

**Appendix A:Maximum Transmitter Power**

Operation Mode	Modulation Type	Test Channel	Measured Power(dBm)	Measured Power(W)	Rated Power(W)	Percentage (%)	Limit (%)	Result
TX-DNH	4FSK	CH _L	47.6	57.54	50.00	15.1	±20	PASS
TX-DNH	4FSK	CH _{M1}	47.7	58.88	50.00	17.8	±20	PASS
TX-DNH	4FSK	CH _{M2}	47.7	58.88	50.00	17.8	±20	PASS
TX-DNH	4FSK	CH _{M3}	47.5	56.23	50.00	12.5	±20	PASS
TX-DNH	4FSK	CH _H	47.5	56.23	50.00	12.5	±20	PASS
TX-DNM	4FSK	CH _L	44.3	26.92	25.00	7.7	±20	PASS
TX-DNM	4FSK	CH _{M1}	44.5	28.18	25.00	12.7	±20	PASS
TX-DNM	4FSK	CH _{M2}	44.5	28.18	25.00	12.7	±20	PASS
TX-DNM	4FSK	CH _{M3}	44.2	26.30	25.00	5.2	±20	PASS
TX-DNM	4FSK	CH _H	44.5	28.18	25.00	12.7	±20	PASS
TX-DNL	4FSK	CH _L	37.5	5.62	5.00	12.5	±20	PASS
TX-DNL	4FSK	CH _{M1}	37.7	5.89	5.00	17.8	±20	PASS
TX-DNL	4FSK	CH _{M2}	37.7	5.89	5.00	17.8	±20	PASS
TX-DNL	4FSK	CH _{M3}	37.1	5.13	5.00	2.6	±20	PASS
TX-DNL	4FSK	CH _H	37.2	5.25	5.00	5.0	±20	PASS
TX-ANH	FM	CH _L	46.9	48.75	50.00	-2.5	±20	PASS
TX-ANH	FM	CH _{M1}	46.9	49.43	50.00	-1.1	±20	PASS
TX-ANH	FM	CH _{M2}	46.9	49.20	50.00	-1.6	±20	PASS
TX-ANH	FM	CH _{M3}	46.8	48.31	50.00	-3.4	±20	PASS
TX-ANH	FM	CH _H	46.8	47.86	50.00	-4.3	±20	PASS
TX-ANM	FM	CH _L	43.7	23.50	25.00	-6.0	±20	PASS
TX-ANM	FM	CH _{M1}	43.8	24.15	25.00	-3.4	±20	PASS
TX-ANM	FM	CH _{M2}	43.8	24.10	25.00	-3.6	±20	PASS
TX-ANM	FM	CH _{M3}	43.7	23.17	25.00	-7.3	±20	PASS
TX-ANM	FM	CH _H	43.6	23.01	25.00	-7.9	±20	PASS
TX-ANL	FM	CH _L	37.0	5.04	5.00	0.7	±20	PASS
TX-ANL	FM	CH _{M1}	37.1	5.13	5.00	2.6	±20	PASS
TX-ANL	FM	CH _{M2}	37.0	5.01	5.00	0.2	±20	PASS
TX-ANL	FM	CH _{M3}	36.8	4.79	5.00	-4.3	±20	PASS
TX-ANL	FM	CH _H	36.7	4.68	5.00	-6.5	±20	PASS

**Appendix B:Occupied Bandwidth**

Operation Mode	Modulation Type	Test Channel	Occupied Bandwidth		99% Limit(kHz)	Result
			99%(kHz)	26dB(kHz)		
TX-DNH	4FSK	CH _L	7.196	9.380	≤11.25	PASS
TX-DNH	4FSK	CH _{M1}	7.256	9.471	≤11.25	PASS
TX-DNH	4FSK	CH _{M2}	7.094	9.510	≤11.25	PASS
TX-DNH	4FSK	CH _{M3}	6.959	9.341	≤11.25	PASS
TX-DNH	4FSK	CH _H	6.836	9.328	≤11.25	PASS
TX-DNL	4FSK	CH _L	7.242	9.358	≤11.25	PASS
TX-DNL	4FSK	CH _{M1}	7.131	9.388	≤11.25	PASS
TX-DNL	4FSK		7.300	9.688	≤11.25	PASS
TX-DNL	4FSK	CH _{M3}	7.169	9.468	≤11.25	PASS
TX-DNL	4FSK	CH _H	6.988	9.301	≤11.25	PASS
TX-ANH	FM	CH _L	5.165	7.649	≤11.25	PASS
TX-ANH	FM	CH _{M1}	5.158	7.664	≤11.25	PASS
TX-ANH	FM	CH _{M2}	5.155	7.663	≤11.25	PASS
TX-ANH	FM	CH _{M3}	5.162	7.640	≤11.25	PASS
TX-ANH	FM	CH _H	5.176	7.665	≤11.25	PASS
TX-ANL	FM	CH _L	5.166	7.646	≤11.25	PASS
TX-ANL	FM	CH _{M1}	5.156	7.664	≤11.25	PASS
TX-ANL	FM	CH _{M2}	5.159	7.662	≤11.25	PASS
TX-ANL	FM	CH _{M3}	5.167	7.637	≤11.25	PASS
TX-ANL	FM	CH _H	5.177	7.662	≤11.25	PASS

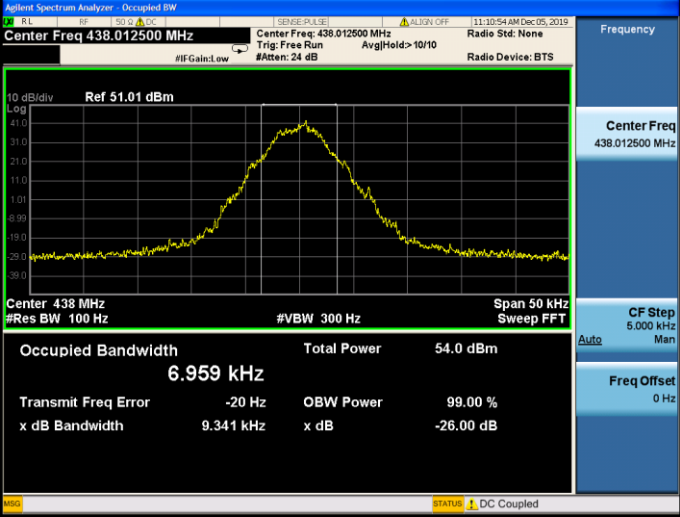
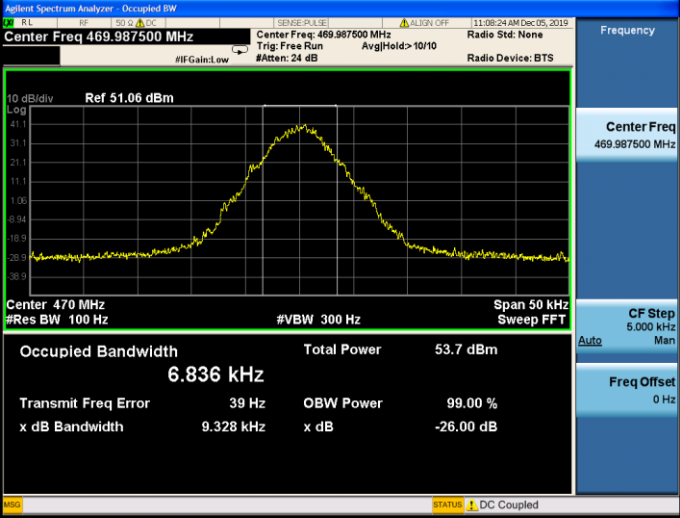
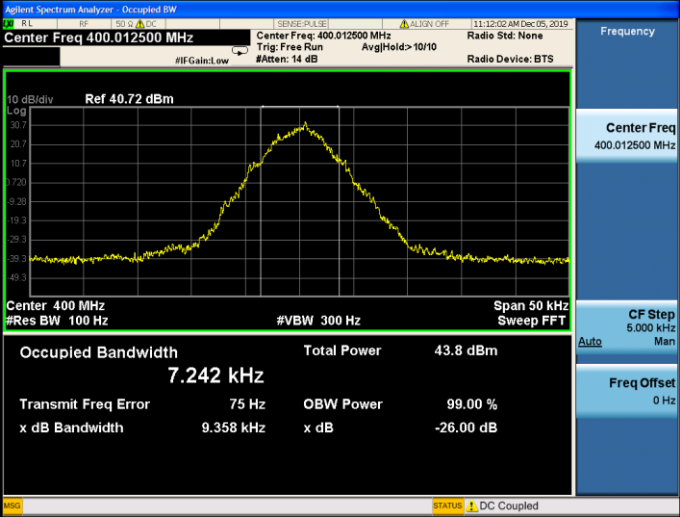


Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _L	Agilent Spectrum Analyzer - Occupied BW Center Freq 400.012500 MHz Center Freq: 400.012500 MHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref 51.22 dBm Span 50 kHz Sweep FFT Occupied Bandwidth 7.196 kHz Total Power 54.4 dBm Transmit Freq Error 86 Hz OBW Power 99.00 % x dB Bandwidth 9.380 kHz x dB -26.00 dB
TX-DNH	4FSK	CH _{M1}	Agilent Spectrum Analyzer - Occupied BW Center Freq 405.987500 MHz Center Freq: 405.987500 MHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref 51.31 dBm Span 50 kHz Sweep FFT Occupied Bandwidth 7.259 kHz Total Power 54.1 dBm Transmit Freq Error 106 Hz OBW Power 99.00 % x dB Bandwidth 9.471 kHz x dB -26.00 dB
TX-DNH	4FSK	CH _{M2}	Agilent Spectrum Analyzer - Occupied BW Center Freq 406.112500 MHz Center Freq: 406.112500 MHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref 51.30 dBm Span 50 kHz Sweep FFT Occupied Bandwidth 7.094 kHz Total Power 54.2 dBm Transmit Freq Error 87 Hz OBW Power 99.00 % x dB Bandwidth 9.510 kHz x dB -26.00 dB

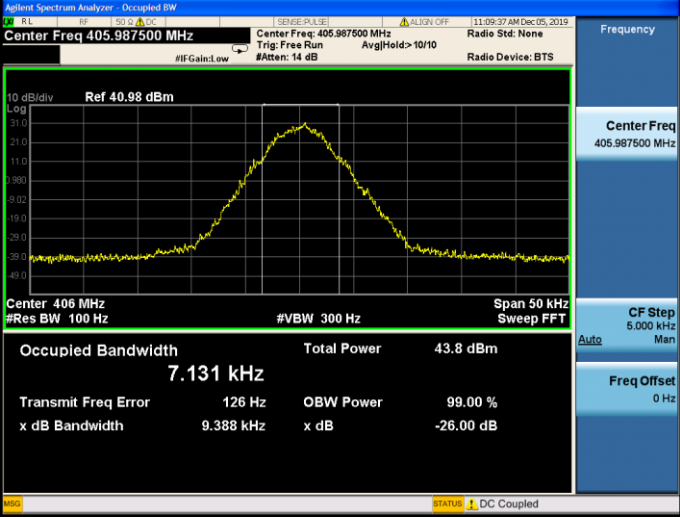
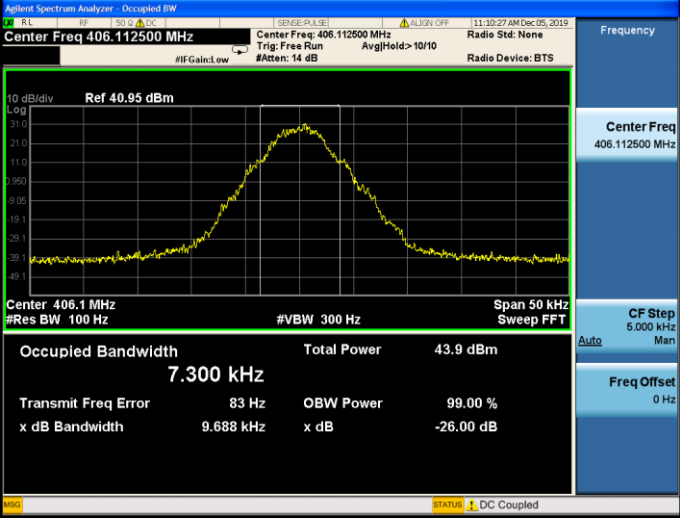
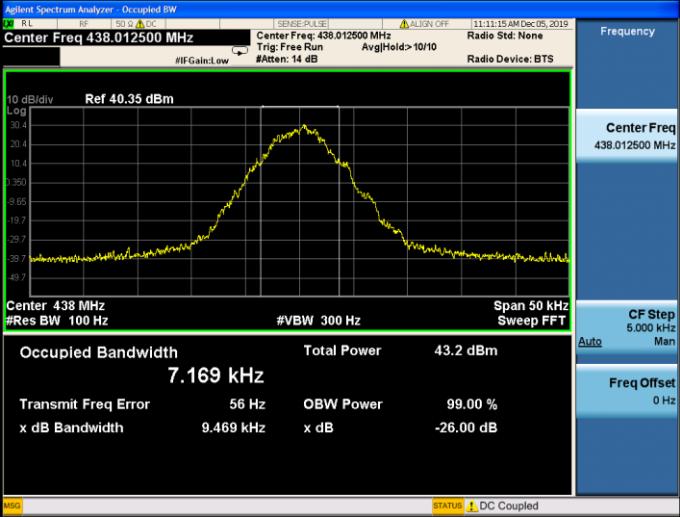


Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _{M3}	 Agilent Spectrum Analyzer - Occupied BW Center Freq 438.012500 MHz Center Freq: 438.012500 MHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref 51.01 dBm Center 438 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 6.959 kHz Total Power 54.0 dBm Transmit Freq Error -20 Hz OBW Power 99.00 % x dB Bandwidth 9.341 kHz x dB -26.00 dB STATUS DC Coupled
TX-DNH	4FSK	CH _H	 Agilent Spectrum Analyzer - Occupied BW Center Freq 469.987500 MHz Center Freq: 469.987500 MHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref 51.06 dBm Center 470 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 6.836 kHz Total Power 53.7 dBm Transmit Freq Error 39 Hz OBW Power 99.00 % x dB Bandwidth 9.328 kHz x dB -26.00 dB STATUS DC Coupled
TX-DNL	4FSK	CH _L	 Agilent Spectrum Analyzer - Occupied BW Center Freq 400.012500 MHz Center Freq: 400.012500 MHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref 40.72 dBm Center 400 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 7.242 kHz Total Power 43.8 dBm Transmit Freq Error 75 Hz OBW Power 99.00 % x dB Bandwidth 9.358 kHz x dB -26.00 dB STATUS DC Coupled

