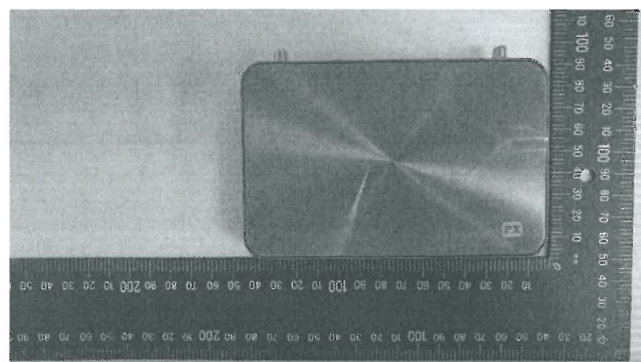


Prüfbericht-Nr.: Test Report No.:	10052149 002	Auftrags-Nr.: Order No.:	114037182	Seite 1 von 62 Page 1 of 62
Kunden-Referenz-Nr.: Client Reference No.:	N/A	Auftragsdatum: Order date:	25-Jun-2015	
Auftraggeber: Client:	Trans Electric Co., Ltd., 771, Sec. 2, Chungsan Road, Huatang, Changhua, Taiwan			
Prüfgegenstand: Test item:	1080P HD wireless sender			
Bezeichnung / Typ-Nr.: Identification / Type No.:	WTR-PRO			
Auftrags-Inhalt: Order content:	FCC Part15E & RSS-247			
Prüfgrundlage: Test specification:	FCC 47CFR Part 15: Subpart E Section 15.407 Industry Canada RSS-247			
Wareneingangsdatum: Date of receipt:	14-Nov-2015			
Prüfmuster-Nr.: Test sample No.:	A000277282-003			
Prüfzeitraum: Testing period:	16-Nov-2015 - 9-Dec-2015			
Ort der Prüfung: Place of testing:	EMC/RF Laboratory Taipei			
Prüflaboratorium: Testing laboratory:	TUV Rheinland Taiwan Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von / tested by: 2015-12-28 Ryan W. T. Chen / Project Manager Datum Name / Stellung Unterschrift Date Name / Position Signature		kontrolliert von / reviewed by: 2015-12-28 Rene Charton/Senior Project Manager Datum Name / Stellung Unterschrift Date Name / Position Signature		
Sonstiges / Other:				
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.				



TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Passed

5.1.2 26 dB BANDWIDTH AND 99% BANDWIDTH

RESULT: Passed

5.1.3 6 dB BANDWIDTH AND 26dB BANDWDITH (5745-5850MHz)

RESULT: Passed

5.1.4 TRANSMIT OUTPUT POWER

RESULT: Passed

5.1.5 POWER SPECTRAL DENSITY

RESULT: Passed

5.1.6 SPURIOUS EMISSION

RESULT: Passed

5.2.1 MAINS CONDUCTED EMISSIONS

RESULT: Passed

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1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix P: Photo Documentation internal view
(File Name: 10052149APPENDIX P)

Appendix D: Test Result of Radiated Emissions
(File Name: 10052149APPENDIX D)

Test Specifications

The following standards were applied:

Table 1: Applied Standard and Test Levels

Radio
FCC CFR47 Part 15 Subpart E RSS-247 Issue 1, May 2015 RSS-Gen, Issue 4, November 2014 ANSI C63.10:2013 FCC KDB-789033 FCC KDB-662911 D01 FCC KDB-644545

2. Test Sites

2.1 Test Facilities

TUV Rheinland Taiwan Ltd.

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)

FCC Registration No.: 365730
IC Canada Registration No.: 9465A-1
TAF Accredited NCC Test Lab. No.:0759

2.2 List of Test and Measurement Instruments

Table 2: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Last Calibration	Next Calibration
EMI Test Receiver	R&S	ESR7	101062	10-Sep-15	19-Sep-16
Bilog Antenna	TESEQ	CBL6111D	29802	4-Jul-14	3-Jul-16
Spectrum Analyzer	R&S	FSV 40	100921	17-Dec-14	16-Dec-15
Spectrum Analyzer	Agilent	N9010A	MY53470241	1-Apr-15	30-Mar-16
Horn Antenna	ETS-Lindgren	3117	138160	12-Jan-15	11-Jan-17
Horn Antenna (18GHz~40GHz)	COM-POWER	AH840	101031	22-Oct-15	21-Oct-17
Preamplifier (30MHz -1GHz)	HP	8447F	2805A03335	24-Dec-14	24-Dec-15
Preamplifier (18 GHz -40 GHz)	COM-POWER	PAM-840	461257	26-Aug-14	26-Aug-16
Pre-Amplifier (1GHz~18GHz)	EM Electronics	EM30180	60558	4-Nov-15	3-Nov-16
Loop Antenna	Schwarzbeck	FMZB 1513	1513-076	21-Oct-14	20-Oct-16
EMI Test Receiver	R&S	ESCI7	100797	28-Dec-14	27-Dec-15
Spectrum Analyzer	R&S	FSL3	101943	7-Sep-15	7-Sep-16
Temp. & Humid. Chamber	Giant Force	GCT-099-40-S	MAF0103-007	13-Jul-15	12-Jul-16
LISN (1 phase)	R&S	ENV216	101243	1-Jun-15	31-May-16
LISN	R&S	ENV216	101262	16-Jun-15	15-Jun-16

2.3 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically in a suitably accredited Calibration Lab. Additionally all equipment is verified for proper performance on a regular schedule using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements are:.

Table 3: Emission Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-7}$
RF power, conducted	± 1.5 dB
Adjacent channel power	± 3 dB
Radiated emission of transmitter, valid up to 40 GHz	± 6 dB
Radiated emission of receiver, valid up to 40 GHz	± 6 dB
Temperature	± 2 °C
Humidity	± 10 %

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a 1080P HD wireless sender. It contains a WiFi compatible module enabling the user to communicate data through a Wireless interface.
For details refer to the User Guide, Data Sheet and Circuit Diagram.

3.2 Ratings and System Details

Table 4: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment	1080P HD wireless sender
Brand Name	Trans
FCC ID	BY4WTR3000
Canada ID	4593A-WS54
Canada HVIN	WS54
Type Designation	WTR-PRO
Operating Frequency band	5150 MHz ~ 5250 MHz, 5745 MHz ~ 5850 MHz
Operation Voltage	5V
Modulation	OFDM with BPSK, QPSK, QAM
Antenna gain	5 dBi
Antenna Type	Dipole Antenna

Table 5: Test Channel Frequency information

	CH	Frequency
		(MHz)
802.11a Band I	36	5180
802.11a Band I	40	5200
802.11a Band I	44	5220
802.11n (HT20) Band I	36	5180
802.11n (HT20) Band I	40	5200
802.11n (HT20) Band I	44	5220
802.11n (HT40) Band I	38	5190
802.11a Band IV	149	5745
802.11a Band IV	157	5785
802.11a Band IV	165	5825
802.11n (HT20) Band IV	149	5745
802.11n (HT20) Band IV	157	5785
802.11n (HT20) Band IV	165	5825
802.11n (HT40) Band IV	151	5755
802.11n (HT40) Band IV	159	5795

3.3 Independent Operation Modes

The basic operation modes are:

- A. Transmitting
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. Receiving
- C. Standby
- D. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Circuit Diagram
- Instruction Manual
- Rating Label
- Technical Description

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Setup for testing: Test samples are provided with a SPI interface which makes it possible to control them through a test software installed on a notebook computer.

This software was running on the laptop computer connected to the EUT. It was used to enable the operation modes listed in section 3.3 as appropriate. The samples were used as follows:

Conducted: A000277282-001
Radiation: A000277282-001

Full test was applied on all test modes, but only worst case was shown.

TX1 stands for Antenna port one.

TX2 stands for Antenna port two.

4.3 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

Kind of Equipment	Manufacturer	S/N
Laptop	HP	CNF0339QBM

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

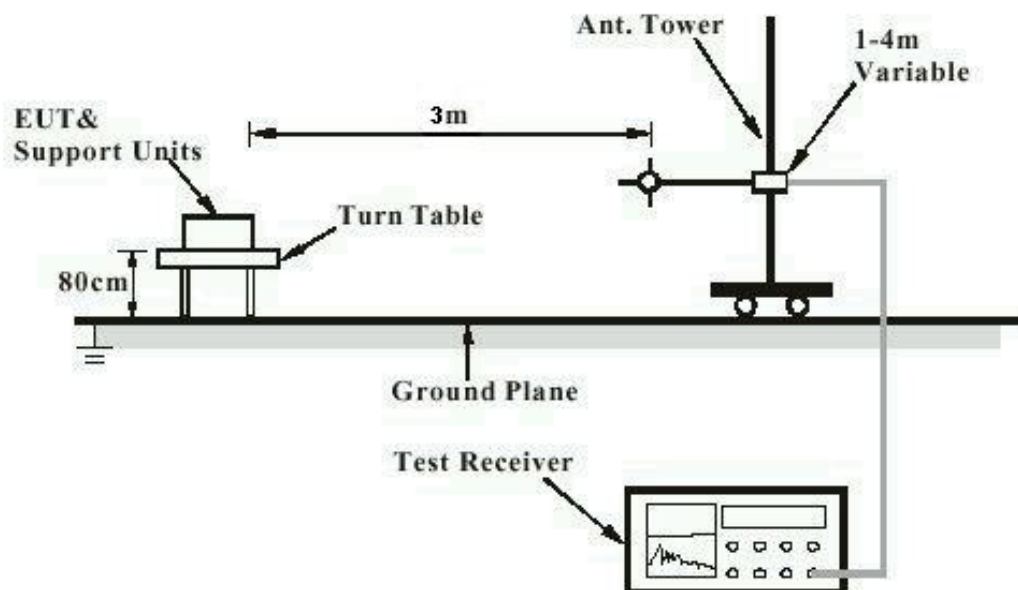


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement

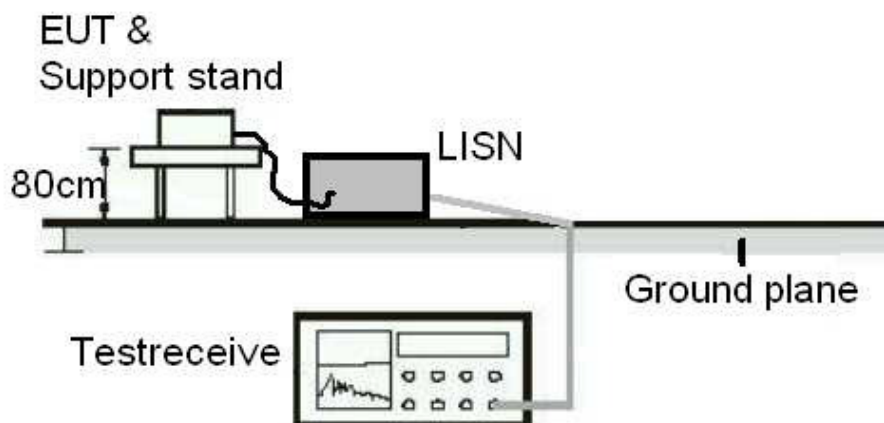
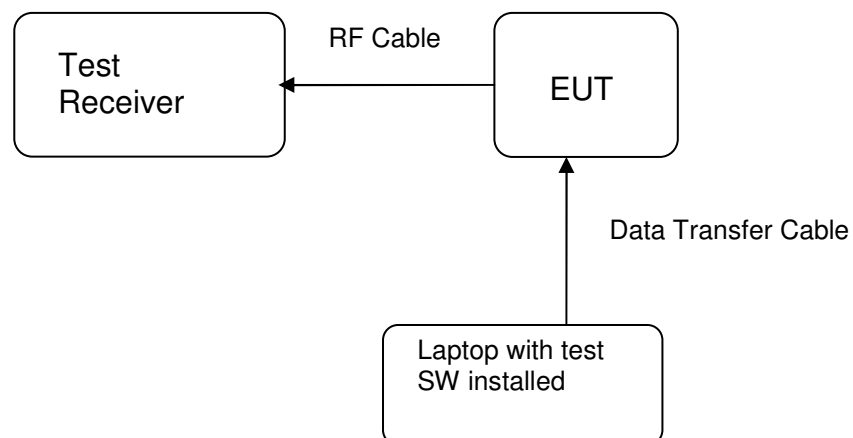


Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement

TX0 or TX1 testing



5. Antenna Port Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test standard	:	LP0002(2011): 3.10.1, (3) FCC Part 15.407(a), Part 15.203 and RSS- Gen 7.1.4
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declaration, the EUT has an antenna with a directional gain of 5 dBi. The antenna is Dipole Antenna with no possibility of replacement with a non-approved antenna by the end-user. Therefore, the EUT is considered to comply with this provision.

Refer to EUT photo for details.

5.1.2 26 dB Bandwidth and 99% Bandwidth

RESULT:

Passed

Test standard : FCC Part 15.407(a), RSS-247 6.2.1
 Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A

Ambient temperature : 22-26 °C
 Relative humidity : 50-65 %
 Atmospheric pressure : 100-103 kPa

Table 6: Test result of 26dB/99% Bandwidth (11a)

Channel	Channel Frequency (MHz)	26dB Bandwidth TX1 (MHz)	26dB Bandwidth TX2 (MHz)	99% Bandwidth TX1 (MHz)	99% Bandwidth TX2 (MHz)
Low Channel	5180	23.56	28.8	16.906	17.254
Mid Channel	5200	22.86	22.21	16.897	16.696
High Channel	5220	23.62	29.14	16.9	17.043

EIRP Power limit for Canada based on BW calculation: 22dBm

Table 7: Test result of 26dB/99% Bandwidth (HT20)

Channel	Channel Frequency (MHz)	26dB Bandwidth TX1 (MHz)	26dB Bandwidth TX2 (MHz)	99% Bandwidth TX1 (MHz)	99% Bandwidth TX2 (MHz)
Low Channel	5180	23.11	31.31	17.889	18.202
Mid Channel	5200	23.59	22.86	17.885	17.873
High Channel	5220	23.71	31.18	17.952	18.171

EIRP Power limit for Canada based on BW calculation: 22.5dBm

Table 8: Test result of 26dB/99% Bandwidth (HT40)

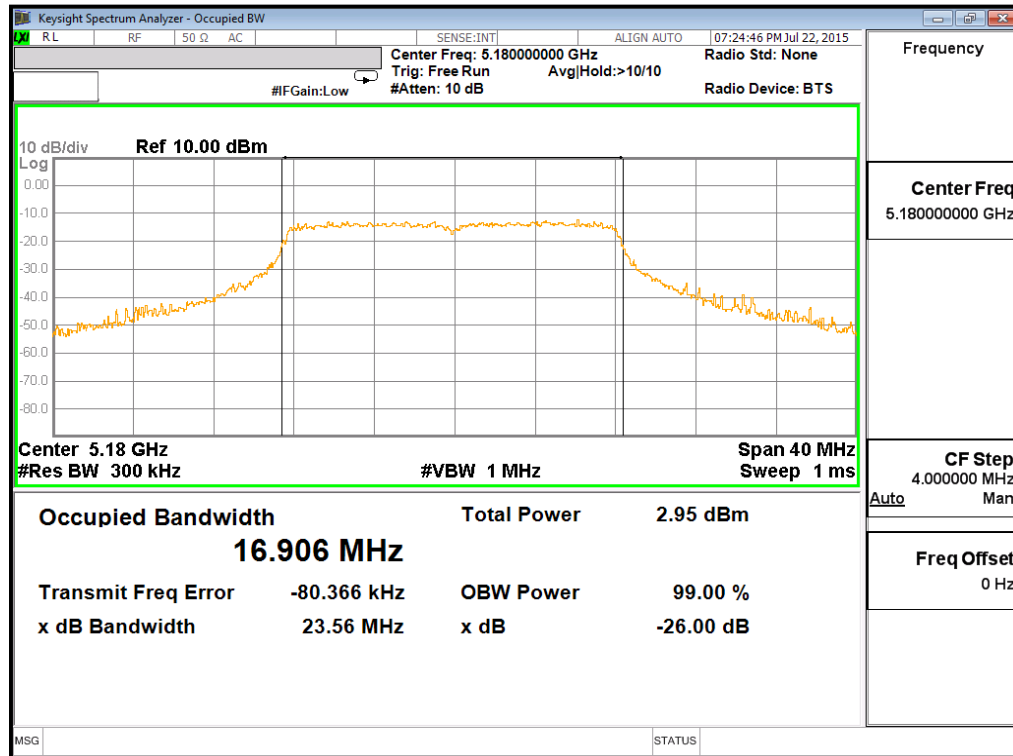
Channel	Channel Frequency (MHz)	26dB Bandwidth TX1 (MHz)	26dB Bandwidth TX2 (MHz)	99% Bandwidth TX1 (MHz)	99% Bandwidth TX2 (MHz)
Low Channel	5190	49.15	48.11	37.095	37.018

EIRP Power limit for Canada based on BW calculation: >23dBm

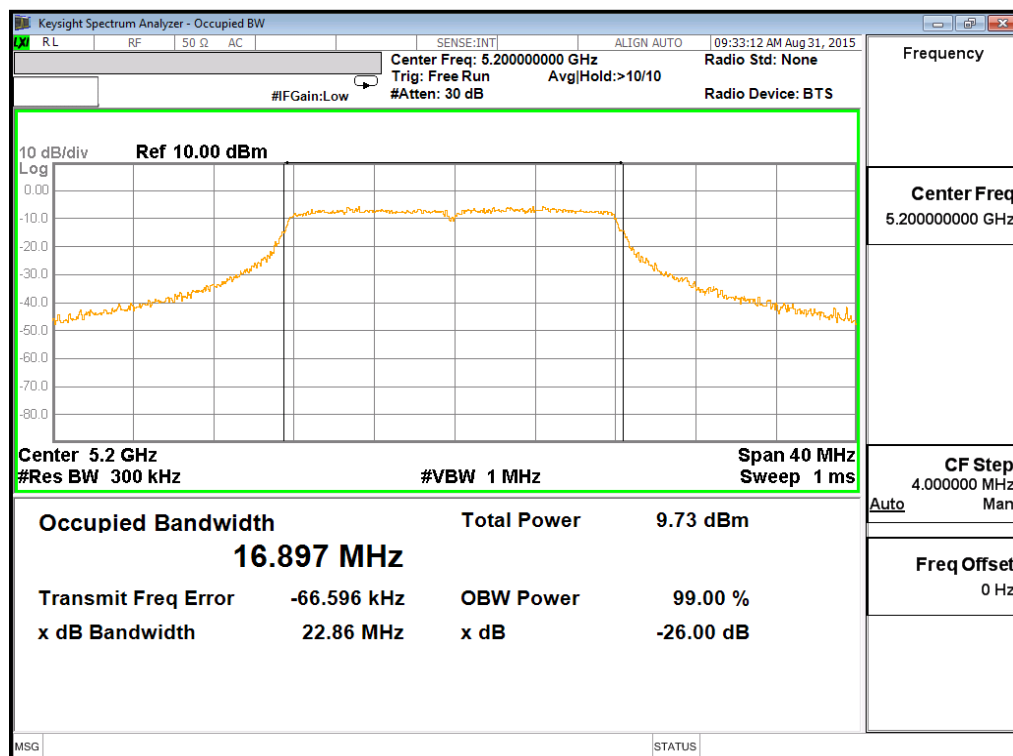
Test Plot of 26dB Bandwidth (11a)

