

The results are summarized in the following table. The highest (worst case) emissions from the measurement data are provided.

Test Cases	QPSK		160	AM	64QAM			
Test cases	LBE	UBE	LBE	UBE	LBE	UBE		
AWS Single Carrier at	-22.392	-22.496	-23.583	-22.956	-23.025	-22.588		
Band Edge Frequency								
AWS Multicarrier at	-23 933	-22 845	-24 283	-22 782	-24 071	-23 139		
2112.4, 2117.4 & 2167.6MHz	23.333	22.015	21.205	22.702	21.071	23.135		
Multiband Multicarrier at	Test Results documented in Annendix C							
1932.4, 1937.4 & 2167.6MHz		rest results documented in Appendix C.						

The total measurement RF path loss of the test setup (attenuator and test cables) was 40.4 dB and is accounted for by the spectrum analyzer reference level offset. The display line on the plots reflects the required limit.

Conducted band edge measurements are provided in the following pages.



Single Carrier with QPSK Modulation at Maximum Power -Lower and Upper Band Edge Plots:

WCDMA Carrier at BC (2112.4MHz)

Port 3_LBE_2109 to 2121MHz



Port 3 LBE 2108 to 2109MHz



WCDMA Carrier at TC (2167.6MHz)

Port 3_UBE_2159 to 2171MHz



Port 3_UBE_2171 to 2172MHz



Port 3_LBE_2088 to 2108MHz









Single Carrier with 16QAM Modulation at Maximum Power -Lower and Upper Band Edge Plots:

WCDMA Carrier at BC (2112.4MHz)

Port 3_LBE_2109 to 2121MHz



WCDMA Carrier at TC (2167.6MHz)

Port 3_UBE_2159 to 2171MHz



Port 3_LBE_2108 to 2109MHz

* 1	silent 09:	44:39 7	Jun 2019)				L		
Ref Ø	dBm		#At	ten 20 d	В					
ŧAvg	í –									
Log 1Й										
d₿/										
Offst										
40.4 dB										
DO										
100										
W1 \$2										
Start	2.108 000) GHz						St	op 2.109	000 GHz
≢Res L	3W 51 kHz			•	VBW 160	kHz		Sweep 1	.6 ms (8	001 pts)
Cha	nnel Pov	ver					Po	ower Sp	ectral D	ensity
-28	-26.20 dBm /1.0000 MHz							-86.2	20 dBn	1/Hz

Port 3_UBE_2171 to 2172MHz





Port 3_UBE_2172 to 2192MHz





Single Carrier with 64QAM Modulation at Maximum Power -Lower and Upper Band Edge Plots:

WCDMA Carrier at BC (2112.4MHz)

Port 3_LBE_2109 to 2121MHz





WCDMA Carrier at TC (2167.6MHz)

Port 3_UBE_2159 to 2171MHz



Port 3_UBE_2171 to 2172MHz



Port 3_LBE_2088 to 2108MHz









AWS Band Multicarrier with QPSK Modulation at Max Power at Bottom Chs and at Top Ch -LBE & UBE Plots:

WCDMA Carriers at 2112.4, 2117.4 & 2167.6MHz

Aglent 12:24:17 11 Jun 2019 L Ref 50 dBm +Atten 22 dB -35.057 dBm HVag 2.1100000000 GHz -35.057 dBm 10 2.1100000000 GHz -35.057 dBm 10 -35.057 dBm -35.057 dBm -35.057 dBm 11 -35.057 dBm -35.057 dBm -35.057 dBm 12 -35.057 dBm -35.057 dBm -35.057 dBm 16,0 -35.057 dBm -35.057 dBm -35.057 dBm 16,0 -35.057 dBm -35.057 dBm -35.057 dBm 10 -35.057 dBm -35.057 dBm -35.057 dBm 11 -35.057 dBm -35.057 dBm -35.057 dBm 100 -35.057 dBm -35.057 dBm -35.057 dBm 101 -35.057 dBm -35.057 dBm -35.057 dBm 102 -35.057 dBm -35.057 dBm -35.057 dBm 103 -35.057 dBm -35.057 dBm -35.057 dBm 104 -35.057 dBm -35.057 dBm -35.057 dBm 105 -35.057 dBm

Port 3_LBE_2109 to 2121MHz

Port 3_LBE_2108 to 2109MHz



WCDMA Carriers at 2112.4, 2117.4 & 2167.6MHz

Port 3_UBE_2159 to 2171MHz



Port 3_UBE_2171 to 2172MHz



Port 3_LBE_2088 to 2108MHz









AWS Band Multicarrier with 16QAM Modulation at Max Power at Bottom Chs and at Top Ch -LBE & UBE Plots:

WCDMA Carriers at 2112.4, 2117.4 & 2167.6MHz

Aglent 12:36:06 11 Jun 2019 L Ref 50 dBm •Alten 22 dB -35:395 dBm 100 2.1100000000 GHz -35:395 dBm 101 2.1100000000 GHz -35:395 dBm 102 -35:395 dBm -35:395 dBm -35:395 dBm 103 -35:395 dBm -35:395 dBm -35:395 dBm 104 -35:395 dBm -35:395 dBm -35:395 dBm 104 -35:395 dBm -35:395 dBm -35:395 dBm 104 -35:395 dBm -35:395 dBm -35:395 dBm 105 -35:395 dBm -35:395 dBm -35:395 dBm 104 -35:395 dBm -35:395 dBm -35:395 dBm 105 -35:395 dBm -35:395 dBm -35:395 dBm 105 -35:395 dBm -35:395 dBm -35:395 dBm 105 -35:395 dBm -35:395 dBm -35:395 dBm 106 -35:395 dBm -35:395 dBm -35:395 dBm 107 -35:395 dBm -35:395 dBm -35:395 dBm 108 -35:395 dBm</td

Port 3_LBE_2109 to 2121MHz

Port 3_LBE_2108 to 2109MHz



WCDMA Carriers at 2112.4, 2117.4 & 2167.6MHz

Port 3_UBE_2159 to 2171MHz



Port 3_UBE_2171 to 2172MHz













AWS Band Multicarrier with 64QAM Modulation at Max Power at Bottom Chs and at Top Ch -LBE & UBE Plots:

WCDMA Carriers at 2112.4, 2117.4 & 2167.6MHz

Aglent 12:46:08 11 Jun 2019 L Ref 50 dBm +Alten 22 dB -35.643 dBm 100 2.1100000000 GHz -35.643 dBm 2.1100000000 GHz -35.643 dBm -35.643 dBm 01 -35.643 dBm -35.643 dBm -35.643 dBm 02 -35.643 dBm -35.643 dBm -35.643 dBm 03 -35.643 dBm -35.643 dBm -35.643 dBm 04 -35.643 dBm -35.643 dBm -35.643 dBm 05 -35.643 dBm -35.643 dBm -35.643 dBm 04 -35.643 dBm -35.643 dBm -35.643 dBm 05 -35.643 dBm -35.643 dBm -35.643 dBm 04 -35.643 dBm -35.643 dBm -35.643 dBm 05 -35.643 dBm -35.643 dBm -35.643 dBm 04 -35.643 dBm -35.643 dBm -35.643 dBm 05 -35.643 dBm -35.643 dBm -35.643 dBm 06 -35.643 dBm -35.643 dBm -35.643 dBm 104 -35.643 dBm

Port 3_LBE_2109 to 2121MHz

Port 3_LBE_2108 to 2109MHz



WCDMA Carriers at 2112.4, 2117.4 & 2167.6MHz

Port 3_UBE_2159 to 2171MHz



Port 3_UBE_2171 to 2172MHz













Transmitter Antenna Port Conducted Emissions

Transmitter conducted emission measurements were made at RRH antenna port 3. Measurements were performed over the 9kHz to 22GHz frequency range.

Single Carrier Test Cases

The single carrier test case was performed with the RRH operating on the PCS middle channel (1960.0MHz) and AWS middle channel (2140.0MHz) simultaneously with all WCDMA modulation types (QPSK, 16QAM and 64QAM) at maximum power. The same modulation type was used for both PCS and AWS carriers.

PCS Multicarrier Multiband Test Case

In the PCS band: Three carriers (based upon KDB 971168 D03v01) using two carriers (with minimum spacing between carrier frequencies) at the lower band edge (UARFCN 9662: 1932.4 & UARFCN 9687: 1937.4MHz) and a third carrier with maximum spacing between the other two carrier frequencies (UARFCN 9938: 1987.6MHz) at the upper band edge. In the AWS band: Single WCDMA carrier at the middle channel (UARFCN 3250: 2140MHz). The carriers were operated at maximum power (~26W/PCS carrier and 40W/AWS carrier) with at total port power of 120 watts (80W for PCS band carriers + 40W for AWS band carrier). The same modulation type was used for both PCS and AWS carriers.

AWS Multicarrier Multiband Test Case

In the AWS band: Three carriers (based upon KDB 971168 D03v01) using two carriers (with minimum spacing between carrier frequencies) at the lower band edge (UARFCN 3112: 2112.4 & UARFCN 3137: 2117.4MHz) and a third carrier with maximum spacing between the other two carrier frequencies (UARFCN 3388: 2167.6MHz) at the upper band edge. In the PCS band: Single WCDMA carrier at the middle channel (UARFCN 9800: 1960.0MHz). The carriers were operated at maximum power (80W/PCS carrier and ~13W/AWS carrier) with at total port power of 120 watts (80W for PCS band carrier + 40W for AWS band carriers). The same modulation type was used for both PCS and AWS carriers.

Multicarrier Multiband Test Case

Three carriers (based upon KDB 971168 D03v01) using two carriers (with minimum spacing between carrier frequencies) at the PCS band lower band edge (UARFCN 9662: 1932.4 & UARFCN 9687: 1937.4MHz) and a third carrier with maximum spacing between the other two carrier frequencies (UARFCN 3388: 2167.6MHz) at the AWS band upper band edge. The carriers were operated at maximum power (40W/PCS carrier and 40W/AWS carrier) with at total port power of 120 watts (80W for PCS band carriers + 40W for AWS band carrier). The same modulation type was used for both PCS and AWS carriers.



The test configuration parameters are provided below:

PCS Band Transn	nission Paramet	ers	AWS Band Transmission Parameters				
Carrier	Channel	Carrier	Carrier	Channel	Carrier		
Frequency	Bandwidth	Power	Frequency	Bandwidth	Power		
1960.0MHz (Mid Ch)	WCDMA 5M	80 Watts	2140.0MHz (Mid Ch)	WCDMA 5M	40 Watts		
1932.4, 1937.4 & 1987.6MHz (BC, BC+1, and TC)	WCDMA 5M	26+26+26 Watts	2140.0MHz (Mid Ch)	WCDMA 5M	40 Watts		
1932.4 & 1937.4MHz (BC and BC+1)	WCDMA 5M	40 + 40 Watts	2167.6MHz (Top Ch)	WCDMA 5M	40 Watts		
1960.0MHz (Mid Ch)	WCDMA 5M	80 Watts	2112.4, 2117.4 & 2167.6MHz (BC, BC+1, and TC)	WCDMA 5M	13+13+13 Watts		

The power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm as specified in section 24.238(a), 27.53(h)(1), RSS 133 6.5(i) and RSS 139 6.6. The limit of -16dBm was used in the certification testing. The limit is adjusted to -16dBm [-13dBm -10 log (2)] per FCC KDB 662911D01 v02r01 because the BTS may operate as a 2 port MIMO transmitter. The required measurement parameters include a 1MHz bandwidth with power measured in average value (since transmitter power was measured in average value).

Measurements were performed with a spectrum analyzer using a peak detector with max hold over 50 sweeps (except for the 20MHz to 3GHz frequency range). Measurements for the 20MHz to 3GHz frequency range was performed with the spectrum analyzer in the RMS average mode over 100 traces.

The limit for the 9kHz to 150kHz frequency range was adjusted to -46dBm to correct for a spectrum analyzer RBW of 1kHz versus required RBW of 1MHz [i.e.: -46dBm = -16dBm - 10log(1000kHz/1kHz)]. The limit for the 150kHz to 20MHz frequency range was adjusted to -36dBm to correct for a spectrum analyzer RBW of 10kHz versus required RBW of 1MHz [i.e.: -36dBm = -16dBm - 10log(1000kHz/10kHz)]. The required limit of -16dBm with a RBW of ≥ 1 MHz was used for all other frequency ranges. The spectrum analyzer settings that were used for this test are summarized in the following table.

Frequency Range	RBW	VBW	Number of Data Points	Detector	Sweep Time	Max Hold over	Offset Note (1)
9kHz to 150kHz	1kHz	3kHz	8001	Peak	Auto	50 Sweeps	8.7dB
150kHz to 20MHz	10kHz	30kHz	8001	Peak	Auto	50 Sweeps	8.7dB
20MHz to 3GHz	1MHz	3MHz	8001	Average	Auto	Note (2)	40.4dB
3GHz to 6GHz	1MHz	3MHz	8001	Peak	Auto	50 Sweeps	40.2dB
6GHz to 18GHz	2MHz	6MHz	8192	Peak	Auto	50 Sweeps	33.1dB
18GHz to 22GHz	1MHz	3MHz	8001	Peak	Auto	50 Sweeps	41.3dB
1900 to 2200MHz	1MHz	3MHz	8001	Average	Auto	Note (2)	40.4dB
				1.1 1.01		16 1 1	

Note 1: The total measurement RF path loss of the test setup (attenuators, test cables and filters) is accounted for by the spectrum analyzer reference level offset.

