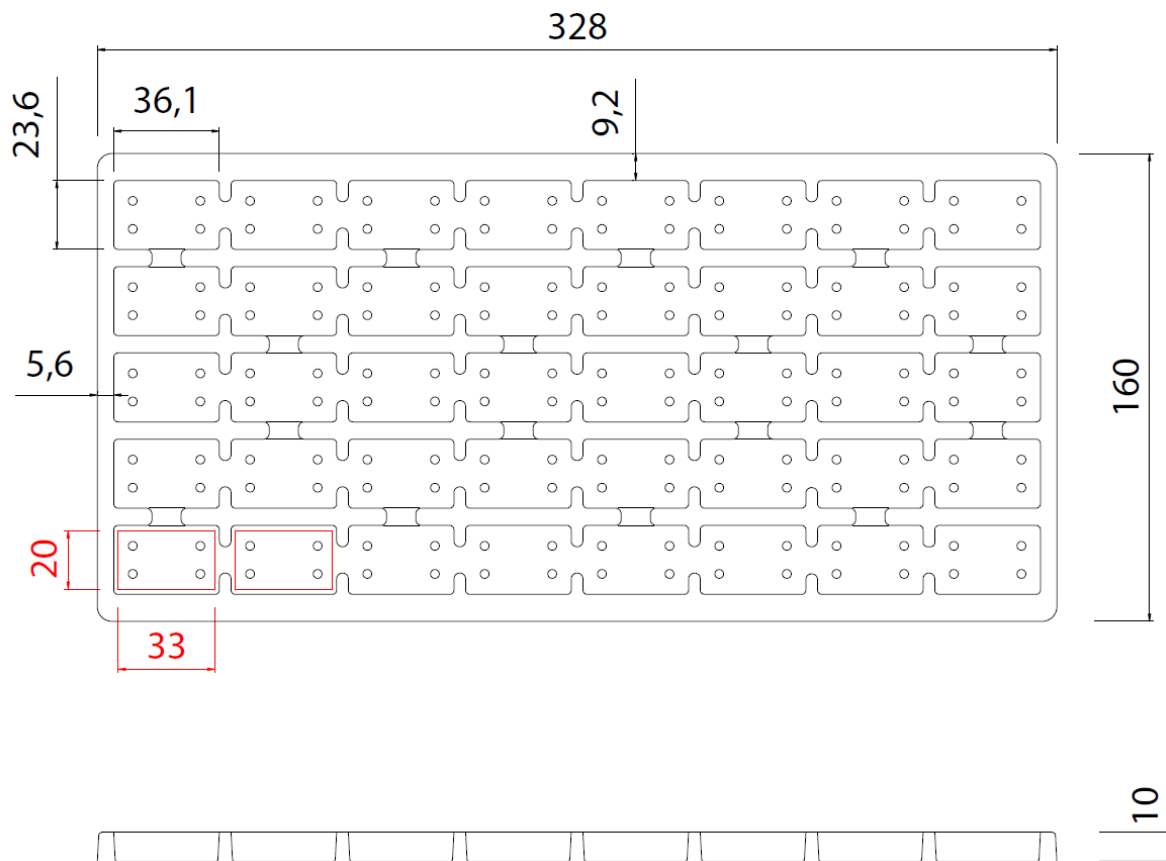


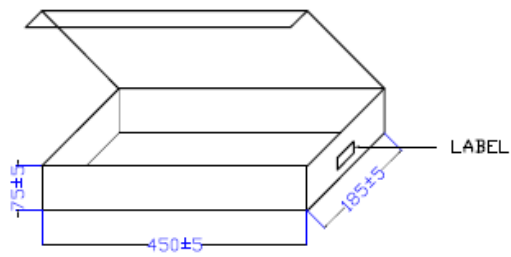
13. Packing Information

13.1 Tray



- Each tray has 40 units of products.

13.2 Inner Box

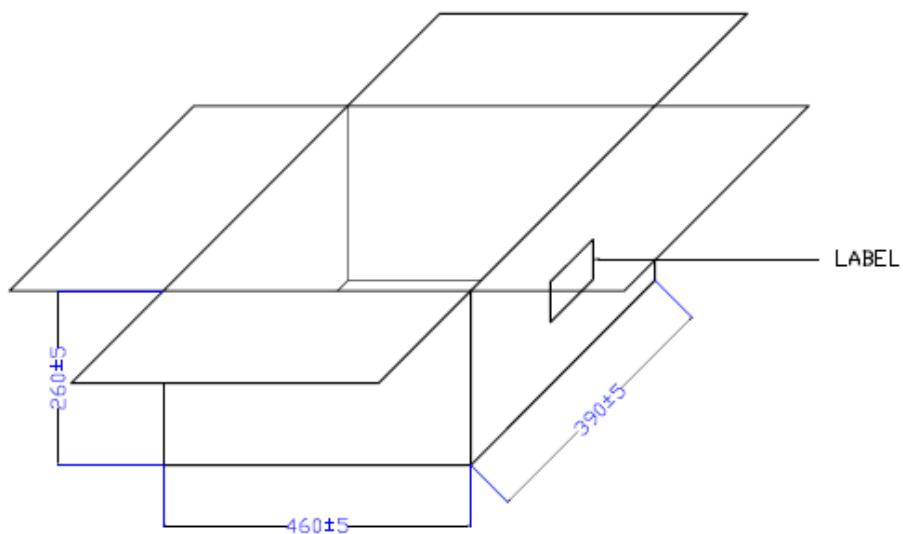


(Unit : mm)

TBD

No.	Label Description
①	
②	
③	
④	
⑤	
⑥	
⑦	
⑧	
⑨	
⑩	
⑪	
⑫	
⑬	
⑭	
⑮	
⑯	
⑰	
⑱	
⑲	

13.3 Outter Box

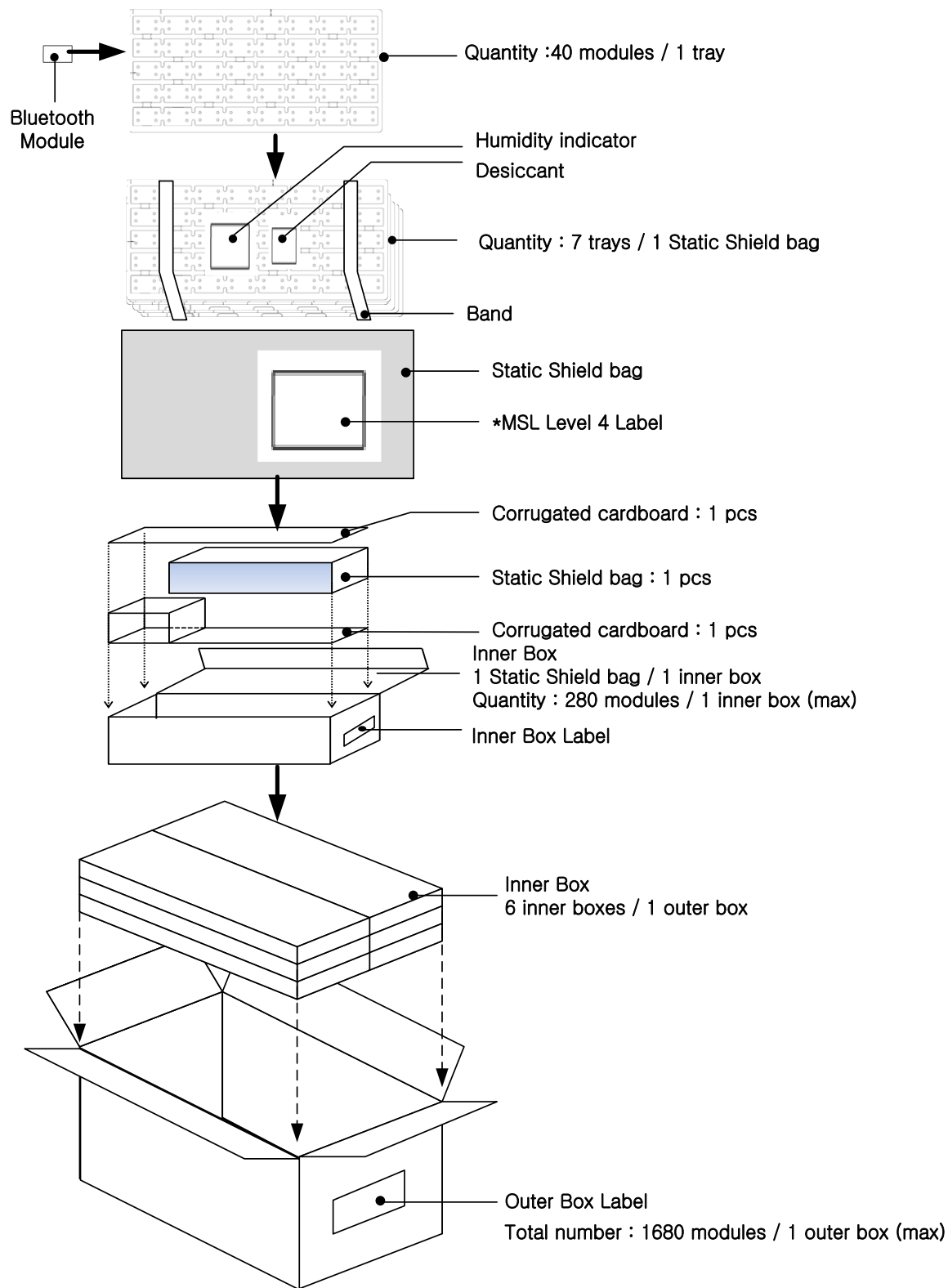


(Unit : mm)