Antenna 1

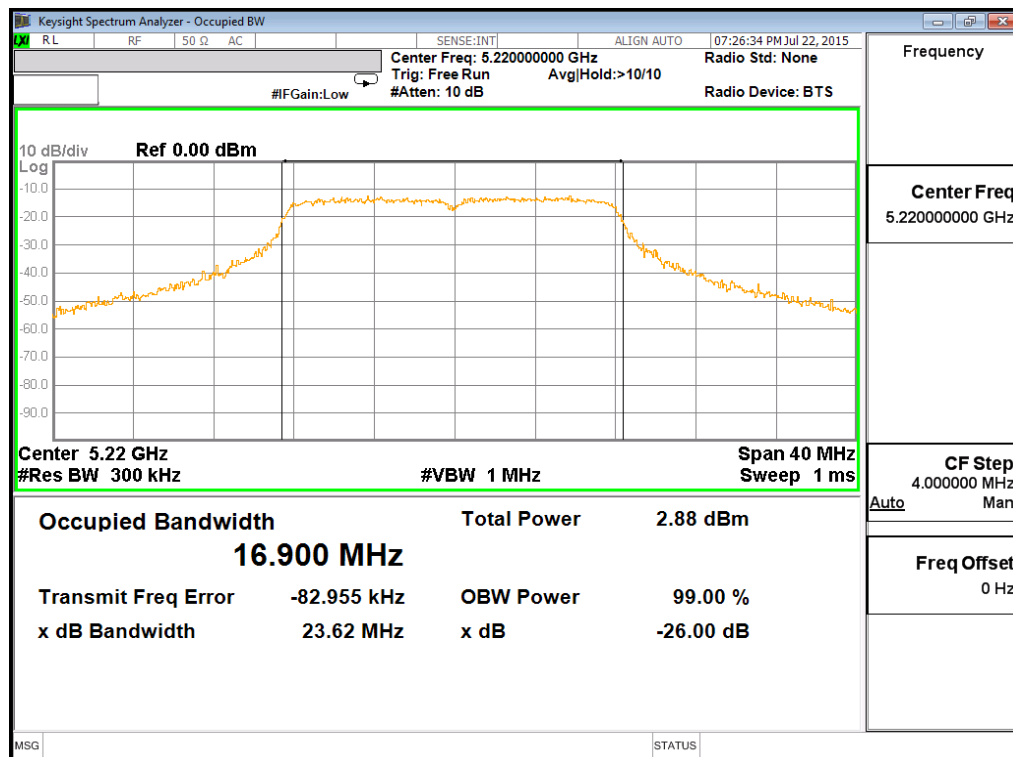
Low Channel



Mid Channel

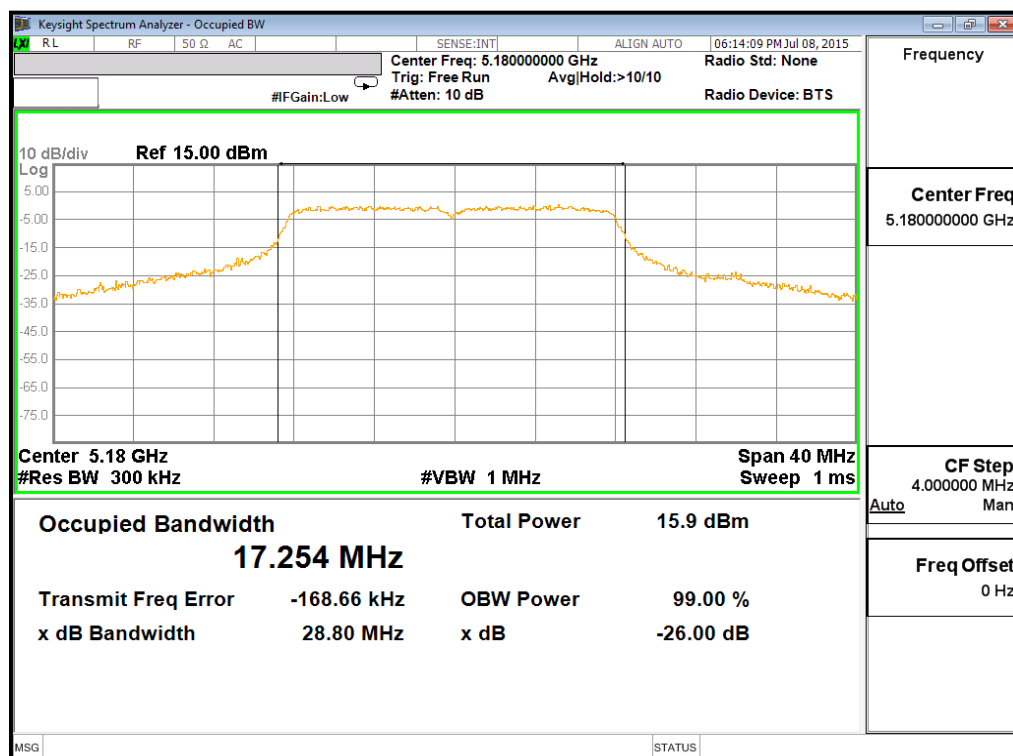


High Channel

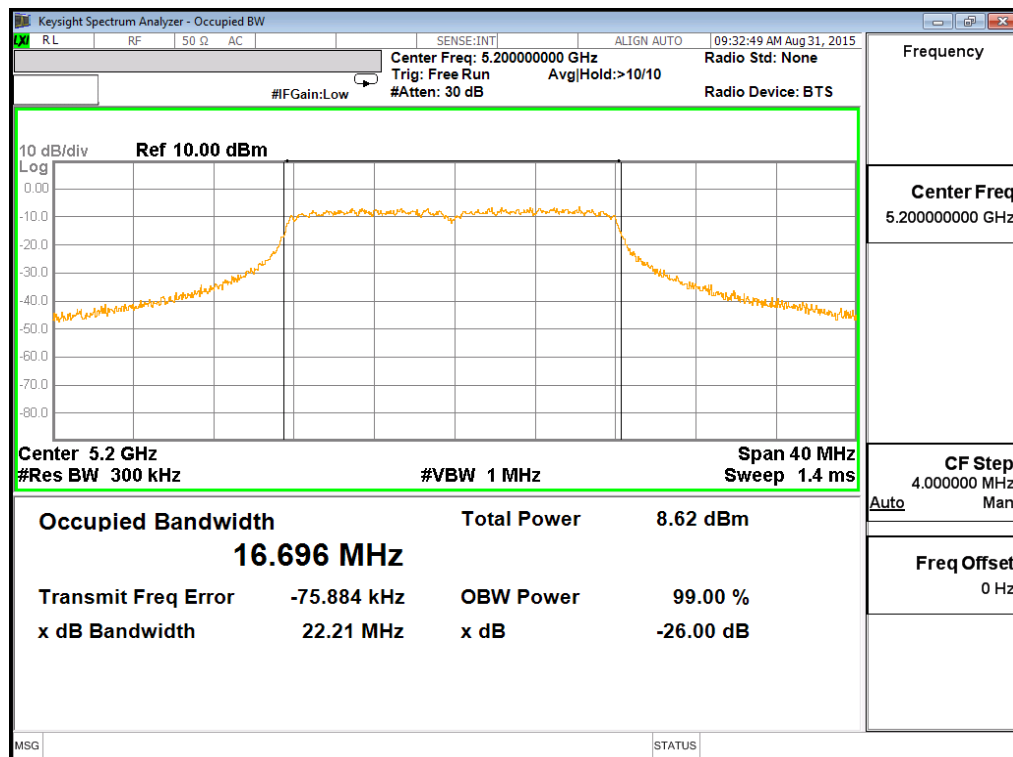


Antenna 2

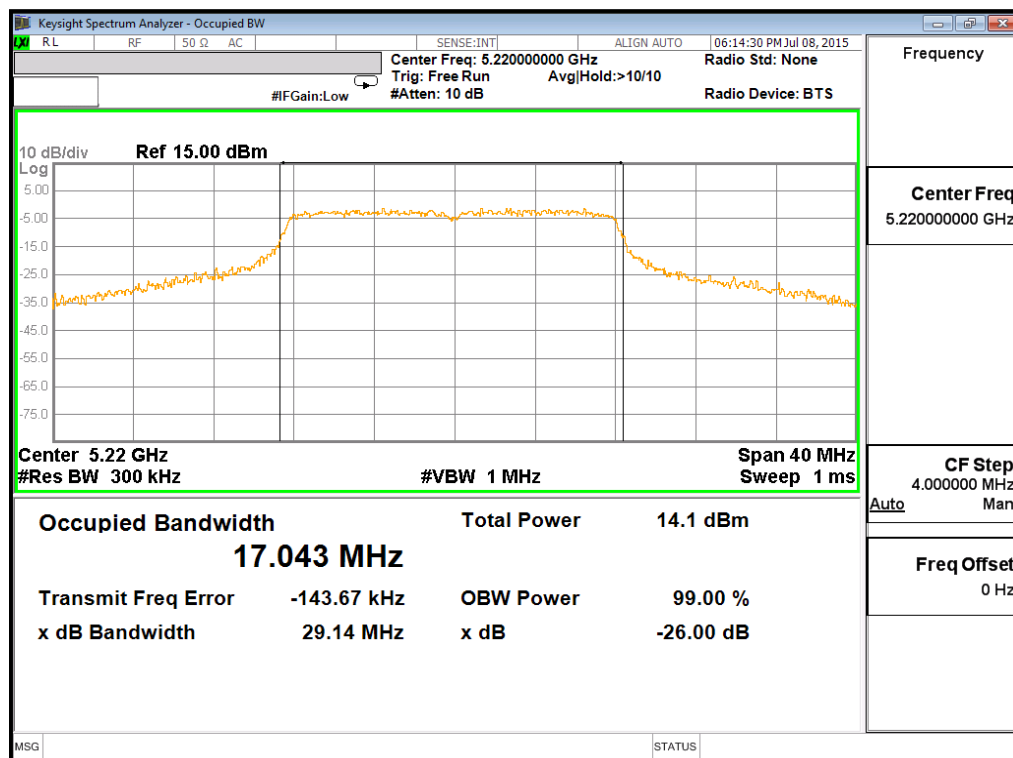
Low Channel



Mid Channel



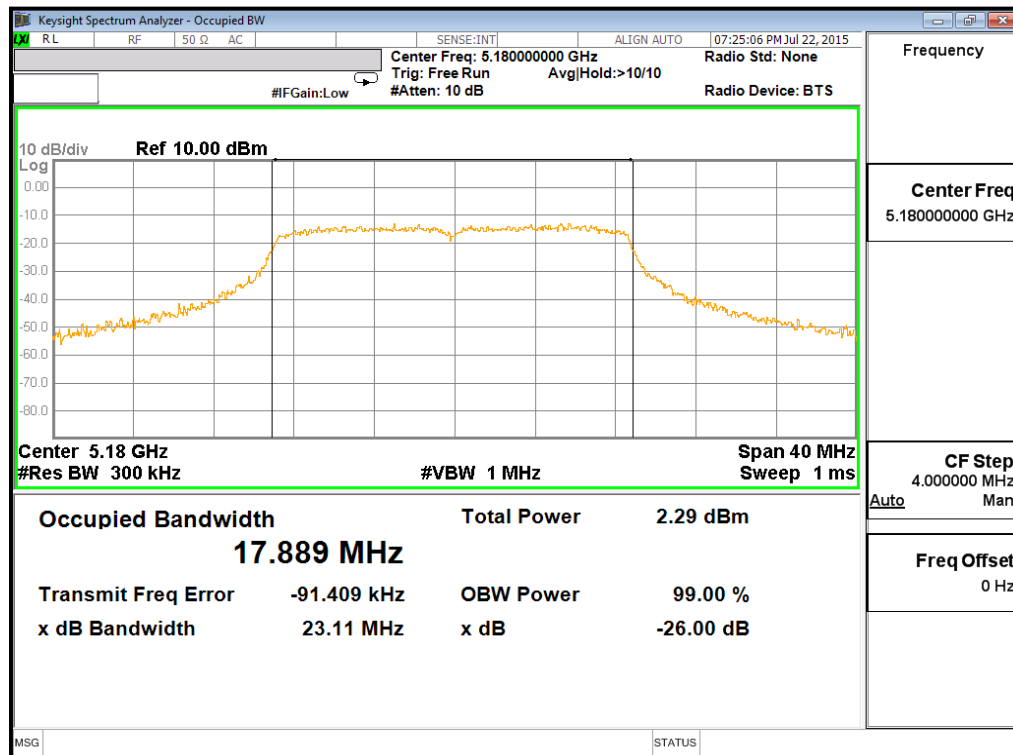
High Channel



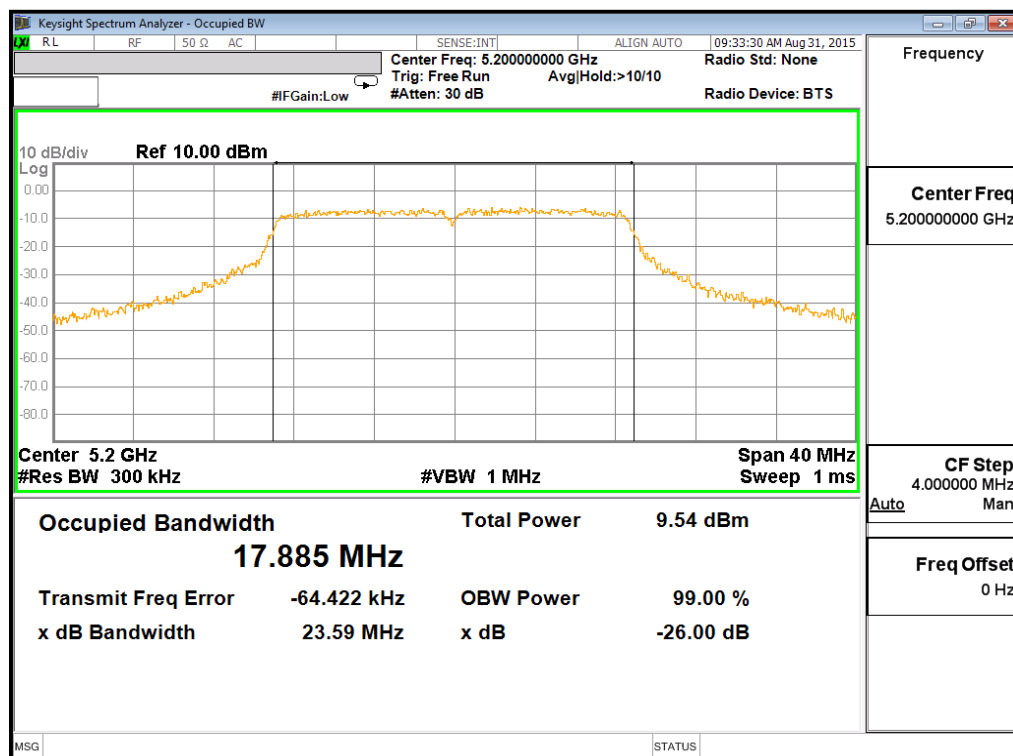
Test Plot of 26dB Bandwidth (HT20)

Antenna 1

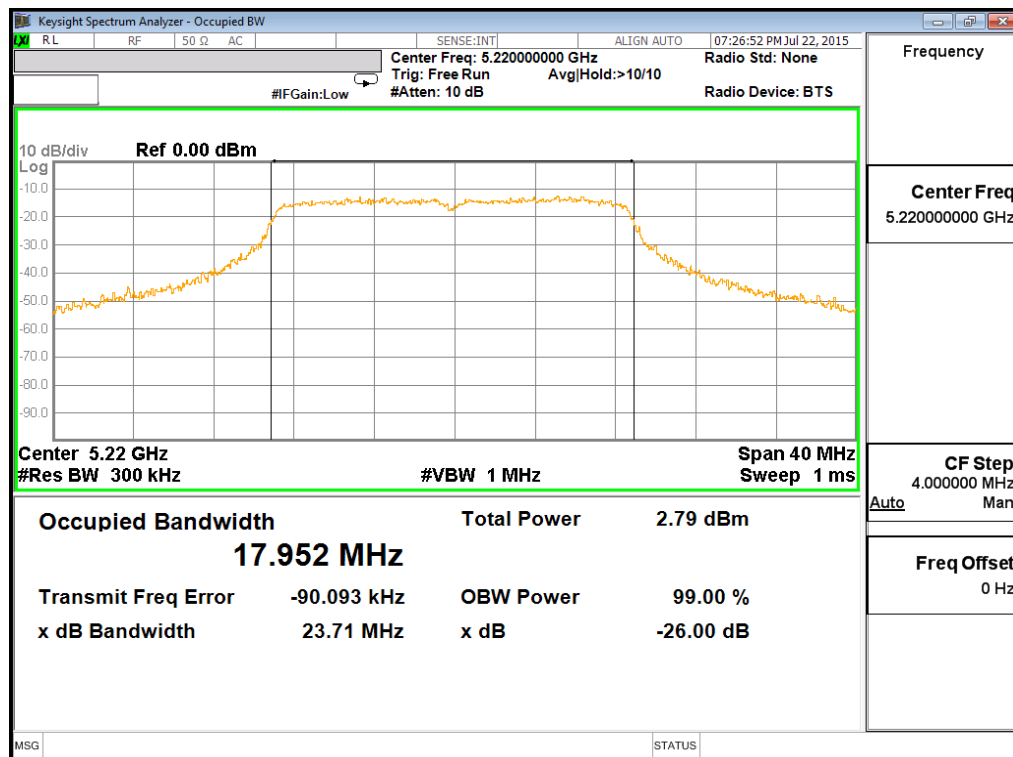
Low Channel



Mid Channel

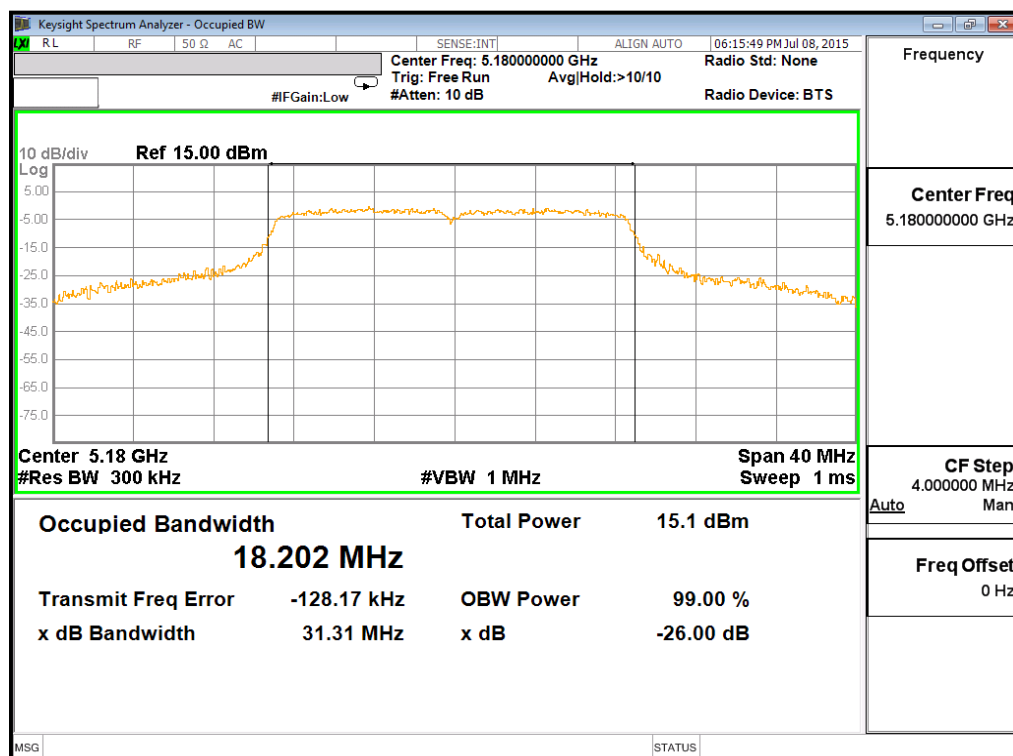


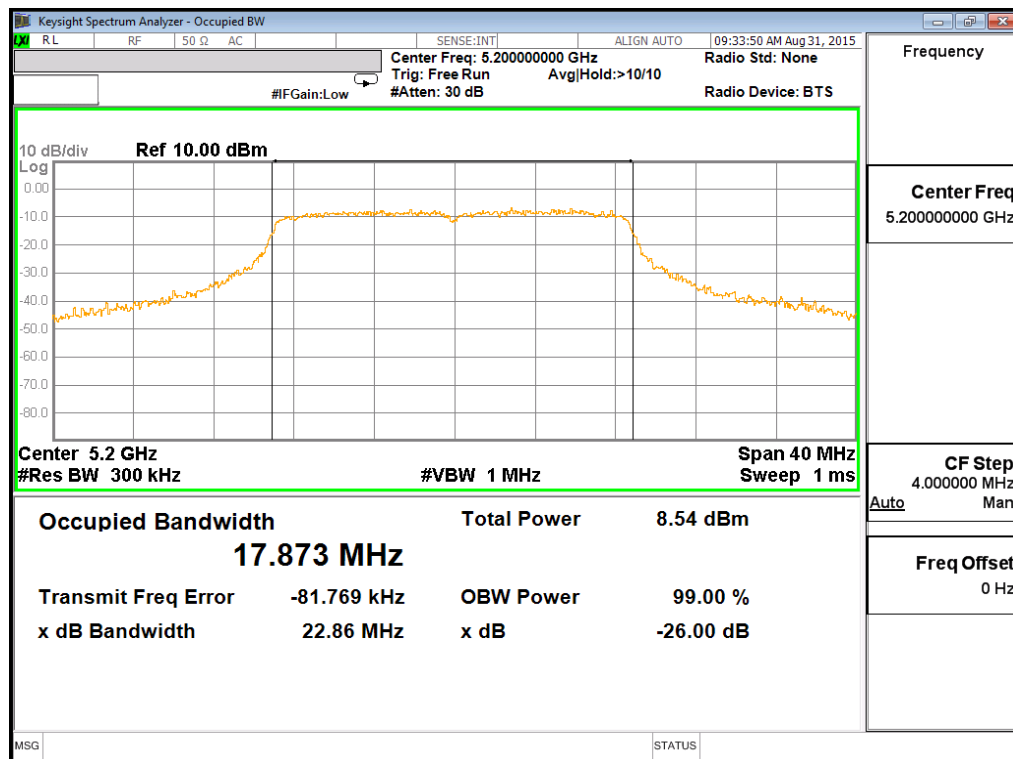
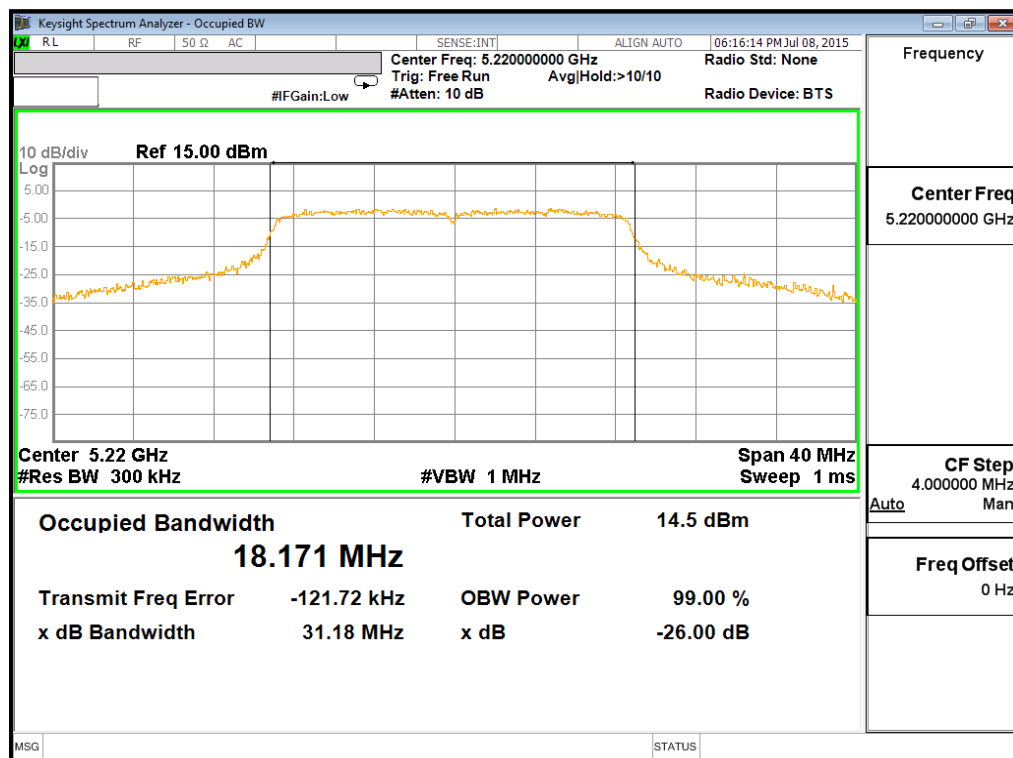
High Channel



Antenna 2

Low Channel

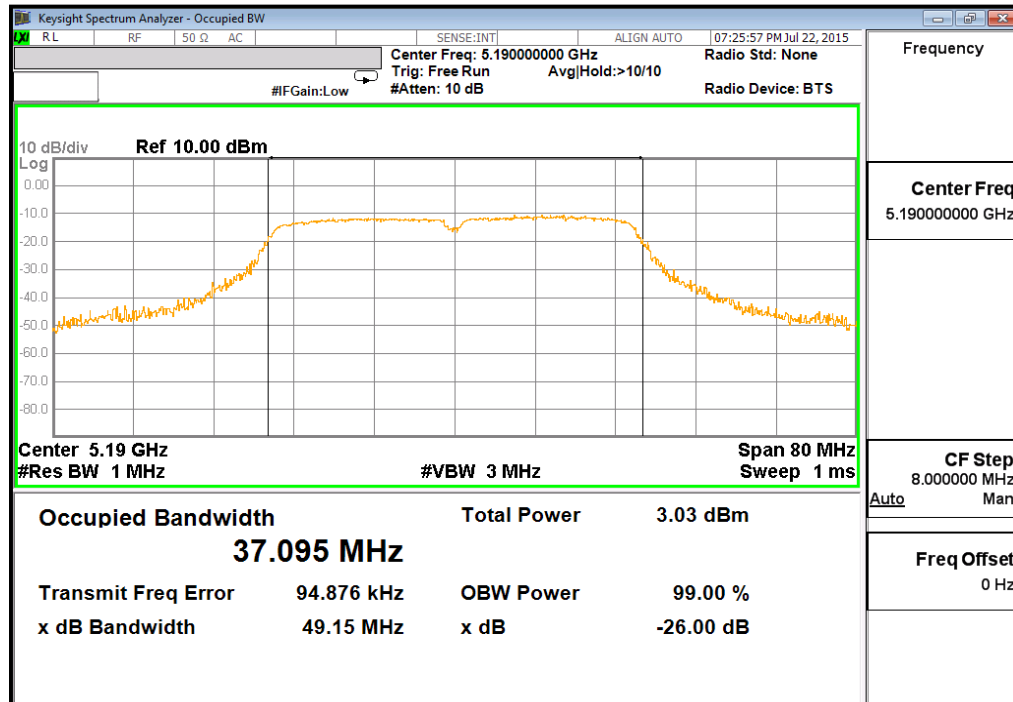


Mid Channel

High Channel


Test Plot of 26dB Bandwidth(HT40)

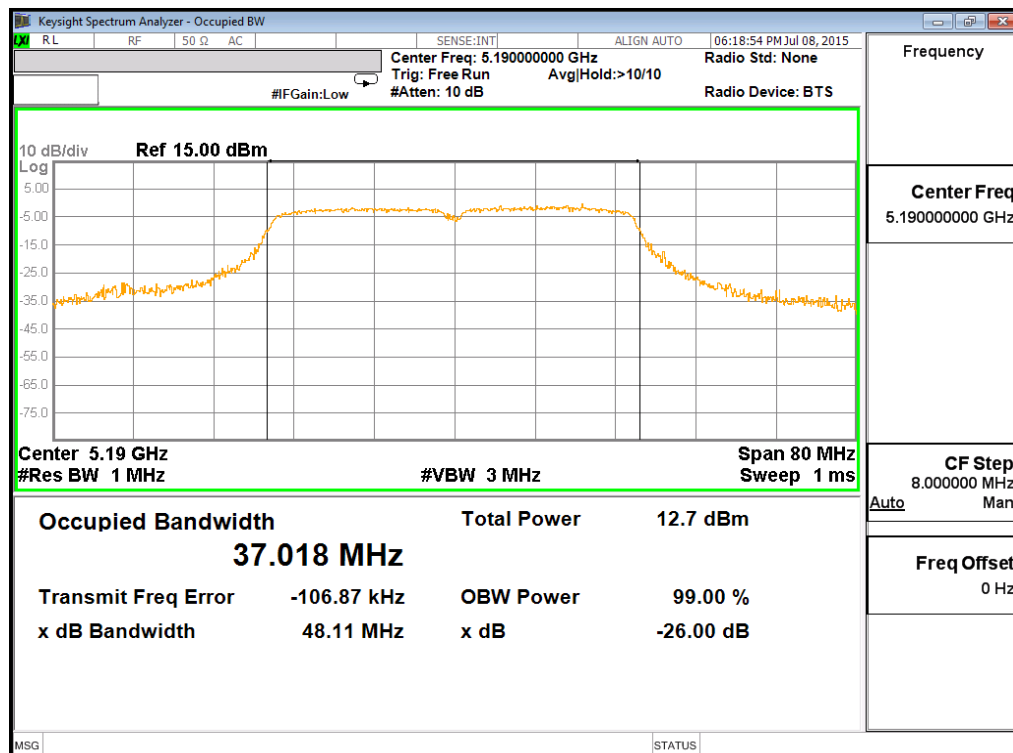
Antenna 1

Low Channel



Antenna 2

Low Channel



5.1.3 6 dB Bandwidth and 26dB Bandwidth (5745-5850MHz)

