



A4. OCCUPIED BANDWIDTH (99% OCCUPIED BANDWIDTH/26dB BANDWIDTH)

Occupied Bandwidth for GPRS 850 band			
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(KHz)	Emission Bandwidth (-26dBc)(KHz)
Low Channel	824.2	237.83	313.8
Middle Channel	836.6	238.36	316.3
High Channel	848.8	239.51	316

Occupied Bandwidth for EGPRS 850 band			
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(KHz)	Emission Bandwidth (-26dBc)(KHz)
Low Channel	824.2	246.55	312.6
Middle Channel	836.6	244.35	318.4
High Channel	848.8	241.1	311.5

Occupied Bandwidth for GPRS1900 band			
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(KHz)	Emission Bandwidth (-26dBc)(KHz)
Low Channel	1850.2	244.52	316.3
Middle Channel	1880	246.36	319
High Channel	1909.8	244.04	315.8

Occupied Bandwidth for EDGE 1900 band			
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(KHz)	Emission Bandwidth (-26dBc)(KHz)
Low Channel	1850.2	246.31	311.9
Middle Channel	1880	248.4	302.3
High Channel	1909.8	247.48	309.7



Occupied Bandwidth for UMTS band V			
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	Emission Bandwidth (-26dBc)(MHz)
Low Channel	826.4	4.1218	4.665
Middle Channel	836.6	4.1127	4.674
High Channel	846.6	4.1136	4.674

Occupied Bandwidth for HSDPA band V			
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	Emission Bandwidth (-26dBc)(MHz)
Low Channel	826.4	4.1254	4.692
Middle Channel	836.6	4.1196	4.692
High Channel	846.6	4.1249	4.691

Occupied Bandwidth for HSUPA band V			
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	Emission Bandwidth (-26dBc)(MHz)
Low Channel	826.4	4.1358	4.693
Middle Channel	836.6	4.1186	4.69
High Channel	846.6	4.1071	4.672

**Occupied Bandwidth for UMTS band II**

Mode	Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	Emission Bandwidth (-26dBc)(MHz)
Low Channel	1852.4	4.1284	4.683
Middle Channel	1880	4.1182	4.685
High Channel	1907.6	4.1139	4.655

Occupied Bandwidth for HSDPA band II

Mode	Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	Emission Bandwidth (-26dBc)(MHz)
Low Channel	1852.4	4.1241	4.663
Middle Channel	1880	4.1205	4.676
High Channel	1907.6	4.1137	4.681

Occupied Bandwidth for HAUPA band II

Mode	Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	Emission Bandwidth (-26dBc)(MHz)
Low Channel	1852.4	4.121	4.686
Middle Channel	1880	4.1222	4.675
High Channel	1907.6	4.1181	4.686

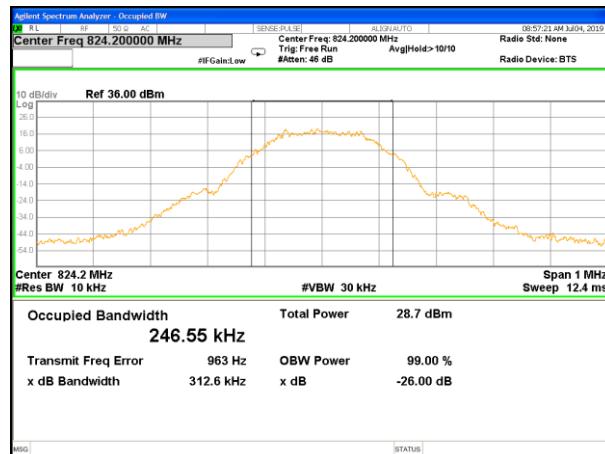
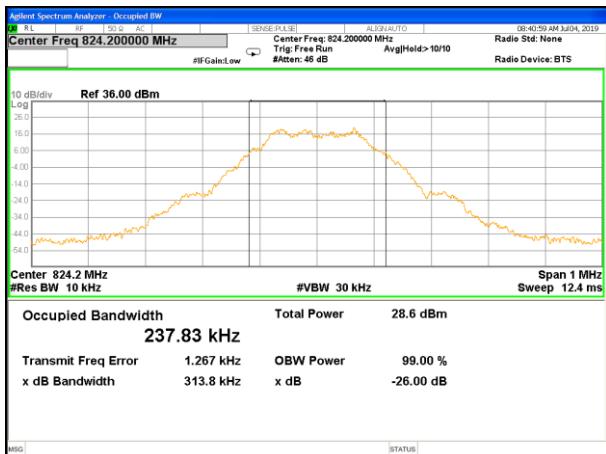


Occupied Bandwidth for UMTS band IV			
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	Emission Bandwidth (-26dBc)(MHz)
Low Channel	1712.6	4.1145	4.671
Middle Channel	1740	4.1138	4.674
High Channel	1752.4	4.1142	4.68

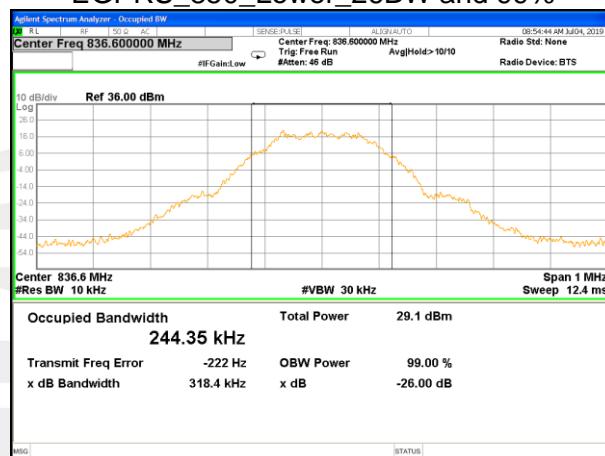
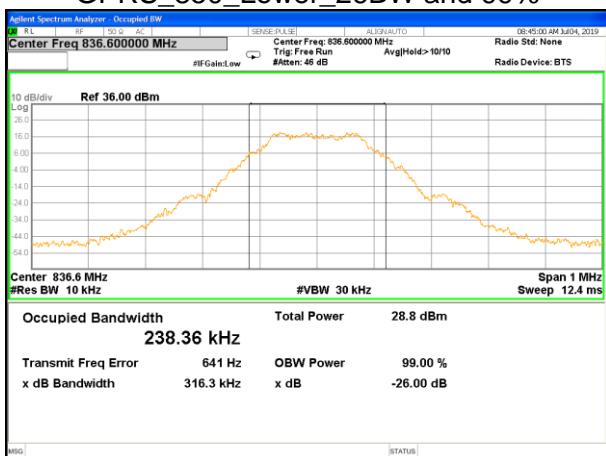
Occupied Bandwidth for HSDPA band IV			
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	Emission Bandwidth (-26dBc)(MHz)
Low Channel	1712.6	4.1175	4.671
Middle Channel	1740	4.1179	4.666
High Channel	1752.4	4.1181	4.674

Occupied Bandwidth for HSUPA band IV			
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(MHz)	Emission Bandwidth (-26dBc)(MHz)
Low Channel	1712.6	4.1078	4.677
Middle Channel	1740	4.1254	4.679
High Channel	1752.4	4.1285	4.677

