TEST REPORT On behalf of

Hisense Electric Co., Ltd.

Product Name: REMOTE CONTROL

Model No.: ERF2*60(1001), ERF2*60(1001)*, ERF2*60, ERF2*60*, ERF2C60H

FCC ID: W9HBRCB0010

Prepared For: Hisense Electric Co., Ltd. No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China

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File No.:C1D1903054Report No.:ACI-F19157Date of Test:2019.05.25-05.27Date of Report:2019.05.30

The statement is based on a single evaluation of one sample of the above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab logo. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

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	8.4	Operating Condition of EUT	
	8.3	Specification Limits (§15.247(e))	
	8.2	Block Diagram of Test Setup	

TEST REPORT

Applicant :		Hisense Electric Co., Ltd.			
EUT Description	:	REMOTE CONTROL			
		(A) Model No.	:	Refer to Sec.2.1	
		(B) Power Supply	:	DC 3V	
		(C) Test Voltage	:	DC 3V	

Test Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART C AND ANSI C63.10-2013

The device described above is tested by Audix Technology (Shanghai) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits.

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report also shows that the EUT (M/N: Refer to Sec2.1), which was tested is technically compliance with the FCC limits.

This report applies to above tested Sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shanghai) Co., Ltd.

Date of Test :	2019.05.25-05.27	_ Date of Report :	2019.05.30
Producer :	JAREY LU/Supervisor		
Reviewer :	Byron Mu BYRON WU/ Deputy Assistant Ma	anager	
Audix Technology (S	or and on behalf of Shanghai) Co., Ltd.		
Signatory : Authorized Signature	S) BYRON KWO/Assistant General Ma	anager	

1 SUMMARY OF STANDARDS AND RESULTS

1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

Description / Test Item Test Standard			Meets Limit				
	EMISSION						
Conducted Emission	FCC RULES AND REGULATIONS PART 15 SUBPART C AND ANSI C63.10:2013	N/A	15.207				
Radiated Emission	FCC RULES AND REGULATIONS PART 15 SUBPART C AND ANSI C63.10:2013	Pass	15.209(a) 15.205(a)(c)				
6 dB Bandwidth Measurement	FCC RULES AND REGULATIONS PART 15 SUBPART C AND ANSI C63.10:2013	Pass	15.247(a)(2)				
Maximum Peak Output Power Measurement	FCC RULES AND REGULATIONS PART 15 SUBPART C AND ANSI C63.10:2013	Pass	15.247(b)(3)				
Emission Limitations Measurement	FCC RULES AND REGULATIONS PART 15 SUBPART C AND ANSI C63.10:2013	Pass	15.247(d)				
Band Edge Measurement	FCC RULES AND REGULATIONS PART 15 SUBPART C AND ANSI C63.10:2013	Pass	15.247(d)				
Power Spectral Density Measurement	FCC RULES AND REGULATIONS PART 15 SUBPART C AND ANSI C63.10:2013	Pass	15.247(e)				
N/A is an abbreviation	for Not Applicable.						

2 GENERAL INFORMATION

2.1 Description of Equipment Under Test

Description	:	REMOTE CONTROL
Type of EUT	:	\square Production \square Pre-product \square Pro-type
Model Number	:	ERF2*60(1001),ERF2*60(1001)*,ERF2*60, ERF2*60*, ERF2C60H

Note : The different of Models are as follows:

M/N	J		Difference	
ERF2*60	$\frac{1}{(1001)}$		Billerolloc	
		2		
EKF2*60((1001)*	•		
ERF2*	*60		different printed word of keys	
ERF2*	60*			
ERF2C	60H			
Note: "*" represe customer.	ents "0	"~"9"	or blank or "A" ~ "Z", for different sales area and	
Test Model	:	ERF2A	A60(1001)	
Radio Tech	Tech : Bluetooth v4.2 BLE			
Channel Freq. : 2402M			IHz-2480MHz	
Tested Freq.	:	2402N	1Hz, 2442MHz, 2480MHz	
Modulation	:	GFSK		
Antenna Info.	:	Anteni Anteni The Ar radiato	na Type: PCB Antenna na Gain: 1.21 dBi ntenna is permanently attached to the intentional or that is comply with 15.203 requirement.	
Test Mode	:	The E 100%	UT was set at continuous TX with duty cycle during all the test in the report	
Applicant	:	Hisens No.21 Develo	e Electric Co., Ltd. 8 Qianwangang Road, Economy & Technology opment Zone, Qingdao, China	

2.2	Description of Test Facility		
	Name of Firm	:	Audix Technology (Shanghai) Co., Ltd.
	Site Location	:	3F and 4F, 34Bldg, 680 Guiping Rd., Caohejing Hi-Tech Park, Shanghai 200233, China.
	Accredited by NVLAP, Lab Code	:	200371-0
	FCC Designation Number	:	CN5027
	Test Firm Registration Number	:	954668
2.3	Measurement Uncertainty		
	Radiated Emission Expanded Uncerta	int	ty (30-1000MHz):
	Radiated Emission Expanded Uncerta	int	U = 3.99 dB ty (1000M-26.5GHz): U = 4.98 dB
	6 dB Bandwidth Expanded Uncertain	ty	U = 4.58 MHz : U = 6x10 ⁻⁸ MHz
	Maximum Peak Output Power Expan	deo	d Uncertainty : $U = 0.84 \text{ dB}$
	Tower spectral Density Expanded Of		1.0 = 0.38 ub

3 RADIATED EMISSION TEST

3.1 Test Equipment

The following test equipment are used during the radiated emission test in a semi-anechoic chamber:

