

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Venkata Kondepudi	Temperature:	18.6~21.4	°C
Test Date:	2023/04/21~2023/05/12	Relative Humidity:	41.7~54.6	%

<LoRa 125kHz FHSS Data Rate: SF7>

TEST RESULTS DATA**20dB and 99% Occupied Bandwidth and Hopping Channel Separation**

Mod.	NTX	CH.	Freq. (MHz)	20db BW (MHz)	99% Bandwidth (MHz)	Hopping Channel Separation Measurement (MHz)	Hopping Channel Separation Measurement Limit (MHz)	Pass/Fail
Lora	1	2	902.4	0.155	0.131	0.201	0.1549	Pass
Lora	1	65	915	0.156	0.131	0.201	0.1557	Pass
Lora	1	128	927.6	0.156	0.131	0.201	0.1556	Pass

TEST RESULTS DATA**Dwell Time**

Mod.	Hopping Channel Number Rate	Hops Over Occupancy Time(hops)	Package Transfer Time (msec)	Dwell Time (sec)	Limits (sec)	Pass/Fail
Lora	127	1	252.20	0.25	0.4	Pass

TEST RESULTS DATA**Number of Hopping Frequency**

Number of Hopping (Channel)	Limits (Channel)	Pass/Fail
127	> 50	Pass

<LoRa 125kHz FHSS Data Rate: SF11>

TEST RESULTS DATA**20dB and 99% Occupied Bandwidth and Hopping Channel Separation**

Mod.	NTX	CH.	Freq. (MHz)	20db BW (MHz)	99% Bandwidth (MHz)	Hopping Channel Separation Measurement (MHz)	Hopping Channel Separation Measurement Limit (MHz)	Pass/Fail
Lora	1	2	902.4	0.141	0.127	0.201	0.1411	Pass
Lora	1	65	915	0.141	0.127	0.201	0.1411	Pass
Lora	1	128	927.6	0.141	0.127	0.200	0.1411	Pass

TEST RESULTS DATA**Dwell Time**

Mod.	Hopping Channel Number Rate	Hops Over Occupancy Time(hops)	Package Transfer Time (msec)	Dwell Time (sec)	Limits (sec)	Pass/Fail
Lora	127	1	252.20	0.25	0.4	Pass

TEST RESULTS DATA**Number of Hopping Frequency**

Number of Hopping (Channel)	Limits (Channel)	Pass/Fail
127	> 50	Pass

<FSK 50Kbps>

TEST RESULTS DATA***20dB and 99% Occupied Bandwidth and Hopping Channel Separation***

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	20db BW (MHz)	99% Bandwidth (MHz)	Hopping Channel Separation Measurement (MHz)	Hopping Channel Separation Measurement Limit (MHz)	Pass/Fail
FSK	50Kbps	1	1	902.2	0.092	0.085	0.200	0.0923	Pass
FSK	50Kbps	1	65	915	0.092	0.085	0.200	0.0923	Pass
FSK	50Kbps	1	129	927.8	0.092	0.085	0.200	0.0923	Pass

TEST RESULTS DATA***Dwell Time***

Mod.	Hopping Channel Number Rate	Hops Over Occupancy Time(hops)	Package Transfer Time (msec)	Dwell Time (sec)	Limits (sec)	Pass/Fail
FSK	129	1.00	251.70	0.2517	0.4	Pass

TEST RESULTS DATA***Number of Hopping Frequency***

Number of Hopping (Channel)	Limits (Channel)	Pass/Fail
129	> 50	Pass

<FSK 150Kbps>

TEST RESULTS DATA**20dB and 99% Occupied Bandwidth and Hopping Channel Separation**

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	20db BW (MHz)	99% Bandwidth (MHz)	Hopping Channel Separation Measurement (MHz)	Hopping Channel Separation Measurement Limit (MHz)	Pass/Fail
FSK	150Kbps	1	1	902.4	0.179	0.155	0.400	0.179	Pass
FSK	150Kbps	1	33	914.8	0.182	0.156	0.401	0.182	Pass
FSK	150Kbps	1	64	927.6	0.179	0.156	0.401	0.179	Pass

TEST RESULTS DATA**Dwell Time**

Mod.	Hopping Channel Number Rate	Hops Over Occupancy Time(hops)	Package Transfer Time (msec)	Dwell Time (sec)	Limits (sec)	Pass/Fail
FSK	64	2.00	193.90	0.39	0.4	Pass

TEST RESULTS DATA**Number of Hopping Frequency**

Number of Hopping (Channel)	Limits (Channel)	Pass/Fail
64	> 50	Pass

<FSK 250Kbps>

TEST RESULTS DATA***20dB and 99% Occupied Bandwidth and Hopping Channel Separation***

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	20db BW (MHz)	99% Bandwidth (MHz)	Hopping Channel Separation Measurement (MHz)	Hopping Channel Separation Measurement Limit (MHz)	Pass/Fail
FSK	250Kbps	1	1	902.5	0.296	0.259	0.499	0.2960	Pass
FSK	250Kbps	1	26	915	0.297	0.258	0.499	0.2967	Pass
FSK	250Kbps	1	57	927.5	0.296	0.259	0.499	0.2960	Pass

TEST RESULTS DATA***Dwell Time***

Mod.	Hopping Channel Number Rate	Hops Over Occupancy Time(hops)	Package Transfer Time (msec)	Dwell Time (sec)	Limits (sec)	Pass/Fail
FSK	57	1.00	159.00	0.16	0.4	Pass

TEST RESULTS DATA***Number of Hopping Frequency***

Number of Hopping (Channel)	Limits (Channel)	Pass/Fail
57	≥ 25	Pass

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