

Test Result and Measuring equipment for certification

2.4GHz low-power data communication system

Tx mode

Radio Equipment for test	Model or type name: ETGBBTBP01		Test environment	Temperature : 21 °C	TELEC-T401(Ver10.0)	F1D, 2402~2480 MHz, 2MHz Separation: 40 channels	1 mW
				Humidity : 51 %			
	Serial number:	#0	Engineer: Y.H.YOON Reviewer: Y.H.LEE Date: DEC.03.2020 ~ DEC.16.2020 Test location: HCT				

Equipment	Model and type name	Serial number	Manufacturer	Last Calibrated date	Calibration Company	Note
	Signal Analyzer(N9020A)	US46220219	AGILENT Technologies	2020-04-10	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	DC Power Supply(E3632A)	KR75306225	AGILENT Technologies	2020-04-10	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	POWER METER(N1911A)	MY45100523	AGILENT Technologies	2020-04-07	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	Power Sensor (N1921A)	MY57820067	AGILENT Technologies	2020-06-08	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha
	Fixed Attenuator (8493C)	10342	HEWLETT PACKARD	2020-04-09	HCT Co., Ltd.	Based on Japanese Radio Law 24-2-4-2-ha

Test result	Electric performance	Voltage		V	Limit	DC 5.00 V (normal)			DC 5.25 V (high)			DC 4.75 V (low)			Note
		Test Frequency		MHz		2402	2440	2480	2402	2440	2480	2402	2440	2480	
		Frequency error(measured frequency)			MHz	2402.0140	2440.0121	2480.0094	2402.0136	2440.0115	2480.0102	2402.0136	2440.0117	2480.0096	
		Frequency error			ppm	5.82	4.96	3.78	5.66	4.70	4.12	5.68	4.81	3.86	
		Occupied bandwidth			MHz	26	1.04	1.04	1.06	1.04	1.05	1.06	1.05	1.05	
		Spreading bandwidth			MHz	NA									
		Spreading Factor				-	NA								
		Spurious	(measured frequency)		MHz	2371.00	2340.49	2272.48	2366.00	49.00	46.00	2376.00	2160.95	2377.00	
			30 ~ 2387 MHz	μ W/MHz	2.5	0.021	0.016	0.014	0.022	0.042	0.024	0.033	0.015	0.013	
			(measured frequency)		MHz	2400.00	2399.91	2392.98	2400.00	2399.61	2394.88	2399.99	2397.75	2392.06	
			2387 ~ 2400 MHz	μ W/MHz	25	9.19190	0.03989	0.01228	8.89360	0.03649	0.01316	8.81950	0.03684	0.01214	
			(measured frequency)		MHz	2484.70	2485.13	2483.50	2494.43	2483.93	2483.54	2496.19	2484.57	2483.50	
			2483.5 ~ 2496.5 MHz	μ W/MHz	25	0.01436	0.02878	1.94420	0.01304	0.03011	1.87190	0.01716	0.02834	1.94260	
			(measured frequency)		MHz	6453.38	12430.48	2502.50	6515.41	12389.96	11471.14	7093.61	11574.68	12342.44	
			2496.5 ~ 12500 MHz	μ W/MHz	2.5	0.02050	0.02419	0.02499	0.01853	0.02219	0.02211	0.01929	0.02012	0.02378	
		Antenna power			mW	10	0.750	0.663	0.588	0.765	0.661	0.585	0.745	0.664	
		deviation			%	-80	-25.02	-33.69	-41.19	-23.53	-33.89	-41.47	-25.54	-33.61	
						20									
		Collateral Emission	(measured frequency)		MHz	300.11	304.86	309.86	300.11	304.86	309.86	300.11	304.86	309.86	
			30 ~ 1000 MHz	nW	4	0.032	0.037	0.030	0.032	0.034	0.029	0.032	0.033	0.028	
			(measured frequency)		MHz	1737.15	1832.60	1859.63	1832.03	1829.73	1859.63	1842.95	4878.38	2411.05	
			1000 ~ 12500 MHz	nW	20	1.328	0.026	0.027	0.027	0.022	0.019	0.017	0.019	0.029	
		E.I.R.P.			mW/MHz	NA									
		Hopping Frequency staying time			sec	NA									
		Interference Protection (Device ID)				yes	Complies	Complies	Complies	Complies	Complies	Complies	Complies	Complies	
		Carrier Sense				NA									

First

Antenna Gain: 1.50 dBi

NA = Not Applicable

Allowed Maximum E.I.R.P.: