FCC Test Report

Report No.: AGC00165161102FE03

FCC ID	:	2AKGQS919
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	Mobile Phone
BRAND NAME	:	Bluesky
MODEL NAME	:	Bluesky Shine Plus S919
CLIENT	:	Bluesky Samoa
DATE OF ISSUE	:	Nov. 23, 2016
STANDARD(S) **TEST PROCEDURE(S)**	:	FCC Part 15 Rules DA 00-705
REPORT VERSION	:	V1.0

Attestation of ***G***lobal ***C***ompliance (Shenzhen) Co., Ltd

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Nov. 23, 2016	Valid	Original Report

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1. VERIFICATION OF CONFORMITY

Applicant	Bluesky Samoa
Address	Maluafou Headquarters, Apia, SAMOA 0000
Manufacturer	Huano International Technology Ltd.
Address	Room 402, Building A, ChuangXin Technology Plaza(Phase 1), Chegongmiao, Futian District, Shenzhen, China
Product Designation	Mobile Phone
Brand Name	Bluesky
Test Model	Bluesky Shine Plus S919
Date of test	Nov. 10, 2016 to Nov. 20, 2016
Deviation	None
Condition of Test Sample	Normal
Report Template	AGCRT-US-BR/RF

We hereby certify that:
The above equipment was tested by Dongguan Precise Testing Service Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rules Part 15.247.

Tested By	Dota Zhang	
	Dota Zhang(Zhang Jianfeng)	Nov. 20, 2016
Reviewed By	Bart Xie	
	Bart Xie(Xie Xiaobin)	Nov. 23, 2016
Approved By	Solger Zhang	
	Solger Zhang(Zhang Hongyi) Authorized Officer	Nov. 23, 2016

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is “Mobile Phone” designed as a “Communication Device”. It is designed by way of utilizing the FHSS technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.402 GHz to 2.480GHz
RF Output Power	**2.30**dBm(Max)
Bluetooth Version	V 3.0
Modulation	GFSK, π /4-DQPSK, 8DPSK
Number of channels	79(For BR/EDR)
Hardware Version	C325
Software Version	V01
Antenna Designation	Integrated Antenna
Antenna Gain	-1.2dBi
Power Supply	DC3.7V by Battery

2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency
2400~2483.5MHZ	0	2402MHZ
	1	2403MHZ
	:	:
	38	2440 MHZ
	39	2441 MHZ
	40	2442 MHZ
	:	:
	77	2479 MHZ
	78	2480 MHZ

2.3. RECEIVER INPUT BANDWIDTH

The input bandwidth of the receiver is 1.3MHZ,In every connection one Bluetooth device is the master and the other one is slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally the type of connection(e.g. single of multislot packet) is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings.

Repeating of a packet has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means, a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

2.4. EXAMPLE OF A HOPPING SEQUENCY IN DATA MODE

Example of a 79 hopping sequence in data mode:
40,21,44,23,42,53,46,55,48,33,52,35,50,65,54,67
56,37,60,39,58,69,62,71,64,25,68,27,66,57,70,59
72,29,76,31,74,61,78,63,01,41,05,43,03,73,07,75
09,45,13,47,11,77,15,00,64,49,66,53,68,02,70,06
01, 51, 03, 55, 05, 04

2.5. EQUALLY AVERAGE USE OF FREQUENCIES AND BEHAVIOUR

The generation of the hopping sequence in connection mode depends essentially on two input values:
1. LAP/UAP of the master of the connection.
2. Internal master clock

The LAP(lower address part) are the 24 LSB's of the 48 BD_ADDRESS. The BD_ADDRESS is an unambiguous number of every Bluetooth unit. The UAP(upper address part) are the 24MSB's of the 48BD_ADDRESS

The internal clock of a Bluetooth unit is derived from a free running clock which is never adjusted and is never turned off. For ehavior zation with other units only offset are used. It has no relation to the time of the day. Its resolution is at least half the RX/TX slot length of 312.5us.The clock has a cycle of about one day(23h30).In most case it is implemented as 28 bit counter. For the deriving of the hopping sequence the entire. LAP(24 bits),4LSB's(4bits)(Input 1) and the 27MSB's of the clock(Input 2) are used. With this input values different mathematical procedures(permutations, additions, XOR-operations)are performed to generate te Sequence. This will be done at the beginning of every new transmission.

Regarding short transmissions the Bluetooth system has the following ehavior:

The first connection between the two devices is established, a hopping sequence was generated. For Transmitting the wanted data the complete hopping sequence was not used. The connection ended.

The second connection will be established. A new hopping sequence is generated. Due to the fact the Bluetooth clock has a different value, because the period between the two transmission is longer(and it Cannot be shorter) than the minimum resolution of the clock(312.5us).The hopping sequence will always Differ from the first one.

2.6. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2AKGQS919** filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

2.7. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in FCC DA 00-705. Radiated testing was performed at an antenna to EUT distance 3 meters.

2.8. SPECIAL ACCESSORIES

Refer to section 5.2.

2.9. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

3. MEASUREMENT UNCERTAINTY

Conducted measurement: +/- 2.75dB
Radiated measurement: +/- 3.2dB

4. DESCRIPTION OF TEST MODES

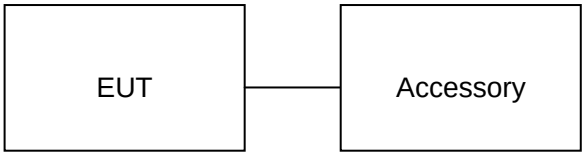
NO.	TEST MODE DESCRIPTION
1	Low channel GFSK
2	Middle channel GFSK
3	High channel GFSK
4	Low channel π /4-DQPSK
5	Middle channel π /4-DQPSK
6	High channel π /4-DQPSK
7	Low channel 8DPSK
8	Middle channel 8DPSK
9	High channel 8DPSK
10	Normal Hopping

Note:
1. All the test modes can be supply by Built-in Li-ion battery, only the result of the worst case was recorded in the report, if no other cases.
2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.

5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configuration:



5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Mobile Phone	Bluesky Shine Plus S919	2AKGQS919	EUT
2	Adapter	Bluesky Shine Plus S919	DC5.0V / 500mA	Accessory
3	Battery	Bluesky Shine Plus S919	DC3.7V/ 1750mAh	Accessory
4	Earphone	N/A	N/A	Accessory
5	USB Cable	N/A	N/A	Accessory

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.247	Peak Output Power	Compliant
§15.247	20 dB Bandwidth	Compliant
§15.247	Spurious Emission	Compliant
§15.209	Radiated Emission	Compliant
§15.247	Band Edges	Compliant
§15.207	Conduction Emission	Compliant
§15.247	Number of Hopping Frequency	Compliant
§15.247	Time of Occupancy	Compliant
§15.247	Frequency Separation	Compliant

6. TEST FACILITY

Site	Dongguan Precise Testing Service Co., Ltd.
Location	Building D,Baoding Technology Park,Guangming Road2,Dongcheng District, Dongguan, Guangdong, China,
FCC Registration No.	371540
Description	The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.10:2013.

ALL TEST EQUIPMENT LIST

FOR RADIATED EMISSION TEST (BELOW 1GHZ)

Radiated Emission Test Site					
Name of Equipment	**Manufacturer**	**Model Number**	**Serial Number**	**Last Calibration**	**Due Calibration**
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	July 3, 2016	July 2, 2017
Trilog Broadband Antenna (25M-1GHz)	SCHWARZBECK	VULB9160	9160-3355	July 3, 2016	July 2, 2017
Signal Amplifier	SCHWARZBECK	BBV 9475	9745-0013	July 3, 2016	July 2, 2017
RF Cable	SCHWARZBECK	AK9515E	96221	July 3, 2016	July 2, 2017
3m Anechoic Chamber	CHENGYU	966	PTS-001	June 5, 2016	June 4, 2017
MULTI-DEVICE Positioning Controller	Max-Full	MF-7802	MF780208339	N/A	N/A
Active loop antenna (9K-30MHz)	Schwarzbeck	FMZB1519	1519-038	June 5, 2016	June 4, 2017
Spectrum analyzer	Agilent	E4407B	MY46185649	June 5, 2016	June 4, 2017
Power Probe	R&S	NRP-Z23	100323	July 24,2016	July 23,2017
RF attenuator	N/A	RFA20db	68	N/A	N/A

FOR RADIATED EMISSION TEST (1GHZ ABOVE)

Radiated Emission Test Site					
Name of Equipment	**Manufacturer**	**Model Number**	**Serial Number**	**Last Calibration**	**Due Calibration**
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	July 3, 2016	July 2, 2017
Horn Antenna (1G-18GHz)	SCHWARZBECK	BBHA9120D	9120D-1246	July 10, 2016	July 9, 2017
Spectrum Analyzer	Agilent	E4411B	MY4511453	July 3, 2016	July 2, 2017
Signal Amplifier	SCHWARZBECK	BBV 9718	9718-269	July 6, 2016	July 5, 2017
RF Cable	SCHWARZBECK	AK9515H	96220	July 7, 2016	July 6, 2017
3m Anechoic Chamber	CHENGYU	966	PTS-001	June 5, 2016	June 4, 2017
MULTI-DEVICE Positioning Controller	Max-Full	MF-7802	MF780208339	N/A	N/A

Horn Ant (18G-40GHz)	Schwarzbeck	BBHA 9170	9170-181	June 5, 2016	June 4, 2017
Power Probe	R&S	NRP-Z23	100323	July 24,2016	July 23,2017
RF attenuator	N/A	RFA20db	68	N/A	N/A

Conducted Emission Test Site					
Name of Equipment	**Manufacturer**	**Model Number**	**Serial Number**	**Last Calibration**	**Due Calibration**
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	July 3, 2016	July 2, 2017
Artificial Mains Network	Narda	L2-16B	000WX31025	July 7, 2016	July 6, 2017
Artificial Mains Network (AUX)	Narda	L2-16B	000WX31026	July 7, 2016	July 6, 2017
RF Cable	SCHWARZBECK	AK9515E	96222	July 3, 2016	July 2, 2017
Shielded Room	CHENGYU	843	PTS-002	June 5,2016	June 4,2017

7. PEAK OUTPUT POWER

7.1. MEASUREMENT PROCEDURE

For peak power test:

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, middle and the bottom operation frequency individually.
3. RBW > the 20 dB bandwidth of the emission being measured, VBW ≥ RBW.
4. Record the maximum power from the Spectrum Analyzer.