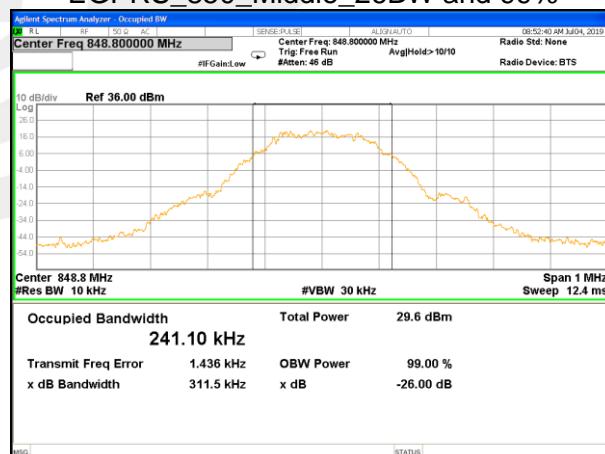
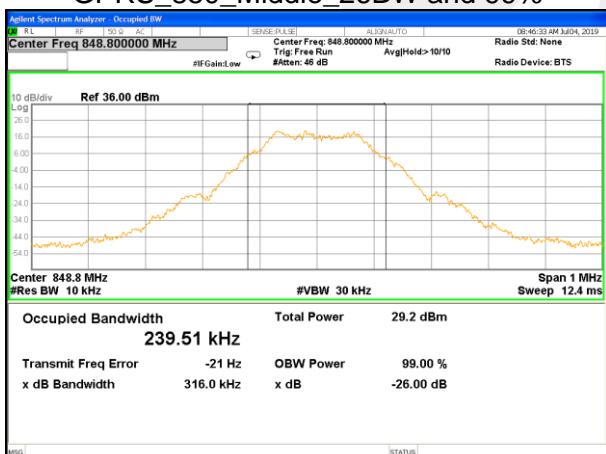
Occupied Bandwidth [MHz]						
Mode	Lowest		Middle		Highest	
	99% BW	26dB BW	99% BW	26dB BW	99% BW	26dB BW
BC0	1.2702	1.43	1.2685	1.415	1.2676	1.422
BC0-EVDO	1.2726	1.425	1.27	1.423	1.2666	1.421
BC1	1.2755	1.402	1.2779	1.403	1.2767	1.412
BC1-EVDO	1.2673	1.419	1.2752	1.423	1.2713	1.426



GPRS_850_Lower_26BW and 99%

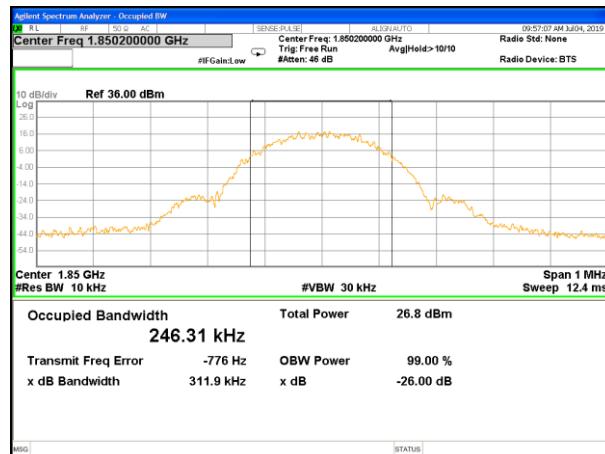
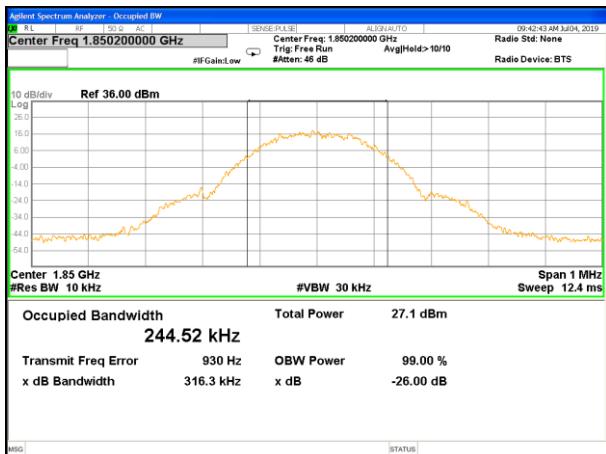


GPRS_850_Middle_26BW and 99%

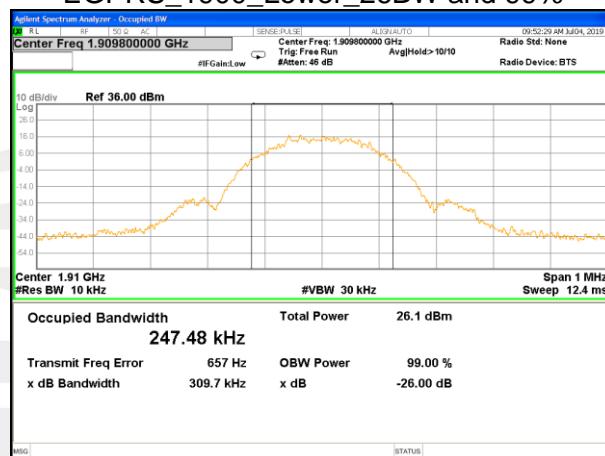
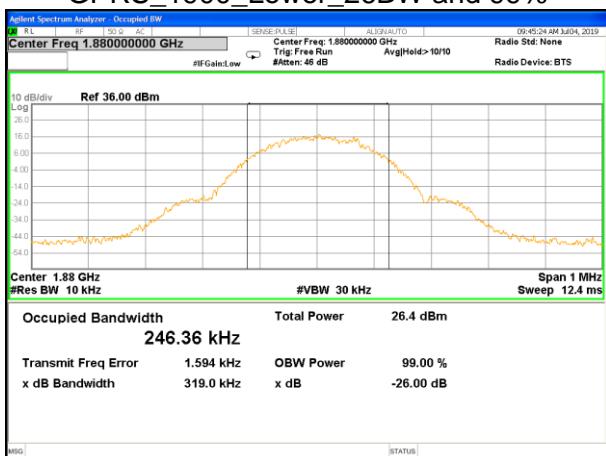