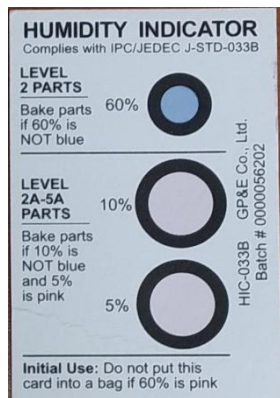
① MCS Logic Inc	② Address
③ Customer	⑧ Rohs
④ Description	⑤ Q'ty
	⑥ G.weight(Kg)
	⑦ C/T No.

No.	Label Description
①	Company
②	Company Address
③	Customer
④	Model No & Part No.
⑤	Quantity
⑥	Gross Weight(Kg)
⑦	Carton No.
⑧	Rohs

13.4 Packing process



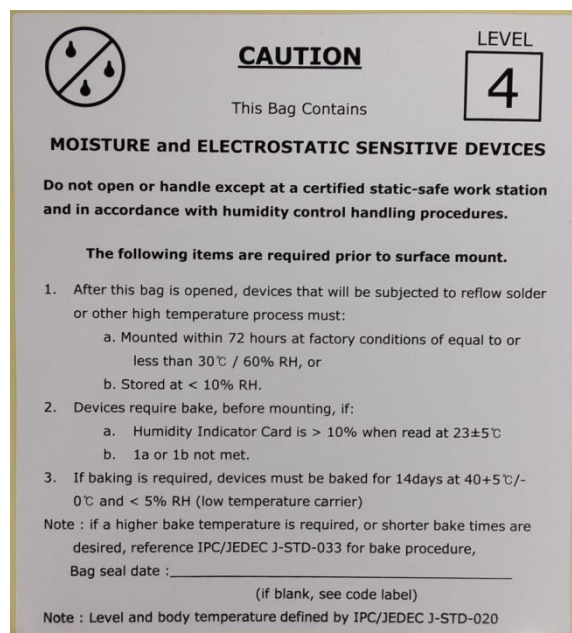
13.5 Static Shield bag



[HUMIDITY]



[DESICCANT]



[Moisture Sensitivity Level 4 Label]

TBD

[TOP of 7 Trays]

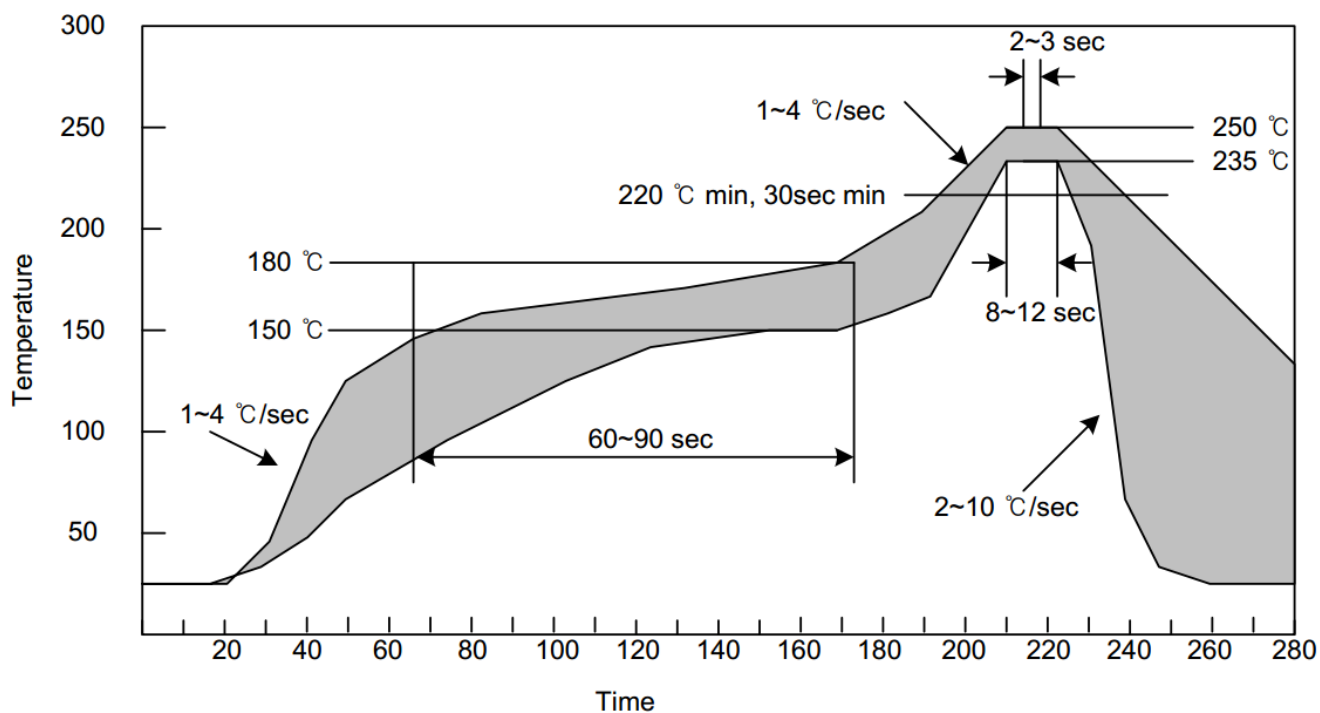


[Static Shield bag]

14. Reflow Profile

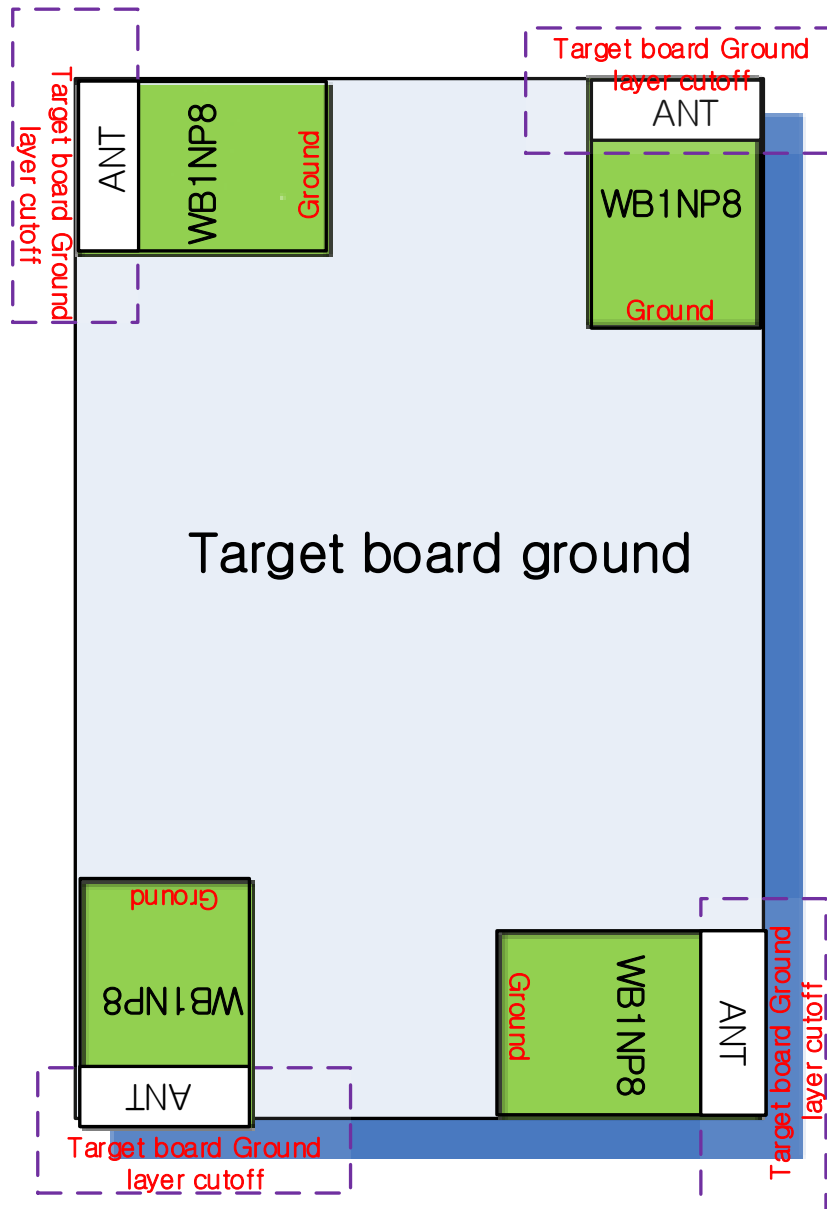
Reflow Conditions : Pb-Free

Allowable reflow soldering times : 2times based on the below profile



15. Module Position Guide

Ground & Shield CAN must not exist around Antenna area.