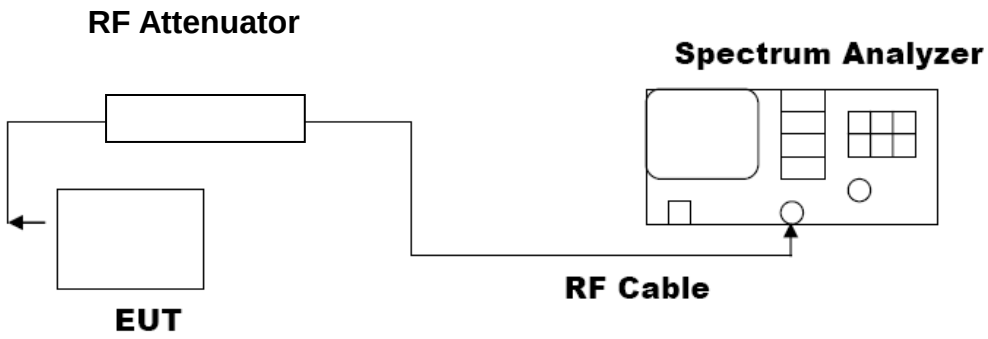
For average power test:

1. Connect EUT RF output port to power probe through an RF attenuator.
2. Connect the power probe to the PC.
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Record the maximum power from the software.
5. The maximum peak power shall be less 125mW (21dBm).

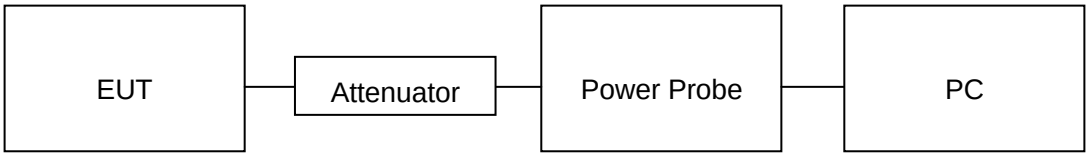
Note：The EUT was tested according to DA000705 for compliance to FCC 47CFR 15.247 requirements.

7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

PEAK POWER TEST SETUP



AVERAGE POWER SETUP



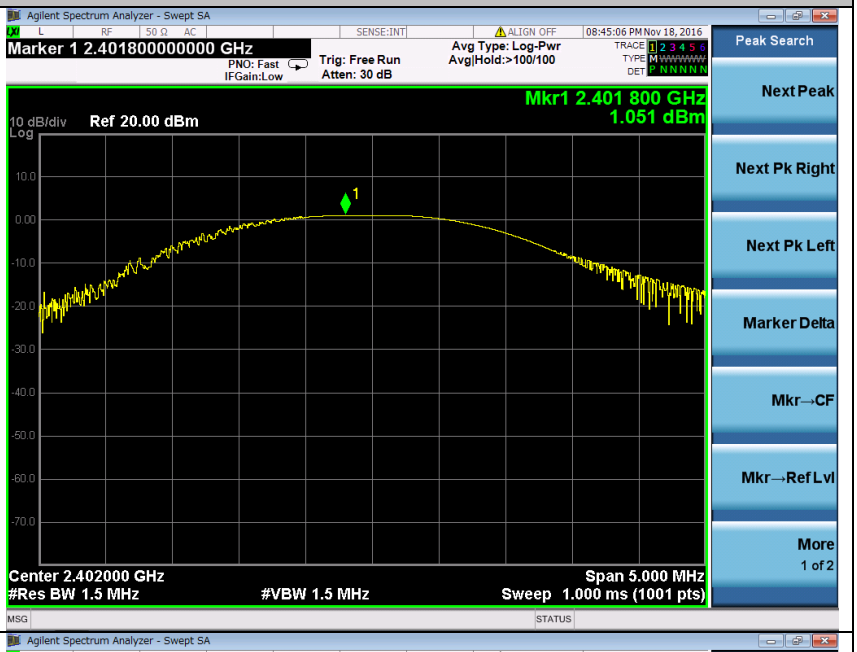
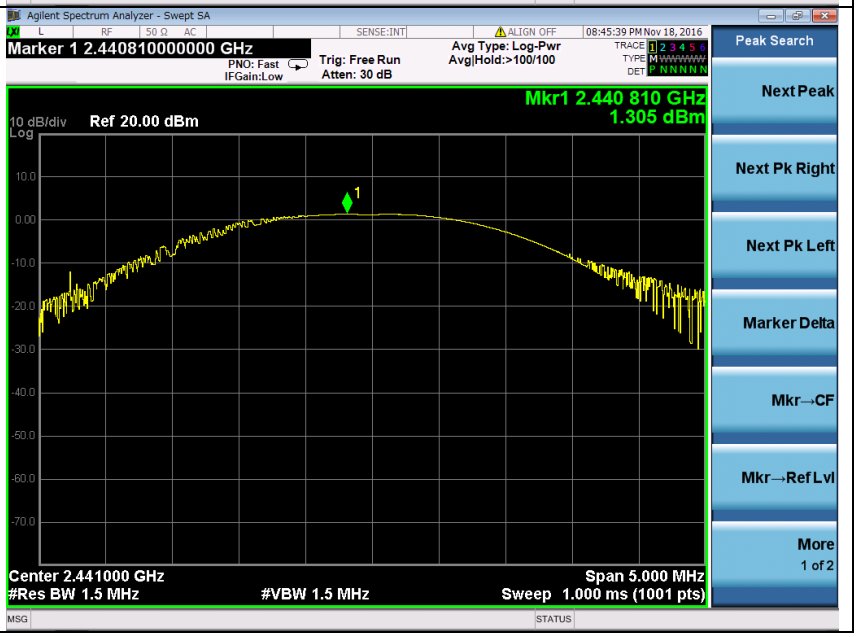
7.3. LIMITS AND MEASUREMENT RESULT

PEAK OUTPUT POWER MEASUREMENT RESULT FOR GFSK MOUDULATION				
Frequency (GHz)	**Average Power (dBm)**	**Peak Power (dBm)**	**Applicable Limits (dBm)**	**Pass or Fail**
2.402	-0.57	1.05	21	Pass
2.441	-0.25	1.31	21	Pass
2.480	0.36	2.30	21	Pass

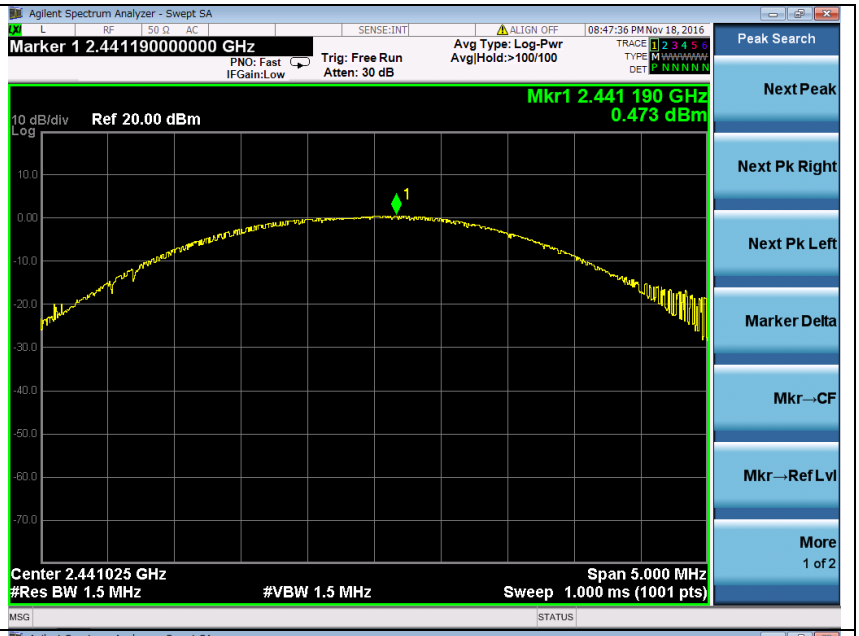
PEAK OUTPUT POWER MEASUREMENT RESULT FOR Ⅱ /4-DQPSK MODULATION				
Frequency (GHz)	**Average Power (dBm)**	**Peak Power (dBm)**	**Applicable Limits (dBm)**	**Pass or Fail**
2.402	-1.66	0.30	21	Pass
2.441	-1.50	0.47	21	Pass
2.480	-1.71	0.27	21	Pass

