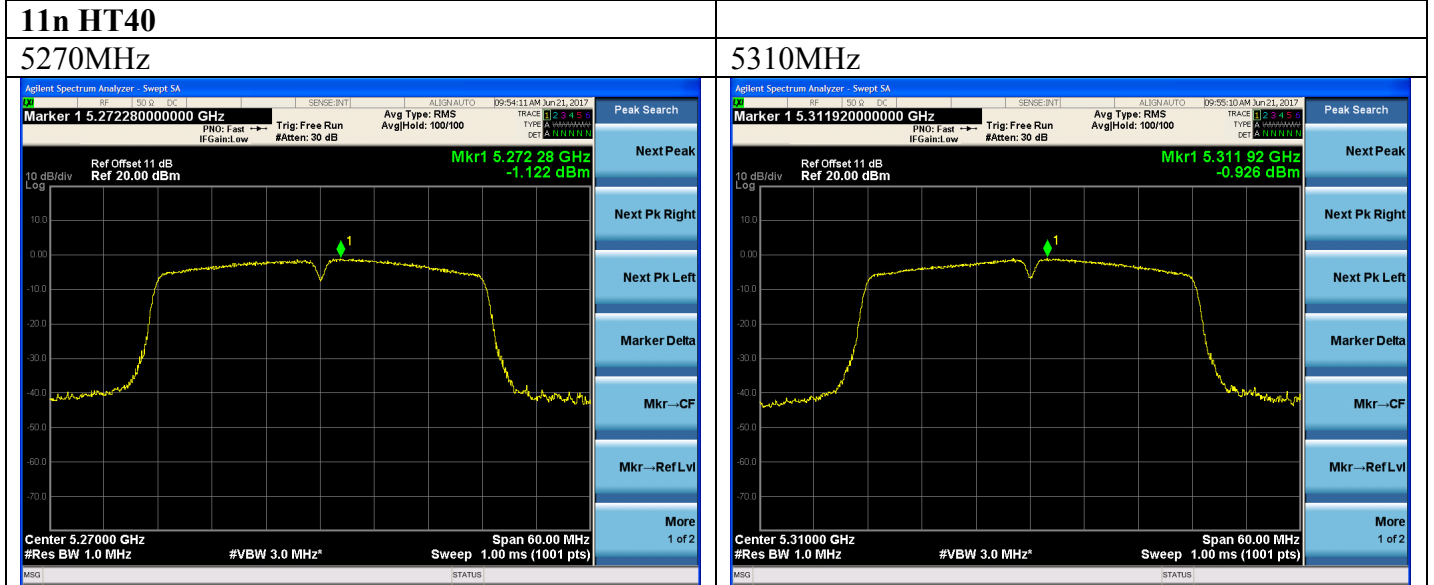
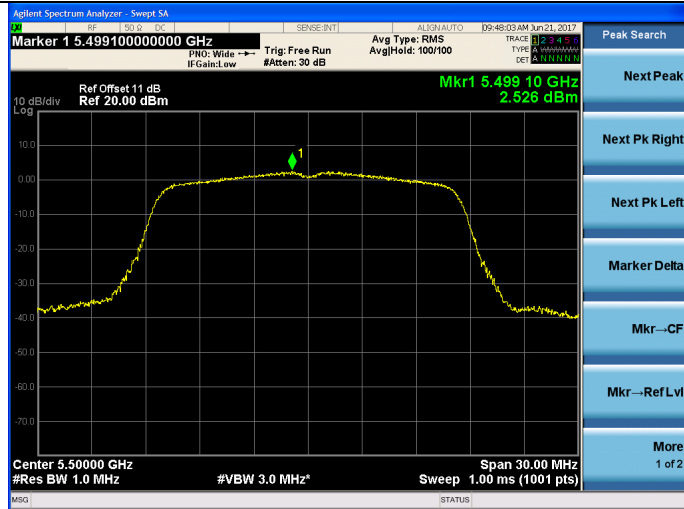




5500-5700MHz Band:

