

TEST REPORT

Reference No...... : WTS19S09066153W001 V1
FCC ID : ZLZ-WMTSAP70
Applicant..... : Shenzhen Mindray BIO-Medical electronics Co.,LTD.
Address..... : Mindray Building, Keji 12th Road South, Hi-tech Ind, Shenzhen, China
Manufacturer : The same as above
Address..... : The same as above
Product..... : WMTS Access Point
Model(s) : AP70
Brand Name..... : Mindray
Standards..... : FCC CFR47 Part 95 Subpart H
Date of Receipt sample : 2019-09-23
Date of Test : 2019-09-24 to 2019-11-25
Date of Issue..... : 2020-03-17
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS19S09066 153W001	2019-09-23	2019-09-24	2019-11-25	original	-	Replaced
WTS19S09066 153W001 V1	2019-09-23	2019-09-24	2020-03-17	Version 1	Updated	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	WMTS Access Point
Model(s):	AP70
Model Description:	N/A
Support:	WMTS
Hardware Version:	1.0
Software Version:	1.0

4.2 Details of E.U.T.

Operation Frequency:	608MHz(608-614MHz) 1.4GHz(1395-1400MHz) 1.4GHz(1427-1432MHz)
Max. RF output power:	RF1:608MHz:104.62dBu/m ,1.4GHz: 100.65 dBu/m RF2: 608MHz: 104.13 dBu/m, 1.4GHz: 101.11 dBu/m
Type of Modulation:	GFSK
Antenna installation:	WMTS: External antenna
Ratings:	POE power:44-57V 0.1A DC 5V 1A From adapter

4.3 Test Mode

All channels and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

Support Band	Channel Frequency
608-614MHz	608.66 MHz
	611.06 MHz
	613.46 MHz
1395-1400MHz and 1427-1432 MHz(wide band)	1395.5 MHz
	1399.5 MHz
	1431.5 MHz
1395-1400MHz and 1427-1432 MHz(narrow band)	1395.4 MHz
	1399.6 MHz
	1431.6 MHz

5 Test Summary

Test Items	Test Requirement	Result
FIELD STRENGTH OF FUNDAMENTAL	95.2369(a)(b)	PASS
FIELD STRENGTH OF SPURIOUS EMISSIONS	95.2379(a)(b)	PASS
OCCUPIED BANDWIDTH	2.1049	PASS
FREQUENCY STABILITY	95.2365	PASS

6 Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Services(Shenzhen) Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

7 Equipment Used during Test

7.1 Equipments List

3m Semi-anechoic Chamber for Radiation Emissions Test site 1#						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	Spectrum Analyzer	R&S	FSP	100091	2019-04-19	2020-04-18
2	LARGE LOOP ANTENNA	Laplace	RF300	9057	2019-09-17	2020-09-16
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	2019-04-28	2020-04-27
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	2019-04-28	2020-04-27
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	2019-04-19	2020-04-18
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2019-04-28	2020-04-27
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	2019-04-19	2020-04-18
8	Coaxial Cable (above 1GHz)	Top	1GHz-25GHz	EW02014-7	2019-04-19	2020-04-18
10	Signal Generator	R&S	SMR20	100046	2019-07-12	2020-07-11
11	Smart Antenna	SCHWARZBECK	HA08	-	2019-04-09	2020-04-08
3m Semi-anechoic Chamber for Radiation Emissions Test site 2#						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	Test Receiver	R&S	ESCI	101296	2019-04-20	2020-04-19
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2019-05-24	2020-05-23
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	2019-04-19	2020-04-18
4	Cable	HUBER+SUHNER	CBL2	525178	2019-04-20	2020-04-19
RF Conducted Testing						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	2019-09-12	2020-09-11

7.2 Measurement Uncertainty

Parameter	Uncertainty
Conducted Emission	± 3.64 dB(AC mains 150KHz~30MHz)

Radiated Spurious Emissions	± 5.08 dB (Bilog antenna 30M~1000MHz)
	± 5.47 dB (Horn antenna 1000M~25000MHz)
Radio Frequency	± 1 x 10 ⁻⁷ Hz
RF Power	± 0.42 dB
RF Power Density	± 0.7dB
Conducted Spurious Emissions	± 2.76 dB (9kHz~26500MHz)
Confidence interval: 95%. Confidence factor:k=2	

7.3 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

8 FIELD STRENGTH OF FUNDAMENTAL

Test Requirement:	95.2369(a)(b)
Test Method:	ANSI/TIA-603-E-2016
Test Mode:	TX transmitting

8.1 EUT Operation

Operating Environment :

Temperature:	22.5 °C
Humidity:	52.1 % RH
Atmospheric Pressure:	101.2kPa

8.2 Test Procedure

Radiated method:

1. The setup of EUT is according with per TIA/EIA/EIA Standard 603-C.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

8.3 Test limits

(a) For WMTS transmitter types operating in the 608-614 MHz band, the field strength of the transmitted signal must not exceed 200 mV/m, measured at a distance of 3 meters, using instrumentation with a CISPR quasi-peak detector.

(b) For WMTS transmitter types operating in the 1395-1400 MHz and 1427-1432 MHz bands, the field strength of the transmitted signal must not exceed 740 mV/m, measured at 3 meters, using instrumentation with an averaging detector and a 1MHz reference bandwidth.

8.4 Test Result

FIELD STRENGTH OF FUNDAMENTAL

RF1:

Test channels(MHz)	Field Strength(dBuv/m)	limits(dBuv/m)	Result
608.66 MHz	104.62	106	PASS
611.06 MHz	104.10	106	PASS
613.46 MHz	103.20	106	PASS
1395.5 MHz(WB)	99.98	117.4	PASS
1399.5 MHz(WB)	100.65	117.4	PASS
1431.5 MHz(WB)	98.89	117.4	PASS
1395.4 MHz(NB)	99.48	117.4	PASS
1399.6 MHz(NB)	99.48	117.4	PASS
1431.6 MHz(NB)	98.89	117.4	PASS

RF2:

Test channels(MHz)	Field Strength(dBuv/m)	limits(dBuv/m)	Result
608.66 MHz	103.80	106	PASS
611.06 MHz	104.13	106	PASS
613.46 MHz	103.52	106	PASS
1395.5 MHz(WB)	101.11	117.4	PASS
1399.5 MHz(WB)	100.71	117.4	PASS
1431.5 MHz(WB)	99.42	117.4	PASS
1395.4 MHz(NB)	100.38	117.4	PASS
1399.6 MHz(NB)	100.02	117.4	PASS
1431.6 MHz(NB)	98.77	117.4	PASS

9 FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Requirement: 95.2379(a)(b)
Test Method: ANSI/TIA-603-E-2016
Test Mode: TX transmitting