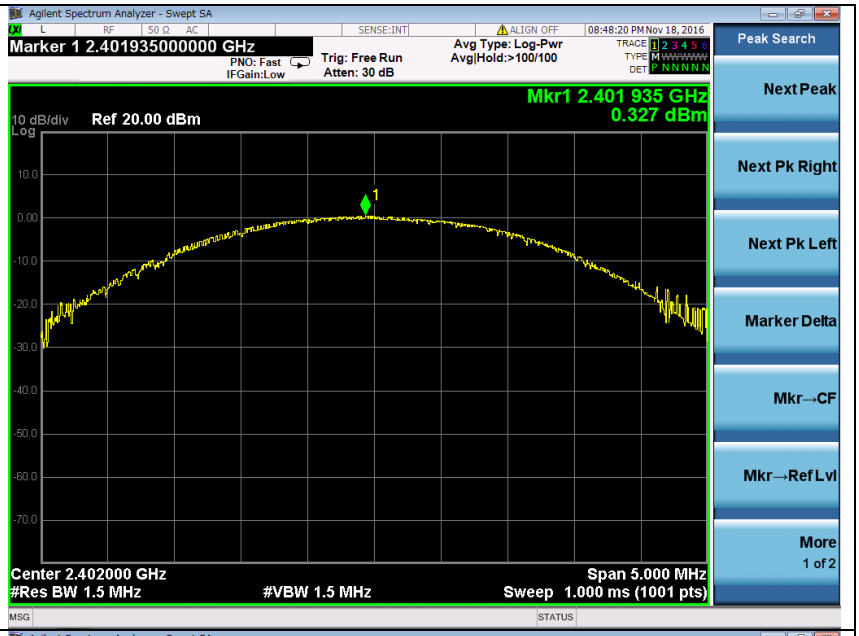
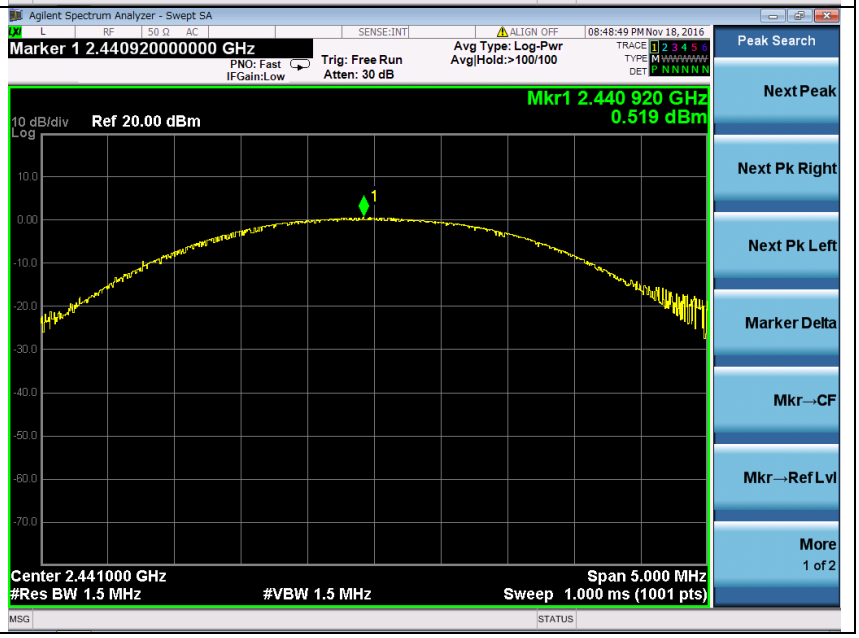
PEAK OUTPUT POWER MEASUREMENT RESULT FOR 8-DPSK MODULATION				
Frequency (GHz)	**Average Power (dBm)**	**Peak Power (dBm)**	**Applicable Limits (dBm)**	**Pass or Fail**
2.402	-1.69	0.33	21	Pass
2.441	-1.46	0.52	21	Pass
2.480	-1.54	0.38	21	Pass

Test Graph

Graphs	
GFSK/LCH	
GFSK/MCH	

GFSK/HCH	
π /4DQPSK/LCH	

π /4DQPSK/MCH	
π /4DQPSK/HCH	

8DPSK/LCH	
8DPSK/MCH	

8DPSK/HCH	

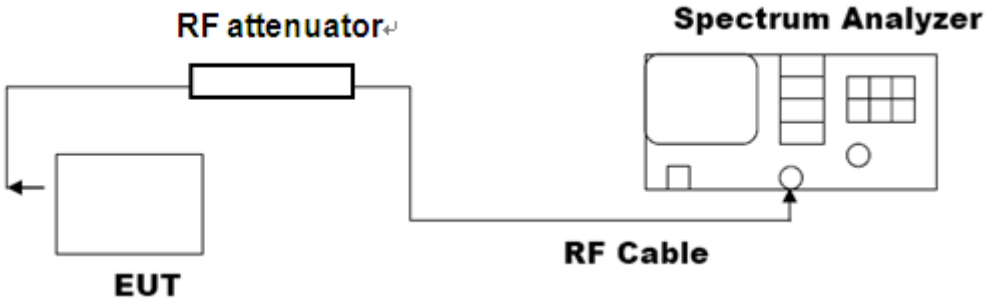
Agilent Spectrum Analyzer - Swept SA
Marker 1 2.479970000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
08:49:25 PM Nov 18, 2016
Mkr1 2.479 970 GHz
0.381 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.480000 GHz
#Res BW 1.5 MHz
#VBW 1.5 MHz
Span 5.000 MHz
Sweep 1.000 ms (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

8. 20DB BANDWIDTH

8.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hoping channel
   RBW ≥ 1% of the 20 dB bandwidth, VBW ≥ RBW; Sweep = auto; Detector function = peak
4. Set SPA Trace 1 Max hold, then View.

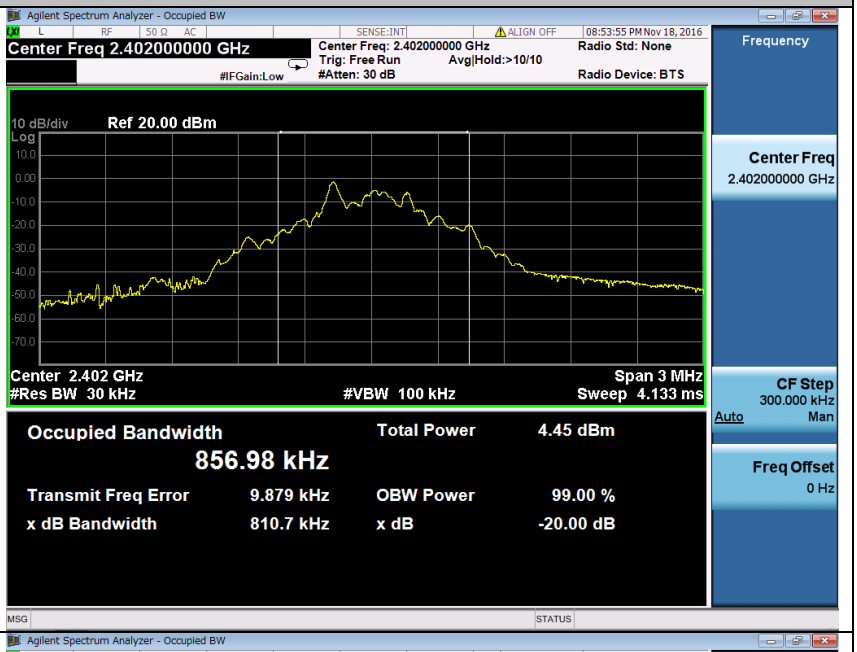
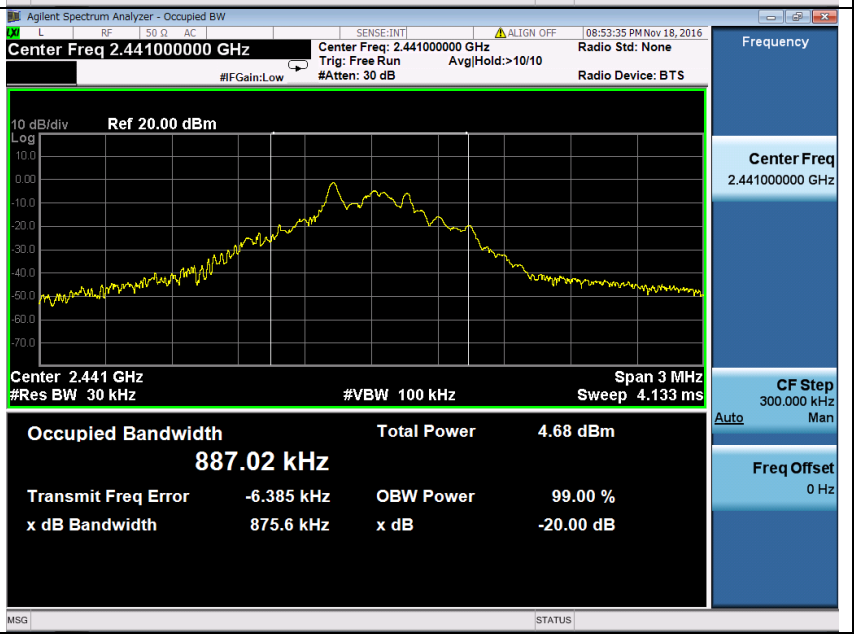
8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

