
				2502.5MHz	2535MHz	2567.5MHz
7 / 5M	QPSK	1	0	22.02	21.97	21.99
		1	13	22.01	21.94	22.11
		1	24	22.04	21.97	22.03
		12	0	21.24	21.20	20.84
		12	6	21.22	21.21	21.28
		12	11	21.25	21.25	21.27
		25	0	21.11	21.21	21.37
	16QAM	1	0	21.16	20.91	20.99
		1	13	21.23	21.06	21.07
		1	24	21.10	20.90	21.13
		12	0	20.04	20.45	20.46
		12	6	20.12	20.42	20.35
		12	11	20.17	20.37	20.33
		25	0	20.53	20.50	20.64

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20800CH	21100CH	21400CH
				2505MHz	2535MHz	2565MHz
7 / 10M	QPSK	1	0	22.35	22.33	22.19
		1	25	22.39	22.38	22.34
		1	49	22.29	22.27	22.17
		25	0	21.18	21.26	21.34
		25	13	21.19	21.30	21.48
		25	25	21.28	21.26	21.30
		50	0	21.27	21.27	21.36
	16QAM	1	0	21.18	21.06	21.49
		1	25	21.32	21.05	21.49
		1	49	21.27	20.99	21.38
		25	0	20.20	20.25	20.35
		25	13	20.19	20.31	20.51
		25	25	20.19	20.24	20.39
		50	0	20.26	20.35	20.38

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20825CH	21100CH	21375CH
				2507.5MHz	2535MHz	2562.5MHz
7 / 15M	QPSK	1	0	22.32	22.18	22.05
		1	38	22.32	22.00	22.00
		1	74	22.29	21.97	22.09
		36	0	21.21	21.25	21.17
		36	18	21.24	21.27	21.28
		36	39	21.25	21.29	21.31
		75	0	21.21	21.19	21.25
	16QAM	1	0	21.17	21.22	21.29
		1	38	21.26	21.06	21.28
		1	74	21.31	21.05	21.31
		36	0	20.22	20.28	20.26
		36	18	20.23	20.34	20.28
		36	39	20.22	20.25	20.33
		75	0	20.21	20.32	20.30

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20850CH	21100CH	21350CH
				2510MHz	2535MHz	2560MHz
7 / 20M	QPSK	1	0	22.08	22.13	22.16
		1	50	22.24	22.10	22.38
		1	99	21.99	21.92	22.32
		50	0	21.28	21.22	21.23
		50	25	21.28	21.23	21.16
		50	50	21.25	21.26	21.30
		100	0	21.21	21.21	21.30
	16QAM	1	0	21.03	21.17	20.98
		1	50	21.22	21.07	21.32
		1	99	21.03	20.91	21.25
		50	0	20.28	20.29	20.31
		50	25	20.31	20.29	20.25
		50	50	20.32	20.31	20.38
		100	0	20.30	20.27	20.27

EIRP (dBm):

Modulation	Band	WCDMA Band IV		
	Tx Channel	1312CH	1413CH	1513CH
	Frequency	1712.4MHz	1732.6MHz	1752.6MHz
QPSK	RMC 12.2K	28.20	27.64	27.57
	RMC 64K	28.20	27.64	27.57
	RMC 144K	28.20	27.64	27.57
	RMC 384K	28.22	27.65	27.58
	HSDPA Subtest-1	27.13	26.83	26.70
	HSDPA Subtest-2	27.09	26.82	26.80
	HSDPA Subtest-3	26.55	26.30	26.30
	HSDPA Subtest-4	26.66	26.29	26.22
	HSUPA Subtest-1	26.80	26.13	26.65
	HSUPA Subtest-2	26.05	25.71	25.22
	HSUPA Subtest-3	25.73	25.39	24.89
	HSUPA Subtest-4	26.35	26.01	26.23
	HSUPA Subtest-5	27.08	26.83	26.64

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19957CH	20175CH	20393CH
				1710.7MHz	1732.5MHz	1754.3MHz
4 / 1.4M	QPSK	1	0	28.03	27.98	27.96
		1	2	28.09	28.10	28.05
		1	5	28.02	28.02	28.14
		3	0	28.11	27.86	27.85
		3	1	28.11	27.91	27.94
		3	2	28.12	27.86	27.97
		6	0	27.11	26.95	26.92
	16QAM	1	0	26.93	26.94	26.75
		1	2	26.98	27.09	26.85
		1	5	26.99	26.94	26.87
		3	0	27.21	26.86	26.92
		3	1	27.23	26.97	26.92
		3	2	27.21	26.92	27.05
		6	0	26.02	25.82	25.78

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19965CH	20175CH	20385CH
				1711.5MHz	1732.5MHz	1753.5MHz
4 / 3M	QPSK	1	0	28.24	27.83	27.95
		1	7	28.30	27.97	28.31
		1	14	28.08	27.93	28.22
		8	0	27.14	26.98	26.87
		8	4	27.11	26.97	26.95
		8	7	27.13	26.95	26.94
		15	0	27.09	26.97	26.89
	16QAM	1	0	27.21	26.88	26.68
		1	7	27.37	27.09	26.94
		1	14	27.07	27.07	26.80
		8	0	26.10	25.79	25.75
		8	4	26.08	25.81	25.81
		8	7	26.00	25.83	25.89
		15	0	26.03	25.85	25.90

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19975CH	20175CH	20375CH
				1712.5MHz	1732.5MHz	1752.5MHz
4 / 5M	QPSK	1	0	28.06	27.93	27.79
		1	13	28.14	27.92	27.95
		1	24	27.92	28.01	28.15
		12	0	27.17	27.06	27.15
		12	6	27.15	26.98	27.05
		12	11	27.03	27.09	27.10
		25	0	27.16	27.01	26.86
	16QAM	1	0	26.91	26.86	26.87
		1	13	26.90	26.99	26.93
		1	24	26.85	27.00	27.07
		12	0	26.00	26.07	26.02
		12	6	26.23	25.95	26.01
		12	11	26.18	25.92	26.14
		25	0	26.16	26.07	25.93

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20000CH	20175CH	20350CH
				1715MHz	1732.5MHz	1750MHz
4 / 10M	QPSK	1	0	28.18	27.85	28.07
		1	25	28.18	27.87	28.07
		1	49	28.18	27.81	28.27
		25	0	27.05	26.95	26.94
		25	13	27.10	26.92	26.94
		25	25	27.03	26.92	26.86
		50	0	27.07	26.97	26.86
	16QAM	1	0	26.95	26.68	26.99
		1	25	27.10	26.98	27.04
		1	49	26.93	26.65	27.13
		25	0	25.98	25.88	25.82
		25	13	25.98	25.85	25.83
		25	25	25.97	25.88	25.82
		50	0	25.96	25.89	25.84

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20025CH	20175CH	20325CH
				1717.5MHz	1732.5MHz	1747.5MHz
4 / 15M	QPSK	1	0	28.17	27.99	27.92
		1	38	28.04	27.76	27.83
		1	74	28.24	27.85	27.96
		36	0	27.04	26.97	26.91
		36	18	27.08	26.92	26.93
		36	39	27.02	26.88	26.88
		75	0	26.99	26.91	26.86
	16QAM	1	0	26.95	26.89	27.08
		1	38	26.94	26.85	27.04
		1	74	26.98	26.76	27.19
		36	0	25.96	25.88	25.86
		36	18	25.97	25.89	25.88
		36	39	25.97	25.87	25.88
		75	0	25.96	25.88	25.86