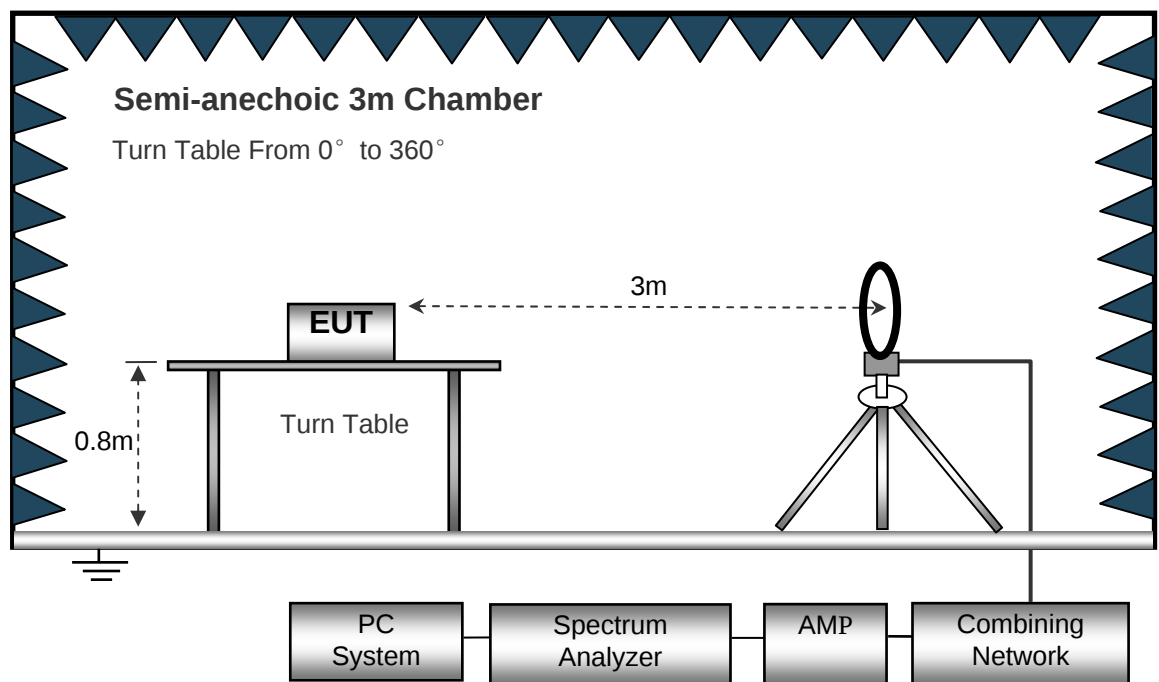
9.1 EUT Operation

Operating Environment :

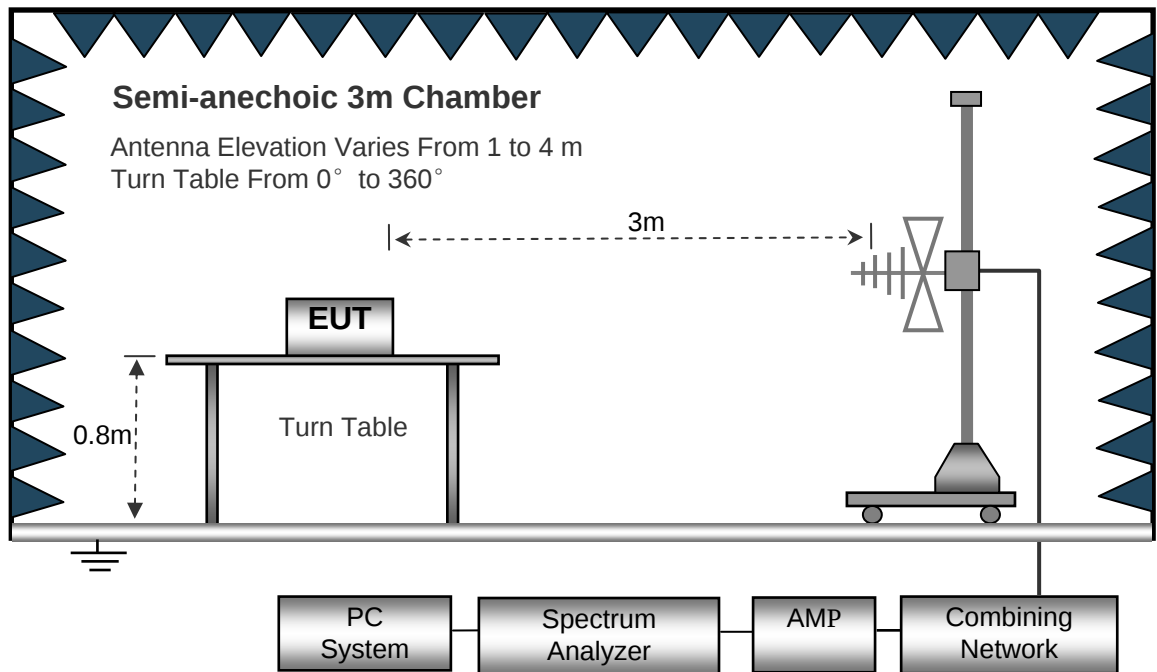
Temperature: 23.5 °C
Humidity: 52.1 % RH
Atmospheric Pressure: 101.2kPa

9.2 Test Setup

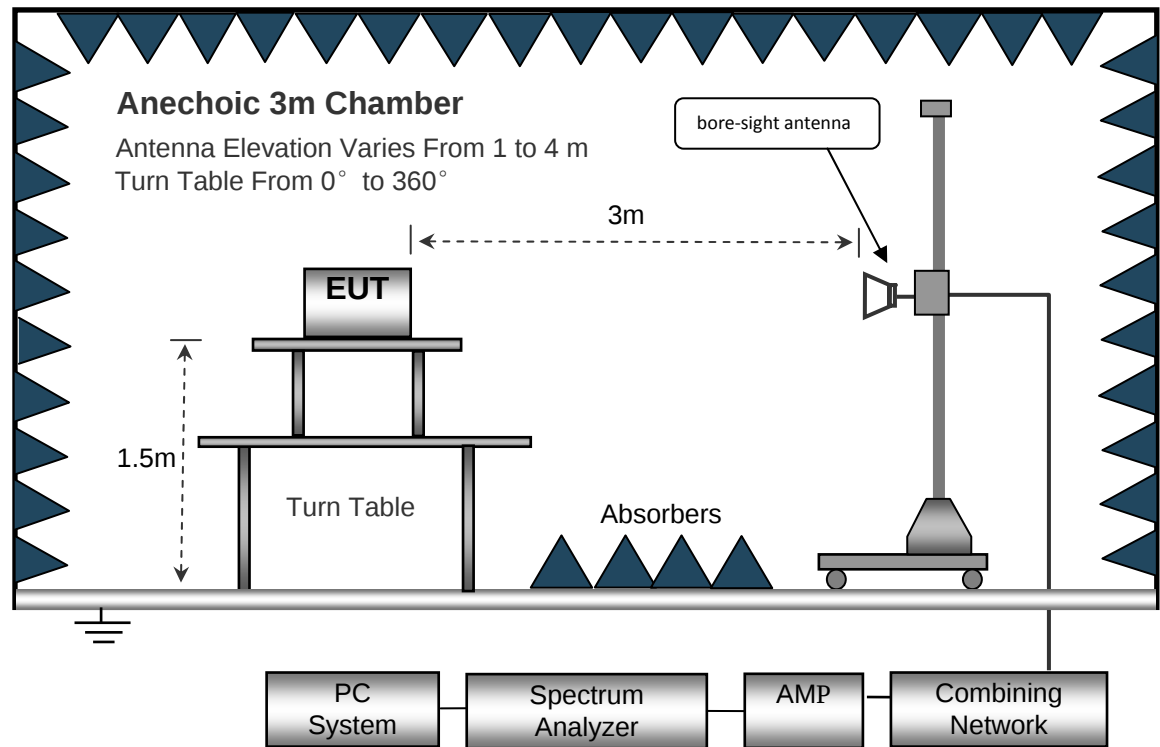
The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site.
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



9.3 Spectrum Analyzer Setup

30MHz ~ 1GHz

Sweep Speed Auto
Detector PK
Resolution Bandwidth.....100kHz
Video Bandwidth.....300kHz
Detector QP.
Resolution Bandwidth.....100kHz
Video Bandwidth.....300kHz

Above 1GHz

Sweep Speed Auto
Detector PK
Resolution Bandwidth.....1MHz
Video Bandwidth.....3MHz
Detector Ave.
Resolution Bandwidth.....1MHz
Video Bandwidth.....3MHz

9.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m for below 1GHz and 1.5m for above 1GHz above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from 30MHz up to the tenth harmonic of the highest fundamental frequency.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the Z position. So the data shown was the Z position only.
7. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = $10 \lg (\text{TXpwr in Watts}/0.001)$ – the absolute level
Spurious attenuation limit in dB = $43 + 10 \lg (\text{power out in Watts})$
8. Repeat above procedures until the measurements for all frequencies are completed.