Item	Туре	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Preamplifier	Agilent	8447D	2944A06664	Apr 27, 2018	Apr 26, 2019
2.	Preamplifier	HP	8449B	3008A00864	Mar 8, 2019	Mar 7, 2020
3.	Spectrum Analyzer	Agilent	N9010A	MY52221182	Jan 05, 2019	Jan 05, 2020
4.	Test Receiver	R&S	ESCI	101303	May 07, 2019	May 06, 2020
5.	Bi-log Antenna	Schwarz beck	VULB 9168	708	Jul 20, 2018	Jul 19, 2019
6.	Horn Antenna	EMCO	3115	9607-4878	Jun 02, 2018	Jun 01, 2019
7.	Horn Antenna	EMCO	3116	00062643	Sep 08, 2018	Sep 07, 2019
8.	Software	Audix	E3	SET00200 9912M295-2		

3.2 Block Diagram of Test Setup

3.2.1 Below 1GHz







3.3 Radiated Emission Limit [FCC Part 15 Subpart C 15.209]

Frequency	Distance	Field strength limits (µV/m)				
(MHz)	(m)	(µV/m)	dB(µV/m)			
30 ~ 88	3	100	40.0			
88 ~ 216	3	150	43.5			
216 ~ 960	3	200	46.0			
Above 960	3	500	54.0			
 NOTE 1 - Emission Level dB (μV/m) = 20 log Emission Level (μV/m) NOTE 2 - The tighter limit applies at the band edges. NOTE 3 - Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system. NOTE 4 - The limits shown are based on Quasi-peak value detector below or equal to 1GHz and Average value detector above 1GHz. 						
NOTE 5 - Above 1 GHz, the limit on peak emission is 20 dB above the maxim permitted average emission limit applicable to the EUT						

3.4 Test Configuration

The EUT (listed in Sec.2.1) and the simulators (listed in Sec.2.2) were installed as shown on Sec.3.2 to meet FCC requirements and operating in a manner that tends to maximize its emission level in a normal application.

3.5 Operating Condition of EUT

- 3.5.1 Setup the EUT as shown in Sec. 3.2.
- 3.5.2 Turn on the power of all equipment.
- 3.5.3 Turn the EUT on the test mode, and then test.

3.6 Test Procedures

Radiated emission test applies to harmonics/spurs that fall in the restricted bands listed in Section 15.205. The maximum permitted average field strength is listed in Section 15.209. A pre-amp is necessary for this measurement. For measurement above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep: Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation.

The EUT was placed on a turntable. Below 1 GHz, the table height is 80 cm above the reference ground plane. Above 1 GHz, the table height is 1.5 m. The turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (Calibrated Bilog Antenna) or Horn antenna was used as receiving antenna. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to ANSI C63.10: 2013 requirements during radiated emission test.

The bandwidth of Test Receiver R&S ESCI was set at 120 kHz from 30MHz to 1000MHz.

The bandwidth of the VBW was set at 1MHz and RBW was set at 1MHz for peak emission measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emission above 1GHz for Spectrum Agilent N9010A.

The frequency range from 30 MHz to 25 GHz (Up to 10th harmonics from fundamental frequency) was checked.

All the test results are listed in Sec.3.7.

3.7 Test Results

<PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

		/== =	•••
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ricquency range.		worst case	CHIISSION

No.	Operation	Modulation	Channel	Frequency	Data Page
1.	Transmitting	BLE	00	2402 MHz	P12
2.	Receiving	BLE			P13

Frequency range: above 1G

No.	Operation	Modulation	Channel	Frequency	Data Page
1.	Transmitting	BLE	00	2402 MHz	P14
2.	Transmitting	BLE	20	2442 MHz	P14
3.	Transmitting	BLE	39	2480 MHz	P15
4.	Receiving	BLE	39	2480 MHz	P16

Restricted bands:

No.	Operation	Modulation	Channel	Frequency	Data Page
1.	Transmitting	BLE	Cabinet	Emission	P17

NOTE 1 – Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

- NOTE 2 "QP" means "Quasi-Peak" values
- NOTE $3-0^{\circ}$ was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.
- NOTE 4 The emission levels which not reported are too low against the official limit.
- NOTE 5 The emission levels recorded below is data of EUT configured in Lying direction, for Lying direction was the maximum emission direction during the test. The data of Side & Standing direction are too low against the official limit to be reported.
- NOTE 6 All reading are Quasi-Peak values below or equal to 1GHz, Peak and Average values above 1GHz. For above 1GHz test, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.
- NOTE 7 The frequency range 2310-2390MHz & 2483.5-2500MHz were tested for Restricted bands.

Worst case emission < 1GHz

EUT	:	REMOTE CONTROL	Temperature :	22°C
Model No.	:	ERF2A60(1001)	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2019.05.25

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	38.078	30.04	17.9	0.67	28.16	20.45	40	19.55	QP
	60.492	27.86	18.37	0.83	28.11	18.95	40	21.05	QP
Horizontal	121.123	28.59	16.5	1.2	27.78	18.51	43.5	24.99	QP
Horizontai	173.814	27.61	18.6	1.46	27.48	20.19	43.5	23.31	QP
	531.964	26.2	24.42	2.5	27.92	25.2	46	20.8	QP
	925.756	25.37	28.64	3.3	26.91	30.4	46	15.6	QP
	39.024	28.66	18.08	0.68	28.16	19.26	40	20.74	QP
	57.796	28.19	18.07	0.82	28.12	18.96	40	21.04	QP
Vartical	124.569	28.27	17.55	1.22	27.76	19.28	43.5	24.22	QP
vertical	181.92	26.99	17.93	1.5	27.45	18.97	43.5	24.53	QP
	545.183	26.53	24.5	2.54	27.89	25.68	46	20.32	QP
	932.272	25.01	28.72	3.33	26.88	30.18	46	15.82	QP

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EUT	:	REMOTE CONTROL	Temperature :	22°C
Model No.	:	ERF2A60(1001)	Humidity :	51%RH
Test Mode	:	Receiving	Date of Test :	2019.05.25

