

**Appendix F:Frequency Stability Test & Temperature for VHF Band**

Operation Mode	Modulation Type	Test Conditions		Frequency error (ppm)			Limit (ppm)	Result
		Voltage	Temperature	CH _L	CH _M	CH _H		
TX-DNH	4FSK	V _N	-30	0.100	0.107	<u>0.117</u>	±5.0	PASS
TX-DNH	4FSK	V _N	-20	0.088	0.094	0.100	±5.0	PASS
TX-DNH	4FSK	V _N	-10	0.079	0.089	0.091	±5.0	PASS
TX-DNH	4FSK	V _N	0	0.075	0.079	0.085	±5.0	PASS
TX-DNH	4FSK	V _N	10	0.055	0.056	0.069	±5.0	PASS
TX-DNH	4FSK	V _N	20	0.034	0.037	0.039	±5.0	PASS
TX-DNH	4FSK	V _N	30	0.035	0.039	0.040	±5.0	PASS
TX-DNH	4FSK	V _N	40	0.053	0.059	0.061	±5.0	PASS
TX-DNH	4FSK	V _N	55	0.070	0.077	0.082	±5.0	PASS
TX-DNL	4FSK	V _N	-30	0.061	0.038	-0.090	±5.0	PASS
TX-DNL	4FSK	V _N	-20	0.055	0.031	-0.070	±5.0	PASS
TX-DNL	4FSK	V _N	-10	0.046	0.027	-0.073	±5.0	PASS
TX-DNL	4FSK	V _N	0	0.025	0.016	-0.064	±5.0	PASS
TX-DNL	4FSK	V _N	10	0.022	0.014	-0.052	±5.0	PASS
TX-DNL	4FSK	V _N	20	0.013	0.008	-0.032	±5.0	PASS
TX-DNL	4FSK	V _N	30	0.022	0.014	-0.055	±5.0	PASS
TX-DNL	4FSK	V _N	40	0.047	0.028	-0.072	±5.0	PASS
TX-DNL	4FSK	V _N	55	0.060	0.034	-0.085	±5.0	PASS

**Appendix F:Frequency Stability Test & Temperature for UHF Band**

Operation Mode	Modulation Type	Test Conditions		Frequency error (ppm)					Limit (ppm)	Result
		Voltage	Temperature	CH _{L1}	CH _{M1}	CH _{M2}	CH _{M3}	CH _{H1}		
TX-DNH	4FSK	V _N	-30	0.138	0.115	0.171	0.222	0.108	±5.0	PASS
TX-DNH	4FSK	V _N	-20	0.112	0.102	0.145	0.184	0.090	±5.0	PASS
TX-DNH	4FSK	V _N	-10	0.109	0.094	0.135	0.174	0.084	±5.0	PASS
TX-DNH	4FSK	V _N	0	0.091	0.081	0.116	0.149	0.072	±5.0	PASS
TX-DNH	4FSK	V _N	10	0.082	0.073	0.104	0.134	0.064	±5.0	PASS
TX-DNH	4FSK	V _N	20	0.078	0.069	0.099	0.127	0.061	±5.0	PASS
TX-DNH	4FSK	V _N	30	0.080	0.072	0.109	0.130	0.061	±5.0	PASS
TX-DNH	4FSK	V _N	40	0.144	0.135	0.197	0.152	0.107	±5.0	PASS
TX-DNH	4FSK	V _N	55	0.147	0.126	0.170	0.239	0.106	±5.0	PASS
TX-DNL	4FSK	V _N	-30	0.079	<u>0.332</u>	0.234	0.264	0.194	±5.0	PASS
TX-DNL	4FSK	V _N	-20	0.072	0.303	0.207	0.237	0.180	±5.0	PASS
TX-DNL	4FSK	V _N	-10	0.049	0.204	0.139	0.162	0.114	±5.0	PASS
TX-DNL	4FSK	V _N	0	0.042	0.163	0.116	0.140	0.099	±5.0	PASS
TX-DNL	4FSK	V _N	10	0.030	0.133	0.091	0.096	0.074	±5.0	PASS
TX-DNL	4FSK	V _N	20	0.018	0.074	0.051	0.059	0.043	±5.0	PASS
TX-DNL	4FSK	V _N	30	0.022	0.132	0.088	0.103	0.047	±5.0	PASS
TX-DNL	4FSK	V _N	40	0.047	0.204	0.139	0.162	0.118	±5.0	PASS
TX-DNL	4FSK	V _N	55	0.068	0.271	0.174	0.216	0.152	±5.0	PASS