16. PCB Antenna Report

Module

Confidential

Confidential

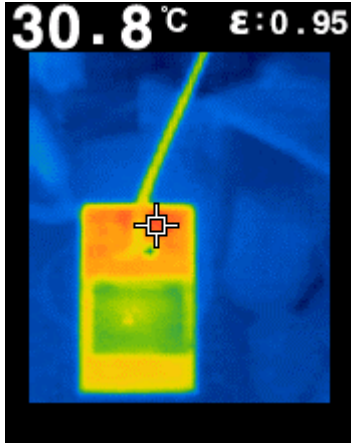
Confidential

17. Reliability Test

(MCS Logic)	MB8675C0 Reliability Test Report	page 1 of 1
Test Description	Reliability test of MB8675C0 for production	
Package type	(33.0) x (20.0) mm Module	
Date issued	27-Sep-17	

No	ITEM	TEST CONDITIOIN	# SAMPLES	RESULT
1	High Temperature Storage Test	70°C, 96hr	5	PASS
2	Low Temperature Storage Test	-20°C, 96hr	5	PASS
3	High Temp. & High Humidity Test	60°C/90%, 96hr	5	PASS
4	Thermal Shock Test	-40~90°C, 30min/step, 200 cycles	5	PASS
5	High Temperature Load Test	70°C, VCC = 3.3V, 96hr	5	PASS
6	Low Temperature Load Test	-10°C, VCC = 3.3V, 96hr	5	PASS
7	Drop Test	height = 50 cm on wooden plate (thick = 5cm) drop 10 times	5	PASS
8	ESD Test	Contact : 2KV & Air : 10KV shoot 10 times/point	3	PASS
9	MSL Test	60°C/90% RH, 48hr Soak 3 x reflow at 260°C	30	PASS
10	온도상승 테스트	40°C, 4hr aging test	1	(see result)
11	감승전압 테스트	Voltage condition of 3.0V & 3.6V	5	PASS

온도상승 테스트 측정결과

No	측정장비	MEASUREMENT RESULT	TEMPERATURE
	 열영상온도계 TG165 FLIR TG165		T = 30.8 °C

(초기치)

Test	Category	Output Powe						Initial Carrier Frequency Tolerance						Carrier Frequency Drift						Modulation characteristics									Sensitivity BER			Verdict																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
		Chan nel	2402 (MHz)		2441 (MHz)		2480 (MHz)		2402 (MHz)		2441 (MHz)		2480 (MHz)		2402 (MHz)		2441 (MHz)		2480 (MHz)		2402 (MHz)			2441 (MHz)			2480 (MHz)			2402 (MHz)	2441 (MHz)		2480 (MHz)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
			Test Item	Pav	Pmax	Pav	Pmax	Pav	Pma x	df0_max	df0_min	df0_max	df0_min	df0_max	df0_min	dfdr_max	dfdr_max	dfdr_max	dfdr_max	dfdr_max	dfdr_max	df1_a_vg	df2_r_ate	df2/d1	df1_a_vg	df2_r_ate	df2/d1	df1_a_vg	df2_r_ate	df2/d1	BER		BER	BER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
High Temp. storage	Test Limit	-	0 ~ 10	< 23	-	0 ~ 10	< 23	-	0 ~ 10	< 23	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	< 35	35	-	0 ~ 10	&

#73	8.58	8.84	8.65	8.96	8.32	8.6	3.1	-0.6	4.5	-1.9	2.9	-2.8	-4.2	-4.3	-5.4	-4.1	-4.2	3.8	165.4	100	0.91	163.8	100	0.94	164	100	0.93	0	0	0	PASS
#74	8.27	8.66	8.92	9.2	8.78	9.16	-6.6	-11.4	-6.2	-11.9	-8.6	-12.9	-6.5	4.3	-5.8	-3.5	4.7	-4	164.8	100	0.95	164.6	100	0.95	163.9	100	0.95	0	0	0	PASS
#75	8.47	8.8	8.71	9.02	8.44	8.77	-3.2	-7	-3.9	-7.1	-5.1	-8.5	-4.7	-3.9	4.5	-4.8	-5.3	3.7	165.6	100	0.93	164.2	100	0.94	164.4	100	0.94	0	0	0	PASS

(후기치)