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	37.68	30.01	17.82	0.67	28.16	20.34	40	19.66	QP
	65.343	30.01	16.7	0.87	28.1	19.48	40	20.52	QP
Horizontal	131.758	27.74	18.27	1.26	27.71	19.56	43.5	23.94	QP
Horizontai	185.138	28.63	17.31	1.52	27.43	20.03	43.5	23.47	QP
	478.846	26.93	23.1	2.37	27.94	24.46	46	21.54	QP
	893.857	25.84	28.5	3.25	27.02	30.57	46	15.43	QP
	39.024	28.66	18.08	0.68	28.16	19.26	40	20.74	QP
	57.796	28.19	18.07	0.82	28.12	18.96	40	21.04	QP
Vartical	124.569	28.27	17.55	1.22	27.76	19.28	43.5	24.22	QP
Vertical	181.92	26.99	17.93	1.5	27.45	18.97	43.5	24.53	QP
	545.183	26.53	24.5	2.54	27.89	25.68	46	20.32	QP
	932.272	25.01	28.72	3.33	26.88	30.18	46	15.82	QP

Radiated Emission > 1GHz

EUT	:	REMOTE CONTROL	Temperature :	22°C
Model No.	:	ERF2A60(1001)	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2019.05.25

CH00 (2402MHz)

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	1483.178	46.37	26.21	4.16	37.72	39.02	74	34.98	Peak
	1965.002	46.86	28.26	4.66	36.94	42.84	74	31.16	Peak
Horizontal	2827.012	45.63	30.05	5.65	36.78	44.55	74	29.45	Peak
Horizontai	3916.979	44.58	32.29	6.79	35.86	47.8	74	26.2	Peak
	4821.884	42.68	33.89	7.53	36.3	47.8	74	26.2	Peak
	5830.433	40.96	35.03	8.59	36.94	47.64	74	26.36	Peak
	1607.719	46.03	26.79	4.32	37.52	39.62	74	34.38	Peak
	2126.188	46.34	28.57	4.87	36.88	42.9	74	31.1	Peak
Vartical	2862.693	46.09	30.2	5.69	36.78	45.2	74	28.8	Peak
vertical	3530.356	44.59	31.66	6.42	36.23	46.44	74	27.56	Peak
	4424.514	43.13	32.98	7.21	36.03	47.29	74	26.71	Peak
	5819.996	41.62	35.03	8.59	36.94	48.3	74	25.7	Peak

CH20 (2442MHz)

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	1512.7	46.99	26.37	4.19	37.68	39.87	74	34.13	Peak
	2033.049	45.97	28.45	4.75	36.89	42.28	74	31.72	Peak
Horizontal	2791.777	45.99	29.95	5.65	36.79	44.8	74	29.2	Peak
Horizontai	3875.095	44.23	32.21	6.74	35.88	47.3	74	26.7	Peak
	4944.37	43.05	34.18	7.64	36.39	48.48	74	25.52	Peak
	5935.842	39.82	35.13	8.77	37.02	46.7	74	27.3	Peak
	1648.558	46.4	26.93	4.34	37.47	40.2	74	33.8	Peak
	2188.024	45.71	28.67	4.95	36.87	42.46	74	31.54	Peak
Vartical	2919.675	46.07	30.35	5.77	36.77	45.42	74	28.58	Peak
vertical	3731.996	44.37	31.99	6.63	36.03	46.96	74	27.04	Peak
	4677.225	43.22	33.51	7.42	36.2	47.95	74	26.05	Peak
	5967.835	40.96	35.17	8.77	37.03	47.87	74	26.13	Peak

CH39 (2480MHz)

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	1443.846	46.58	26.02	4.11	37.8	38.91	74	35.09	Peak
	2107.225	46.91	28.54	4.83	36.89	43.39	74	30.61	Peak
Harizontal	2862.693	45.95	30.2	5.69	36.78	45.06	74	28.94	Peak
Horizontai	4045.367	44.06	32.47	6.89	35.78	47.64	74	26.36	Peak
	5115.591	43.13	34.39	7.78	36.48	48.82	74	25.18	Peak
	5893.452	41.2	35.1	8.68	36.99	47.99	74	26.01	Peak
	1559.486	46.25	26.58	4.24	37.6	39.47	74	34.53	Peak
	2160.753	46.21	28.62	4.91	36.87	42.87	74	31.13	Peak
Vartical	2967.138	46.54	30.5	5.81	36.76	46.09	74	27.91	Peak
vertical	3698.711	44.91	31.93	6.58	36.06	47.36	74	26.64	Peak
	4536.905	43.32	33.18	7.32	36.12	47.7	74	26.3	Peak
	5882.902	40.39	35.08	8.68	36.97	47.18	74	26.82	Peak

EUT	:	REMOTE CONTROL	Temperature :	22°C
Model No.	: -	ERF2A60(1001)	Humidity :	51%RH
Test Mode	:	Receiving	Date of Test :	2019.05.25

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	1395.52	46.66	25.74	4.06	37.84	38.62	74	35.38	Peak
	1923.203	46.78	28.05	4.63	37.02	42.44	74	31.56	Peak
Harizantal	2956.525	46.32	30.45	5.77	36.76	45.78	74	28.22	Peak
Horizontai	4103.771	43.42	32.56	6.95	35.83	47.1	74	26.9	Peak
	5060.89	42.86	34.35	7.78	36.45	48.54	74	25.46	Peak
	5788.796	41.05	34.99	8.59	36.92	47.71	74	26.29	Peak
	1520.854	46.67	26.44	4.21	37.68	39.64	74	34.36	Peak
	2107.225	46.51	28.54	4.83	36.89	42.99	74	31.01	Peak
Vartical	3009.976	45.98	30.6	5.85	36.73	45.7	74	28.3	Peak
vertical	3626.526	44.16	31.82	6.53	36.13	46.38	74	27.62	Peak
	4594.167	43.08	33.31	7.37	36.15	47.61	74	26.39	Peak
	5925.216	40.63	35.13	8.68	37	47.44	74	26.56	Peak

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Emissions in restricted frequency bands:

EUT	: _	REMOTE CONTROL	Temperature :	22°C
Model No.	: -	ERF2A60(1001)	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2019.05.25