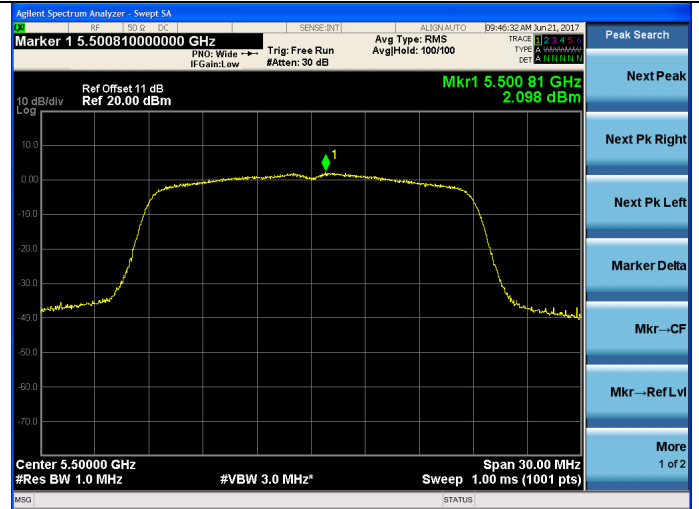
11a

5500MHz

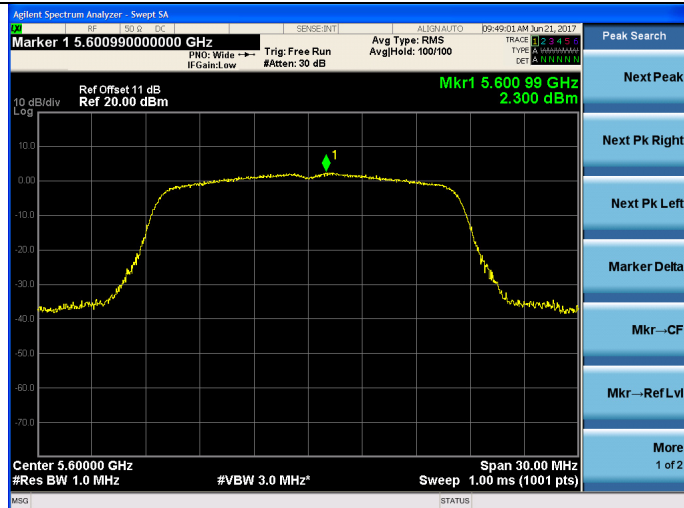


11n HT20

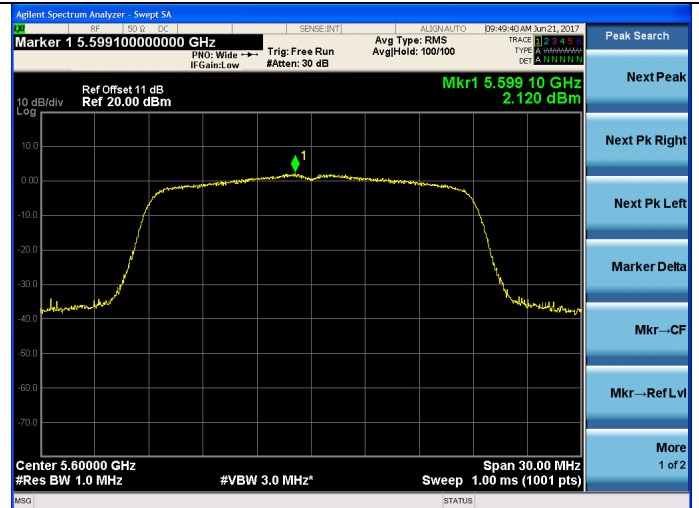
5500MHz



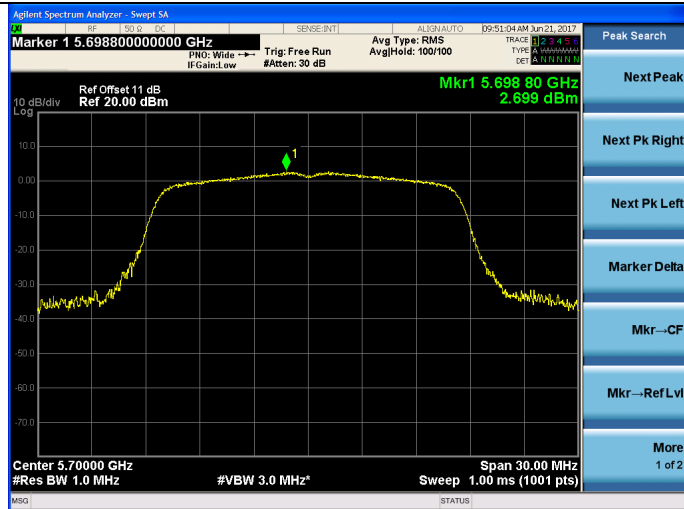
5600MHz



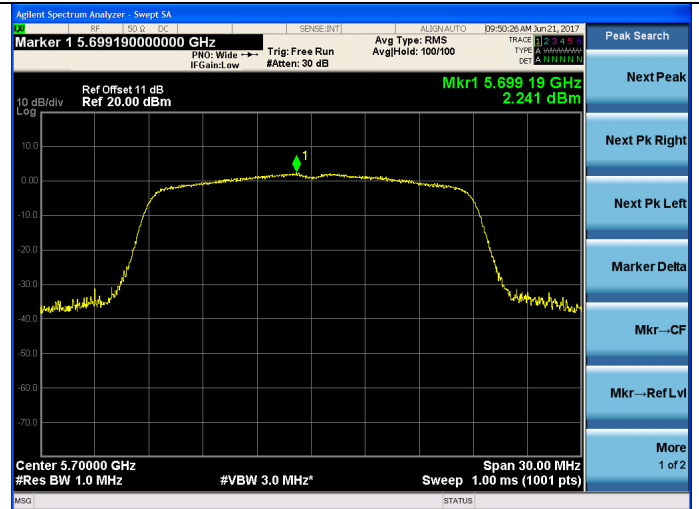