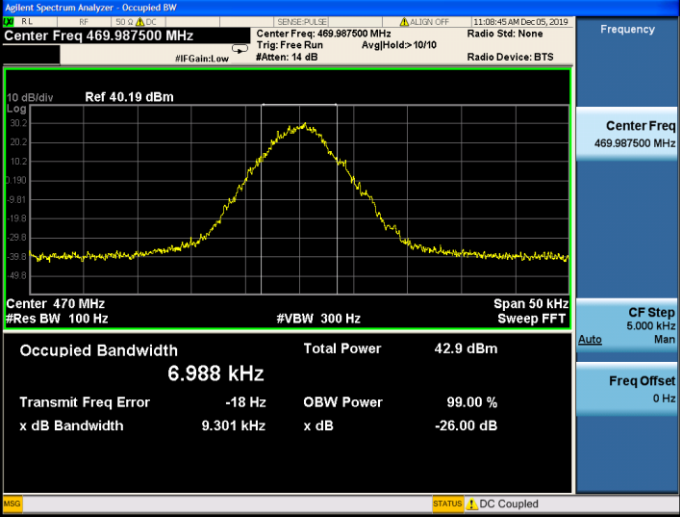
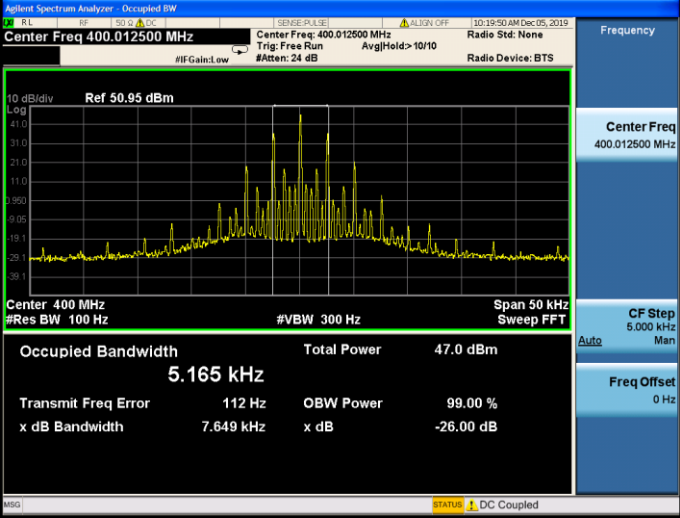
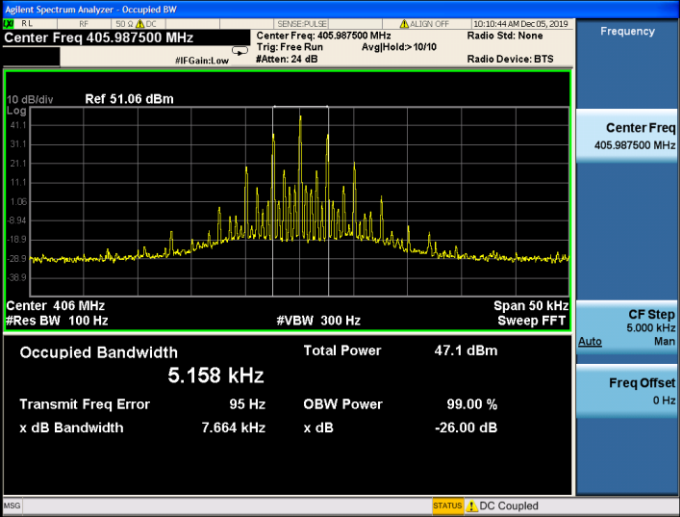


Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNL	4FSK	CH _{M1}	
TX-DNL	4FSK	CH _{M2}	
TX-DNL	4FSK	CH _{M3}	



Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNL	4FSK	CH _H	 Agilent Spectrum Analyzer - Occupied BW Center Freq 469.987500 MHz Trig: Free Run #IF Gain: Low #Atten: 14 dB Avg/Hold: > 10/10 Radio Std: None Radio Device: BTS Frequency Center Freq 469.987500 MHz CF Step 5.000 kHz Man Freq Offset 0 Hz Occupied Bandwidth 6.988 kHz Total Power 42.9 dBm Transmit Freq Error -18 Hz OBW Power 99.00 % x dB Bandwidth 9.301 kHz x dB -26.00 dB Span 50 kHz Sweep FFT #Res BW 100 Hz #VBW 300 Hz STATUS DC Coupled
TX-ANH	FM	CH _L	 Agilent Spectrum Analyzer - Occupied BW Center Freq 400.012500 MHz Trig: Free Run #IF Gain: Low #Atten: 24 dB Avg/Hold: > 10/10 Radio Std: None Radio Device: BTS Frequency Center Freq 400.012500 MHz CF Step 5.000 kHz Man Freq Offset 0 Hz Occupied Bandwidth 5.165 kHz Total Power 47.0 dBm Transmit Freq Error 112 Hz OBW Power 99.00 % x dB Bandwidth 7.649 kHz x dB -26.00 dB Span 50 kHz Sweep FFT #Res BW 100 Hz #VBW 300 Hz STATUS DC Coupled
TX-ANH	FM	CH _{M1}	 Agilent Spectrum Analyzer - Occupied BW Center Freq 405.987500 MHz Trig: Free Run #IF Gain: Low #Atten: 24 dB Avg/Hold: > 10/10 Radio Std: None Radio Device: BTS Frequency Center Freq 405.987500 MHz CF Step 5.000 kHz Man Freq Offset 0 Hz Occupied Bandwidth 5.158 kHz Total Power 47.1 dBm Transmit Freq Error 95 Hz OBW Power 99.00 % x dB Bandwidth 7.664 kHz x dB -26.00 dB Span 50 kHz Sweep FFT #Res BW 100 Hz #VBW 300 Hz STATUS DC Coupled



Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-ANH	FM	CH _{M2}	Agilent Spectrum Analyzer - Occupied BW Center Freq 406.112500 MHz Center Freq: 406.112500 MHz Trig: Free Run Avg/Hold: > 10/10 Radio Std: None Radio Device: BTS Ref 51.03 dBm Span 50 kHz Sweep FFT Occupied Bandwidth 5.155 kHz Total Power 47.0 dBm Transmit Freq Error 100 Hz OBW Power 99.00 % x dB Bandwidth 7.663 kHz x dB -26.00 dB
TX-ANH	FM	CH _{M3}	Agilent Spectrum Analyzer - Occupied BW Center Freq 438.012500 MHz Center Freq: 438.012500 MHz Trig: Free Run Avg/Hold: > 10/10 Radio Std: None Radio Device: BTS Ref 50.66 dBm Span 50 kHz Sweep FFT Occupied Bandwidth 5.162 kHz Total Power 46.7 dBm Transmit Freq Error 110 Hz OBW Power 99.00 % x dB Bandwidth 7.640 kHz x dB -26.00 dB
TX-ANH	FM	CH _H	Agilent Spectrum Analyzer - Occupied BW Center Freq 469.987500 MHz Center Freq: 469.987500 MHz Trig: Free Run Avg/Hold: > 10/10 Radio Std: None Radio Device: BTS Ref 50.65 dBm Span 50 kHz Sweep FFT Occupied Bandwidth 5.176 kHz Total Power 46.6 dBm Transmit Freq Error 117 Hz OBW Power 99.00 % x dB Bandwidth 7.665 kHz x dB -26.00 dB

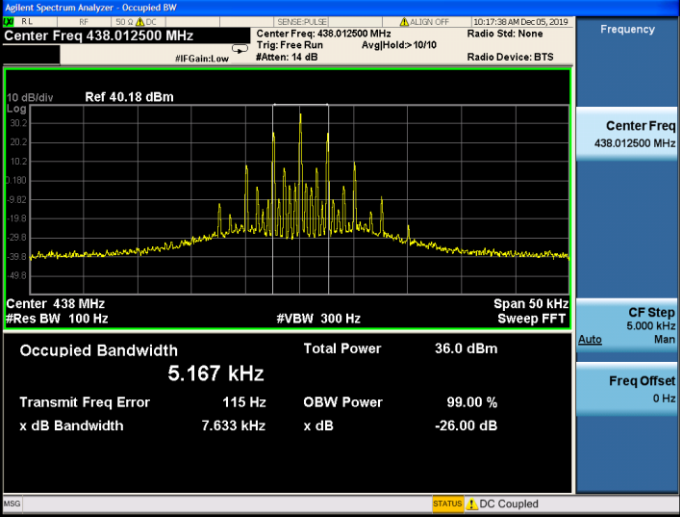
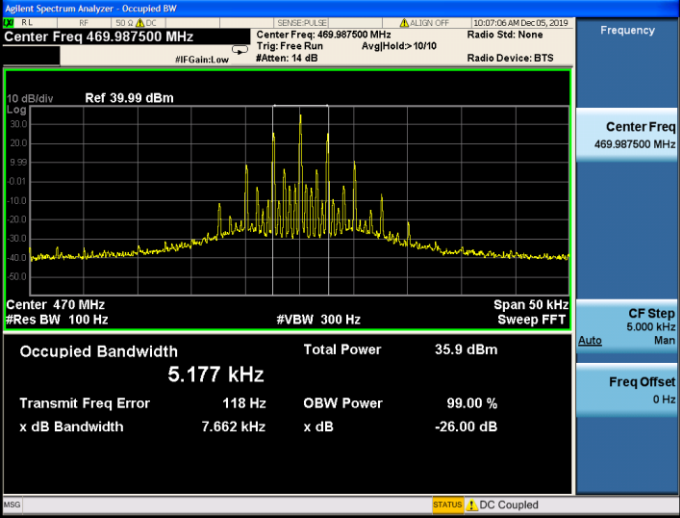


Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-ANL	FM	CH _L	Agilent Spectrum Analyzer - Occupied BW Center Freq 400.012500 MHz Center Freq: 400.012500 MHz Trig: Free Run Avg/Hold: > 10/10 Radio Std: None Radio Device: BTS Ref 41.03 dBm Span 50 kHz Sweep FFT Occupied Bandwidth 5.166 kHz Total Power 37.0 dBm Transmit Freq Error 113 Hz OBW Power 99.00 % x dB Bandwidth 7.646 kHz x dB -26.00 dB
TX-ANL	FM	CH _{M1}	Agilent Spectrum Analyzer - Occupied BW Center Freq 405.987500 MHz Center Freq: 405.987500 MHz Trig: Free Run Avg/Hold: > 10/10 Radio Std: None Radio Device: BTS Ref 41.07 dBm Span 50 kHz Sweep FFT Occupied Bandwidth 5.156 kHz Total Power 36.9 dBm Transmit Freq Error 97 Hz OBW Power 99.00 % x dB Bandwidth 7.664 kHz x dB -26.00 dB
TX-ANL	FM	CH _{M2}	Agilent Spectrum Analyzer - Occupied BW Center Freq 406.112500 MHz Center Freq: 406.112500 MHz Trig: Free Run Avg/Hold: > 10/10 Radio Std: None Radio Device: BTS Ref 41.02 dBm Span 50 kHz Sweep FFT Occupied Bandwidth 5.159 kHz Total Power 36.9 dBm Transmit Freq Error 105 Hz OBW Power 99.00 % x dB Bandwidth 7.662 kHz x dB -26.00 dB

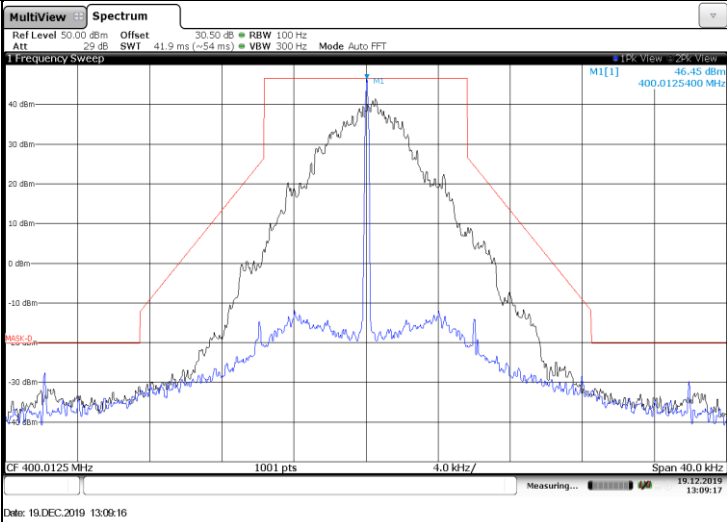
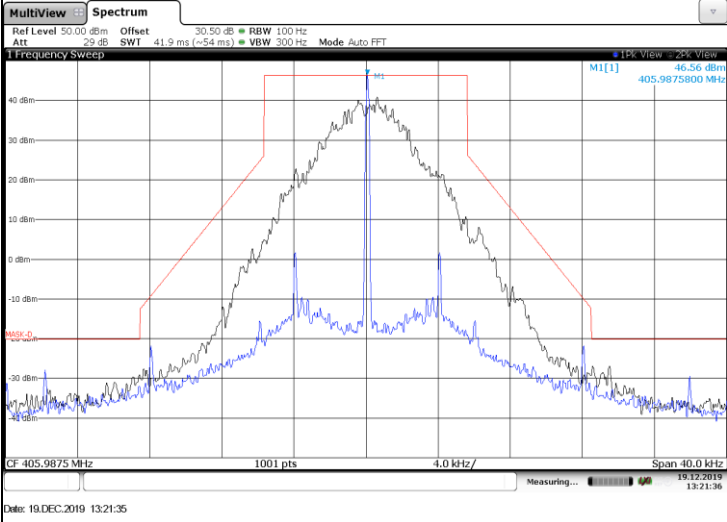
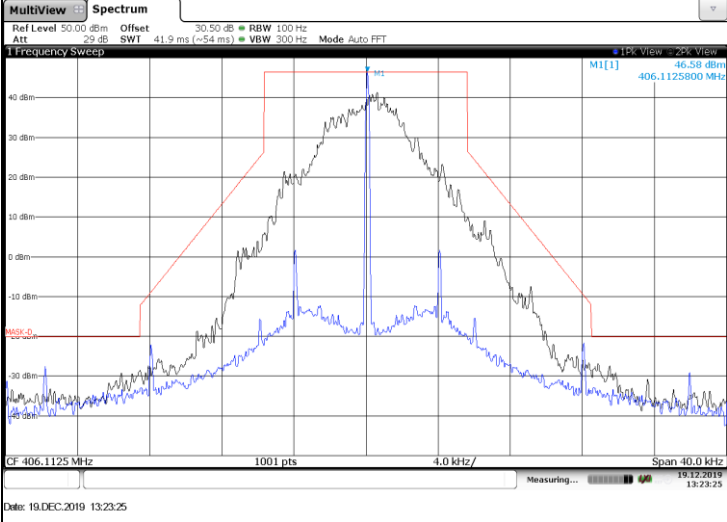


Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-ANL	FM	CH _{M3}	
TX-ANL	FM	CH _H	



Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _L	
TX-DNH	4FSK	CH _{M1}	
TX-DNH	4FSK	CH _{M2}	

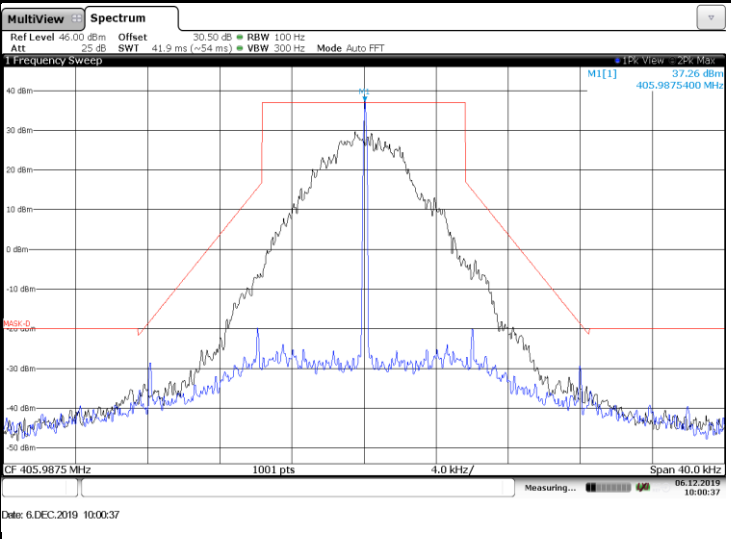
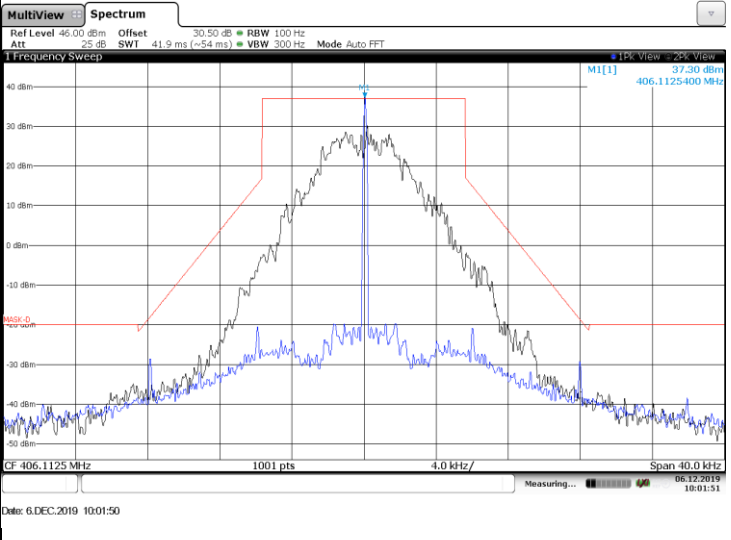
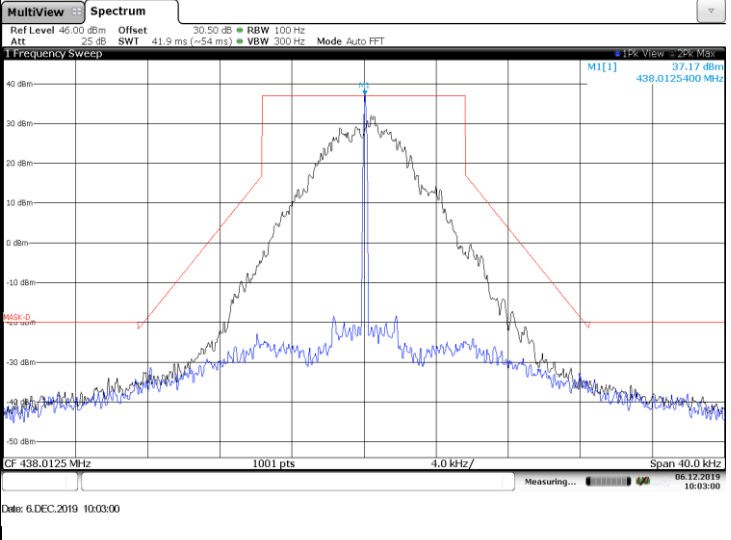


Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _{M3}	MultiView Spectrum Ref Level 50.00 dBm Offset 30.50 dB RBW 100 Hz Att 29 dB SWI 41.9 ms (~54 ms) VBW 300 Hz Mode Auto FFT 1 Frequency Sweep M1[1] 46.21 dBm 438.0125800 MHz CF 438.0125 MHz 1001 pts 4.0 kHz / Span 40.0 kHz Date: 19.DEC.2019 13:20:16
TX-DNH	4FSK	CH _H	MultiView Spectrum Ref Level 50.00 dBm Offset 30.50 dB RBW 100 Hz Att 29 dB SWI 41.9 ms (~54 ms) VBW 300 Hz Mode Auto FFT 1 Frequency Sweep M1[1] 45.85 dBm 469.9875800 MHz CF 469.9875 MHz 1001 pts 4.0 kHz / Span 40.0 kHz Date: 19.DEC.2019 13:25:28
TX-DNL	4FSK	CH _L	MultiView Spectrum Ref Level 40.00 dBm Offset 30.50 dB RBW 100 Hz Att 25 dB SWI 41.9 ms (~54 ms) VBW 300 Hz Mode Auto FFT 1 Frequency Sweep M1[1] 37.03 dBm 400.0125800 MHz CF 400.0125 MHz 1001 pts 4.0 kHz / Span 40.0 kHz Date: 6.DEC.2019 09:59:01



Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNL	4FSK	CH _{M1}	
TX-DNL	4FSK	CH _{M2}	
TX-DNL	4FSK	CH _{M3}	

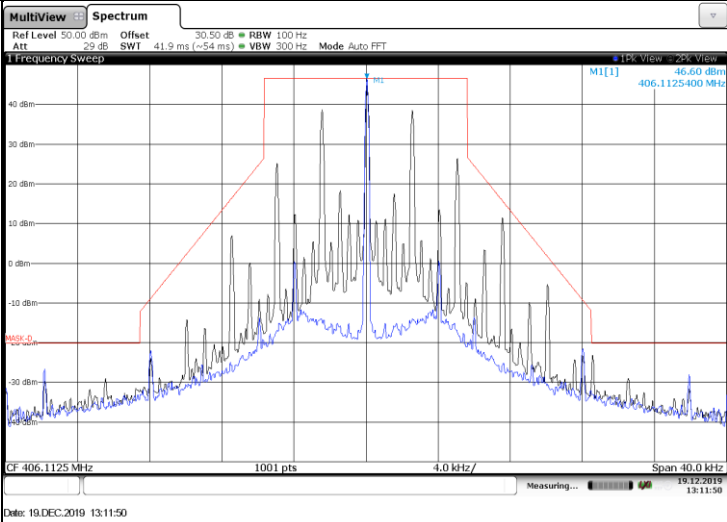
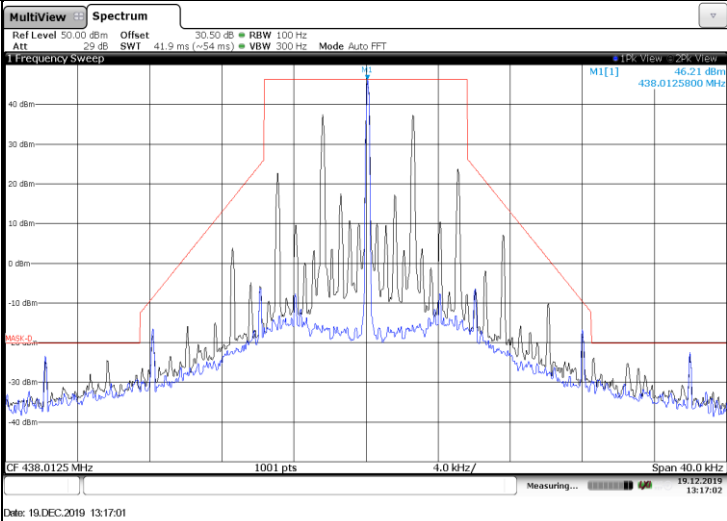
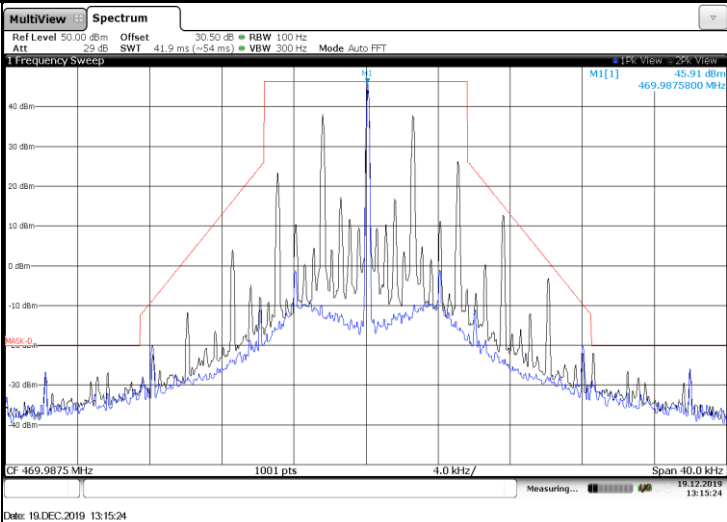


Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNL	4FSK	CH _H	
TX-ANH	FM	CH _L	
TX-ANH	FM	CH _{M1}	