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	2330.501	45.81	28.86	5.12	36.85	42.94	74	31.06	Peak
University	2330.501	34.57	28.86	5.12	36.85	31.7	54	22.3	Average
	2368.704	46.03	28.93	5.16	36.85	43.27	74	30.73	Peak
	2368.704	35.11	28.93	5.16	36.85	32.35	54	21.65	Average
Horizontai	2483.793	45.68	29.08	5.28	36.83	43.21	74	30.79	Peak
	2483.793	34.46	29.08	5.28	36.83	31.99	54	22.01	Average
	2498.75	46.03	29.1	5.32	36.83	43.62	74	30.38	Peak
	2498.75	35.41	29.1	5.32	36.83	33	54	21	Average
	2320.225	45.59	28.86	5.12	36.85	42.72	74	31.28	Peak
	2320.225	34.12	28.86	5.12	36.85	31.25	54	22.75	Average
	2369.099	46.33	28.93	5.16	36.85	43.57	74	30.43	Peak
Vartical	2369.099	35.62	28.93	5.16	36.85	32.86	54	21.14	Average
vertical	2486.902	45.11	29.08	5.32	36.83	42.68	74	31.32	Peak
	2486.902	34.44	29.08	5.32	36.83	32.01	54	21.99	Average
	2496.667	45.63	29.1	5.32	36.83	43.22	74	30.78	Peak
	2496.667	35.32	29.1	5.32	36.83	32.91	54	21.09	Average

4 6 dB BANDWIDTH MEASUREMENT

4.1 Test Equipment

The following test equipment was used during the Emission Bandwidth measurement:

Item	Туре	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9010A	MY52221182	Jan 05, 2019	Jan 05, 2020

4.2 Block Diagram of Test Setup

Spectrum Analyzer]	EUT
-------------------	---	-----

4.3 Specification Limits (§15.247(a)(2))

The minimum 6 dB bandwidth shall be at least 500 kHz.

4.4 Operating Condition of EUT

The switch ON/OFF was used to enable the EUT to change the channel one by one.

4.5 Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with settings: RBW = 100kHz, $VBW \ge 3 \times RBW$.

The 6 dB bandwidth is defined as the total spectrum the power of which is lower than peak power minus 6 dB .

The test procedure is defined in ANSI C63.10-2013 (the 11.8.2 Measurement Procedure "Option 2" was used).

4.6 Test Results

PASSED.

All the test results are attached in next pages.

(Test Date: 2019.05.27 Temperature: 23°C Humidity: 51 %)

Modulation	Channel	Frequency (MHz)	6dB Bandwidth (kHz)	Limit
	00	2402	635.4	500 kHz
BLE	20	2442	632.9	500 kHz
	39	2480	640.4	500 kHz

CH00 (2402 MHz)

🂵 Agilent Spectrum Analyzer - Occupied BW					
Center Freq 2.402000000 G	Hz Center F	ENSE:INT A Freq: 2.402000000 GHz Be Run Avg Hol	LIGN AUTO/NO RF 08:04:15 Radio St Id:>10/10	PM May 27, 2019 d: None	Frequency
#	FGain:Low 📩 #Atten: *	10 dB	Radio De	vice: BTS	
Ref Offset 0.5 dB 10 dB/div Ref 10.00 dBm					
.10.0					Center Freq 2.402000000 GHz
-20.0					
-30.0					
-50.0					
-70.0					
-80.0					CF Step 300.000 kHz
Center 2.402 GHz #Res BW 100 kHz	#VI	BW 300 kHz	S Sv	pan 3 MHz reep 1 ms	<u>Auto</u> Man
Occupied Bandwidth	771 MH z	Total Power	0.28 dBm		Freq Offset 0 Hz
Transmit Freq Error	-228.24 kHz	OBW Power	99.00 %		
x dB Bandwidth	635.4 kHz	x dB	-6.00 dB		
MSG			STATUS		

CH20 (2442 MHz)

🌉 Agilent Spectrun	n Analyzer - Occup	ied BW									2
Center Fre	RF <u>50 Ω</u> q 2.44200	DC 0000 GH #IFG	Z Gain:Low	SEI Center Fr Trig: Free #Atten: 1	NSE:INT req: 2.44200 e Run 0 dB	ALI 0000 GHz Avg Hold	GN AUTO/NO :>10/10	RF 08:05:06 P Radio Std Radio Dev	M May 27, 2019 : None rice: BTS	Frequency	
10 dB/div Log	Ref Offset (Ref 10.00	0.5 dB I dBm	r		1						
-10.0				~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					Center Fr 2.442000000 G	eq Hz
-20.0							•				
-40.0											
-60.0											
-80.0										CF Sto 300.000 k	ep Hz
#Res BW 1	00 kHz			#VE	3W 300 k	Hz		Swe	ep 1 ms	<u>Auto</u> M	lan
Occupi	Occupied Bandwidth Total Power 2.63 dBm 1.4146 MHz						Freq Offs 0	set Hz			
Transmi	t Freq Erro	or	133.68 k	Hz	OBW P	ower	99	9.00 %			
x dB Bar	ndwidth		632.9 k	Hz	x dB		-6	.00 dB			
мsg 🗼 Alignme	ent Completed	d					STATU	S			

CH39 (2480 MHz)

🌉 Agilent Spectrum	Analyzer - Occupied	BW								x
Center Free	RF 50Ω D 2.4800000	00 GHz	SENSE: Center Freq: Trig: Free Ru	INT 2.4800000 un	ALIO 00 GHz Avg Hold:	GN AUTO/NO RF	08:06:02	PM May 27, 2019 d: None	Frequenc	y
		#IFGain:Low	#Atten: 10 dl	В			Radio De	vice: BTS		
10 dB/div	Ref Offset 0.5 Ref 10.00 d	dB Bm								
									Center	Fred
0.00			\sim	~					2 48000000	GHz
-10.0					~				2.40000000	OTIZ
-20.0										
-30.0		/								
-40.0										
-40.0										
-50.0										
-60.0										
-70.0										
-80.0										
									CF 300.000	Step
Center 2.48	GHz						S	pan 3 MHz	Auto	Man
#Res BW 10)0 kHz		#VBW	300 kH:	z		Sw	eep 1 ms		
Occupie	ed Bandwi	dth	т.	otal Pov	ver	3.74	dBm		Freq O	f fset 0 Hz
		1.7754 MF	IZ							
Transmit	Freq Error	277.34 k	Hz O	BW Pov	ver	99.	00 %			
x dB Ban	dwidth	640.4 k	Hz x	dB		-6.0	0 dB			
1100						07.17.15				
MSG						STATUS				