9.5 Summary of Test Results

For 26MHz~30MHz,

The measurements were more than 20 dB below the limit and not reported.

Remark: Test performed from 30MHz to 10th harmonics with low/middle/high channels at RF1 and RF2 ANT, only the worst data were recorded.

RF1 Low channel(1395.5MHz WB)

Freq (MHz)	Reading (dBuv/m)	Factor (dB)	Polar (V/H)	Result (dBuv/m)	Limit (dBuv/m)	Margin (dB)	Detector
252.0627	42.55	-16.12	V	26.43	46.00	-19.57	QP
417.6411	45.56	-11.81	V	33.75	46.00	-12.25	QP
492.4685	40.93	-10.19	H	30.74	46.00	-15.26	QP
492.4685	40.93	-3.31	H	29.74	46.00	-16.26	QP
2791.000	37.09	-10.93	V	26.16	54.00	-27.84	AV
4186.500	37.60	-4.70	V	32.90	54.00	-21.10	AV
2791.000	33.17	-7.21	H	25.96	54.00	-28.04	AV
4186.500	37.34	-4.62	H	32.72	54.00	-21.28	AV

RF1 Low channel(1395.5MHz NB)

Freq (MHz)	Reading (dBuv/m)	Factor (dB)	Polar (V/H)	Result (dBuv/m)	Limit (dBuv/m)	Margin (dB)	Detector
492.4685	40.93	-10.19	V	30.74	46.00	-15.26	QP
887.6099	33.05	-3.31	V	29.74	46.00	-16.26	QP
501.1790	40.50	-10.06	H	30.44	46.00	-15.56	QP
801.7863	33.39	-4.42	H	28.97	46.00	-17.03	QP
2730.800	36.60	-11.10	V	25.50	54.00	-28.50	AV
4186.200	37.35	-4.70	V	32.65	54.00	-21.35	AV
2730.800	32.40	-7.27	H	25.13	54.00	-28.87	AV
4186.200	37.10	-4.62	H	32.48	54.00	-21.52	AV

RF1 Low channel(608.66MHz)

Freq (MHz)	Reading (dBuv/m)	Factor (dB)	Polar (V/H)	Result (dBuv/m)	Limit (dBuv/m)	Margin (dB)	Detector
250.3012	42.18	-16.16	V	26.02	46.00	-19.98	QP
382.5879	41.60	-12.76	V	28.84	46.00	-17.16	QP
237.4760	45.76	-16.63	H	29.13	46.00	-16.87	QP
420.5803	40.78	-11.71	H	29.07	46.00	-16.93	QP
1217.320	40.37	-14.91	V	25.46	54.00	-28.54	AV
1825.980	36.47	-11.65	V	24.82	54.00	-29.18	AV
1198.000	46.74	-12.80	H	33.94	54.00	-20.06	AV
1217.320	36.45	-12.70	H	23.75	54.00	-30.25	AV

Note: Margin = Limit-Result

10 OCCUPIED BANDWIDTH

Test Requirement:	2.1049
Test Method:	ANSI/TIA-603-E-2016
Test Mode:	TX transmitting

10.1 EUT Operation

Operating Environment :	
Temperature:	23.5 °C
Humidity:	52.3 % RH
Atmospheric Pressure:	101.3kPa

10.2 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 10kHz, VBW = 30kHz

10.3 Test Result

RF1:

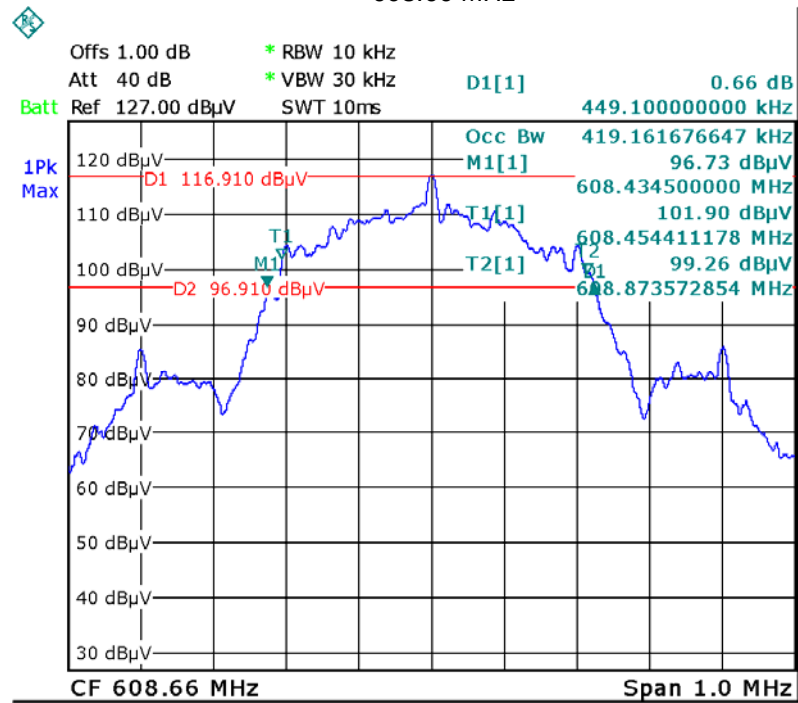
Test Channel	Bandwidth(KHz)
608.66 MHz	449.10
611.06 MHz	449.10
613.46 MHz	447.10
1395.5 MHz(WB)	878.20
1399.5 MHz(WB)	878.20
1431.5 MHz(WB)	878.20
1395.4 MHz(NB)	441.10
1399.6 MHz(NB)	441.10
1431.6 MHz(NB)	441.10

RF2

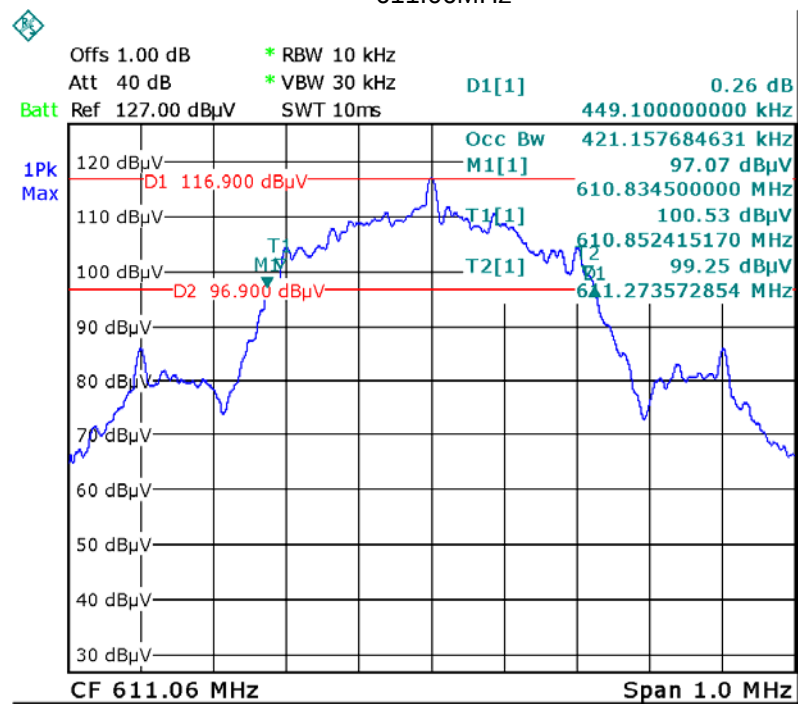
Test Channel	Bandwidth(KHz)
608.66 MHz	451.10
611.06 MHz	451.10
613.46 MHz	451.10
1395.5 MHz(WB)	878.20
1399.5 MHz(WB)	878.20
1431.5 MHz(WB)	878.20
1395.4 MHz(NB)	439.70
1399.6 MHz(NB)	441.10
1431.6 MHz(NB)	441.10