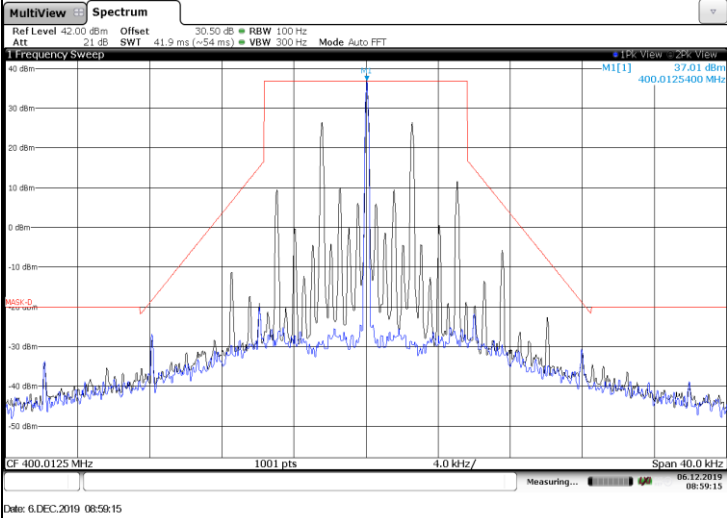
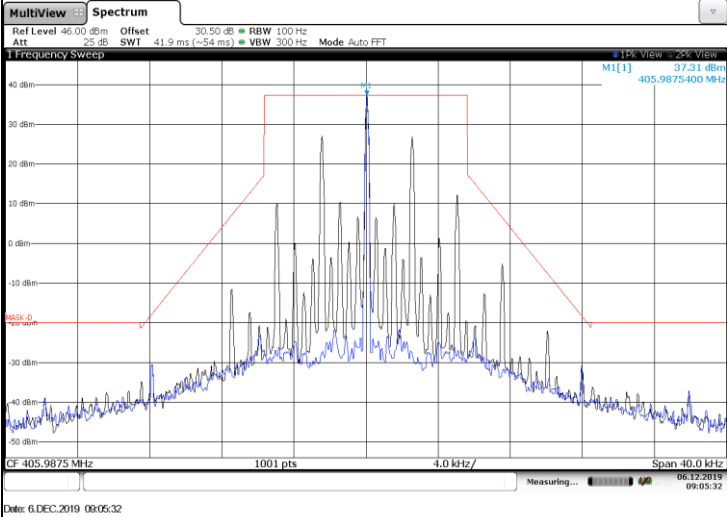
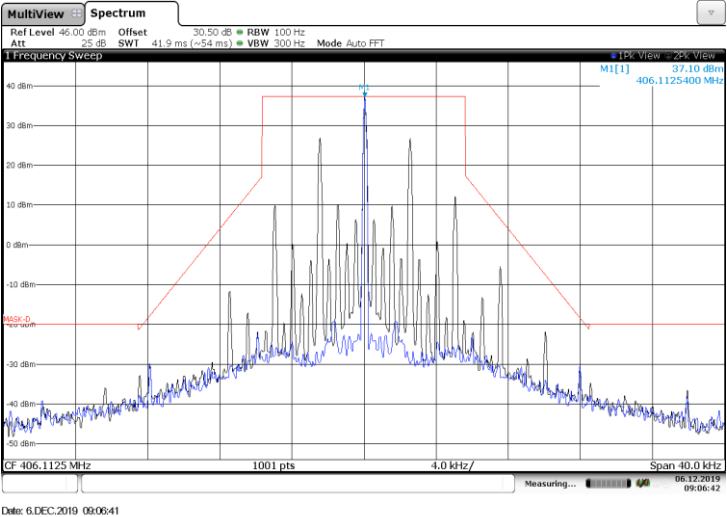


Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-ANH	FM	CH _{M2}	
TX-ANH	FM	CH _{M3}	
TX-ANH	FM	CH _H	

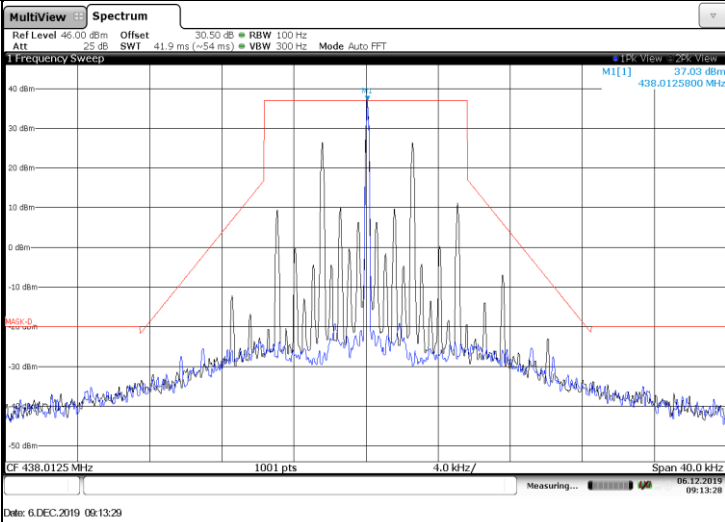
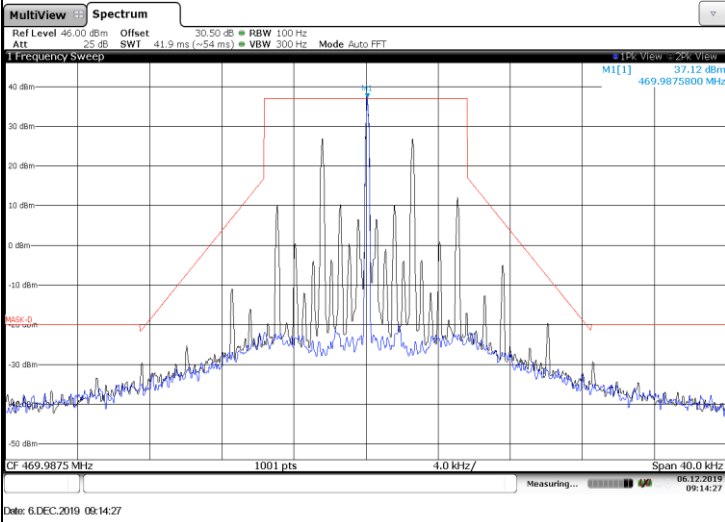


Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-ANL	FM	CH _L	
TX-ANL	FM	CH _{M1}	
TX-ANL	FM	CH _{M2}	



Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-ANL	FM	CH _{M3}	
TX-ANL	FM	CH _H	

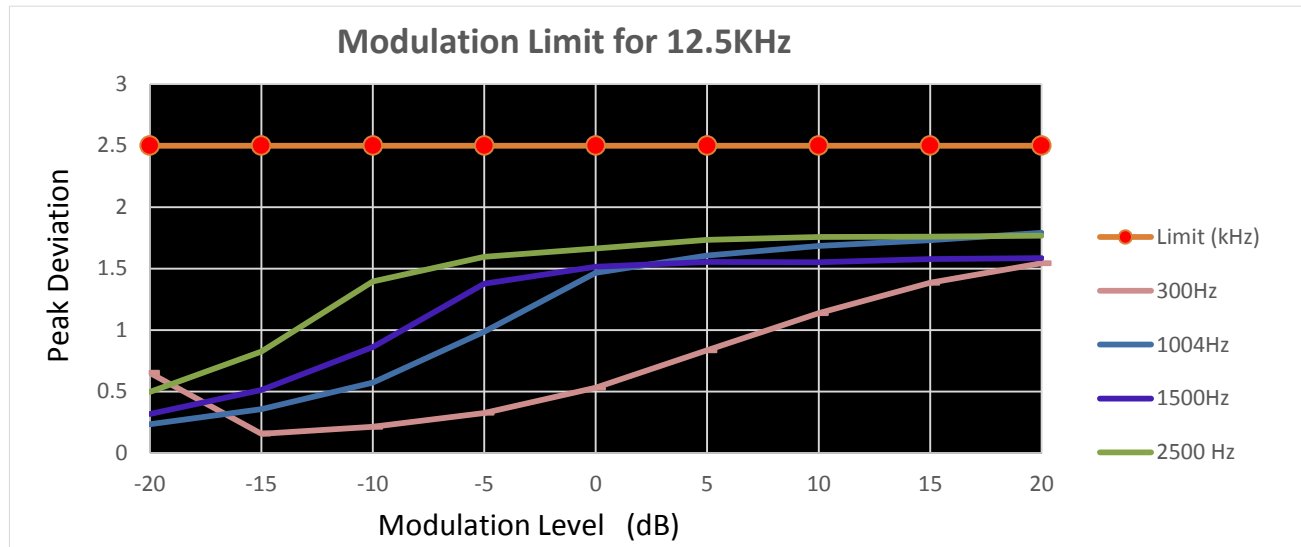
**Appendix D:Modulation Limit**

Operation Mode	Modulation Type	Test Channel	Modulation Level (dB)	Peak frequency deviation (kHz)				Limit (kHz)	Result
				300Hz	1004Hz	1500Hz	2500 Hz		
TX-ANH	FM	CH _{M2}	-20	0.652	0.234	0.319	0.497	2.5	PASS
TX-ANH	FM	CH _{M2}	-15	0.157	0.357	0.513	0.825	2.5	PASS
TX-ANH	FM	CH _{M2}	-10	0.214	0.573	0.863	1.396	2.5	PASS
TX-ANH	FM	CH _{M2}	-5	0.327	0.986	1.376	1.597	2.5	PASS
TX-ANH	FM	CH _{M2}	0	0.531	1.467	1.514	1.664	2.5	PASS
TX-ANH	FM	CH _{M2}	5	0.835	1.606	1.553	1.734	2.5	PASS
TX-ANH	FM	CH _{M2}	10	1.137	1.685	1.551	1.757	2.5	PASS
TX-ANH	FM	CH _{M2}	15	1.385	1.732	1.577	1.759	2.5	PASS
TX-ANH	FM	CH _{M2}	20	1.543	1.791	1.585	1.767	2.5	PASS