Test	Category	Output Power						Initial Carrier Frequency Tolerance						Carrier Frequency Drift						Modulation characteristics						Sensitivity BER			Verdict				
		2402 (MHz)		2441 (MHz)		2480 (MHz)		2402 (MHz)		2441 (MHz)		2480 (MHz)		2402 (MHz)		2441 (MHz)		2480 (MHz)		2402 (MHz)		2441 (MHz)		2480 (MHz)		2402 (MHz)	2441 (MHz)	2480 (MHz)					
		Pav	Pmax	Pav	Pmax	Pav	Pmax	df0_max	df0_min	df0_max	df0_min	df0_max	df0_min	dfdr_max	dfdr_max	dfdr_max	dfdr_max	dfdr_max	dfdr_max	df1_a_vg	df2_r_ate	df2/d_f	df1_a_vg	df2_r_ate	df2/d_f	df1_a_vg	df2_r_ate	df2/d_f		BER	BER	BER	
		Test Item	Test Limit	Test Item	Test Limit	Test Item	Test Limit	Test Item	Test Limit	Test Item	Test Limit	Test Item	Test Limit	Test Item	Test Limit	Test Item	Test Limit	Test Item	Test Limit	Test Item	Test Limit	Test Item	Test Limit	Test Item	Test Limit	Test Item	Test Limit	Test Item		Test Limit	Test Item	Test Limit	Test Item
High Temp. storage	Unit	0 ~ 10	< 23	0 ~ 10	< 23	0 ~ 10	< 23	0 ~ 10	< 35	0 ~ 10	< 35	0 ~ 10	< 35	0 ~ 10	< 35	0 ~ 10	< 35	0 ~ 10	< 35	0 ~ 10	< 35	0 ~ 10	< 35	0 ~ 10	< 35	0 ~ 10	< 35	0 ~ 10	< 35	0 ~ 10	< 35	0 ~ 10	< 35
	# 1	8.3	8.6	8.54	8.8	8.49	8.78	-9.3	-13.8	-11.4	-14.9	-10.4	-14.5	3.5	-4.6	3.6	4.6	4.1	165.1	100	0.95	163.7	100	0.95	164.8	100	0.95	0	0	0	PASS		
	# 2	8.37	8.67	8.11	8.32	8.14	8.34	-0.3	-5.8	-4	-7.7	-5	-7.6	-6.2	3.4	5.5	3.5	5.9	-3.5	165	100	0.95	164.2	100	0.95	164.1	100	0.96	0	0	0	PASS	
	# 3	8	8.28	8.68	8.89	8.75	9.03	-2.7	-5.5	-4	-6.8	-4.5	-9.4	-4.4	4	-6.2	3.8	5.2	4	163.9	100	0.95	164.3	100	0.94	164.2	100	0.93	0	0	0	PASS	
	# 4	7.75	8.04	8.21	8.42	8.18	8.4	-0.2	-4.3	-2	-7.9	-2.9	-6.9	-5	3.5	-5	-3.3	-4.1	-3.7	163.7	100	0.95	164.1	100	0.92	163.5	100	0.93	0	0	0	PASS	
	# 5	8.45	8.75	8.85	9.12	8.81	9.12	1.3	-2.8	-1.8	-4.3	-0.9	-5.1	-7.4	4.4	-5.2	-4.3	-4.5	-4	164	100	0.97	165.1	100	0.93	165.7	100	0.92	0	0	0	PASS	
Low Temp. storage	# 6	7.61	7.85	8.02	8.29	8.17	8.38	-1	-5.9	-3.9	-7.5	-3.1	-6.7	-4.8	4.5	6.2	4	5.5	4	164.6	100	0.94	164.3	100	0.95	163.7	100	0.96	0	0	0	PASS	
	# 7	8.31	8.5	8.48	8.79	8.56	8.81	0	-5.1	-0.1	-5.5	-1	-6.6	-5.7	-4.4	4.3	3.6	-4.4	4.3	164.9	100	0.94	164.2	100	0.95	163.7	100	0.95	0	0	0	PASS	
	# 8	8.19	8.39	8.07	8.29	8.04	8.32	-4.4	-8.6	-6.3	-11	-3.6	-8.6	4.3	-4.6	-5.6	-4.8	-6.1	4.5	164.8	100	0.93	165.3	100	0.93	164.9	100	0.93	0	0	0	PASS	
	# 9	8.52	8.73	8.63	8.83	8.71	8.93	-8.7	-13.4	-9.4	-14.3	-11.2	-15.1	4.8	4.5	-4.9	3.6	-4.3	4.3	164.6	100	0.93	164.4	100	0.92	164.3	100	0.92	0	0	0	PASS	
	# 10	8.49	8.73	8.55	8.75	8.65	8.94	-3.3	-7.4	-4.7	-10	-4.2	-9.5	-4.6	-4	-4.8	-4.1	5.5	-4.5	164.6	100	0.94	164.5	100	0.94	164.1	100	0.97	0	0	0	PASS	
	# 11	8.49	8.71	8.64	8.9	8.78	8.98	0.9	-1.9	0.3	-4	0.2	-2.9	-4.6	3.9	-5.5	-3.4	-4.4	4.1	163.8	100	0.95	164.1	100	0.95	164.9	100	0.95	0	0	0	PASS	
High Temp. & Humidity	# 12	8.21	8.4	8.48	8.7	8.59	8.82	-3.1	-8.7	-6.6	-9.2	-5.1	-10.5	-5.6	4.9	-5.2	-3.6	-3.9	4.9	164.2	100	0.96	164.5	100	0.94	164.1	100	0.94	0	0	0	PASS	
	# 13	8.3	8.54	8.59	8.78	8.69	8.91	-1.2	-6.5	-3.2	-7.9	-1.4	-6.8	-4	3.5	-4.4	-3.6	4.8	-3.8	164.3	100	0.95	164.3	100	0.96	164.4	100	0.96	0	0	0	PASS	
	# 14	8.34	8.53	8.55	8.78	8.66	8.85	-0.2	-4.2	-1.1	-5.4	-1.7	-6.9	-4.3	4.8	-4.8	3.8	5.7	-4.7	164.5	100	0.94	165.1	100	0.93	165.3	100	0.93	0	0	0	PASS	
	# 15	8.44	8.61	8.59	8.85	8.67	8.86	-0.5	-4.2	-1.5	-5.9	-1.1	-6	-5.7	-3.8	-6	4	-4.9	-4.4	165	100	0.94	164.9	100	0.94	165.2	100	0.93	0	0	0	PASS	
	# 16	8.01	8.24	8.23	8.47	8.32	8.55	0	-3.3	-2.5	-5.4	-0.3	-5.1	-5.5	-4.2	-4.4	3.8	4.5	4	165.6	100	0.94	164.1	100	0.95	164.1	100	0.94	0	0	0	PASS	
	# 17	8.29	8.75	8.4	8.84	8.47	8.82	-2.1	-6.2	-3.7	-8.2	-3.2	-7.8	-5	4	3.8	-4.7	-5.7	-4.2	163.8	100	0.94	163.7	100	0.94	164.6	100	0.94	0	0	0	PASS	
Thermal shock	# 18	8.03	8.24	8.24	8.48	8.34	8.56	-2.7	-6.2	-6.1	-8.6	-3.9	-7.9	-6	3.7	-4.8	-3.7	-5.1	3.9	165.3	100	0.95	163.7	100	0.94	164	100	0.94	0	0	0	PASS	
	# 19	7.81	8.03	8.07	8.32	8.29	8.49	-2.5	-6.5	-4.5	-9.6	-3.3	-7.8	-5	4.2	5.3	-3.8	-4.8	-3.9	164.6	100	0.94	164.3	100	0.93	164.5	100	0.93	0	0	0	PASS	
	# 20	8.16	8.33	8.32	8.55	8.44	8.65	-2.1	-5.9	-3.7	-7.2	-3	-7.2	-5.2	4.1	-3.9	-4	-6.1	-4.2	164.5	100	0.94	164.7	100	0.93	165.2	100	0.92	0	0	0	PASS	
	# 21	8.56	8.78	8.66	8.88	8.77	9.04	-2.6	-6.8	-4.8	-7.9	-3.9	-6.8	-4.9	-3.9	3.8	-4.6	4.8	-3.4	164.9	100	0.94	164.5	100	0.95	165	100	0.91	0	0	0	PASS	
	# 22	8.12	8.38	8.44	8.65	8.59	8.79	-7.2	-3.2	4.7	1.1	6.9	2.1	-4.9	-4.2	-6.5	3.9	-4.9	4	165.1	100	0.93	164.9	100	0.95	165	100	0.93	0	0	0	PASS	
	# 23	8	8.25	8.37	8.68	8.68	8.92	-2.8	-6.4	-3.5	-8.4	-4.8	-8.2	-5.5	-3.8	-5.5	-3.8	-4.1	-4.1	164.8	100	0.95	164.7	100	0.94	164.7	100	0.94	0	0	0	PASS	
High Temp. load	#24	8.2	8.4	8.57	8.82	8.73	9.01	-1.3	-5.1	-1.5	-5	-0.5	-6.2	-6.1	-4	-5	-3.7	-7.1	-4.9	164.2	100	0.96	165.1	100	0.95	163.9	100	0.96	0	0	0	PASS	
	#25	8.09	8.5	8.37	8.78	8.59	8.97	4.1	-3	1.9	-2.8	2.9	-1.5	4	-4	-6.5	-3.6	-5.5	3.7	164.1	100	0.96	163.6	100	0.94	163.4	100	0.94	0	0	0	PASS	
	#26	8.29	8.58	8.52	8.84	8.2	8.6	-4.2	-9.1	-7.9	-9.4	-6.5	-12.3	6.8	3.6	-5.4	4.4	4.6	4.2	166	100	0.91	163.6	100	0.93	164.1	100	0.94	0	0	0	PASS	
	#27	8.07	8.35	8.73	8.96	8.74	8.99	1.6	-2.6	0.8	-4.7	-0.3	-3.9	5.9	-4	-4.7	3.6	-4.7	-3.8	164.4	100	0.94	163.8	100	0.95	165.3	100	0.93	0	0	0	PASS	
	#28	8.62	8.95	8.81	9.09	8.87	9.17	-1.8	-5.1	-3.9	-7.5	-5	-9.1	-7.2	-3.9	-4.1	3.6	-4	3.9	164.4	100	0.96	163.7	100	0.95	163.9	100	0.95	0	0	0	PASS	
	#29	8.33	8.68	8.71	9.01	8.48	8.81	0	-3	-2.4	-6.3	-1.9	-5.3	-5.2	3.2	-4.6	3.4	-4.5	4.1	165.8	100	0.91	163.7	100	0.94	164.2	100	0.95	0	0	0	PASS	
Drop	#30	8.07	8.39	8.6	8.86	8.36	8.69	-9.8	-14	-11.6	-15.5	-10.6	-15.8	-4.3	-3.5	-5.2	-3.8	4.2	3.8	164.6	100	0.94	164.4	100	0.94	164.5	100	0.94	0	0	0	PASS	
	#31	8.11	8.51	8.4	8.69	8.46	8.87	-3.8	-8.6	-5.1	-11.7	-6.5	-8.8	-4.8	4.1	4.1	3.5	-4.6	-3.8	165	100	0.95	164.1	100	0.96	162.3	100	0.94	0	0	0	PASS	
	#32	8.65	8.97	8.5	8.85	8.07	8.44	-4.1	-7.7	-4.5	-9.5	-5.7	-8.4	-5.7	-4	6	4.2	-5.1	4.1	165.2	100	0.93	163.8	100	0.95	163.6	100	0.95	0	0	0	PASS	
	#33	8.53	8.85	8.62	8.95	8.27	8.66	2.6	-1.5	0.9	-3.4	1.2	-2.5	-5.1	-3.7	-5	3.9	-4.6	-3.5	164.7	100	0.93	164.8	100	0.93	164.7	100	0.91	0	0	0	PASS	
	#34	8.1	8.36	8.54	8.84	8.68	9	-7.4	-12.1	-8.7	-12.2	-9.3	-13	-4.5	4.3	-4.5	3.8	5.2	-4	165	100	0.95	163.7	100	0.93	164.7	100	0.95	0	0	0	PASS	
	#35	8.34	8.65	8.66	9.01	8.44	8.76	-2.7	-8	-5.1	-8.1	-5	-9.6	-3.6	3.3	-4.9	-3.7	-4.6	3.8	164.6	100	0.93	164	100	0.94	164.8	100	0.94	0	0	0	PASS	
감속전압 (3.0V)	#36	8.33	8.64	8.66	8.97	8.44	8.79	-3.6	-7.1	-4.7	-8.4	-5.5	-8.3	-6.4	-3.4	-6.2	-3.7	5.4	-4.3	164.4	100	0.94	164	100	0.93	164.3	100	0.94	0	0	0	PASS	
	#37	8.2	8.56	8.85	9.19	8.68	9.06	-7.6	-12.6	-9	-13.9	-9.1	-12.6	3.3	4.4	-4.2	3.7	5	-3.8	163.9	100	0.96	164	100	0.95	163.1	100	0.94	0	0	0	PASS	
	#38	8.51	8.83	8.61	8.88	8.27	8.55	1.8	-1.5	0.7	-2.1	0.1	-3	3.8	3.9	-6.4	3.7	3.7	-3.5	165.8	100	0.91	164	100	0.94	164.6	100	0.93	0	0	0	PASS	
	#39	8.21	8.53	8.53	8.84	8.25	8.59	-6	-10.2	-7.2	-11.5	-8.5	-13.5	-5.4	3.5	5.5	-4.2	-5.3	4.3	165.5	100	0.92	163.4	100	0.94	164	100	0.93	0	0	0	PASS	
	#40	8.64	8.91	8.49	8.84	8.07	8.4	-3.1	-8.3	-5.7	-10.8	-5.6	-10.3	-4.9	3.7	-7.1	-4.2	6	-3.6	164.9	100	0.94	163.8	100	0.95	163	100	0.97	0	0	0	PASS	
	#36	8.08																															