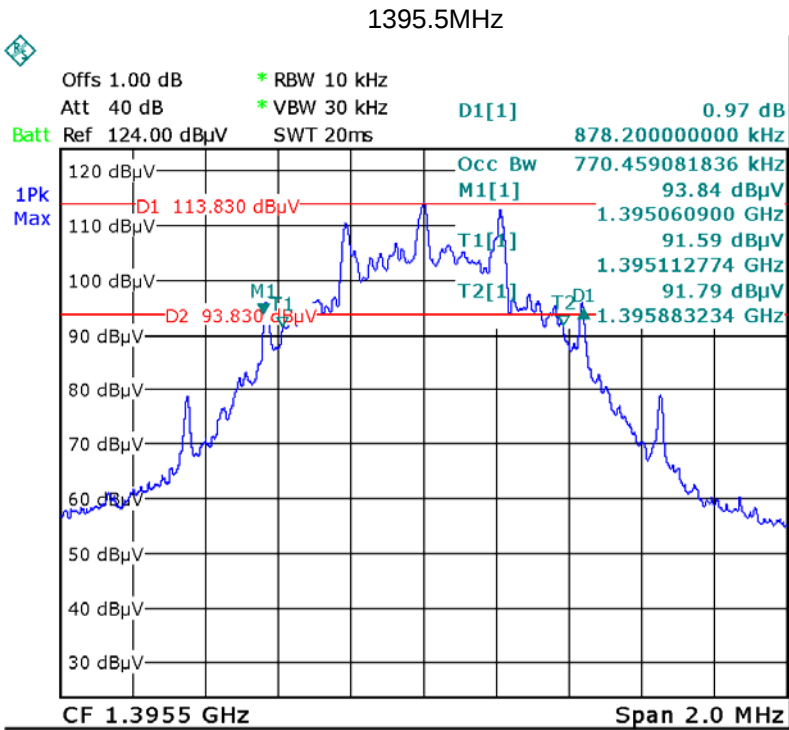
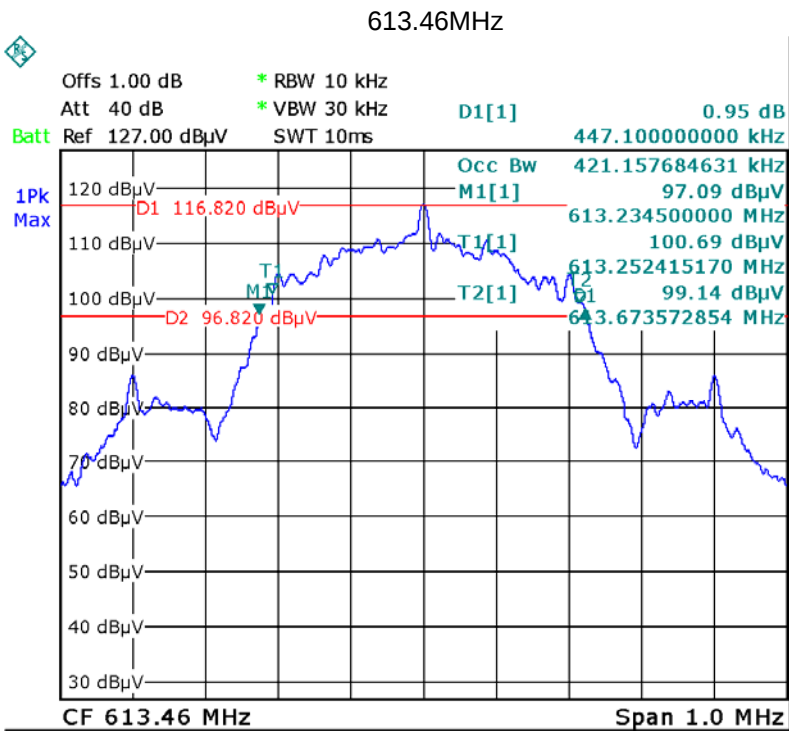
RF1:Test plots

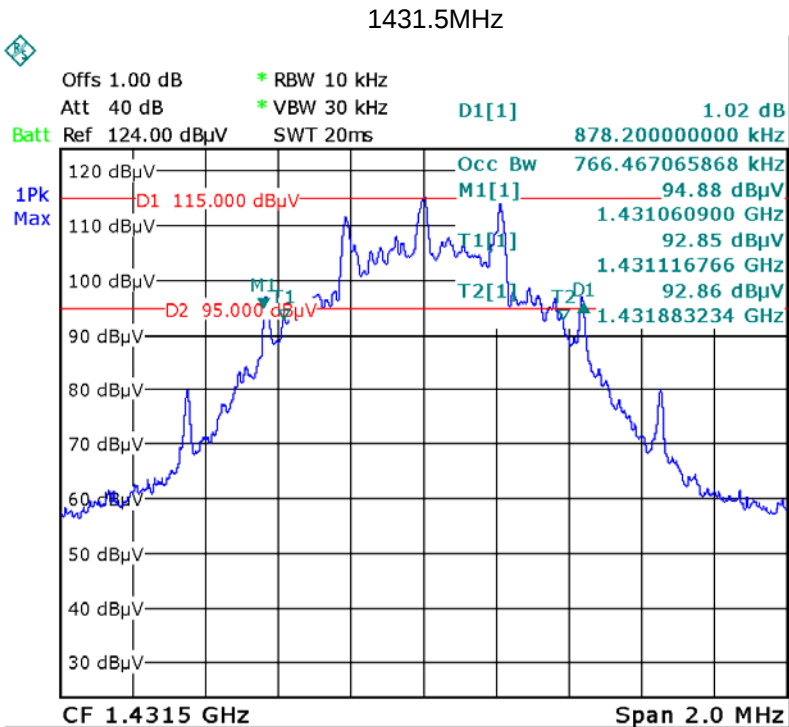
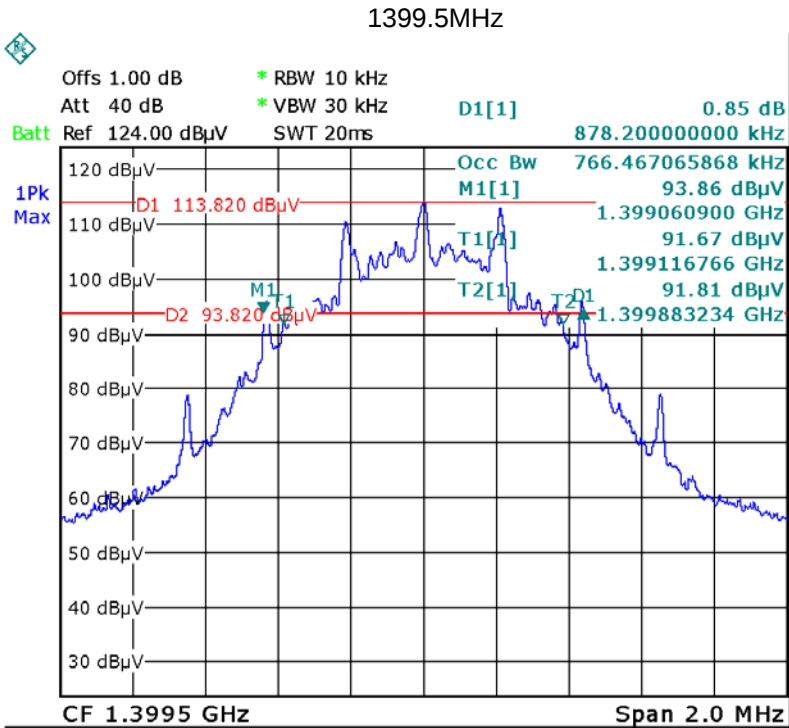
608.66 MHz