5 MAXIMUM PEAK OUTPUT POWER MEASUREMENT

5.1 Test Equipment

The following test equipment was used during the maximum peak output power measurement:

Item	Туре	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9010A	MY52221182	Jan 05, 2019	Jan 05, 2020

5.2 Block Diagram of Test Setup

The Same as Section. 4.2.

5.3 Specification Limits ((§15.247(b)(3))

The Limits of maximum Peak Output Power for digital modulation in 2400-2483.5 MHz is: 1 Watt. (30 dBm)

5.4 Operating Condition of EUT

The switch ON/OFF was used to enable the EUT to change the channel one by one.

5.5 Test Procedure

The transmitter output was connected to the spectrum analyzer.

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

- a) RBW \geq DTS Bandwidth.
- b) VBW $\geq [3 \times RBW]$.
- c) Span $\geq [3 \times RBW]$.
- d) Sweep time = auto.
- e) Detector = peak.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.

The test procedure is defined in ANSI C63.10-2013 (11.9.1.1 Measurement Procedure " RBW \geq DTS bandwidth" was used).

5.6 Test Results

PASSED.

All the test results are listed below.

(Test Date: 2019.05.27 Temperature: 23°C Humidity: 51 %)

Modulation	Channel	Frequency (MHz)	Peak Output Power (dBm)	Limit
	00	2402 MHz	-5.669	30 dBm
BLE	20	2442 MHz	-3.283	30 dBm
	39	2480 MHz	-2.236	30 dBm

CH00 (2402 MHz)

💵 Agilent Spectrum Analyzer - Occupied BW			
₩ RF 50 Ω DC Marker 1 2.401946000000		ALIGN AUTO/NO RF 08:13:31 PM May 27 Avg Type: Log-Pwr TRACE 12 3 Avg/Hold:>100/100 TYPE	,2019 456 WMW
Ref Offset 0.5 dB	IFGain:Low Atten: 20 dB	Mkr1 2.401 946 G -5.669 d	Hz Next Peak
0.00			Next Pk Right
-10.0			Next Pk Left
-30.0			Marker Delta
-50.0			Mkr→CF
-70.0			Mkr→RefLvl
Center 2.402000 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Span 3.000 l Sweep 1.00 ms /1001	More 1 of 2 pts)
MSG		STATUS	

CH20 (2442 MHz)

🏬 Agilent Spec	trum Analyzer - Occupied BW							
<mark>w</mark> Marker 1	RF 50 Ω DC 2.442216000000) GHz PNO: Fast 🖵	SEN	Run	GN AUTO/NO R :>Log-Pwr :>100/100	F 08:14:24 F TRAC TY	MMay 27, 2019 CE 1 2 3 4 5 6 PE M WWWWW	Peak Search
10 dB/div	Ref Offset 0.5 dB Ref 10.00 dBm	IFGain:Low	Atten: 20	dB	Mkr1	2.442 2 -3.2	216 GHz 83 dBm	Next Peak
0.00				\$ ¹				Next Pk Right
-10.0								Next Pk Left
-30.0								Marker Delta
-50.0								Mkr→CF
-60.0								Mkr→RefLvl
-80.0								More 1 of 2
Center 2.4 #Res BW	442000 GHz 1.0 MHz	#VBW	3.0 MHz		Sweep	Span 3 1.00 ms	.000 MHz (1001 pt <u>s)</u>	
MSG					STATUS	5		

CH39 (2480 MHz)

Agilent Spectrum Analyzer - Occupied BW	V				
Marker 1 2.48023400000	0 GHz	SENSE:INT	ALIGN AUTO/NO P	RF 08:15:07 PM May 27, 2019 TRACE 1 2 3 4 5 6	Peak Search
	PNO: Fast 😱 IFGain:Low	Atten: 20 dB	Mkr1	2.480 234 GHz	NextPeak
10 dB/div Ref 10.00 dBm				-2.236 dBm	
0.00		^1			Next Pk Right
-10.0					
-20.0					Next Pk Left
20.0					
-30.0					Marker Delta
-40.0					
-50.0					Mkr→CF
-60.0					
-70.0					Mkr→RefLvl
-80.0					
					More
Center 2.480000 GHz	#\/B\M 2	0 MHz	Sween	Span 3.000 MHz	1 of 2
MSG	#4044.3		statu	s	

6 EMISSION LIMITATIONS MEASUREMENT

6.1 Test Equipment

The following test equipment was used during the emission limitations test :

Item	Туре	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9010A	MY52221182	Jan 05, 2019	Jan 05, 2020

6.2 Block Diagram of Test Setup

The Same as Section. 4.2.

6.3 Specification Limits (§15.247(d))

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

In addition, radiated emissions which fall in the restricted bands, as defined in \$15.205(a), must also comply with the radiated emission limits specified in \$15.209(a) (see \$15.205(c)). (%This test result attaching to Section. 3.7)

6.4 Operating Condition of EUT

The switch ON/OFF was used to enable the EUT to change the channel one by one.

6.5 Test Procedure

The transmitter output was connected to the spectrum analyzer.

Establish a reference level by using the following procedure:

- a) Set instrument center frequency to DTS channel center frequency.
- b) Set the span to ≥ 1.5 times the DTS bandwidth.
- c) Set the RBW = 100 kHz.
- d) Set the VBW \geq [3 × RBW].
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.

i) Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

Establish an emission level by using the following procedure: a) Set the center frequency and span to encompass frequency range to be measured.

b) Set the RBW = 100 kHz.

c) Set the VBW \geq [3 × RBW].

d) Detector = peak.

e) Sweep time = auto couple.

- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.

h) Use the peak marker function to determine the maximum amplitude level. Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

Scan up through 10th harmonic.

The test procedure is defined in ANSI C63.10-2013 (11.11.2 Reference level measurement and 11.11.3 Emission level measurement was used).

6.6 Test Results

PASSED.

The test data was attached in the next pages.

(Test Date: 2019.05.27 Temperature: 23°C Humidity: 51 %)

Modulation	Modulation Channel		Data Page		
	00	2402 MHz	P29-30		
BLE	20	2442 MHz	P31-32		
	39	2480 MHz	P33-34		

CH00 (2402 MHz)

💵 Agilent Spectrum Analyzer - Occupied BW				
אמראפר 1 2.401997000000	0 GHz Trig: Free R	INT ALIGN AUTO/NO R Avg Type: Log-Pwr Avg Hold:>100/100	08:16:13 PM May 27, 2019 TRACE 1 2 3 4 5 6 TYPE M WWWWWWW	Peak Search
Ref Offset 0.5 dB 10 dB/div Ref 10.00 dBm	IFGain:Low Atten: 20 dl	Mkr1	2.401 997 GHz -5.818 dBm	Next Peak
0.00				Next Pk Right
-10.0				Next Pk Left
-30.0				Marker Delta
-60.0				Mkr→CF
-70.0				Mkr→RefLvl
-80.0 Center 2.402000 GHz #Res BW 100 kHz	#VBW 300 kHz	Sweep	Span 3.000 MHz 1.00 ms (1001 pts)	More 1 of 2
MSG		STATUS		

Reference level

Emission level



🂵 Agilent Spectrum Analyzer - Occupied BW				_ 0 <u>×</u>
₩ RF 50 Ω DC Marker 1 9.6100000000000	GHz SENSE:	INT ALIGN AUTO/NO RF Avg Type: Log-Pwr Avg/Hold:>100/100	08:21:32 PM May 27, 2019 TRACE 1 2 3 4 5 6 TYPE M WARMAN	Peak Search
Ref Offset 0.5 dB	IFGain:Low Atten: 20 dB		Mkr1 9.61 GHz -59.302 dBm	NextPeak
0.00				Next Pk Right
-20.0			25.00.00-	Next Pk Left
-30.0			-23.62 dDri	Marker Delta
-50.0	∮ ¹			Mkr→CF
-70.0	ve	ectrony defines with service the definition of the	weekson Anderson and a second	Mkr→RefLv
-80.0 Start 5.000 GHz			Stop 15.000 GHz	More 1 of 2
#Res BW 100 kHz	#VBW 300 kHz	Sweep	956 ms (1001 pts)	

J Agilent Spectrum Analyzer - Occupied BW						
₩ RF 50 Ω DC Marker 1 23.67000000000	0 GHz	NSE:INT ALI	IGN AUTO/NO RF e: Log-Pwr	08:24:00 PM TRAC	May 27, 2019	Peak Search
Ref Offset 0.5 dB	PNO: Fast Trig: Fre IFGain:Low Atten: 20	e Run Avg∣Hold 0 dB	:>100/100 N	DE	67 GHz	Next Peak
10 dB/div Ref 10.00 dBm				-59.64	45 dBm	
0.00						Next Pk Right
10.0						
-20.0						Next Pk Left
					-25.82 dBm	
-30.0						Marker Delta
-50.0				∮ ¹		Mkr→CF
	a blands almadaparterylographic and a	an millow water burger and with	Marallula May	may and all shale	unpende	
-70.0						Mkr→RefLvi
-80.0						
				O ton 25		More 1 of 2
#Res BW 100 kHz	#VBW 300 kHz		Sweep	956 ms (1001 pts)	
MSG			STATUS			

CH20 (2442 MHz)

🌉 Agilent Spect	rum Analyzer - Occupied BW							
Marker 1	RF 50 Ω DC 2.44197600000	0 GHz PNO: Wide	SENSE:INT	Avg Type Avg Hold:	5N AUTO/NO R : Log-Pwr >100/100	F 08:25:22 PM TRAC TYP	1 May 27, 2019 1 2 3 4 5 6 M	Peak Search
10 dB/div	Ref Offset 0.5 dB Ref 10.00 dBm	IFGain:Low	Atten: 20 dB		Mkr1	2.441 9 -3.37	76 GHz 78 dBm	Next Peak
0.00								Next Pk Right
-10.0							-23,38 dBm	Next Pk Left
-30.0	And							Marker Delta
-50.0								Mkr→CF
-70.0								Mkr→RefLvl
Center 2.4	42000 GHz	<i>4</i> 0 (5).44				Span 3.	000 MHz	More 1 of 2
#Res BW	TUU KHZ	#vBW	300 KHZ		Sweep	1.00 ms (1	roon prs)	
					514105			

Reference level

Emission level



🚺 Agi	lent Spectr	rum Analyzer	- Occupied BW	V							
.xı Mar	ker 1	^{R⊧} 9.77000	50Ω DC	00 GHz	SE	NSE:INT		GN AUTO/NO R : Log-Pwr :>100/100	F 08:38:15 P TRAC	M May 27, 2019 E 1 2 3 4 5 6	Peak Search
10 dl	3/div	Ref Offs Ref 10.	et 0.5 dB 00 dBm	PNO: Fast (IFGain:Low	Atten: 20) dB	Avginoid	100/100	Mkr1 9 -58.6	77 GHz 42 dBm	Next Peak
Log											Next Pk Right
-10.0 -20.0										-23.38 dBm	Next Pk Lef
-30.0											Marker Delta
-50.0					∮ ¹						Mkr→CF
-70.0	anthogo the	_{YU} U ^{AN} Ay John M	and the second	hiter and the second	manule raile de	Hortywikker	Hetrodytronyth Min	nation of the second	ur hinn find ^{for sa} lan	after-then (they are a frequencies)	Mkr→RefLv
-80.0 Star	t 5.000	0 GHz						_	Stop 15	.000 GHz	More 1 of 2
#Re	s BW	100 kHz		#VB	W 300 kHz			Sweep	956 ms (1001 pts)	
MSG								STATUS			