GPRS_850_Higher_26BW and 99%

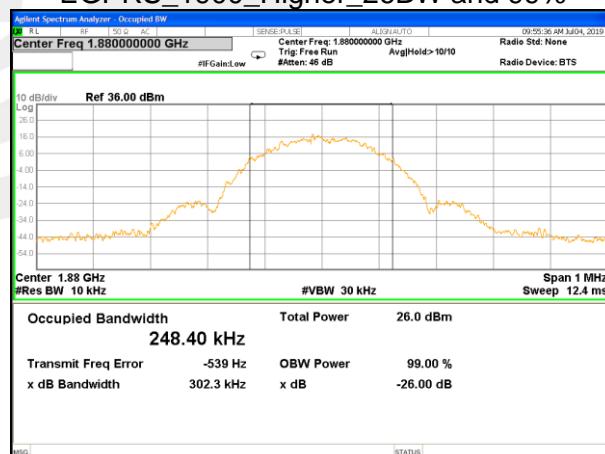
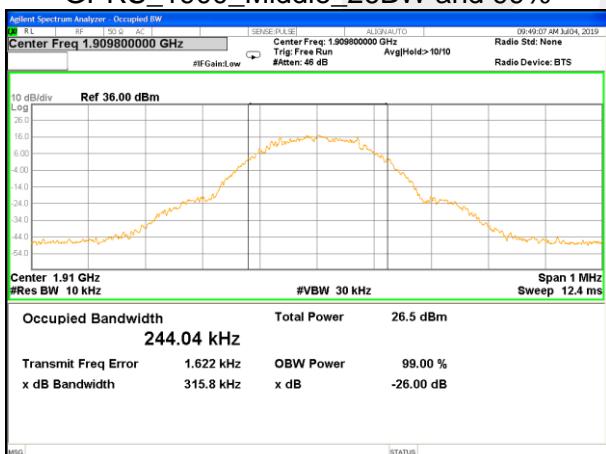
EGPRS_850_Higher_26BW and 99%



GPRS_1900_Lower_26BW and 99%

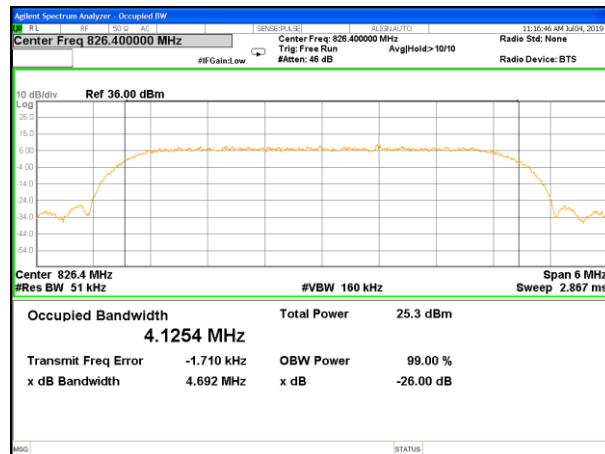
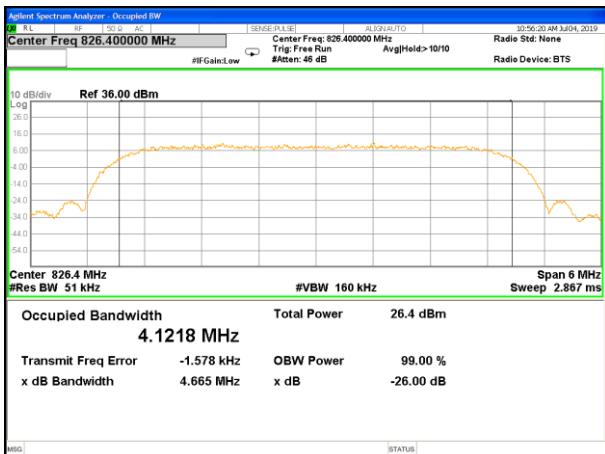


GPRS_1900_Middle_26BW and 99%

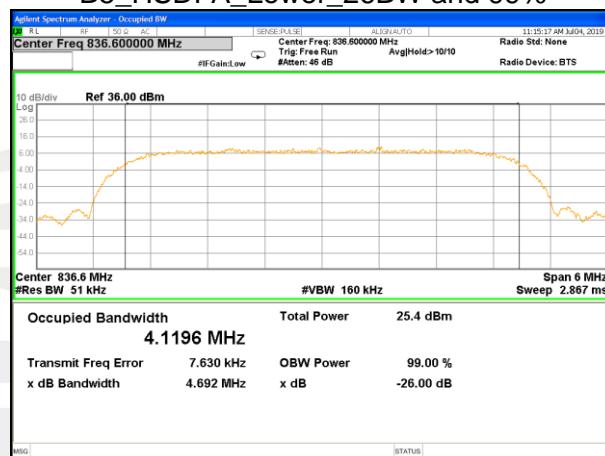
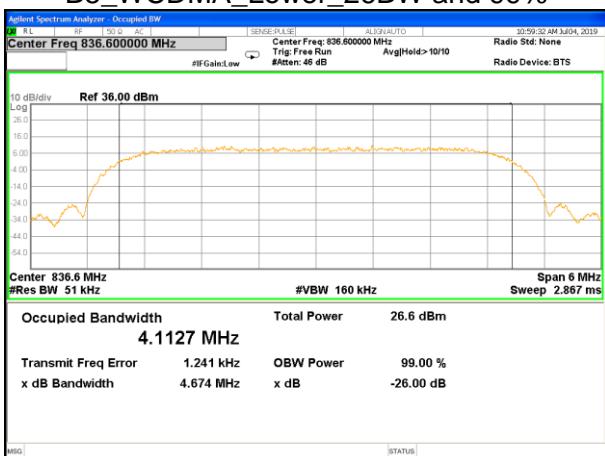


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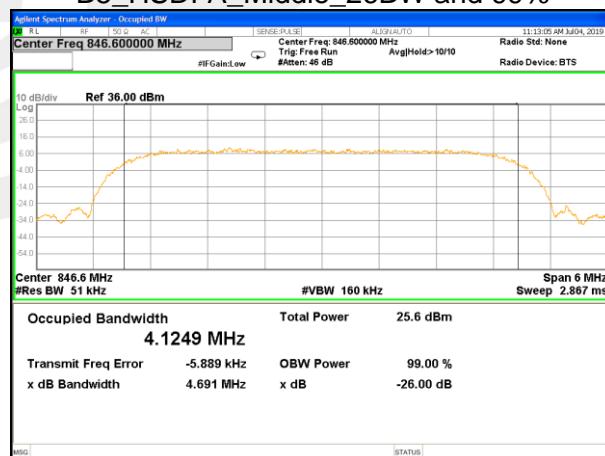
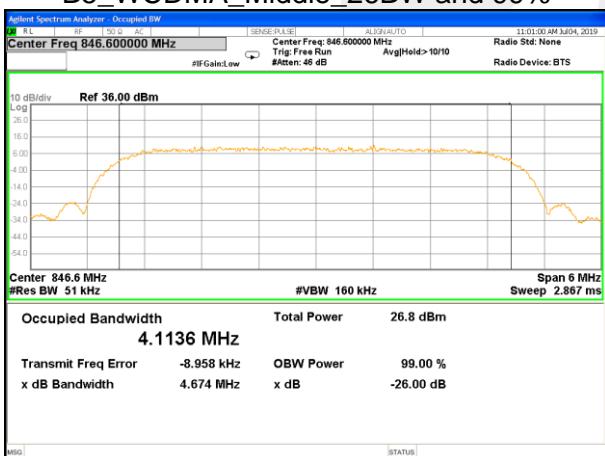
EGPRS_1900_Lower_26BW and 99%