RESULT:
Passed

Test standard : FCC Part 15.407(a), RSS-247 6.2.4
 Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A

Ambient temperature : 22-26 °C
 Relative humidity : 50-65 %
 Atmospheric pressure : 100-103 kPa

Table 9: Test result of 6dB Bandwidth and 26dB bandwidth (11a)

Channel	Channel Frequency (MHz)	6dB Bandwidth TX1 (MHz)	6dB Bandwidth TX2 (MHz)	26dB Bandwidth TX1 (MHz)	26dB Bandwidth TX2 (MHz)
Low Channel	5745	16.34	16.36	24.9	23.7
Mid Channel	5785	16.34	16.32		
High Channel	5825	16.34	16.33		

Table 10: Test result of 6dB Bandwidth and 26dB bandwidth (HT20)

Channel	Channel Frequency (MHz)	6dB Bandwidth TX1 (MHz)	6dB Bandwidth TX2 (MHz)	26dB Bandwidth TX1 (MHz)	26dB Bandwidth TX2 (MHz)
Low Channel	5745	17.32	17.31	25.4	24.3
Mid Channel	5785	17.3	17.02		
High Channel	5825	17.09	16.54		

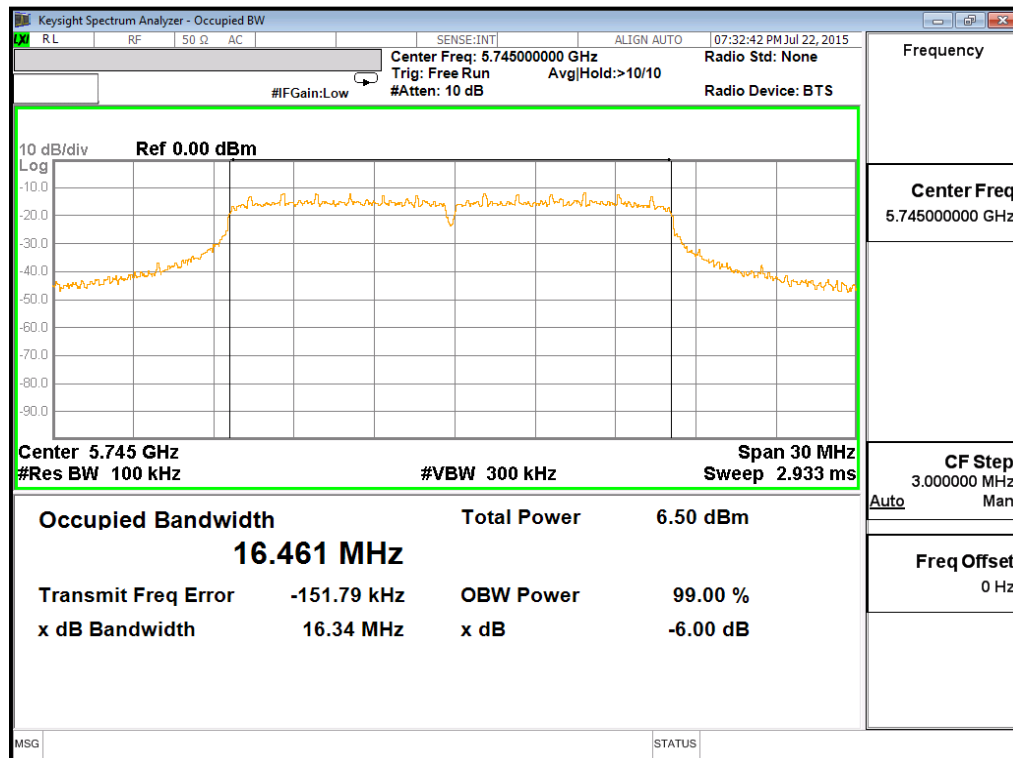
Table 11: Test result of 6dB Bandwidth and 26dB bandwidth (HT40)

Channel	Channel Frequency (MHz)	6dB Bandwidth TX1 (MHz)	6dB Bandwidth TX2 (MHz)	26dB Bandwidth TX1 (MHz)	26dB Bandwidth TX2 (MHz)
Low Channel	5755	35.18	35.18	50.72	48.64
High Channel	5795	35.17	35.34		

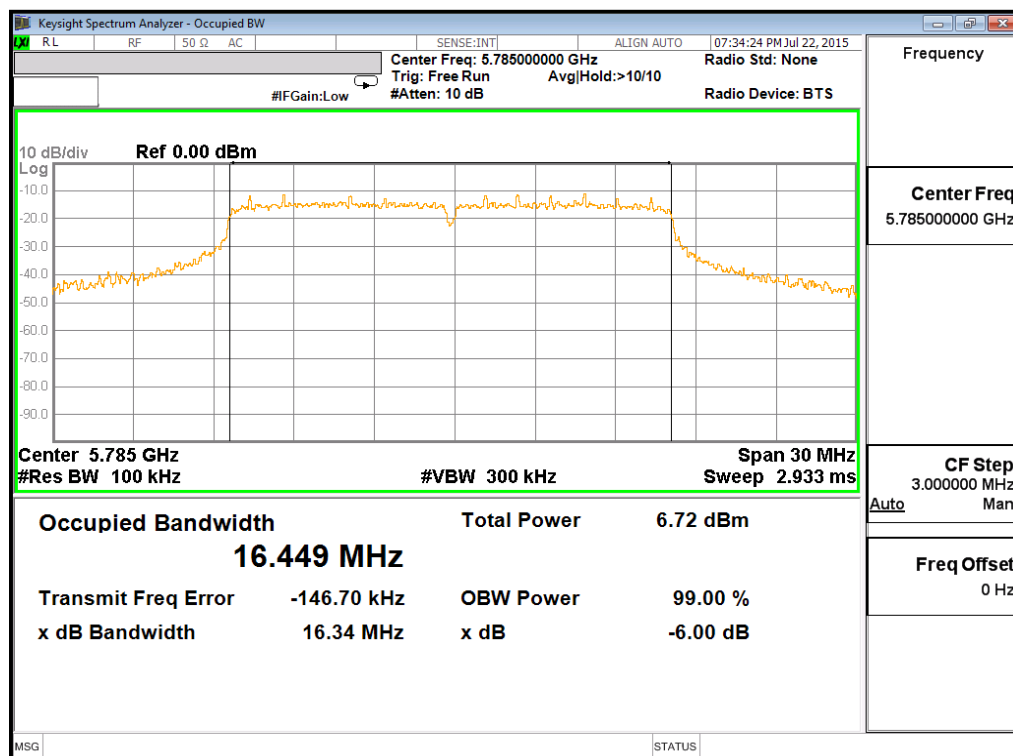
Test Plot of 6dB Bandwidth (11a)

Antenna 1

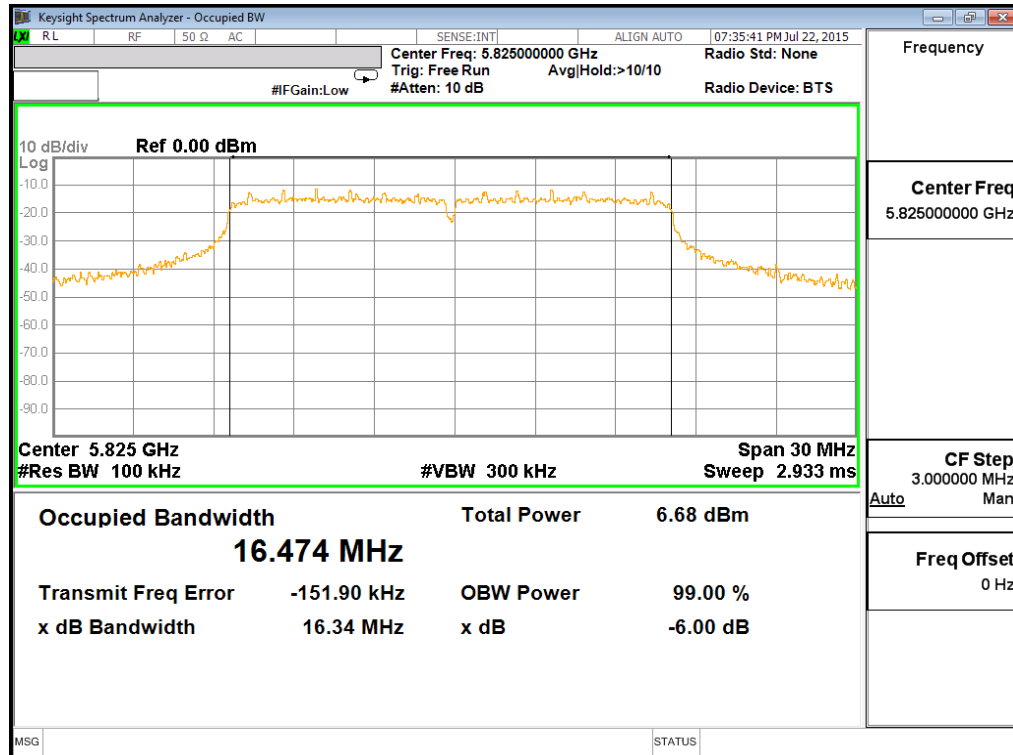
Low Channel



Mid Channel

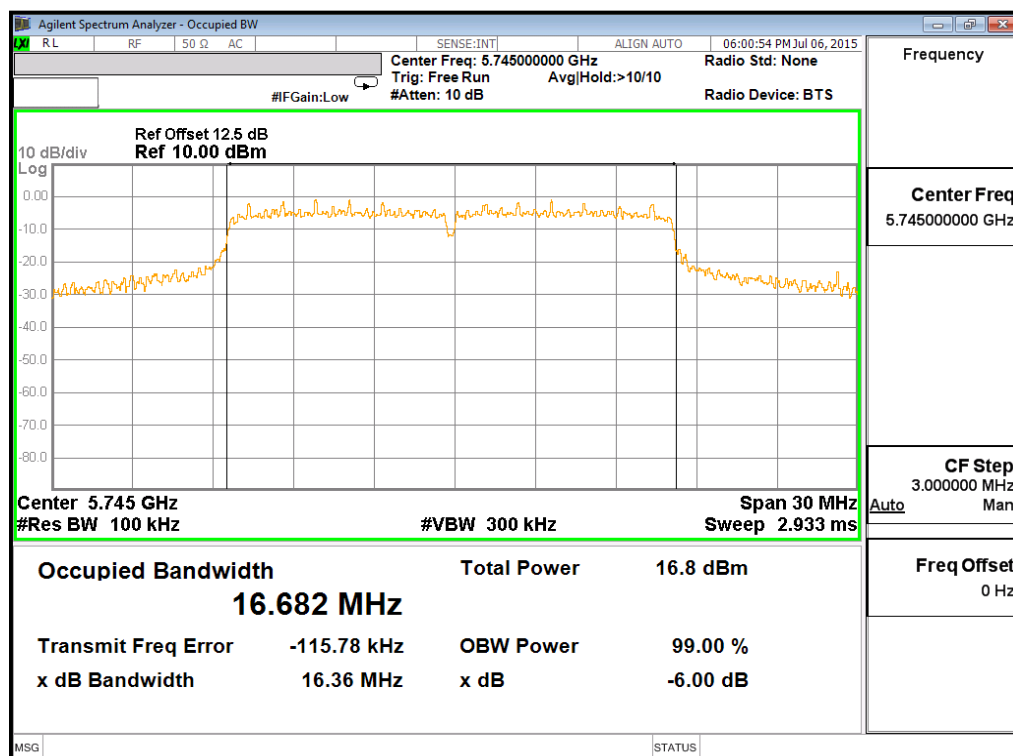


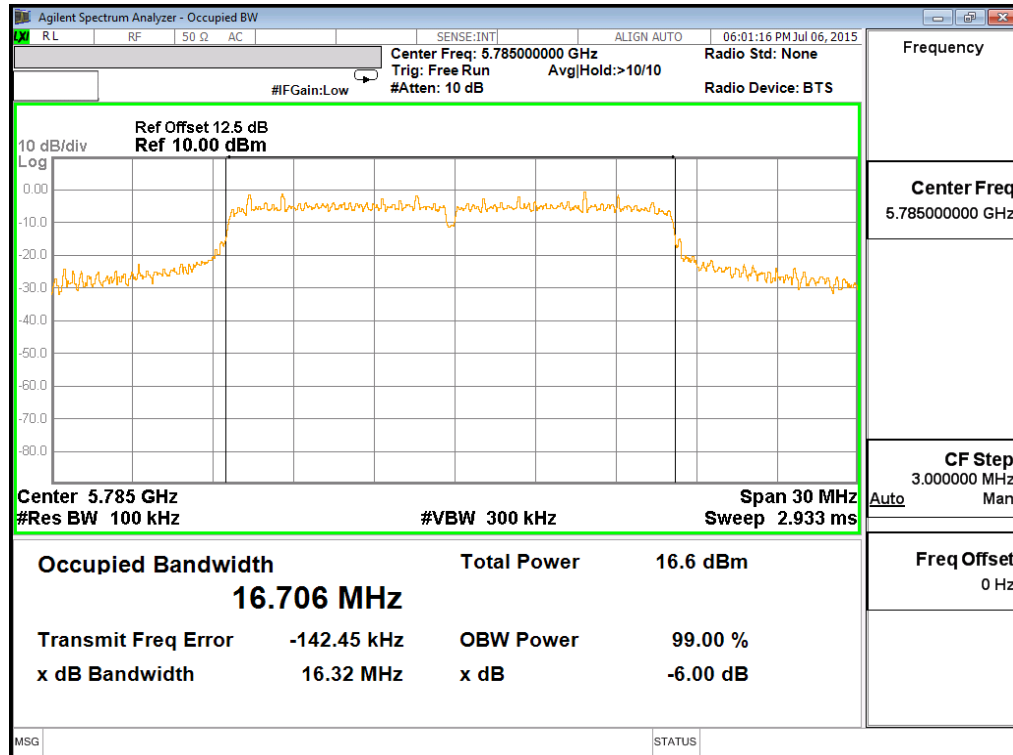
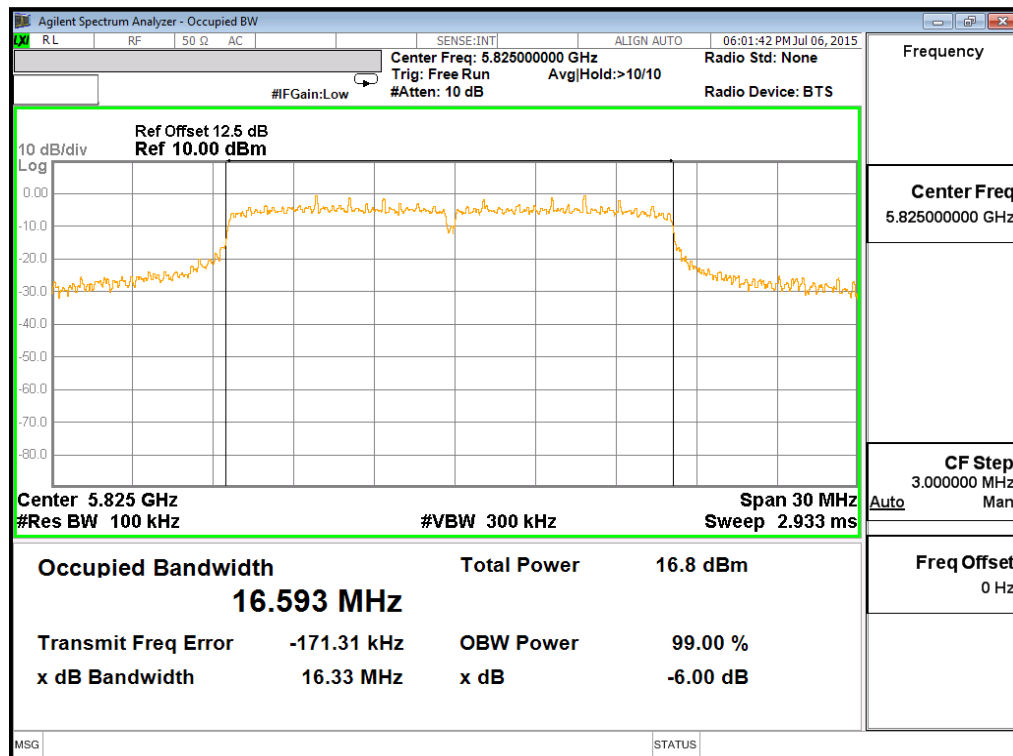
High Channel



Antenna 2

Low Channel

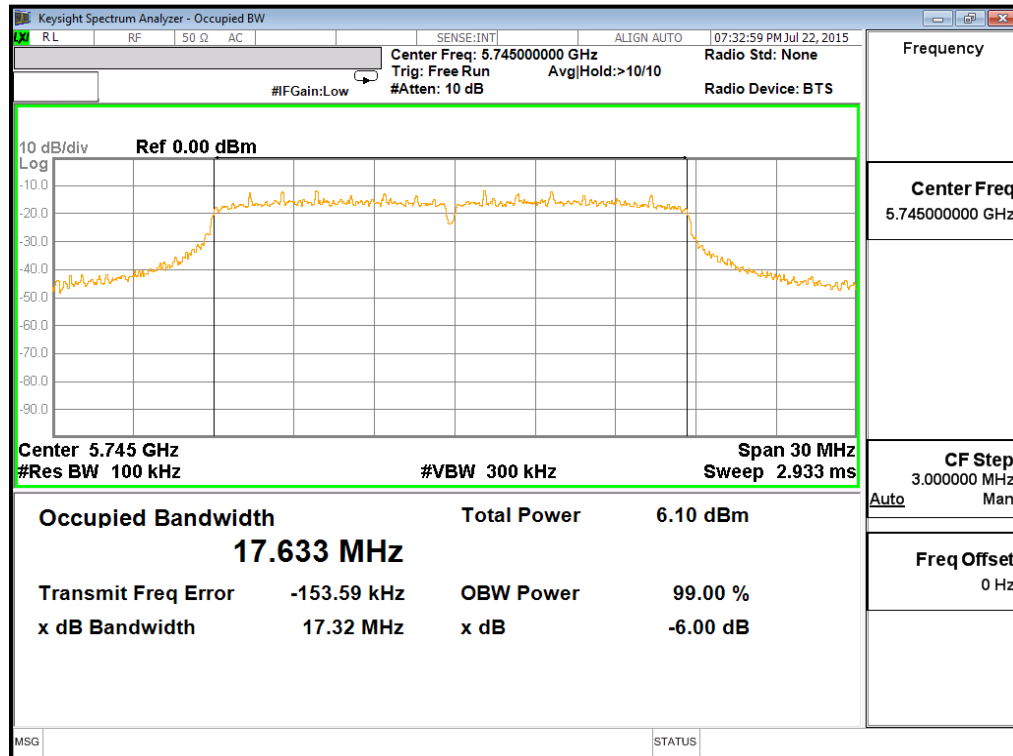


Mid Channel

High Channel


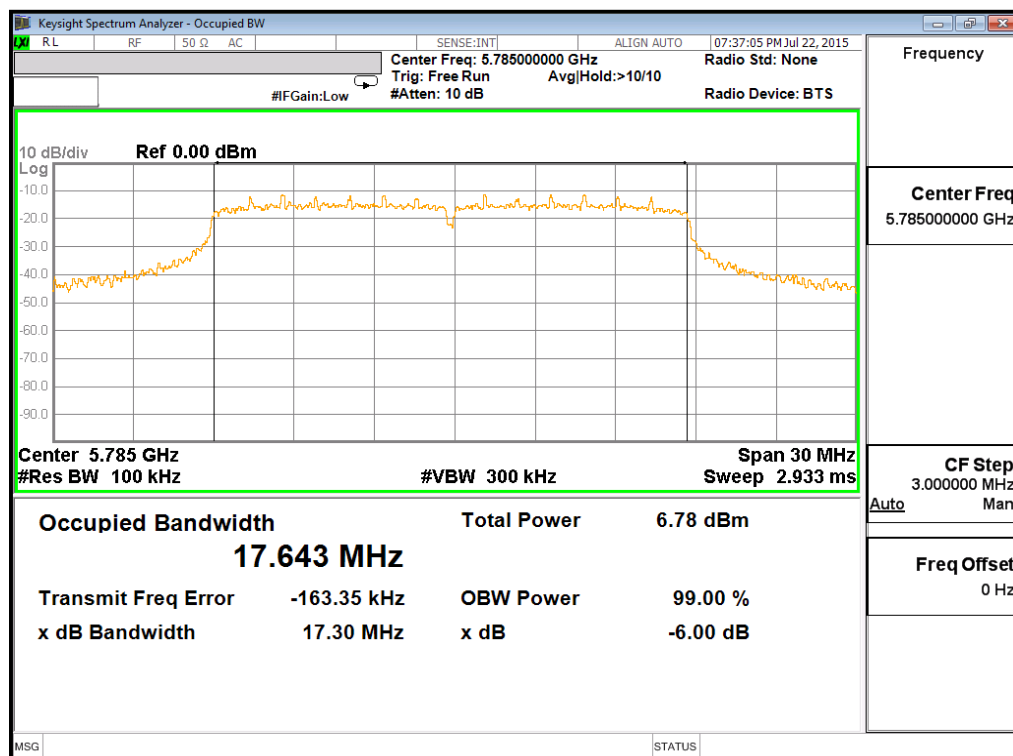
Test Plot of 6dB Bandwidth (HT20)

