

Project No.	SHT2409061701W		
Test sample No.	YPHT24090617001	Model No.	BF-TD588UV
Start test date	2024/10/10	Finish date	2024/10/12
Temperature	25.1℃	Humidity	49%
Test Engineer	Xiangyu Wei	Auditor	Xiaodong Zhu

Appendix clause	Test Item	Test date (M/D)	Test Result (PASS/FAIL)
A	Maximum Transmitter Power	10/10	PASS
B	Occupied Bandwidth	10/10	PASS
C	Emission Mask	10/10	PASS
D	Frequency Stability Test & Temperature	10/10	PASS
E	Frequency Stability Test & Voltage	10/10	PASS
F	Transmitter Frequency Behavior	10/12	PASS
G	Spurious Emission On Antenna Port	10/10	PASS

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 _{L1}	36.60	4.57	5.00	-8.60	±20	PASS
TX-DNH	4FSK	CH _{M1}	36.80	4.79	5.00	-4.20	±20	PASS
TX-DNH	4FSK	CH _{H1}	37.00	5.01	5.00	0.20	±20	PASS
TX-DNL	4FSK	CH _{L1}	30.20	1.05	1.00	5.00	±20	PASS
TX-DNL	4FSK	CH _{M1}	30.32	1.08	1.00	8.00	±20	PASS
TX-DNL	4FSK	CH _{H1}	30.30	1.07	1.00	7.00	±20	PASS
TX-DNH	4FSK	CH _{L2}	36.80	4.79	5.00	-4.20	±20	PASS
TX-DNH	4FSK	CH _{M2}	37.00	5.01	5.00	0.20	±20	PASS
TX-DNH	4FSK	CH _{H2}	36.20	4.17	5.00	-16.60	±20	PASS
TX-DNL	4FSK	CH _{L2}	30.70	1.17	1.00	17.00	±20	PASS
TX-DNL	4FSK	CH _{M2}	29.50	0.89	1.00	-11.00	±20	PASS
TX-DNL	4FSK	CH _{H2}	30.40	1.10	1.00	10.00	±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 _{L1}	7.18	9.00	≤11.25	PASS
TX-DNH	4FSK	CH _{M1}	7.22	9.12	≤11.25	PASS
TX-DNH	4FSK	CH _{H1}	7.24	9.10	≤11.25	PASS
TX-DNL	4FSK	CH _{L1}	7.36	9.26	≤11.25	PASS
TX-DNL	4FSK	CH _{M1}	7.33	9.17	≤11.25	PASS
TX-DNL	4FSK	CH _{H1}	7.19	9.24	≤11.25	PASS
TX-DNH	4FSK	CH _{L2}	6.71	8.83	≤11.25	PASS
TX-DNH	4FSK	CH _{M2}	6.88	9.02	≤11.25	PASS
TX-DNH	4FSK	CH _{H2}	6.86	8.94	≤11.25	PASS
TX-DNL	4FSK	CH _{L2}	6.82	8.88	≤11.25	PASS
TX-DNL	4FSK	CH _{M2}	6.78	8.93	≤11.25	PASS
TX-DNL	4FSK	CH _{H2}	6.87	8.91	≤11.25	PASS

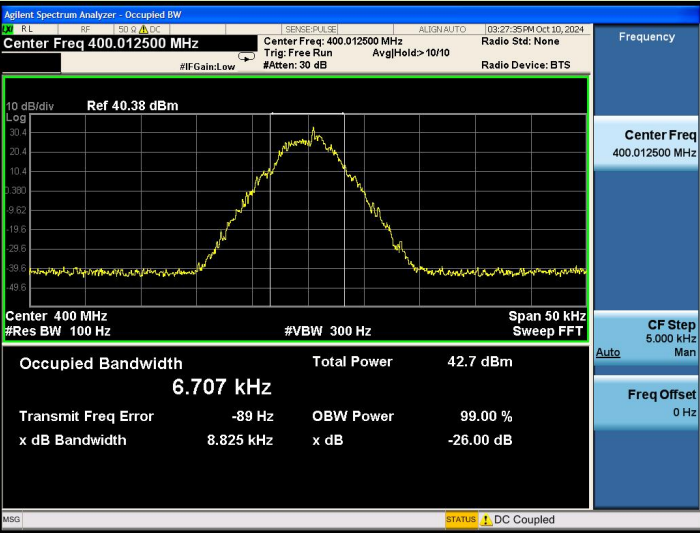
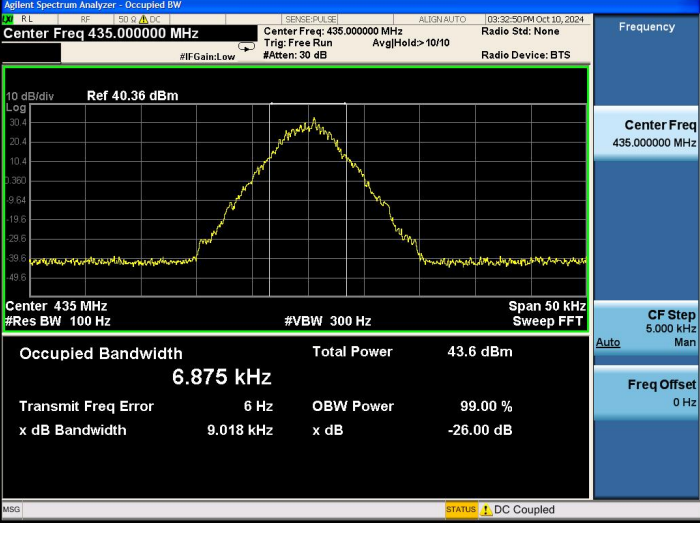
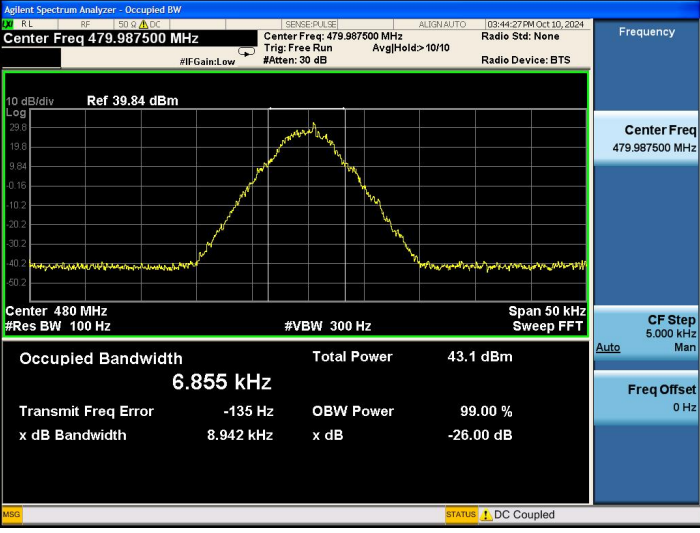
Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _{L1}	Agilent Spectrum Analyzer - Occupied BW Center Freq 136.012500 MHz Ref 40.67 dBm Occupied Bandwidth 7.175 kHz Total Power 43.7 dBm Transmit Freq Error -50 Hz OBW Power 99.00 % x dB Bandwidth 8.999 kHz x dB -26.00 dB
TX-DNH	4FSK	CH _{M1}	Agilent Spectrum Analyzer - Occupied BW Center Freq 155.000000 MHz Ref 40.76 dBm Occupied Bandwidth 7.216 kHz Total Power 44.0 dBm Transmit Freq Error -131 Hz OBW Power 99.00 % x dB Bandwidth 9.116 kHz x dB -26.00 dB
TX-DNH	4FSK	CH _{H1}	Agilent Spectrum Analyzer - Occupied BW Center Freq 173.987500 MHz Ref 41.01 dBm Occupied Bandwidth 7.237 kHz Total Power 44.3 dBm Transmit Freq Error -96 Hz OBW Power 99.00 % x dB Bandwidth 9.095 kHz x dB -26.00 dB

Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNL	4FSK	CH _{L1}	Agilent Spectrum Analyzer - Occupied BW Center Freq 136.012500 MHz Center Freq: 136.012500 MHz Trig: Free Run #Atten: 24 dB Radio Std: None Radio Device: BTS Ref 34.22 dBm Center 136 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 7.358 kHz Total Power 37.3 dBm Transmit Freq Error -22 Hz OBW Power 99.00 % x dB Bandwidth 9.259 kHz x dB -26.00 dB Frequency Center Freq 136.012500 MHz CF Step 5.000 kHz Man Freq Offset 0 Hz Auto STATUS DC Coupled
TX-DNL	4FSK	CH _{M1}	Agilent Spectrum Analyzer - Occupied BW Center Freq 155.000000 MHz Center Freq: 155.000000 MHz Trig: Free Run #Atten: 26 dB Radio Std: None Radio Device: BTS Ref 34.99 dBm Center 155 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 7.325 kHz Total Power 38.1 dBm Transmit Freq Error -20 Hz OBW Power 99.00 % x dB Bandwidth 9.168 kHz x dB -26.00 dB Frequency Center Freq 155.000000 MHz CF Step 5.000 kHz Man Freq Offset 0 Hz Auto STATUS DC Coupled
TX-DNL	4FSK	CH _{H1}	Agilent Spectrum Analyzer - Occupied BW Center Freq 173.987500 MHz Center Freq: 173.987500 MHz Trig: Free Run #Atten: 26 dB Radio Std: None Radio Device: BTS Ref 35.18 dBm Center 174 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 7.188 kHz Total Power 38.3 dBm Transmit Freq Error -86 Hz OBW Power 99.00 % x dB Bandwidth 9.235 kHz x dB -26.00 dB Frequency Center Freq 173.987500 MHz CF Step 5.000 kHz Man Freq Offset 0 Hz Auto STATUS DC Coupled

Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _{L2}	 Agilent Spectrum Analyzer - Occupied BW Center Freq 400.012500 MHz Center Freq: 400.012500 MHz Trig: Free Run #Atten: 30 dB Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref 40.38 dBm Center 400 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 6.707 kHz Total Power 42.7 dBm Transmit Freq Error -89 Hz OBW Power 99.00 % x dB Bandwidth 8.825 kHz x dB -26.00 dB Frequency 400.012500 MHz Center Freq 400.012500 MHz CF Step 5.000 kHz Freq Offset 0 Hz Auto Man STATUS DC Coupled
TX-DNH	4FSK	CH _{M2}	 Agilent Spectrum Analyzer - Occupied BW Center Freq 435.000000 MHz Center Freq: 435.000000 MHz Trig: Free Run #Atten: 30 dB Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref 40.36 dBm Center 435 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 6.875 kHz Total Power 43.6 dBm Transmit Freq Error 6 Hz OBW Power 99.00 % x dB Bandwidth 9.018 kHz x dB -26.00 dB Frequency 435.000000 MHz Center Freq 435.000000 MHz CF Step 5.000 kHz Freq Offset 0 Hz Auto Man STATUS DC Coupled
TX-DNH	4FSK	CH _{H2}	 Agilent Spectrum Analyzer - Occupied BW Center Freq 479.987500 MHz Center Freq: 479.987500 MHz Trig: Free Run #Atten: 30 dB Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Ref 39.84 dBm Center 480 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 6.855 kHz Total Power 43.1 dBm Transmit Freq Error -135 Hz OBW Power 99.00 % x dB Bandwidth 8.942 kHz x dB -26.00 dB Frequency 479.987500 MHz Center Freq 479.987500 MHz CF Step 5.000 kHz Freq Offset 0 Hz Auto Man STATUS DC Coupled

Appendix B:Occupied Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNL	4FSK	CH _{L2}	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 35.17 dBm Center 400 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 6.823 kHz Total Power 38.4 dBm Transmit Freq Error -102 Hz OBW Power 99.00 % x dB Bandwidth 8.875 kHz x dB -26.00 dB Frequency 400.012500 MHz Center Freq 400.012500 MHz CF Step 5.000 kHz Freq Offset 0 Hz Auto Man STATUS DC Coupled
TX-DNL	4FSK	CH _{M2}	Agilent Spectrum Analyzer - Occupied BW Center Freq 435.000000 MHz Center Freq: 435.000000 MHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref 32.83 dBm Center 435 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 6.776 kHz Total Power 36.0 dBm Transmit Freq Error -18 Hz OBW Power 99.00 % x dB Bandwidth 8.926 kHz x dB -26.00 dB Frequency 435.000000 MHz Center Freq 435.000000 MHz CF Step 5.000 kHz Freq Offset 0 Hz Auto Man STATUS DC Coupled
TX-DNL	4FSK	CH _{H2}	Agilent Spectrum Analyzer - Occupied BW Center Freq 479.987500 MHz Center Freq: 479.987500 MHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref 34.59 dBm Center 480 MHz #Res BW 100 Hz #VBW 300 Hz Span 50 kHz Sweep FFT Occupied Bandwidth 6.865 kHz Total Power 37.5 dBm Transmit Freq Error -121 Hz OBW Power 99.00 % x dB Bandwidth 8.911 kHz x dB -26.00 dB Frequency 479.987500 MHz Center Freq 479.987500 MHz CF Step 5.000 kHz Freq Offset 0 Hz Auto Man STATUS DC Coupled

Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																																															
TX-DNH	4FSK	CH _{L1}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 dB AC SENSE-PULSE ALIGN-AUTO 02:56:29PM Oct 10, 2024 Center Freq 136.012500 MHz Center Freq: 136.012500 MHz Trig: Free Run Avg: 100.00% of 10 Radio Std: None PASS IF Gain: Low #Atten: 40 dB Radio Device: BTS Ref Offset 21 dB Ref 42.0 dBm 10 dB/div Log 32.0 22.0 12.0 2.00 0.00 -18.00 -20.00 -30.00 -40.00 Center 136 MHz Span 120 kHz Total Power Ref 39.92 dBm 0.0125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>27.76</td><td>(-10.40)</td><td>-450.0</td><td>30.54</td><td>(-7.62)</td><td>600.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-36.04</td><td>(-3.86)</td><td>-12.35 k</td><td>-36.01</td><td>(-3.47)</td><td>12.40 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-34.90</td><td>(-14.90)</td><td>-14.95 k</td><td>-36.44</td><td>(-16.44)</td><td>14.85 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 136.012500 MHz CF Step 12.000 kHz Auto Freq Offset 0 Hz	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	27.76	(-10.40)	-450.0	30.54	(-7.62)	600.0	5.625 kHz	12.50 kHz	100.0 Hz	-36.04	(-3.86)	-12.35 k	-36.01	(-3.47)	12.40 k	12.50 kHz	60.00 kHz	100.0 Hz	-34.90	(-14.90)	-14.95 k	-36.44	(-16.44)	14.85 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)																																																										
0.0 Hz	5.625 kHz	100.0 Hz	27.76	(-10.40)	-450.0	30.54	(-7.62)	600.0																																																										
5.625 kHz	12.50 kHz	100.0 Hz	-36.04	(-3.86)	-12.35 k	-36.01	(-3.47)	12.40 k																																																										
12.50 kHz	60.00 kHz	100.0 Hz	-34.90	(-14.90)	-14.95 k	-36.44	(-16.44)	14.85 k																																																										
4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
TX-DNH	4FSK	CH _{M1}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 dB AC SENSE-PULSE ALIGN-AUTO 03:02:00PM Oct 10, 2024 Center Freq 155.000000 MHz Center Freq: 155.000000 MHz Trig: Free Run Avg: 100.00% of 10 Radio Std: None PASS IF Gain: Low #Atten: 40 dB Radio Device: BTS Ref Offset 21 dB Ref 42.0 dBm 10 dB/div Log 32.0 22.0 12.0 2.00 0.00 -18.00 -20.00 -30.00 -40.00 Center 155 MHz Span 120 kHz Total Power Ref 40.05 dBm 0.0125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>26.60</td><td>(-11.67)</td><td>-1.200 k</td><td>29.53</td><td>(-8.74)</td><td>300.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-36.52</td><td>(-4.81)</td><td>-12.30 k</td><td>-37.61</td><td>(-6.63)</td><td>12.20 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-36.12</td><td>(-16.12)</td><td>-12.65 k</td><td>-35.56</td><td>(-15.56)</td><td>13.20 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 155.000000 MHz CF Step 12.000 kHz Auto Freq Offset 0 Hz	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	26.60	(-11.67)	-1.200 k	29.53	(-8.74)	300.0	5.625 kHz	12.50 kHz	100.0 Hz	-36.52	(-4.81)	-12.30 k	-37.61	(-6.63)	12.20 k	12.50 kHz	60.00 kHz	100.0 Hz	-36.12	(-16.12)	-12.65 k	-35.56	(-15.56)	13.20 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)																																																										
0.0 Hz	5.625 kHz	100.0 Hz	26.60	(-11.67)	-1.200 k	29.53	(-8.74)	300.0																																																										
5.625 kHz	12.50 kHz	100.0 Hz	-36.52	(-4.81)	-12.30 k	-37.61	(-6.63)	12.20 k																																																										
12.50 kHz	60.00 kHz	100.0 Hz	-36.12	(-16.12)	-12.65 k	-35.56	(-15.56)	13.20 k																																																										
4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
TX-DNH	4FSK	CH _{H1}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 dB AC SENSE-PULSE ALIGN-AUTO 03:11:20PM Oct 10, 2024 Center Freq 173.987500 MHz Center Freq: 173.987500 MHz Trig: Free Run Avg: 100.00% of 10 Radio Std: None PASS IF Gain: Low #Atten: 40 dB Radio Device: BTS Ref Offset 21 dB Ref 43.0 dBm 10 dB/div Log 32.0 23.0 13.0 3.00 0.00 -17.00 -27.00 -37.00 -47.00 Center 174 MHz Span 120 kHz Total Power Ref 40.16 dBm 0.0125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>27.48</td><td>(-11.04)</td><td>-150.0</td><td>31.03</td><td>(-7.49)</td><td>550.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-35.44</td><td>(-6.52)</td><td>-11.95 k</td><td>-34.78</td><td>(-2.59)</td><td>12.40 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-35.20</td><td>(-15.20)</td><td>-12.85 k</td><td>-33.70</td><td>(-13.70)</td><td>12.95 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 173.987500 MHz CF Step 12.000 kHz Auto Freq Offset 0 Hz	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	27.48	(-11.04)	-150.0	31.03	(-7.49)	550.0	5.625 kHz	12.50 kHz	100.0 Hz	-35.44	(-6.52)	-11.95 k	-34.78	(-2.59)	12.40 k	12.50 kHz	60.00 kHz	100.0 Hz	-35.20	(-15.20)	-12.85 k	-33.70	(-13.70)	12.95 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)																																																										
0.0 Hz	5.625 kHz	100.0 Hz	27.48	(-11.04)	-150.0	31.03	(-7.49)	550.0																																																										
5.625 kHz	12.50 kHz	100.0 Hz	-35.44	(-6.52)	-11.95 k	-34.78	(-2.59)	12.40 k																																																										
12.50 kHz	60.00 kHz	100.0 Hz	-35.20	(-15.20)	-12.85 k	-33.70	(-13.70)	12.95 k																																																										
4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										

Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																																																																																																																																																																																					
TX-DNL	4FSK	CH _{L1}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 Q AC SENSE:PULSE ALIGN:AUTO 02:58:43PM Oct 10, 2024 Center Freq 136.012500 MHz Center Freq: 136.012500 MHz Radio Std: None PASS IFGain:Low #Atten: 40 dB Avg: 100.00% of 10 Radio Device: BTS Ref Offset 21 dB Ref 36.0 dBm 10 dB/div Log 26.0 16.0 6.00 -4.00 -14.00 -24.00 -34.00 -44.00 -54.00 Spectrum Center 136 MHz Span 120 kHz Total Power Ref 33.49 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>19.07</td><td>(-12.65)</td><td>-1.950 k</td><td>23.08</td><td>(-8.64)</td><td>900.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-42.00</td><td>(-4.46)</td><td>-12.20 k</td><td>-43.20</td><td>(-5.29)</td><td>12.25 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-41.47</td><td>(-21.47)</td><td>-16.65 k</td><td>-42.64</td><td>(-22.64)</td><td>14.05 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 136.012500 MHz CF Step 12.000 kHz Man Freq Offset 0 Hz <tr><td>TX-DNL</td><td>4FSK</td><td>CH_{M1}</td><td> Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 Q AC SENSE:PULSE ALIGN:AUTO 03:04:52PM Oct 10, 2024 Center Freq 155.000000 MHz Center Freq: 155.000000 MHz Radio Std: None PASS IFGain:Low #Atten: 40 dB Avg: 100.00% of 10 Radio Device: BTS Ref Offset 21 dB Ref 37.0 dBm 10 dB/div Log 27.0 17.0 7.00 -3.00 -13.00 -23.00 -33.00 -43.00 -53.00 Spectrum Center 155 MHz Span 120 kHz Total Power Ref 34.17 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>21.20</td><td>(-11.31)</td><td>-350.0</td><td>22.96</td><td>(-9.56)</td><td>200.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-42.00</td><td>(-3.08)</td><td>-12.50 k</td><td>-42.36</td><td>(-4.16)</td><td>12.40 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-42.41</td><td>(-22.41)</td><td>-17.60 k</td><td>-42.02</td><td>(-22.02)</td><td>13.70 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 155.000000 MHz CF Step 12.000 kHz Man Freq Offset 0 Hz <tr><td>TX-DNL</td><td>4FSK</td><td>CH_{H1}</td><td> Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 Q AC SENSE:PULSE ALIGN:AUTO 03:13:26PM Oct 10, 2024 Center Freq 173.987500 MHz Center Freq: 173.987500 MHz Radio Std: None PASS IFGain:Low #Atten: 40 dB Avg: 100.00% of 10 Radio Device: BTS Ref Offset 21 dB Ref 37.0 dBm 10 dB/div Log 27.0 17.0 7.00 -3.00 -13.00 -23.00 -33.00 -43.00 -53.00 Spectrum Center 174 MHz Span 120 kHz Total Power Ref 34.85 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>24.20</td><td>(-8.55)</td><td>-450.0</td><td>23.41</td><td>(-9.34)</td><td>900.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-42.93</td><td>(-4.24)</td><td>-12.50 k</td><td>-40.92</td><td>(-5.50)</td><td>12.05 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-40.40</td><td>(-20.40)</td><td>-12.70 k</td><td>-40.48</td><td>(-20.48)</td><td>12.75 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 173.987500 MHz CF Step 12.000 kHz Man Freq Offset 0 Hz </td></tr></td></tr>	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	19.07	(-12.65)	-1.950 k	23.08	(-8.64)	900.0	5.625 kHz	12.50 kHz	100.0 Hz	-42.00	(-4.46)	-12.20 k	-43.20	(-5.29)	12.25 k	12.50 kHz	60.00 kHz	100.0 Hz	-41.47	(-21.47)	-16.65 k	-42.64	(-22.64)	14.05 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—	TX-DNL	4FSK	CH _{M1}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 Q AC SENSE:PULSE ALIGN:AUTO 03:04:52PM Oct 10, 2024 Center Freq 155.000000 MHz Center Freq: 155.000000 MHz Radio Std: None PASS IFGain:Low #Atten: 40 dB Avg: 100.00% of 10 Radio Device: BTS Ref Offset 21 dB Ref 37.0 dBm 10 dB/div Log 27.0 17.0 7.00 -3.00 -13.00 -23.00 -33.00 -43.00 -53.00 Spectrum Center 155 MHz Span 120 kHz Total Power Ref 34.17 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>21.20</td><td>(-11.31)</td><td>-350.0</td><td>22.96</td><td>(-9.56)</td><td>200.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-42.00</td><td>(-3.08)</td><td>-12.50 k</td><td>-42.36</td><td>(-4.16)</td><td>12.40 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-42.41</td><td>(-22.41)</td><td>-17.60 k</td><td>-42.02</td><td>(-22.02)</td><td>13.70 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 155.000000 MHz CF Step 12.000 kHz Man Freq Offset 0 Hz <tr><td>TX-DNL</td><td>4FSK</td><td>CH_{H1}</td><td> Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 Q AC SENSE:PULSE ALIGN:AUTO 03:13:26PM Oct 10, 2024 Center Freq 173.987500 MHz Center Freq: 173.987500 MHz Radio Std: None PASS IFGain:Low #Atten: 40 dB Avg: 100.00% of 10 Radio Device: BTS Ref Offset 21 dB Ref 37.0 dBm 10 dB/div Log 27.0 17.0 7.00 -3.00 -13.00 -23.00 -33.00 -43.00 -53.00 Spectrum Center 174 MHz Span 120 kHz Total Power Ref 34.85 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>24.20</td><td>(-8.55)</td><td>-450.0</td><td>23.41</td><td>(-9.34)</td><td>900.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-42.93</td><td>(-4.24)</td><td>-12.50 k</td><td>-40.92</td><td>(-5.50)</td><td>12.05 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-40.40</td><td>(-20.40)</td><td>-12.70 k</td><td>-40.48</td><td>(-20.48)</td><td>12.75 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 173.987500 MHz CF Step 12.000 kHz Man Freq Offset 0 Hz </td></tr>	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	21.20	(-11.31)	-350.0	22.96	(-9.56)	200.0	5.625 kHz	12.50 kHz	100.0 Hz	-42.00	(-3.08)	-12.50 k	-42.36	(-4.16)	12.40 k	12.50 kHz	60.00 kHz	100.0 Hz	-42.41	(-22.41)	-17.60 k	-42.02	(-22.02)	13.70 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—	TX-DNL	4FSK	CH _{H1}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 Q AC SENSE:PULSE ALIGN:AUTO 03:13:26PM Oct 10, 2024 Center Freq 173.987500 MHz Center Freq: 173.987500 MHz Radio Std: None PASS IFGain:Low #Atten: 40 dB Avg: 100.00% of 10 Radio Device: BTS Ref Offset 21 dB Ref 37.0 dBm 10 dB/div Log 27.0 17.0 7.00 -3.00 -13.00 -23.00 -33.00 -43.00 -53.00 Spectrum Center 174 MHz Span 120 kHz Total Power Ref 34.85 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>24.20</td><td>(-8.55)</td><td>-450.0</td><td>23.41</td><td>(-9.34)</td><td>900.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-42.93</td><td>(-4.24)</td><td>-12.50 k</td><td>-40.92</td><td>(-5.50)</td><td>12.05 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-40.40</td><td>(-20.40)</td><td>-12.70 k</td><td>-40.48</td><td>(-20.48)</td><td>12.75 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 173.987500 MHz CF Step 12.000 kHz Man Freq Offset 0 Hz	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	24.20	(-8.55)	-450.0	23.41	(-9.34)	900.0	5.625 kHz	12.50 kHz	100.0 Hz	-42.93	(-4.24)	-12.50 k	-40.92	(-5.50)	12.05 k	12.50 kHz	60.00 kHz	100.0 Hz	-40.40	(-20.40)	-12.70 k	-40.48	(-20.48)	12.75 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)																																																																																																																																																																																																
0.0 Hz	5.625 kHz	100.0 Hz	19.07	(-12.65)	-1.950 k	23.08	(-8.64)	900.0																																																																																																																																																																																																
5.625 kHz	12.50 kHz	100.0 Hz	-42.00	(-4.46)	-12.20 k	-43.20	(-5.29)	12.25 k																																																																																																																																																																																																
12.50 kHz	60.00 kHz	100.0 Hz	-41.47	(-21.47)	-16.65 k	-42.64	(-22.64)	14.05 k																																																																																																																																																																																																
4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																																																																																																																																																																
8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																																																																																																																																																																