B5_WCDMA_Lower_26BW and 99%

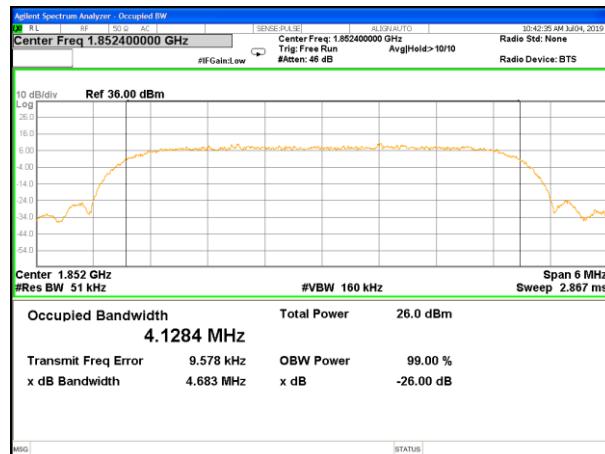


B5_WCDMA_Middle_26BW and 99%

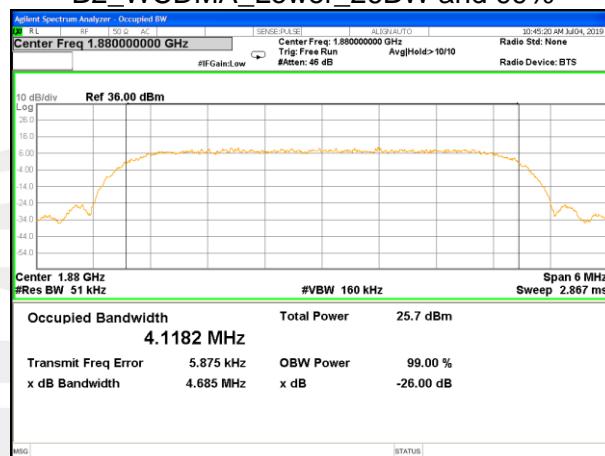
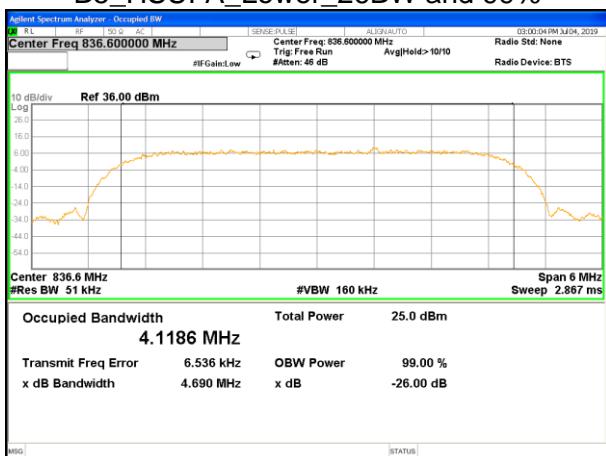


B5_WCDMA_Higher_26BW and 99%

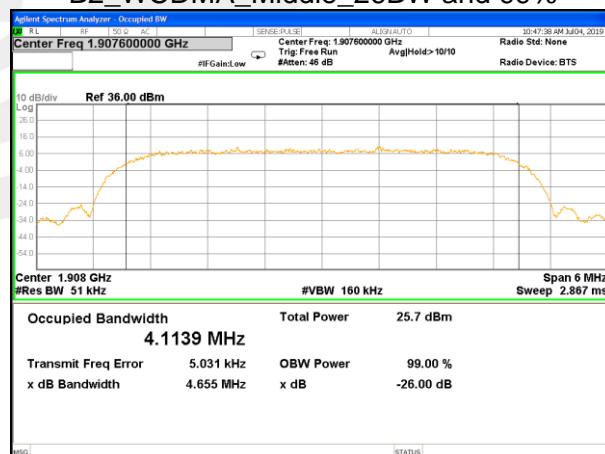
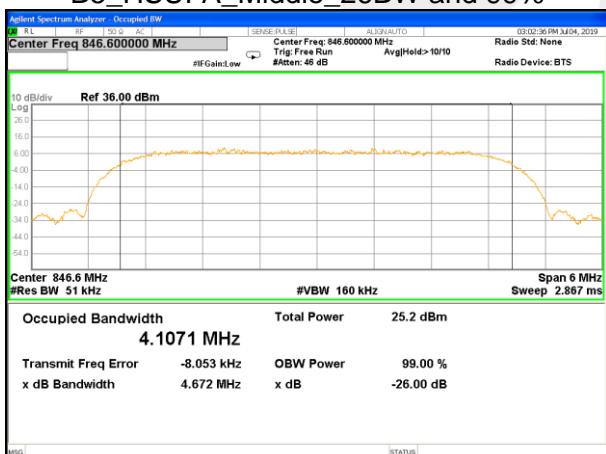
B5_HSDPA_Middle_26BW and 99%



B5_HSUPA_Lower_26BW and 99%

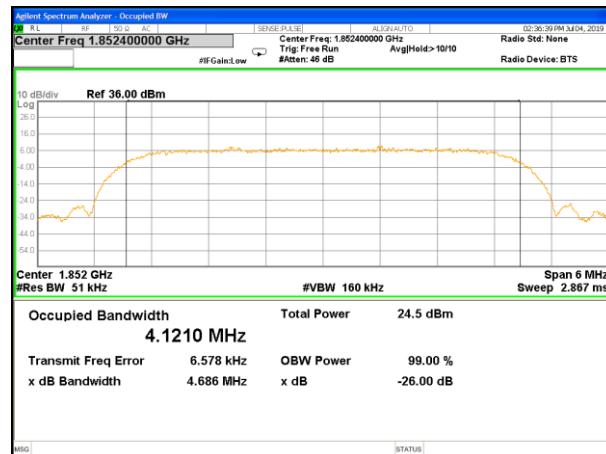
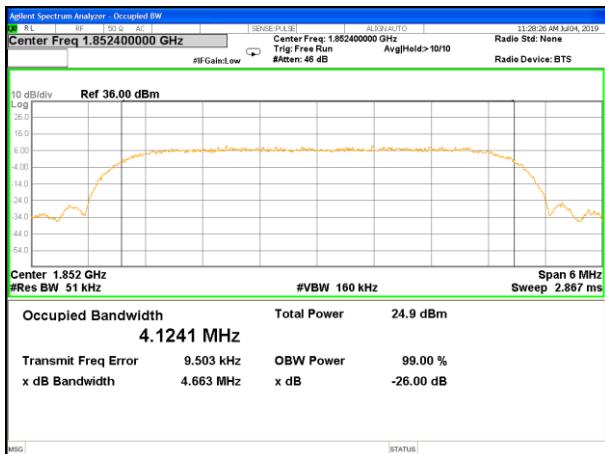