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20050CH	20175CH	20300CH
				1720MHz	1732.5MHz	1740MHz
4 / 20M	QPSK	1	0	27.88	28.03	28.20
		1	50	27.96	27.87	28.09
		1	99	27.88	27.78	28.19
		50	0	27.08	26.97	26.99
		50	25	26.99	27.00	26.95
		50	50	27.05	26.94	26.91
		100	0	27.05	26.96	27.05
	16QAM	1	0	26.63	26.87	27.00
		1	50	26.89	26.82	26.94
		1	99	26.71	26.67	26.99
		50	0	25.98	25.88	25.98
		50	25	25.96	25.88	25.86
		50	50	25.96	25.87	25.85
		100	0	25.99	25.89	25.96

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20775CH	21100CH	21425CH
				2502.5MHz	2535MHz	2567.5MHz
7 / 5M	QPSK	1	0	28.82	28.77	28.79
		1	13	28.81	28.74	28.91
		1	24	28.84	28.77	28.83
		12	0	28.04	28.00	27.64
		12	6	28.02	28.01	28.08
		12	11	28.05	28.05	28.07
		25	0	27.91	28.01	28.17
	16QAM	1	0	27.96	27.71	27.79
		1	13	28.03	27.86	27.87
		1	24	27.90	27.70	27.93
		12	0	26.84	27.25	27.26
		12	6	26.92	27.22	27.15
		12	11	26.97	27.17	27.13
		25	0	27.33	27.30	27.44

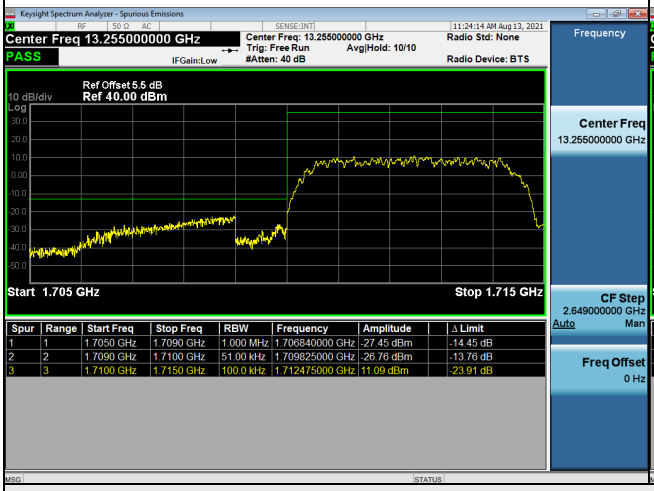
LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20800CH	21100CH	21400CH
				2505MHz	2535MHz	2565MHz
7 / 10M	QPSK	1	0	29.15	29.13	28.99
		1	25	29.19	29.18	29.14
		1	49	29.09	29.07	28.97
		25	0	27.98	28.06	28.14
		25	13	27.99	28.10	28.28
		25	25	28.08	28.06	28.10
		50	0	28.07	28.07	28.16
	16QAM	1	0	27.98	27.86	28.29
		1	25	28.12	27.85	28.29
		1	49	28.07	27.79	28.18
		25	0	27.00	27.05	27.15
		25	13	26.99	27.11	27.31
		25	25	26.99	27.04	27.19
		50	0	27.06	27.15	27.18

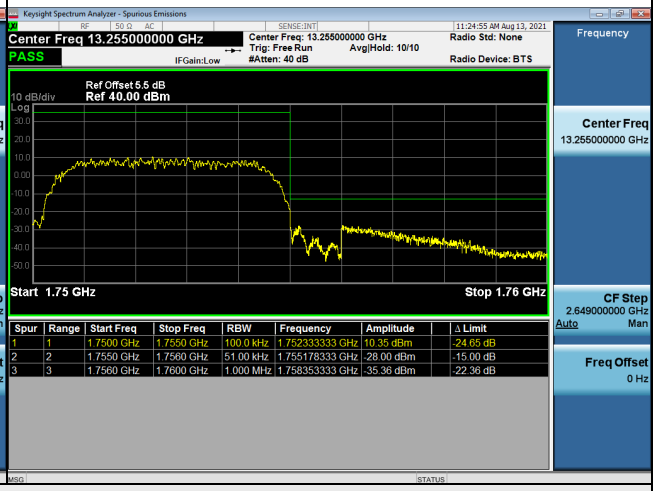
LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20825CH	21100CH	21375CH
				2507.5MHz	2535MHz	2562.5MHz
7 / 15M	QPSK	1	0	29.12	28.98	28.85
		1	38	29.12	28.80	28.80
		1	74	29.09	28.77	28.89
		36	0	28.01	28.05	27.97
		36	18	28.04	28.07	28.08
		36	39	28.05	28.09	28.11
		75	0	28.01	27.99	28.05
	16QAM	1	0	27.97	28.02	28.09
		1	38	28.06	27.86	28.08
		1	74	28.11	27.85	28.11
		36	0	27.02	27.08	27.06
		36	18	27.03	27.14	27.08
		36	39	27.02	27.05	27.13
		75	0	27.01	27.12	27.10

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20850CH	21100CH	21350CH
				2510MHz	2535MHz	2560MHz
7 / 20M	QPSK	1	0	28.88	28.93	28.96
		1	50	29.04	28.90	29.18
		1	99	28.79	28.72	29.12
		50	0	28.08	28.02	28.03
		50	25	28.08	28.03	27.96
		50	50	28.05	28.06	28.10
		100	0	28.01	28.01	28.10
	16QAM	1	0	27.83	27.97	27.78
		1	50	28.02	27.87	28.12
		1	99	27.83	27.71	28.05
		50	0	27.08	27.09	27.11
		50	25	27.11	27.09	27.05
		50	50	27.12	27.11	27.18
		100	0	27.10	27.07	27.07