Antenna 1

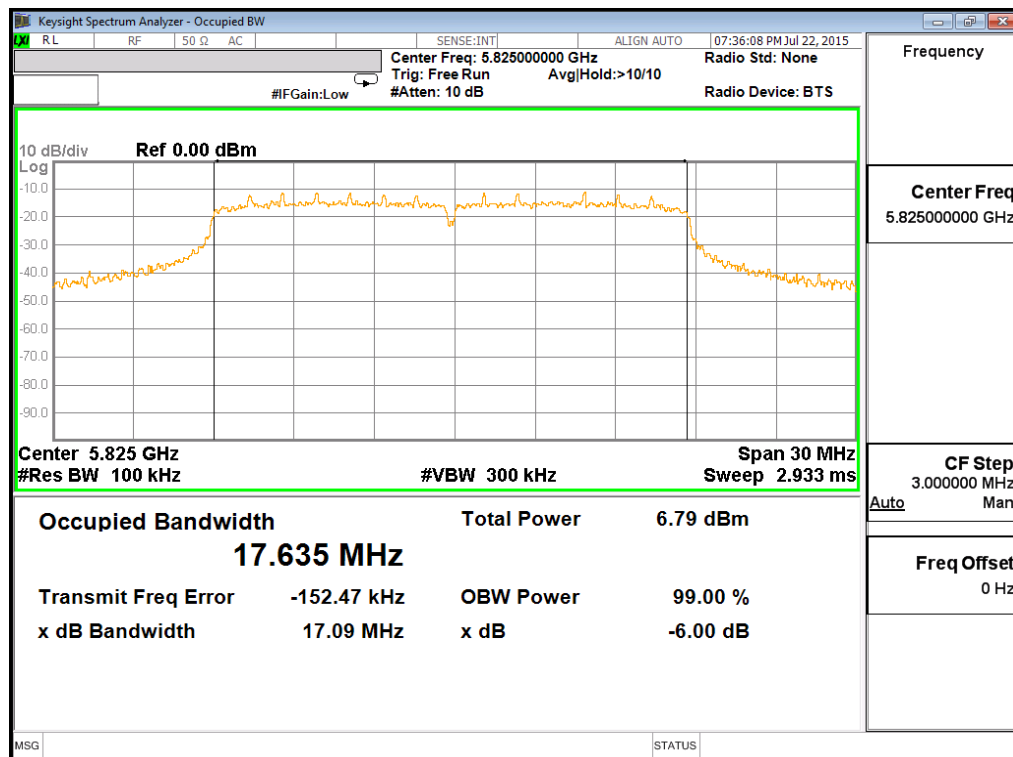
Low Channel



Mid Channel

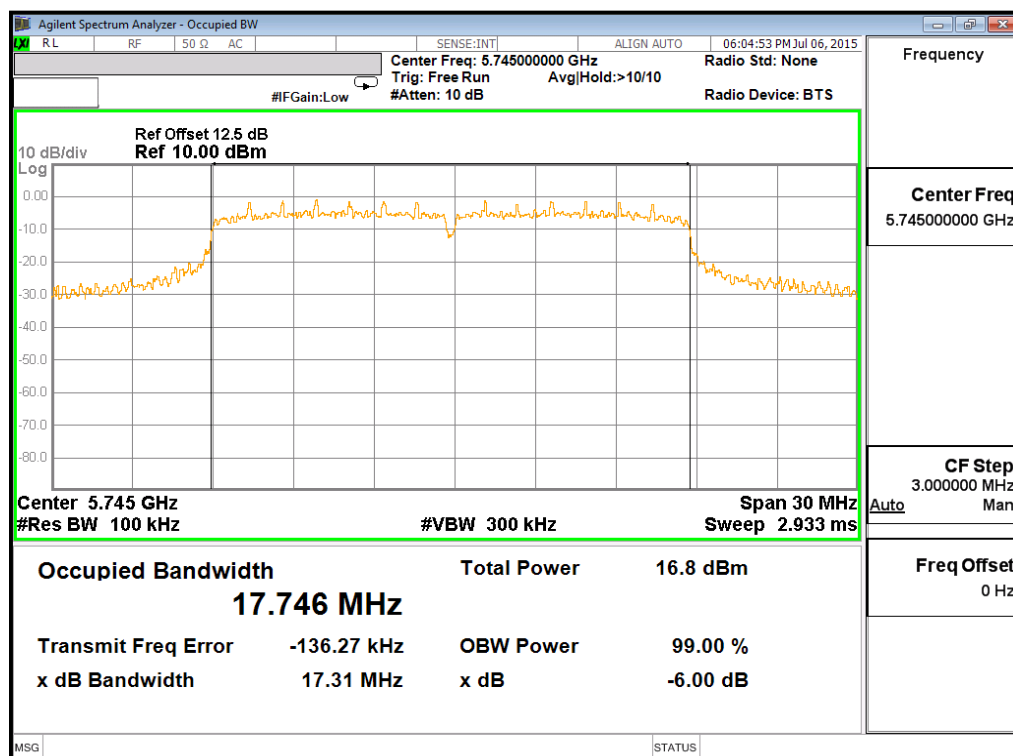


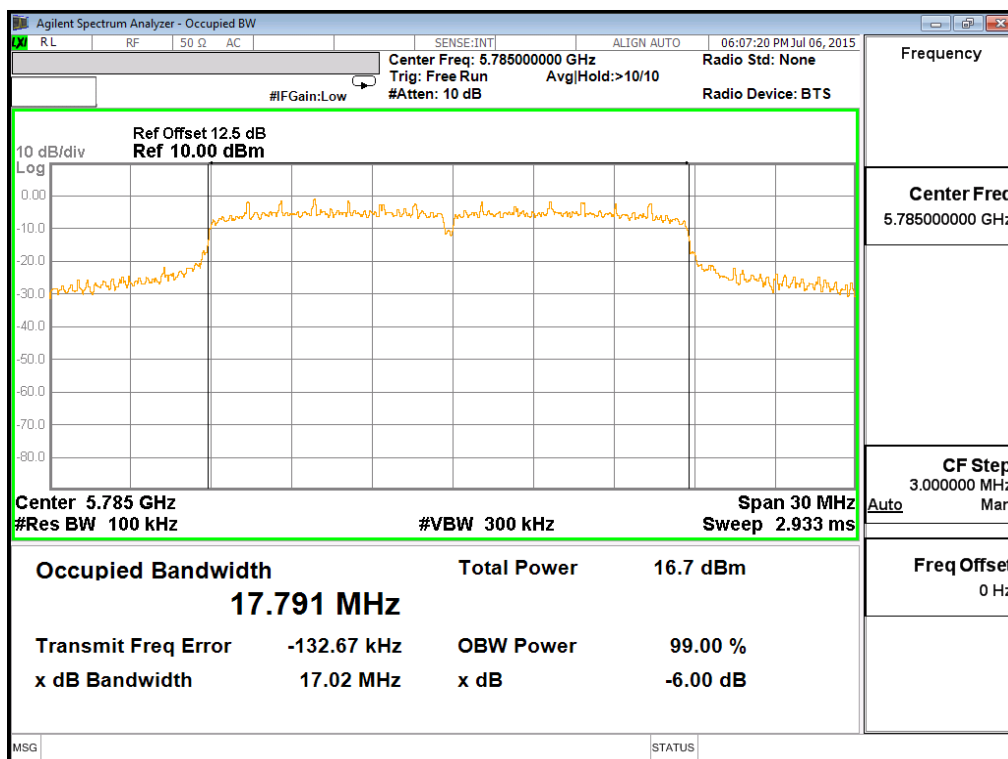
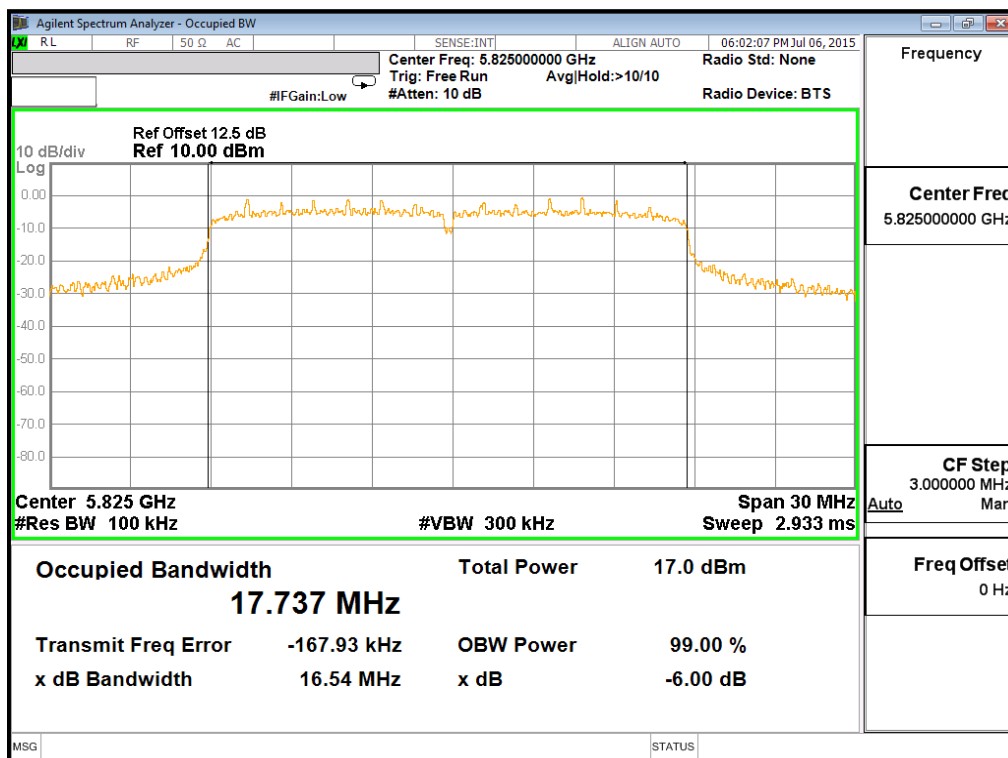
High Channel



Antenna 2

Low Channel

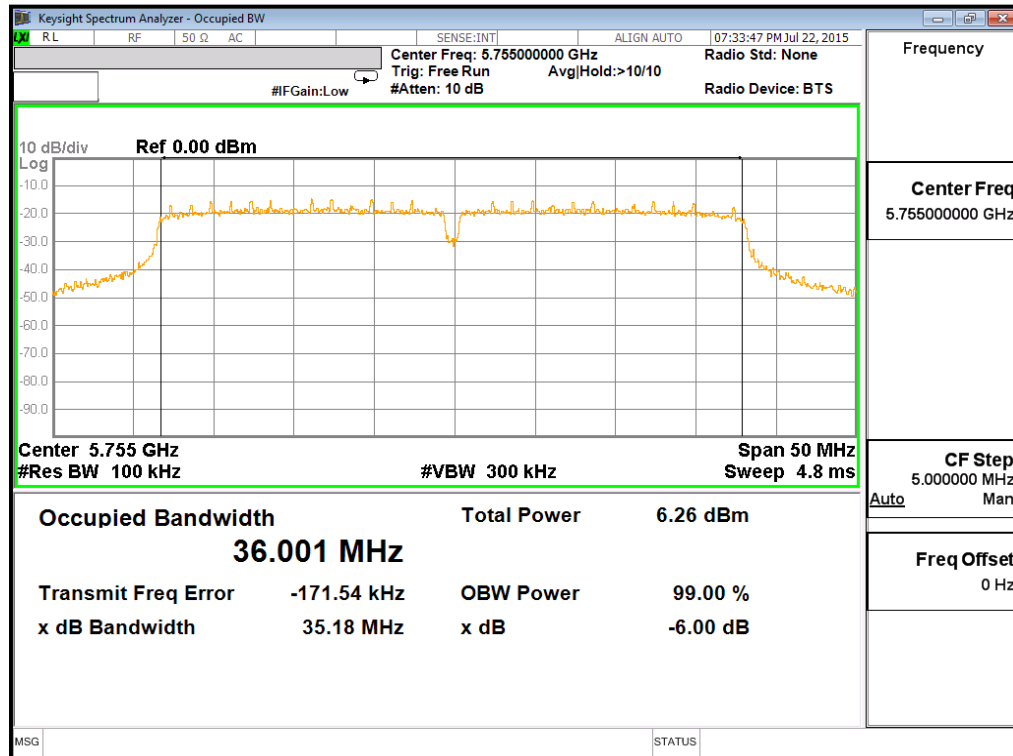


Mid Channel

High Channel


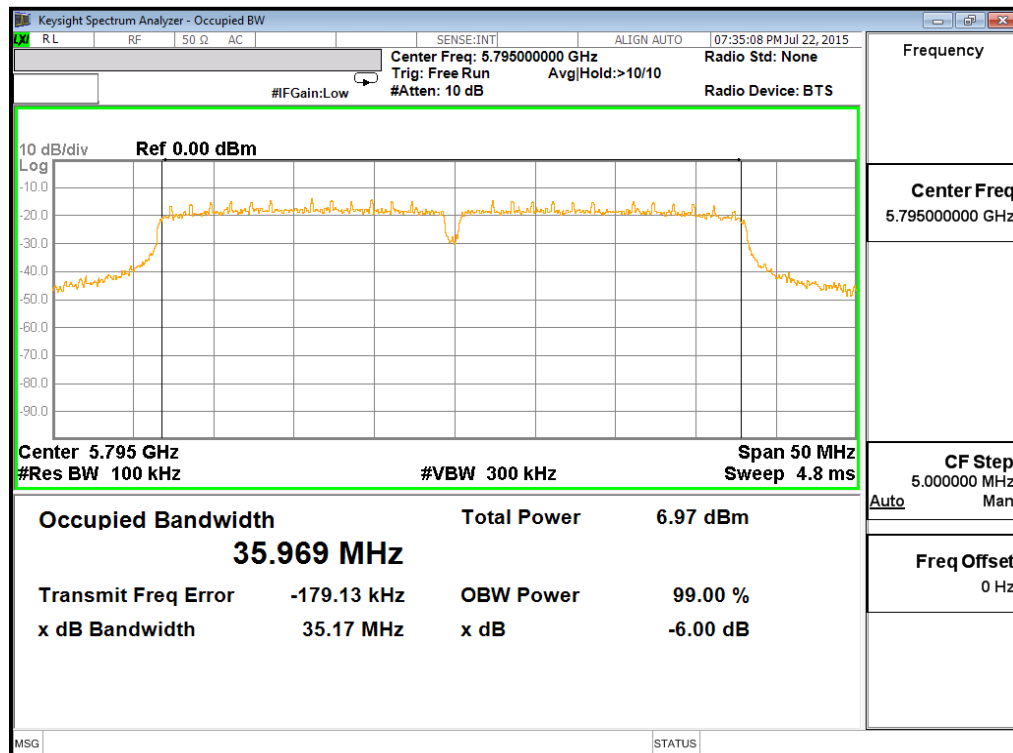
Test Plot of 6dB Bandwidth(HT40)

Antenna 1

Low Channel

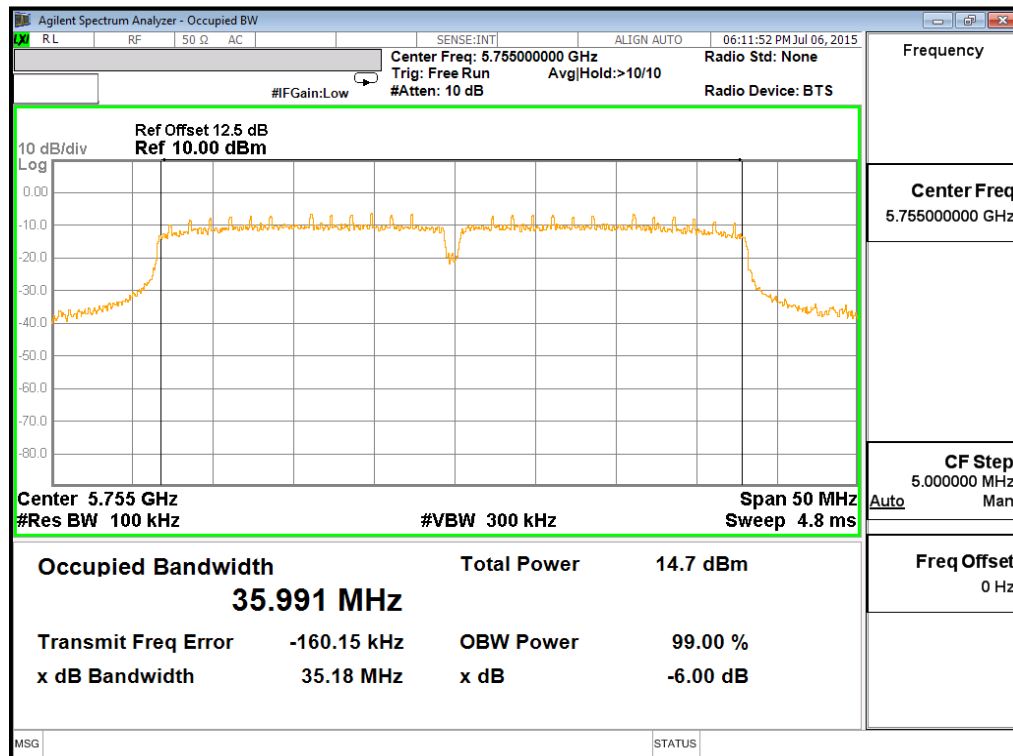


High Channel

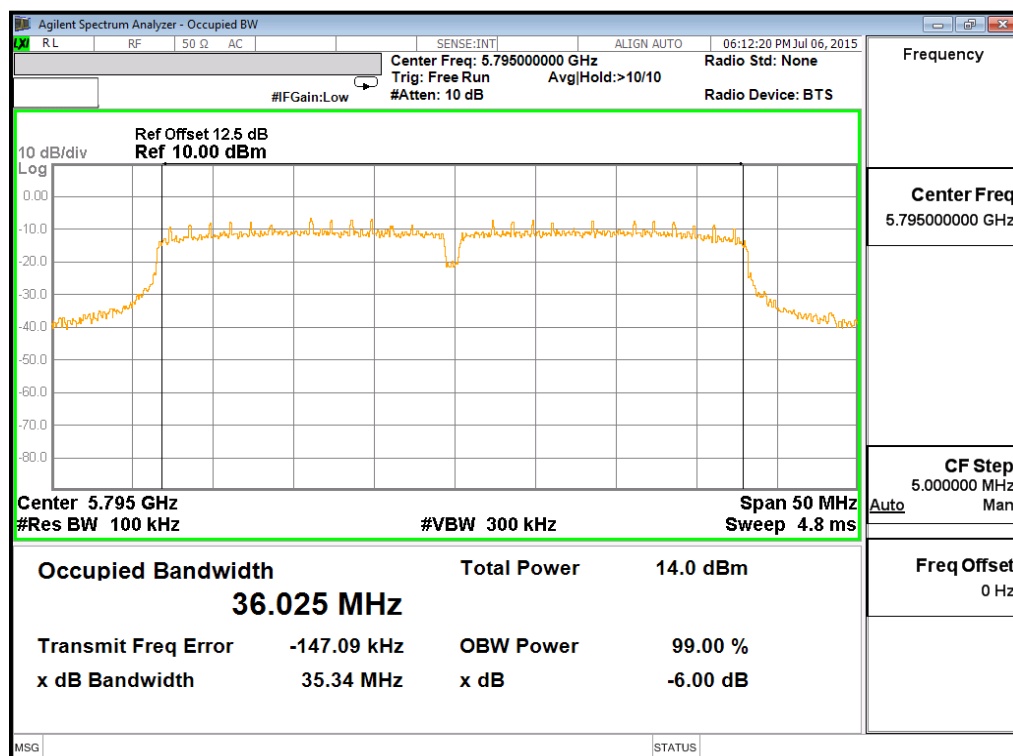


Antenna 2

Low Channel



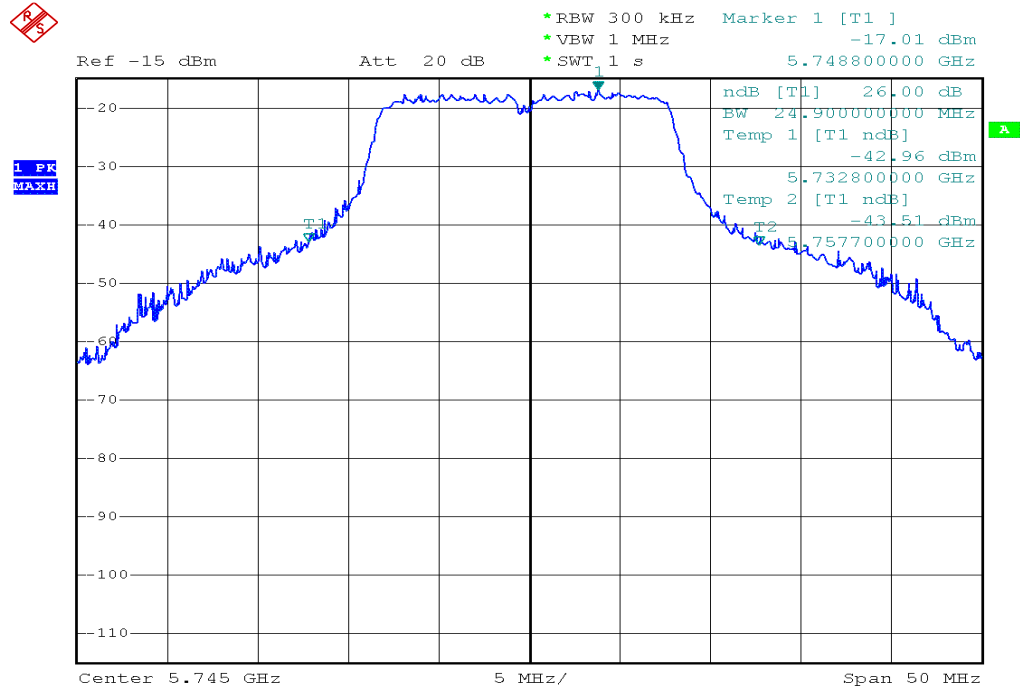
High Channel



Test Plot of 26dB Bandwidth (11a)

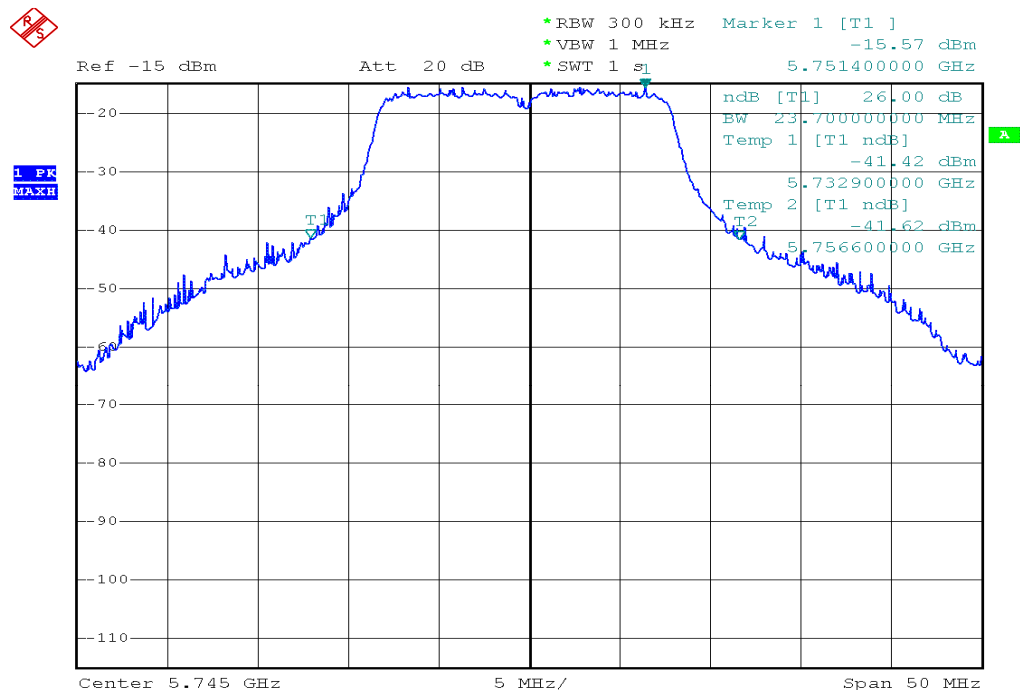
Antenna 1

Low Channel



Antenna 2

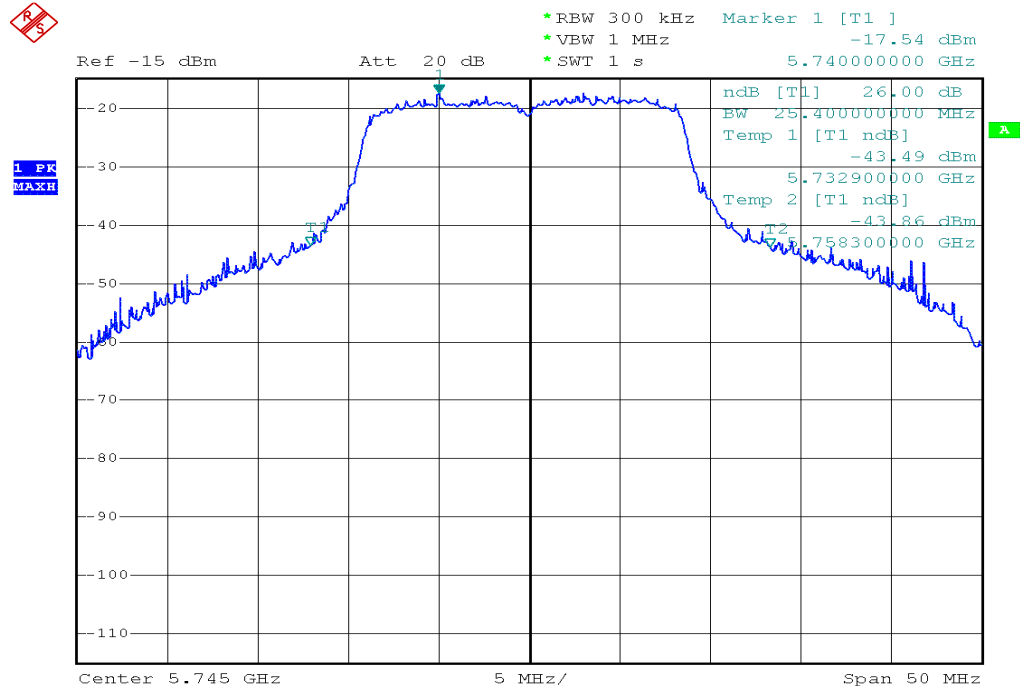
Low Channel



Test Plot of 26dB Bandwidth (HT20)

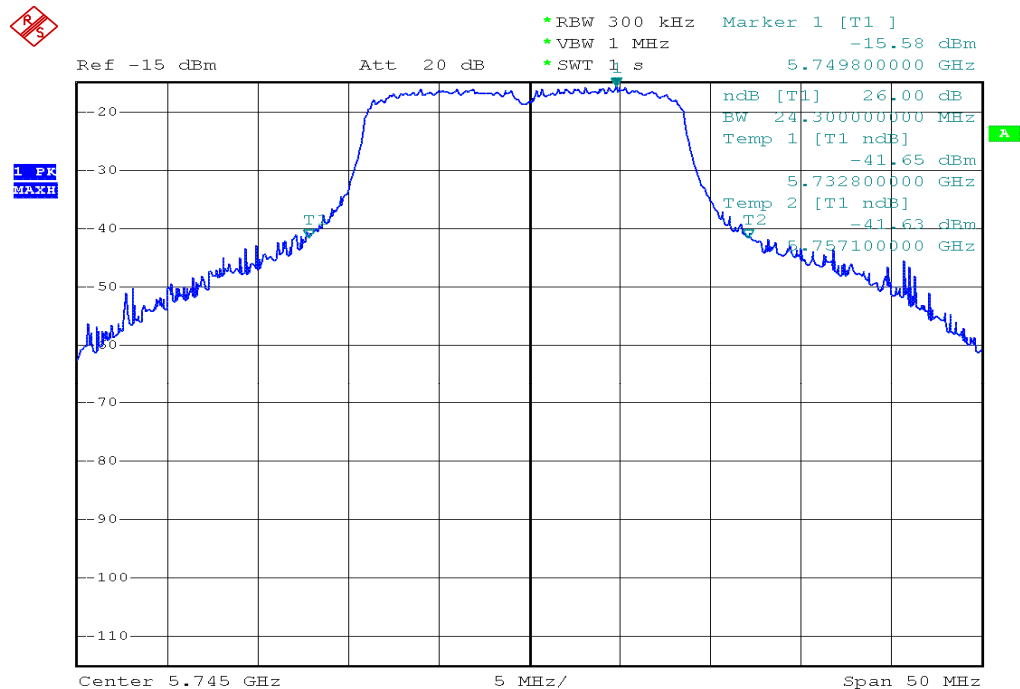
Antenna 1

Low Channel



Antenna 2

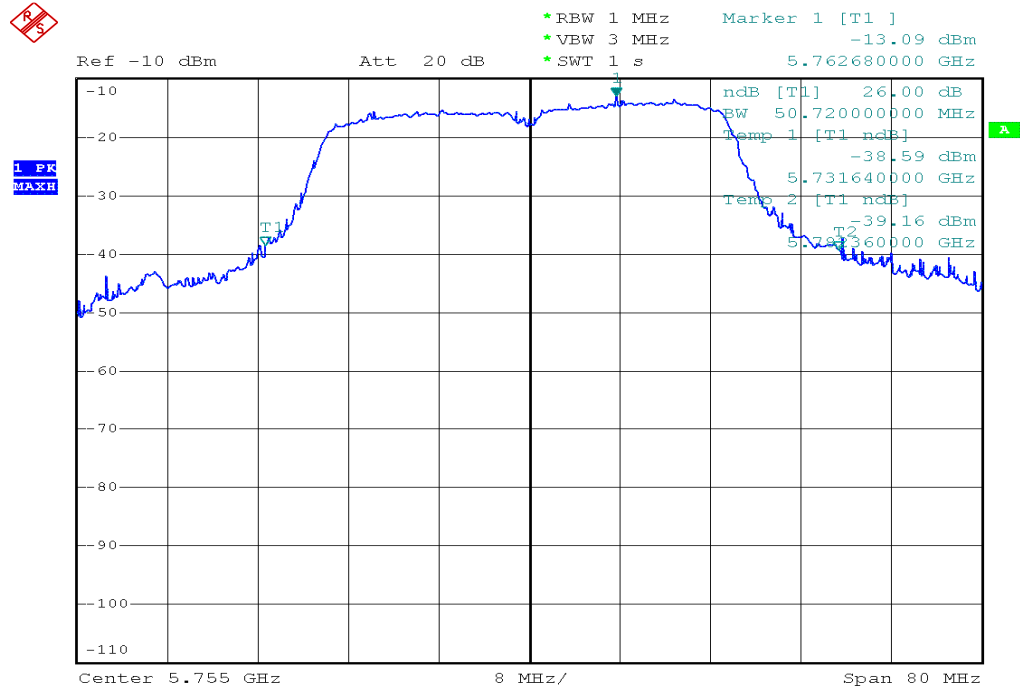
Low Channel



Test Plot of 26dB Bandwidth(HT40)

Antenna 1

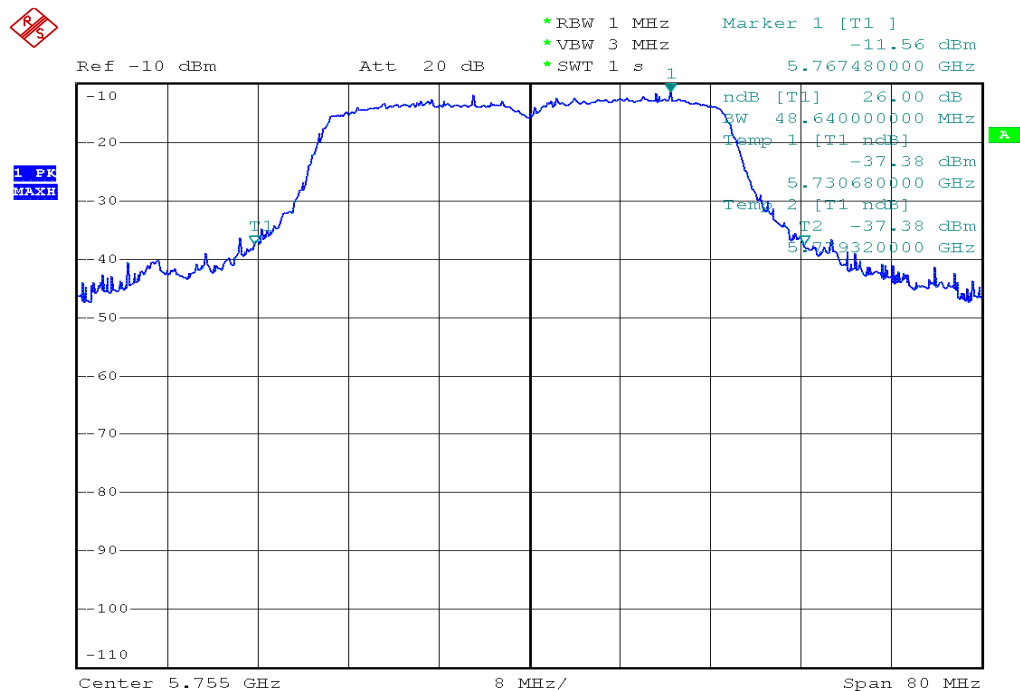
Low Channel



Date: 31.AUG.2015 13:33:47

Antenna 2

Low Channel



Date: 31.AUG.2015 13:32:19

5.1.4 Transmit Output Power

RESULT:

Passed

Test standard : FCC Part 15.407(a), RSS-247 6.2.1, 6.2.4

Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High

Operation Mode : A

Ambient temperature : 22-26°C

Relative humidity : 50-65%

Atmospheric pressure : 100-103 kPa

15.407 General technical requirements.

(a) Power limits:

(1) For the band 5.15–5.25 GHz.

(iv) For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum **conducted** output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3)For the band 5.745 - 5.85 GHz,

the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

In addition, the maximum power spectral density shall not exceed 30 dBm in any 500kHz band.

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

=====
Additional Canada Requirements:

For the band 5.15–5.25 GHz:

The **maximum e.i.r.p.** shall not exceed 200 mW or $10 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz.

-> Antenna gain is less than 5 dBi, thus see below for calculations

The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

-> Antenna gain is less than 5 dBi, thus fulfilling the FCC requirements will also satisfy RSS-247

Table 12: Test result of Transmit Power (11a)
5150-5250MHz:

Channel	Channel Frequency (MHz)	Power TX1 (dBm)	Power TX2 (dBm)	Power TX + TX2 (mW)	Limit (mW)	Result
Low Channel	5180	9.03	2.24	9.7	250	Pass
Mid Channel	5200	8.05	2.31	8	250	Pass
High Channel	5220	7.93	2.19	8	250	Pass

Pmax: 9.7 mW

Canada limit based on 5dBi antenna gain and 99% BW: $22\text{dBm} - 5\text{ dB} = 17\text{ dBm} \rightarrow 50\text{ mW}$

5725-5850MHz:

Channel	Channel Frequency (MHz)	Power TX1 (dBm)	Power TX2 (dBm)	Power TX + TX2 (mW)	Limit (mW)	Result
Low Channel	5745	11.35	11.93	29.2	1000	Pass
Mid Channel	5785	11.57	12.26	31	1000	Pass
High Channel	5825	11.47	12.21	31	1000	Pass

Pmax: 31.2 mW

Table 13: Test result of Transmit Power (HT20)
5150-5250MHz:

Channel	Channel Frequency (MHz)	Power TX1 (dBm)	Power TX2 (dBm)	Power TX + TX2 (mW)	Limit (mW)	Result
Low Channel	5180	8.25	1.97	8.3	250	Pass
Mid Channel	5200	7.92	2.06	8	250	Pass
High Channel	5220	7.55	2.08	7	250	Pass

Pmax: 8.3 mW

Canada limit based on 5dBi antenna gain and 99% BW: $22.5\text{dBm} - 5\text{ dB} = 17.5\text{ dBm} \rightarrow 56\text{ mW}$

5725-5850MHz:

Channel	Channel Frequency (MHz)	Power TX1 (dBm)	Power TX2 (dBm)	Power TX + TX2 (mW)	Limit (mW)	Result
Low Channel	5745	10.87	12.02	28.1	1000	Pass
Mid Channel	5785	11.29	12.24	30	1000	Pass
High Channel	5825	11.36	11.93	29	1000	Pass

Pmax: 30.2 mW

Table 14: Test result of Transmit Power (HT40)
5150-5250MHz:

Channel	Channel Frequency (MHz)	Power TX1 (dBm)	Power TX2 (dBm)	Power TX + TX2 (mW)	Limit (mW)	Result
Low Channel	5190	8.93	3.13	9.9	250	Pass

Pmax: 9.9 mW

Canada limit: 23dBm – 5 dB = 18 dBm -> 63 mW

5725-5850MHz:

Channel	Channel Frequency (MHz)	Power TX1 (dBm)	Power TX2 (dBm)	Power TX + TX2 (mW)	Limit (mW)	Result
Low Channel	5755	11.03	12.81	31.8	1000	Pass
High Channel	5795	10.04	11.77	25	1000	Pass

Pmax: 31.8 mW

5.1.5 Power Spectral Density

RESULT:**Passed**

Test standard : FCC Part 15.407(a)(1),(5)
RSS-247 6.2.1, 6.2.4
Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
Operation Mode : A

Ambient temperature : 22-26°C
Relative humidity : 50-65%
Atmospheric pressure : 100-103 kPa

Table 15: Test result of Power Spectral Density
5150-5250MHz

Channel	Channel Frequency (MHz)	Peak Power Density T1 (dBm)	Peak Power Density T2 (dBm)	Limit (dBm/MHz) FCC/Can	Result
Low Channel	5180	1.49	-0.45	11 / 6	Pass
Mid Channel	5200	-0.01	-0.076	11 / 6	Pass
High Channel	5220	2.54	-1.98	11 / 6	Pass

5745-5850MHz

Channel	Channel Frequency (MHz)	Peak Power Density T1 (dBm)	Peak Power Density T2 (dBm)	Limit (dBm/500kHz)	Result
Low Channel	5745	2.61	3.56	30	Pass
Mid Channel	5785	2.43	3.84	30	Pass
High Channel	5825	0.88	2.19	30	Pass

Table 16: Test result of Power Spectral Density (HT20)
5150-5250MHz

Channel	Channel Frequency (MHz)	Peak Power Density T1 (dBm)	Peak Power Density T2 (dBm)	Limit (dBm/MHz)	Result
Low Channel	5180	1.28	-2.23	11 / 6	Pass
Mid Channel	5200	-0.67	-1.94	11 / 6	Pass
High Channel	5220	1.56	-3.24	11 / 6	Pass

5745-5850MHz

Channel	Channel Frequency (MHz)	Peak Power Density T1 (dBm)	Peak Power Density T2 (dBm)	Limit (dBm/500kHz)	Result
Low Channel	5745	1.14	1.47	30	Pass
Mid Channel	5785	1.74	2.36	30	Pass
High Channel	5825	0.54	0.69	30	Pass

Table 17: Test result of Power Spectral Density (HT40)
5150-5250MHz

Channel	Channel Frequency (MHz)	Peak Power Density T1 (dBm)	Peak Power Density T2 (dBm)	Limit (dBm/MHz)	Result
Low Channel	5190	-2.86	-3.95	11 / 6	Pass

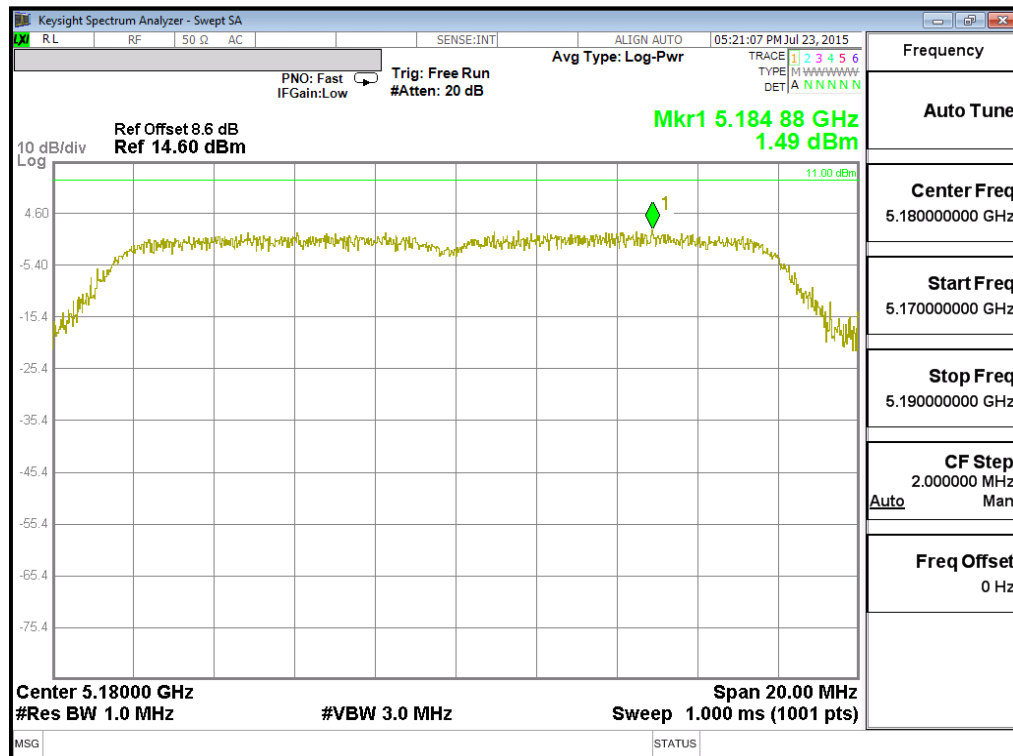
5725-5850MHz

Channel	Channel Frequency (MHz)	Peak Power Density T1 (dBm)	Peak Power Density T2 (dBm)	Limit (dBm/500kHz)	Result
Low Channel	5755	-2.06	-1.47	30	Pass
High Channel	5795	-1.73	-1.59	30	Pass

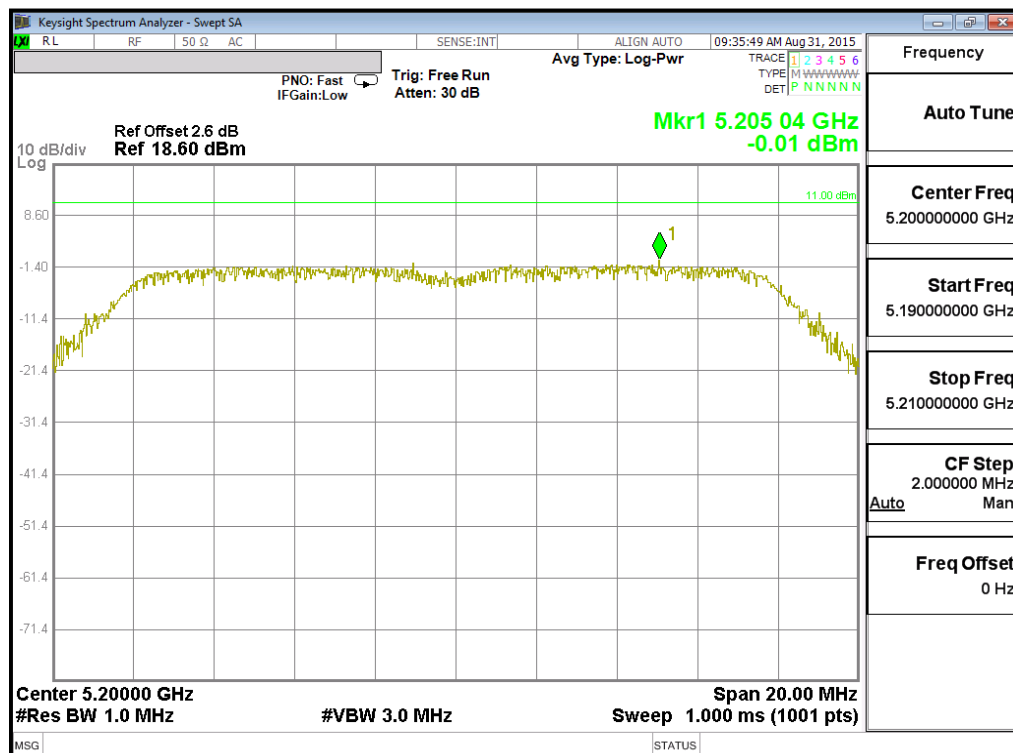
Test Plot of Power Density 11a

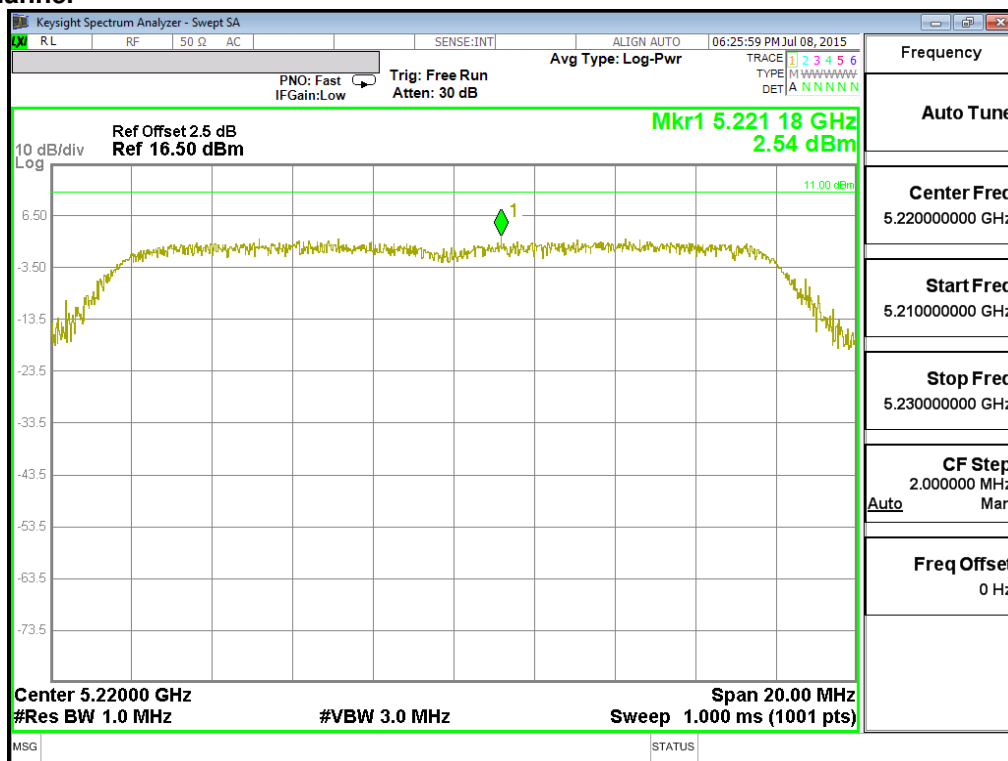
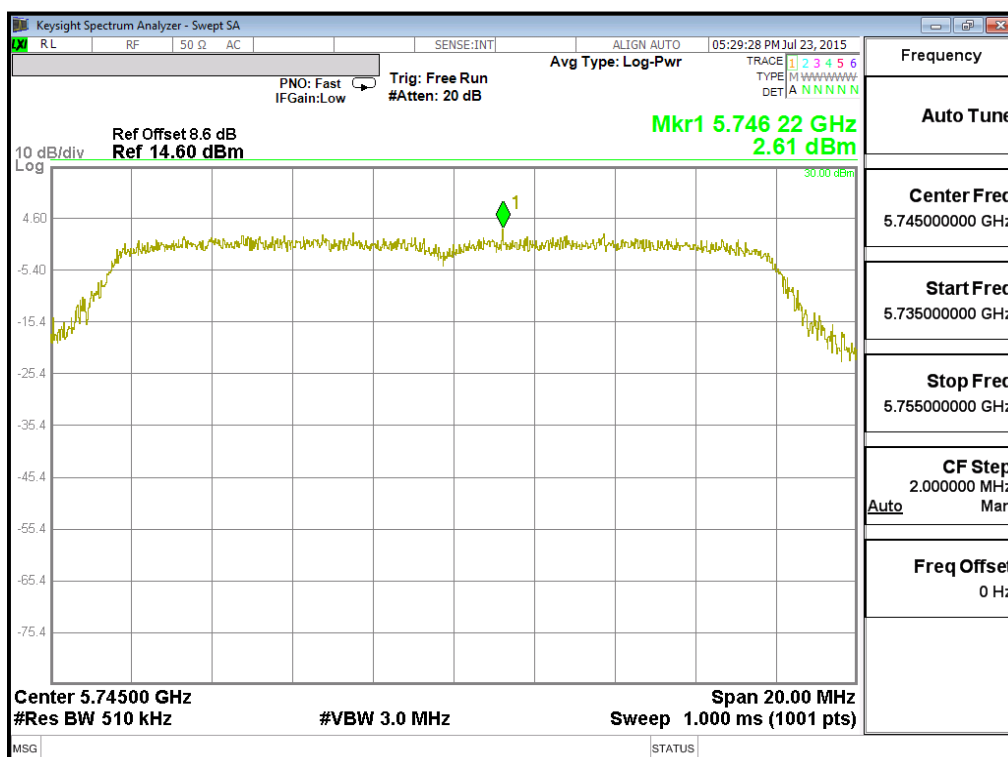
Antenna1: (5150-5250MHz)

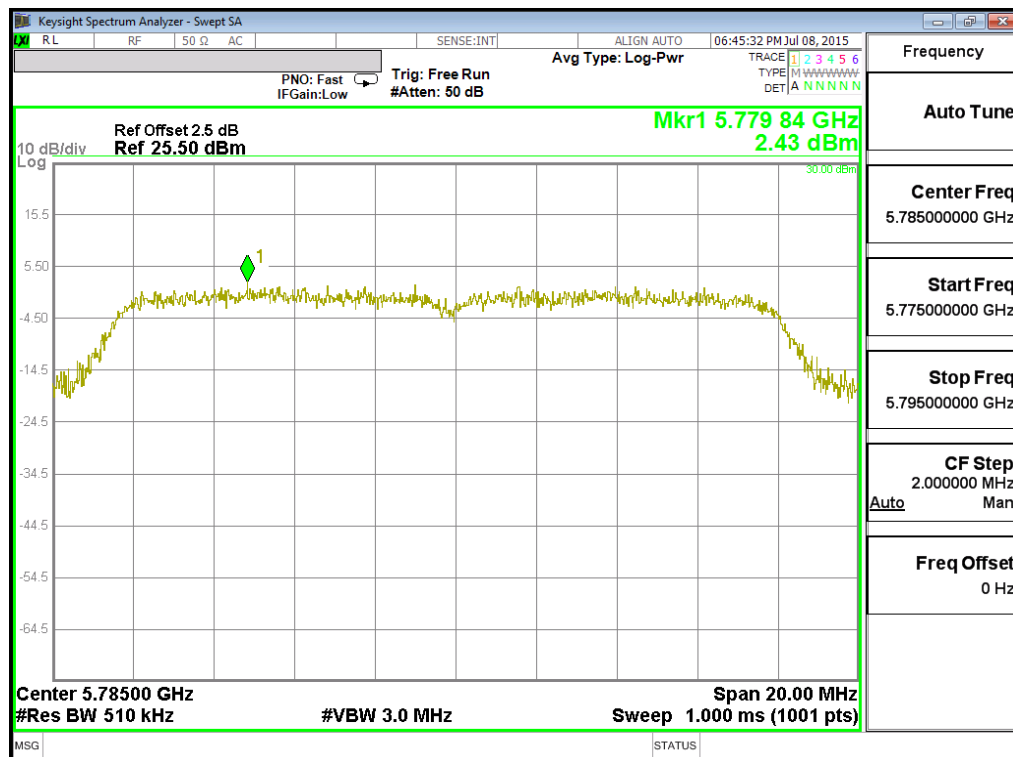
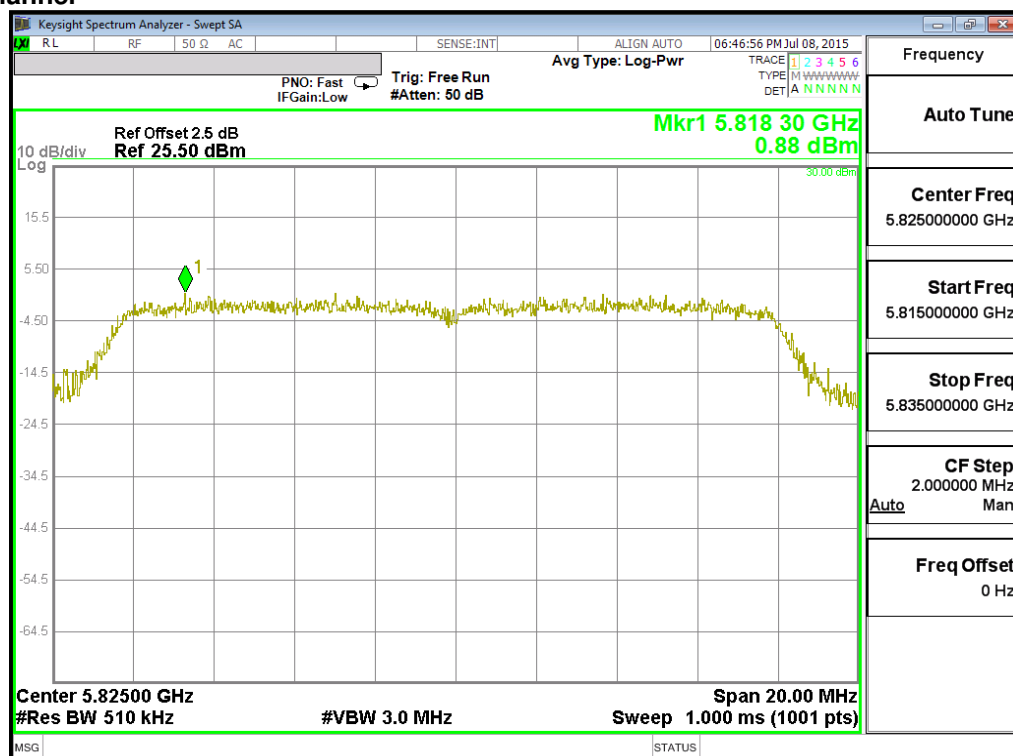
Low Channel

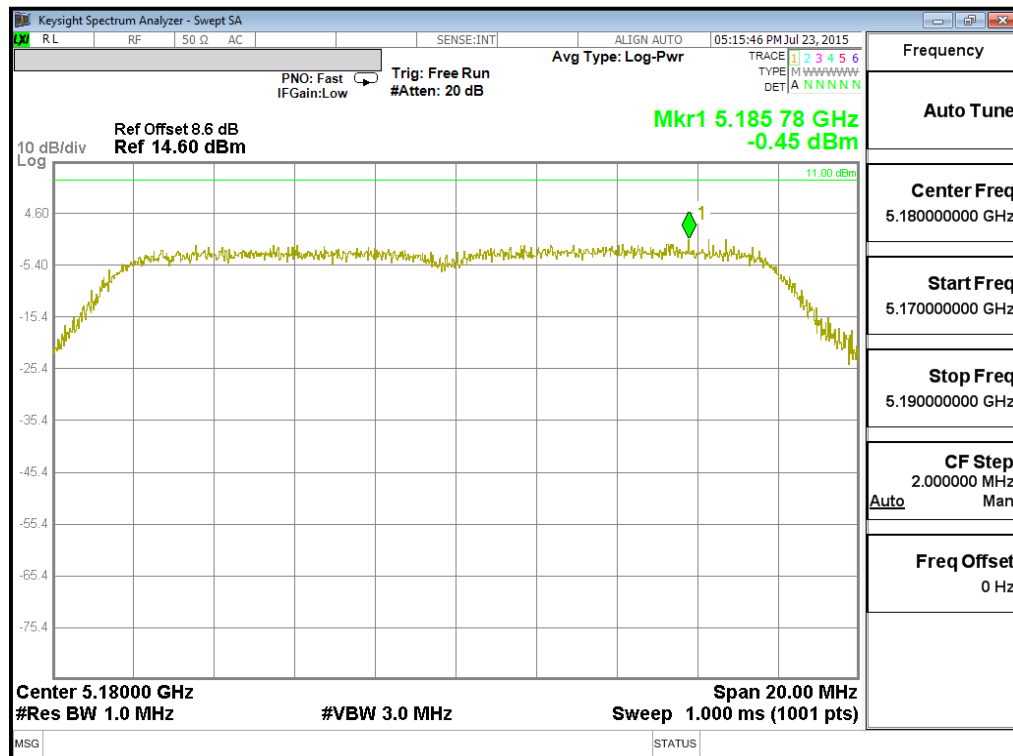
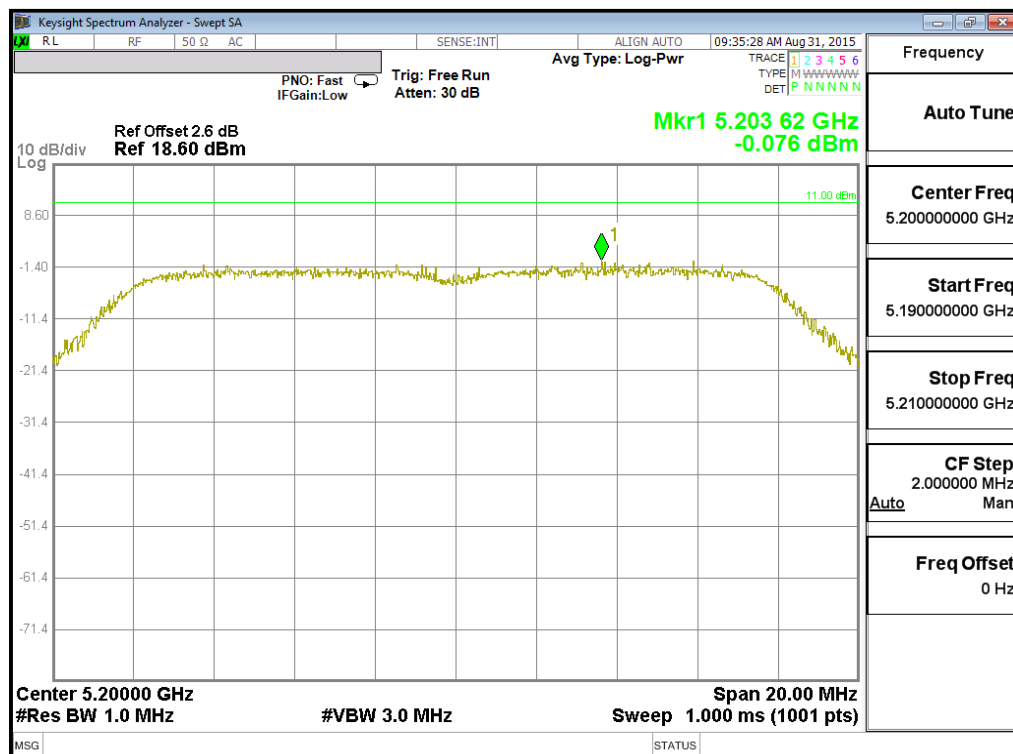


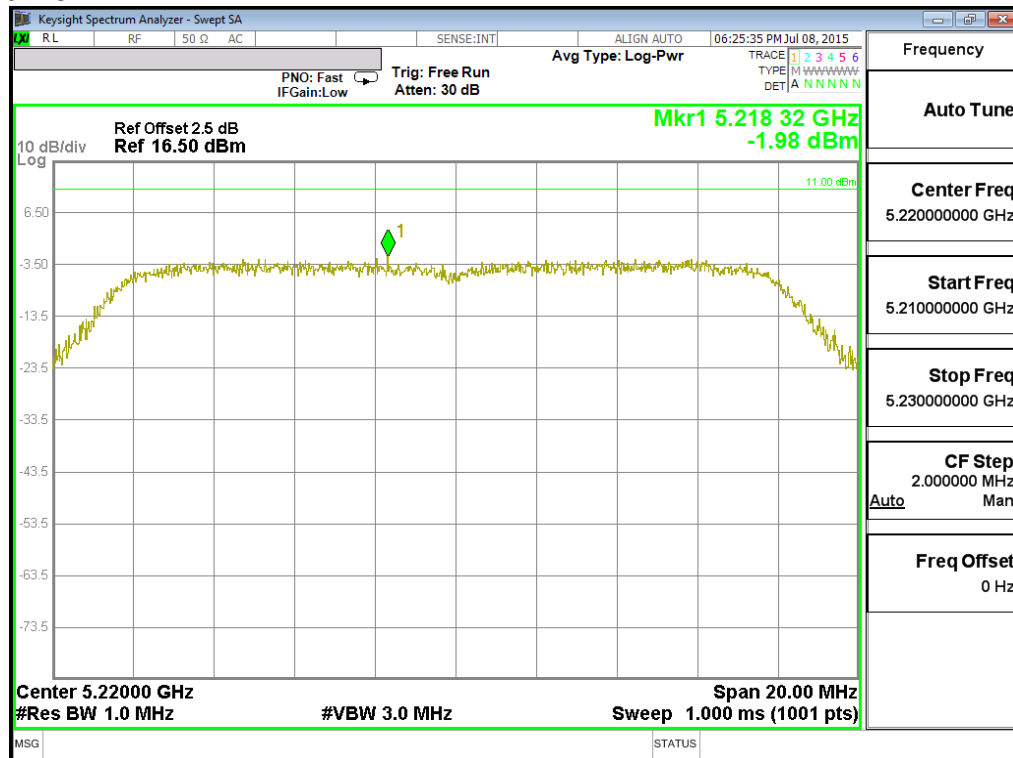
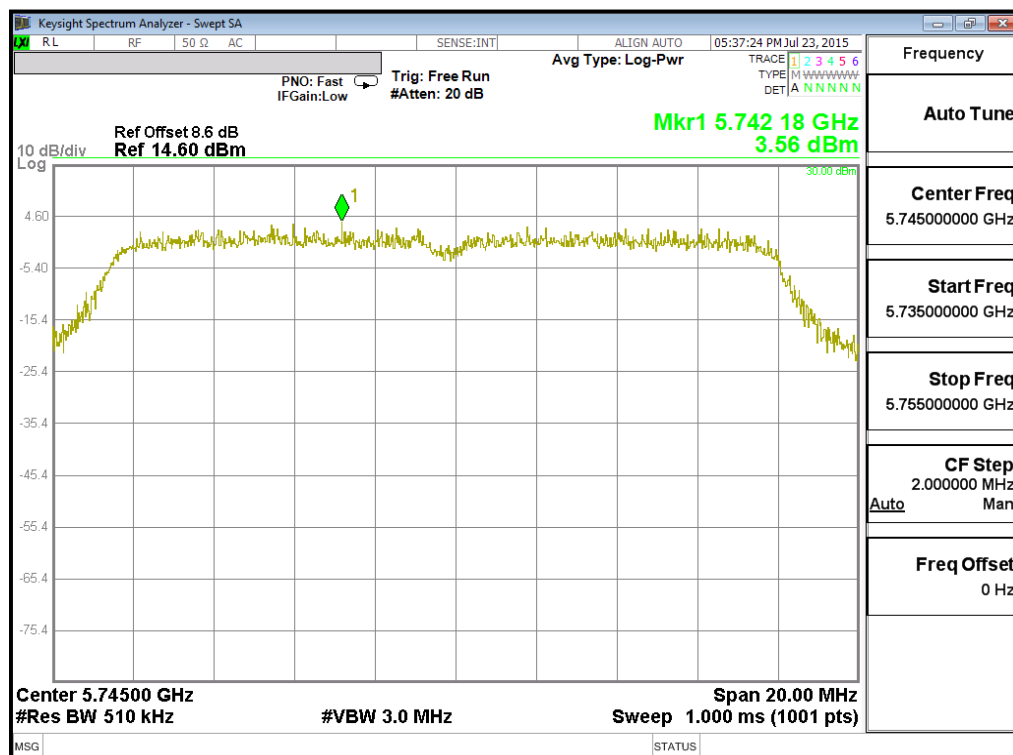
Middle Channel

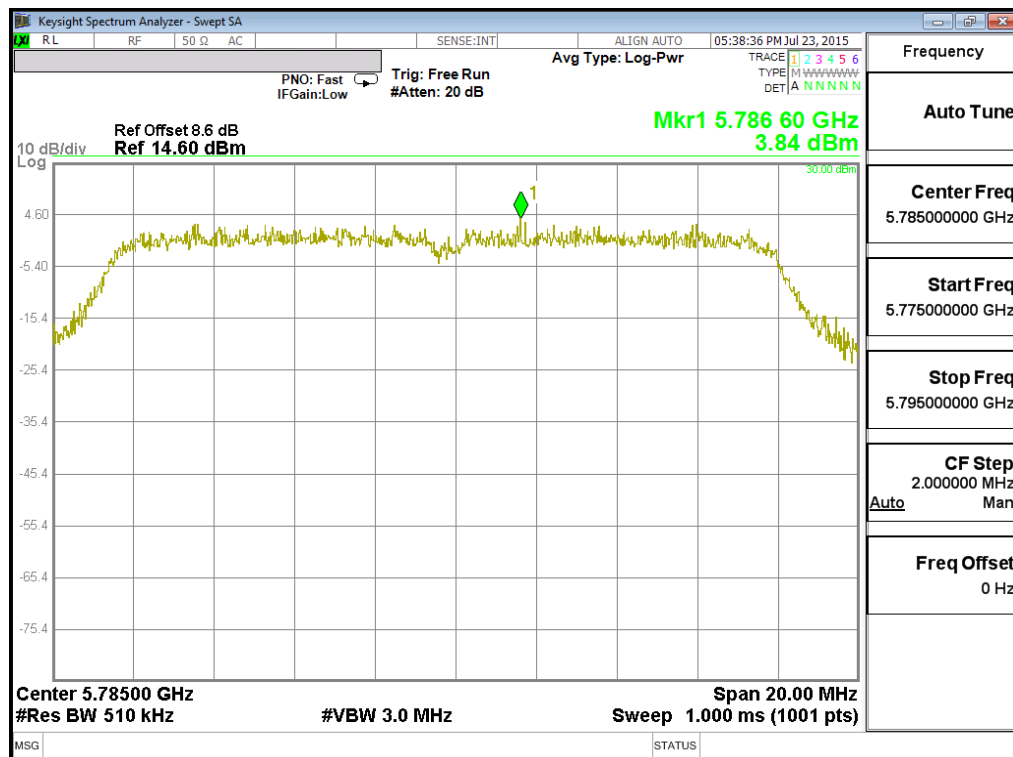
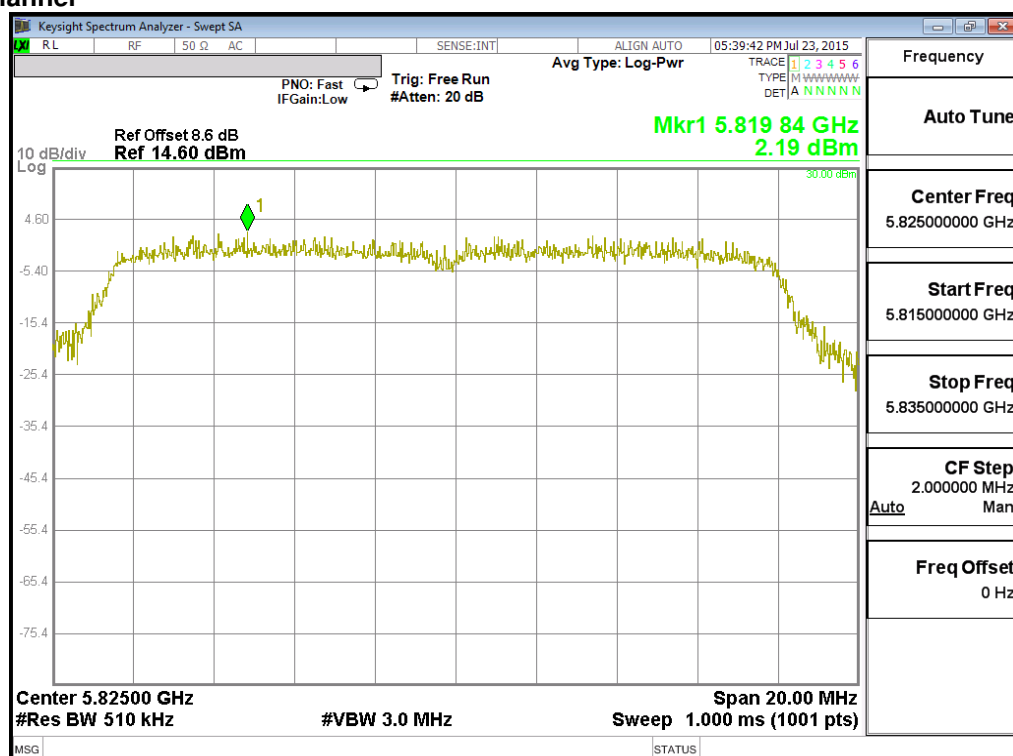


High Channel

Antenna1: (5745-5850MHz)
Low Channel


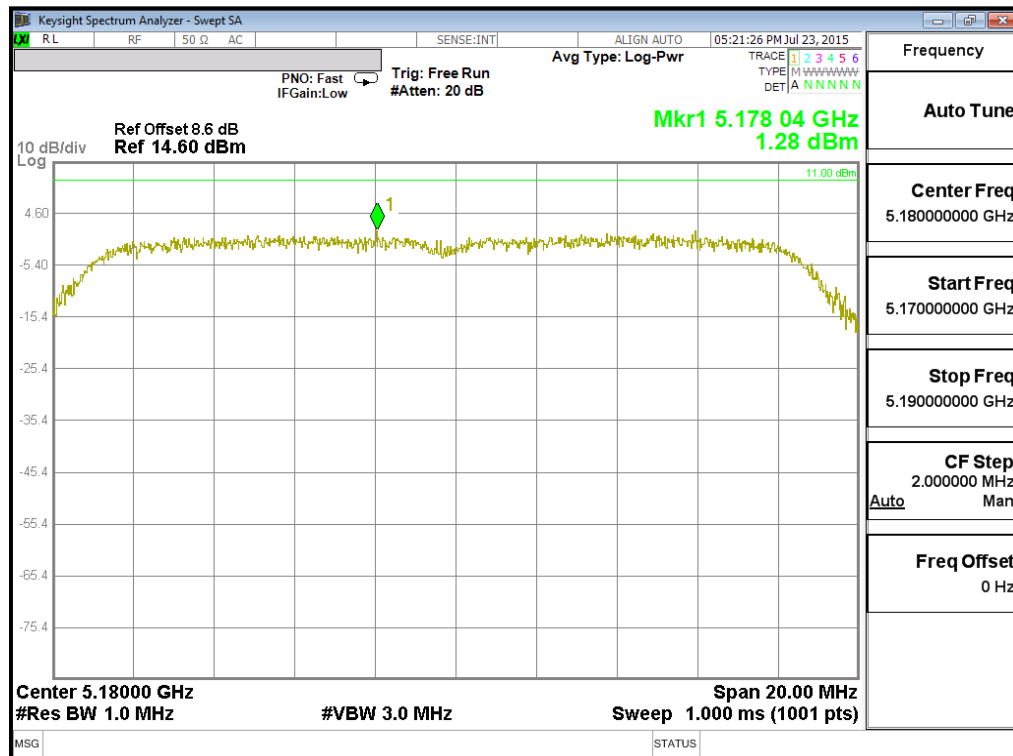
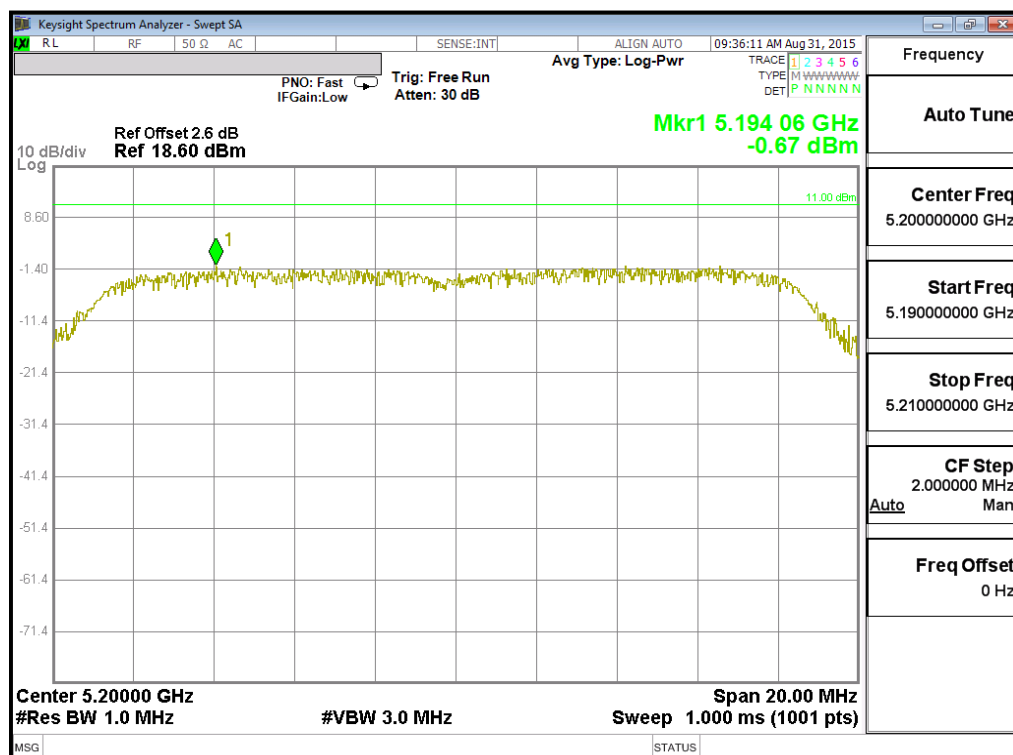
Middle Channel

High Channel


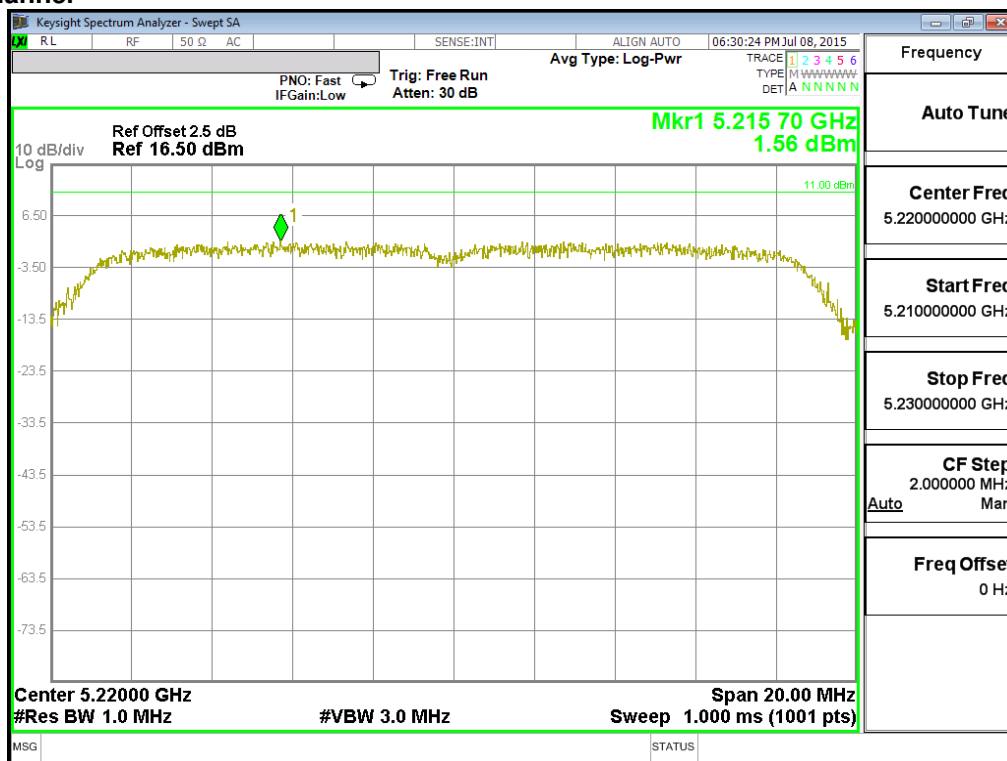
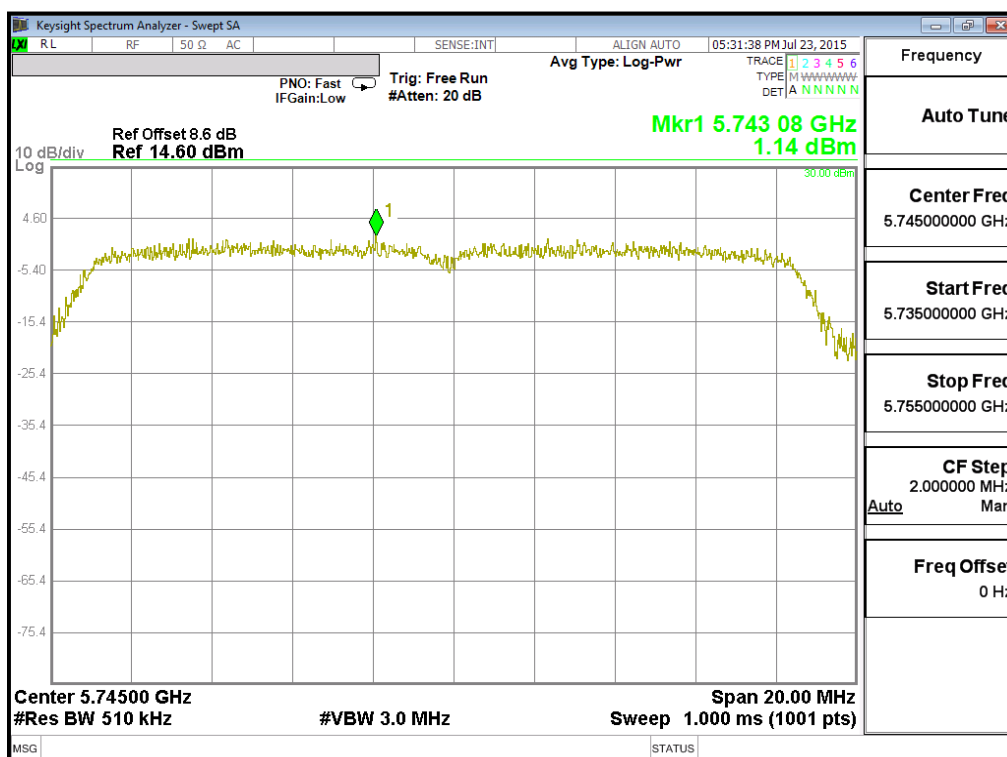
Antenna2: (5150-5250MHz)
Low Channel

Middle Channel


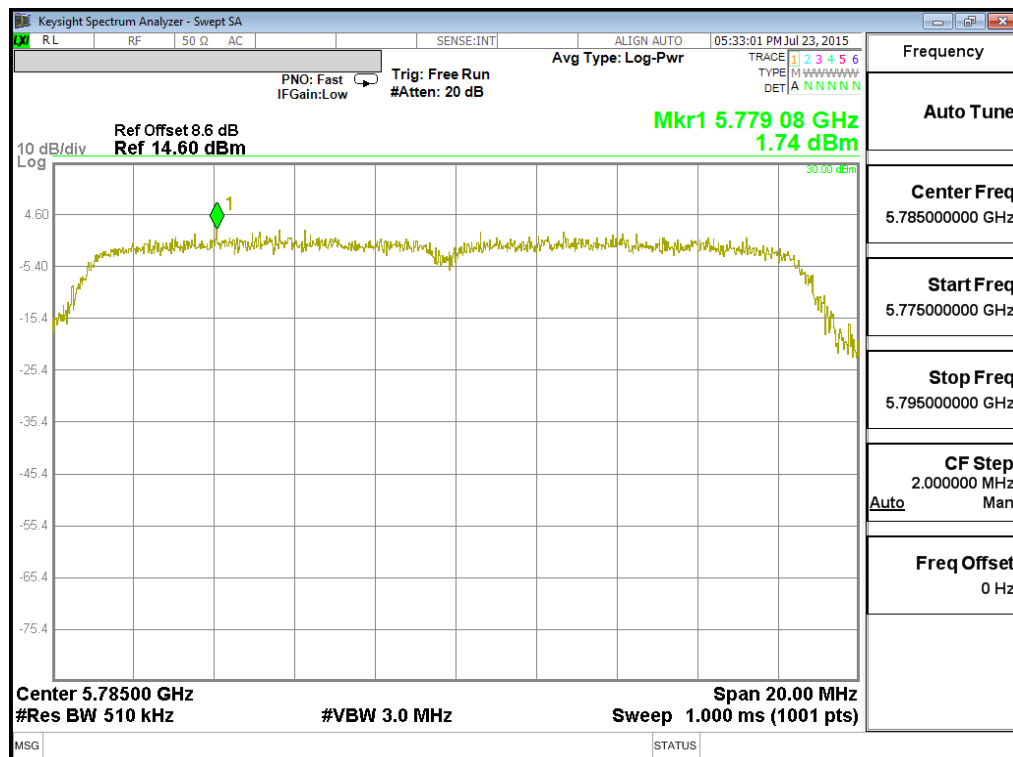
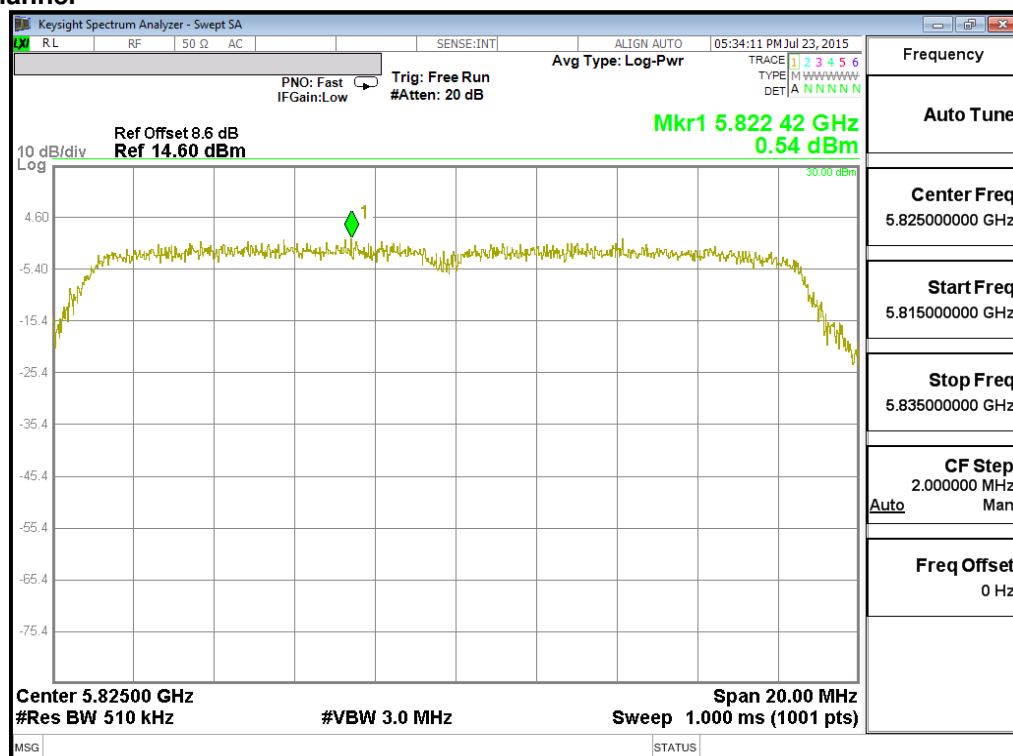
High Channel

Antenna2: (5745-5850MHz)
Low Channel


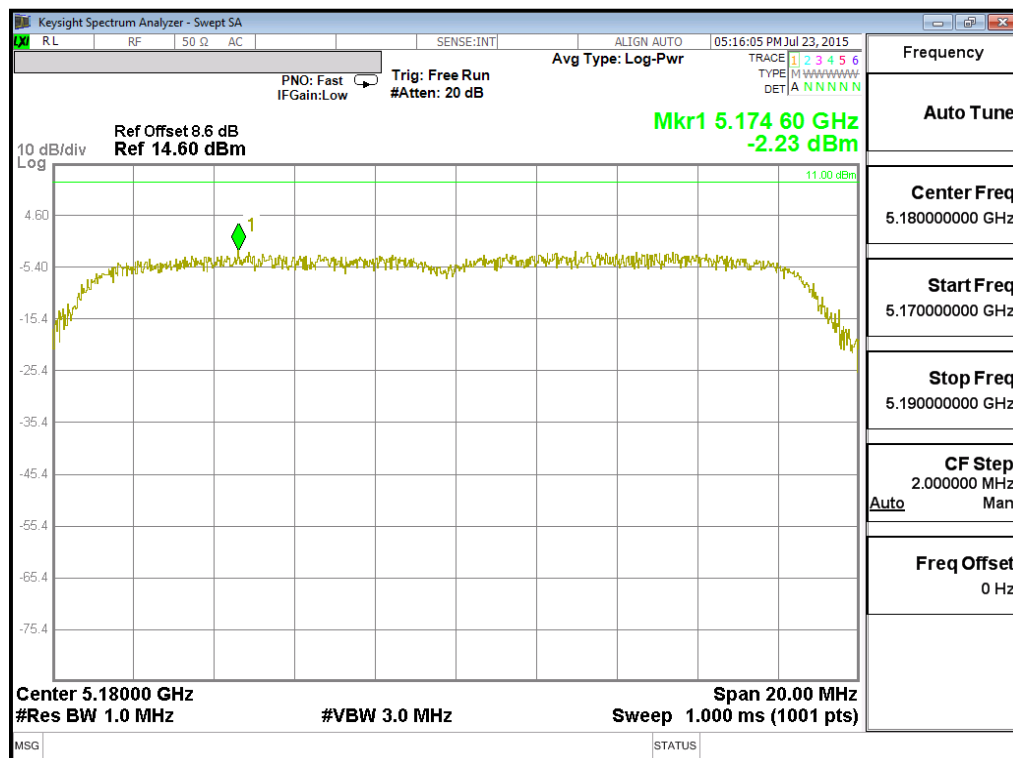
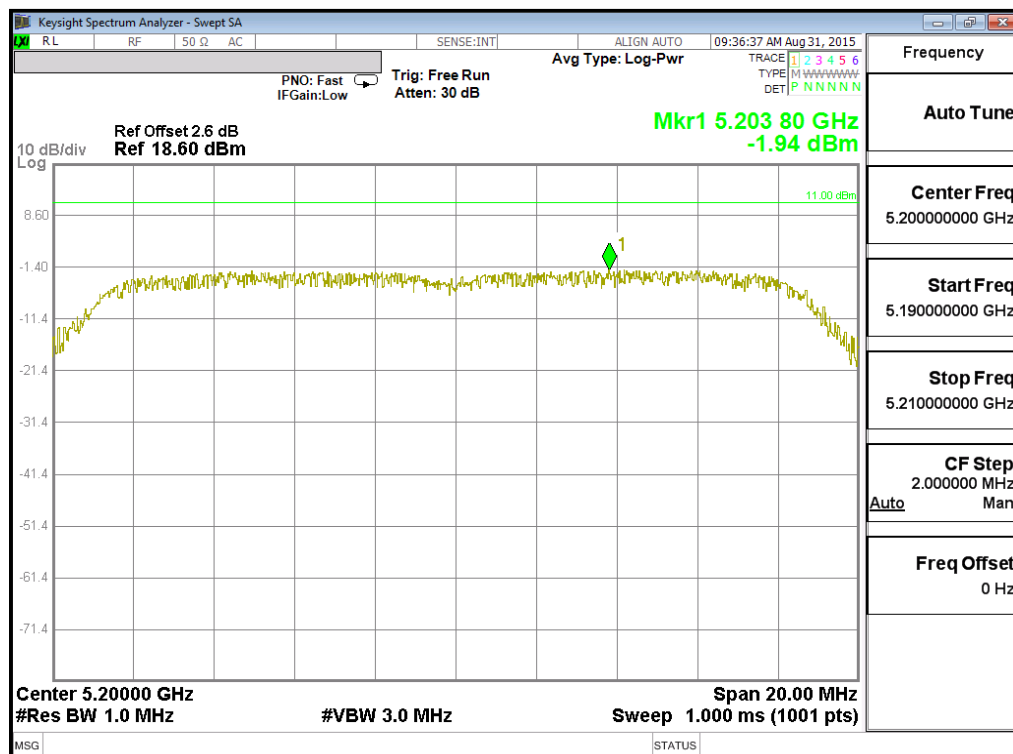
Middle Channel

High Channel


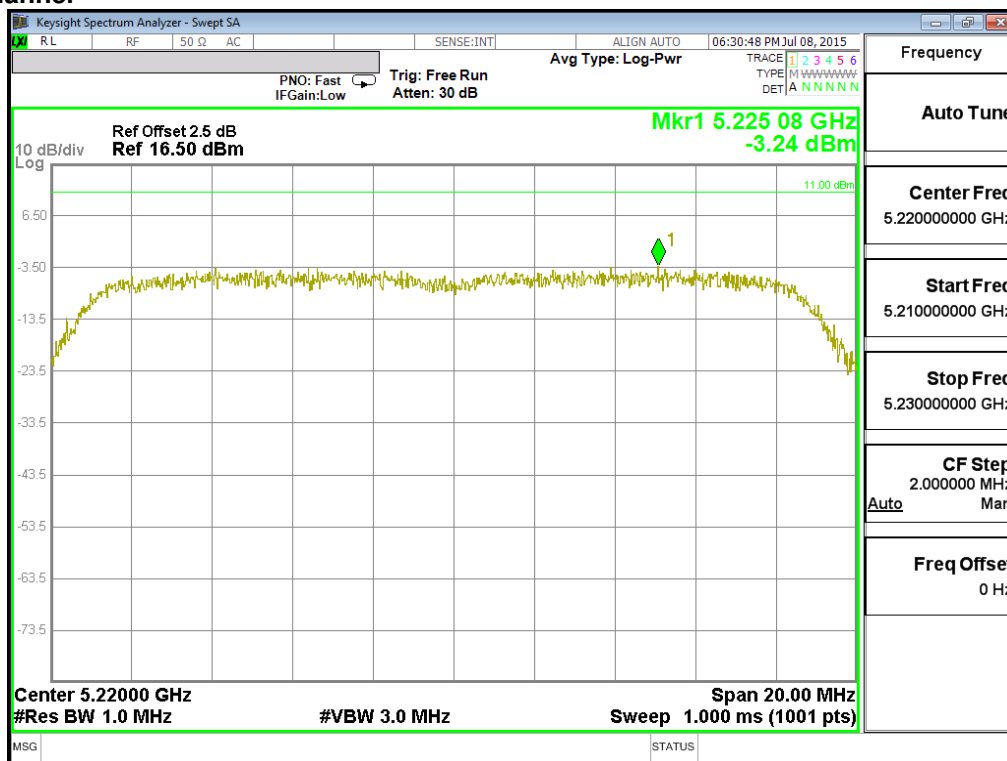
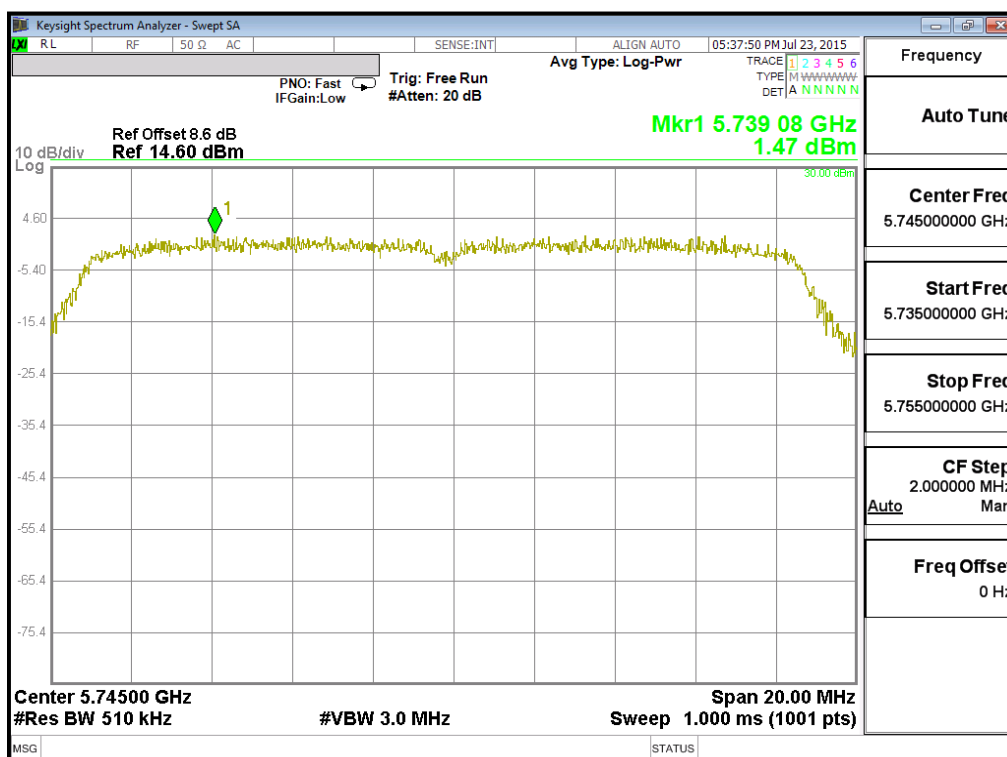
Test Plot of Power Density (HT20)

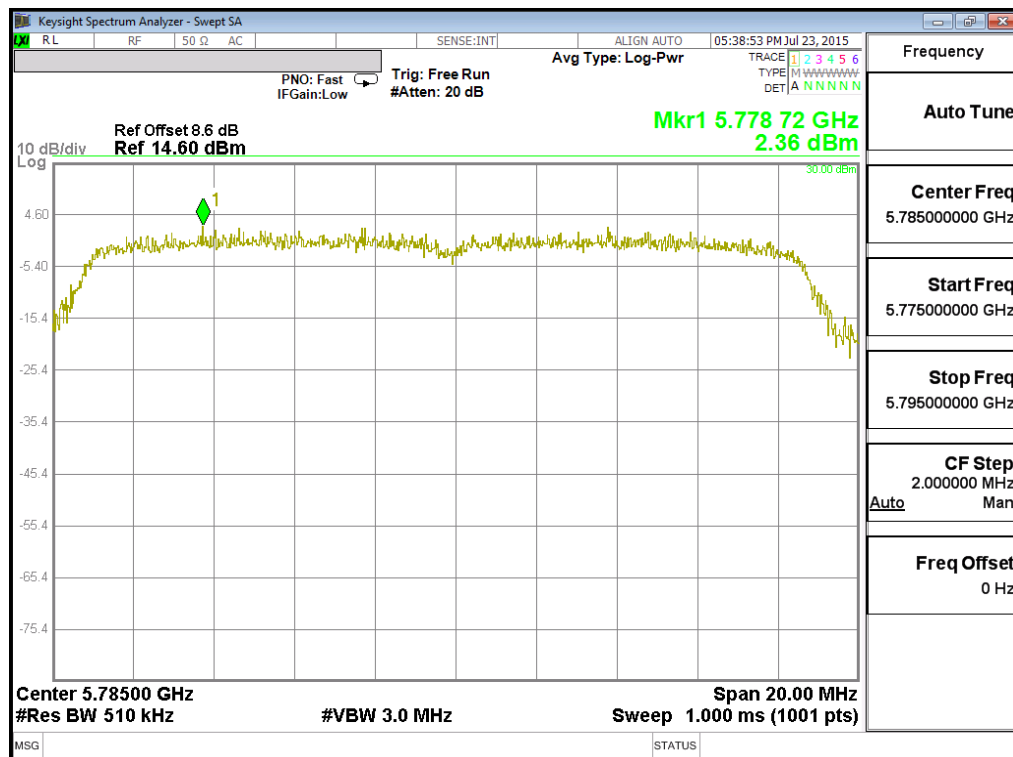
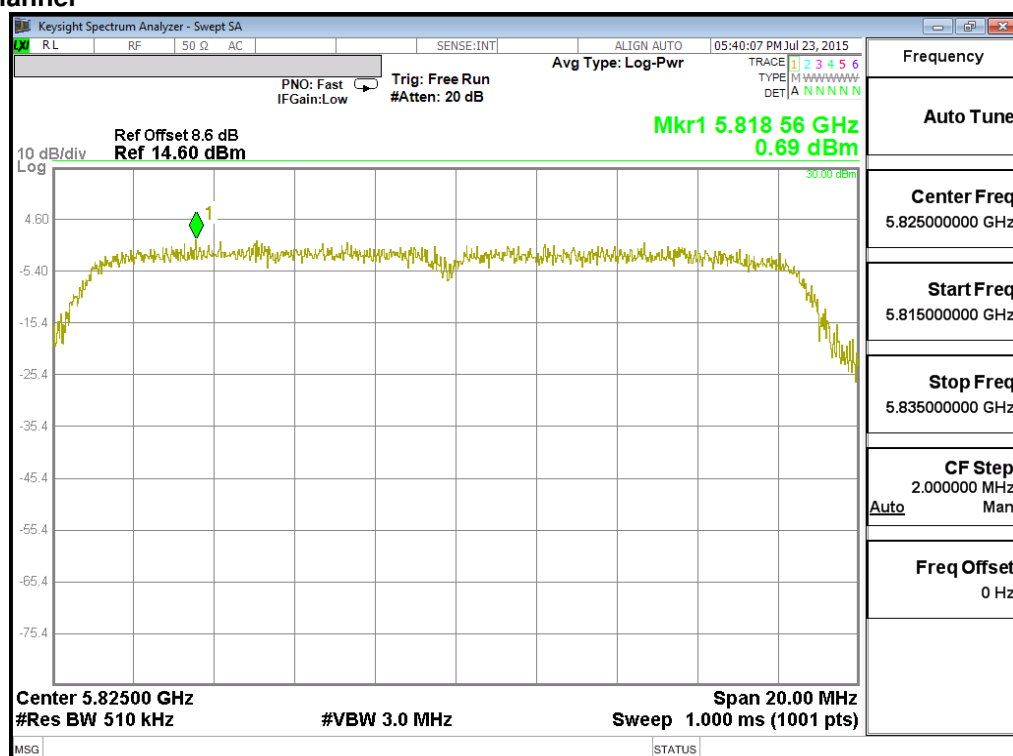
Antenna1: (5150-5250MHz)
Low Channel

Middle Channel


High Channel

Antenna1: (5745-5850MHz)
Low Channel


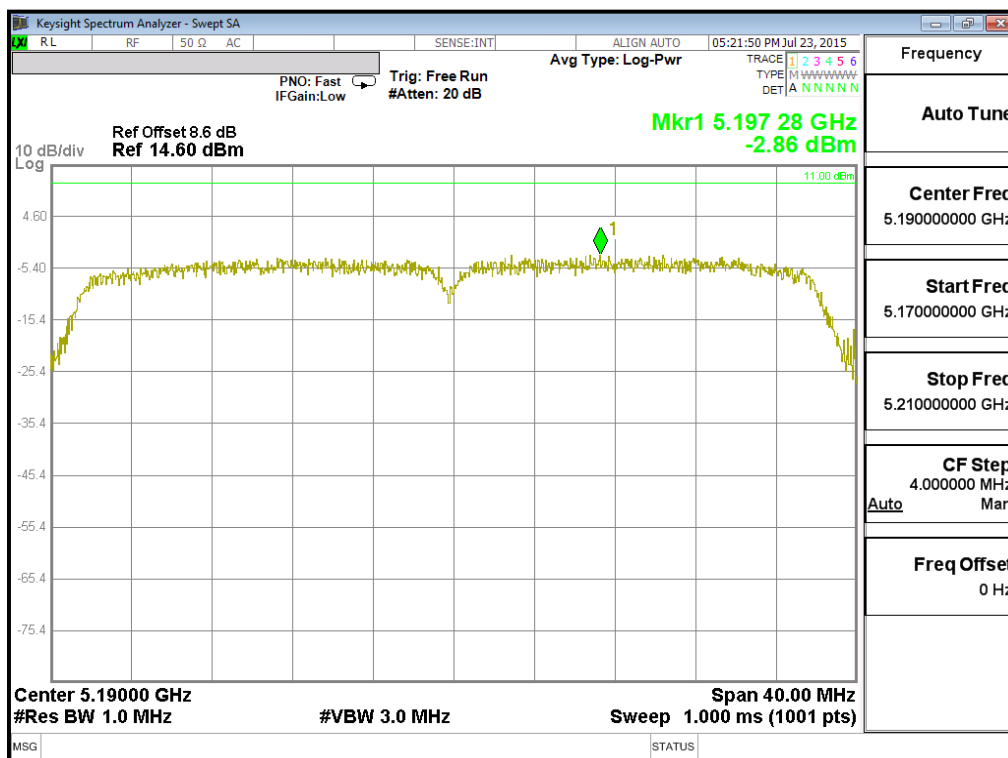
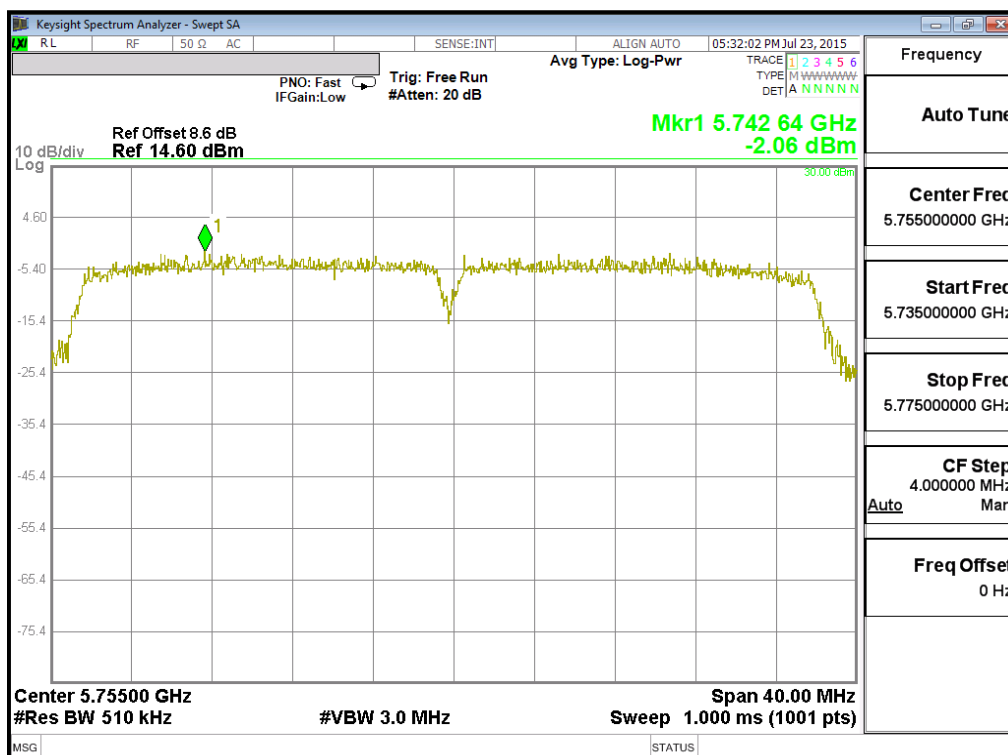
Middle Channel