B5_HSUPA_Middle_26BW and 99%

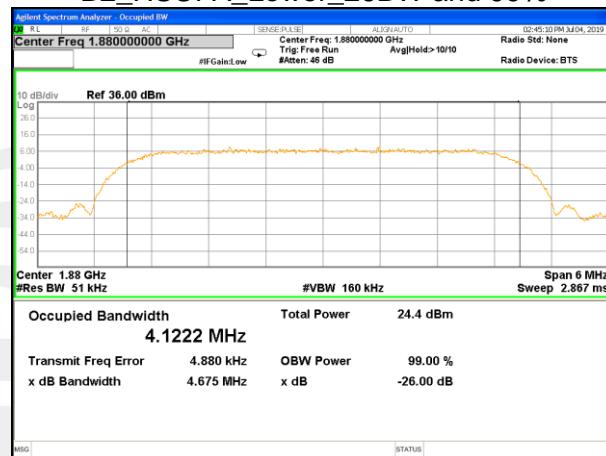
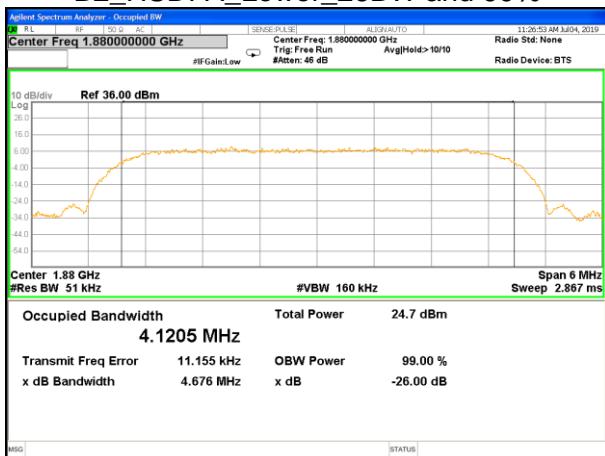


B5_HSUPA_Higher_26BW and 99%

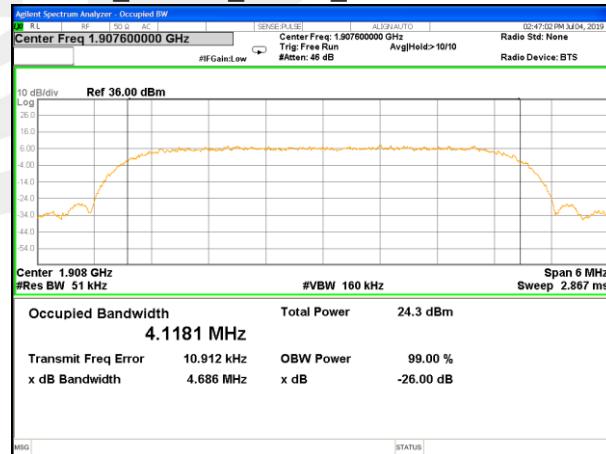
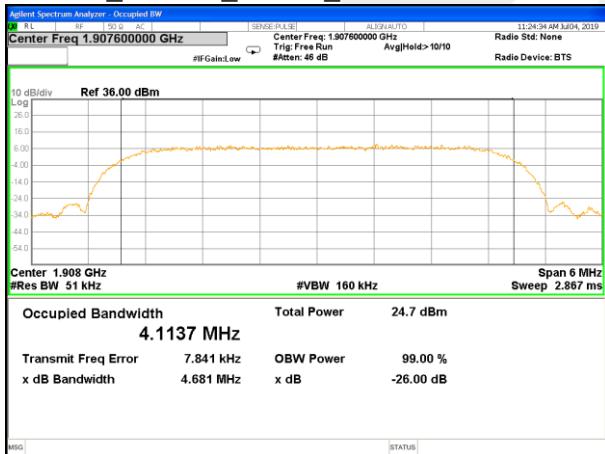
B2_WCDMA_Middle_26BW and 99%



B2_HSDPA_Lower_26BW and 99%

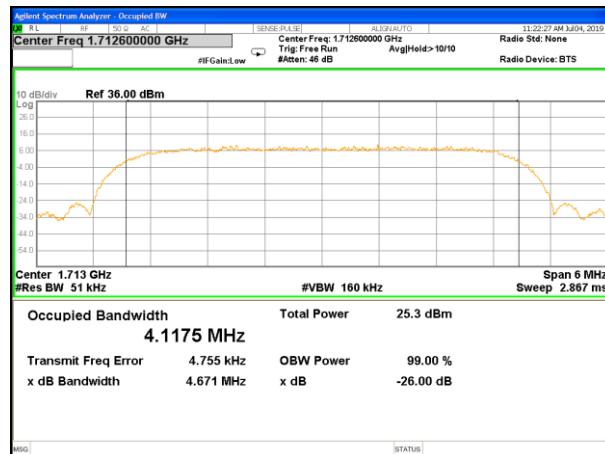
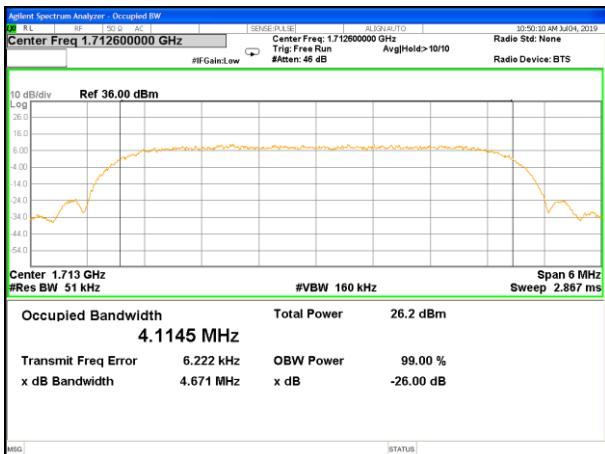


B2_HSDPA_Middle_26BW and 99%

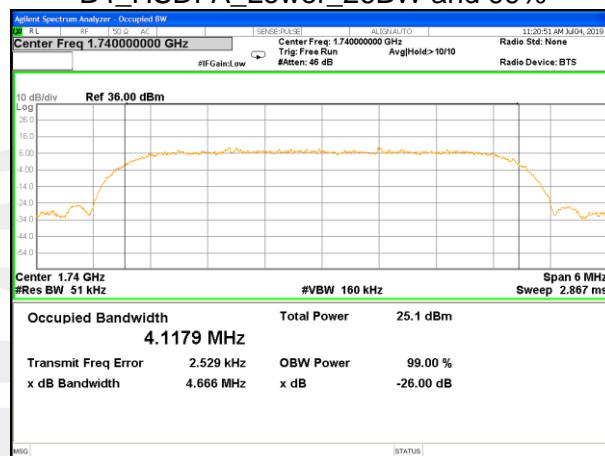
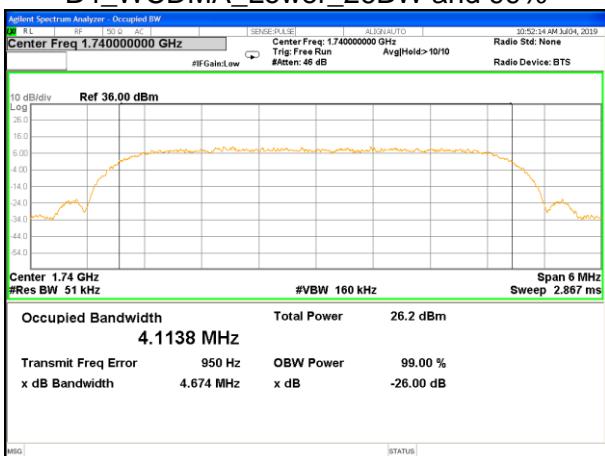