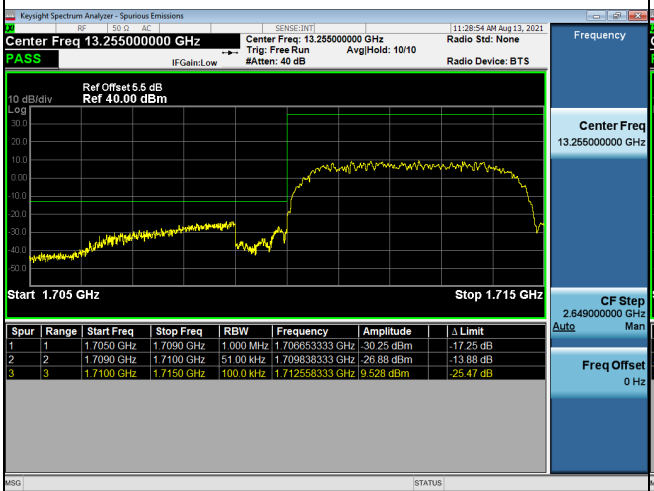
APPENDIX B - BAND EDGE

WCDMA Band IV_WCDMA Spectrum Plot			
Channel	1312	Channel	1513

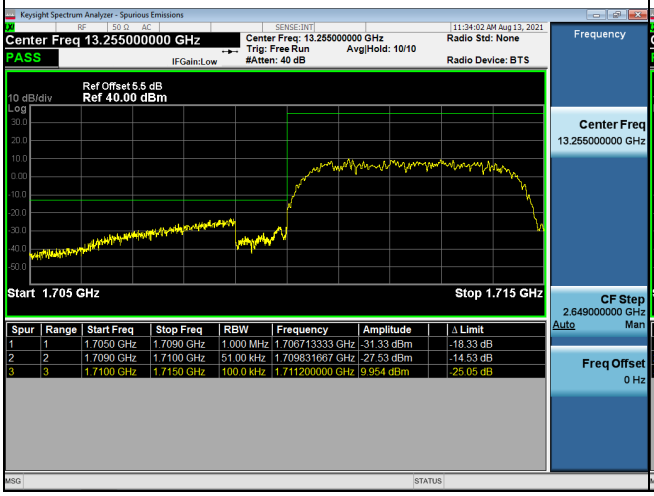


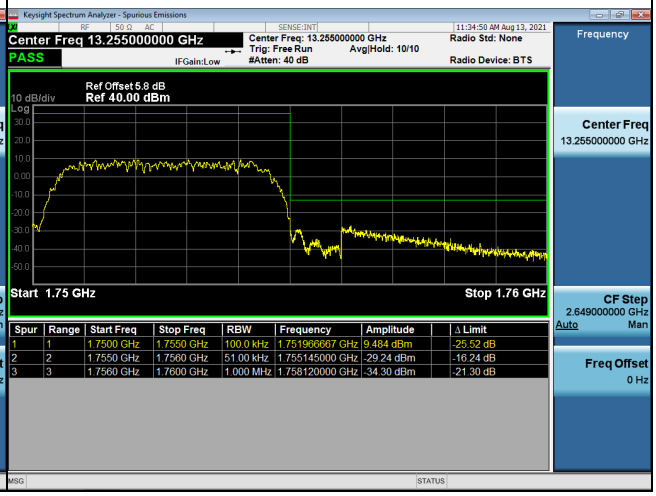


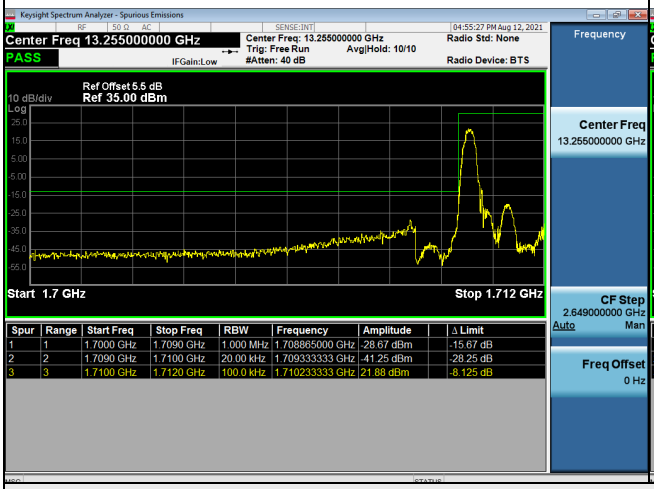
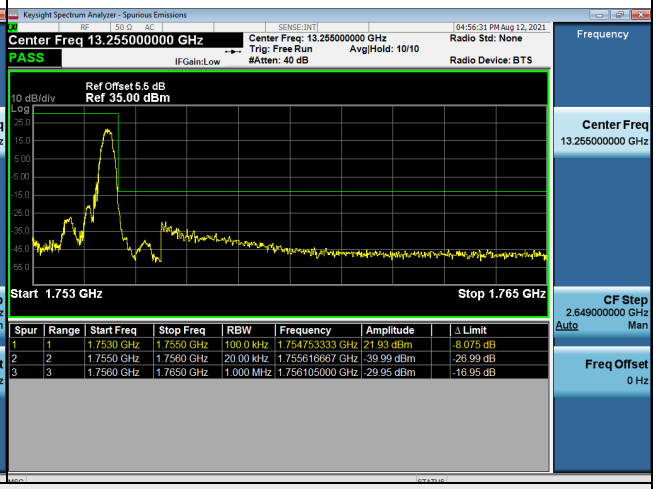
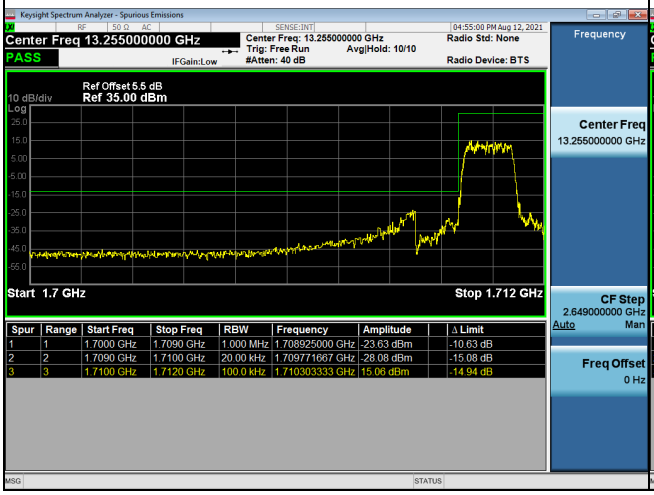
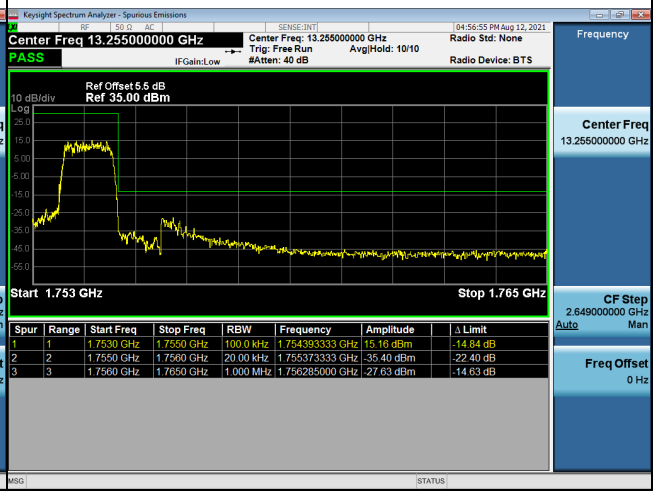
WCDMA Band IV_HSDPA Spectrum Plot			
Channel	1312	Channel	1513