#58	8.46	8.78	8.78	9.05	8.58	8.89	0.2	-3.2	-1.4	-4.7	-0.5	-4.7	4.3	3.6	-3.8	-3.5	-4.2	3.8	165.4	100	0.94	164.6	100	0.94	165	100	0.94	0	0	0	PASS
#59	8.41	8.76	8.6	8.87	8.31	8.62	-6.1	-8.6	-7.8	-12.1	-6.9	-14.3	-3.8	3.6	-4.9	3.7	5.5	-4.2	165.6	100	0.92	164.4	100	0.93	164.6	100	0.93	0	0	0	PASS
#60	8.23	8.52	8.5	8.8	8.57	8.87	-4.6	-7	-6	-9.1	-5.2	-11.2	-3.6	-4	-6.5	-3.5	5.4	3.7	165	100	0.95	164.2	100	0.95	163.1	100	0.96	0	0	0	PASS
#61	8.18	8.48	8.83	9.05	8.87	9.08	2.7	-2.5	0.4	-5.5	-0.7	-4.7	-5.8	-4.3	-4.3	-4.7	3.7	164.1	100	0.95	165	100	0.93	164	100	0.94	0	0	0	PASS	
#62	8.29	8.62	8.93	9.2	8.8	9.14	-7	-11.4	-9.9	-12	-8.3	-13.2	4.6	3.4	-5.4	-4.1	5.1	-3.6	164.5	100	0.95	164.2	100	0.95	164.5	100	0.95	0	0	0	PASS
#63	8.14	8.43	8.66	8.93	8.45	8.76	-10	-13.6	-10.7	-13.7	-11.3	-15.3	-4.3	-3.7	-4.2	-3.5	-4.5	-3.8	164.5	100	0.95	164.8	100	0.94	164.3	100	0.94	0	0	0	PASS
#64	8.51	8.89	8.76	9.07	8.51	8.83	-2.5	-7.6	-4.8	-8.1	-5.7	-10.1	-4.8	3.9	-4.8	-4.2	-4.4	4.1	165.9	100	0.92	165	100	0.93	165.3	100	0.93	0	0	0	PASS
#65	8.18	8.5	8.45	8.73	8.54	8.83	-3.3	-7.6	-6.2	-10.2	-5.5	-9.8	-4.2	3.8	-5.4	3.8	5.1	3.6	165.6	100	0.95	163.8	100	0.96	163.4	100	0.96	0	0	0	PASS
#66	7.99	8.29	8.61	8.89	8.65	8.9	4.5	-0.8	1.7	-3.2	2.4	-1.9	4.8	4.2	-5.3	-4.4	-4.7	3.6	164.5	100	0.93	164.6	100	0.94	165.1	100	0.94	0	0	0	PASS
#67	8.39	8.68	8.69	8.95	8.5	8.82	2.1	-3.1	0.3	-3.8	0.2	-4	-5.5	3.4	-4.4	-4	4.2	3.9	164.7	100	0.93	164.1	100	0.94	165.2	100	0.92	0	0	0	PASS
#68	8.62	8.96	8.68	8.96	8.34	8.63	4.1	-1.4	2.4	-0.9	4.2	-1.8	-4.5	3.4	4.9	-3.6	-4.9	-3.9	165.7	100	0.92	164.4	100	0.93	163.8	100	0.94	0	0	0	PASS
#69	8.26	8.62	8.89	9.19	8.77	9.08	-3.6	-9.9	-7.9	-11.8	-8.6	-12.3	-4.7	-4.1	-4.1	4.1	4.9	-5.1	164.1	100	0.95	164.7	100	0.94	164.2	100	0.95	0	0	0	PASS
#70	8.73	9.02	8.55	8.9	8.13	8.45	-2.8	-4.5	-3.5	-8.6	-5.1	-9.1	4.7	4.3	4.8	4.4	4	3.8	165	100	0.93	164.7	100	0.95	163.6	100	0.94	0	0	0	PASS
#71	8.38	8.75	8.6	8.92	8.32	8.63	-5.5	-9.3	-7.2	-10.6	-5.9	-12	-4.1	-3.4	-4.8	-4.2	5.6	-4	165.9	100	0.92	164.8	100	0.93	164.6	100	0.93	0	0	0	PASS
#72	8.13	8.43	8.66	8.94	8.44	8.79	-8	-11.2	-8.2	-13	-11.1	-13.5	-5.3	4.3	-4.3	-4.5	-4.5	3.7	164.6	100	0.95	163.8	100	0.95	164.2	100	0.95	0	0	0	PASS
#73	8.34	8.67	8.65	8.96	8.38	8.7	-5	-9.7	-7.2	-10.9	-7.2	-11	5	3.5	-3.9	4.1	3.9	-4	165.7	100	0.92	164.8	100	0.92	164.1	100	0.93	0	0	0	PASS
#74	8.64	8.98	8.82	9.14	8.94	9.31	-2.1	-6	-4.4	-7.4	-4.7	-8.8	-4.2	-4	-5.1	-3.8	-4	-3.5	164.5	100	0.95	164.2	100	0.94	164.4	100	0.95	0	0	0	PASS
#75	8.61	8.9	8.76	9	8.44	8.76	4.7	-0.9	2.1	-1.3	1	-3.1	-5.1	-4	-5.7	-3.8	-4	-3.8	165.6	100	0.91	164.5	100	0.94	163.8	100	0.94	0	0	0	PASS

18. RF Test Data

Category	Output Power									Initial Carrier Frequency Tolerance					
Channel	2402 (MHz)			2441 (MHz)			2480 (MHz)			2402 (MHz)		2441 (MHz)		2480 (MHz)	
Test Item	Pav	Pmax	Pmin	Pav	Pmax	Pmin	Pav	Pmax	Pmin	df0_max	df0_min	df0_max	df0_min	df0_max	df0_min
Test Limit	< 13	< 23	> 0	< 13	< 23	> 0	< 13	< 23	> 0	≤ 75	≥ -75	≤ 75	≥ -75	≤ 75	≥ -75
Unit	dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm	dBm	KHz	KHz	KHz	KHz	KHz	KHz
# 1	8.14	8.52	7.86	8.6	8.97	8.36	8.35	8.66	8.1	-9	-12.8	-10.8	-13.2	-11.3	-14.1
# 2	8.59	8.95	8.27	8.77	9.07	8.54	8.89	9.22	8.68	-2.9	-5.6	-5.1	-7.4	-4.8	-8
# 3	8.71	9.07	8.35	8.54	8.84	8.24	8.11	8.56	7.82	-4.1	-7.2	-5.3	-9	-5	-9.7
# 4	8.05	8.33	7.79	8.67	8.89	8.46	8.7	9	8.35	1.6	-2.9	0.2	-3.4	0.1	-3.9
# 5	8.36	8.68	7.99	8.71	9.02	8.42	8.48	8.83	8.17	2	-4.8	-1.9	-5	-1.5	-5.1
Average	8.37	8.71	8.05	8.66	8.96	8.40	8.51	8.85	8.22	-2.48	-6.66	-4.58	-7.60	-4.50	-8.16