Note 2: Max Hold not used and instead measurements were performed with the spectrum analyzer in the RMS average mode over 100 traces.

A low pass filter was used to reduce the measurement instrumentation noise floor for the frequency ranges below 20MHz. A high pass filter was used to reduce the measurement instrumentation noise floor for the frequency range above 6GHz. The total measurement RF path loss of the test setup (attenuators, low pass filter, high pass filter and test cables) as shown in the table is accounted for by the spectrum analyzer reference level offset. The display line on the plots reflects the required limit. Conducted spurious emission plots/measurements are provided in Appendix C of this report.



Transmitter Radiated Spurious Emissions

Radiated emission measurement results are in Appendix A.

Frequency Stability/Accuracy

Frequency Stability/Accuracy measurement results are in Appendix A.



APPENDIX E: ANTENNA PORT GSM/EDGE TEST DATA FOR THE PCS BAND

All conducted RF measurements in this section were made at AHFIG antenna port 3. Based on the RF power measurement results shown in Appendix A & B, Port 3 had the highest LTE RMS average power for the PCS and AWS bands (represents the worst case) and therefore it was selected for all the remaining antenna port tests. All testing in this section was performed with GSM/EDGE modulation types. The test setup used is provided below.



Test Setup Used for AHFIG Conducted RF Measurements



RF Output Power

RF output power has been measured in both Peak and RMS Average terms at AHFIG Antenna Port 3 at the bottom, middle and top frequency channels for GSM/EDGE modulations. RMS Average power was measured as described in section 5.2 of KDB 971168 D01v03r01 and ANSI C63.26-2015 sections 5.2.4.3. Peak power was measured as described in section 5.1 of KDB 971168 D01v03r01 and ANSI C63.26-2015 section 5.2.3.3. The peak to average power ratio (PAPR) has been calculated as described in section 5.7 of KDB971168 D01v03r01 and ANSI C63.26-2015 section 5.2.6. All results are presented in tabular form below. The highest values are highlighted.

Single Carrier Test Configurations at Antenna Port 3									
Modulation	Frequency _ Channel	Peak (dBm)	Average (dBm)	PAPR (dB)					
	1930.2MHz _ Bottom Channel [*]	34.640	34.387	0.253					
GMSK	1930.4MHz _ BC+1	48.777	48.503	0.274					
	1960.0MHz _ Middle Channel	48.847	48.701	0.146					
	1989.6MHz _ TC-1	48.888	48.595	0.293					
	1989.8MHz _ Top Channel [*]	34.962	34.647	0.315					
	1930.2MHz _ Bottom Channel [*]	37.764	34.947	2.817					
	1930.4MHz _ BC+1	51.784	48.884	2.900					
8PSK	1960.0MHz _ Middle Channel	51.910	48.803	3.107					
	1989.6MHz _ TC-1	52.065	49.062	3.003					
	1989.8MHz _ Top Channel [*]	37.937	34.922	3.015					

*Reduced Power Channels

The power levels at the bottom and top channels had to be reduced by 14 dB to meet the band edge emission requirements. The next channel from the band edge (i.e.: BC+1 and TC-1) met the band edge emission requirements with the RRH operating at maximum output power.



RF output power has been measured for the multicarrier test configurations to verify/document the power levels. The minimum spacing between adjacent GSM/EDGE carriers is 400kHz. The maximum RF bandwidth is 37.5MHz (for rated power) for GSM carriers on the same antenna port. All results are presented in tabular form below.

Multicarrier Test Configurations at Antenna Port 3										
Test Configuration	Modulation Type	Frequency _ Channel	Ave Pwr	Total PCS Band Ave Pwr						
Three Carriers		1930.2MHz _ Bottom Channel	38.342dBm (6.83 Watts)	(10.92 Watts)						
at Bottom Channels	GMSK	1967.4MHz _ Max Spacing	36.113dBm (4.09 Watts)	40.4dBm						
Maximum Spacing		1930.2MHz _ Bottom Channel	38.375dBm (6.88 Watts)	(11.21 Watts)						
Reduced Power	8PSK	8PSK 1967.4MHz _ Max Spacing		40.5dBm						
		1930.4MHz _ Bot Ch+1	46.413dBm	(68.8 Watts)						
Three Carriers at	GMSK	1930.8MHz _ BC Min Spacing	(43.8 Watts)							
Bot Channels + 1 and at		1967.6MHz _ Max Spacing	43.982dBm (25.0 Watts)	48.4dBm						
Maximum Spacing at Maximum Power	8PSK	1930.4MHz _ Bot Ch+1 1930.8MHz BC Min Spacing	46.545dBm (45.1 Watts)	(71.7 Watts)						
	8428	1967.6MHz _ Max Spacing		48.6dBm						
		1989.8MHz _ Top Channel		(11.22 \W/atts)						
Three Carriers at	GMSK	1989.4MHz _ TC Min Spacing	(7.62 Watts)	(11.55 Walls)						
Top Channels and at		1952.6MHz _ Max Spacing	35.693dBm (3.71 Watts)	40.5dBm						
Maximum Spacing		1989.8MHz _ Top Channel	38.939dBm	(11.88 Watts)						
at Reduced Power	8PSK	1989.4MHz _ TC Min Spacing	(7.83 Watts)							
		1952.6MHz _ Max Spacing	(4.05 Watts)	40.8dBm						
Thurs Comission		1989.6MHz _ Top Ch-1	46.903dBm	(71.7 Watts)						
at	GMSK	1989.2MHz _ TC Min Spacing	(49.0 Watts)							
Top Channels - 1		1952.4MHz _ Max Spacing	(22.7 Watts)	48.6dBm						
Maximum Spacing		1989.6MHz _ Top Ch-1	47.172dBm	(77.6 Watts)						
at Maximum Power	8PSK	1989.2MHz _ TC Min Spacing	(52.1 Watts)	(
Waximum Fower		1952.4MHz _ Max Spacing	(25.5 Watts)	48.9dBm						

The power levels at the bottom and top channels had to be reduced by 8 dB to meet the band edge emission requirements. The next channel from the band edge (i.e.: BC+1 and TC-1) met the band edge emission requirements with the RRH operating at maximum output power.

