

Project No.	SHT2104043004EW		
Test sample No.	YPHT21040430038	Model No.	RB29
Start test date	2021/5/19	Finish date	2021/5/20
Temperature	23.6℃	Humidity	53%
Test Engineer	<i>Casper Chen</i>	Auditor	<i>Xiaodong Zhu</i>

Appendix clause	Test Item	Test date (M/D)	Test Result (PASS/FAIL)
A	Transmit Power (ERP)	5/19	PASS
B	Occupied Bandwidth	5/19	PASS
C	Emission Mask	5/19	PASS
D	Modulation Limit	5/20	PASS
E	Audio Frequency Response	5/20	PASS
F	Audio Low Pass Filter Response	5/20	PASS
G	Frequency Stability Test & Temperature	5/20	PASS
H	Frequency Stability Test & Voltage	5/20	PASS

Appendix A: Transmit Power (ERP)

Test Mode	Modulation Type	Test Channel	Measured power (dBm)	Measured power (W)	Limit(W)	Result
TX-FRS	FM	CH _{M1}	27.88	0.61	≤2	PASS

Appendix B: 99% Occupied Bandwidth & 26dB Bandwidth

Test Mode	Modulation Type	Test Channel	Occupied Bandwidth		99% Limit(kHz)	Result
			99%(kHz)	26dB(kHz)		
TX-FRS	FM	CH _{M1}	9.94	10.194	≤12.5	PASS

Appendix B: 99% Occupied Bandwidth & 26dB Bandwidth

Operation Mode	Modulation Type	Test Channel	TEST PLOT RESULT																																			
TX-FRS	FM	CH _{M1}	MultiViewSpectrum Ref Level 29.00 dBmAtt 18 dB Offset 20.50 dB RBW 100 Hz SWT 41.9 ms (~55 ms) VBW 300 Hz Mode Auto FFT 1 Occupied Bandwidth 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm M1[1] -3.20 dBm 462.6323700 MHz 4.01 dB 10.194 kHz T1 4.80 dBm 462.632505 MHz 5.25 dBm T2 5.25 dBm 462.6424451 MHz 4.01 dB D2 4.01 dB 10.194 kHz CF 462.6375 MHz 1001 pts 5.0 kHz/ Span 50.0 kHz 2 Marker Table <table><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>462.63237 MHz</td><td>-3.20 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>462.632505 MHz</td><td>4.80 dBm</td><td>Occ Bw</td><td>9.94005994 kHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>462.6424451 MHz</td><td>5.25 dBm</td><td></td><td></td></tr><tr><td>D2</td><td>M1</td><td>1</td><td>10.194 kHz</td><td>4.01 dB</td><td></td><td></td></tr></tbody></table>	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		462.63237 MHz	-3.20 dBm			T1	1		462.632505 MHz	4.80 dBm	Occ Bw	9.94005994 kHz	T2	1		462.6424451 MHz	5.25 dBm			D2	M1	1	10.194 kHz	4.01 dB		
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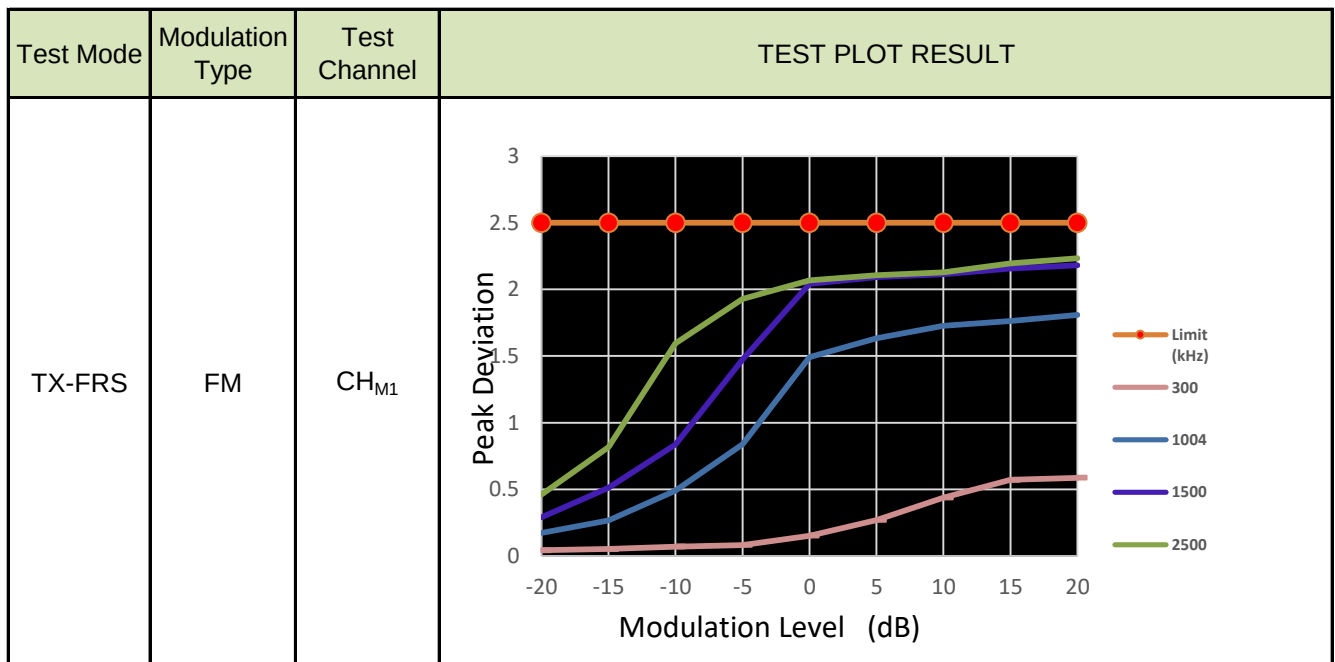
Appendix C:Emission Mask