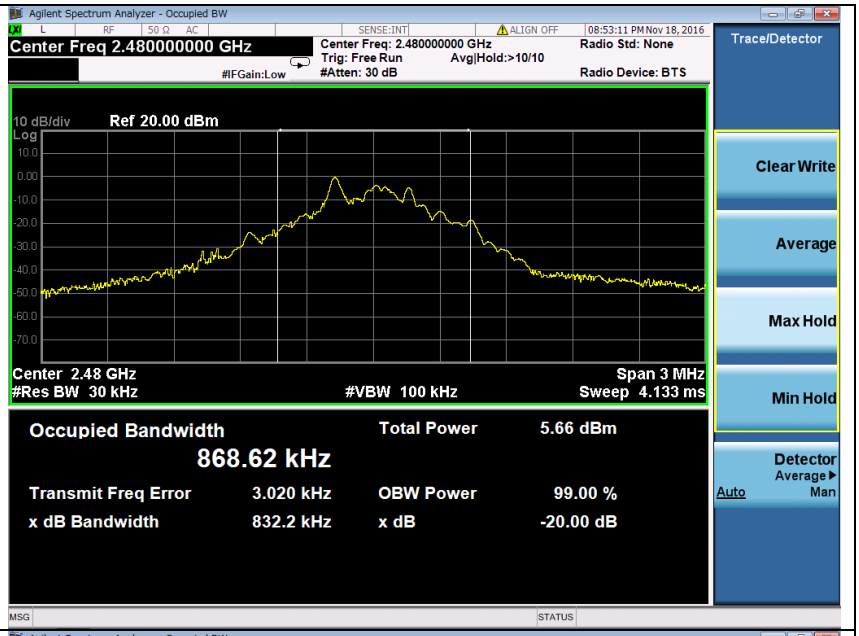
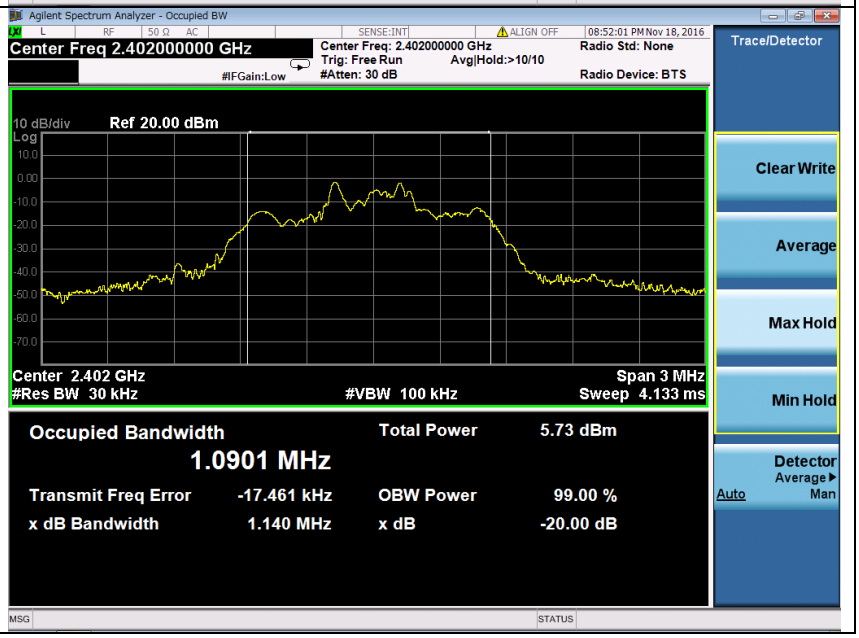


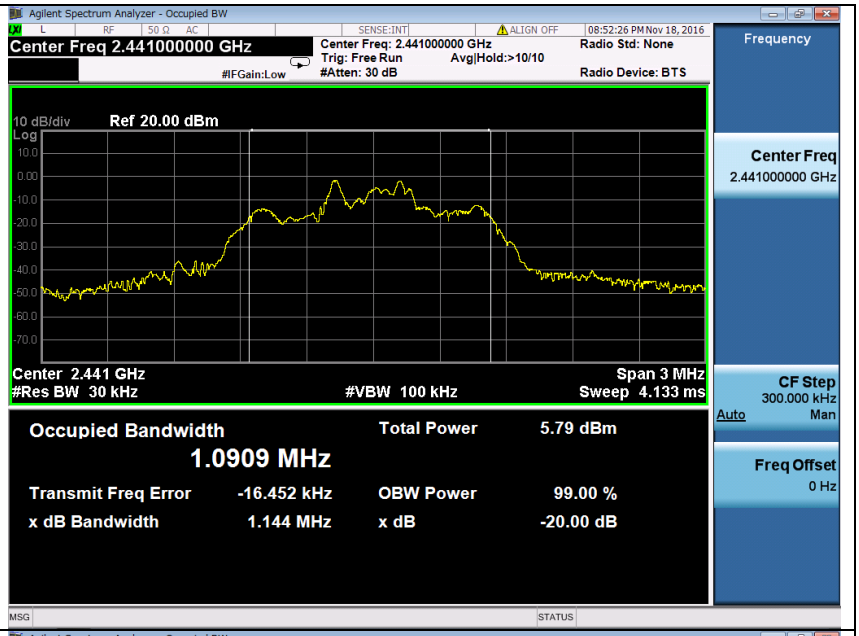
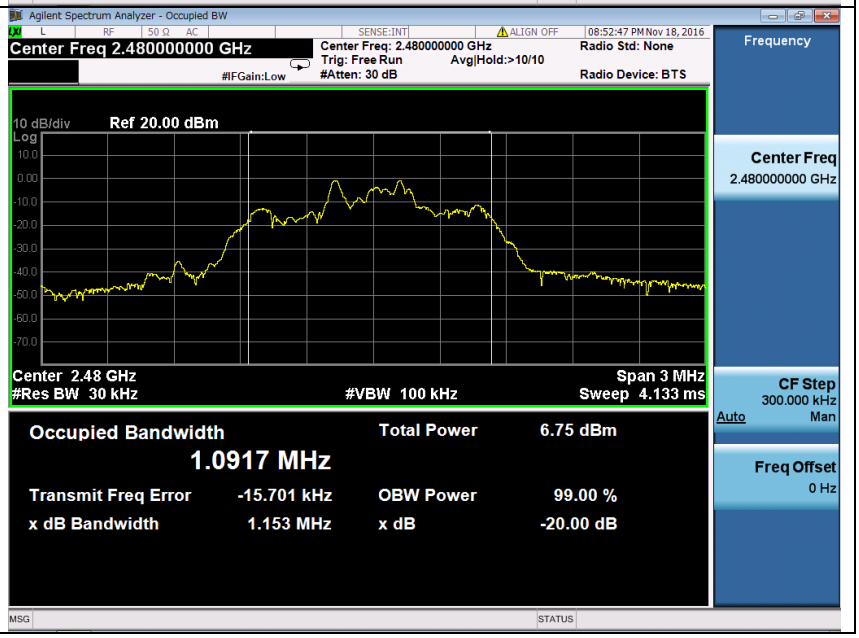
8.3. LIMITS AND MEASUREMENT RESULTS

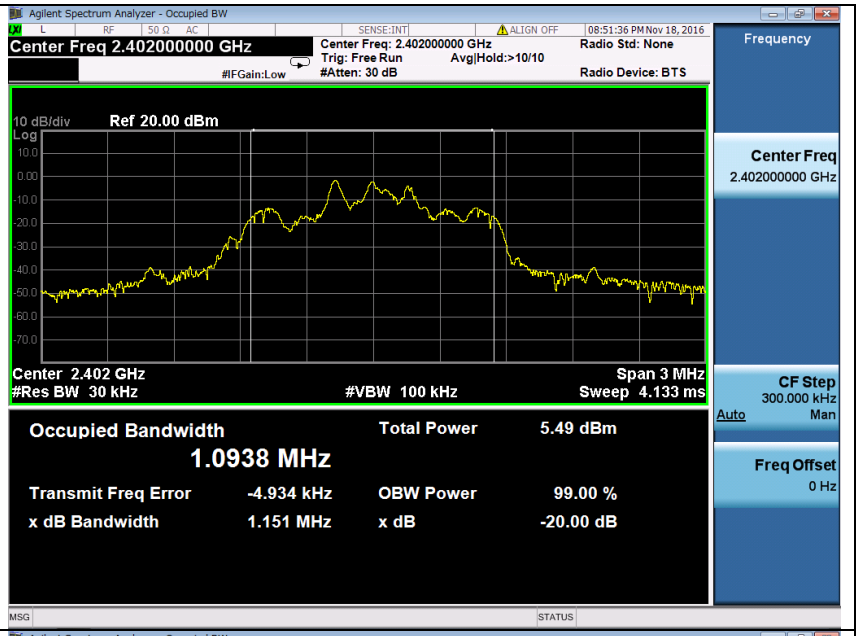
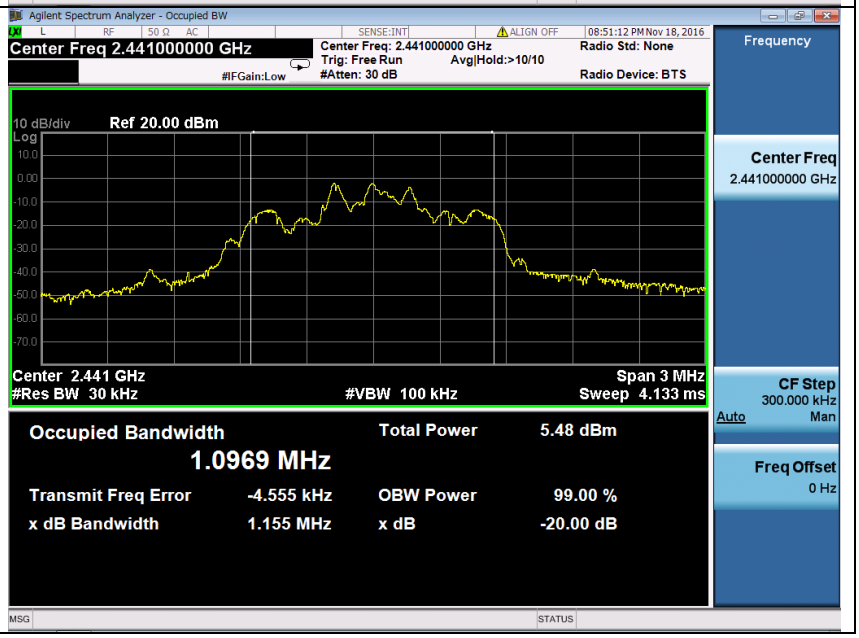
Mode	Channel.	EBW [MHz]	OBW [MHz]	Verdict
GFSK	LCH	0.811	0.857	PASS
GFSK	MCH	0.876	0.887	PASS
GFSK	HCH	0.832	0.869	PASS
π/4DQPSK	LCH	1.140	1.090	PASS
π/4DQPSK	MCH	1.144	1.091	PASS
π/4DQPSK	HCH	1.153	1.092	PASS
8DPSK	LCH	1.151	1.094	PASS
8DPSK	MCH	1.155	1.097	PASS
8DPSK	HCH	1.153	1.094	PASS