**Appendix G:Frequency Stability Test & Voltage for VHF Band**

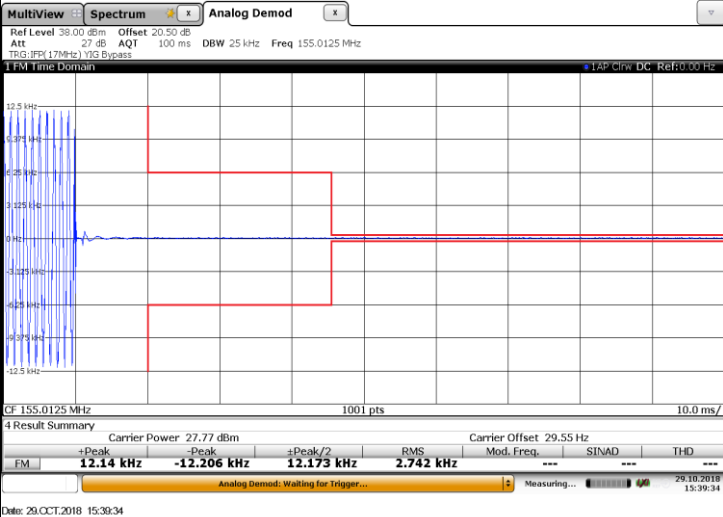
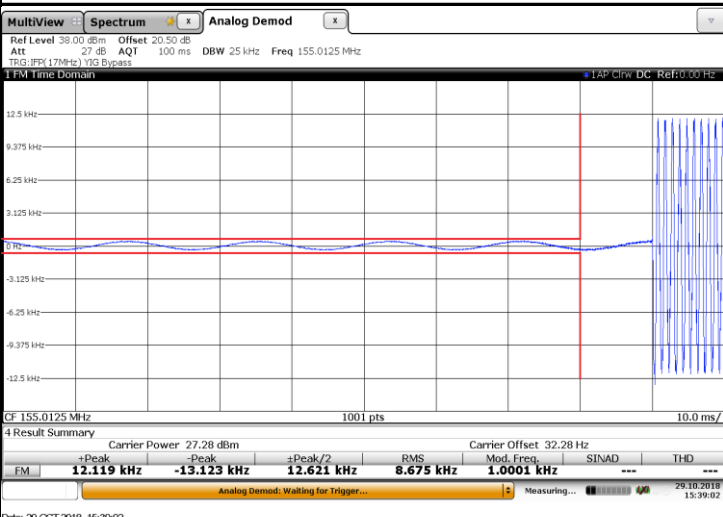
Operation Mode	Modulation Type	Test Conditions		Frequency error (ppm)			Limit (ppm)	Result
		Voltage	Temperature	CH _L	CH _M	CH _H		
TX-DNH	4FSK	V _N	T _N	0.034	0.037	0.039	±5.0	PASS
TX-DNH	4FSK	V _L	T _N	0.050	0.053	<u>0.062</u>	±5.0	PASS
TX-DNH	4FSK	V _H	T _N	0.052	0.038	0.040	±5.0	PASS
TX-DNL	4FSK	V _N	T _N	0.013	0.008	-0.032	±5.0	PASS
TX-DNL	4FSK	V _L	T _N	<u>0.022</u>	0.014	-0.055	±5.0	PASS
TX-DNL	4FSK	V _H	T _N	0.021	0.012	-0.048	±5.0	PASS