All measurement results are provided in the following pages. The total measurement RF path loss of the test setup (attenuator and test cables) was 40.4 dB and is accounted for by the spectrum analyzer reference level offset.



Single Carrier Power Plots at AHFIG Antenna Port 3 for GMSK Modulation

Bottom Channel_1930.2MHz_Peak



Bottom Channel +1_1930.4MHz__Peak



Middle Channel_1960.0MHz_Peak





Bottom Channel +1_1930.4MHz_Average



Middle Channel_1960.0MHz_Ave





Single Carrier Power Plots at AHFIG Antenna Port 3 for GMSK Modulation continued





Top Channel_1989.8MHz_Peak









Single Carrier Power Plots at AHFIG Antenna Port 3 for 8PSK Modulation

Bottom Channel_1930.2MHz_Peak



Bottom Channel +1_1930.4MHz__Peak



Middle Channel_1960.0MHz_Peak





Bottom Channel +1_1930.4MHz_Average



Middle Channel_1960.0MHz_Ave





Single Carrier Power Plots at AHFIG Antenna Port 3 for 8PSK Modulation continued





Top Channel_ 1989.8MHz_ Peak









Multicarrier Average Power Plots for GSM Carrier Bottom Channels at Antenna Port 3:

BC_GMSK_ 1930.2 & 1930.6MHz







BC_8PSK_ 1930.2 & 1930.6MHz



BC+1_8PSK_1930.4 & 1930.8MHz



BC_GMSK_1967.4MHz



BC+1_GMSK_ 1967.6MHz



BC_8PSK_1967.4MHz



BC+1_8PSK_1967.6MHz





Multicarrier Average Power Plots for GSM Carrier Top Channels at Antenna Port 3:





TC-1_GMSK_ 1989.6 & 1989.2MHz



TC_8PSK_ 1989.8 & 1989.4MHz



TC-1_8PSK_ 1989.6 & 1989.2MHz











TC_8PSK_1952.6MHz



TC-1_8PSK_ 1952.4MHz





Emission Bandwidth (26 dB down and 99%)

Emission bandwidth measurements were made at antenna port 3 on the bottom, middle and top channels. The AHFIG was operated at maximum RF output power for GSM/EDGE modulations.

The 26dB emission bandwidth was measured in accordance with section 4 of FCC KDB 971168 D01v03r01 and ANSI C63.26 section 5.4. The 99% occupied bandwidth was measured in accordance with section 6.7 of RSS-Gen Issue 5. For both measurements, an occupied bandwidth built-in function in the spectrum analyzer was used. The results are provided in the following table. The largest emission bandwidth is highlighted.

Modulation	Frequency Channel	Emission Bandwidth (kHz)			
modulation		26dB	99%		
	1930.2MHz_Bottom Channel	319	247		
GMSK	1960.0MHz_Middle Channel	320	247		
	1989.8MHz_Top Channel	320	247		
	1930.2MHz_Bottom Channel	310	244		
8PSK	1960.0MHz_Middle Channel	309	244		
	1989.8MHz_Top Channel	312	244		

Emission bandwidth measurement data are provided in the following pages.



GSM/EDGE Emission Bandwidth Plots at AHFIG Antenna Port 3

Bottom Channel_1930.2MHz_GMSK Modulation





Middle Channel_1960.0MHz_GMSK Modulation













Top Channel_1989.8MHz_8PSK Modulation



Antenna Port Conducted Band Edge

Conducted band edge measurements were made at AHFIG antenna port 3 at the upper and lower band edges. The AHFIG was operated at the band edge frequencies with GSM/EDGE modulation types.

The AHFIG single carrier output power was reduced by 14 dB at the bottom (1930.2MHz) and top (1989.8MHz) RF channels to pass the band edge emission requirements. The AHFIG single carrier at maximum output power passed band edge emissions requirements at one RF channel inside the bottom and top RF channels (i.e.: BC+1_1930.4MHz and TC-1_1989.6MHz).

Two multicarrier test cases based upon KDB 971168 D03v01 using three carriers (at maximum power) per antenna port was performed. The first multicarrier test case is with two carriers (with minimum spacing between carrier frequencies) at the lower band edge (i.e.: 1930.2 & 1930.6MHz) and a third carrier with maximum spacing between the other two carrier frequencies (1967.4MHz). The second multicarrier test case is with two carriers (with minimum spacing between carrier frequencies) at upper band edge (i.e.: 1989.4 & 1989.8MHz) and a third carrier with maximum spacing between the other two carrier frequencies (1952.6MHz). The multicarrier cases at maximum output port power passed band edge emissions requirements at one RF channel inside the bottom and top RF channels (i.e.: BC+1_1930.4MHz and TC-1_1989.6MHz). The power was reduced by 8dB to pass the band edge requirements at the bottom and top channels.

The power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm as specified in section 24.238(a) and RSS 133 6.5(i). The GSM/EDGE carriers are not MIMO.

Measurements were performed with the spectrum analyzer in the RMS average mode over 100 traces. In the 1MHz bands outside and adjacent to the frequency block, a resolution bandwidth of 1% of the measured emission bandwidth (3.3kHz) per 24.238(b) and RSS 133 6.5(i) was used. In the 1 to 2MHz frequency range outside the band edge (i.e.: 1928 to 1929MHz and 1991 to 1992MHz bands) the RBW was set to 1% of the measured emission bandwidth (3.3kHz) and the power integrated over 1MHz. In the 2MHz to 22MHz frequency range outside the band edge (i.e.: 1908 to 1928MHz and 1992 to 2012MHz bands) a 1MHz RBW and 3MHz VBW was used. The results are summarized in the following table. The highest (worst case) emissions from the measurement data are provided.