Category	Carrier Frequency Drift						Modulation characteristics								
Channel	2402 (MHz)		2441 (MHz)		2480 (MHz)		2402 (MHz)			2441 (MHz)			2480 (MHz)		
Test Item	fdr_max	drf_max	fdr_max	drf_max	fdr_max	drf_max	df1_avg	df2_rate	df2/df1	df1_avg	df2_rate	df2/df1	df1_avg	df2_rate	df2/df1
Test Limit	≤ 40	≤ 20	≤ 40	≤ 20	≤ 40	≤ 20	140~175	≥ 99.9	≥ 0.8	140~175	≥ 99.9	≥ 0.8	140~175	≥ 99.9	≥ 0.8
Unit	KHz	KHz	KHz	KHz	KHz	KHz	KHz	(%)	-	KHz	(%)	-	KHz	(%)	-
# 1	-4.7	-4	-4.3	3.8	-6.3	4	164.6	100	0.94	164.8	100	0.94	163.8	100	0.95
# 2	-5.2	-3.8	-4.6	-3.5	4.5	3.7	165.3	100	0.94	164.1	100	0.94	164.8	100	0.95
# 3	-3.8	4.4	6.5	-4.6	-3.8	-3.9	165.2	100	0.93	164.9	100	0.95	163.8	100	0.96
# 4	5.8	-4.2	4.7	-3.8	-4.1	-3.9	164.5	100	0.94	164.2	100	0.94	164.8	100	0.94
# 5	-4.3	-3.7	-4.1	-3.7	5.1	-4	164.9	100	0.94	164.7	100	0.94	164	100	0.94
Average	-2.44	-2.26	-0.36	-2.36	-0.92	-0.82	164.9	100	0.94	164.54	100	0.94	164.24	100	0.95

Category	Power Density		Power Control											
Channel	-		2402 (MHz)				2441 (MHz)				2480 (MHz)			
Test Item	P_density	freq.	Pmin	Pmax	Pst_min	Pst_max	Pmin	Pmax	Pst_min	Pst_max	Pmin	Pmax	Pst_min	Pst_max
Test Limit	< 20	-	≤ 4	≤ 23	≥ 2	≤ 8	≤ 4	≤ 23	≥ 2	≤ 8	≤ 4	≤ 23	≥ 2	≤ 8
Unit	dBm	MHz	dBm	dBm	dB	dB	dBm	dBm	dB	dB	dBm	dBm	dB	dB
# 1	-0.45	2425.014	-22.66	8.14	3.9	5.51	-23.31	8.6	3.94	5.98	-24.45	8.35	3.99	6.31
# 2	-0.09	2426.011	-21.95	8.58	3.97	5.5	-22.27	8.76	3.99	5.63	-23.06	8.88	3.96	5.98
# 3	0	2426.011	-21.93	8.68	3.91	5.49	-23.14	8.52	3.94	5.98	-24.24	8.11	3.95	6.27
# 4	0.42	2445.043	-17.34	8.03	3.18	4.22	-17.54	8.68	3.53	4.25	-18.24	8.71	3.72	4.19
# 5	-0.26	2426.021	-21.85	8.35	3.86	5.43	-22.54	8.7	3.89	5.89	-23.5	8.47	3.92	6.15
Average	-0.08	2429.62	-21.15	8.36	3.76	5.23	-21.76	8.65	3.86	5.55	-22.70	8.50	3.91	5.78

Category	TX Output Spectrum Freq. range		TX Output Spectrum -20dB Bandwidth								
Channel	-		2402 (MHz)			2441 (MHz)			2480 (MHz)		
Test Item	f_l(MHz)	f_h(MHz)	f_l	f_h	f_h-f_l	f_l	f_h	f_h-f_l	f_l	f_h	f_h-f_l
Test Limit	> 2400	< 2483.5	-	-	≤ 8	-	-	≤ 8	-	-	≤ 8
Unit	MHz	MHz	-	-	MHz	-	-	MHz	-	-	MHz
# 1	2401.421	2480.56	2401.539	2402.45	0.914	2440.539	2441.45	0.914	2479.539	2480.45	0.914
# 2	2401.417	2480.579	2401.547	2402.46	0.914	2440.547	2441.46	0.914	2479.547	2480.46	0.914
# 3	2401.414	2480.56	2401.547	2402.46	0.914	2440.547	2441.46	0.914	2479.547	2480.46	0.914
# 4	2401.417	2480.592	2401.555	2402.47	0.914	2440.555	2441.46	0.906	2479.555	2480.46	0.906
# 5	2401.421	2480.566	2401.555	2402.47	0.914	2440.547	2441.46	0.914	2479.547	2480.46	0.914
Average	2401.42	2480.57	2401.55	2402.46	0.91	2440.55	2441.46	0.91	2479.55	2480.46	0.91