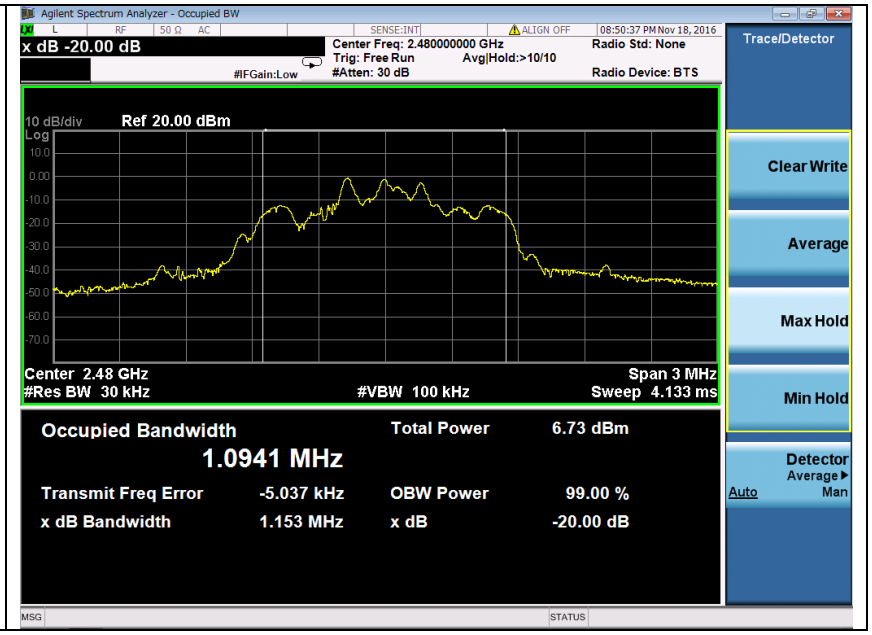
Test Graph

Graphs	
GFSK/LCH	
GFSK/MCH	

GFSK/HCH	
π /4DQPSK/LCH	

π /4DQPSK/MCH	
π /4DQPSK/HCH	

8DPSK/LCH	
8DPSK/MCH	

8DPSK/HCH	

Agilent Spectrum Analyzer - Occupied BW
x dB -20.00 dB
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
#IFGain:Low
10 dB/div
Ref 20.00 dBm
Log
Center 2.48 GHz
#Res BW 30 kHz
#VBW 100 kHz
Span 3 MHz
Sweep 4.133 ms
Occupied Bandwidth
1.0941 MHz
Total Power
6.73 dBm
Transmit Freq Error
-5.037 kHz
OBW Power
99.00 %
x dB Bandwidth
1.153 MHz
x dB
-20.00 dB
Trace/Detector
Clear Write
Average
Max Hold
Min Hold
Detector
Average
Auto
Man
MSG
STATUS

9. CONDUCTED SPURIOUS EMISSION

9.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the Middle and the bottom operation frequency individually.
3. Set the Span = wide enough to capture the peak level of the in-band emission and all spurious emissions from the lowest frequency generated in the EUT up through the 10th harmonic.
   RBW = 100 kHz; VBW ≥ RBW; Sweep = auto; Detector function = peak.
4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to DA000705 for compliance to FCC 47CFR 15.247 requirements. Owing to satisfy the requirements of the number of measurement points, we set the RBW=1MHz, VBW＞RBW, scan up through 10th harmonic, and consider the tested results as the worst case, if the tested results conform to the requirement, we can deem that the real tested results(set the RBW=100KHz, VBW＞RBW) are conform to the requirement.

9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2

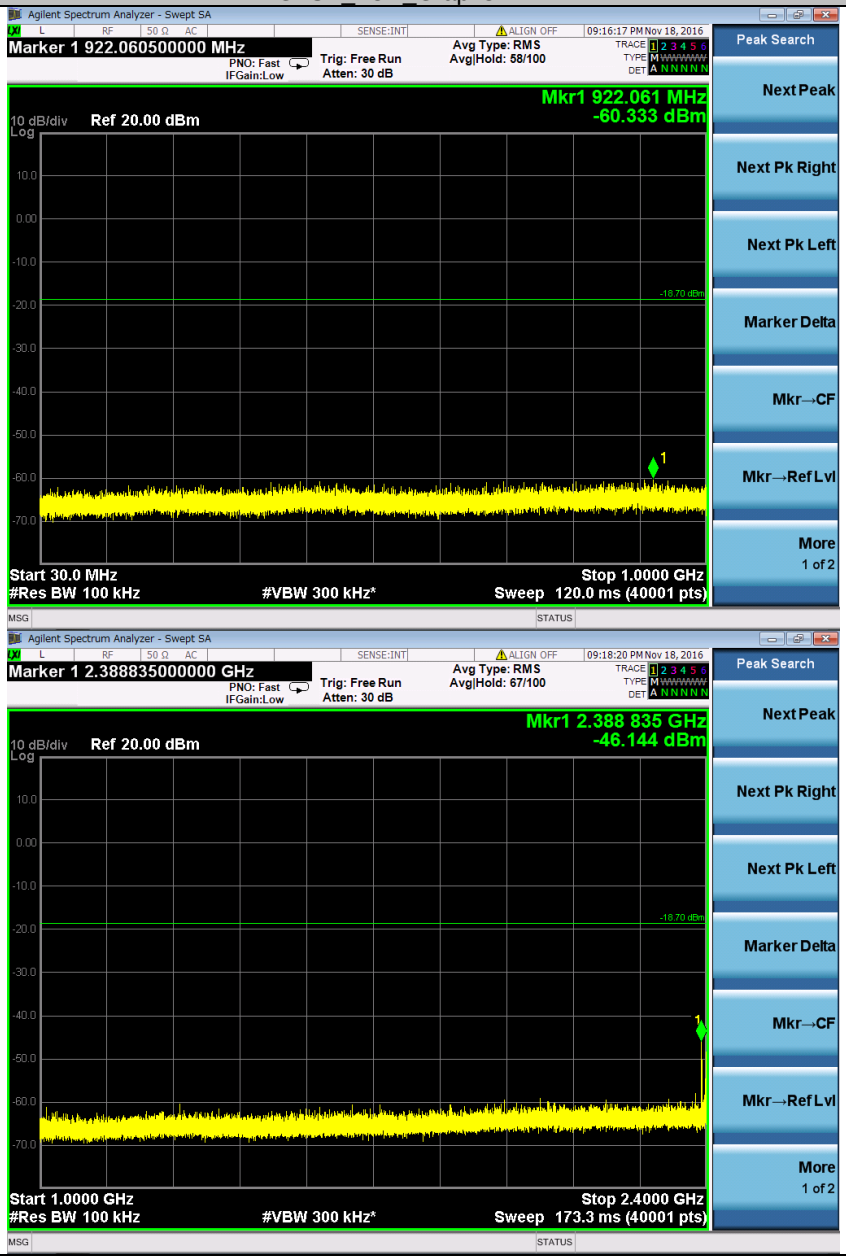
9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6