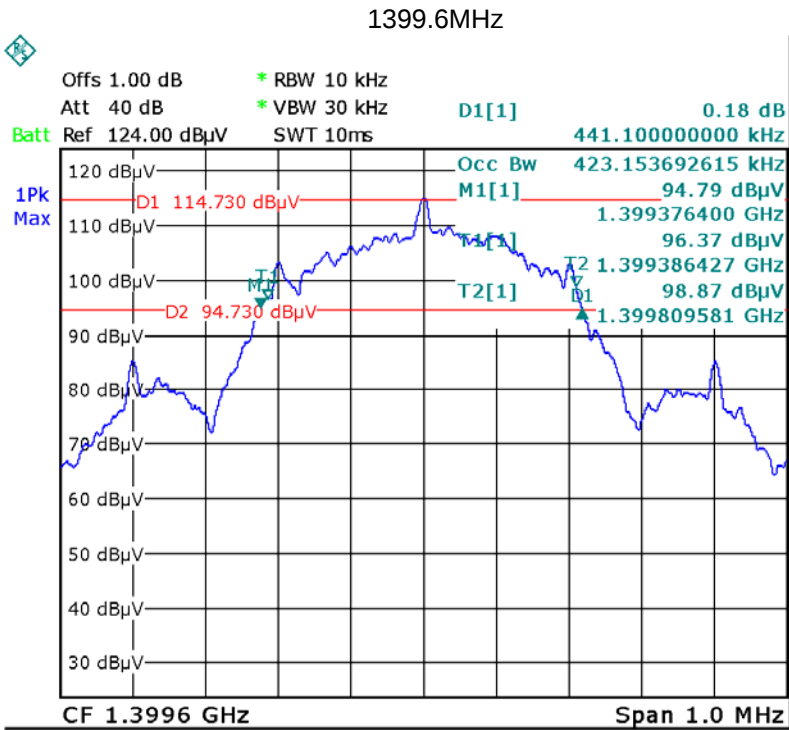
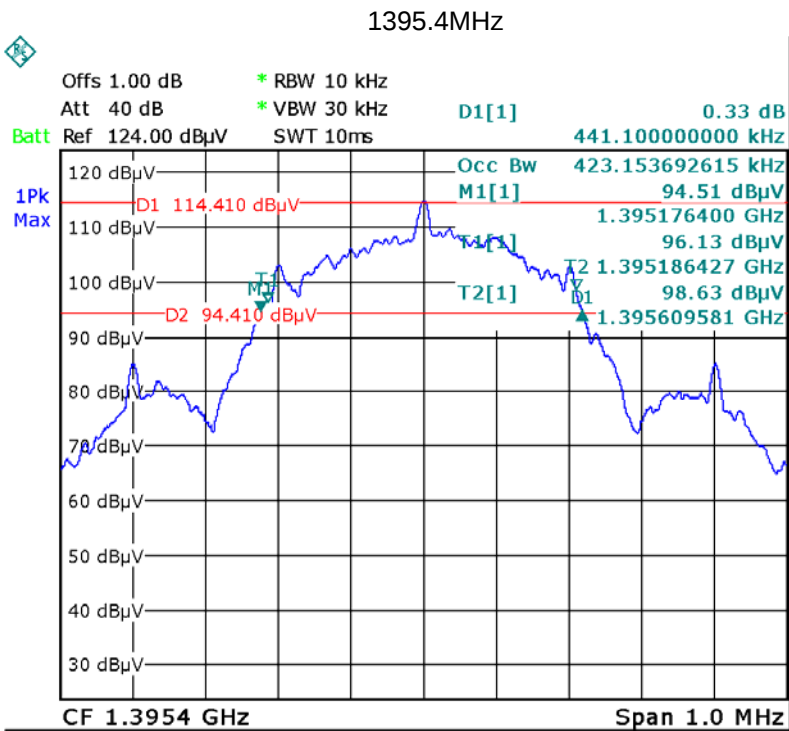