High Channel


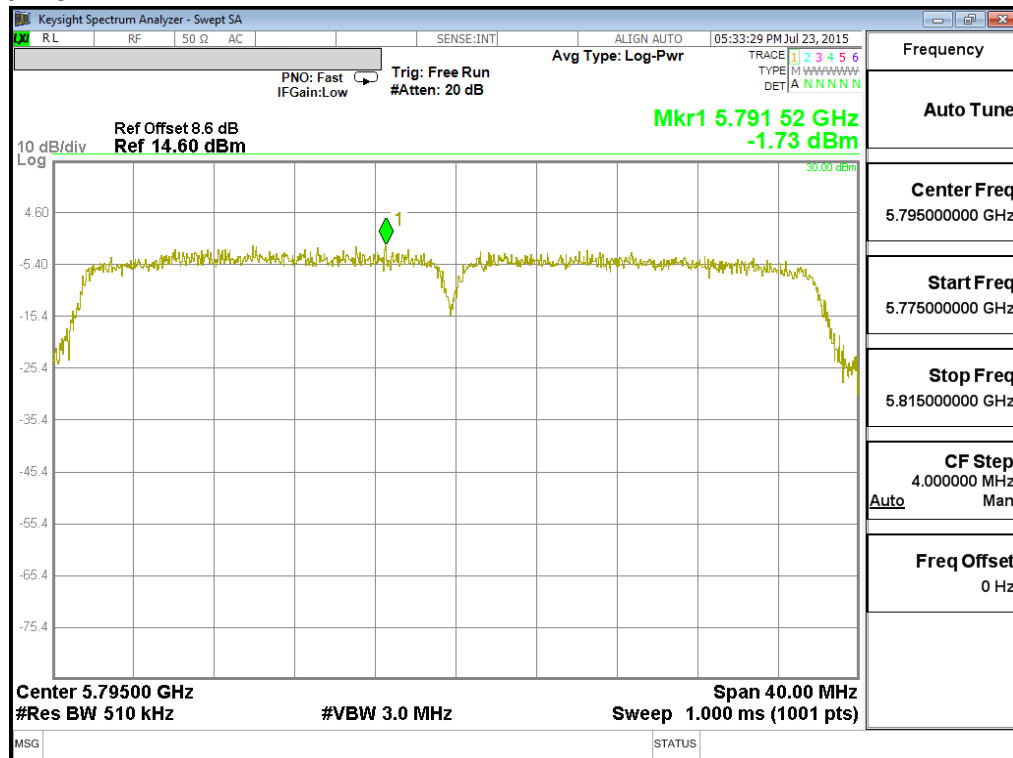
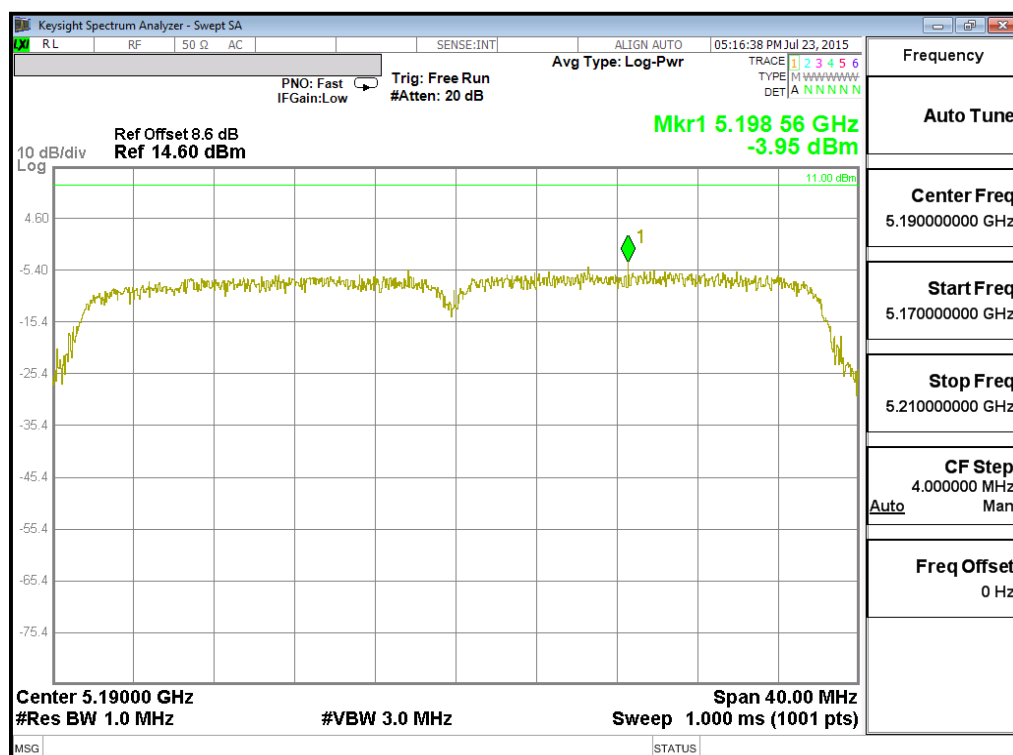
Antenna2: (5150-5250MHz)
Low Channel

Middle Channel


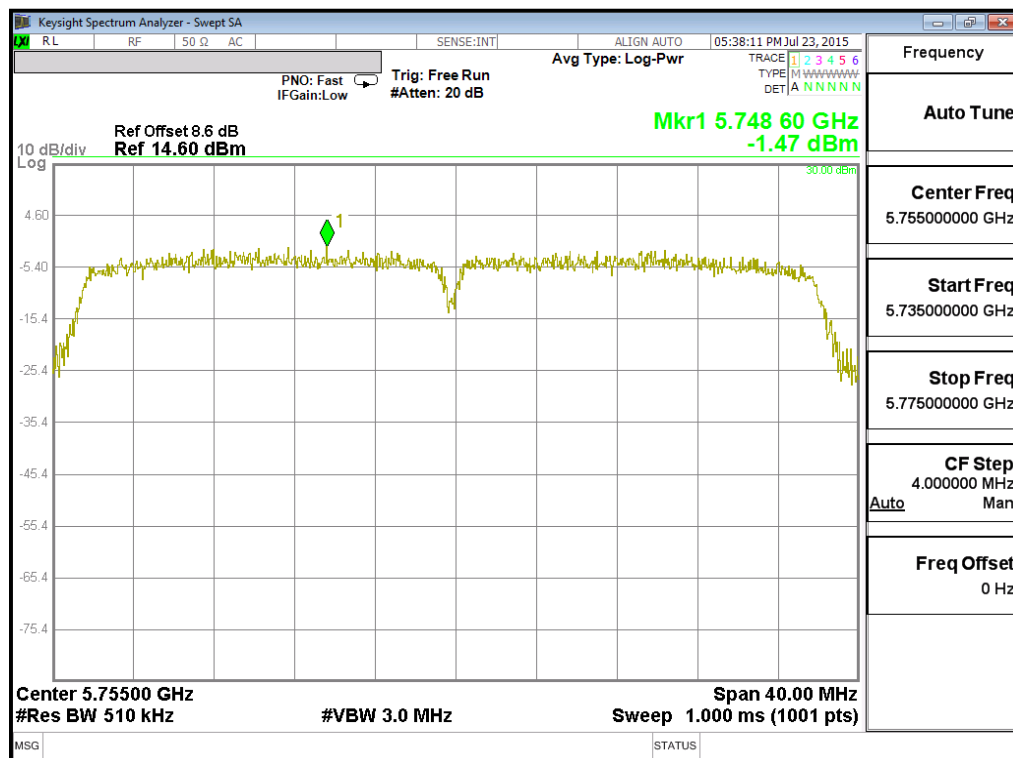
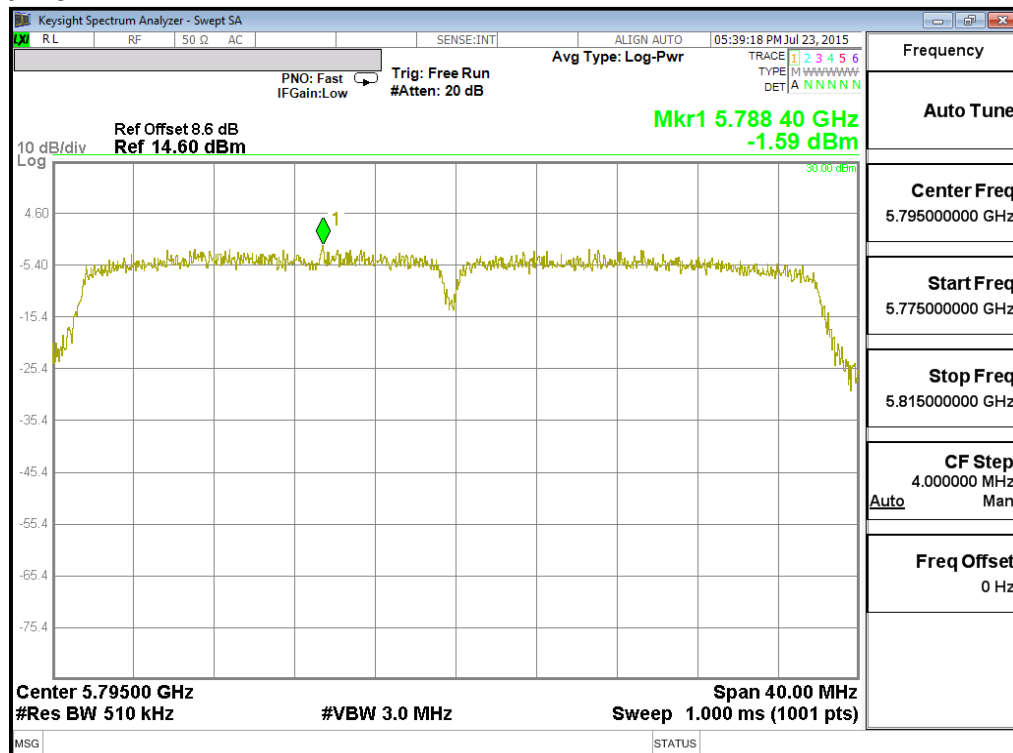
High Channel

Antenna2: (5745-5850MHz)
Low Channel


Middle Channel

High Channel


Test Plot of Power Density (HT40)

Antenna1: (5150-5250MHz)
Low Channel

Antenna1: (5745-5850MHz)
Low Channel


High Channel

Antenna2: (5150-5250MHz)
Low Channel


Antenna2: (5745-5850MHz)
Low Channel

High Channel


5.1.6 Spurious Emission

RESULT:**Passed**

Test standard	:	FCC 15.205, FCC 15.209, RSS-247, and RSS-Gen 7.2.1
Basic standard	:	ANSI C63.10: 2009
Limits	:	Radiated emissions which fall in the restricted bands, as defined in FCC 15.205(a) and RSS-210 2.7 (Table 1), must comply with the radiated emission limits specified in FCC 15.209(a) and RSS-210 2.7 (Table 2 and 3). Emission radiated outside the specified frequency bands must comply with the radiated emission limits specified in FCC 15.209(a) and FCC 15.249(a), RSS-210 2.7 (Table 2 and 3) and RSS-210 A2.9(a).
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Test Channel	:	Low/ Middle/ High
Operation mode	:	A, C

Remark: Testing was carried out within frequency range 30MHz to the tenth harmonic. For details refer to Appendix D. The Radiated Emissions testing was performed in the X, Y and Z axis orientation. The Z Axis orientation is the worst-case and recorded in this test report. Due to the small size of the product and that there are no inductive components of significant size, 9kHz to 30MHz frequency range is not tested based on technical judgment.

5.2 Mains Emissions

5.2.1 Mains Conducted Emissions

RESULT:**Passed**

Test standard : FCC Part 15.207
FCC Part 15.107
RSS-Gen 8.8
LP0002: 2.3

Limits : Mains Conducted emissions as defined in
above standards

Kind of test site : Shielded Room

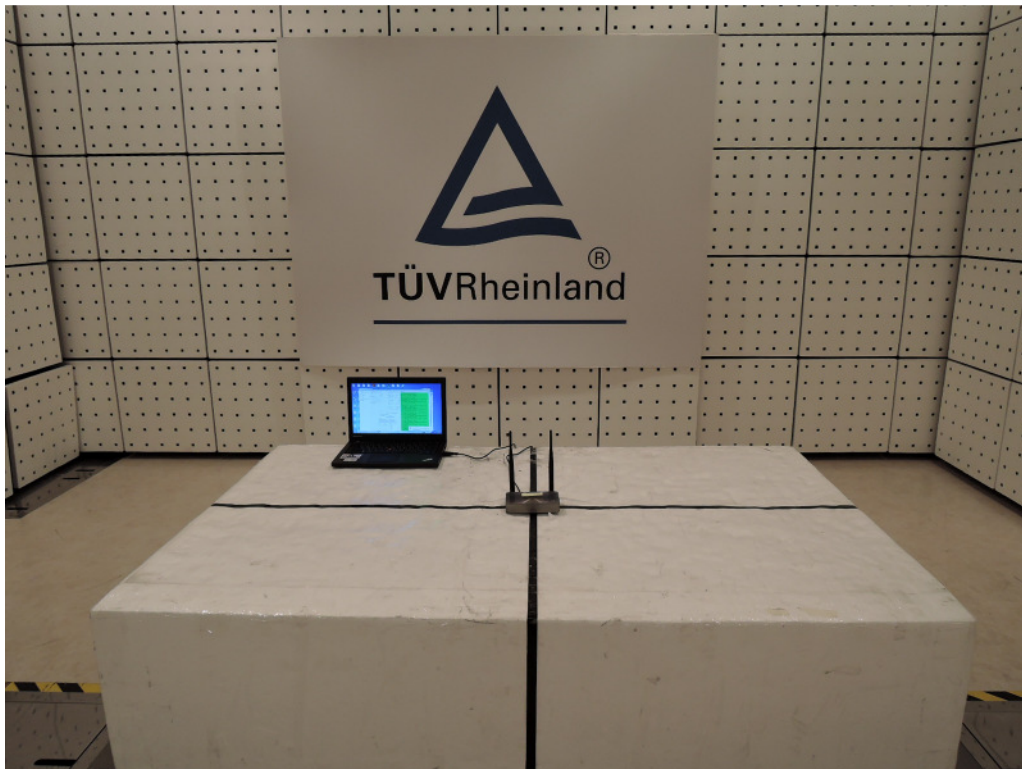
Test setup

Test Channel : Middle
Operation mode : A

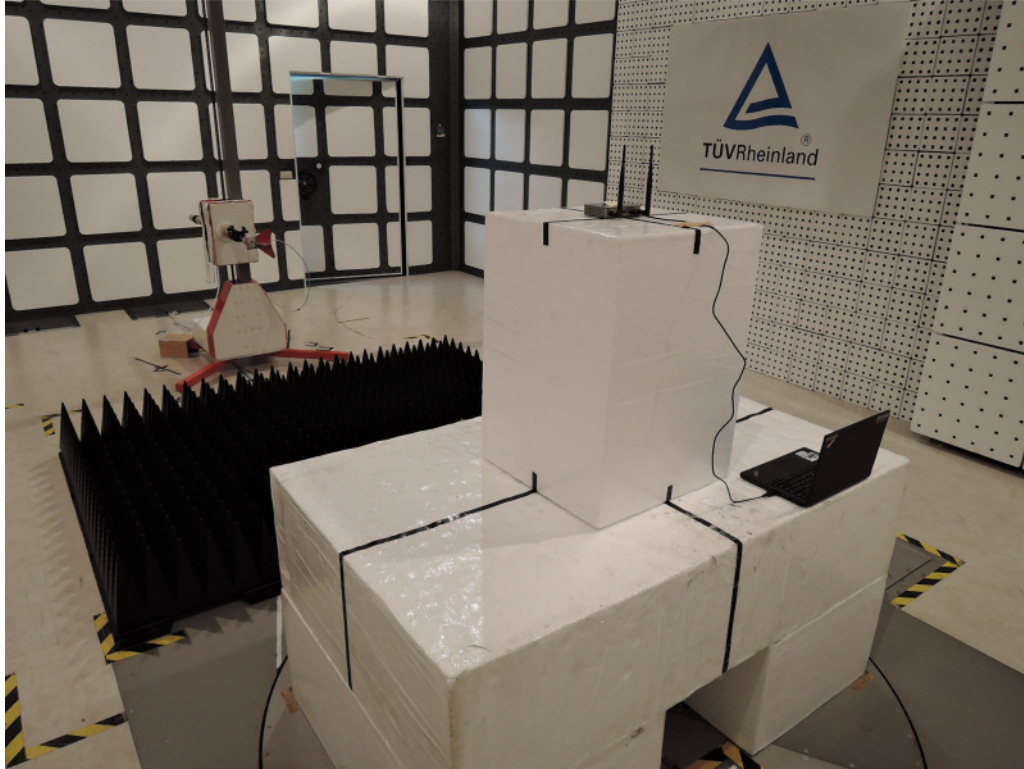
Remark: For details refer to Appendix D.

Photographs of the Test Set-Up

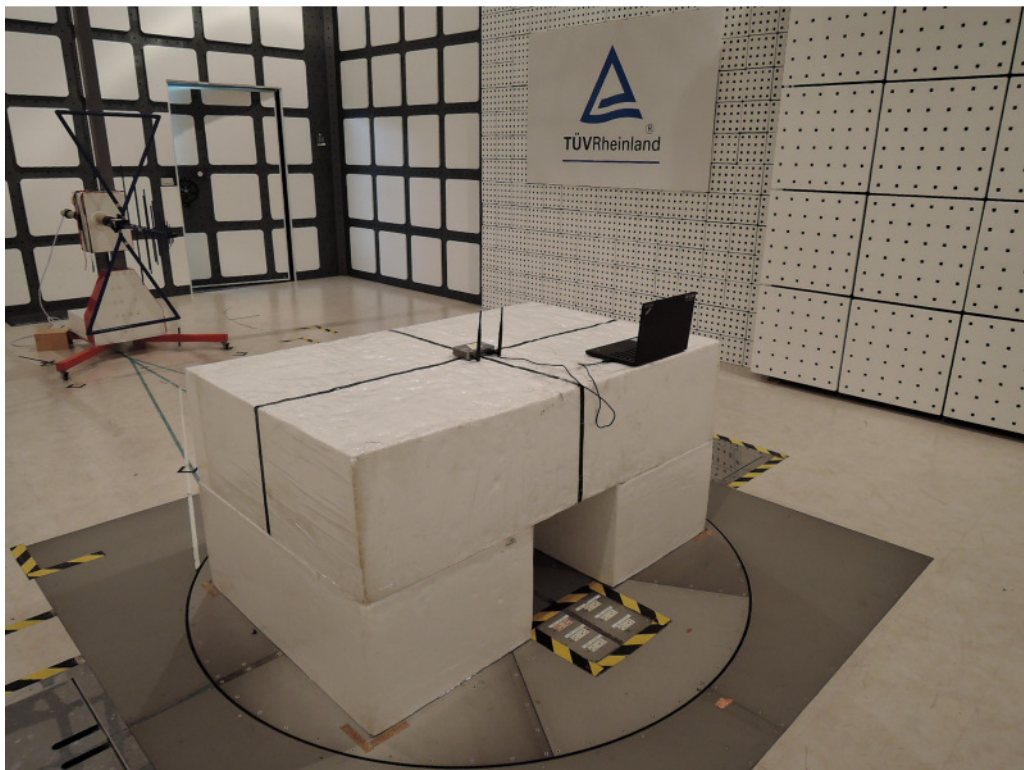
Photograph 1: Set-up for Spurious Emissions (Front View)



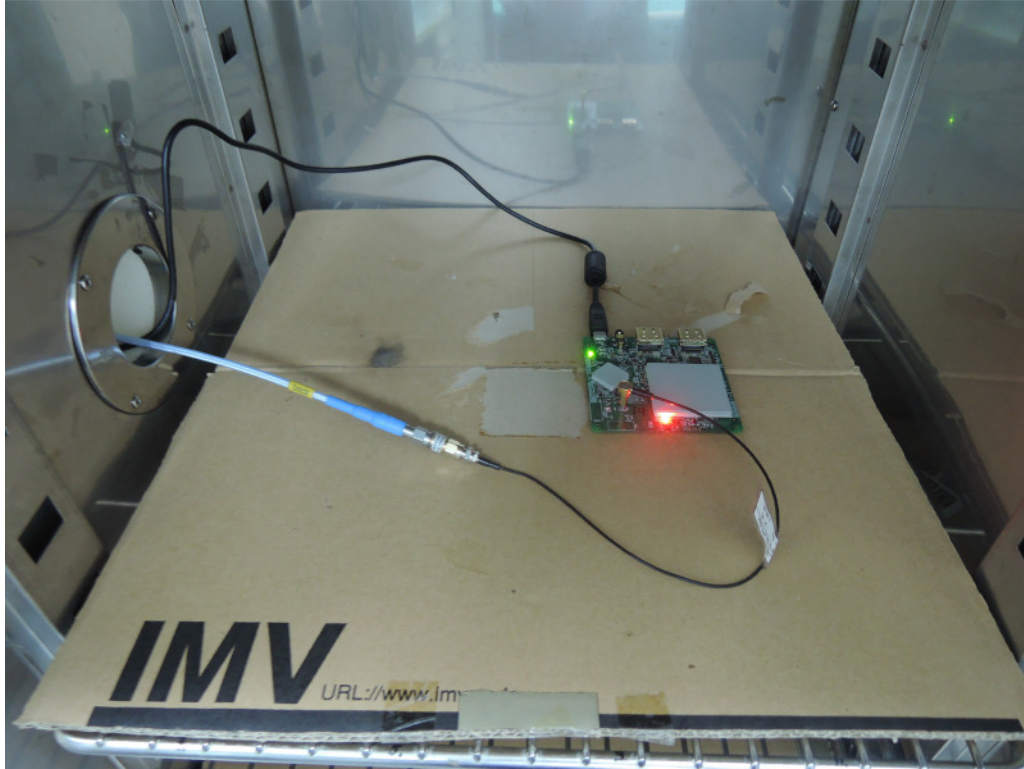
Photograph 2: Set-up for Spurious Emissions (Back View 1)



Photograph 3: Set-up for Spurious Emissions (Back View 2)



Photograph 4: Set-up for Conducted testing



Photograph 5: Set-up for for Mains Conducted testing Back



Photograph 6: Set-up for for Mains Conducted testing Front



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