12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																																																																																																																																																																
TX-DNL	4FSK	CH _{M1}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 Q AC SENSE:PULSE ALIGN:AUTO 03:04:52PM Oct 10, 2024 Center Freq 155.000000 MHz Center Freq: 155.000000 MHz Radio Std: None PASS IFGain:Low #Atten: 40 dB Avg: 100.00% of 10 Radio Device: BTS Ref Offset 21 dB Ref 37.0 dBm 10 dB/div Log 27.0 17.0 7.00 -3.00 -13.00 -23.00 -33.00 -43.00 -53.00 Spectrum Center 155 MHz Span 120 kHz Total Power Ref 34.17 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>21.20</td><td>(-11.31)</td><td>-350.0</td><td>22.96</td><td>(-9.56)</td><td>200.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-42.00</td><td>(-3.08)</td><td>-12.50 k</td><td>-42.36</td><td>(-4.16)</td><td>12.40 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-42.41</td><td>(-22.41)</td><td>-17.60 k</td><td>-42.02</td><td>(-22.02)</td><td>13.70 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 155.000000 MHz CF Step 12.000 kHz Man Freq Offset 0 Hz <tr><td>TX-DNL</td><td>4FSK</td><td>CH_{H1}</td><td> Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 Q AC SENSE:PULSE ALIGN:AUTO 03:13:26PM Oct 10, 2024 Center Freq 173.987500 MHz Center Freq: 173.987500 MHz Radio Std: None PASS IFGain:Low #Atten: 40 dB Avg: 100.00% of 10 Radio Device: BTS Ref Offset 21 dB Ref 37.0 dBm 10 dB/div Log 27.0 17.0 7.00 -3.00 -13.00 -23.00 -33.00 -43.00 -53.00 Spectrum Center 174 MHz Span 120 kHz Total Power Ref 34.85 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>24.20</td><td>(-8.55)</td><td>-450.0</td><td>23.41</td><td>(-9.34)</td><td>900.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-42.93</td><td>(-4.24)</td><td>-12.50 k</td><td>-40.92</td><td>(-5.50)</td><td>12.05 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-40.40</td><td>(-20.40)</td><td>-12.70 k</td><td>-40.48</td><td>(-20.48)</td><td>12.75 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 173.987500 MHz CF Step 12.000 kHz Man Freq Offset 0 Hz </td></tr>	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	21.20	(-11.31)	-350.0	22.96	(-9.56)	200.0	5.625 kHz	12.50 kHz	100.0 Hz	-42.00	(-3.08)	-12.50 k	-42.36	(-4.16)	12.40 k	12.50 kHz	60.00 kHz	100.0 Hz	-42.41	(-22.41)	-17.60 k	-42.02	(-22.02)	13.70 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—	TX-DNL	4FSK	CH _{H1}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 Q AC SENSE:PULSE ALIGN:AUTO 03:13:26PM Oct 10, 2024 Center Freq 173.987500 MHz Center Freq: 173.987500 MHz Radio Std: None PASS IFGain:Low #Atten: 40 dB Avg: 100.00% of 10 Radio Device: BTS Ref Offset 21 dB Ref 37.0 dBm 10 dB/div Log 27.0 17.0 7.00 -3.00 -13.00 -23.00 -33.00 -43.00 -53.00 Spectrum Center 174 MHz Span 120 kHz Total Power Ref 34.85 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>24.20</td><td>(-8.55)</td><td>-450.0</td><td>23.41</td><td>(-9.34)</td><td>900.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-42.93</td><td>(-4.24)</td><td>-12.50 k</td><td>-40.92</td><td>(-5.50)</td><td>12.05 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-40.40</td><td>(-20.40)</td><td>-12.70 k</td><td>-40.48</td><td>(-20.48)</td><td>12.75 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 173.987500 MHz CF Step 12.000 kHz Man Freq Offset 0 Hz	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	24.20	(-8.55)	-450.0	23.41	(-9.34)	900.0	5.625 kHz	12.50 kHz	100.0 Hz	-42.93	(-4.24)	-12.50 k	-40.92	(-5.50)	12.05 k	12.50 kHz	60.00 kHz	100.0 Hz	-40.40	(-20.40)	-12.70 k	-40.48	(-20.48)	12.75 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																																			
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)																																																																																																																																																																																																
0.0 Hz	5.625 kHz	100.0 Hz	21.20	(-11.31)	-350.0	22.96	(-9.56)	200.0																																																																																																																																																																																																
5.625 kHz	12.50 kHz	100.0 Hz	-42.00	(-3.08)	-12.50 k	-42.36	(-4.16)	12.40 k																																																																																																																																																																																																
12.50 kHz	60.00 kHz	100.0 Hz	-42.41	(-22.41)	-17.60 k	-42.02	(-22.02)	13.70 k																																																																																																																																																																																																
4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																																																																																																																																																																
8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																																																																																																																																																																
12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																																																																																																																																																																
TX-DNL	4FSK	CH _{H1}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 Q AC SENSE:PULSE ALIGN:AUTO 03:13:26PM Oct 10, 2024 Center Freq 173.987500 MHz Center Freq: 173.987500 MHz Radio Std: None PASS IFGain:Low #Atten: 40 dB Avg: 100.00% of 10 Radio Device: BTS Ref Offset 21 dB Ref 37.0 dBm 10 dB/div Log 27.0 17.0 7.00 -3.00 -13.00 -23.00 -33.00 -43.00 -53.00 Spectrum Center 174 MHz Span 120 kHz Total Power Ref 34.85 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>24.20</td><td>(-8.55)</td><td>-450.0</td><td>23.41</td><td>(-9.34)</td><td>900.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-42.93</td><td>(-4.24)</td><td>-12.50 k</td><td>-40.92</td><td>(-5.50)</td><td>12.05 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-40.40</td><td>(-20.40)</td><td>-12.70 k</td><td>-40.48</td><td>(-20.48)</td><td>12.75 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 173.987500 MHz CF Step 12.000 kHz Man Freq Offset 0 Hz	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	24.20	(-8.55)	-450.0	23.41	(-9.34)	900.0	5.625 kHz	12.50 kHz	100.0 Hz	-42.93	(-4.24)	-12.50 k	-40.92	(-5.50)	12.05 k	12.50 kHz	60.00 kHz	100.0 Hz	-40.40	(-20.40)	-12.70 k	-40.48	(-20.48)	12.75 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																																																																																																						
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)																																																																																																																																																																																																
0.0 Hz	5.625 kHz	100.0 Hz	24.20	(-8.55)	-450.0	23.41	(-9.34)	900.0																																																																																																																																																																																																
5.625 kHz	12.50 kHz	100.0 Hz	-42.93	(-4.24)	-12.50 k	-40.92	(-5.50)	12.05 k																																																																																																																																																																																																
12.50 kHz	60.00 kHz	100.0 Hz	-40.40	(-20.40)	-12.70 k	-40.48	(-20.48)	12.75 k																																																																																																																																																																																																
4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																																																																																																																																																																
8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																																																																																																																																																																
12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																																																																																																																																																																

Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _{L2}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 dB AC SENSE: PULSE ALIGN: AUTO 03:28:21 PM Oct 10, 2024 Center Freq 400.012500 MHz Center Freq: 400.012500 MHz Trig: Free Run Avg: 100.00% of 10 Radio Std: None PASS IF Gain: Low #Atten: 40 dB Radio Device: BTS Ref Offset 22 dB Ref 42.0 dBm 10 dB/div Log

Appendix C:Emission Mask

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																																															
TX-DNL	4FSK	CH _{L2}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 dB AC SENSE: PULSE ALIGN: AUTO 03-31-20PM Oct 10, 2024 Center Freq 400.012500 MHz Center Freq: 400.012500 MHz Radio Std: None PASS IF Gain: Low Trig: Free Run Avg: 100.00% of 10 #Atten: 40 dB Radio Device: BTS Ref Offset 22 dB Ref 37.0 dBm 10 dB/div Log 27.0 17.0 7.0 3.0 -13.0 -23.0 -33.0 -43.0 -53.0 Center 400 MHz Span 120 kHz Total Power Ref 35.71 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>21.56</td><td>(-11.12)</td><td>0.0</td><td>24.27</td><td>(-8.41)</td><td>150.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-43.57</td><td>(-4.81)</td><td>-12.50 k</td><td>-44.03</td><td>(-5.27)</td><td>12.50 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-39.38</td><td>(-19.38)</td><td>-13.60 k</td><td>-39.45</td><td>(-19.45)</td><td>14.05 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 400.012500 MHz CF Step 12.000 kHz Auto Man Freq Offset 0 Hz	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	21.56	(-11.12)	0.0	24.27	(-8.41)	150.0	5.625 kHz	12.50 kHz	100.0 Hz	-43.57	(-4.81)	-12.50 k	-44.03	(-5.27)	12.50 k	12.50 kHz	60.00 kHz	100.0 Hz	-39.38	(-19.38)	-13.60 k	-39.45	(-19.45)	14.05 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)																																																										
0.0 Hz	5.625 kHz	100.0 Hz	21.56	(-11.12)	0.0	24.27	(-8.41)	150.0																																																										
5.625 kHz	12.50 kHz	100.0 Hz	-43.57	(-4.81)	-12.50 k	-44.03	(-5.27)	12.50 k																																																										
12.50 kHz	60.00 kHz	100.0 Hz	-39.38	(-19.38)	-13.60 k	-39.45	(-19.45)	14.05 k																																																										
4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
TX-DNL	4FSK	CH _{M2}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 dB AC SENSE: PULSE ALIGN: AUTO 03-36-15PM Oct 10, 2024 Center Freq 435.000000 MHz Center Freq: 435.000000 MHz Radio Std: None PASS IF Gain: Low Trig: Free Run Avg: 100.00% of 10 #Atten: 40 dB Radio Device: BTS Ref Offset 22 dB Ref 34.0 dBm 10 dB/div Log 24.0 14.0 4.0 0.0 -16.0 -26.0 -36.0 -46.0 -56.0 Center 435 MHz Span 120 kHz Total Power Ref 33.24 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>20.73</td><td>(-9.62)</td><td>-550.0</td><td>22.46</td><td>(-7.89)</td><td>500.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-41.34</td><td>(-4.25)</td><td>-11.95 k</td><td>-45.31</td><td>(-4.22)</td><td>12.50 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-42.48</td><td>(-22.48)</td><td>-13.80 k</td><td>-42.40</td><td>(-22.40)</td><td>13.50 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 435.000000 MHz CF Step 12.000 kHz Auto Man Freq Offset 0 Hz	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	20.73	(-9.62)	-550.0	22.46	(-7.89)	500.0	5.625 kHz	12.50 kHz	100.0 Hz	-41.34	(-4.25)	-11.95 k	-45.31	(-4.22)	12.50 k	12.50 kHz	60.00 kHz	100.0 Hz	-42.48	(-22.48)	-13.80 k	-42.40	(-22.40)	13.50 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)																																																										
0.0 Hz	5.625 kHz	100.0 Hz	20.73	(-9.62)	-550.0	22.46	(-7.89)	500.0																																																										
5.625 kHz	12.50 kHz	100.0 Hz	-41.34	(-4.25)	-11.95 k	-45.31	(-4.22)	12.50 k																																																										
12.50 kHz	60.00 kHz	100.0 Hz	-42.48	(-22.48)	-13.80 k	-42.40	(-22.40)	13.50 k																																																										
4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
TX-DNL	4FSK	CH _{H2}	Agilent Spectrum Analyzer - Spectrum Emission Mask RL RF 50 dB AC SENSE: PULSE ALIGN: AUTO 03-48-31PM Oct 10, 2024 Center Freq 479.987500 MHz Center Freq: 479.987500 MHz Radio Std: None PASS IF Gain: Low Trig: Free Run Avg: 100.00% of 10 #Atten: 40 dB Radio Device: BTS Ref Offset 22 dB Ref 36.0 dBm 10 dB/div Log 26.0 16.0 6.0 0.0 -16.0 -26.0 -36.0 -46.0 -54.0 Center 480 MHz Span 120 kHz Total Power Ref 34.22 dBm @ 0.125 MHz <table><thead><tr><th>Start Freq</th><th>Stop Freq</th><th>Integ BW</th><th>dBm</th><th>Lower ΔLim(dB)</th><th>Freq (Hz)</th><th>< Peak > dBm</th><th>Upper ΔLim(dB)</th><th>Freq (Hz)</th></tr></thead><tbody><tr><td>0.0 Hz</td><td>5.625 kHz</td><td>100.0 Hz</td><td>21.35</td><td>(-10.72)</td><td>-700.0</td><td>23.82</td><td>(-8.26)</td><td>500.0</td></tr><tr><td>5.625 kHz</td><td>12.50 kHz</td><td>100.0 Hz</td><td>-43.24</td><td>(-3.88)</td><td>-12.50 k</td><td>-42.05</td><td>(-3.06)</td><td>12.45 k</td></tr><tr><td>12.50 kHz</td><td>60.00 kHz</td><td>100.0 Hz</td><td>-42.39</td><td>(-22.39)</td><td>-13.30 k</td><td>-41.38</td><td>(-21.38)</td><td>18.10 k</td></tr><tr><td>4.000 MHz</td><td>8.000 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>8.000 MHz</td><td>12.50 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr><tr><td>12.50 MHz</td><td>15.00 MHz</td><td>1.000 MHz</td><td>—</td><td>(—)</td><td>—</td><td>—</td><td>(—)</td><td>—</td></tr></tbody></table> MSG File <Temp.png> saved STATUS Frequency Center Freq 479.987500 MHz CF Step 12.000 kHz Auto Man Freq Offset 0 Hz	Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)	0.0 Hz	5.625 kHz	100.0 Hz	21.35	(-10.72)	-700.0	23.82	(-8.26)	500.0	5.625 kHz	12.50 kHz	100.0 Hz	-43.24	(-3.88)	-12.50 k	-42.05	(-3.06)	12.45 k	12.50 kHz	60.00 kHz	100.0 Hz	-42.39	(-22.39)	-13.30 k	-41.38	(-21.38)	18.10 k	4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—	8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—	12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—
Start Freq	Stop Freq	Integ BW	dBm	Lower ΔLim(dB)	Freq (Hz)	< Peak > dBm	Upper ΔLim(dB)	Freq (Hz)																																																										
0.0 Hz	5.625 kHz	100.0 Hz	21.35	(-10.72)	-700.0	23.82	(-8.26)	500.0																																																										
5.625 kHz	12.50 kHz	100.0 Hz	-43.24	(-3.88)	-12.50 k	-42.05	(-3.06)	12.45 k																																																										
12.50 kHz	60.00 kHz	100.0 Hz	-42.39	(-22.39)	-13.30 k	-41.38	(-21.38)	18.10 k																																																										
4.000 MHz	8.000 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
8.000 MHz	12.50 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										
12.50 MHz	15.00 MHz	1.000 MHz	—	(—)	—	—	(—)	—																																																										