5600MHz



5700MHz

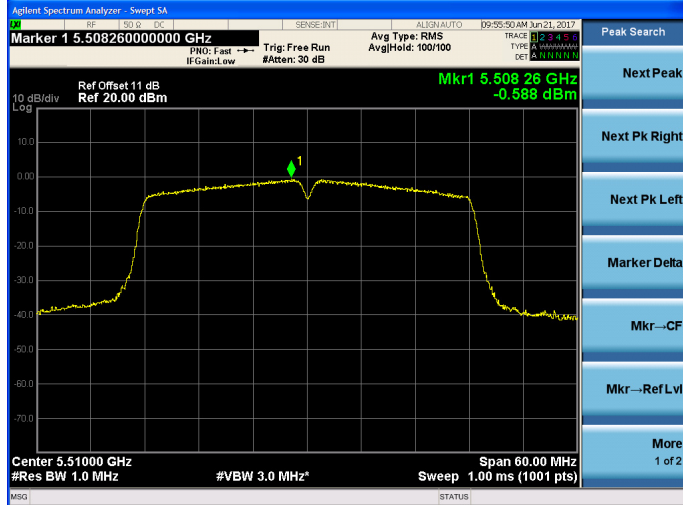


5700MHz

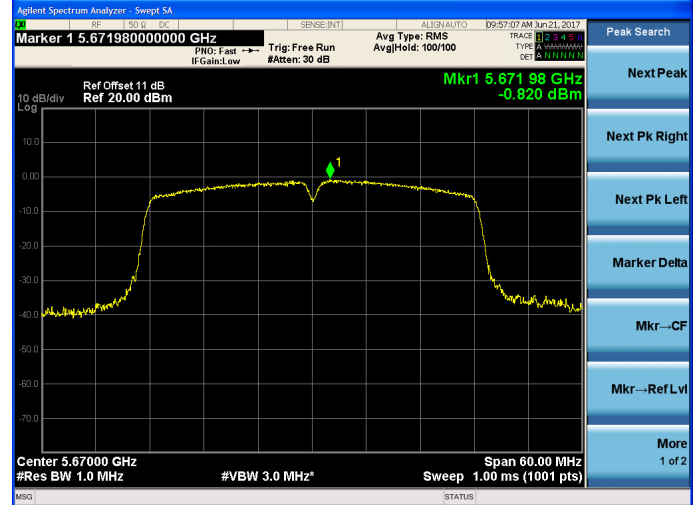


11n HT40

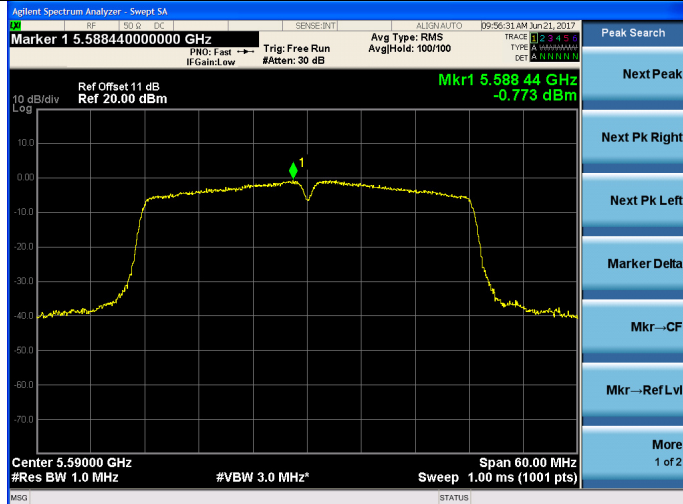
5510MHz



5670MHz



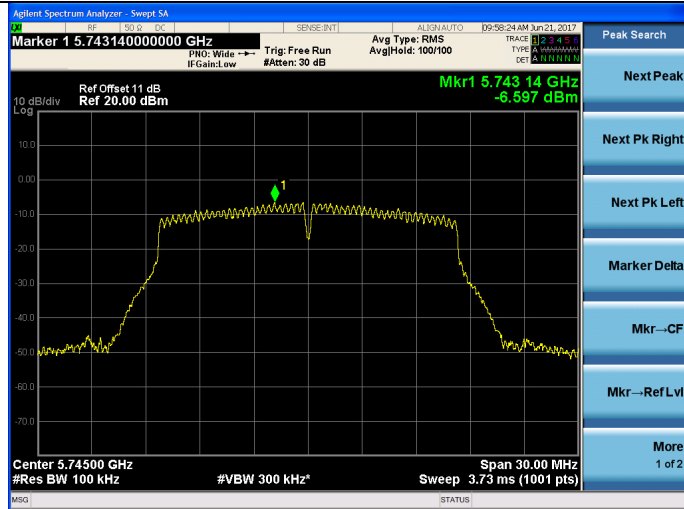
5590MHz



5745-5825MHz Band:

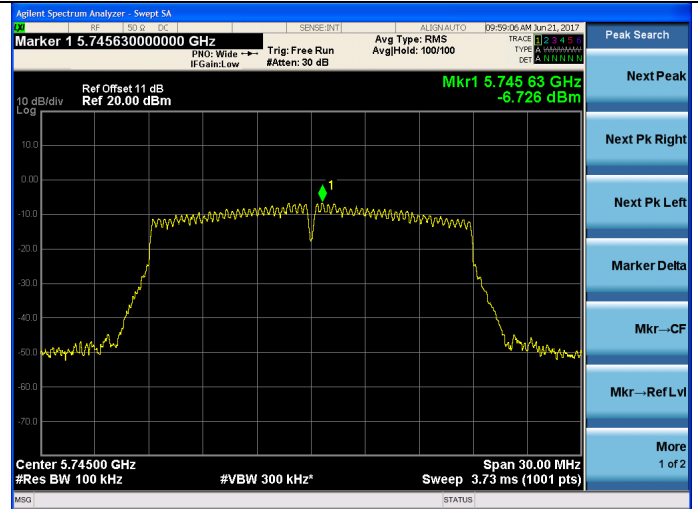
11a

5745MHz

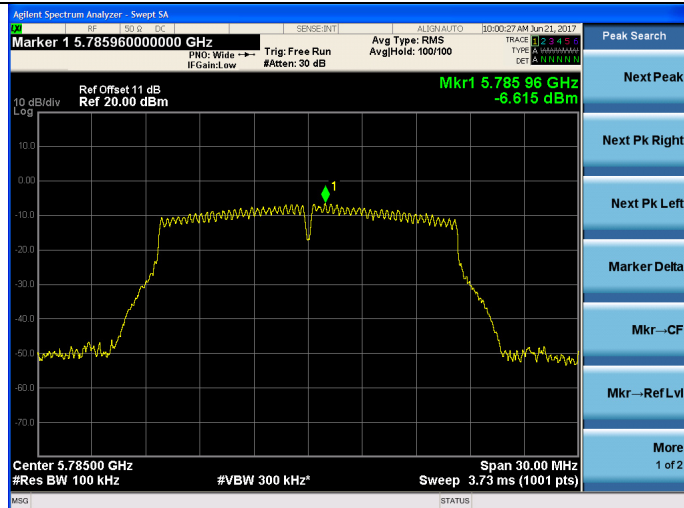


11n HT20

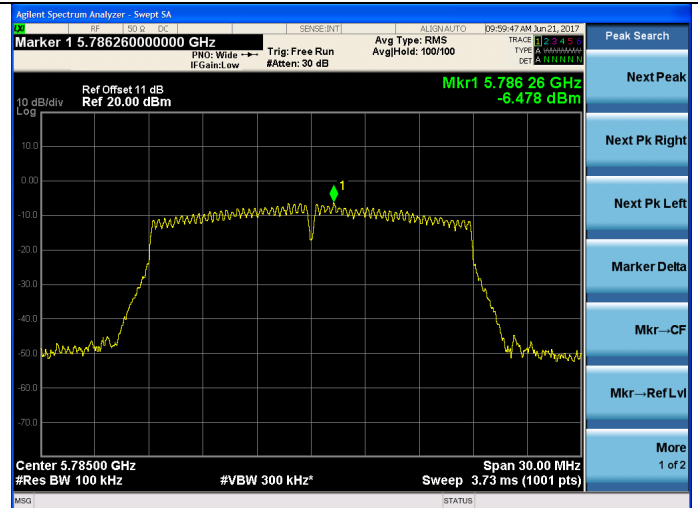
5745MHz



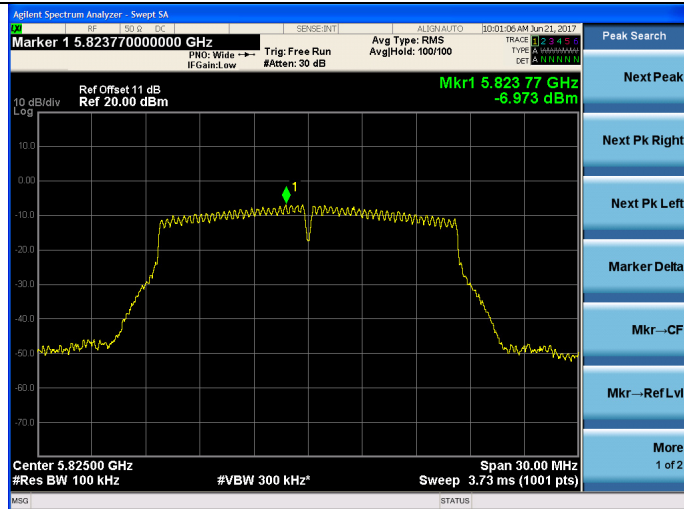
5785MHz



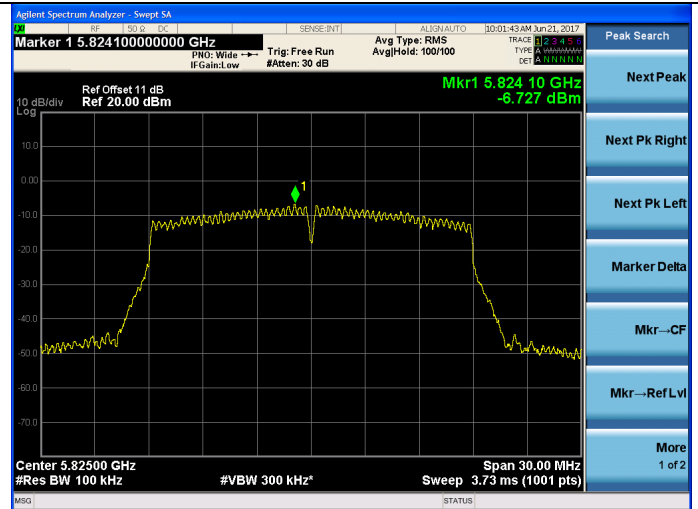
5785MHz

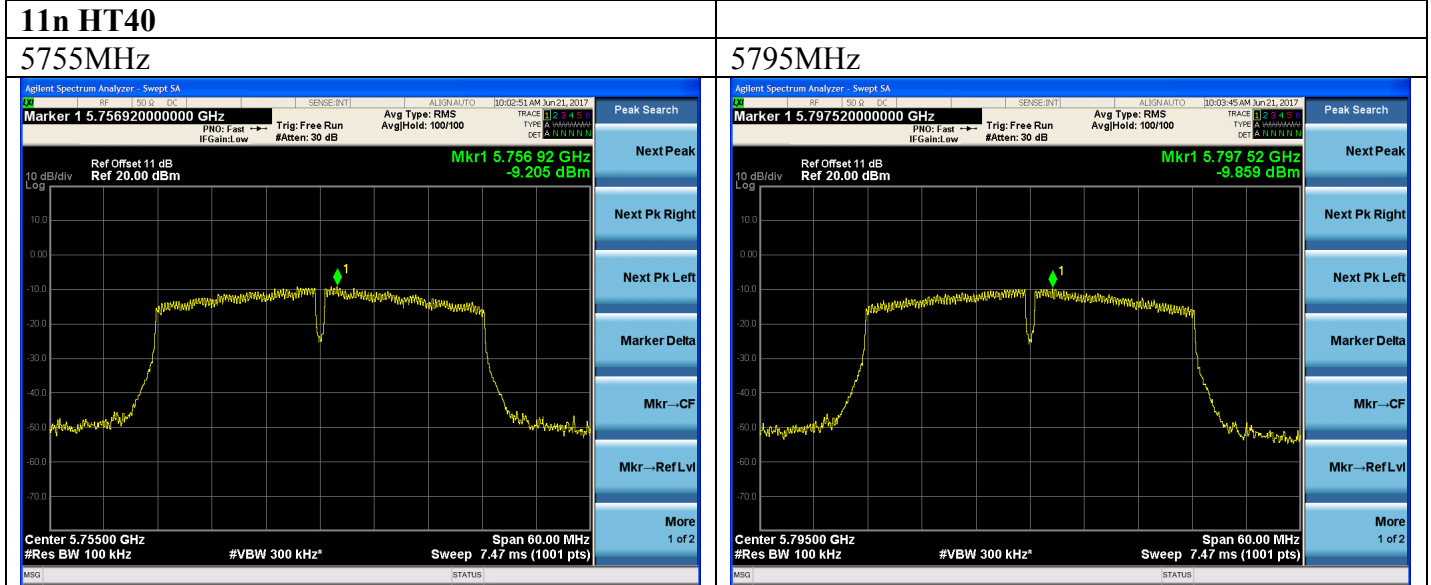


5825MHz



5825MHz





9. MPE ESTIMATION

9.1.Limit for General Population/ Uncontrolled Exposures

Frequency	Power density (mW/cm ²)	Averaging time(minutes)
300MHz----1.5GHz	F/1500	30
1.5GHz---100GHz	1.0	30

Note: F= Frequency in MHz

9.2.Estimation Result

5180-5240MHz Band:

EUT: Wireless Speaker						
M/N: LF-S50G						
Test date: 2016-06-21			Pressure: 102.1±1.0 kpa		Humidity: 51.1±3.0%	
Tested by: Alice-Yang			Test site: RF site		Temperature:22.8±0.6 °C	
Test Mode	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11a	5180	12.86	19.32	6.02	4.00	0.0154
	5200	12.79	19.01	6.02	4.00	0.0151