Agilent Spectrum Analyzer - Occupied BW						
₩ RF 50 Ω DC	IO GHz		GN AUTO/NO RE : Log-Pwr	08:40:30 PI TRAC	May 27, 2019 E 1 2 3 4 5 6	Peak Search
	PNO: Fast Trig: Free IFGain:Low Atten: 20	Run Avg Hold: ∣dB	:>100/100	۳۲۴ DE	59 GHz	Next Peak
10 dB/div Ref 10.00 dBm				-60.3	57 dBm	
0.00						Next Pk Right
10.0						
-10.0						Next Pk Left
-20.0					-23.38 dBm	
-30.0						
						Marker Delta
-40.0						
-50.0						Mkr→CF
-60.0				∮ ¹		
the many of the manual and many hard	when you are will apply to we adopt on any Marker	www.warhands.	a pipelour behavior	h July market have	Maynower	
-70.0						Mkr→RefLvl
-80.0						
						More
Start 15.000 GHz	#\/B)// 300 kHz	^	Swoon	Stop 25	.000 GHz	1 of 2
MSG	##BW# 500 KHZ		STATUS	soo ins (ioo i pis)	

CH39 (2480 MHz)

Magilent Spectrum Analyzer - Occupied BW					_ 0 <u>_ x</u> _
₩ RF 50 Ω DC Marker 1 2.479970000000) GHz PNO: Wide Trig: Free R	INT ALIGI Avg Type: un Avg Hold:>	N AUTO/NO RF 08:41:03 PI Log-Pwr TRAC >100/100 TYF	MMay 27, 2019 E 1 2 3 4 5 6 MWWWWW	Peak Search
Ref Offset 0.5 dB	IFGain:Low Atten: 20 di	3	Mkr1 2.479 9 -2.3	70 GHz 88 dBm	Next Peak
0.00					Next Pk Right
-20.0				-22.39 dBm	Next Pk Left
-30.0					Marker Delta
-50.0					Mkr→CF
-70.0					Mkr→RefLvl
Center 2.480000 GHz #Res BW 100 kHz	#VBW 300 kHz		Span 3 Sweep 1.00 ms (.000 MHz 1001 pts)	More 1 of 2
MSG			STATUS		

Reference level

Emission level



🗾 Agilent Spect	trum Analyzer - Occu	ipied BW								_ 🖬 🗙
<mark>w</mark> Marker 1	RF 50 Ω 12.400000	DC 000000	GHz	SEI			GN AUTO/NO R : Log-Pwr :>100/100	F 08:46:42 P TRAC TY	M May 27, 2019 CE 1 2 3 4 5 6 PE M WWWWWW	Peak Search
10 dB/div	Ref Offset 0.5 Ref 10.00 o	i dB d B m	FGain:Low	Atten: 20) dB	, in Shine and	ľ	₀ //kr1 12 -56.8	.40 GHz 20 dBm	Next Peak
0.00										Next Pk Right
-10.0									-221.39 dBm	Next Pk Left
-30.0										Marker Delta
-50.0							•1			Mkr→CF
-70.0	q.w.h.h.g	and a low and	hydraturality.	to and the second the	there and the state	ม 	Law of Work of Michigan	antrining the start of	arathaladis-หมูกรุง	Mkr→RefLvl
-80.0 Start 5.00	0 GHz							Stop 15	.000 GHz	More 1 of 2
#Res BW	100 kHz		#VBW	300 kHz			Sweep	956 ms ((1001 pts)	
moo							SIAIOS			

🗊 Agilent Spectrum Analyzer - Occupied BW						
₩ RF 50 Ω DC	0 GHz	Avg Ty	ALIGN AUTO/NO RE P e: Log-Pwr	08:48:58 PM TRACI	1 May 27, 2019	Peak Search
Ref Offset 0.5 dB 10 dB/div Ref 10.00 dBm	PNO: Fast Trig: Free IFGain:Low Atten: 20	e Run Avg Ho)dB	ld:>100/100	TYP DE Ikr1 23. -60.7	63 GHz 68 dBm	Next Peak
0.00						Next Pk Right
-10.0					-22.39 dBm	Next Pk Left
-30.0						Marker Delta
-50.0				∮ ¹		Mkr→CF
-70.0	hiren har	a likasika kata kata kata kata kata kata kata k	upupula Maran Abbai	have the second	-Mak-rive.alum	Mkr→RefLvl
80.0 Start 15.000 GHz #Res BW 100 kHz	#\/B\W 300 kHz		Sween	Stop 25.	000 GHz	More 1 of 2
MSG			STATUS	000-1115 (oren proj	

7 BAND EDGES MEASUREMENT

7.1 Test Equipment

The following test equipment was used during the band edges measurement:

Item	Туре	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9010A	MY52221182	Jan 05, 2019	Jan 05, 2020

7.2 Block Diagram of Test Setup

The Same as section.4.2.

7.3 Specification Limits (§15.247(d))

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

7.4 Operating Condition of EUT

The switch ON/OFF was used to enable the EUT to change the channel one by one.

7.5 Test Procedure

The transmitter output was connected to the spectrum analyzer. Set RBW of Test Receiver to 100kHz and VBW to 300kHz with suitable frequency span including 100kHz bandwidth from band edge.

The test procedure is defined in ANSI C63.10-2013 (11.11.3 Emission level measurement was used).

7.6 Test Results

PASSED.

All the test results are attached in next pages.