B2_HSDPA_Higher_26BW and 99%

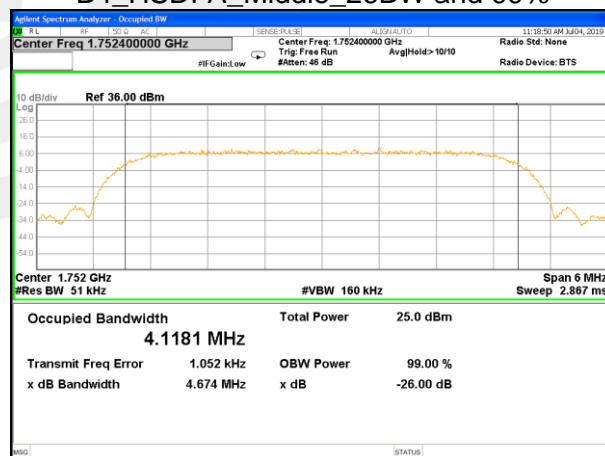
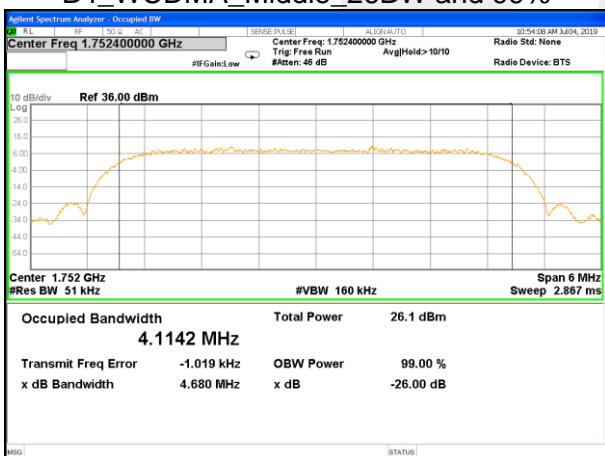
B2_HSUPA_Lower_26BW and 99%



B4_WCDMA_Lower_26BW and 99%

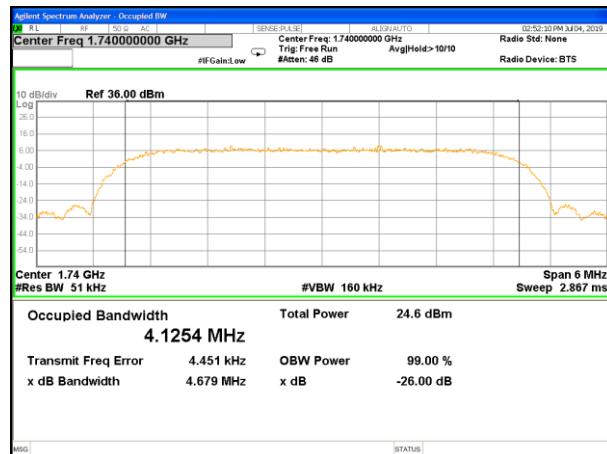
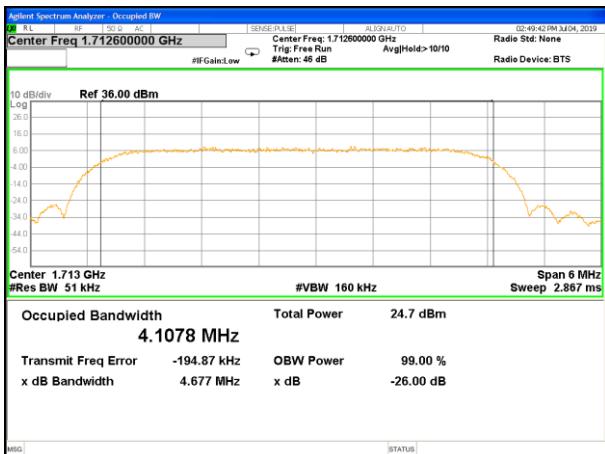


B4_WCDMA_Middle_26BW and 99%

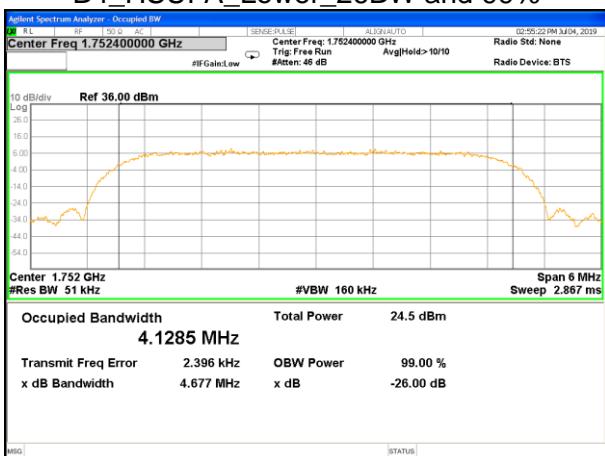


B4_WCDMA_Higher_26BW and 99%

B4_HSDPA_Lower_26BW and 99%

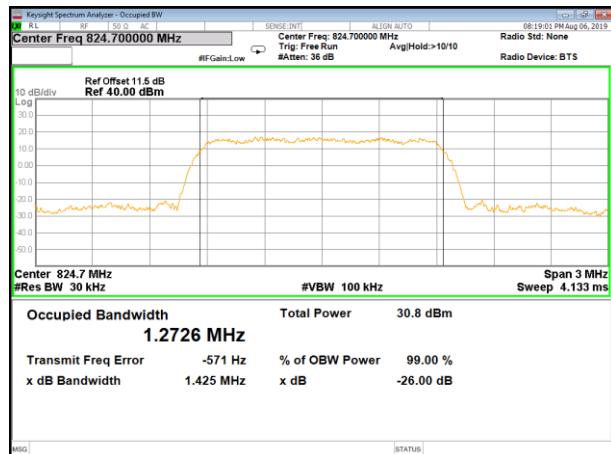
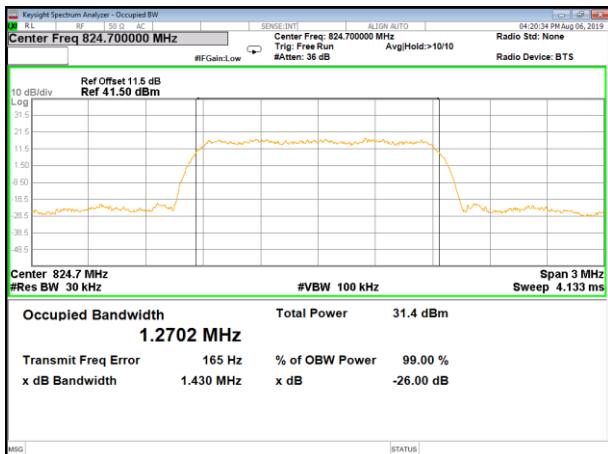