Appendix F:Frequency Stability Test & Temperature

Operation Mode	Modulation Type	Test Conditions		Frequency error (ppm)			Limit (ppm)	Result
		Voltage	Temperature	CH _{L1}	CH _{M1}	CH _{H1}		
TX-DNH	4FSK	V _N	-30	-0.055	0.070	0.031	±5.0	PASS
TX-DNH	4FSK	V _N	-20	-0.052	0.067	0.030	±5.0	PASS
TX-DNH	4FSK	V _N	-10	-0.057	0.069	0.031	±5.0	PASS
TX-DNH	4FSK	V _N	0	-0.056	0.068	0.030	±5.0	PASS
TX-DNH	4FSK	V _N	10	-0.052	0.069	0.031	±5.0	PASS
TX-DNH	4FSK	V _N	20	-0.052	0.065	0.029	±5.0	PASS
TX-DNH	4FSK	V _N	30	-0.054	0.067	0.030	±5.0	PASS
TX-DNH	4FSK	V _N	40	-0.054	0.069	0.031	±5.0	PASS
TX-DNH	4FSK	V _N	50	-0.055	0.067	0.031	±5.0	PASS
TX-DNL	4FSK	V _N	-30	0.235	0.376	0.251	±5.0	PASS
TX-DNL	4FSK	V _N	-20	0.243	0.365	0.235	±5.0	PASS
TX-DNL	4FSK	V _N	-10	0.248	0.379	0.247	±5.0	PASS
TX-DNL	4FSK	V _N	0	0.237	0.393	0.244	±5.0	PASS
TX-DNL	4FSK	V _N	10	0.249	0.372	0.248	±5.0	PASS
TX-DNL	4FSK	V _N	20	0.228	0.358	0.233	±5.0	PASS
TX-DNL	4FSK	V _N	30	0.251	0.388	0.234	±5.0	PASS
TX-DNL	4FSK	V _N	40	0.233	0.388	0.240	±5.0	PASS
TX-DNL	4FSK	V _N	50	0.250	0.374	0.252	±5.0	PASS

Operation Mode	Modulation Type	Test Conditions		Frequency error (ppm)			Limit (ppm)	Result
		Voltage	Temperature	CH _{L2}	CH _{M2}	CH _{H2}		
TX-DNH	4FSK	V _N	-30	-0.259	-0.240	-0.568	±5.0	PASS
TX-DNH	4FSK	V _N	-20	-0.237	-0.249	-0.586	±5.0	PASS
TX-DNH	4FSK	V _N	-10	-0.254	-0.237	-0.555	±5.0	PASS
TX-DNH	4FSK	V _N	0	-0.242	-0.248	-0.563	±5.0	PASS
TX-DNH	4FSK	V _N	10	-0.259	-0.252	-0.576	±5.0	PASS
TX-DNH	4FSK	V _N	20	-0.236	-0.236	-0.535	±5.0	PASS
TX-DNH	4FSK	V _N	30	-0.240	-0.240	-0.576	±5.0	PASS
TX-DNH	4FSK	V _N	40	-0.238	-0.239	-0.547	±5.0	PASS
TX-DNH	4FSK	V _N	50	-0.242	-0.245	-0.582	±5.0	PASS
TX-DNL	4FSK	V _N	-30	-0.041	-0.034	-0.045	±5.0	PASS
TX-DNL	4FSK	V _N	-20	-0.042	-0.035	-0.043	±5.0	PASS
TX-DNL	4FSK	V _N	-10	-0.041	-0.033	-0.044	±5.0	PASS
TX-DNL	4FSK	V _N	0	-0.041	-0.034	-0.043	±5.0	PASS
TX-DNL	4FSK	V _N	10	-0.038	-0.034	-0.042	±5.0	PASS
TX-DNL	4FSK	V _N	20	-0.038	-0.032	-0.041	±5.0	PASS
TX-DNL	4FSK	V _N	30	-0.039	-0.032	-0.042	±5.0	PASS
TX-DNL	4FSK	V _N	40	-0.042	-0.034	-0.042	±5.0	PASS
TX-DNL	4FSK	V _N	50	-0.042	-0.035	-0.043	±5.0	PASS

Appendix G:Frequency Stability Test & Voltage

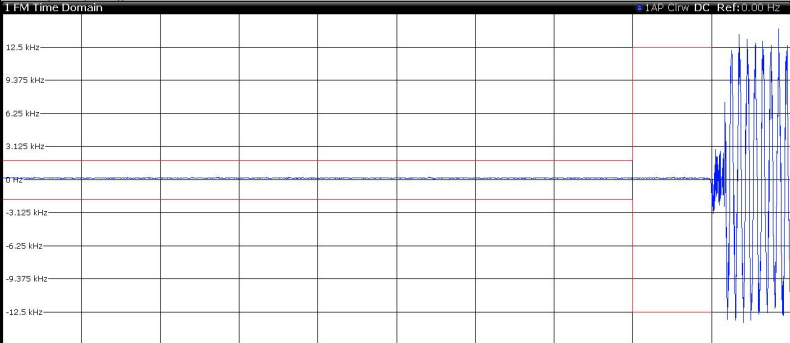
Operation Mode	Modulation Type	Test Conditions		Frequency error (ppm)			Limit (ppm)	Result
		Voltage	Temperature	CH _{L1}	CH _{M1}	CH _{H1}		
TX-DNH	4FSK	V _N	T _N	-0.052	0.065	0.029	±5.0	PASS
TX-DNH	4FSK	V _L	T _N	-0.052	0.066	0.029	±5.0	PASS
TX-DNH	4FSK	V _H	T _N	-0.055	0.066	0.029	±5.0	PASS
TX-DNL	4FSK	V _N	T _N	0.228	0.358	0.233	±5.0	PASS
TX-DNL	4FSK	V _L	T _N	0.230	0.361	0.235	±5.0	PASS
TX-DNL	4FSK	V _H	T _N	0.234	0.377	0.235	±5.0	PASS