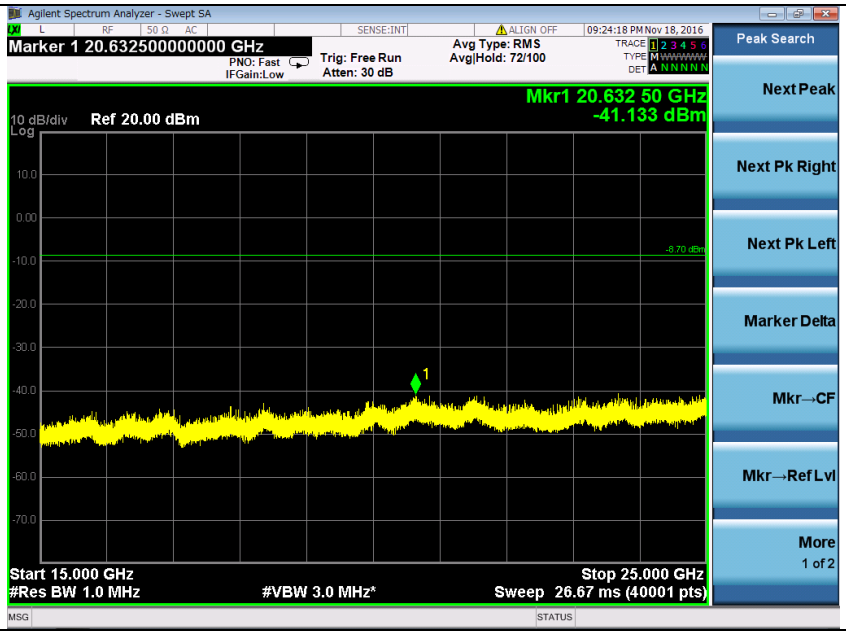
9.4. LIMITS AND MEASUREMENT RESULT

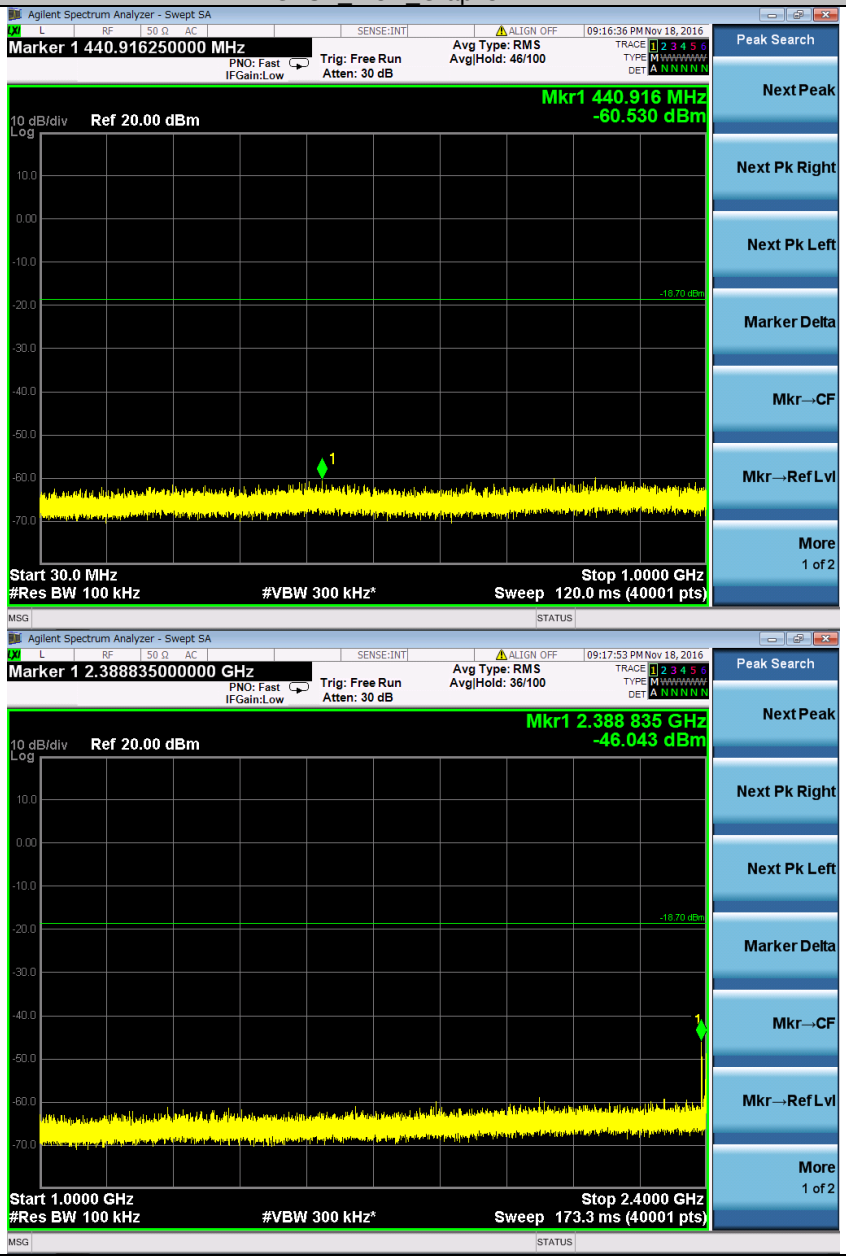
LIMITS AND MEASUREMENT RESULT		
Applicable Limits	**Measurement Result**	
	Test Data	**Criteria**
In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power. In addition, radiation 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))	At least -20dBc than the limit Specified on the BOTTOM Channel	PASS
	At least -20dBc than the limit Specified on the TOP Channel	PASS