Appendix D:Modulation Limit

TEST PLOT RESULT



**Appendix E:Aduio Frequency Response**

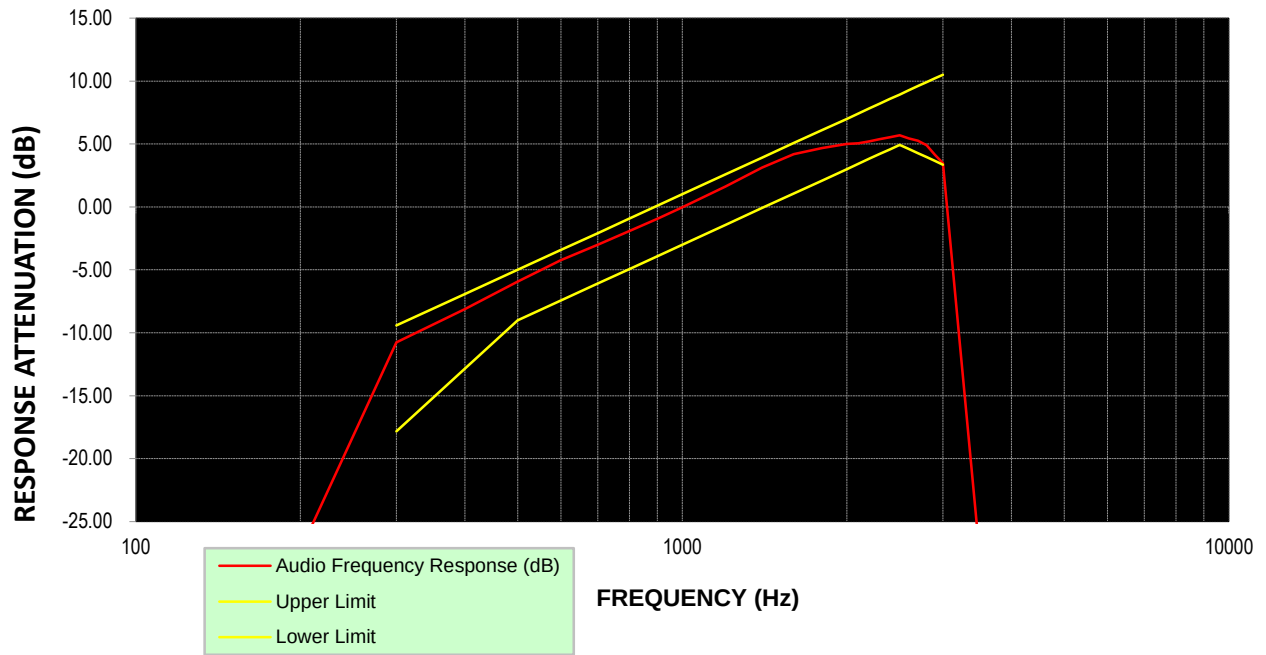
Operation Mode	Modulation Type	Test Channel	Frequency (Hz)	Audio Frequency Response (dB)	Lower Limit	Upper Limit	Result
TX-ANH	FM	CH _{M2}	100	-27.34			PASS
TX-ANH	FM	CH _{M2}	200	-27.30			PASS
TX-ANH	FM	CH _{M2}	300	-10.76	-17.84	-9.42	PASS
TX-ANH	FM	CH _{M2}	400	-8.13	-12.86	-6.93	PASS
TX-ANH	FM	CH _{M2}	500	-5.93	-9.00	-5.00	PASS
TX-ANH	FM	CH _{M2}	600	-4.24	-7.42	-3.42	PASS
TX-ANH	FM	CH _{M2}	700	-3.01	-6.09	-2.09	PASS
TX-ANH	FM	CH _{M2}	800	-1.93	-4.93	-0.93	PASS
TX-ANH	FM	CH _{M2}	900	-0.94	-3.91	0.09	PASS
TX-ANH	FM	CH _{M2}	1000	-0.03	-3.00	1.00	PASS
TX-ANH	FM	CH _{M2}	1200	1.62	-1.42	2.58	PASS
TX-ANH	FM	CH _{M2}	1400	3.12	-0.09	3.91	PASS
TX-ANH	FM	CH _{M2}	1600	4.20	1.07	5.07	PASS
TX-ANH	FM	CH _{M2}	1800	4.68	2.09	6.09	PASS
TX-ANH	FM	CH _{M2}	2000	5.00	3.00	7.00	PASS
TX-ANH	FM	CH _{M2}	2100	5.05	3.42	7.42	PASS
TX-ANH	FM	CH _{M2}	2200	5.21	3.83	7.83	PASS
TX-ANH	FM	CH _{M2}	2300	5.37	4.21	8.21	PASS
TX-ANH	FM	CH _{M2}	2400	5.54	4.58	8.58	PASS
TX-ANH	FM	CH _{M2}	2500	5.70	4.93	8.93	PASS
TX-ANH	FM	CH _{M2}	2600	5.43	4.59	9.27	PASS
TX-ANH	FM	CH _{M2}	2700	5.25	4.27	9.60	PASS
TX-ANH	FM	CH _{M2}	2800	4.89	3.95	9.91	PASS
TX-ANH	FM	CH _{M2}	2900	4.15	3.65	10.22	PASS
TX-ANH	FM	CH _{M2}	3000	3.47	3.35	10.51	PASS
TX-ANH	FM	CH _{M2}	3500	-27.73			PASS
TX-ANH	FM	CH _{M2}	4000	-27.44			PASS
TX-ANH	FM	CH _{M2}	4500	-27.50			PASS
TX-ANH	FM	CH _{M2}	5000	-27.53			PASS



Appendix E:Aduio Frequency Response

TEST PLOT RESULT

Aduio Frequency Response For 12.5kHz



**Appendix F:Frequency Stability Test & Temperature**

Operation Mode	Modulation Type	Test Conditions		Frequency error (ppm)					Limit (ppm)	Result
		Voltage	Temperature	CH _L	CH _{M1}	CH _{M2}	CH _{M3}	CH _H		
TX-DNH	4FSK	V _N	-30	-0.126	-0.120	-0.124	-0.134	-0.167	±5.0	PASS
TX-DNH	4FSK	V _N	-20	-0.120	-0.120	-0.120	-0.141	-0.172	±5.0	PASS
TX-DNH	4FSK	V _N	-10	-0.125	-0.126	-0.121	-0.139	-0.170	±5.0	PASS
TX-DNH	4FSK	V _N	0	-0.127	-0.120	-0.120	-0.137	-0.171	±5.0	PASS
TX-DNH	4FSK	V _N	10	-0.125	-0.122	-0.120	-0.139	-0.173	±5.0	PASS
TX-DNH	4FSK	V _N	20	-0.119	-0.118	-0.119	-0.131	-0.163	±5.0	PASS
TX-DNH	4FSK	V _N	30	-0.120	-0.124	-0.127	-0.139	-0.170	±5.0	PASS
TX-DNH	4FSK	V _N	40	-0.121	-0.119	-0.130	-0.143	-0.170	±5.0	PASS
TX-DNH	4FSK	V _N	55	-0.130	-0.119	-0.124	-0.141	-0.178	±5.0	PASS
TX-DNL	4FSK	V _N	-30	-0.131	-0.133	-0.140	-0.065	-0.187	±5.0	PASS
TX-DNL	4FSK	V _N	-20	-0.122	-0.130	-0.130	-0.065	-0.176	±5.0	PASS
TX-DNL	4FSK	V _N	-10	-0.133	-0.130	-0.141	-0.065	-0.175	±5.0	PASS
TX-DNL	4FSK	V _N	0	-0.130	-0.129	-0.138	-0.071	-0.186	±5.0	PASS
TX-DNL	4FSK	V _N	10	-0.126	-0.133	-0.135	-0.069	-0.185	±5.0	PASS
TX-DNL	4FSK	V _N	20	-0.121	-0.128	-0.128	-0.065	-0.173	±5.0	PASS
TX-DNL	4FSK	V _N	30	-0.132	-0.132	-0.139	-0.066	-0.183	±5.0	PASS
TX-DNL	4FSK	V _N	40	-0.122	-0.132	-0.137	-0.066	-0.178	±5.0	PASS
TX-DNL	4FSK	V _N	55	-0.126	-0.138	-0.129	-0.069	-0.179	±5.0	PASS
TX-ANH	FM	V _N	-30	0.221	0.234	0.233	0.218	0.266	±5.0	PASS
TX-ANH	FM	V _N	-20	0.220	0.245	0.239	0.215	0.263	±5.0	PASS
TX-ANH	FM	V _N	-10	0.211	0.243	0.235	0.225	0.265	±5.0	PASS
TX-ANH	FM	V _N	0	0.218	0.246	0.231	0.208	0.250	±5.0	PASS
TX-ANH	FM	V _N	10	0.213	0.229	0.235	0.221	0.256	±5.0	PASS
TX-ANH	FM	V _N	20	0.204	0.225	0.219	0.207	0.244	±5.0	PASS
TX-ANH	FM	V _N	30	0.212	0.235	0.231	0.219	0.256	±5.0	PASS
TX-ANH	FM	V _N	40	0.216	0.233	0.230	0.211	0.267	±5.0	PASS
TX-ANH	FM	V _N	55	0.206	0.243	0.220	0.227	0.268	±5.0	PASS
TX-ANL	FM	V _N	-30	0.203	0.230	0.221	0.220	0.236	±5.0	PASS
TX-ANL	FM	V _N	-20	0.212	0.226	0.223	0.210	0.244	±5.0	PASS
TX-ANL	FM	V _N	-10	0.217	0.233	0.230	0.220	0.253	±5.0	PASS
TX-ANL	FM	V _N	0	0.216	0.242	0.227	0.219	0.244	±5.0	PASS
TX-ANL	FM	V _N	10	0.201	0.241	0.223	0.210	0.247	±5.0	PASS
TX-ANL	FM	V _N	20	0.201	0.222	0.216	0.201	0.233	±5.0	PASS
TX-ANL	FM	V _N	30	0.220	0.226	0.227	0.215	0.248	±5.0	PASS
TX-ANL	FM	V _N	40	0.218	0.228	0.226	0.207	0.247	±5.0	PASS
TX-ANL	FM	V _N	55	0.205	0.228	0.233	0.212	0.242	±5.0	PASS