Operation Mode	Modulation Type	Test Conditions		Frequency error (ppm)			Limit (ppm)	Result
		Voltage	Temperature	CH _{L2}	CH _{M2}	CH _{H2}		
TX-DNH	4FSK	V _N	T _N	-0.236	-0.236	-0.535	±5.0	PASS
TX-DNH	4FSK	V _L	T _N	-0.236	-0.241	-0.536	±5.0	PASS
TX-DNH	4FSK	V _H	T _N	-0.241	-0.242	-0.567	±5.0	PASS
TX-DNL	4FSK	V _N	T _N	-0.038	-0.032	-0.041	±5.0	PASS
TX-DNL	4FSK	V _L	T _N	-0.038	-0.032	-0.041	±5.0	PASS
TX-DNL	4FSK	V _H	T _N	-0.039	-0.033	-0.043	±5.0	PASS

Appendix H:Transmitter Frequency Behavior

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _{M1}	MultiViewSpectrumAnalog Demod Ref Level 50.00 dBm Offset 20.50 dB Att 39 dB AQT 100 ms DBW 25 kHz Freq 155.0 MHz TRG:IFR(17MHz) YIG Bypass 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 155.0 MHz 1001 pts 10.0 ms/ 4 Result Summary Carrier Power 40.35 dBm Carrier Offset 55.77 Hz FM +Peak 12.832 kHz -Peak -12.942 kHz +Peak/2 12.887 kHz RMS 2.7188 kHz Mod. Freq. --- SINAD --- THD --- Analog Demod: Waiting for Trigger... Measuring... 12.10.2024 17:52:26 Date: 12.OCT.2024 17:52:26 OFF~ON
TX-DNH	4FSK	CH _{M1}	MultiViewSpectrumAnalog Demod Ref Level 50.00 dBm Offset 20.50 dB Att 39 dB AQT 100 ms DBW 25 kHz Freq 155.0 MHz TRG:IFR(17MHz) YIG Bypass 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 155.0 MHz 1001 pts 10.0 ms/ 4 Result Summary Carrier Power 40.36 dBm Carrier Offset 57.33 Hz FM +Peak 12.855 kHz -Peak -13.539 kHz +Peak/2 13.197 kHz RMS 2.5872 kHz Mod. Freq. --- SINAD --- THD --- Analog Demod: Waiting for Trigger... Measuring... 12.10.2024 17:53:34 Date: 12.OCT.2024 17:53:34 ON-OFF
TX-DNH	4FSK	CH _{M2}	MultiViewSpectrumAnalog Demod Ref Level 50.00 dBm Offset 20.50 dB Att 39 dB AQT 100 ms DBW 25 kHz Freq 435.0 MHz TRG:IFR(17MHz) YIG Bypass 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 435.0 MHz 1001 pts 10.0 ms/ 4 Result Summary Carrier Power 41.05 dBm Carrier Offset 116.05 Hz FM +Peak 14.55 kHz -Peak -13.638 kHz +Peak/2 14.094 kHz RMS 2.7044 kHz Mod. Freq. --- SINAD --- THD --- Analog Demod: Waiting for Trigger... Measuring... 12.10.2024 17:55:30 Date: 12.OCT.2024 17:55:31 OFF~ON

Appendix H:Transmitter Frequency Behavior

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																
TX-DNH	4FSK	CH _{M2}	MultiViewSpectrumAnalog Demod Ref Level 50.00 dBm Offset 20.50 dB Att 39 dB AQT 100 ms DBW 25 kHz Freq 435.0 MHz TRG: IPR (17MHz) YIG Bypass 1 FM Time Domain  CF 435.0 MHz1001 pts10.0 ms/ 4 Result Summary <table><tr><td></td><td>Carrier Power 41.09 dBm</td><td>Carrier Offset 125.64 Hz</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>+Peak 14.198 kHz</td><td>-Peak -13.541 kHz</td><td>±Peak/2 13.87 kHz</td><td>RMS 2.5231 kHz</td><td>Mod. Freq. ---</td><td>SINAD ---</td><td>THD ---</td></tr></table> FM Analog Demod: Waiting for Trigger... Measuring... 12.10.2024 17:56:38 Date: 12.OCT.2024 17:56:38 ON-OFF		Carrier Power 41.09 dBm	Carrier Offset 125.64 Hz							+Peak 14.198 kHz	-Peak -13.541 kHz	±Peak/2 13.87 kHz	RMS 2.5231 kHz	Mod. Freq. ---	SINAD ---	THD ---
	Carrier Power 41.09 dBm	Carrier Offset 125.64 Hz																	
	+Peak 14.198 kHz	-Peak -13.541 kHz	±Peak/2 13.87 kHz	RMS 2.5231 kHz	Mod. Freq. ---	SINAD ---	THD ---												

Appendix I:Spurious Emission On Antenna Port

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																				
TX-DNH	4FSK	CHL1	Agilent Spectrum Analyzer - Swept SA Center Freq 515.000000 MHz Ref Offset 21 dB Ref 0.00 dBm 10 dB/div Log 1 3 2 Mkr3 272.50 MHz -40.155 dBm Start 30.0 MHz #Res BW 100 kHz Stop 1.0000 GHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) <table><tr><th>MKR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>135.73 MHz</td><td>-11.101 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>498.30 MHz</td><td>-39.836 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>272.50 MHz</td><td>-40.155 dBm</td><td></td><td></td><td></td></tr></table> Frequency Auto Tune Center Freq 515.000000 MHz Start Freq 30.000000 MHz Stop Freq 1.000000000 GHz CF Step 97.000000 MHz Auto Man Freq Offset 0 Hz 30MHz~1GHz	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	135.73 MHz	-11.101 dBm				2	N	1	f	498.30 MHz	-39.836 dBm				3	N	1	f	272.50 MHz	-40.155 dBm			
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																															
1	N	1	f	135.73 MHz	-11.101 dBm																																		
2	N	1	f	498.30 MHz	-39.836 dBm																																		
3	N	1	f	272.50 MHz	-40.155 dBm																																		
TX-DNH	4FSK	CHL1	Agilent Spectrum Analyzer - Swept SA Center Freq 1.180062500 GHz Ref Offset 21 dB Ref 0.00 dBm 10 dB/div Log 1 Mkr1 1.3079 GHz -53.499 dBm Start 1.0000 GHz #Res BW 1.0 MHz Stop 1.3601 GHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts) <table><tr><th>MKR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>1.3079 GHz</td><td>-53.499 dBm</td><td></td><td></td><td></td></tr></table> Frequency Auto Tune Center Freq 1.180062500 GHz Start Freq 1.000000000 GHz Stop Freq 1.360125000 GHz CF Step 36.012500 MHz Auto Man Freq Offset 0 Hz 1GHz~10th Harmonic	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	1.3079 GHz	-53.499 dBm																					
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																															
1	N	1	f	1.3079 GHz	-53.499 dBm																																		
TX-DNH	4FSK	CHM1	Agilent Spectrum Analyzer - Swept SA Center Freq 515.000000 MHz Ref Offset 21 dB Ref 0.00 dBm 10 dB/div Log 1 3 2 Mkr3 310.33 MHz -52.306 dBm Start 30.0 MHz #Res BW 100 kHz Stop 1.0000 GHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) <table><tr><th>MKR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>155.13 MHz</td><td>-9.888 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>454.55 MHz</td><td>-41.230 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>310.33 MHz</td><td>-52.306 dBm</td><td></td><td></td><td></td></tr></table> Frequency Auto Tune Center Freq 515.000000 MHz Start Freq 30.000000 MHz Stop Freq 1.000000000 GHz CF Step 97.000000 MHz Auto Man Freq Offset 0 Hz 30MHz~1GHz	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	155.13 MHz	-9.888 dBm				2	N	1	f	454.55 MHz	-41.230 dBm				3	N	1	f	310.33 MHz	-52.306 dBm			
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																															
1	N	1	f	155.13 MHz	-9.888 dBm																																		
2	N	1	f	454.55 MHz	-41.230 dBm																																		
3	N	1	f	310.33 MHz	-52.306 dBm																																		