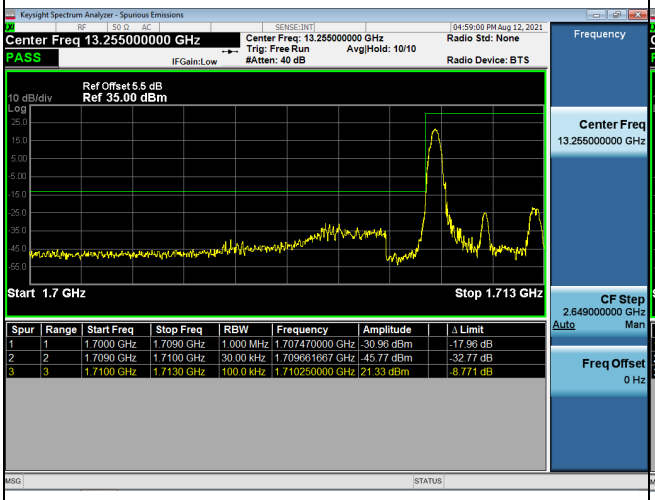
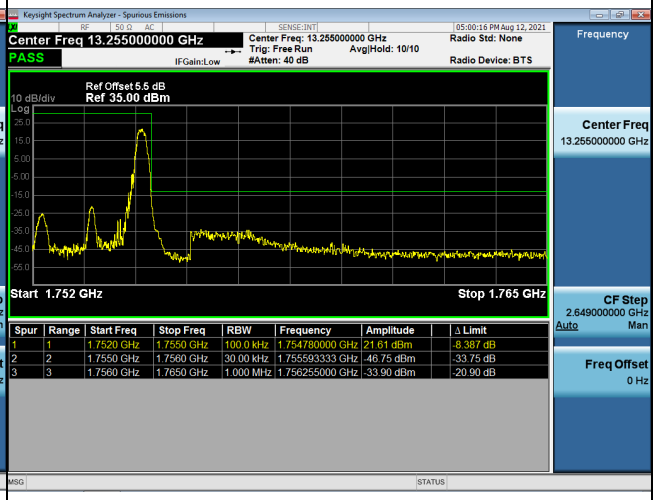
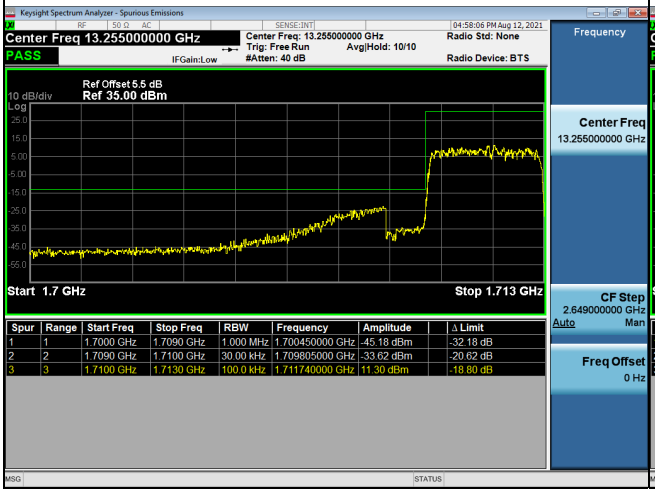
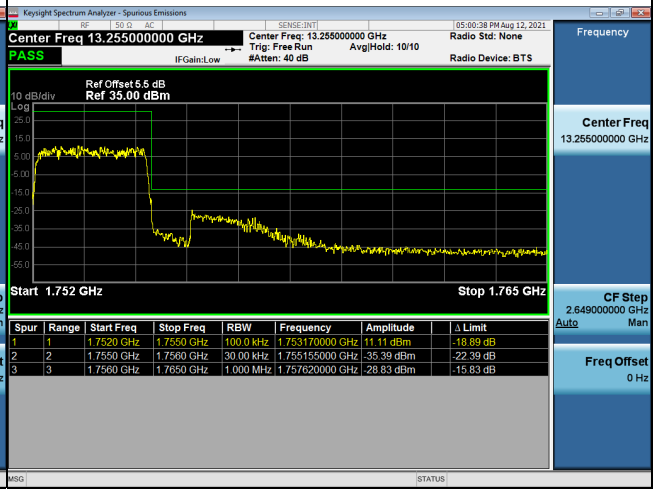


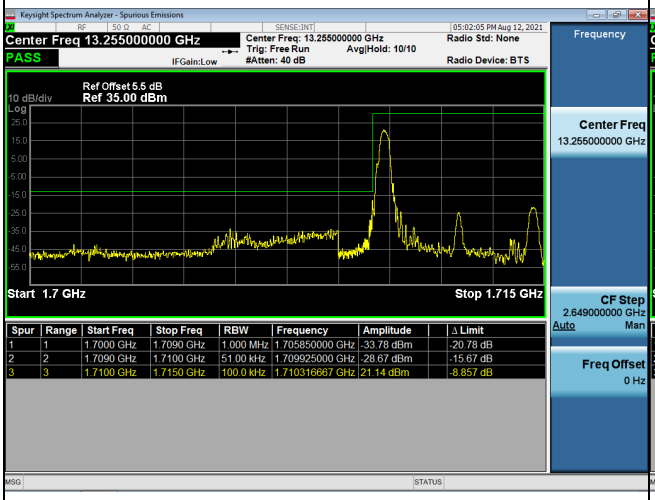
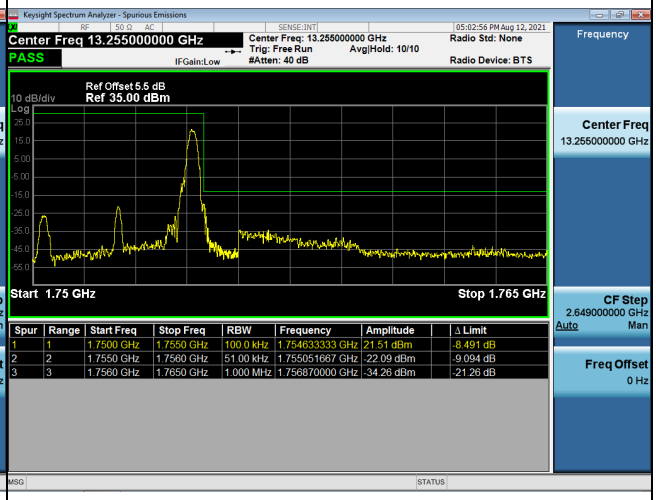
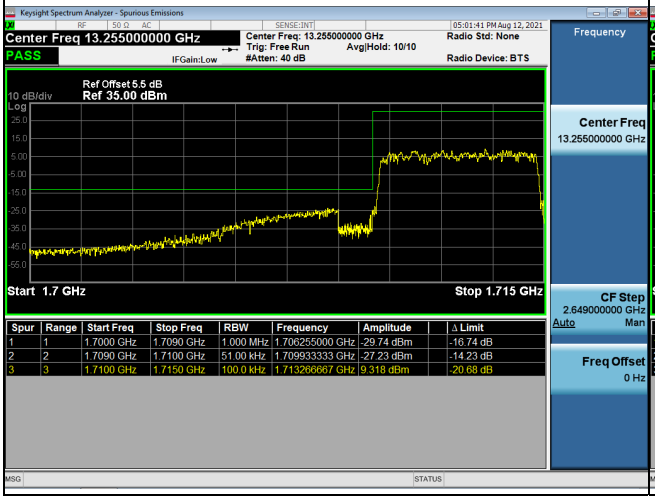
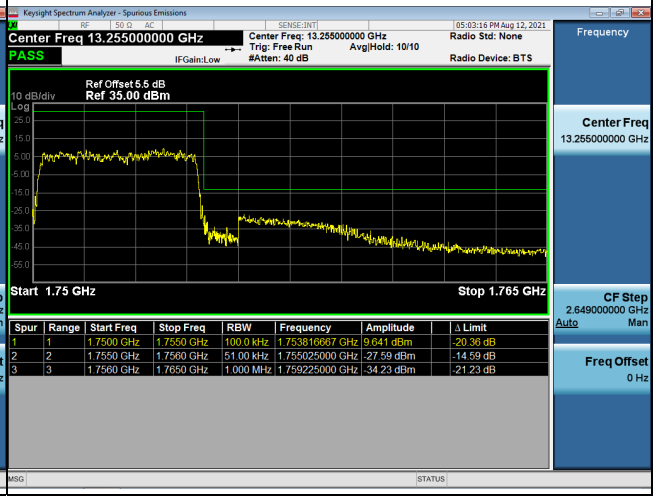
WCDMA Band IV_HSUPA Spectrum Plot			
Channel	1312	Channel	1513