Band 2 Carrier Frequency	Port 3	(dBm)
Modulation Type and Carrier Power Level	Lower	Upper
Single Carrier at Bottom Channel (1930.2MHz)/Top Channel (1989.8MHz)	15 211	14.020
GMSK and Reduced Power (Maximum Power -14dB or ~3 Watts)	-15.311	-14.929
Single Carrier at Bottom Channel (1930.2MHz)/Top Channel (1989.8MHz)	10 196	18 000
8PSK and Reduced Power (Maximum Power -14dB or ~3 Watts)	-19.100	-10.990
Single Carrier at BC+1 (1930.4MHz)/TC-1 (1989.6MHz)	-21 100	-22 624
GMSK and Maximum Power (49dBm or 80 Watts)	-21.190	-22.024
Single Carrier at BC+1 (1930.4MHz)/TC-1 (1989.6MHz)	-22 822	-22 /178
8PSK and Maximum Power (49dBm or 80 Watts)	-22.032	-23.470
Three Carriers at BCs (1930.2 and 1930.6MHz) and at Max Spacing (1967.4MHz)/ Three		
Carriers at TCs (1989.4 and 1989.8MHz) and at Max Spacing (1952.6MHz)	-15.645	-14.999
GMSK and Reduced Power (Maximum Power – 8dB or ~11 Watts)		
Three Carriers at BCs (1930.2 and 1930.6MHz) and at Max Spacing (1967.4MHz)/ Three		
Carriers at TCs (1989.4 and 1989.8MHz) and at Max Spacing (1952.6MHz) 8PSK and	-18.473	-17.739
Reduced Power (Maximum Power – 8dB or ~11 Watts)		
Three Carriers at BCs (1930.4 and 1930.8MHz) and at Max Spacing (1967.6MHz)/ Three		
Carriers at TCs (1989.2 and 1989.6MHz) and at Max Spacing (1952.4MHz)	-21.203	-22.702
GMSK and Maximum Power (49dBm or 80 Watts)		
Three Carriers at BCs (1930.4 and 1930.8MHz) and at Max Spacing (1967.6MHz)/ Three		
Carriers at TCs (1989.2 and 1989.6MHz) and at Max Spacing (1952.4MHz) 8PSK and	-21.213	-23.067
Maximum Power (49dBm or 80 Watts)	1	

The reduced power level was 14dB down from maximum power level (~35dBm) for the single carrier as shown in the RF output power section of this report. The reduced power level was 8dB down from maximum power level (~41dBm) for the multicarrier test case as shown in the RF output power section of this report.

The total measurement RF path loss of the test setup (attenuator and test cables) was 40.4 dB and is accounted for by the spectrum analyzer reference level offset. The display line on the plots reflects the required limit.

Conducted band edge measurements are provided in the following pages.



LBE_ 1929 to 1931MHz

Single Carrier at Reduced Power on Port 3 -Lower and Upper Band Edge Plots:

GSMK Carrier at Bottom Channel (1930.2MHz)

Aginet 15:12:07 11 Jun 2013 L Ref 40 dBm *Atten 22 dB -15:311 dBm *Hvag 1.922981000 GHz x 10 1.922981000 GHz x 11.929981000 GHz x 0 19 -15:311 dBm -15:311 dBm -15:311 dBm 19 -15:311 dBm -15:311 dBm -15:311 dBm 19 -15:311 dBm -15:311 dBm -15:311 dBm 01 -15:311 dBm -15:311 dBm -15:311 dBm 02 -15:311 dBm -15:311 dBm -15:311 dBm 03 F6 -11:3:0 -15:311 dBm 04 -15:311 dBm -15:311 dBm -15:311 dBm 108 -15:311 dBm -15:311 dBm -15:311 dBm 109 -10:30 -10:30 -15:311 dBm 100 -10:30 -10:30 -10:30 100 -10:30 -10:30 -10:30 100 -10:30 -10:30 -10:30 100 -10

GMSK Carrier at Top Channel (1989.8MHz)

UBE_1989 to 1991MHz



LBE_1928 to 1929MHz

Ref0ldBm #Atten 20ldB				
Avg				
10				
dB/				
Offst				
40.4				
الأطار فالمتحاط والمحاطية والمحاطية والمحتجلان والمتحاطية ومحتجل والمتحدي والمحتج والمحتج والمحتج				
PAvg				
N1 \$2				
Start 1.928 000 GHz	St	top 1.929	000 GHz	
•Res BW 3.3 kHz VBW 10 kHz	Ѕweep 27	7.3 ms (8	001 pts)	
Channel Power P	ower Sp	ectral [Density	
-31.63 dBm /1.0000 MHz	-91.63 dBm			

UBE_1991 to 1992MHz



LBE_1908 to 1928MHz



UBE_1992 to 2012MHz





Single Carrier at Reduced Power on Port 3 -Lower and Upper Band Edge Plots:

8PSK Carrier at Bottom Channel (1930.2MHz)

* Agilent 15:39:45 11 Jun 2019 Т Mkr1 1.929 982 -19.186 #Atten 22 dB ef 40 dBn dBr Marker 1.929982000 GHz -19.186 dBm Offst 40 4 3.0 Ave 50 Stop 1.931 000 GH 929 000 GHz VBW 10 k

LBE 1929 to 1931MHz

8PSK Carrier at Top Channel (1989.8MHz)

UBE 1989 to 1991MHz



LBE 1928 to 1929MHz

₩ A	gilent 15:	41:26 11	. Jun 201	9				L		
Ref Ø	dBm		#At	ten 20 di	В					
ŧAvg	6									
Log 10										
dB/										
Offst										
40.4 JB										
ub	-		-		- and internal		-			-
PAvg										
100 11 <>>										
Start 1	.928 000	GHz						St	op 1.929	000 GHz
∎Res B	W 3.3 kHz				VBW 10 k	Hz		Sweep 277.3 ms (8001 pts)		
Char	nnel Pow	/er					Po	ower Sp	ectral D	ensity
-31	-31.33 dBm /1.0000 MHz						-91.33 dBm/Hz			

UBE 1991 to 1992MHz



LBE 1908 to 1928MHz ₩ Agilent 15:41:59 11 Jun 2019



UBE 1992 to 2012MHz





Single Carrier at Maximum Power on Port 3 -Lower and Upper Band Edge Plots:

GMSK Carrier at BC+1 (1930.4MHz)

LBE 1929 to 1931MHz



LBE 1928 to 1929MHz

₩ A	gilent 15:	29:40 11	. Jun 201	9				L		
Ref Ø	dBm		#At	ten 20 d	В					
ŧAvg	ſ									
L09 1 A										
dBZ										
Offst										
40.4										
dB							- Andrew State		a di kanalara di sangari ka	
PAvg										
100										
W1 S2	000.000								1.000	000.011
∍Dac B	11 3 3 FU-	7 6 1 2			URU 10 P	U->		ət Naan 275	UU 1.323 73 me (80	000 GH2 201 n+c)
•1165 D	M 3.3 NI				VDH 10 K	112	~	100p 277	.5 1115 (00	01 p(5)
Char	nel Pov	/er					Po	ower Sp	ectral D	ensity
-24	-24.89 dBm /1.0000 MHz					-84.89 dBm/Hz				ı/Hz

GMSK Carrier at TC-1 (1989.6MHz)

UBE 1989 to 1991MHz



UBE 1991 to 1992MHz



LBE 1908 to 1928MHz



UBE 1992 to 2012MHz





Single Carrier at Maximum Power on Port 3 -Lower and Upper Band Edge Plots:

8PSK Carrier at BC+1 (1930.4MHz)

LBE_1929 to 1931MHz



UBE 1989 to 1991MHz

8PSK Carrier at TC-1 (1989.6MHz)



LBE_1928 to 1929MHz

* A	gilent 15:	50:35 11	l Jun 201	9				L		
Ref Ø	dBm		#At	ten 20 d	В					
≢Avg	6									
L09 10										
dB/										
Offst										
40.4 JB										
ub	and the second		****							
PAvg										
100 W1 S2										
Start 1	.928 000	GHz						St	op 1.929	000 GHz
≢Res E	W 3.3 kH:	z			VBW 10 k	Hz		weep 277	7.3 ms (81	001 pts)
Char	nnel Pov	/er					Po	ower Sp	ectral D	ensity
-24	-24.64 dBm /1.0000 MHz						-84.64 dBm/Hz			

UBE_1991 to 1992MHz



LBE_1908 to 1928MHz



UBE_1992 to 2012MHz





LBE 1929 to 1931MHz

Three Carriers at Reduced Power on Port 3 -Lower and Upper Band Edge Plots:

GMSK Carriers at 1930.2, 1930.6 & 1967.4MHz

Aglint 08:46:44 13 Jun 2019 L Ref 40 dBm •Atten 22 dB -15.645 dBm *Hvag Harker -15.645 dBm -15.645 dBm 10 1.929980000 GHz -15.645 dBm 01 -15.645 dBm -15.645 dBm -15.645 dBm 02 -15.645 dBm -15.645 dBm -15.645 dBm 03 -15.645 dBm -15.645 dBm -15.645 dBm 04 -15.645 dBm -15.645 dBm -15.645 dBm 04 -15.645 dBm -15.645 dBm -16.645 dBm 04 -15.645 dBm -16.645 dBm -16.645 dBm 05 -16.645 dBm -16.645 dBm -16.645 dBm 1.928 080 GHz -16.645 dBm -16.645 dBm -16.645 dBm 1.928 080 GHz -16.

GMSK Carriers at 1989.4, 1989.8 & 1952.6MHz

UBE_1989 to 1991MHz



LBE_1928 to 1929MHz

* A	gilent 08:	mt 08:48:03 13 Jun 2019 m ●Atten 20 dB 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				L.						
Ref Ø	dBm		#Ĥt	ten 20 d	В							
ŧAvg	í –											
Log 10												
dB/												
Offst												
40.4 dB												
							****	ana and and an				
DO												
100												
W1 \$2												
Start 1	.928 000	GHz					~	St	op 1.929	000 GHz		
•Kes B	W 3.3 KH2	2			ARM IN F	HZ	>	weep 2//	.3 ms (80	pei pts)		
Char	nel Pow	er					Power Spectral Densit					
-30	1.75 dE	3m /1.0	0000 M	Hz				-90.	75 dBr	ı/Hz		

UBE_1991 to 1992MHz



LBE_1908 to 1928MHz



UBE_1992 to 2012MHz





Three Carriers at Reduced Power on port 3 -Lower and Upper Band Edge Plots:

8PSK Carriers at 1930.2, 1930.6 & 1967.4MHz

Aglient 09:38:57 13 Jun 2019 L Ref 40 dBm •Atten 22 dB -18.473 dBm *Hvag Harker -18.473 dBm -18.473 dBm 19 J.929984000 GHz -18.473 dBm -18.473 dBm 01 -18.473 dBm -18.473 dBm -18.473 dBm 01 -18.473 dBm -18.473 dBm -18.473 dBm 02 -18.473 dBm -18.473 dBm -18.473 dBm 03 -18.473 dBm -18.473 dBm -18.473 dBm 04 -18.473 dBm -18.473 dBm -18.473 dBm 05 -18.473 dBm -18.473 dBm -19.473 dBm 06 -18.473 dBm -18.473 dBm -19.473 dBm 06 -18.473 dBm -19.473 dBm -19.473 dBm 07 -13.0 -19.473 dBm -19.473 dBm 08 -18.473 dBm -19.473 dBm -19.474 dBm 09 -19.474 dBm -19.474 dBm -19.474 dBm 108 -19.474 dBm -19.474 dBm -19.474 dBm 109 -19.474 dBm

LBE_1929 to 1931MHz

LBE 1928 to 1929MHz

* 4	ugilent 09:	40:07 1	3 Jun 2019					L			
Ref Ø	dBm		#Atte	n 20 dB							
≢Hvg Log											
10											
ab/ Offst											
40.4 dB											

PAvg											
100 W1 S2											
Start #Res E	1.928 000 3W 3.3 kH) GHz z		+V	'BW 10	kHz	s	St weep 27	op 1.929 7.3 ms (8	000 GHz 001 pts)	
Cha	nnel Pov	ver					Po	ower Sp	ectral [lensity	
-30).56 dl	3m /1.	0000 MH	Hz				-90.56 dBm/Hz			

8PSK Carriers at 1989.4, 1989.8 & 1952.6MHz

Port 2_UBE_1989 to 1991MHz



Port 2_UBE_1991 to 1992MHz



LBE_1908 to 1928MHz *** Agilent** 09:40:31 13 Jun 2019



Port 2_UBE_1992 to 2012MHz





Three Carriers at Maximum Power on Port 3 -Lower and Upper Band Edge Plots:

GMSK Carriers at 1930.4, 1930.8 & 1967.6MHz

Aglient 09:05:45 13 Jun 2019 L Ref 40 •Pttva Mkr1 1.930 000 GHz 19:00 Marker -36.125 Jun Jun Jun -36.125 Jun Jun

LBE_1929 to 1931MHz

LBE_1928 to 1929MHz

* A	gilent 09:	ent 09:06:49 13 Jun 2019						L			
Ref Ø	dBm		#At	ten 20 d	lΒ						
ŧHvg											
LU9 10											
dB/											
Offst											
40.4 HR											
ub				*****	*****						
PHvg											
M1 S2											
Start 1	.928 000	GHz						St	op 1.929	000 GHz	
≢Res B	W 3.3 kH:	z			•VBW 10	<hz< td=""><td></td><td>weep 277</td><td>7.3 ms (81</td><td>001 pts)</td></hz<>		weep 277	7.3 ms (81	001 pts)	
Char	nel Pov	/er					Po	ower Sp	ectral D	ensity	
-26	26.96 dBm /1.000			0 MHz			-86.96 dBm/Hz				