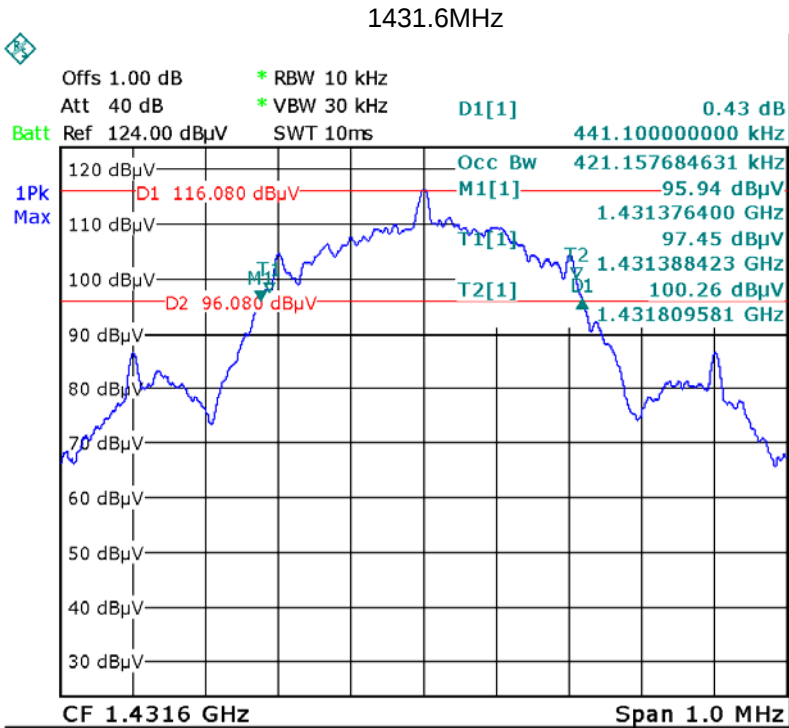
611.06MHz





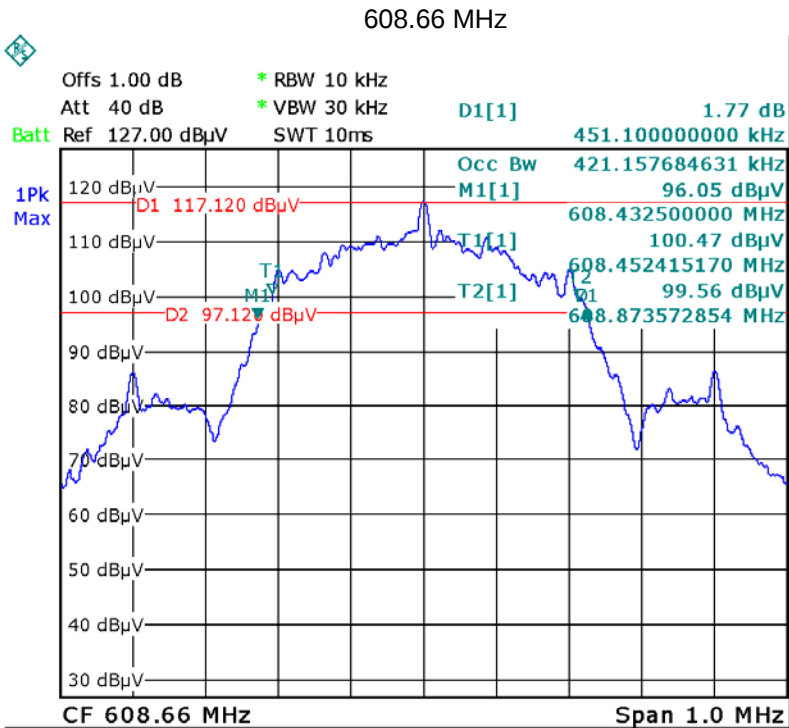


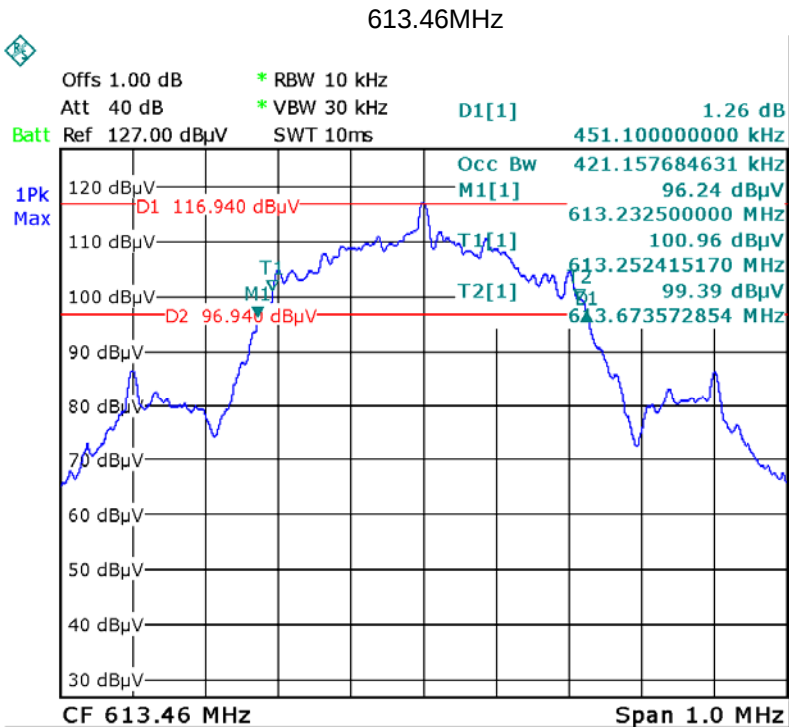
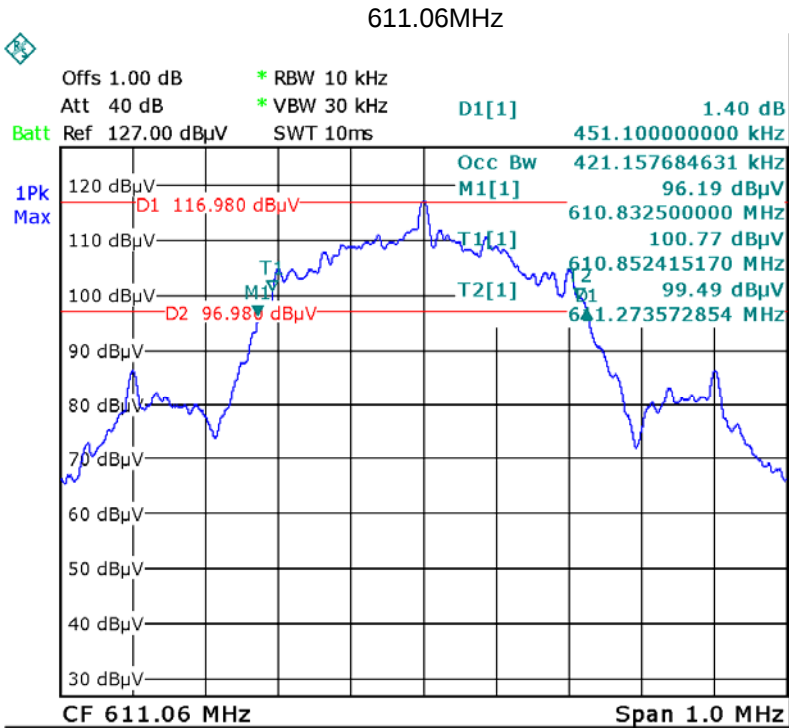


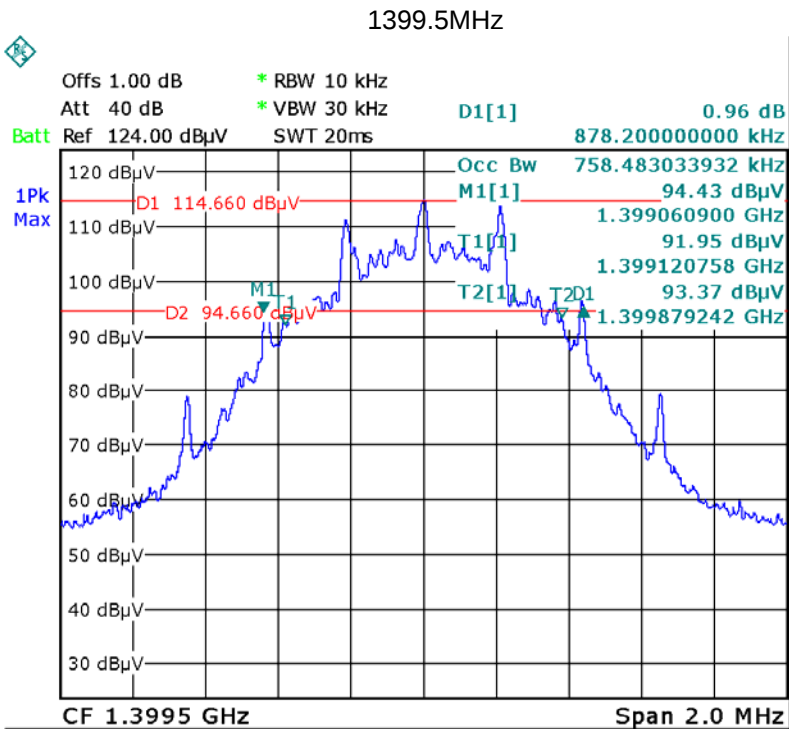
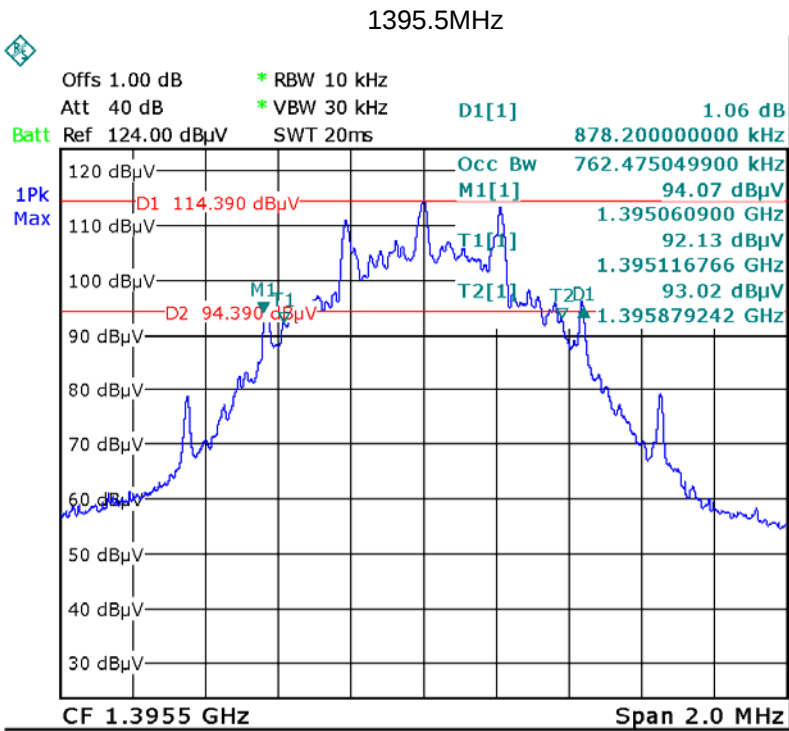