LTE Band 4_1.4M Spectrum Plot			
1RB#0		1RB#5	
Channel	19957	Channel	20393
			
6RB#0			
Channel	19957	Channel	20393
			

LTE Band 4_3M Spectrum Plot			
1RB#0		1RB#14	
Channel	19965	Channel	20385
			
15RB#0			
Channel	19965	Channel	20385
			

LTE Band 4_5M Spectrum Plot			
1RB#0		1RB#24	
Channel	19975	Channel	20375
			
25RB#0			
Channel	19975	Channel	20375
			

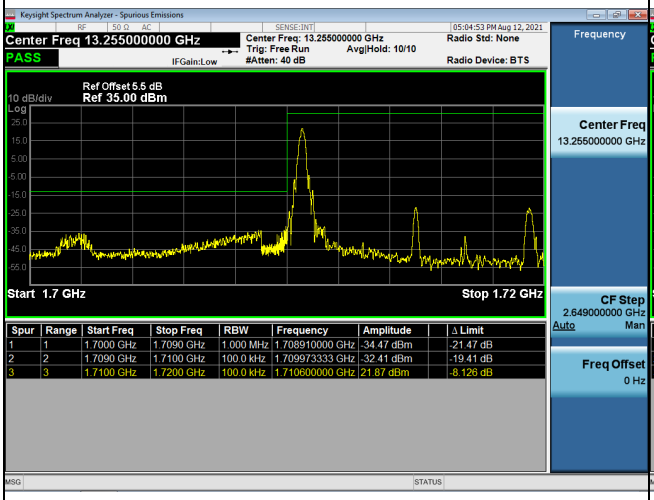
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	1.7000 GHz	1.7090 GHz	1.000 MHz	1.705850000 GHz	-33.78 dBm	-20.78 dB
2	2	1.7090 GHz	1.7100 GHz	51.00 kHz	1.709925000 GHz	-28.67 dBm	-15.67 dB
3	3	1.7100 GHz	1.7150 GHz	100.0 kHz	1.710316667 GHz	21.14 dBm	-8.857 dB

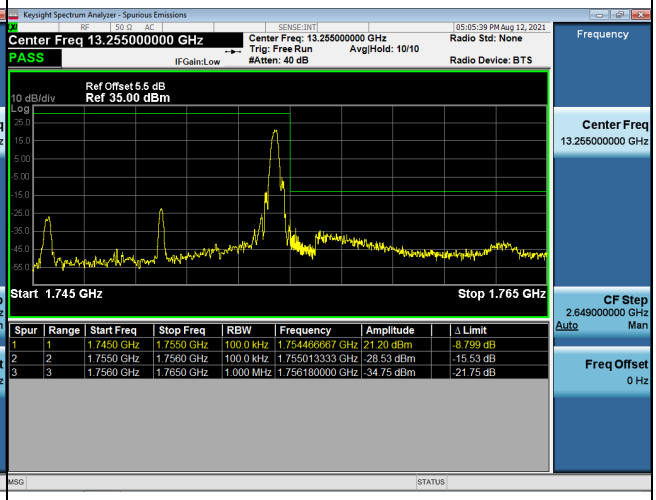
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	1.7500 GHz	1.7550 GHz	100.0 kHz	1.754633333 GHz	21.51 dBm	-8.491 dB
2	2	1.7550 GHz	1.7560 GHz	51.00 kHz	1.755051667 GHz	-22.09 dBm	-9.094 dB
3	3	1.7560 GHz	1.7650 GHz	1.000 MHz	1.756870000 GHz	-34.26 dBm	-21.26 dB

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	1.7000 GHz	1.7090 GHz	1.000 MHz	1.706255000 GHz	-29.74 dBm	-16.74 dB
2	2	1.7090 GHz	1.7100 GHz	51.00 kHz	1.709933333 GHz	-27.23 dBm	-14.23 dB
3	3	1.7100 GHz	1.7150 GHz	100.0 kHz	1.713266667 GHz	9.318 dBm	-20.68 dB

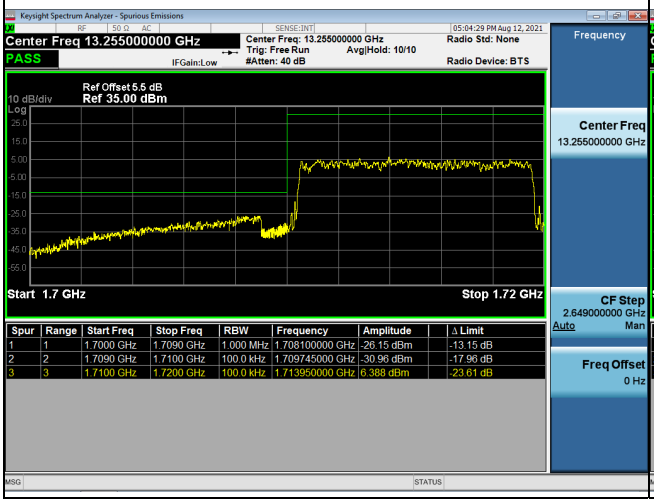
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	1.7500 GHz	1.7550 GHz	100.0 kHz	1.753816667 GHz	9.641 dBm	-20.36 dB
2	2	1.7550 GHz	1.7560 GHz	51.00 kHz	1.755025000 GHz	-27.59 dBm	-14.59 dB
3	3	1.7560 GHz	1.7650 GHz	1.000 MHz	1.759225000 GHz	-34.23 dBm	-21.23 dB

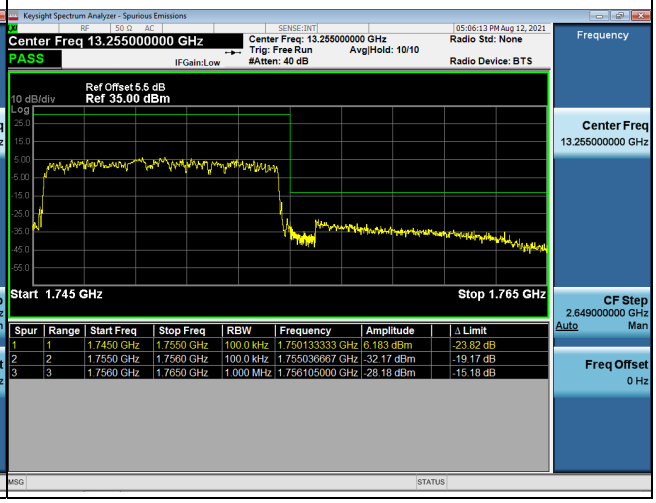
LTE Band 4_10M Spectrum Plot			
1RB#0		1RB#49	
Channel	20000	Channel	20350