Test Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-FRS	FM	CH _{M1}	The spectrum plot displays a frequency sweep from 462.617300 MHz to 462.6375 MHz. A red stepped line represents the emission mask, while a blue trace shows the measured signal. The signal is centered around 462.6375 MHz, reaching a peak level of approximately 29.83 dBm. The plot includes various technical parameters: Ref Level 33.00 dBm, Att 23 dB, Offset 20.00 dB, RBW 100 Hz, SWT 41.9 ms, VBW 300 Hz, and Mode Auto FFT. The span is 120.0 kHz, and the resolution is 12.0 kHz. The date and time of the measurement are 19 MAY 2021 17:14:48.

Appendix D:Modulation Limit

Test Mode	Modulation Type	Test Channel	Modulation Level (dB)	Peak Frequency Deviation (Hz)				Limit (kHz)	Result
				300	1004	1500	2500		
TX-FRS	FM	CH _{M1}	-20	0.042	0.173	0.291	0.462	2.5	PASS
TX-FRS	FM	CH _{M1}	-15	0.052	0.267	0.512	0.816	2.5	PASS
TX-FRS	FM	CH _{M1}	-10	0.070	0.490	0.836	1.594	2.5	PASS
TX-FRS	FM	CH _{M1}	-5	0.082	0.837	1.474	1.928	2.5	PASS
TX-FRS	FM	CH _{M1}	0	0.151	1.492	2.042	2.068	2.5	PASS
TX-FRS	FM	CH _{M1}	5	0.269	1.634	2.093	2.107	2.5	PASS
TX-FRS	FM	CH _{M1}	10	0.438	1.727	2.113	2.127	2.5	PASS
TX-FRS	FM	CH _{M1}	15	0.571	1.764	2.156	2.196	2.5	PASS
TX-FRS	FM	CH _{M1}	20	0.586	1.809	2.181	2.234	2.5	PASS