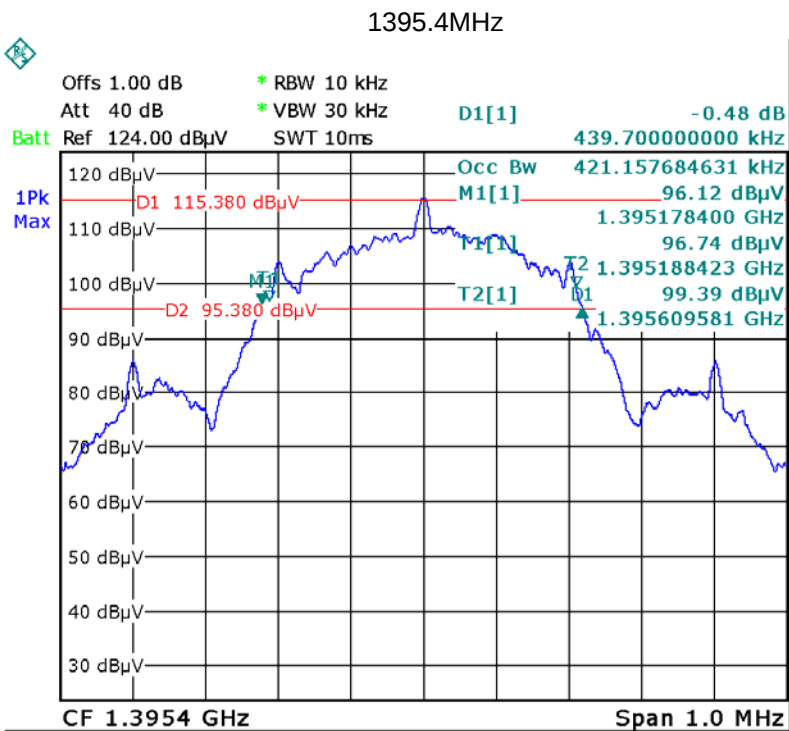
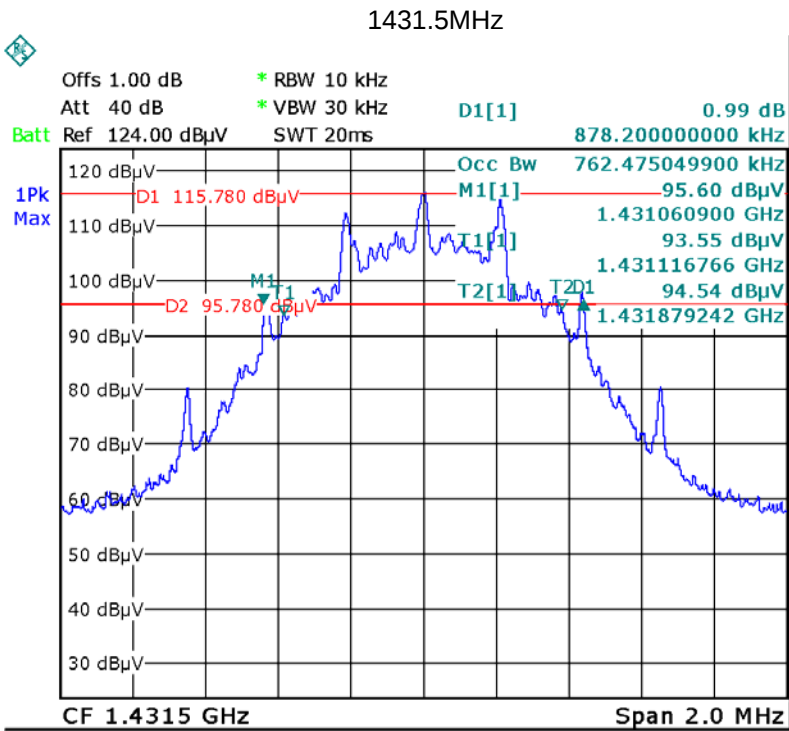
RF2

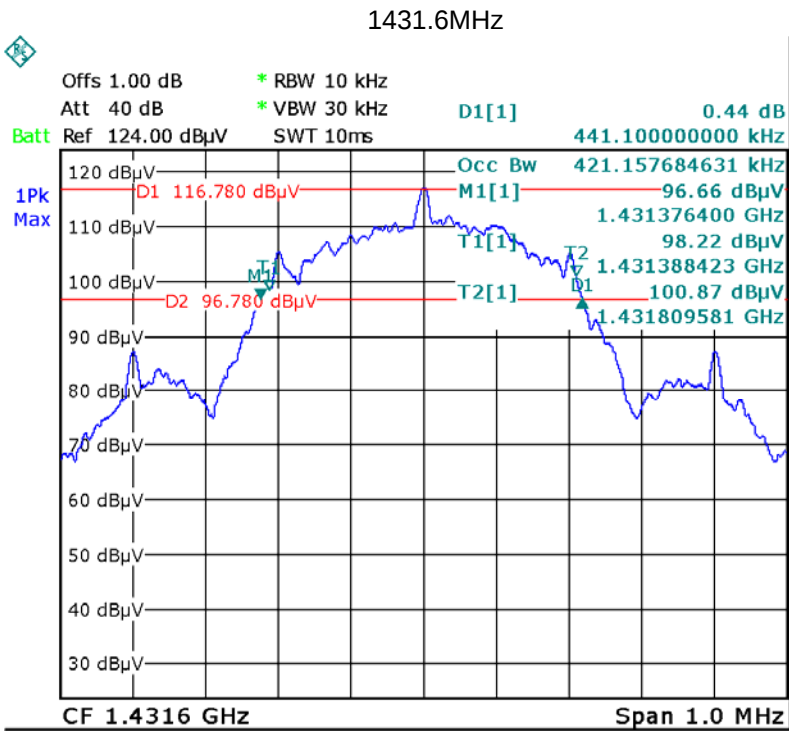
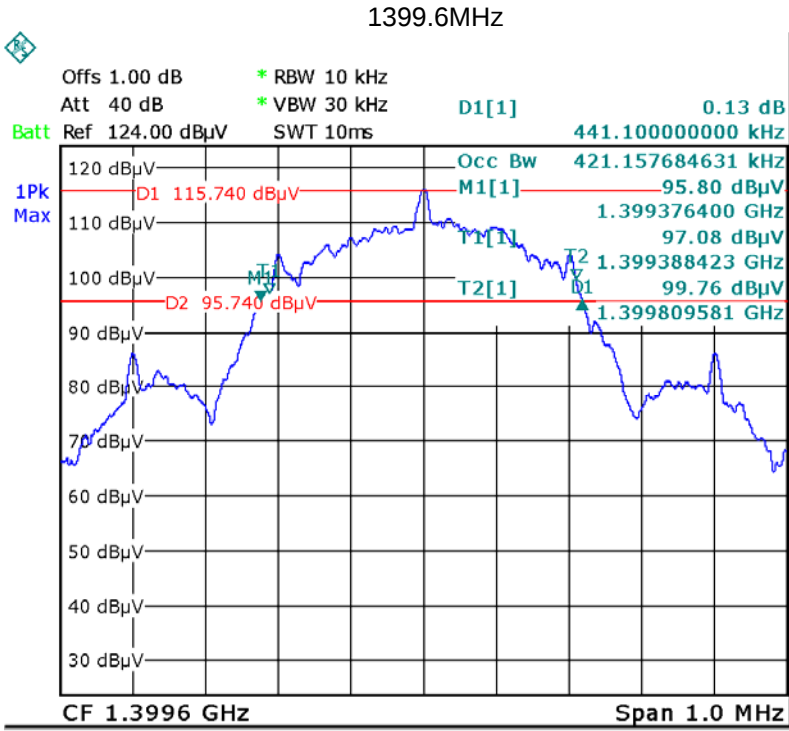
RF1:Test plots











11 FREQUENCY STABILITY

Test Requirement:	FCC Part 2.1055
Test Method:	ANSI/TIA-603-E-2016 ANSI C63.26:2015
Test Mode:	TX transmitting
Note:	N/A

11.1 EUT Operation

Operating Environment :