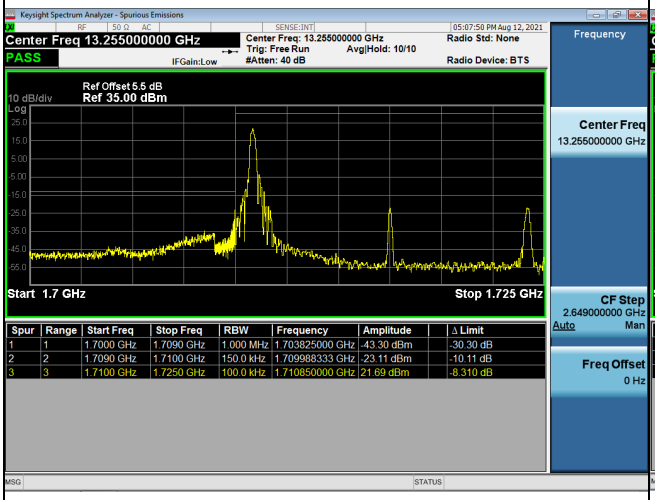
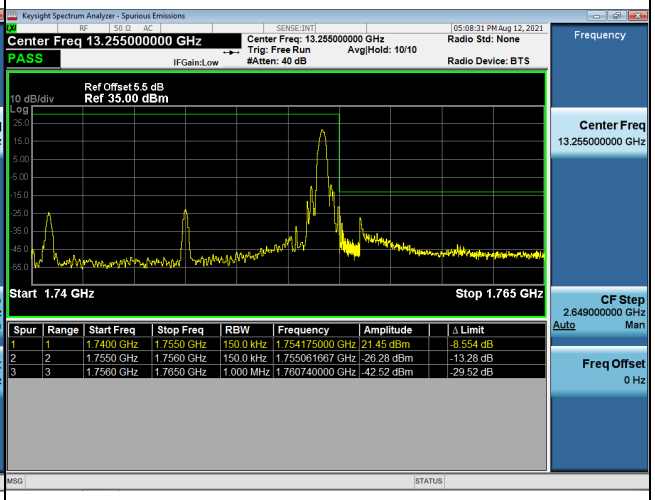
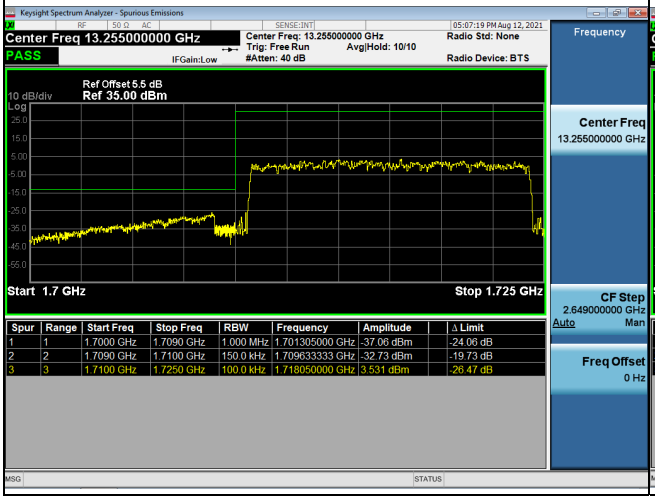
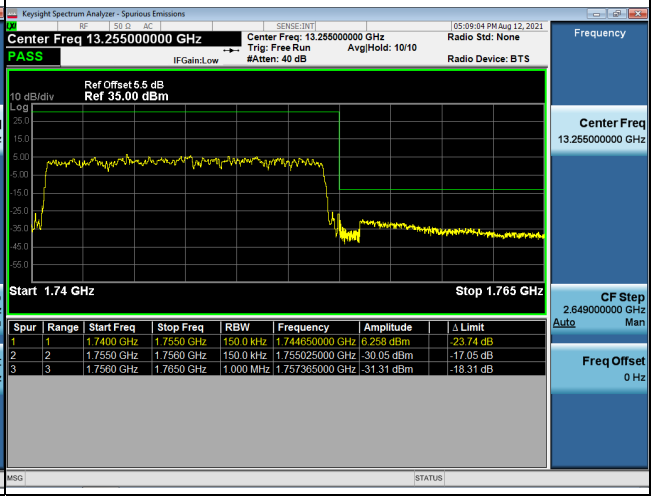


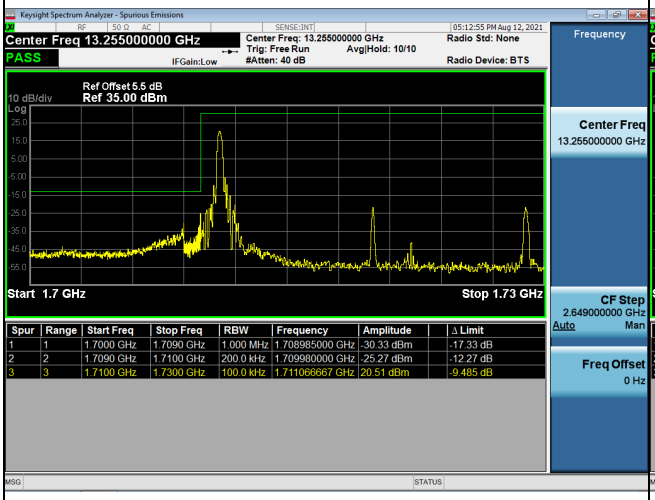
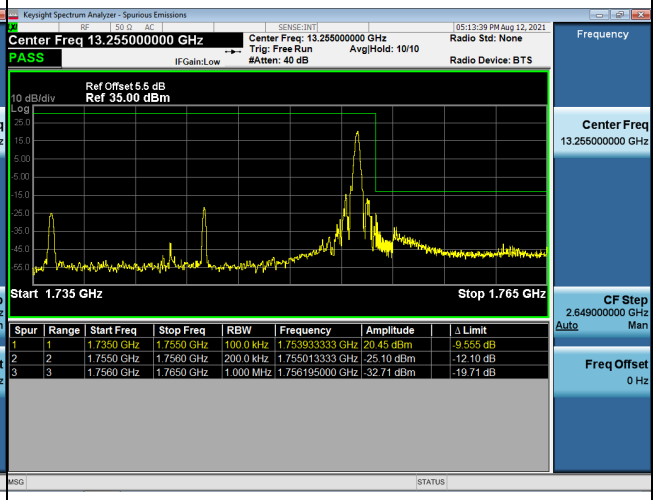
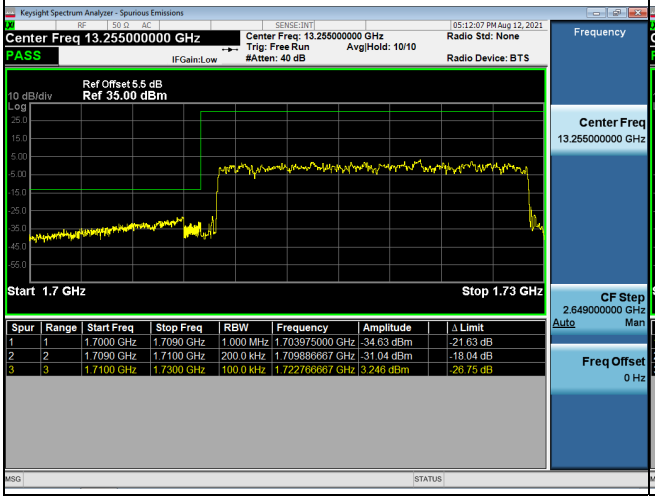
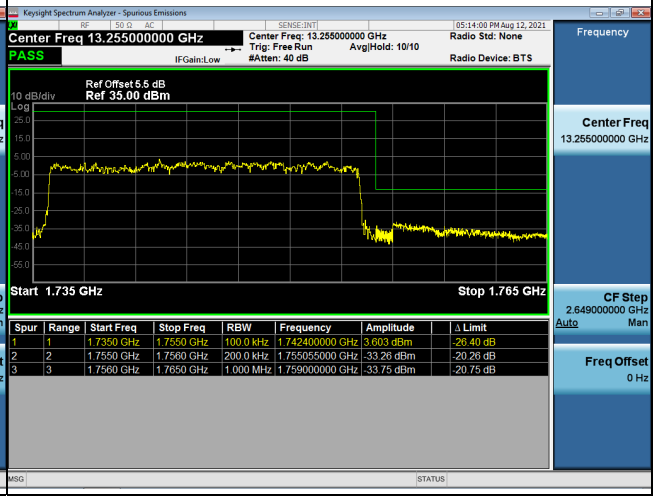