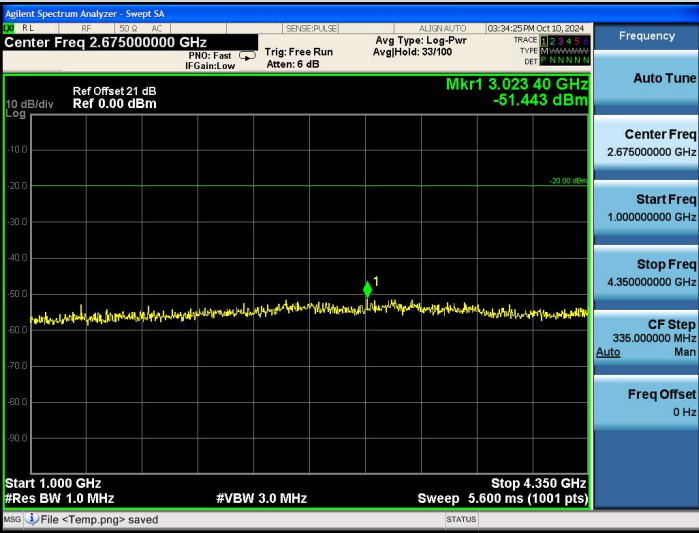
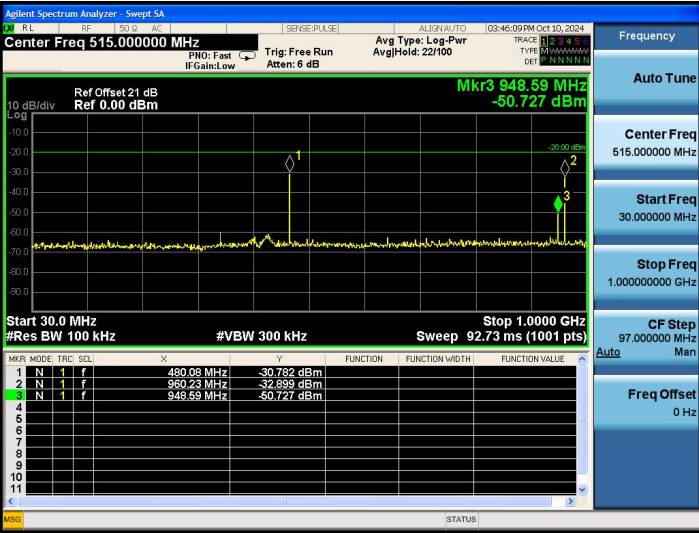
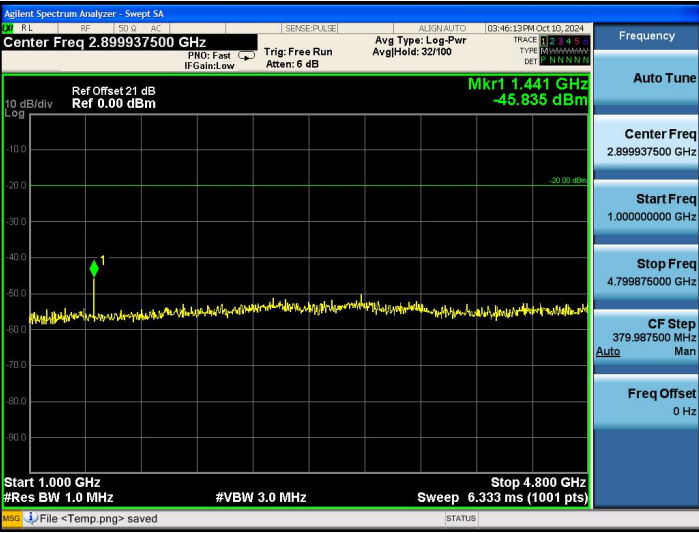
Appendix I:Spurious Emission On Antenna Port

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _{M1}	Agilent Spectrum Analyzer - Swept SA Center Freq 1.27500000 GHz Ref Offset 21 dB Ref 0.00 dBm Mkr1 1.32175 GHz -53.450 dBm Start 1.0000 GHz Stop 1.5500 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts) 1GHz~10th Harmonic
TX-DNH	4FSK	CH _{H1}	Agilent Spectrum Analyzer - Swept SA Center Freq 515.000000 MHz Ref Offset 21 dB Ref 0.00 dBm Mkr3 521.79 MHz -53.536 dBm Start 30.0 MHz Stop 1.0000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) 30MHz~1GHz
TX-DNH	4FSK	CH _{H1}	Agilent Spectrum Analyzer - Swept SA Center Freq 1.369937500 GHz Ref Offset 21 dB Ref 0.00 dBm Mkr1 1.4683 GHz -53.274 dBm Start 1.0000 GHz Stop 1.7399 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts) 1GHz~10th Harmonic

Appendix I:Spurious Emission On Antenna Port

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																				
TX-DNH	4FSK	CH _{L2}	Agilent Spectrum Analyzer - Swept SA Center Freq 515.000000 MHz Ref Offset 21 dB Ref 0.00 dBm Mkr3 374.35 MHz -53.906 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) <table><thead><tr><th>MNR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>399.57 MHz</td><td>-11.792 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>800.18 MHz</td><td>-35.675 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>374.35 MHz</td><td>-53.906 dBm</td><td></td><td></td><td></td></tr></tbody></table> 30MHz~1GHz Frequency Auto Tune Center Freq 515.000000 MHz Start Freq 30.000000 MHz Stop Freq 1.00000000 GHz CF Step 97.000000 MHz Auto Man Freq Offset 0 Hz	MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	399.57 MHz	-11.792 dBm				2	N	1	f	800.18 MHz	-35.675 dBm				3	N	1	f	374.35 MHz	-53.906 dBm			
MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																															
1	N	1	f	399.57 MHz	-11.792 dBm																																		
2	N	1	f	800.18 MHz	-35.675 dBm																																		
3	N	1	f	374.35 MHz	-53.906 dBm																																		
TX-DNH	4FSK	CH _{L2}	Agilent Spectrum Analyzer - Swept SA Center Freq 2.500062500 GHz Ref Offset 21 dB Ref 0.00 dBm Mkr1 2.755 GHz -51.419 dBm Start 1.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 5.067 ms (1001 pts) <table><thead><tr><th>MNR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr></thead><tbody></tbody></table> 1GHz~10th Harmonic Frequency Auto Tune Center Freq 2.500062500 GHz Start Freq 1.000000000 GHz Stop Freq 4.000125000 GHz CF Step 300.012500 MHz Auto Man Freq Offset 0 Hz	MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																											
MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																															
TX-DNH	4FSK	CH _{M2}	Agilent Spectrum Analyzer - Swept SA Center Freq 515.000000 MHz Ref Offset 21 dB Ref 0.00 dBm Mkr3 380.17 MHz -56.472 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) <table><thead><tr><th>MNR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>435.48 MHz</td><td>-47.768 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>370.02 MHz</td><td>-51.228 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>380.17 MHz</td><td>-56.472 dBm</td><td></td><td></td><td></td></tr></tbody></table> 30MHz~1GHz Frequency Auto Tune Center Freq 515.000000 MHz Start Freq 30.000000 MHz Stop Freq 1.000000000 GHz CF Step 97.000000 MHz Auto Man Freq Offset 0 Hz	MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	435.48 MHz	-47.768 dBm				2	N	1	f	370.02 MHz	-51.228 dBm				3	N	1	f	380.17 MHz	-56.472 dBm			
MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																															
1	N	1	f	435.48 MHz	-47.768 dBm																																		
2	N	1	f	370.02 MHz	-51.228 dBm																																		
3	N	1	f	380.17 MHz	-56.472 dBm																																		

Appendix I:Spurious Emission On Antenna Port

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _{M2}	 Agilent Spectrum Analyzer - Swept SA Center Freq 2.675000000 GHz Ref Offset 21 dB Ref 0.00 dBm Mkr1 3.023 40 GHz -51.443 dBm Start 1.000 GHz Stop 4.350 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 5.600 ms (1001 pts) 1GHz~10th Harmonic
TX-DNH	4FSK	CH _{H2}	 Agilent Spectrum Analyzer - Swept SA Center Freq 515.0000000 MHz Ref Offset 21 dB Ref 0.00 dBm Mkr3 948.59 MHz -50.727 dBm Start 30.0 MHz Stop 1.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) 30MHz~1GHz
TX-DNH	4FSK	CH _{H2}	 Agilent Spectrum Analyzer - Swept SA Center Freq 2.899937500 GHz Ref Offset 21 dB Ref 0.00 dBm Mkr1 1.441 GHz -45.835 dBm Start 1.000 GHz Stop 4.800 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 6.333 ms (1001 pts) 1GHz~10th Harmonic

-----End of Report-----