**Appendix G:Frequency Stability Test & Voltage for UHF Band**

Operation Mode	Modulation Type	Test Conditions		Frequency error (ppm)					Limit (ppm)	Result
		Voltage	Temperature	CH _{L1}	CH _{M1}	CH _{M2}	CH _{M3}	CH _{H1}		
TX-DNH	4FSK	V _N	T _N	0.078	0.069	0.099	0.127	0.061	±5.0	PASS
TX-DNH	4FSK	V _L	T _N	0.095	0.086	0.125	<u>0.156</u>	0.075	±5.0	PASS
TX-DNH	4FSK	V _H	T _N	0.098	0.073	0.102	0.129	0.063	±5.0	PASS
TX-DNL	4FSK	V _N	T _N	0.018	0.074	0.051	0.059	0.043	±5.0	PASS
TX-DNL	4FSK	V _L	T _N	0.024	<u>0.099</u>	0.069	0.081	0.060	±5.0	PASS
TX-DNL	4FSK	V _H	T _N	0.023	0.097	0.067	0.075	0.056	±5.0	PASS

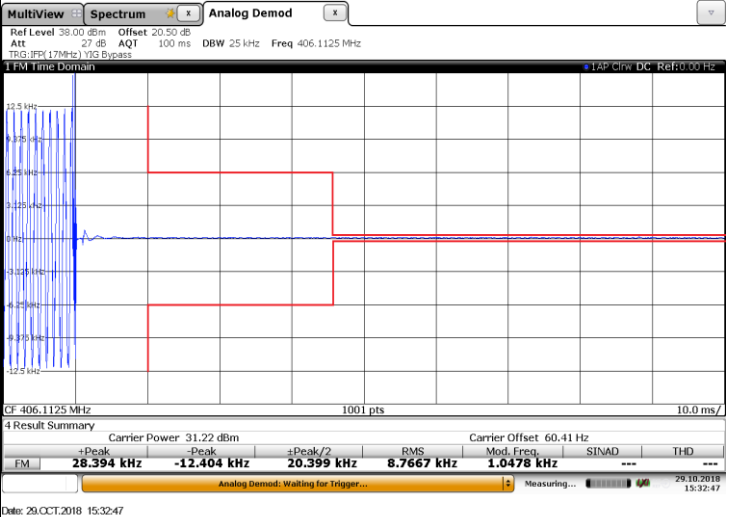
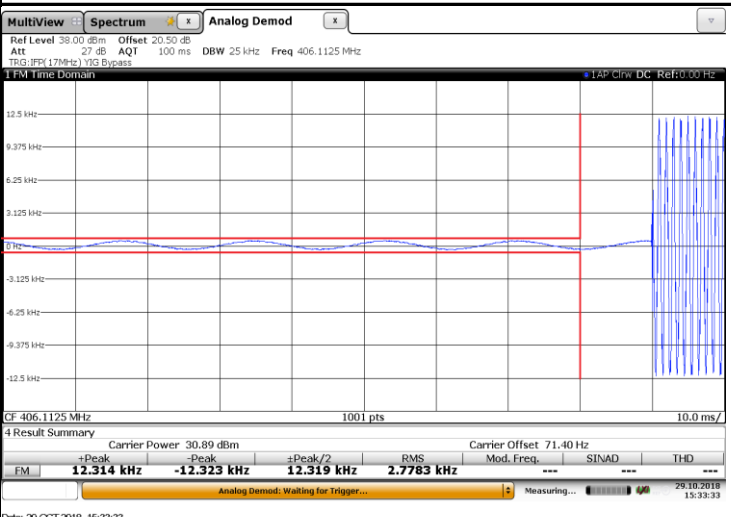


Appendix H:Transmitter Frequency Behavior for VHF Band

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _M	 OFF-ON
TX-DNH	4FSK	CH _M	 ON-OFF