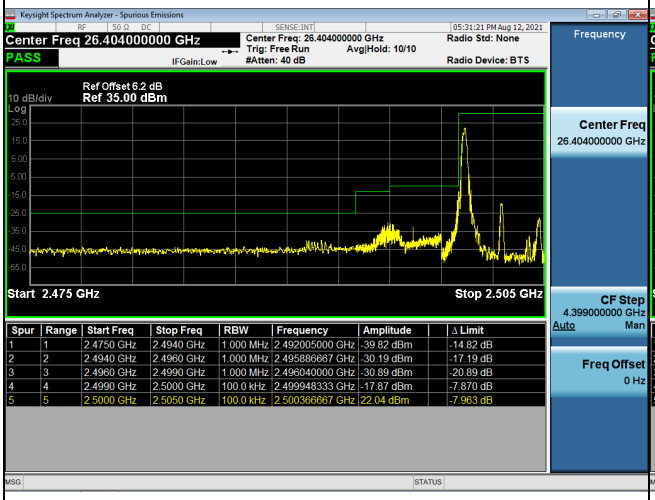
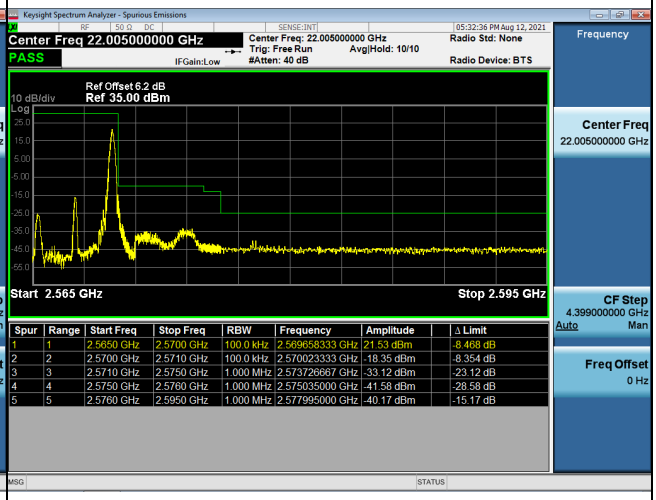
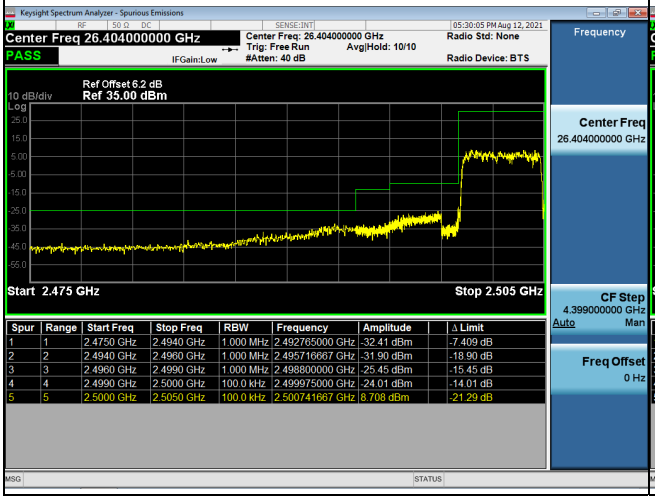
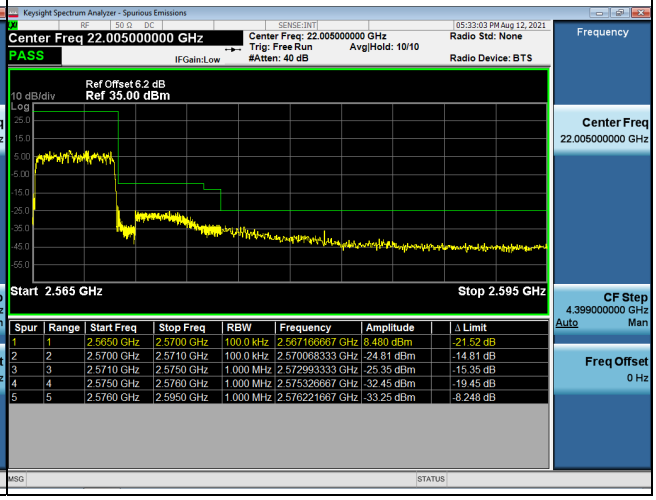
50RB#0			
Channel	20000	Channel	20350

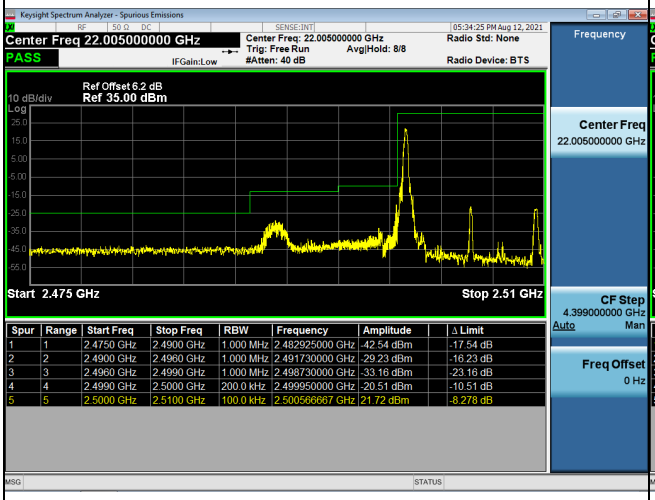
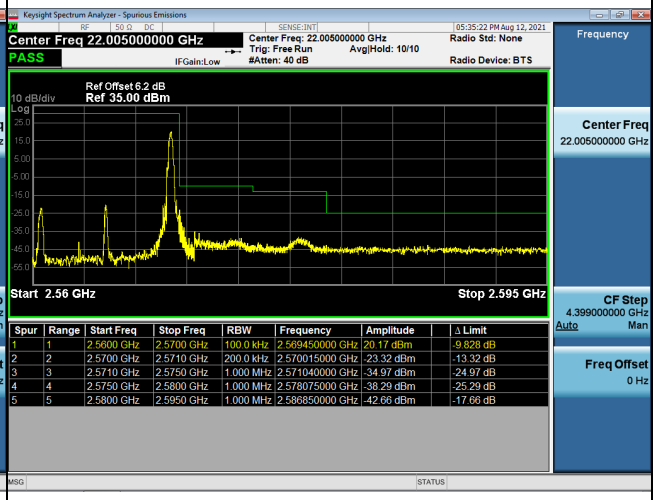
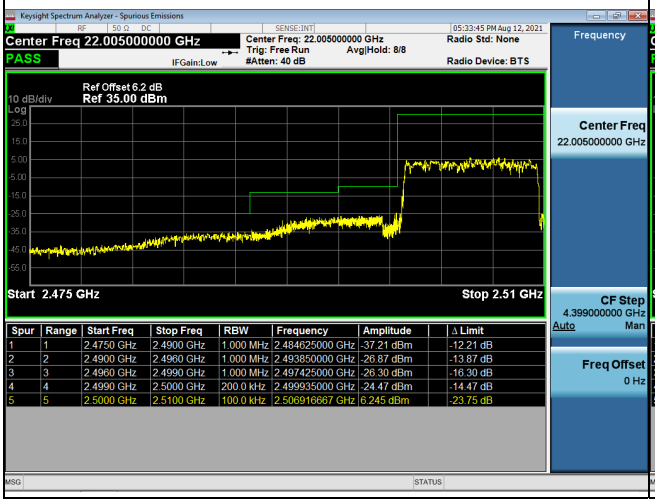




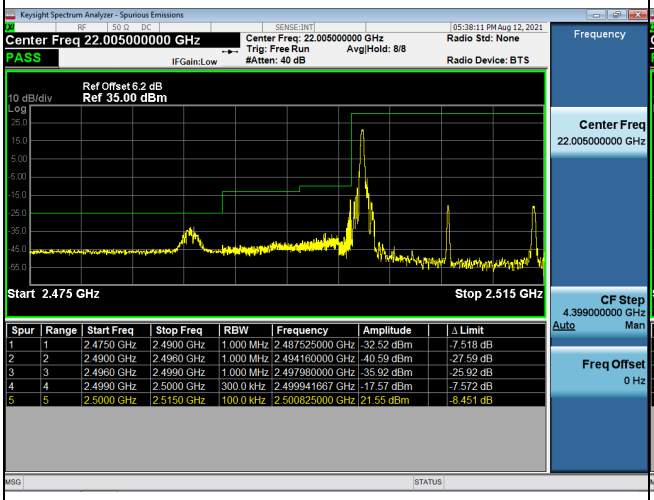
LTE Band 4_15M Spectrum Plot			
1RB#0		1RB#74	
Channel	20025	Channel	20325
			