GMSK Carriers at 1989.2, 1989.6 & 1952.4MHz

UBE_1989 to 1991MHz



UBE_1991 to 1992MHz



LBE_1908 to 1928MHz

🔆 Agilent	09:07:18 1:	3 Jun 201	9				L		
							М	kr1 1.92	7 88 GHz
lef 20_dBm		#At	ten 24 d	В				-21.	203 dBm
^{Avg} Mar .0 1.92	ker 2788000	0 GHz							
^{:B/} -21	-21.203 dBm								
Offst									
10.4 18									
13.0									4
dÂm									, ×
Ava	www.contition.com		-	-ira'maynah	and the second	A Sumplement	مرحاء والمراجع	and shaked with the	A CONTRACTOR OF
100									
W1 \$2									
S3 FS									
C(D)									
ETun									
Swp									
Start 1.908	00 GHz						S	top 1.928	3 00 GHz
Res BW 1 M	Hz			VBW 3 M	Hz	S	weep 1.0	67 ms (80	001 pts)

UBE_1992 to 2012MHz





Three Carriers at Maximum Power on Port 3 -Lower and Upper Band Edge Plots:

8PSK Carriers at 1930.4, 1930.8 & 1967.6MHz

Aglient 09:48:56 13. Jun 2019 L Ref 40 dBm •Pitten 22 dB -33.304 dBm *Hvg 1.930000000 GHz -33.304 dBm 19 .933.304 dBm -33.304 dBm -33.304 dBm 19 .933.304 dBm -33.304 dBm -33.304 dBm 19 .938.304 dBm -33.304 dBm -33.304 dBm 01 .938.304 dBm -33.304 dBm -33.304 dBm 01 .938.304 dBm -33.304 dBm -33.304 dBm 01 .938.304 dBm -33.304 dBm -33.304 dBm 02 .948.400 .948.400 .948.400 03 .949.400 .949.400 .949.400 04 .948.400 .949.400 .949.400 04 .949.400 .949.400 .949.400 19.80 .949.400 .949.400 .949.400 .949.400 19.80 .949.400 .949.400 .949.400 .949.400 .949.400 19.80 .949.400 .949.400 .949.400 .949.400 .9

LBE_1929 to 1931MHz

UBE 1991 to 1992MHz



LBE_1928 to 1929MHz

M Aglient 00.30.3	.0 15 0ull 201	2				-		
Ref Ø dBm	#At							
+Hvg								
L09 10								
dB/								
Offst								
40.4 JB								
***************				****				
rhvg 100								
M1 S2								
Start 1.928 000 GH	z					St	op 1.929	000 GH:
#Res BW 3.3 kHz			WBW 10 H	Hz		weep 27	7.3 ms (8	001 pts)
Channel Power					Po	ower Sp	ectral D)ensity
-26.59 dBm	/1.0000 №	IHz				-86.	59 dBr	n/Hz

LBE_1908 to 1928MHz



UBE_1992 to 2012MHz



8PSK Carriers at 1989.2, 1989.6 & 1952.4MHz

UBE_1989 to 1991MHz





Transmitter Antenna Port Conducted Emissions

Transmitter conducted emission measurements were made at RRH antenna port 3 with GSM/EDGE modulation types. Measurements were performed over the 9kHz to 22GHz frequency range.

Single Carrier Test Case

The single carrier test case was performed with the RRH operating on the PCS Band 2 middle channel (1960.0MHz) using GSM/EDGE at maximum power. A single LTE1.4 carrier operating at AWS band middle frequency (2155.0MHz) with 256QAM modulation at maximum power was enabled for all testing.

Multicarrier Multiband Multi-RAT Test Cases

Two multicarrier test cases based upon KDB 971168 D03v01 using three carriers (at maximum power) per antenna port was performed. The first multicarrier test case is with two carriers (with minimum spacing between carrier frequencies) at the lower band edge (i.e.: 1930.4 & 1930.8MHz) and a third carrier with maximum spacing between the other two carrier frequencies (1967.6MHz). The second multicarrier test case is with two carriers (with minimum spacing between carrier frequencies) at upper band edge (i.e.: 1989.2 & 1989.6MHz) and a third carrier with maximum spacing between the other two carrier frequencies (1952.4MHz). A single LTE1.4 carrier operating at AWS band middle frequency (2155.0MHz) with 256QAM modulation at maximum power was enabled for all testing.

PCS Band Transmis	ssion Paramete	ers	AWS Band Transmission Parameters				
Carrier	Channel	Carrier	Carrier	Channel	Carrier		
Frequency	Туре	Power	Frequency	Туре	Power		
1960.0MHz	GSM/EDGE	80 Watts	2155.0MHz		40 Watts		
(Mid Ch)	USIVI/LDUL		(Mid Ch)	LIL 1.4			
1930.4, 1930.8 & 1967.6MHz		26+26+26	2155.0MHz				
(BC, BC+1, and Max Spacing)	GSIMI/EDGE	Watts	(Mid Ch)	LIC 1.4	40 Walls		
1989.2, 1989.6 & 1952.4MHz		26+26+26	2155.0MHz		40 Watte		
(BC, BC+1, and Max Spacing)	GSIMI/EDGE	Watts	(Mid Ch)	LIC 1.4	40 watts		

The test configuration parameters are provided below:

The power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm as specified in section 24.238(a) and RSS 133 6.5(i). The GSM/EDGE carriers are not MIMO. The required measurement parameters include a 1MHz bandwidth with power measured in average value (since transmitter power was measured in average value).



Measurements were performed with a spectrum analyzer using a peak detector with max hold over 50 sweeps (except for the 20MHz to 3GHz frequency range). Measurements for the 20MHz to 3GHz frequency range was performed with the spectrum analyzer in the RMS average mode over 100 traces.

The limit for the 9kHz to 150kHz frequency range was adjusted to -43dBm to correct for a spectrum analyzer RBW of 1kHz versus required RBW of 1MHz [i.e.: -43dBm = -13dBm -10log(1000kHz/1kHz)]. The limit for the 150kHz to 20MHz frequency range was adjusted to -33dBm to correct for a spectrum analyzer RBW of 10kHz versus required RBW of 1MHz [i.e.: -33dBm = -13dBm -10log(1000kHz/10kHz)]. The required limit of -13dBm with a RBW of \geq 1MHz was used for all other frequency ranges. The spectrum analyzer settings that were used for this test are summarized in the following table.