#4	7	-52.2	27	-57.8	47	-58.81	67	-58.38	7	-58.91	27	-58.15	47	-57.5	67	-57.49	7	-58.4	27	-58.79	47	-57.9	67	-57.34
#5	7	-52.15	27	-57.73	47	-58.58	67	-57.72	7	-58.44	27	-57.93	47	-57.63	67	-57.85	7	-58.29	27	-58.87	47	-58.1	67	-58.28
Average		-51.756		-57.794		-58.696		-58.166		-58.498		-58.176		-57.548		-57.424		-58.52		-58.712		-58.286		-58.01
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	8	-56.8	28	-57.75	48	-58.67	68	-58.34	8	-59.05	28	-58.45	48	-57.44	68	-57.9	8	-58.6	28	-58.82	48	-58.08	68	-57.62
#2	8	-56.81	28	-57.23	48	-58.96	68	-58.43	8	-58.77	28	-58.3	48	-57.89	68	-57.77	8	-58.67	28	-58.38	48	-57.97	68	-57.78
#3	8	-57.01	28	-57.36	48	-58.73	68	-58.38	8	-58.68	28	-58.29	48	-57.86	68	-57.69	8	-58.48	28	-58.41	48	-57.98	68	-57.97
#4	8	-57.16	28	-57.64	48	-58.74	68	-58.72	8	-58.78	28	-58.19	48	-57.49	68	-57.92	8	-58.6	28	-58.87	48	-57.55	68	-57.6
#5	8	-57.09	28	-57.83	48	-59.07	68	-58.24	8	-58.66	28	-58.12	48	-57.93	68	-58.25	8	-58.74	28	-58.72	48	-58.26	68	-57.86
Average		-56.974		-57.562		-58.834		-58.422		-58.788		-58.27		-57.722		-57.906		-58.618		-58.64		-57.968		-57.766
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	9	-57.2	29	-57.22	49	-58.49	69	-58.67	9	-58.94	29	-58.02	49	-57.89	69	-57.9	9	-58.45	29	-59.07	49	-57.23	69	-57.92
#2	9	-57.65	29	-56.93	49	-58.8	69	-58.49	9	-59.02	29	-57.83	49	-57.83	69	-58.19	9	-58.73	29	-58.74	49	-57.15	69	-57.39
#3	9	-57.83	29	-57.23	49	-58.8	69	-58.54	9	-58.8	29	-57.9	49	-57.5	69	-58.36	9	-58.28	29	-59.05	49	-57.2	69	-57.66
#4	9	-57.6	29	-56.92	49	-58.34	69	-58.74	9	-58.55	29	-57.77	49	-58.02	69	-58.07	9	-58.88	29	-58.81	49	-56.99	69	-57.66
#5	9	-57.84	29	-57.05	49	-58.47	69	-58.45	9	-58.67	29	-57.94	49	-57.8	69	-58.26	9	-58.92	29	-59.02	49	-57.06	69	-57.59
Average		-57.624		-57.07		-58.58		-58.578		-58.796		-57.892		-57.808		-58.156		-58.652		-58.938		-57.126		-57.644
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	10	-57.6	30	-57.41	50	-58.54	70	-58.33	10	-58.45	30	-57.98	50	-57.45	70	-57.86	10	-58.7	30	-59.11	50	-58.07	70	-57.17
#2	10	-57.82	30	-57.68	50	-58.3	70	-58.58	10	-58.5	30	-57.84	50	-57.74	70	-58.07	10	-58.92	30	-58.67	50	-58.25	70	-57.3
#3	10	-57.95	30	-57.88	50	-58.94	70	-58.43	10	-58.44	30	-58.05	50	-57.74	70	-58.12	10	-58.79	30	-58.89	50	-57.91	70	-57.34
#4	10	-57.66	30	-57.32	50	-58.55	70	-58.43	10	-58.76	30	-57.8	50	-57.62	70	-58.16	10	-58.71	30	-58.9	50	-57.59	70	-56.84
#5	10	-57.89	30	-57.71	50	-58.37	70	-58.17	10	-58.92	30	-58.17	50	-57.56	70	-58.57	10	-58.74	30	-58.85	50	-58.35	70	-57.16
Average		-57.784		-57.6		-58.54		-58.388		-58.614		-57.968		-57.622		-58.156		-58.772		-58.864		-58.034		-57.162
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	11	-57.5	31	-57.33	51	-58.82	71	-57.93	11	-58.28	31	-58.04	51	-57.11	71	-57.7	11	-58.99	31	-59.33	51	-58.1	71	-53.12
#2	11	-57.74	31	-57.56	51	-58.58	71	-58.5	11	-58.33	31	-57.97	51	-57.52	71	-58.06	11	-58.38	31	-58.83	51	-58.34	71	-53.25
#3	11	-57.3	31	-57.63	51	-58.1	71	-58.1	11	-58.46	31	-57.92	51	-57.32	71	-58.23	11	-58.84	31	-58.79	51	-58.15	71	-53.28
#4	11	-57.78	31	-57.63	51	-58.6	71	-58.37	11	-58.54	31	-58.14	51	-57.24	71	-57.94	11	-58.6	31	-58.99	51	-58.28	71	-51.13
#5	11	-57.7	31	-57.62	51	-58.28	71	-57.6	11	-58.11	31	-58.4	51	-57.48	71	-58.2	11	-58.62	31	-58.4	51	-58.18	71	-53.73
Average		-57.604		-57.554		-58.476		-58.1		-58.344		-58.094		-57.334		-58.026		-58.686		-58.868		-58.21		-52.902
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	12	-57.86	32	-57.94	52	-58.6	72	-58.54	12	-57.75	32	-57.75	52	-57.16	72	-57.91	12	-58.9	32	-58.52	52	-58.24	72	-41.9
#2	12	-57.73	32	-57.87	52	-58.68	72	-58.5	12	-57.77	32	-57.76	52	-58	72	-58.24	12	-58.63	32	-58.65	52	-58.36	72	-43.83
#3	12	-57.3	32	-57.71	52	-58.23	72	-58.8	12	-57.86	32	-57.96	52	-57.74	72	-58.33	12	-58.96	32	-58.69	52	-58.56	72	-43.32
#4	12	-58.02	32	-57.95	52	-58.44	72	-58.41	12	-58.28	32	-57.7	52	-57.93	72	-57.93	12	-58.96	32	-58.51	52	-58.72	72	-39.8
#5	12	-57.94	32	-58.17	52	-58.34	72	-57.98	12	-58.31	32	-57.9	52	-58.02	72	-58.24	12	-58.6	32	-58.82	52	-58.54	72	-45.41
Average		-57.77		-57.928		-58.458		-58.446		-57.994		-57.814		-57.77		-58.13		-58.81		-58.638		-58.484		-42.852
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	13	-57.4	33	-57.93	53	-58.58	73	-58.5	13	-56.97	33	-57.48	53	-57.42	73	-57.97	13	-58.58	33	-58.91	53	-57.95	73	-35
#2	13	-57.76	33	-58.17	53	-58.76	73	-58.36	13	-57.46	33	-57.9	53	-58	73	-58.18	13	-58.68	33	-59.37	53	-57.92	73	-36.06
#3	13	-57.97	33	-58.4	53	-58.31	73	-58.8	13	-57.41	33	-57.68	53	-57.69	73	-58.41	13	-58.77	33	-58.76	53	-57.95	73	-35.36
#4	13	-58.13	33	-58.47	53	-58.29	73	-58.24	13	-57.32	33	-57.87	53	-57.86	73	-58.35	13	-58.96	33	-58.73	53	-57.94	73	-29.78
#5	13	-57.85	33	-58.33	53	-58.51	73	-58.32	13	-57.38	33	-58.08	53	-58.14	73	-58.45	13	-58.76	33	-59.14	53	-58.14	73	-36.84
Average		-57.822		-58.26		-58.49		-58.444		-57.308		-57.802		-57.822		-58.272		-58.75		-58.982		-57.98		-34.608
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	14	-57.65	34	-58.31	54	-56.06	74	-58.63	14	-57.85	34	-56.67	54	-57.13	74	-57.84	14	-58.59	34	-58.9	54	-57.89	74	-16.87
#2	14	-57.9	34	-57.6	54	-55.02	74	-58.42	14	-58.41	34	-57.18	54	-57.55	74	-58.38	14	-58.68	34	-58.92	54	-57.81	74	-16.75
#3	14	-57.68	34	-58.59	54	-55.6	74	-58.32	14	-57.98	34	-57.24	54	-57.38	74	-58.46	14	-58.65	34	-59.03	54	-57.93	74	-17.46
#4	14	-58.05	34	-58.13	54	-55.52	74	-58.42	14	-57.82	34	-57.26	54	-57.36	74	-58.52	14	-58.83	34	-58.8	54	-57.26	74	-16.29
#5	14	-57.98	34	-58.16	54	-55.6	74	-58.2	14	-58.08	34	-57.16	54	-57.75	74	-58.53	14	-58.71	34	-58.81	54	-57.84	74	-17.2
Average		-57.852		-58.158		-55.56		-58.398		-58.028		-57.102		-57.434		-58.346		-58.692		-58.892		-57.746		-16.914
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	15	-57.37	35	-57.5																				

#3	15	-57.56	35	-58.37	55	-51.66	75	-58.34	15	-58.46	35	-53.55	55	-56.81	75	-58.19	15	-59.03	35	-58.95	55	-58.9	75	8.86
#4	15	-57.87	35	-58.17	55	-51.55	75	-58.38	15	-57.97	35	-53.42	55	-56.99	75	-58.49	15	-58.78	35	-58.77	55	-57.58	75	10.33
#5	15	-57.64	35	-57.87	55	-51.68	75	-58.39	15	-58.13	35	-53.95	55	-56.93	75	-58.31	15	-58.88	35	-58.72	55	-58.81	75	9.19
Average		-57.602		-58.058		-51.64		-58.418		-58.06		-53.094		-56.864		-58.126		-58.766		-58.738		-58.504		9.396
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	16	-57.78	36	-58.65	56	-56.24	76	-58.75	16	-58.22	36	-39.52	56	-57.06	76	-58.04	16	-58.89	36	-58.91	56	-51.57	76	-19.45
#2	16	-58.15	36	-57.84	56	-55.2	76	-58.82	16	-58.51	36	-43.8	56	-57.46	76	-58.47	16	-58.63	36	-58.81	56	-51.31	76	-18.55
#3	16	-57.82	36	-58.58	56	-55.43	76	-58.58	16	-58.71	36	-45.33	56	-57.94	76	-58.51	16	-59.22	36	-58.7	56	-51.76	76	-19.28
#4	16	-57.97	36	-58.11	56	-55.5	76	-58.2	16	-58.56	36	-42.41	56	-57.63	76	-58.32	16	-58.89	36	-58.77	56	-50.67	76	-17.34
#5	16	-58	36	-58.58	56	-55.66	76	-58.32	16	-58.92	36	-45.18	56	-57.65	76	-58.37	16	-59.02	36	-59.29	56	-51.56	76	-18.71
Average		-57.944		-58.352		-55.606		-58.534		-58.584		-43.248		-57.548		-58.342		-58.93		-58.896		-51.374		-18.666
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	17	-57.82	37	-58.02	57	-58.24	77	-58.48	17	-58	37	-29.6	57	-55.57	77	-58.29	17	-58.65	37	-58.73	57	-53.52	77	-44.53
#2	17	-57.87	37	-58.27	57	-58.77	77	-58.88	17	-58.22	37	-35.97	57	-55.6	77	-58.28	17	-58.96	37	-59.16	57	-53.33	77	-43.37
#3	17	-58.17	37	-58.53	57	-58.35	77	-58.72	17	-58.69	37	-37.01	57	-55.94	77	-58.28	17	-58.62	37	-58.96	57	-53.47	77	-44.89
#4	17	-58.12	37	-58.55	57	-58.43	77	-58.66	17	-58.12	37	-35.71	57	-56.07	77	-58.3	17	-58.54	37	-58.38	57	-52.79	77	-37.29
#5	17	-58.01	37	-58.53	57	-58.61	77	-58.97	17	-58.13	37	-37.03	57	-56.15	77	-58.35	17	-58.96	37	-58.54	57	-53.44	77	-44.07
Average		-57.998		-58.38		-58.48		-58.742		-58.232		-35.064		-55.866		-58.3		-58.746		-58.754		-53.31		-42.83
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	18	-57.59	38	-58.34	58	-58.14	78	-58.54	18	-57.37	38	-16.23	58	-51.82	78	-55.98	18	-58.52	38	-58.88	58	-57.51	78	-53.02
#2	18	-57.78	38	-58.1	58	-58.67	78	-58.67	18	-57.93	38	-16.41	58	-52.16	78	-56.54	18	-58.64	38	-58.53	58	-57.88	78	-50.41
#3	18	-57.55	38	-58.16	58	-58.39	78	-58.26	18	-57.92	38	-16.82	58	-52.26	78	-56.12	18	-58.82	38	-58.64	58	-58.25	78	-53.06
#4	18	-57.44	38	-58.4	58	-58.6	78	-58.14	18	-57.9	38	-16.57	58	-52.21	78	-56.17	18	-58.67	38	-58.8	58	-57.64	78	-40.57
#5	18	-57.99	38	-58.03	58	-58.42	78	-57.9	18	-58.02	38	-17.18	58	-52.38	78	-56.63	18	-58.46	38	-58.77	58	-58.21	78	-53.07
Average		-57.67		-58.206		-58.444		-58.302		-57.828		-16.642		-52.166		-56.288		-58.622		-58.724		-57.898		-50.026
Frequency	freq=2405MHz (M=3), P[N] in dBm:								freq=2441MHz (M=39), P[N] in dBm:								freq=2405MHz (M=3), P[N] in dBm:							
Channel	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]	N	P[N]
#1	19	-56.89	39	-58.48	59	-58.15			19	-57.9	39	10.35	59	-51.78			19	-58.98	39	-56.94	59	-57.49		
#2	19	-57.36	39	-58.34	59	-58.7			19	-58.61	39	9.51	59	-52.51			19	-58.91	39	-56.37	59	-57.72		
#3	19	-57.01	39	-58.24	59	-58.04			19	-58.58	39	9.41	59	-52.38			19	-59.05	39	-56.99	59	-57.54		
#4	19	-57.15	39	-58.51	59	-58.6			19	-58.81	39	9.32	59	-52.58			19	-58.63	39	-56.3	59	-57.05		
#5	19	-57.01	39	-58.41	59	-58.46			19	-59.04	39	9.15	59	-52.55			19	-58.66	39	-56.87	59	-57.53		
Average		-57.084		-58.396		-58.39				-58.588		9.548		-52.36				-58.846		-56.694		-57.466		