75RB#0			
Channel	20025	Channel	20325
			

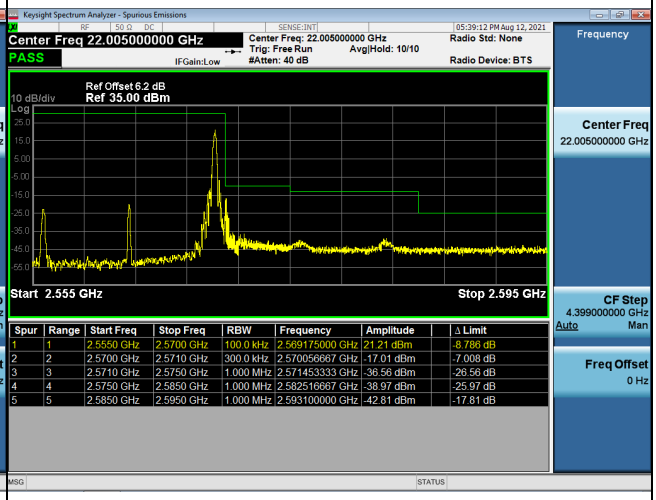
LTE Band 4_20M Spectrum Plot			
1RB#0		1RB#99	
Channel	20050	Channel	20300
			
100RB#0			
Channel	20050	Channel	20300
			

LTE Band 7_5M Spectrum Plot			
1RB#0		1RB#24	
Channel	20775	Channel	21425
			
25RB#0			
Channel	20775	Channel	21425
			

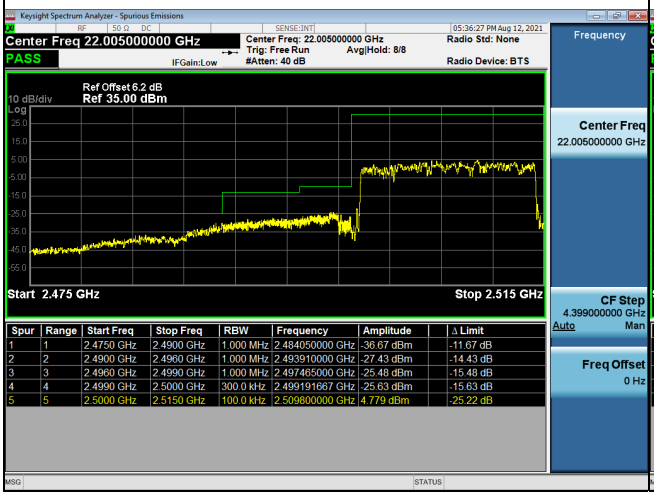
LTE Band 7_10M Spectrum Plot			
1RB#0		1RB#49	
Channel	20800	Channel	21400
			
50RB#0			
Channel	20800	Channel	21400
			

LTE Band 7_15M Spectrum Plot			
1RB#0		1RB#74	
Channel	20825	Channel	21375

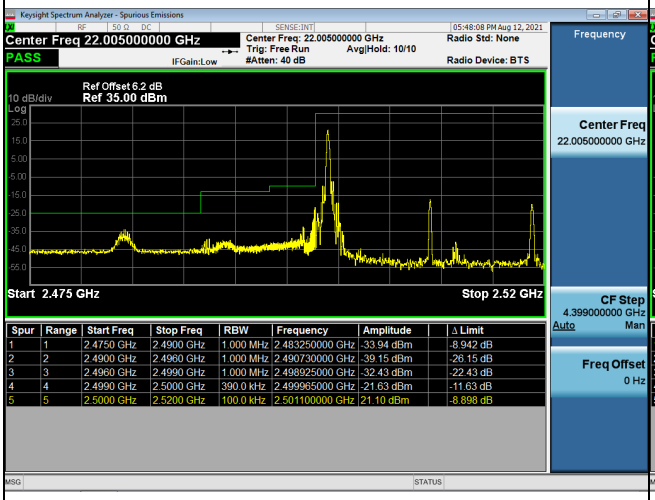


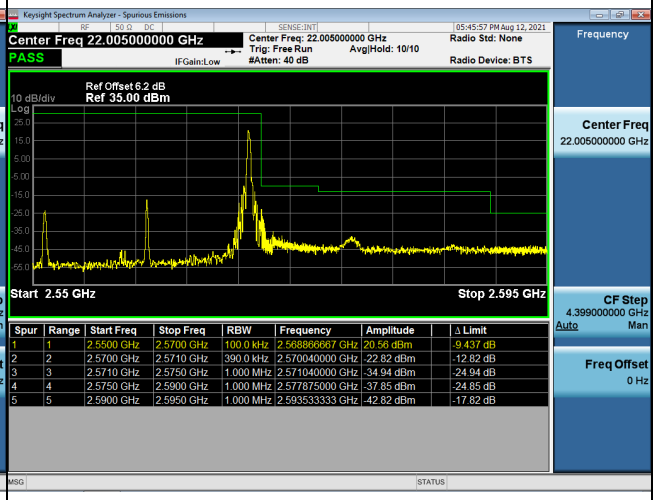


75RB#0			
Channel	20825	Channel	21375

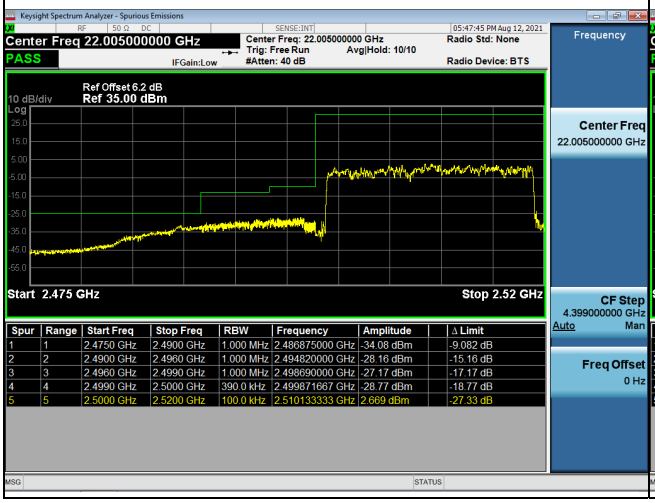


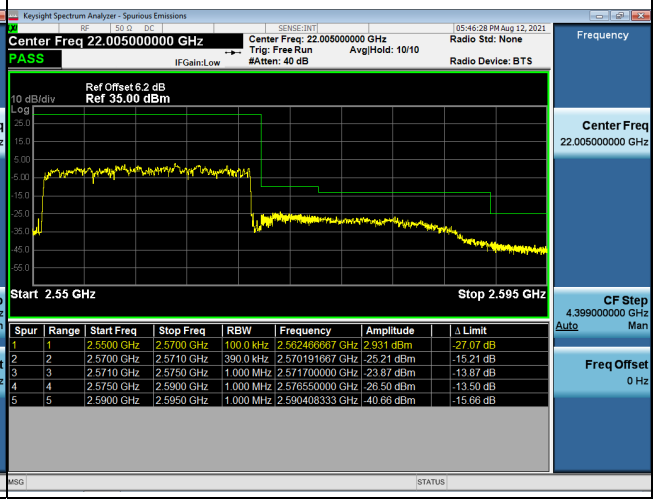
LTE Band 7_20M Spectrum Plot			
1RB#0		1RB#99	
Channel	20850	Channel	21350





100RB#0			
Channel	20850	Channel	21350





End of Test Report