B4_HSUPA_Lower_26BW and 99%

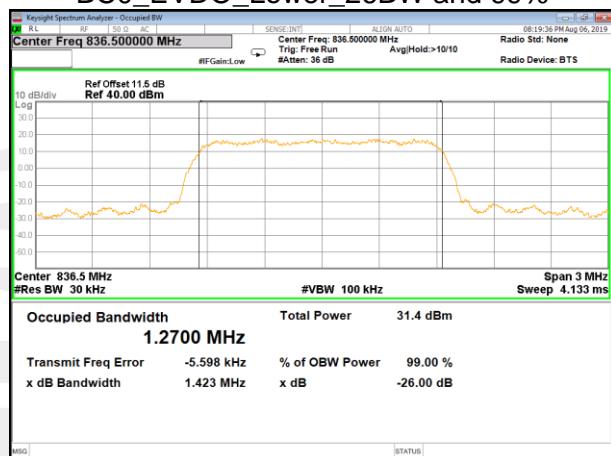
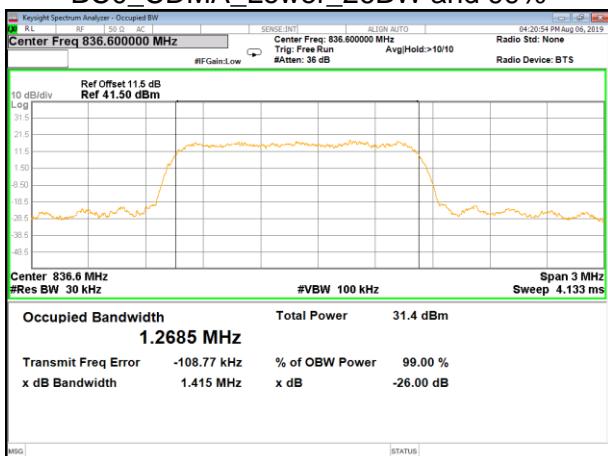


B4_HSUPA_Middle_26BW and 99%

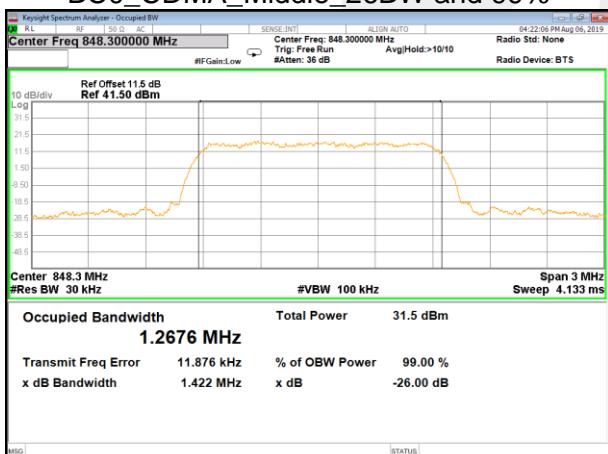
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BC0_CDMA_Lower_26BW and 99%

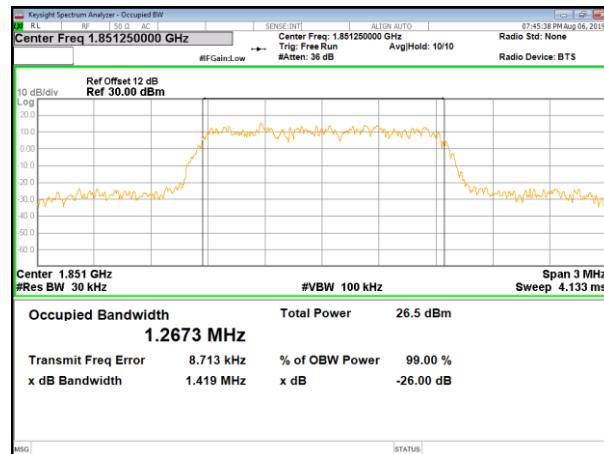
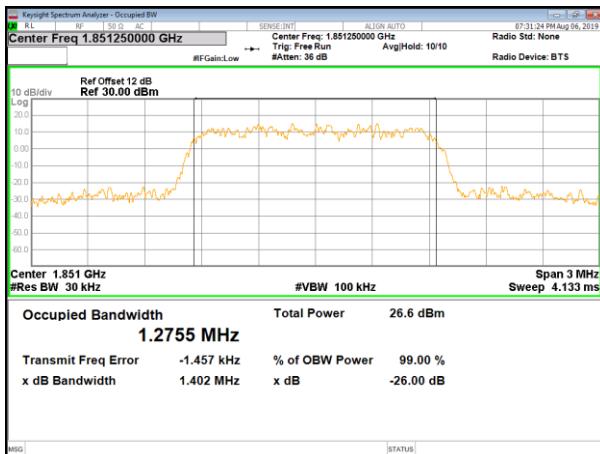


BC0_CDMA_Middle_26BW and 99%

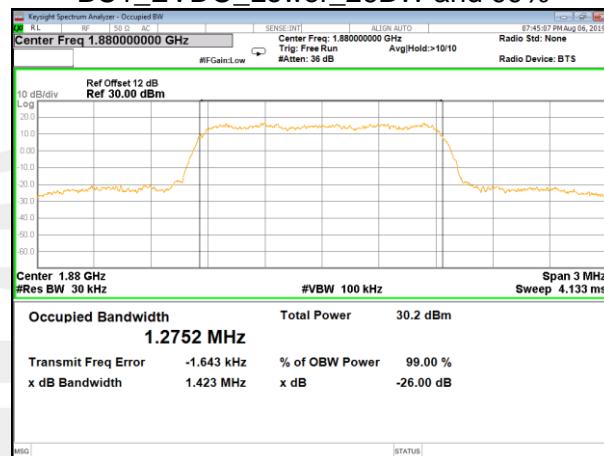
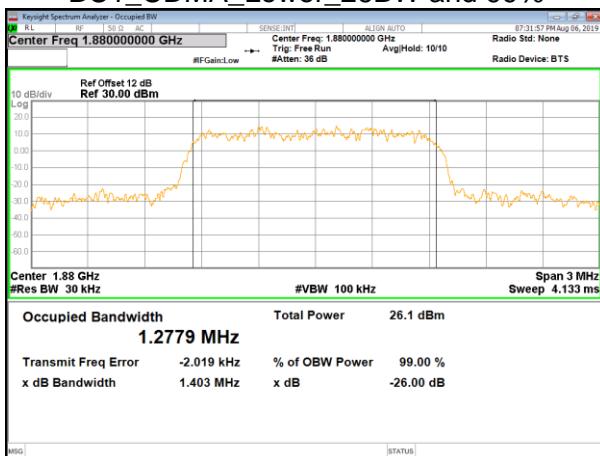


BC0_CDMA_Higher_26BW and 99%

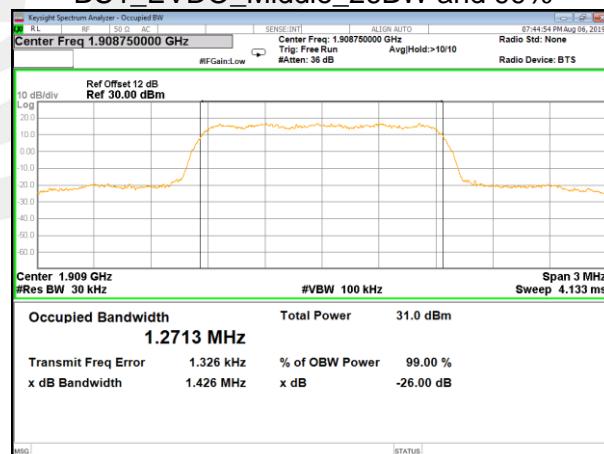
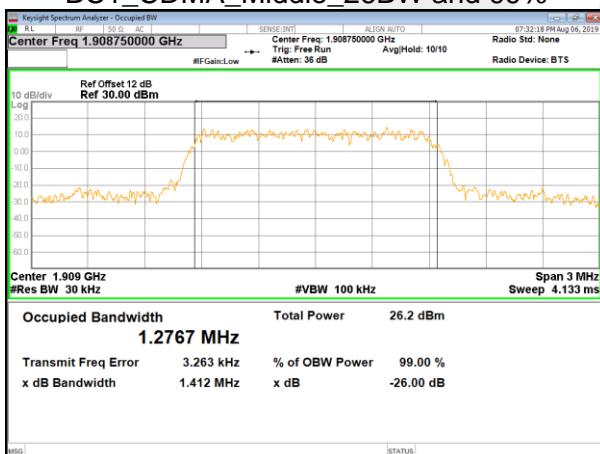
BC0_EVDO_Higher_26BW and 99%