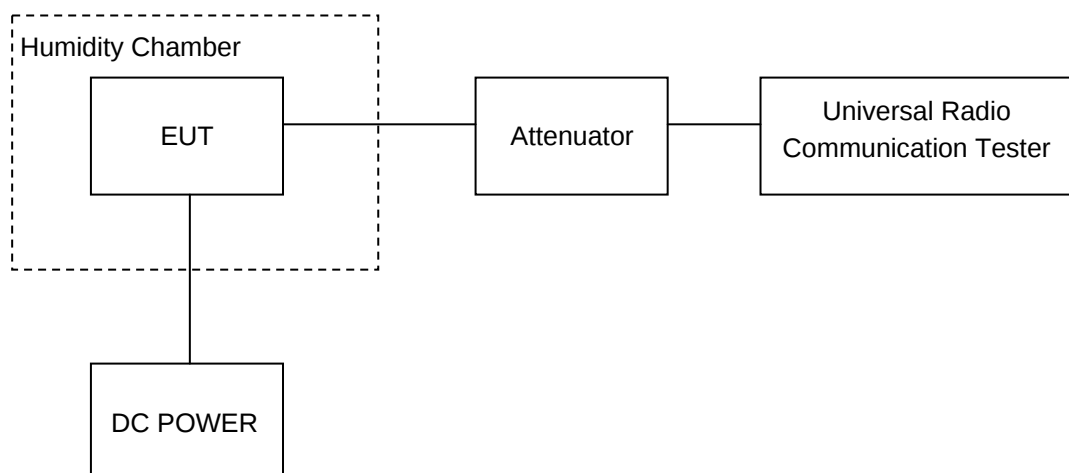
Temperature:	22.9 °C
Humidity:	52.0 % RH
Atmospheric Pressure:	101.3kPa

11.2 Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



11.3 Test Result

RF1 ANT

Test Frequency:1395.5MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	17	0.0122	100
40		1	0.0007	100
30		11	0.0079	100
20		9	0.0064	100
10		12	0.0086	100
0		14	0.0100	100
-10		12	0.0086	100
-20		14	0.0100	100
-30		11	0.0079	100
20	4.50	13	0.0093	100
20	5.75	14	0.0100	100

Test Frequency:1399.5MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	8	0.0057	100
40		17	0.0121	100
30		5	0.0036	100
20		9	0.0064	100
10		15	0.0107	100
0		5	0.0036	100
-10		9	0.0064	100
-20		11	0.0079	100
-30		1	0.0007	100
20	4.50	11	0.0079	100
20	5.75	12	0.0086	100

Test Frequency:1431.5MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	12	0.0084	100
40		12	0.0084	100
30		5	0.0035	100
20		9	0.0063	100
10		14	0.0098	100
0		4	0.0028	100
-10		17	0.0119	100
-20		7	0.0049	100
-30		0	0.0000	100
20	4.50	4	0.0028	100
20	5.75	8	0.0056	100

Test Frequency:1395.4MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	15	0.0107	100
40		17	0.0122	100
30		1	0.0007	100
20		9	0.0064	100
10		17	0.0122	100
0		11	0.0079	100
-10		16	0.0115	100
-20		17	0.0122	100
-30		2	0.0014	100
20	4.50	9	0.0064	100
20	5.75	2	0.0014	100

Test Frequency:1399.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	12	0.0086	100
40		16	0.0114	100
30		10	0.0071	100
20		9	0.0064	100
10		4	0.0029	100
0		16	0.0114	100
-10		11	0.0079	100
-20		10	0.0071	100
-30		11	0.0079	100
20	4.50	6	0.0043	100
20	5.75	14	0.0100	100

Test Frequency:1431.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	14	0.0098	100
40		1	0.0007	100
30		2	0.0014	100
20		9	0.0063	100
10		2	0.0014	100
0		6	0.0042	100
-10		11	0.0077	100
-20		1	0.0007	100
-30		3	0.0021	100
20	4.50	13	0.0091	100
20	5.75	12	0.0084	100

Test Frequency:608.66MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	2	0.0033	100
40		11	0.0181	100
30		9	0.0148	100
20		9	0.0148	100
10		9	0.0148	100
0		5	0.0082	100
-10		2	0.0033	100
-20		9	0.0148	100
-30		3	0.0049	100
20	4.50	3	0.0049	100
20	5.75	17	0.0279	100

Test Frequency:611.06MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	3	0.0049	100
40		13	0.0213	100
30		8	0.0131	100
20		9	0.0147	100
10		9	0.0147	100
0		5	0.0082	100
-10		11	0.0180	100
-20		17	0.0278	100
-30		12	0.0196	100
20	4.50	15	0.0245	100
20	5.75	8	0.0131	100

Test Frequency:613.46MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	17	0.0277	100
40		15	0.0245	100
30		15	0.0245	100
20		9	0.0147	100
10		11	0.0179	100
0		4	0.0065	100
-10		4	0.0065	100
-20		3	0.0049	100
-30		15	0.0245	100
20	4.50	18	0.0293	100
20	5.75	5	0.0082	100

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Test Frequency:1395.5MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	11	0.0059	100
40		12	0.0064	100
30		-3	-0.0016	100
20		6	0.0032	100
10		-1	-0.0005	100
0		13	0.0069	100
-10		4	0.0021	100
-20		13	0.0069	100
-30		0	0.0000	100
20	4.50	1	0.0005	100
20	5.75	-2	-0.0011	100

Test Frequency:1399.5MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	2	0.0024	100
40		-2	-0.0024	100
30		0	0.0000	100
20		5	0.0060	100
10		1	0.0012	100
0		11	0.0131	100
-10		-2	-0.0024	100
-20		8	0.0096	100
-30		-1	-0.0012	100
20	4.50	5	0.0060	100
20	5.75	-4	-0.0048	100

Test Frequency:1431.5MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	7	0.0084	100
40		17	0.0203	100
30		9	0.0108	100
20		8	0.0096	100
10		1	0.0012	100
0		7	0.0084	100
-10		0	0.0000	100
-20		2	0.0024	100
-30		16	0.0191	100
20	4.50	15	0.0179	100
20	5.75	0	0.0000	100

Test Frequency:1395.4MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	6	0.0072	100
40		2	0.0024	100
30		10	0.0120	100
20		6	0.0072	100
10		10	0.0120	100
0		11	0.0131	100
-10		14	0.0167	100
-20		14	0.0167	100
-30		-1	-0.0012	100
20	4.50	6	0.0072	100
20	5.75	12	0.0143	100

Test Frequency:1399.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	12	0.0086	100
40		16	0.0114	100
30		10	0.0071	100
20		9	0.0064	100
10		4	0.0029	100
0		16	0.0114	100
-10		11	0.0079	100
-20		10	0.0071	100
-30		11	0.0079	100
20	4.50	6	0.0043	100
20	5.75	14	0.0100	100

Test Frequency:1431.6MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	10	0.0053	100
40		10	0.0053	100
30		-1	-0.0005	100
20		7	0.0037	100
10		15	0.0080	100
0		8	0.0043	100
-10		11	0.0059	100
-20		2	0.0011	100
-30		2	0.0011	100
20	4.50	-2	-0.0011	100
20	5.75	12	0.0064	100

Test Frequency:608.66MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	7	0.0037	100
40		-2	-0.0011	100
30		2	0.0011	100
20		3	0.0016	100
10		2	0.0011	100
0		0	0.0000	100
-10		9	0.0048	100
-20		-4	-0.0021	100
-30		-1	-0.0005	100
20	4.50	10	0.0053	100
20	5.75	4	0.0021	100

Test Frequency:611.06MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	1	0.0005	100
40		11	0.0059	100
30		-3	-0.0016	100
20		5	0.0027	100
10		10	0.0053	100
0		-1	-0.0005	100
-10		-1	-0.0005	100
-20		12	0.0064	100
-30		6	0.0032	100
20	4.50	8	0.0043	100
20	5.75	6	0.0032	100

Test Frequency:613.46MHz				
Temperature (°C)	Power Supply (VDC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	5	2	0.0024	100
40		-5	-0.0060	100
30		0	0.0000	100
20		1	0.0012	100
10		-7	-0.0084	100
0		-4	-0.0048	100
-10		-2	-0.0024	100
-20		-6	-0.0072	100
-30		6	0.0072	100
20	4.50	8	0.0096	100
20	5.75	9	0.0108	100

12 RF Exposure

Remark: refer to MPE test report: WTS19S09066153W002

13 Photographs of test setup and EUT.

Note: Please refer to appendix AP70 -Photo.

===== End of Report =====