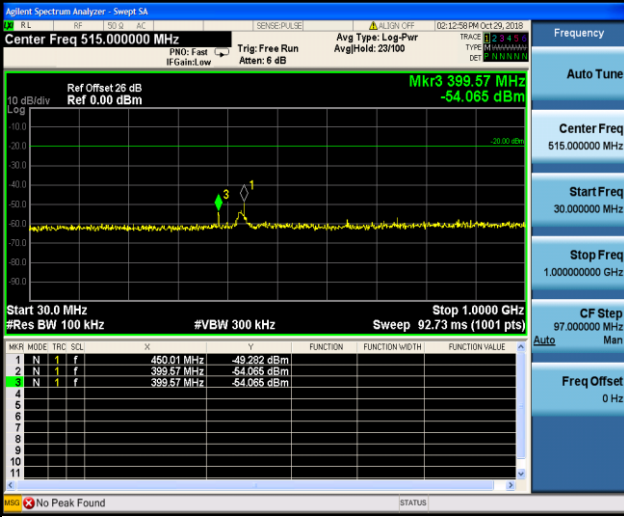
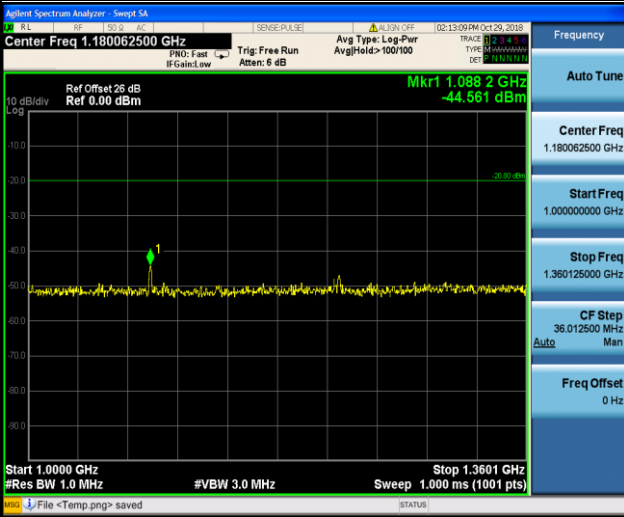
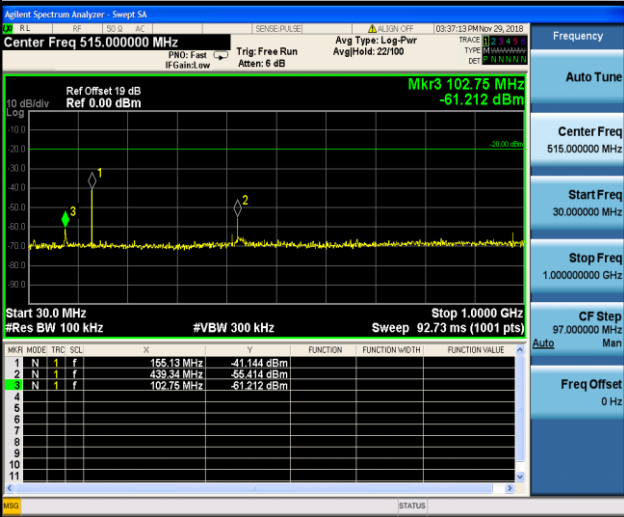