**Appendix G:Frequency Stability Test & Voltage**

Operation Mode	Modulation Type	Test Conditions		Frequency error (ppm)					Limit (ppm)	Result
		Voltage	Temperature	CH _L	CH _{M1}	CH _{M2}	CH _{M3}	CH _H		
TX-DNH	4FSK	V _N	T _N	-0.119	-0.118	-0.119	-0.131	-0.163	±5.0	PASS
TX-DNH	4FSK	V _L	T _N	-0.119	-0.120	-0.119	-0.132	-0.165	±5.0	PASS
TX-DNH	4FSK	V _H	T _N	-0.122	-0.123	-0.121	-0.133	-0.171	±5.0	PASS
TX-DNL	4FSK	V _N	T _N	-0.121	-0.128	-0.128	-0.065	-0.173	±5.0	PASS
TX-DNL	4FSK	V _L	T _N	-0.121	-0.129	-0.129	-0.066	-0.175	±5.0	PASS
TX-DNL	4FSK	V _H	T _N	-0.126	-0.135	-0.134	-0.066	-0.177	±5.0	PASS
TX-ANH	FM	V _N	T _N	0.204	0.225	0.219	0.207	0.244	±5.0	PASS
TX-ANH	FM	V _L	T _N	0.208	0.228	0.222	0.207	0.246	±5.0	PASS
TX-ANH	FM	V _H	T _N	0.205	0.236	0.222	0.217	0.248	±5.0	PASS
TX-ANL	FM	V _N	T _N	0.201	0.222	0.216	0.201	0.233	±5.0	PASS
TX-ANL	FM	V _L	T _N	0.204	0.222	0.217	0.205	0.234	±5.0	PASS
TX-ANL	FM	V _H	T _N	0.202	0.224	0.229	0.208	0.240	±5.0	PASS



Appendix H:Transmitter Frequency Behavior

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _{M2}	MultiView Spectrum Analog Demod Ref Level 49.00 dBm Offset 30.50 dB Att 28 dB AQT 100 ms DBW 25 kHz Freq 406.1125 MHz TRG:IFSK(17MHz) YIG Bypass 1 FM Time Domain IAP ClrW DC Ref:0.00 Hz 12.5 kHz 9.375 kHz 6.25 kHz 3.125 kHz 0 kHz -3.125 kHz -6.25 kHz -9.375 kHz -12.5 kHz 10.0 ms/ 1001 pts CF 406.1125 MHz 1001 pts 10.0 ms/ 4 Result Summary Carrier Power -40.58 dBm Carrier Offset 43.22 Hz +Peak -Peak +Peak/2 RMS Mod. Freq. SINAD THD FM 12.488 kHz -12.437 kHz 12.463 kHz 2.7408 kHz --- --- --- Analog Demod: Waiting for Trigger... Measuring... 06.12.2019 10:10:28 Date: 6.DEC.2019 10:10:27 OFF~ON
TX-DNH	4FSK	CH _{M2}	MultiView Spectrum Analog Demod Ref Level 49.00 dBm Offset 30.50 dB Att 28 dB AQT 100 ms DBW 25 kHz Freq 406.1125 MHz TRG:IFSK(17MHz) YIG Bypass 1 FM Time Domain IAP ClrW DC Ref:0.00 Hz 12.5 kHz 9.375 kHz 6.25 kHz 3.125 kHz 0 kHz -3.125 kHz -6.25 kHz -9.375 kHz -12.5 kHz 10.0 ms/ 1001 pts CF 406.1125 MHz 1001 pts 10.0 ms/ 4 Result Summary Carrier Power -40.57 dBm Carrier Offset 43.64 Hz +Peak -Peak +Peak/2 RMS Mod. Freq. SINAD THD FM 12.93 kHz -16.281 kHz 14.605 kHz 2.7702 kHz --- --- --- Analog Demod: Waiting for Trigger... Measuring... 06.12.2019 10:10:47 Date: 6.DEC.2019 10:10:47 ON-OFF
TX-ANH	FM	CH _{M2}	MultiView Spectrum Analog Demod Ref Level 49.00 dBm Offset 30.50 dB Att 28 dB AQT 100 ms DBW 25 kHz Freq 406.1125 MHz TRG:IFSK(17MHz) YIG Bypass 1 FM Time Domain IAP ClrW DC Ref:0.00 Hz 12.5 kHz 9.375 kHz 6.25 kHz 3.125 kHz 0 kHz -3.125 kHz -6.25 kHz -9.375 kHz -12.5 kHz 10.0 ms/ 1001 pts CF 406.1125 MHz 1001 pts 10.0 ms/ 4 Result Summary Carrier Power -40.54 dBm Carrier Offset 45.01 Hz +Peak -Peak +Peak/2 RMS Mod. Freq. SINAD THD FM 13.794 kHz -12.438 kHz 13.116 kHz 2.7452 kHz --- --- --- Analog Demod: Waiting for Trigger... Measuring... 06.12.2019 10:10:19 Date: 6.DEC.2019 10:10:18 ON-OFF



Appendix H:Transmitter Frequency Behavior

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-ANH	FM	CH _{M2}	MultiView Spectrum Analog Demod Ref Level 49.00 dBm Offset 30.50 dB Att 20 dB AQT 100 ms DBW 25 kHz Freq 406.1125 MHz TIG:JPD(17MHz) VIG:Process 1 FM Time Domain 12.5 kHz 9.375 kHz 6.25 kHz 3.125 kHz 0 kHz -3.125 kHz -6.25 kHz -9.375 kHz -12.5 kHz CF: 406.1125 MHz 1001 pts 10.0 ms 4 Result Summary Carrier Power 40.57 dBm Carrier Offset 43.90 Hz FM +Peak 12.566 kHz -Peak -13.367 kHz +Peak/2 12.966 kHz RMS 8.7224 kHz Mod. Freq. 1.0359 kHz SINAD --- THD --- Analog Demod: Waiting for Trigger... Measuring... 06.12.2019 10:11:02

ON-OFF