Frequency Range	RBW	VBW	Number of Data Points	Detector	Sweep Time	Max Hold over	Offset Note (1)		
9kHz to 150kHz	1kHz	3kHz	8001	Peak	Auto	50 Sweeps	8.7dB		
150kHz to 20MHz	10kHz	30kHz	8001	Peak	Auto	50 Sweeps	8.7dB		
20MHz to 3GHz	1MHz	3MHz	8001	Average	Auto	Note (2)	40.4dB		
3GHz to 6GHz	1MHz	3MHz	8001	Peak	Auto	50 Sweeps	40.2dB		
6GHz to 18GHz	2MHz	6MHz	8192	Peak	Auto	50 Sweeps	33.1dB		
18GHz to 22GHz	1MHz	3MHz	8001	Peak	Auto	50 Sweeps	41.3dB		
1900 to 2200MHz	1MHz	3MHz	8001	Average	Auto	Note (2)	40.4dB		
Note 1: The total measurement RF path loss of the test setup (attenuators, test cables and filters) is accounted for by the spectrum analyzer reference level offset.									

Note 2: Max Hold not used and instead measurements were performed with the spectrum analyzer in the RMS average mode over 100 traces.

A low pass filter was used to reduce the measurement instrumentation noise floor for the frequency ranges below 20MHz. A high pass filter was used to reduce the measurement instrumentation noise floor for the frequency ranges above 6GHz. The total measurement RF path loss of the test setup (attenuators, low pass filter, high pass filter and test cables) as shown in the table is accounted for by the spectrum analyzer reference level offset. The display line on the plots reflects the required limit. Conducted spurious emission plots/measurements are provided in the following pages.



Single GMSK Carrier at PCS Mid Ch (1960MHz) with Single LTE1.4 Carrier at AWS Mid Ch (2155MHz):

9kHz to 150kHz



20MHz to 3GHz



6GHz to 18GHz



1900MHz to 2200MHz





3GHz to 6GHz







Single 8PSK Carrier at PCS Mid Ch (1960MHz) with Single LTE1.4 Carrier at AWS Mid Ch (2155MHz):

9kHz to 150kHz



20MHz to 3GHz



6GHz to 18GHz



1900MHz to 2200MHz





3GHz to 6GHz







Three GMSK Carriers at BCs (1930.4 and 1930.8MHz) and at Max Spacing (1967.4MHz) with Single LTE1.4 Carrier at AWS Mid Ch (2155MHz):

9kHz to 150kHz



20MHz to 3GHz



6GHz to 18GHz



1900MHz to 2200MHz





3GHz to 6GHz

Agilent 09:13:43 13 Jun 2019



🔆 Agilent 09:24:43 13	3 Jun 2019				L		
						Mkr1 20	.156 GHz
Ref 20_dBm	#Atten 2 d					-29.	742 dBm
Peak Marker							
a 20.1560000	00 GHz						
^{IB/} –29,742 dB	m I						
)ffst							
1.3							
л -13 й							
iBm 🛛							
.gAv			\$				
58 patronal Passage and and a	defined which have been		and shake		al barland	diffe the trade	all the late
11 S2	No. of Concession, Name	- 4F			a faire a star		
53 FS							
AA							
S(+):							
Tun							
онр							
Start 18,000 GHz						Stop 22.	000 GHz
Res BW 1 MHz		VBW 3 MH	z	s	weep 10.	13 ms (8)	301 pts)



Three 8PSK Carriers at BCs (1930.4 and 1930.8MHz) and at Max Spacing (1967.4MHz) with Single LTE1.4 Carrier at AWS Mid Ch (2155MHz):

9kHz to 150kHz



20MHz to 3GHz



6GHz to 18GHz



1900MHz to 2200MHz





3GHz to 6GHz



🗧 Agile	nt 10:07:13 13	Jun 201	9				L		
f 20_dE	m	*A	tten 2 d	в				Mkr1 20 -29.	0.178 GH 080 dBm
^{eak} Mi ^g 2	arker 0.1780000	00 GH:	z						
fst -	29.080 dBr	n							
3.0									
m Av						at a literator			a and a
\$2 \$2				den starter	and the spectrum	and the local division of the			
AA									
t): iun									
ip									
art 18.0 les BW 1	100 GHz MHz			VBW 3 M	7	s	ween 10.	Stop 22 13 ms (8	.000 GHz 001 pts)



Three GMSK Carriers at TCs (1989.2 and 1989.6MHz) and at Max Spacing (1952.6MHz) with Single LTE1.4 Carrier at AWS Mid Ch (2155MHz):

9kHz to 150kHz



20MHz to 3GHz



6GHz to 18GHz



1900MHz to 2200MHz





3GHz to 6GHz

Agiient 10:44:29 13	Jun 2019				L				
20_dBm	Atten 1	0 dB	Mkr1 3.040 G –27.980 dB						
* Marker 3 04000000	1 GH-								
-27.980 dBm									
)									
S .									
3.000 GHz						Stop 6.	000 GHz		
BU 1 MHz		UBU 3 M	7		ween 53	33 mg (86	181 ntc)		

¥Α	gilent 10:57:05	L3 Jun 2019				L		
							Mkr1 20	.077 GHz
ef 20	dBm	#Atten	2 dB				-29.	425 dBm
Peak og Ø	Marker 20.077000	ааа GH7						
₿∕	-29.425 dl	3m						
1.3								
в								
13.0								
Bm aAv								
0	John St. Witten Hits and a	a seal in the seal of	and the second second	and the second second		ter and bet	the state of the	table to a t
1 \$2	Same in the second s	Contract of the second distance of the second						
3 FS AA								
:(f): Tun								
нр								
tart 1	8.000 GHz		10011-0-14				Stop 22.	000 GHz
Kes B	W I MHZ		VBM 3 M	HZ	>	weep 10.	13 ms (8	001 pts)_



Three 8PSK Carriers at TCs (1989.2 and 1989.6MHz) and at Max Spacing (1952.6MHz) with Single LTE1.4 Carrier at AWS Mid Ch (2155MHz):

9kHz to 150kHz



20MHz to 3GHz



6GHz to 18GHz



1900MHz to 2200MHz





3GHz to 6GHz

Agilent 12:10:03 13 Jun 2019



¥Α	gilent 12:38:49 13	3 Jun 201	.9				L		
⊨f 20	dBm	*8	itten 2 di	3				Mkr1 20 -27	.327 GHz 379 dBm
Peak og Ø B/	Marker 20.3270000 -27.979 dBr	00 GH: m	z						
1.3 B									
13.0									
Bm qAv					1 0				
0 1 S2									
3 FS AA									
:(f): Tun									
нр									
tart 1	8.000 GHz							Stop 22	000 GHz
Res B	W 1 MHz			VBW 3 MH	Z	S	weep 10.	13 ms (8	101 pts)_



Transmitter Radiated Spurious Emissions

Radiated emission measurement results are in Appendix A.

Frequency Stability/Accuracy

Frequency Stability/Accuracy measurement results are in Appendix A.



END OF REPORT