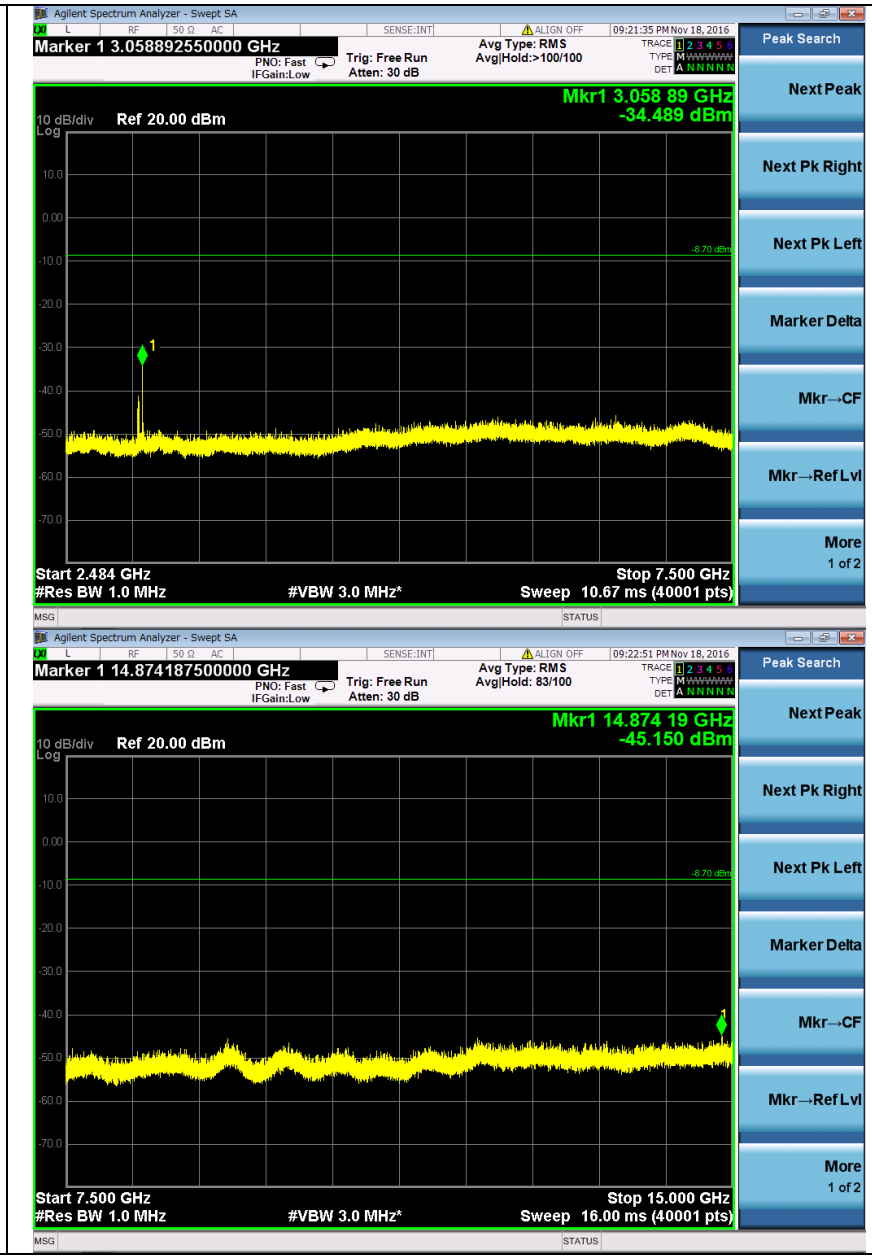
Test Graph

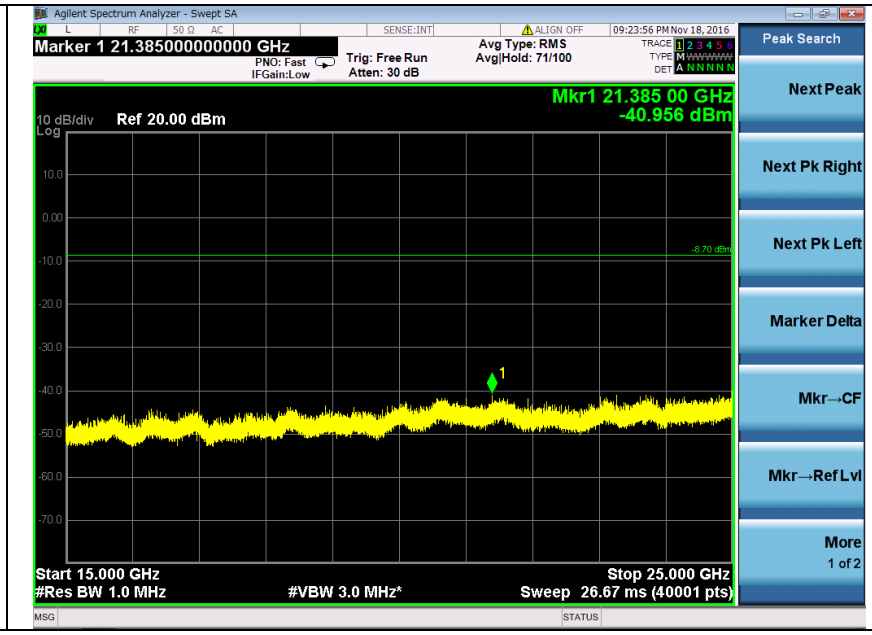
GFSK_LCH_Graphs	
Puw	

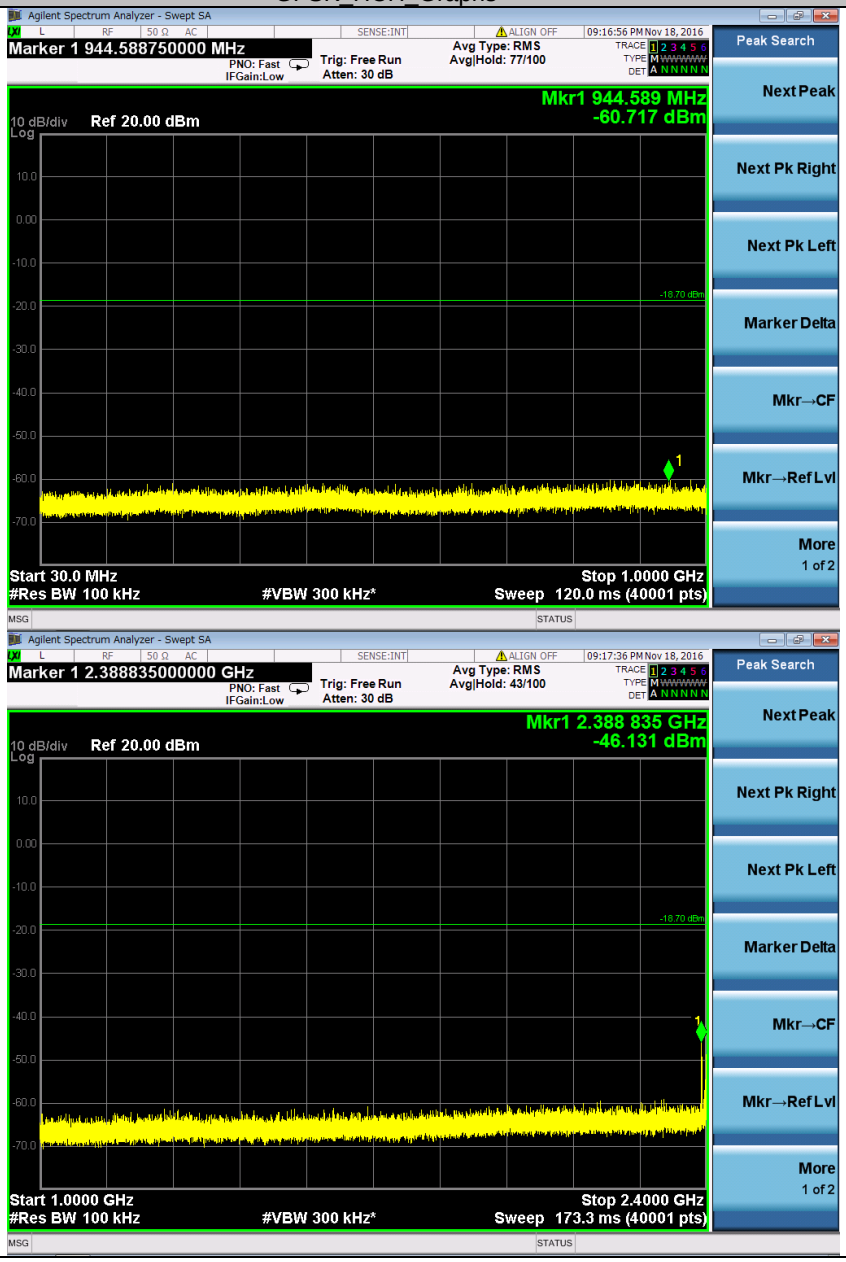

Agilent Spectrum Analyzer - Swept SA
Marker 1 3.030047675000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: RMS
Avg|Hold:>100/100
09:19:56 PM Nov 18, 2016
Mkr1 3.030 05 GHz
-32.758 dBm
10 dB/div
Log
Ref 20.00 dBm
-8.70 dBm
Start 2.484 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 7.500 GHz
Sweep 10.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS
Agilent Spectrum Analyzer - Swept SA
Marker 1 13.335375000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: RMS
Avg|Hold: 90/100
09:23:11 PM Nov 18, 2016
Mkr1 13.335 38 GHz
-46.394 dBm
10 dB/div
Log
Ref 20.00 dBm
-8.70 dBm
Start 7.500 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 15.000 GHz
Sweep 16.00 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

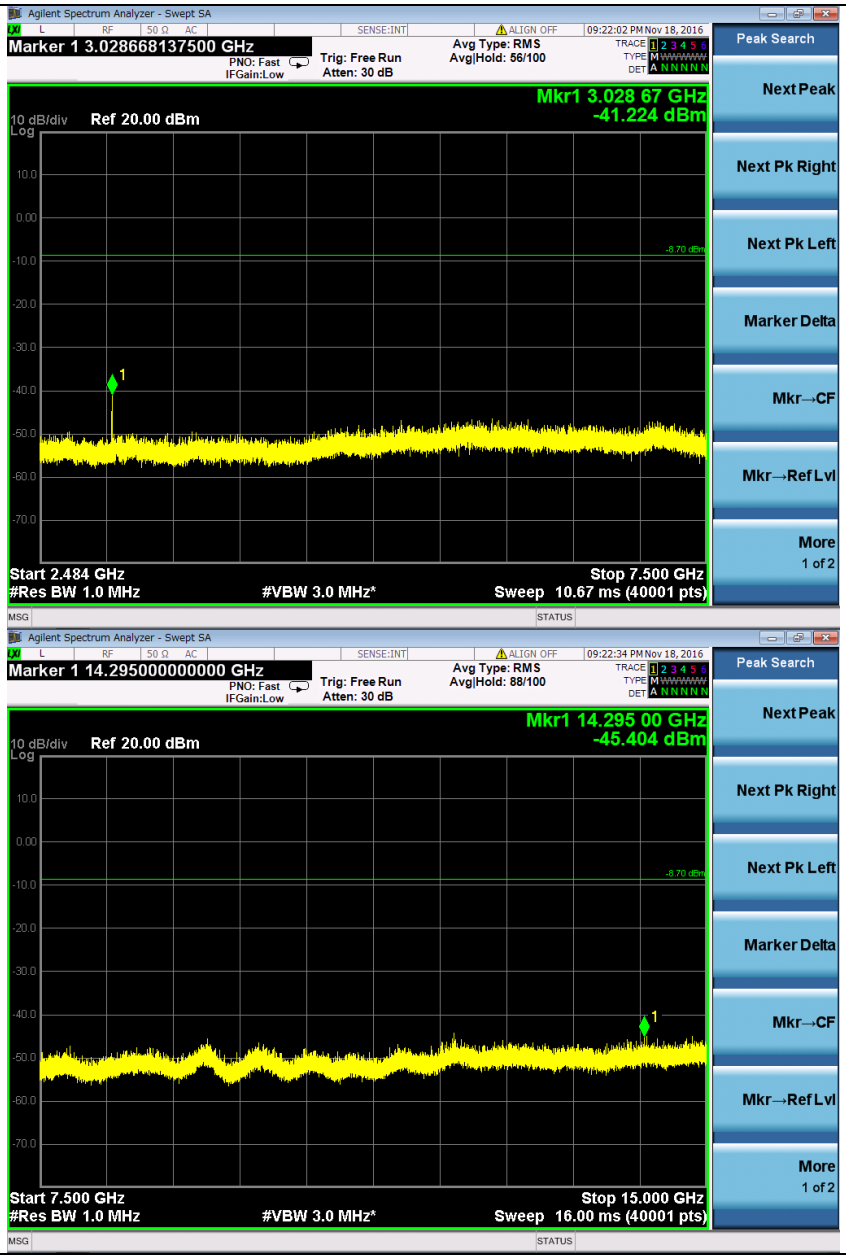

Agilent Spectrum Analyzer - Swept SA
Marker 1 20.632500000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: RMS
Avg|Hold: 72/100
09:24:18 PM Nov 18, 2016
Mkr1 20.632 50 GHz
-41.133 dBm
10 dB/div
Log
Ref 20.00 dBm
-8.70 dBm
Start 15.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 25.000 GHz
Sweep 26.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