Appendix H:Transmitter Frequency Behavior for UHF Band

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

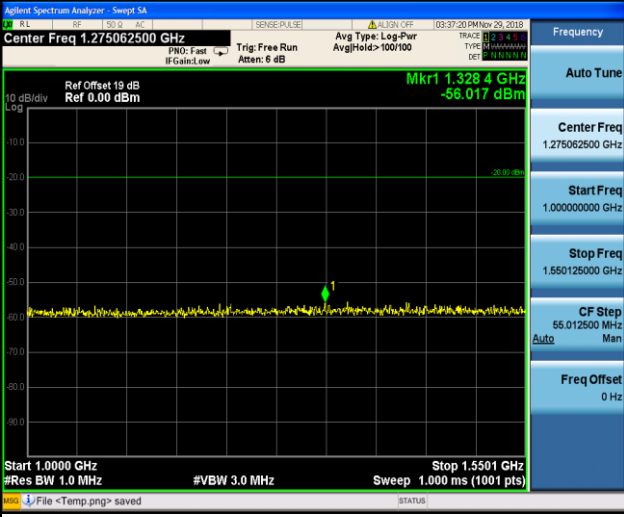
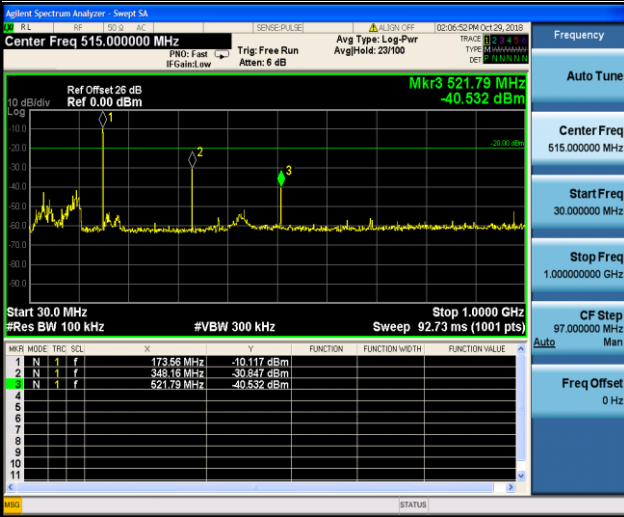
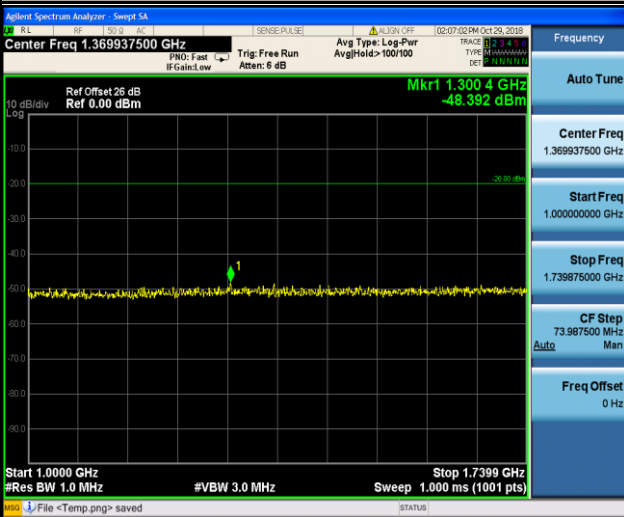


Appendix I:Spurious Emission On Antenna Port for VHF Band

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _L	 Agilent Spectrum Analyzer - Sweep SA Center Freq 515.000000 MHz Ref Offset 26 dB Ref 0.00 dBm Mkr3 399.57 MHz -54.065 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Stop 1.0000 GHz Sweep 92.73 ms (1001 pts) MNR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE 1 N 1 f 450.01 MHz -49.202 dBm 2 N 1 f 399.57 MHz -54.065 dBm 3 N 1 f 399.57 MHz -54.065 dBm 4 5 6 7 8 9 10 11 No Peak Found 30MHz~1GHz
TX-DNH	4FSK	CH _L	 Agilent Spectrum Analyzer - Sweep SA Center Freq 1.180062500 GHz Ref Offset 26 dB Ref 0.00 dBm Mkr1 1.0882 GHz -44.561 dBm Start 1.0000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 1.3601 GHz Sweep 1.000 ms (1001 pts) File <Temp.png> saved 1GHz~10th Harmonic
TX-DNH	4FSK	CH _M	 Agilent Spectrum Analyzer - Sweep SA Center Freq 515.000000 MHz Ref Offset 19 dB Ref 0.00 dBm Mkr3 102.75 MHz -51.212 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Stop 1.0000 GHz Sweep 92.73 ms (1001 pts) MNR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE 1 N 1 f 155.13 MHz -41.144 dBm 2 N 1 f 439.34 MHz -55.414 dBm 3 N 1 f 102.75 MHz -51.212 dBm 4 5 6 7 8 9 10 11 30MHz~1GHz