	5240	12.78	18.97	6.02	4.00	0.0151
11n HT20	5180	12.55	17.99	6.02	4.00	0.0143
	5200	12.57	18.07	6.02	4.00	0.0144
	5240	12.47	17.66	6.02	4.00	0.0141
11n HT40	5190	12.49	17.74	6.02	4.00	0.0141
	5230	12.56	18.03	6.02	4.00	0.0144

$$MPE = \frac{PG}{4\pi R^2} \quad (R=20 \text{ cm})$$

5250-5350MHz Band:

EUT: Wireless Speaker						
M/N: LF-S50G						
Test date: 2016-06-21			Pressure: 102.1±1.0 kpa		Humidity: 51.1±3.0%	
Tested by: Alice-Yang			Test site: RF site		Temperature:22.8±0.6 °C	
Test Mode	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11a	5260	12.48	17.70	6.09	4.06	0.0143
	5300	12.22	16.67	6.09	4.06	0.0135
	5320	12.36	17.22	6.09	4.06	0.0139
11n HT20	5260	12.14	16.37	6.09	4.06	0.0132
	5300	12.05	16.03	6.09	4.06	0.0130
	5320	12.17	16.48	6.09	4.06	0.0133
11n HT40	5270	12.01	15.89	6.09	4.06	0.0129
	5310	12.1	16.22	6.09	4.06	0.0131

$$MPE = \frac{PG}{4\pi R^2} \quad (R=20 \text{ cm})$$

5470-5725MHz Band:

EUT: Wireless Speaker						
M/N: LF-S50G						
Test date: 2016-06-21			Pressure: 102.1±1.0 kpa		Humidity: 51.1±3.0%	
Tested by: Alice-Yang			Test site: RF site		Temperature:22.8±0.6 °C	
Test Mode	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11a	5500	13.01	20.00	5.41	3.48	0.0138
	5600	13.17	20.75	5.41	3.48	0.0144
	5700	12.6	18.20	5.41	3.48	0.0126
11n HT20	5500	12.69	18.58	5.41	3.48	0.0129
	5600	12.8	19.05	5.41	3.48	0.0132
	5700	12.54	17.95	5.41	3.48	0.0124
11n HT40	5510	12.75	18.84	5.41	3.48	0.0130
	5590	12.82	19.14	5.41	3.48	0.0132
	5670	12.5	17.78	5.41	3.48	0.0123

$$MPE = \frac{PG}{4\pi R^2} \quad (R=20 \text{ cm})$$

5745-5825MHz Band:

EUT: Wireless Speaker						
M/N: LF-S50G						
Test date: 2016-06-21			Pressure: 102.1±1.0 kpa		Humidity: 51.1±3.0%	
Tested by: Alice-Yang			Test site: RF site		Temperature:22.8±0.6 °C	
Test Mode	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11a	5745	12.19	16.56	6.39	4.36	0.0144
	5785	11.91	15.52	6.39	4.36	0.0135
	5825	11.79	15.10	6.39	4.36	0.0131
11n HT20	5745	12.08	16.14	6.39	4.36	0.0140
	5785	11.75	14.96	6.39	4.36	0.0130
	5825	11.48	14.06	6.39	4.36	0.0122
11n HT40	5755	11.6	14.45	6.39	4.36	0.0125
	5795	11.88	15.42	6.39	4.36	0.0134

$$MPE = \frac{PG}{4\pi R^2} \quad (R=20 \text{ cm})$$

10.FREQUENCY STABILITY MEASUREMENT

10.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	N9030A	MY51380221	Oct.15,16	1 Year
2.	Amp	HP	8449B	3008A02495	Apr.22.17	1 Year
3.	Horn Antenna	ETS	3115	9510-4580	Nov.16,16	1 Year
4.	RF Cable	Hubersuhner	SUCOFLEX 104	274094/4	Apr.22,17	1 Year

10.2.Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emissions is maintained within the band of operation under all conditions of normal operation as specified in the user's manual or $\pm 20\text{ppm}$

10.3.Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer. EUT have transmitted absence of modulation signal and fixed channelise. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f)/f_c \times 10^6 \text{ ppm}$ and the limit is less than $\pm 20\text{ppm}$ The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
2. Extreme temperature rule is $-30^\circ\text{C} \sim 50^\circ\text{C}$.

10.4.Test Result

EUT: Wireless Speaker		
M/N: LF-S50G		
Test date: 2017-06-21	Pressure: $102.1 \pm 1.0 \text{ kpa}$	Humidity: $51.1 \pm 3.0\%$
Tested by: Alice-Yang	Test site: RF site	Temperature: $22.8 \pm 0.6^\circ\text{C}$

Frequency Stability vs.Voltage:

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC108V	25	CH36	5180.0000	5180	0.000	±20
		CH38	5190.0005	5190	0.096	±20
		CH40	5200.0000	5200	0.000	±20
		CH46	5230.0005	5230	0.096	±20
		CH48	5240.0000	5240	0.000	±20
		CH52	5260.0000	5260	0.000	±20
		CH54	5270.0005	5270	0.095	±20
		CH60	5300.0000	5300	0.000	±20
		CH62	5310.0005	5310	0.094	±20
		CH64	5320.0005	5320	0.094	±20
		CH100	5500.0000	5500	0.000	±20
		CH102	5510.0010	5510	0.181	±20
		CH118	5590.0005	5590	0.089	±20
		CH120	5600.0000	5600	0.000	±20
		CH134	5670.0005	5670	0.088	±20
		CH140	5700.0010	5700	0.175	±20
		CH149	5745.0005	5745	0.087	±20
		CH151	5755.0005	5755	0.087	±20
		CH157	5785.0005	5785	0.086	±20
		CH159	5795.0010	5795	0.173	±20
		CH165	5825.0010	5825	0.172	±20