BC1_CDMA_Lower_26BW and 99%



BC1_CDMA_Middle_26BW and 99%



BC1_CDMA_Higher_26BW and 99%

BC1_EVDO_Higher_26BW and 99%



A5.FREQUENCY STABILITY

GPRS 850 /836.6MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	13.34	0.016	2.5ppm	PASS
40		13.26	0.016		
30		26.11	0.031		
20		12.15	0.015		
10		21.54	0.026		
0		25.92	0.031		
-10		27.86	0.033		
-20		32.16	0.038		
-30		35.17	0.042		
25	Maximum Voltage	34.62	0.041		
25	BEP	27.45	0.033		

EGPRS 850 /836.6MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	23.58	0.028	2.5ppm	PASS
40		20.86	0.025		
30		27.66	0.033		
20		18.46	0.022		
10		35.38	0.042		
0		31.15	0.037		
-10		29.73	0.036		
-20		32.86	0.039		
-30		32.51	0.039		
25	Maximum Voltage	32.45	0.039		
25	BEP	21.56	0.026		



GPRS 1900 / 1880MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	15.21	0.008	Within Authorized Band	PASS
40		31.62	0.017		
30		30.10	0.016		
20		12.33	0.007		
10		12.50	0.007		
0		35.23	0.019		
-10		24.69	0.013		
-20		18.73	0.010		
-30		15.34	0.008		
25	Maximum Voltage	29.88	0.016		
25	BEP	15.18	0.008		

EGPRS 1900 / 1880MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	28.98	0.015	Within Authorized Band	PASS
40		14.13	0.008		
30		15.99	0.009		
20		27.55	0.015		
10		13.03	0.007		
0		29.54	0.016		
-10		20.64	0.011		
-20		22.85	0.012		
-30		31.95	0.017		
25	Maximum Voltage	23.53	0.013		
25	BEP	34.42	0.018		



UMTS Band V / 836.6MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	19.02	0.023	2.5ppm	PASS
40		32.79	0.039		
30		12.87	0.015		
20		24.09	0.029		
10		33.89	0.041		
0		18.84	0.023		
-10		15.93	0.019		
-20		33.26	0.040		
-30		36.47	0.044		
25	Maximum Voltage	32.64	0.039		
25	BEP	25.67	0.031		

HSDPA Band V / 836.6MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	35.81	0.043	2.5ppm	PASS
40		35.23	0.042		
30		20.23	0.024		
20		34.20	0.041		
10		15.58	0.019		
0		21.04	0.025		
-10		23.08	0.028		
-20		11.66	0.014		
-30		31.64	0.038		
25	Maximum Voltage	31.16	0.037		
25	BEP	14.12	0.017		



HSDPA Band V / 836.6MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	30.45	0.036	2.5ppm	PASS
40		16.88	0.020		
30		17.44	0.021		
20		27.03	0.032		
10		15.85	0.019		
0		19.80	0.024		
-10		11.96	0.014		
-20		26.85	0.032		
-30		20.21	0.024		
25	Maximum Voltage	19.62	0.023		
25	BEP	32.64	0.039		

UMTS Band II /1880MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	33.82	0.018	Within Authorized Band	PASS
40		26.41	0.014		
30		19.87	0.011		
20		26.71	0.014		
10		35.30	0.019		
0		30.34	0.016		
-10		20.44	0.011		
-20		21.09	0.011		
-30		35.16	0.019		
25	Maximum Voltage	18.46	0.010		
25	BEP	18.83	0.010		



HSDPA Band II /1880MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	36.02	0.019	Within Authorized Band	PASS
40		23.50	0.013		
30		31.24	0.017		
20		16.64	0.009		
10		36.31	0.019		
0		18.63	0.010		
-10		27.77	0.015		
-20		29.74	0.016		
-30		30.54	0.016		
25	Maximum Voltage	24.18	0.013		
25	BEP	28.31	0.015		

HSUPA Band II /1880MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	16.37	0.009	Within Authorized Band	PASS
40		33.82	0.018		
30		33.87	0.018		
20		22.62	0.012		
10		31.72	0.017		
0		29.20	0.016		
-10		11.94	0.006		
-20		27.21	0.014		
-30		24.46	0.013		
25	Maximum Voltage	29.13	0.015		
25	BEP	33.29	0.018		



UMTS Band IV /1740MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	26.96	0.014	Within Authorized Band	PASS
40		34.36	0.018		
30		27.74	0.015		
20		32.93	0.018		
10		17.14	0.009		
0		21.15	0.011		
-10		33.94	0.018		
-20		18.78	0.010		
-30		25.77	0.014		
25	Maximum Voltage	28.14	0.015		
25	BEP	34.86	0.019		

UMTS Band IV /1740MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	25.86	0.014	Within Authorized Band	PASS
40		19.26	0.010		
30		30.38	0.016		
20		26.55	0.014		
10		13.40	0.007		
0		26.34	0.014		
-10		15.57	0.008		
-20		16.98	0.009		
-30		18.35	0.010		
25	Maximum Voltage	22.70	0.012		
25	BEP	27.36	0.015		



UMTS Band IV /1740MHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	34.37	0.018	Within Authorized Band	PASS
40		12.65	0.007		
30		25.15	0.013		
20		23.04	0.012		
10		24.20	0.013		
0		34.92	0.019		
-10		24.51	0.013		
-20		31.92	0.017		
-30		36.05	0.019		
25	Maximum Voltage	20.30	0.011		
25	BEP	13.50	0.007		

1. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



CDMA BC0					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	22.72	0.027	2.5ppm	PASS
40		29.80	0.036		
30		13.74	0.016		
20		13.18	0.016		
10		29.42	0.035		
0		23.66	0.028		
-10		33.62	0.040		
-20		35.24	0.042		
-30		16.97	0.020		
25	Maximum Voltage	26.42	0.032		
25	BEP	20.38	0.024		

EVDO BC0					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	21.32	0.025	2.5ppm	PASS
40		15.28	0.018		
30		18.99	0.023		
20		33.67	0.040		
10		19.34	0.023		
0		33.89	0.041		
-10		33.59	0.040		
-20		22.93	0.027		
-30		22.67	0.027		
25	Maximum Voltage	14.28	0.017		
25	BEP	36.42	0.044		