Appendix I:Spurious Emission On Antenna Port for VHF Band

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _M	 1GHz~10th Harmonic
TX-DNH	4FSK	CH _H	 30MHz~1GHz
TX-DNH	4FSK	CH _H	 1GHz~10th Harmonic

----End of Report----



Appendix I:Spurious Emission On Antenna Port for UHF Band

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																				
TX-DNH	4FSK	CH _{L1}	Agilent Spectrum Analyzer - Sweep SA Center Freq 515.000000 MHz Ref Offset 27 dB Ref 0.00 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Stop 1.0000 GHz 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>399.57 MHz</td><td>-20.005 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>-47.345 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>370.47 MHz</td><td>-47.497 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	399.57 MHz	-20.005 dBm				2	N	1	f	800.18 MHz	-47.345 dBm				3	N	1	f	370.47 MHz	-47.497 dBm			
Mkr	Mode	Trc	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																															
1	N	1	f	399.57 MHz	-20.005 dBm																																		
2	N	1	f	800.18 MHz	-47.345 dBm																																		
3	N	1	f	370.47 MHz	-47.497 dBm																																		
TX-DNH	4FSK	CH _{L1}	Agilent Spectrum Analyzer - Sweep SA Center Freq 2.500062500 GHz Ref Offset 27 dB Ref 0.00 dBm Start 1.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 4.000 GHz Sweep 5.067 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>3.178 GHz</td><td>-44.988 dBm</td><td></td><td></td><td></td></tr></table> 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 1GHz~10th Harmonic	Mkr	Mode	Trc	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	3.178 GHz	-44.988 dBm																					
Mkr	Mode	Trc	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																															
1	N	1	f	3.178 GHz	-44.988 dBm																																		
TX-DNH	4FSK	CH _{M1}	Agilent Spectrum Analyzer - Sweep SA Center Freq 515.000000 MHz Ref Offset 27 dB Ref 0.00 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Stop 1.0000 GHz 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>405.36 MHz</td><td>-28.332 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>811.82 MHz</td><td>-48.544 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>376.29 MHz</td><td>-49.444 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	405.36 MHz	-28.332 dBm				2	N	1	f	811.82 MHz	-48.544 dBm				3	N	1	f	376.29 MHz	-49.444 dBm			
Mkr	Mode	Trc	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																															
1	N	1	f	405.36 MHz	-28.332 dBm																																		
2	N	1	f	811.82 MHz	-48.544 dBm																																		
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Appendix I:Spurious Emission On Antenna Port for UHF Band

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																																																																																												
TX-DNH	4FSK	CH _{M1}	Agilent Spectrum Analyzer - Swept SA Center Freq 2.529937500 GHz Ref Offset 27 dB Ref 0.00 dBm Mkr1 3.270 GHz -45.241 dBm Start 1.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 4.060 GHz Sweep 5.133 ms (1001 pts) Frequency Auto Tune Center Freq 2.529937500 GHz Start Freq 1.000000000 GHz Stop Freq 4.059875000 GHz CF Step 305.987500 MHz Auto Man Freq Offset 0 Hz 1GHz~10th Harmonic																																																																																																												
TX-DNH	4FSK	CH _{M2}	Agilent Spectrum Analyzer - Swept SA Center Freq 515.000000 MHz Ref Offset 27 dB Ref 0.00 dBm Mkr3 376.29 MHz -49.927 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Stop 1.0000 GHz Sweep 92.73 ms (1001 pts) <table><tr><th>Mkr</th><th>Mode</th><th>Trig</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>406.36 MHz</td><td>-58.625 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>811.82 MHz</td><td>-49.280 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>376.29 MHz</td><td>-49.927 dBm</td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></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	Trig	SCL	X	Y	Function	Function Width	Function Value	1	N	1	f	406.36 MHz	-58.625 dBm				2	N	1	f	811.82 MHz	-49.280 dBm				3	N	1	f	376.29 MHz	-49.927 dBm				4									5									6									7									8									9									10									11								
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1	N	1	f	406.36 MHz	-58.625 dBm																																																																																																										
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TX-DNH	4FSK	CH _{M2}	Agilent Spectrum Analyzer - Swept SA Center Freq 2.530562500 GHz Ref Offset 27 dB Ref 0.00 dBm Mkr1 3.173 GHz -44.582 dBm Start 1.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 4.061 GHz Sweep 5.133 ms (1001 pts) Frequency Auto Tune Center Freq 2.530562500 GHz Start Freq 1.000000000 GHz Stop Freq 4.061125000 GHz CF Step 305.112500 MHz Auto Man Freq Offset 0 Hz 1GHz~10th Harmonic																																																																																																												