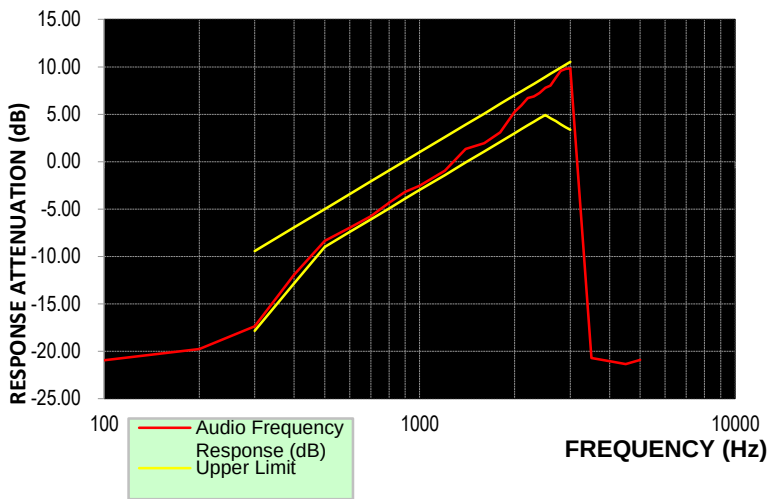
Appendix D:Modulation Limit



Appendix E:Audio Frequency Response

Test Mode	Modulation Type	Test Channel	Frequency (Hz)	Audio Frequency Response (dB)	Lower Limit	Upper Limit	Result
TX-FRS	FM	CH _{M1}	100	-20.96			PASS
TX-FRS	FM	CH _{M1}	200	-19.78			PASS
TX-FRS	FM	CH _{M1}	300	-17.37	-17.84	-9.42	PASS
TX-FRS	FM	CH _{M1}	400	-11.92	-12.86	-6.93	PASS
TX-FRS	FM	CH _{M1}	500	-8.34	-9.00	-5.00	PASS
TX-FRS	FM	CH _{M1}	600	-6.97	-7.42	-3.42	PASS
TX-FRS	FM	CH _{M1}	700	-5.76	-6.09	-2.09	PASS
TX-FRS	FM	CH _{M1}	800	-4.32	-4.93	-0.93	PASS
TX-FRS	FM	CH _{M1}	900	-3.19	-3.91	0.09	PASS
TX-FRS	FM	CH _{M1}	1000	-2.53	-3.00	1.00	PASS
TX-FRS	FM	CH _{M1}	1200	-0.97	-1.42	2.58	PASS
TX-FRS	FM	CH _{M1}	1400	1.34	-0.09	3.91	PASS
TX-FRS	FM	CH _{M1}	1600	1.96	1.07	5.07	PASS
TX-FRS	FM	CH _{M1}	1800	3.09	2.09	6.09	PASS
TX-FRS	FM	CH _{M1}	2000	5.27	3.00	7.00	PASS
TX-FRS	FM	CH _{M1}	2100	5.93	3.42	7.42	PASS
TX-FRS	FM	CH _{M1}	2200	6.71	3.83	7.83	PASS
TX-FRS	FM	CH _{M1}	2300	6.87	4.21	8.21	PASS
TX-FRS	FM	CH _{M1}	2400	7.24	4.58	8.58	PASS
TX-FRS	FM	CH _{M1}	2500	7.79	4.93	8.93	PASS
TX-FRS	FM	CH _{M1}	2600	8.01	4.59	9.27	PASS
TX-FRS	FM	CH _{M1}	2700	8.86	4.27	9.60	PASS
TX-FRS	FM	CH _{M1}	2800	9.58	3.95	9.91	PASS
TX-FRS	FM	CH _{M1}	2900	9.79	3.65	10.22	PASS
TX-FRS	FM	CH _{M1}	3000	9.84	3.35	10.51	PASS
TX-FRS	FM	CH _{M1}	3500	-20.72			PASS
TX-FRS	FM	CH _{M1}	4000	-21.07			PASS
TX-FRS	FM	CH _{M1}	4500	-21.37			PASS
TX-FRS	FM	CH _{M1}	5000	-20.93			PASS

Appendix E:Aduio Frequency Response

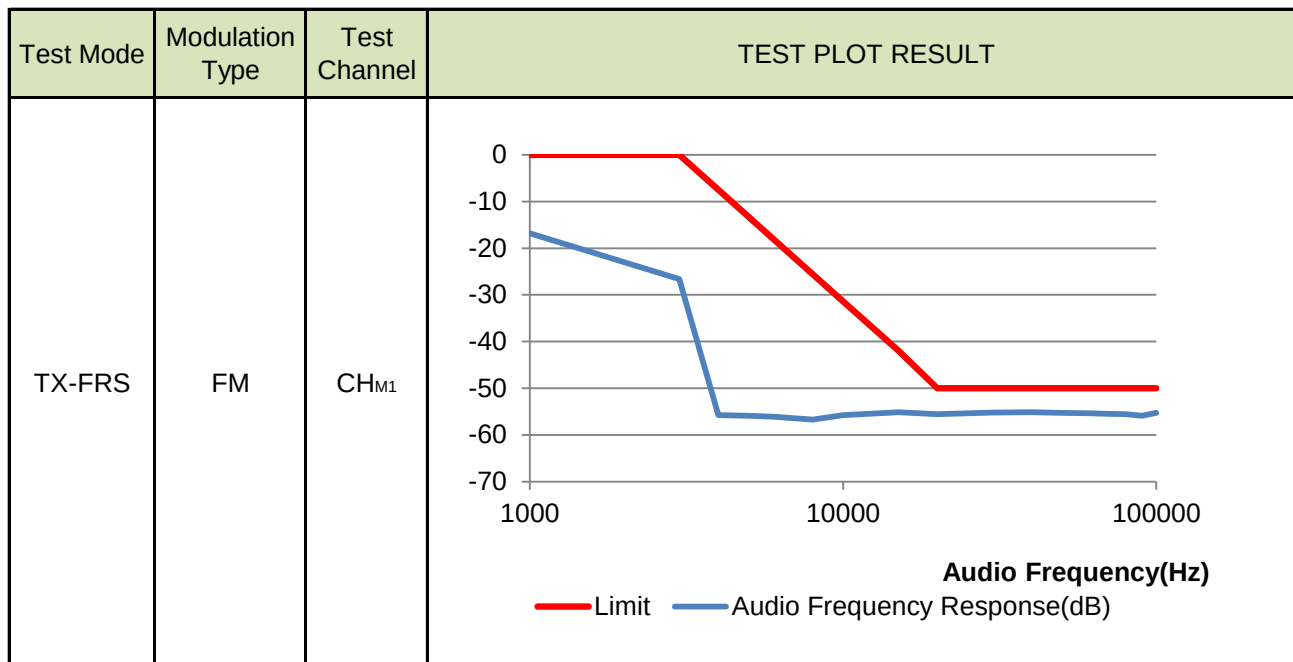
Test Mode	Modulation Type	Test Channel	TEST PLOT RESULT
TX-FRS	FM	CH _{M1}	