Conclusion: PASS

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	25	CH36	5180.0005	5180	0.097	±20
		CH38	5190.0010	5190	0.193	±20
		CH40	5200.0000	5200	0.000	±20
		CH46	5230.0005	5230	0.096	±20
		CH48	5240.0000	5240	0.000	±20
		CH52	5260.0000	5260	0.000	±20
		CH54	5270.0005	5270	0.095	±20
		CH60	5300.0000	5300	0.000	±20
		CH62	5310.0005	5310	0.094	±20
		CH64	5320.0000	5320	0.000	±20
		CH100	5500.0000	5500	0.000	±20
		CH102	5510.0010	5510	0.181	±20
		CH118	5590.0005	5590	0.089	±20
		CH120	5600.0000	5600	0.000	±20
		CH134	5670.0005	5670	0.088	±20
		CH140	5700.0015	5700	0.263	±20
		CH149	5745.0005	5745	0.087	±20
		CH151	5755.0010	5755	0.174	±20
		CH157	5785.0005	5785	0.086	±20
		CH159	5795.0015	5795	0.259	±20
		CH165	5825.0010	5825	0.172	±20

Conclusion: PASS

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC132V	25	CH36	5180.0010	5180	0.193	±20
		CH38	5190.0018	5190	0.347	±20
		CH40	5200.0005	5200	0.096	±20
		CH46	5230.0012	5230	0.229	±20
		CH48	5240.0005	5240	0.095	±20
		CH52	5260.0010	5260	0.190	±20
		CH54	5270.0015	5270	0.285	±20
		CH60	5300.0010	5300	0.189	±20
		CH62	5310.0015	5310	0.282	±20
		CH64	5320.0005	5320	0.094	±20
		CH100	5500.0005	5500	0.091	±20
		CH102	5510.0015	5510	0.272	±20
		CH118	5590.0016	5590	0.286	±20
		CH120	5600.0000	5600	0.000	±20
		CH134	5670.0014	5670	0.247	±20
		CH140	5700.0020	5700	0.351	±20
		CH149	5745.0012	5745	0.209	±20
		CH151	5755.0016	5755	0.278	±20
		CH157	5785.0015	5785	0.259	±20
		CH159	5795.0020	5795	0.345	±20
		CH165	5825.0015	5825	0.258	±20

Conclusion: PASS

Frequency Stability vs. Temperature:

Test Voltage (V)	Temp (℃)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	-10℃	CH36	5180.0013	5180	0.251	±20
		CH38	5190.0019	5190	0.366	±20
		CH40	5200.0010	5200	0.192	±20
		CH46	5230.0015	5230	0.287	±20
		CH48	5240.0010	5240	0.191	±20
		CH52	5260.0015	5260	0.285	±20
		CH54	5270.0022	5270	0.417	±20
		CH60	5300.0019	5300	0.358	±20
		CH62	5310.0020	5310	0.377	±20
		CH64	5320.0010	5320	0.188	±20
		CH100	5500.0010	5500	0.182	±20
		CH102	5510.0019	5510	0.345	±20
		CH118	5590.0022	5590	0.394	±20
		CH120	5600.0005	5600	0.089	±20
		CH134	5670.0024	5670	0.423	±20
		CH140	5700.0025	5700	0.439	±20
		CH149	5745.0018	5745	0.313	±20
		CH151	5755.0020	5755	0.348	±20
		CH157	5785.0019	5785	0.328	±20
		CH159	5795.0025	5795	0.431	±20
		CH165	5825.0015	5825	0.258	±20
Conclusion: PASS						

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	0°C	CH36	5180.0010	5180	0.193	±20
		CH38	5190.0015	5190	0.289	±20
		CH40	5200.0006	5200	0.115	±20
		CH46	5230.0010	5230	0.191	±20
		CH48	5240.0010	5240	0.191	±20
		CH52	5260.0012	5260	0.228	±20
		CH54	5270.0018	5270	0.342	±20
		CH60	5300.0010	5300	0.189	±20
		CH62	5310.0015	5310	0.282	±20
		CH64	5320.0005	5320	0.094	±20
		CH100	5500.0010	5500	0.182	±20
		CH102	5510.0015	5510	0.272	±20
		CH118	5590.0018	5590	0.322	±20
		CH120	5600.0005	5600	0.089	±20
		CH134	5670.0015	5670	0.265	±20
		CH140	5700.0020	5700	0.351	±20
		CH149	5745.0015	5745	0.261	±20
		CH151	5755.0012	5755	0.209	±20
		CH157	5785.0018	5785	0.311	±20
		CH159	5795.0020	5795	0.345	±20
		CH165	5825.0010	5825	0.172	±20

Conclusion: PASS

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	10°C	CH36	5180.0008	5180	0.154	±20
		CH38	5190.0010	5190	0.193	±20
		CH40	5200.0005	5200	0.096	±20
		CH46	5230.0006	5230	0.115	±20
		CH48	5240.0005	5240	0.095	±20
		CH52	5260.0010	5260	0.190	±20
		CH54	5270.0012	5270	0.228	±20
		CH60	5300.0010	5300	0.189	±20
		CH62	5310.0010	5310	0.188	±20
		CH64	5320.0005	5320	0.094	±20
		CH100	5500.0005	5500	0.091	±20
		CH102	5510.0010	5510	0.181	±20
		CH118	5590.0015	5590	0.268	±20
		CH120	5600.0000	5600	0.000	±20
		CH134	5670.0010	5670	0.176	±20
		CH140	5700.0015	5700	0.263	±20
		CH149	5745.0012	5745	0.209	±20
		CH151	5755.0010	5755	0.174	±20
		CH157	5785.0015	5785	0.259	±20
		CH159	5795.0018	5795	0.311	±20
		CH165	5825.0005	5825	0.086	±20