Category	Sensitivity single slot packets											
Channel	2402 (MHz)				2441 (MHz)				2480 (MHz)			
Test Item	bytes	error_bits	BER(%)	PER(%)	bytes	error_bits	BER(%)	PER(%)	bytes	error_bits	BER(%)	PER(%)
Test Limit	≥ 200K	-	< 0.1	< 0.1	≥ 200K	-	< 0.1	< 0.1	≥ 200K	-	< 0.1	< 0.1
Unit	-	-	%	%	-	-	%	%	-	-	%	%
# 1	200016	0	0	0	200016	0	0	0	200016	0	0	0
# 2	200016	0	0	0	200016	0	0	0	200016	0	0	0
# 3	200016	0	0	0	200016	0	0	0	200016	0	0	0
# 4	200016	0	0	0	200016	0	0	0	200016	0	0	0
# 5	200016	0	0	0	200016	0	0	0	200016	0	0	0
Average	200016.00	0.00	0.00	0.00	200016.00	0.00	0.00	0.00	200016.00	0.00	0.00	0.00

Category	Sensitivity multi slot packets											
Channel	2402 (MHz)				2441 (MHz)				2480 (MHz)			
Test Item	bytes	error_bits	BER(%)	PER(%)	bytes	error_bits	BER(%)	PER(%)	bytes	error_bits	BER(%)	PER(%)
Test Limit	≥ 200K	-	< 0.1	< 0.1	≥ 200K	-	< 0.1	< 0.1	≥ 200K	-	< 0.1	< 0.1
Unit	-	-	%	%	dBm	-	%	%	-	-	%	%
# 1	200010	0	0	0	200010	0	0	0	200010	0	0	0
# 2	200010	0	0	0	200010	0	0	0	200010	0	0	0
# 3	200010	0	0	0	200010	0	0	0	200010	0	0	0
# 4	200010	0	0	0	200010	0	0	0	200010	0	0	0
# 5	200010	0	0	0	200010	0	0	0	200010	0	0	0
Average	200010.00	0.00	0.00	0.00	200010.00	0.00	0.00	0.00	200010.00	0.00	0.00	0.00

Category	Maximum Input Level											
Channel	2402 (MHz)				2441 (MHz)				2480 (MHz)			
Test Item	bytes	error_bits	BER(%)	PER(%)	bytes	error_bits	BER(%)	PER(%)	bytes	error_bits	BER(%)	PER(%)
Test Limit	≥ 200K	-	< 0.1	< 0.1	≥ 200K	-	< 0.1	< 0.1	≥ 200K	-	< 0.1	< 0.1
Unit	-	-	%	%	-	-	%	%	-	-	%	%
# 1	200016	0	0	0	200016	0	0	0	200016	0	0	0
# 2	200016	0	0	0	200016	0	0	0	200016	0	0	0
# 3	200016	0	0	0	200016	0	0	0	200016	0	0	0
# 4	200016	0	0	0	200016	0	0	0	200016	0	0	0
# 5	200016	0	0	0	200016	0	0	0	200016	0	0	0
Average	200016.00	0.00	0.00	0.00	200016.00	0.00	0.00	0.00	200016.00	0.00	0.00	0.00

Approval Statements

CE approval

We hereby declare that all essential radio test suites have been carried out and that the above named product is in conformity to all the essential requirements of RED 2014/53/EU.

This device can be operated in at least one Member State without infringing applicable requirements on the use of radio spectrum.
Freq : 2402~2480MHz , Measured Maximum Power(e.i.r.p) : 9.40 dBm

FCC approval

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

- That OEM integrators are responsible for ensuring that the end-user has no manual instructions to remove or install module.
- That module is limited to installation in mobile or fixed applications, according to Part 2.1091(b).
- That separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and different antenna configurations.

- The module is labeled with its own FCC ID. If the FCC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following:

- Contains FCC ID: BEJ-WB1NP8

IC approval

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada exempts de licence standard RSS (s). L'opération est soumise aux deux conditions suivantes: (1) cet appareil ne peut causer d'interférences, et (2) cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

The host device must be labeled to display the Industry Canada certification number of the module.

Contains transmitter module IC: 2703H-WB1NP8

Le dispositif d'accueil doivent être étiquetés pour afficher le numéro de certification d'Industrie Canada du module.

Contient module émetteur IC : 2703H-WB1NP8

User information

Caution: Any changed or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Attention: Toute changé ou modifications non expressément approuvés par la partie responsable de la conformité pourraient annuler l'utilisateur `autorité de faire fonctionner cet équipement.

IMPORTANT NOTE

This device complies with FCC & IC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and operated with minimum distance 20cm between the radiating element of this device and the user.

This device must not be co-located or operating in conjunction with any other antenna or transmitter.

This device is intended only for OEM integrators under the following conditions:

- 1) This module may not be co-located with any other transmitters or antennas.

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements with this module installed.

In the event that these conditions cannot be met, then the FCC & IC authorizations are no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product including this module and obtaining separate FCC & IC authorizations.

NOTE IMPORTANTE

Cet appareil est conforme aux limites de la FCC et IC exposition aux radiations dans un environnement non contrôlé. Cet appareil doit être installé et utilisé à distance minimum de 20cm entre l'élément rayonnant de cet appareil et l'utilisateur.

Cet appareil doit être installé et ne doit pas être co-localisées ou opérant en conjonction avec une autre antenne ou un autre émetteur.

Cet appareil est conçu uniquement pour les intégrateurs OEM dans les conditions suivantes :

- 1) Ce module ne peut pas être co-localisés avec les autres émetteurs ou les antennes.

Aussi longtemps que deux conditions précitées sont remplies, le test du transmetteur supplémentaires ne seront pas tenus. Toutefois, l'intégrateur OEM est toujours responsable de tester leurs produits finis pour toutes les exigences de conformité supplémentaires avec ce module installé.

Dans le cas où ces conditions ne peuvent pas être remplies, alors la FCC et IC autorisations ne sont plus considérés comme valides et l'ID de la FCC ne peut pas être utilisé sur le produit final. Dans ces circonstances, l'intégrateur OEM sera responsable de réévaluer le produit final, y compris l'obtention de ce module et séparée de la FCC et IC autorisations