Appendix I:Spurious Emission On Antenna Port for UHF Band

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _{M3}	Agilent Spectrum Analyzer - Sweep 5A Center Freq 515.000000 MHz Ref Offset 27 dB Ref 0.00 dBm Mkr3 438.37 MHz -54.557 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Stop 1.0000 GHz 10 dB/div Log 3 1 2 3 4 5 6 7 8 9 10 11 438.37 MHz -54.557 dBm 438.37 MHz -54.557 dBm 438.37 MHz -54.557 dBm FUNCTION FUNCTION WIDTH FUNCTION VALUE 1 2 3 4 5 6 7 8 9 10 11 Frequency Auto Tune Center Freq 515.000000 MHz Start Freq 30.000000 MHz Stop Freq 1.000000000 GHz CF Step 97.000000 MHz Man Freq Offset 0 Hz 30MHz~1GHz
TX-DNH	4FSK	CH _{M3}	Agilent Spectrum Analyzer - Sweep 5A Center Freq 2.690062500 GHz Ref Offset 27 dB Ref 0.00 dBm Mkr1 1.314 GHz -43.041 dBm Start 1.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 5.667 ms (1001 pts) Stop 4.380 GHz 10 dB/div Log 1 1 1.314 GHz -43.041 dBm File <Temp.png> saved STATUS Frequency Auto Tune Center Freq 2.690062500 GHz Start Freq 1.000000000 GHz Stop Freq 4.380125000 GHz CF Step 338.012500 MHz Man Freq Offset 0 Hz 1GHz~10th Harmonic
TX-DNH	4FSK	CH _{H1}	Agilent Spectrum Analyzer - Sweep 5A Center Freq 515.000000 MHz Ref Offset 27 dB Ref 0.00 dBm Mkr3 939.86 MHz -54.953 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Stop 1.0000 GHz 10 dB/div Log 1 1 2 3 4 5 6 7 8 9 10 11 470.38 MHz -46.060 dBm 939.86 MHz -54.953 dBm 939.86 MHz -54.953 dBm FUNCTION FUNCTION WIDTH FUNCTION VALUE 1 2 3 4 5 6 7 8 9 10 11 Frequency Auto Tune Center Freq 515.000000 MHz Start Freq 30.000000 MHz Stop Freq 1.000000000 GHz CF Step 97.000000 MHz Man Freq Offset 0 Hz 30MHz~1GHz



Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-DNH	4FSK	CH _{H1}	Agilent Spectrum Analyzer - Sweep 1A Center Freq 2.849937500 GHz Ref Offset 27 dB Ref 0.00 dBm Mkr1 3.760 GHz -45.164 dBm Start 1.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 6.200 ms (1001 pts) Frequency Auto Tune Center Freq 2.849937500 GHz Start Freq 1.000000000 GHz Stop Freq 4.699875000 GHz CF Step 369.987500 MHz Auto Man Freq Offset 0 Hz File <Temp.png> saved (STATUS) 1GHz~10th Harmonic

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