Note: The highest audio frequency response at 3kHz<3.125kHz, so meet the requirement.

Appendix F:Audio Low Pass Filter Response

Test Mode	Modulation Type	Test Channel	Audio Frequency(Hz)	Audio Frequency Response(dB)	Limit	Result
TX-FRS	FM	CH _{M1}	1000	-16.83	0	PASS
TX-FRS	FM	CH _{M1}	3000	-26.58	0	PASS
TX-FRS	FM	CH _{M1}	4000	-55.76	-7.5	PASS
TX-FRS	FM	CH _{M1}	5000	-55.87	-13.3	PASS
TX-FRS	FM	CH _{M1}	6000	-56.09	-18.1	PASS
TX-FRS	FM	CH _{M1}	8000	-56.73	-25.6	PASS
TX-FRS	FM	CH _{M1}	10000	-55.78	-31.4	PASS
TX-FRS	FM	CH _{M1}	15000	-55.13	-41.9	PASS
TX-FRS	FM	CH _{M1}	20000	-55.58	-50	PASS
TX-FRS	FM	CH _{M1}	30000	-55.19	-50	PASS
TX-FRS	FM	CH _{M1}	40000	-55.17	-50	PASS
TX-FRS	FM	CH _{M1}	50000	-55.28	-50	PASS
TX-FRS	FM	CH _{M1}	60000	-55.31	-50	PASS
TX-FRS	FM	CH _{M1}	70000	-55.46	-50	PASS
TX-FRS	FM	CH _{M1}	80000	-55.55	-50	PASS
TX-FRS	FM	CH _{M1}	90000	-55.92	-50	PASS
TX-FRS	FM	CH _{M1}	100000	-55.27	-50	PASS

Appendix F:Audio Low Pass Filter Response



Appendix G:Frequency Stability Test & Temperature

Test Mode	Modulation Type	Test Conditions		Frequency error (ppm)	Limit (ppm)	Result
		Voltage	Temperature	CH _{M1}		
TX-FRS	FM	V _N	-30	0.134	±2.5	PASS
TX-FRS	FM	V _N	-20	0.131	±2.5	PASS
TX-FRS	FM	V _N	-10	0.129	±2.5	PASS
TX-FRS	FM	V _N	0	0.138	±2.5	PASS
TX-FRS	FM	V _N	10	0.128	±2.5	PASS
TX-FRS	FM	V _N	20	0.132	±2.5	PASS
TX-FRS	FM	V _N	30	0.136	±2.5	PASS
TX-FRS	FM	V _N	40	0.141	±2.5	PASS
TX-FRS	FM	V _N	50	0.134	±2.5	PASS

Appendix H:Frequency Stability Test & Voltage

Test Mode	Modulation Type	Test Conditions		Frequency error (ppm)	Limit (ppm)	Result
		Voltage	Temperature	CH _{M1}		
TX-FRS	FM	V _N	T _N	0.138	±2.5	PASS
TX-FRS	FM	V _L	T _N	0.132	±2.5	PASS
TX-FRS	FM	V _H	T _N	0.134	±2.5	PASS

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