(Test Date: 2019.05.27 Temperature: 23°C Humidity: 51 %)

Modulation	Location	Channel	Frequency (MHz)	Delta Marker (dB)	Result
	Below Band Edge	00	2402	56.755	More than 20 dB below the highest
DLE	Upper Band Edge	39	2480	47.266	level of the desired power

CH00 2402MHz (Below Edge 2390 MHz)

💵 Agilent Spectrum Analyzer - Occupied BW			
₩ RF 50 Ω DC Marker 2 Δ 16.400000000	MHZ PNO: East Trig: Free Run	ALIGN AUTO/NO RF 08:08:51 PM May 27, 2019 Avg Type: Log-Pwr TRACE 1 2 3 4 5 6 Avg Hold:>100/100 TYPE MWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	Peak Search
Ref Offset 0.5 dB 10 dB/div Ref 10.00 dBm	IFGain:Low Atten: 20 dB	ΔMkr2 16.4 MHz 56.755 dB	Next Peak
-10.0		<u></u> 2∆3 _	Next Pk Right
-30.0			Next Pk Left
-60.0 -70.0 		al same the second s	Marker Delta
Start 2.31000 GHz #Res BW 100 kHz	#VBW 300 kHz	Stop 2.41000 GHz Sweep 9.60 ms (1001 pts) vction FUNCTION WIDTH	Mkr→CF
N I L Δ. 2 Δ3 1 f (Δ) 3 F 1 f 2.3 4 5 5 5 5 6 7 7 7 7	16.4 MHz (A) 56.755 dB 385 6 GHz -62.346 dBm		Mkr→RefLvl
7 8 9 9 10 11 11 12 12			More 1 of 2
MSG		STATUS	

CH39 2480MHz (Upper Edge 2483.5 MHz)



8 POWER SPECTRAL DENSITY MEASUREMENT

8.1 Test Equipment

The following test equipment was used during the power spectral density measurement:

Item	Туре	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9010A	MY52221182	Jan 05, 2019	Jan 05, 2020

8.2 Block Diagram of Test Setup

The Same as section 4.2.

8.3 Specification Limits (§15.247(e))

The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band.

8.4 Operating Condition of EUT

The switch ON/OFF was used to enable the EUT to change the channel one by one.

8.5 Test Procedure

The transmitter output was connected to the spectrum analyzer.

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5 times the DTS bandwidth.
- c) Set the RBW to 3 kHz \leq RBW \leq 100 kHz.
- d) Set the VBW \geq [3 × RBW].
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.

i) Use the peak marker function to determine the maximum amplitude level within the RBW.

j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

The test procedure is defined in ANSI C63.10-2013 (11.10.2 Measurement Procedure "Method PKPSD (peak PSD)" was used).

8.6 Test Results

PASSED.

All the test results are attached in next pages.

(Test Date: 2019.05.27 Temperature: 23°C Humidity: 51 %)

Modulation	Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limit
	00	2402	-5.818	8 dBm
BLE	20	2442	-3.378	8 dBm
	39	2480	-2.388	8 dBm

CH00 2402 MHz

💵 Agilent Spectrum Analyzer - Occupied BW				
₩ RF 50 Ω DC Marker 1 2.401997000000		ALIGN AUTO/NO RF 08:1 Avg Type: Log-Pwr Avg Hold:>100/100	.6:13 PM May 27, 2019 TRACE 1 2 3 4 5 6 TYPE M	Peak Search
Ref Offset 0.5 dB	IFGain:Low Atten: 20 dB	Mkr1 2.4	DET P NNNNN 01 997 GHz -5.818 dBm	Next Peak
0.00				Next Pk Right
-10.0			-25.82 dBm	Next Pk Left
-30.0				Marker Delta
-50.0				Mkr→CF
-70.0				Mkr→RefLvi
Center 2.402000 GHz #Res BW 100 kHz	#VBW 300 kHz	Sp Sweep 1.00	an 3.000 MHz ms (1001 pts)	More 1 of 2
MSG		STATUS		

CH20 2442 MHz

🏬 Agilent Spe	ctrum Analyzer - Occu	upied BW								
<mark>w</mark> Marker 1	RF 50 Ω 1 2.4419760	DC 00000 G	Hz	SEN			GN AUTO/NO F COG-Pwr	RF 08:25:22 P TRAC	M May 27, 2019 E 1 2 3 4 5 6	Peak Search
10 dB/div	Ref Offset 0.5 Ref 10.00 (F IF 5 dB dBm	NO: Wide 🕞 Gain:Low	Atten: 20) dB	, rightera.	Mkr1	2.441 9 -3.3	76 GHz 78 dBm	Next Peak
0.00					1					Next Pk Right
-10.0						\sim			-23.38 dBm	Next Pk Left
-30.0								A		Marker Delta
-50.0										Mkr→CF
-60.0										
-70.0										Mkr→RefLvi
	442000 011-							Omen 2		More 1 of 2
#Res BW	.442000 GHZ 100 kHz		#VBW	300 kHz			Sweep	Span 3 1.00 ms (1001 pts)	
MSG							STATU	S		

CH39 2480 MHz

🔟 Agilent Spect	rum Analyzer - Occupied	BW				
w Marker 1	RF 50 Ω D	000 GHz	SENSE:INT	ALIGN AUTO/NO Avg Type: Log-Pwr	RF 08:41:03 PM May 27, 2019 TRACE 1 2 3 4 5 6	Peak Search
		PNO: Wide C IFGain:Low	Trig: Free Run Atten: 20 dB	Avg Hold:>100/100	DET P NNNN	NovtBoak
10 dB/div	Ref Offset 0.5 dE Ref 10.00 dBr	3 m		Mkr	1 2.479 970 GHz -2.388 dBm	Nextreak
0.00			1			Next Pk Right
-10.0			~~~~			
-20.0					-22.39 dBm	Next Pk Left
-30.0						Marker Delta
-40.0						
-50.0						Mkr→CF
-60.0						
-70.0						Mkr→RefLvl
-80.0						More
Center 2.4 #Res BW	180000 GHz	#VBW	300 kHz	Sween	Span 3.000 MHz	1 01 2
MSG				STAT	us	

9 DEVIATION TO TEST SPECIFICATIONS

None.