Conclusion: PASS

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	20°C	CH36	5180.0005	5180	0.097	±20
		CH38	5190.0008	5190	0.154	±20
		CH40	5200.0000	5200	0.000	±20
		CH46	5230.0005	5230	0.096	±20
		CH48	5240.0000	5240	0.000	±20
		CH52	5260.0005	5260	0.095	±20
		CH54	5270.0010	5270	0.190	±20
		CH60	5300.0005	5300	0.094	±20
		CH62	5310.0005	5310	0.094	±20
		CH64	5320.0000	5320	0.000	±20
		CH100	5500.0000	5500	0.000	±20
		CH102	5510.0005	5510	0.091	±20
		CH118	5590.0010	5590	0.179	±20
		CH120	5600.0000	5600	0.000	±20
		CH134	5670.0005	5670	0.088	±20
		CH140	5700.0012	5700	0.211	±20
		CH149	5745.0010	5745	0.174	±20
		CH151	5755.0005	5755	0.087	±20
		CH157	5785.0010	5785	0.173	±20
		CH159	5795.0012	5795	0.207	±20
		CH165	5825.0000	5825	0.000	±20

Conclusion: PASS

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	30°C	CH36	5180.0010	5180	0.193	±20
		CH38	5190.0015	5190	0.289	±20
		CH40	5200.0005	5200	0.096	±20
		CH46	5230.0010	5230	0.191	±20
		CH48	5240.0005	5240	0.095	±20
		CH52	5260.0005	5260	0.095	±20
		CH54	5270.0010	5270	0.190	±20
		CH60	5300.0005	5300	0.094	±20
		CH62	5310.0010	5310	0.188	±20
		CH64	5320.0005	5320	0.094	±20
		CH100	5500.0005	5500	0.091	±20
		CH102	5510.0015	5510	0.272	±20
		CH118	5590.0010	5590	0.179	±20
		CH120	5600.0005	5600	0.089	±20
		CH134	5670.0010	5670	0.176	±20
		CH140	5700.0022	5700	0.386	±20
		CH149	5745.0012	5745	0.209	±20
		CH151	5755.0015	5755	0.261	±20
		CH157	5785.0010	5785	0.173	±20
		CH159	5795.0025	5795	0.431	±20
		CH165	5825.0018	5825	0.309	±20

Conclusion: PASS

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	40°C	CH36	5180.0005	5180	0.097	±20
		CH38	5190.0012	5190	0.231	±20
		CH40	5200.0000	5200	0.000	±20
		CH46	5230.0008	5230	0.153	±20
		CH48	5240.0000	5240	0.000	±20
		CH52	5260.0000	5260	0.000	±20
		CH54	5270.0006	5270	0.114	±20
		CH60	5300.0000	5300	0.000	±20
		CH62	5310.0005	5310	0.094	±20
		CH64	5320.0015	5320	0.282	±20
		CH100	5500.0011	5500	0.200	±20
		CH102	5510.0012	5510	0.218	±20
		CH118	5590.0015	5590	0.268	±20
		CH120	5600.0010	5600	0.179	±20
		CH134	5670.0015	5670	0.265	±20
		CH140	5700.0020	5700	0.351	±20
		CH149	5745.0010	5745	0.174	±20
		CH151	5755.0010	5755	0.174	±20
		CH157	5785.0015	5785	0.259	±20
		CH159	5795.0020	5795	0.345	±20
		CH165	5825.0011	5825	0.189	±20

Conclusion: PASS

Test Voltage (V)	Temp (°C)	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)	Limit (ppm)
AC120V	50°C	CH36	5180.0015	5180	0.290	±20
		CH38	5190.0024	5190	0.462	±20
		CH40	5200.0010	5200	0.192	±20
		CH46	5230.0000	5230	0.000	±20
		CH48	5240.0010	5240	0.191	±20
		CH52	5260.0005	5260	0.095	±20
		CH54	5270.0010	5270	0.190	±20
		CH60	5300.0005	5300	0.094	±20
		CH62	5310.0018	5310	0.339	±20
		CH64	5320.0016	5320	0.301	±20
		CH100	5500.0005	5500	0.091	±20
		CH102	5510.0015	5510	0.272	±20
		CH118	5590.0018	5590	0.322	±20
		CH120	5600.0005	5600	0.089	±20
		CH134	5670.0011	5670	0.194	±20
		CH140	5700.0017	5700	0.298	±20
		CH149	5745.0010	5745	0.174	±20
		CH151	5755.0005	5755	0.087	±20
		CH157	5785.0010	5785	0.173	±20
		CH159	5795.0018	5795	0.311	±20
		CH165	5825.0005	5825	0.086	±20

Conclusion: PASS

11. ANTENNA REQUIREMENT

11.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2. Antenna Connected Construction

The antennas used for this product are FPC Board antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 6.02dBi & 6.09dBi & 5.41dBi & 6.39dBi.

12. DEVIATION TO TEST SPECIFICATIONS

[NONE]