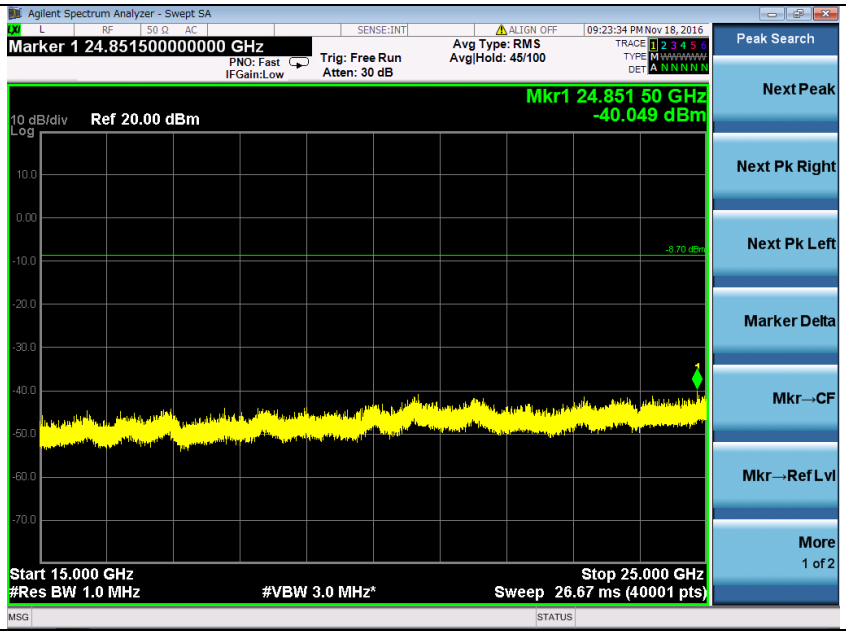
GFSK_MCH_Graphs	
Puw	

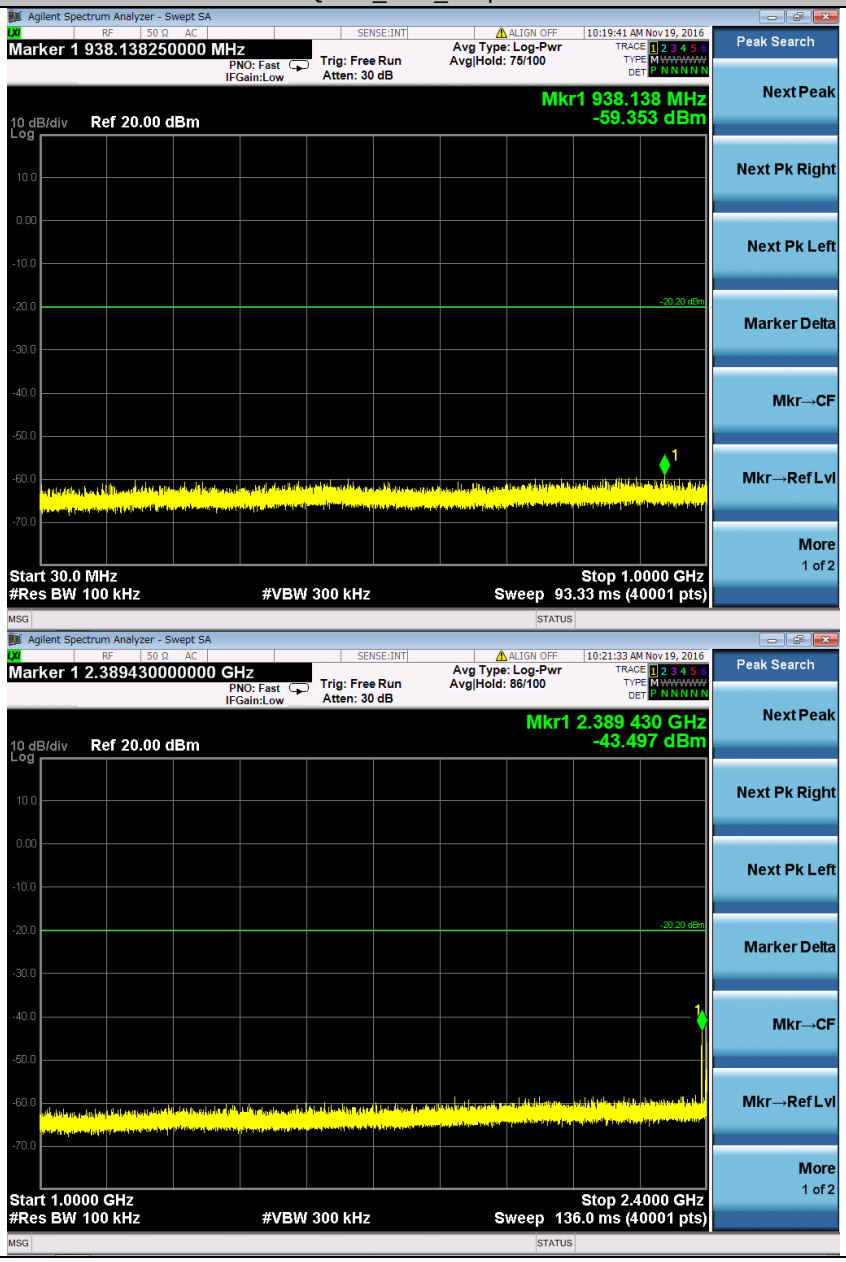

Agilent Spectrum Analyzer - Swept SA
Marker 1 3.058892550000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: RMS
Avg|Hold:>100/100
09:21:35 PM Nov 18, 2016
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Mkr1 3.058 89 GHz
-34.489 dBm
10 dB/div
Log
Ref 20.00 dBm
-8.70 dBm
Start 2.484 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 7.500 GHz
Sweep 10.67 ms (40001 pts)
MSG
STATUS
Agilent Spectrum Analyzer - Swept SA
Marker 1 14.874187500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: RMS
Avg|Hold: 83/100
09:22:51 PM Nov 18, 2016
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Mkr1 14.874 19 GHz
-45.150 dBm
10 dB/div
Log
Ref 20.00 dBm
-8.70 dBm
Start 7.500 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 15.000 GHz
Sweep 16.00 ms (40001 pts)
MSG
STATUS

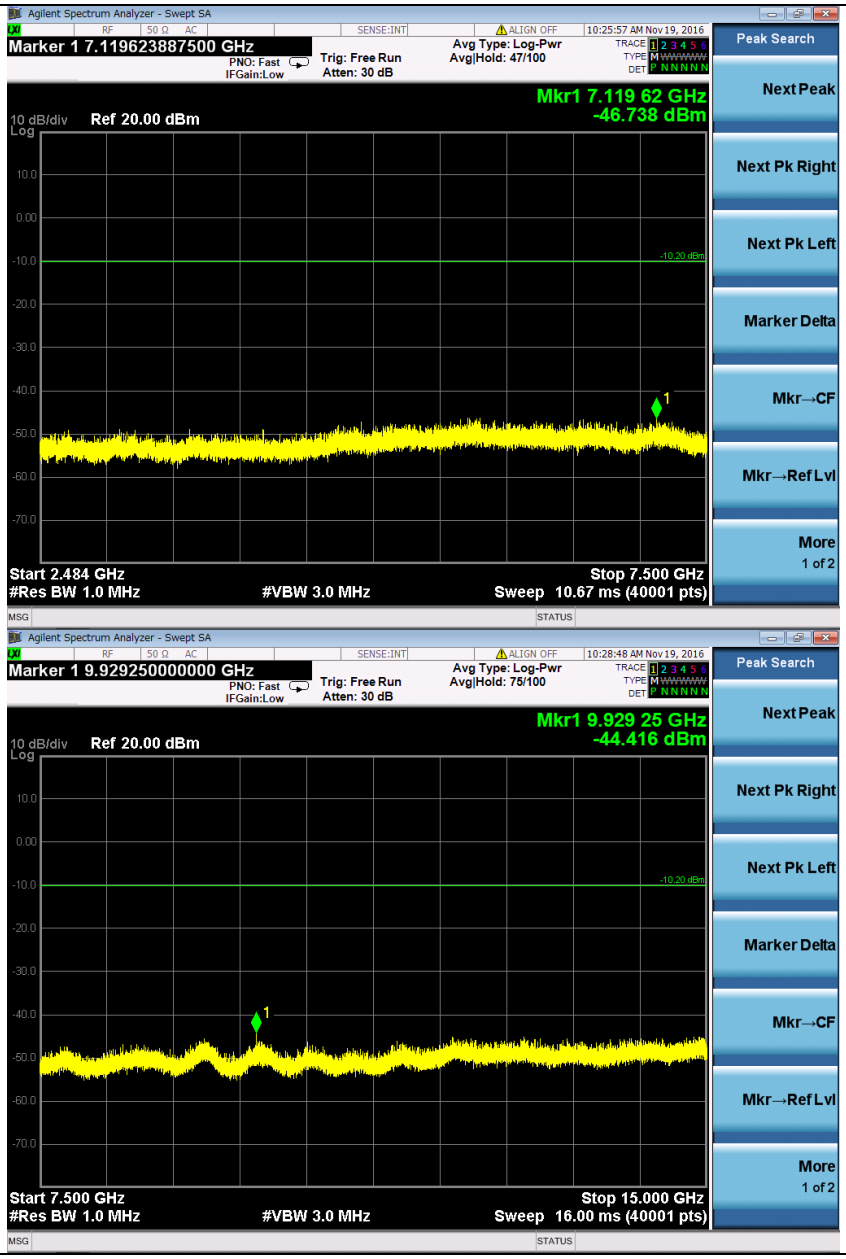

Agilent Spectrum Analyzer - Swept SA
Marker 1 21.385000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: RMS
Avg|Hold: 71/100
09:23:56 PM Nov 18, 2016
Mkr1 21.385 00 GHz
-40.956 dBm
10 dB/div
Log
Ref 20.00 dBm
-8.70 dBm
Start 15.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 25.000 GHz
Sweep 26.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

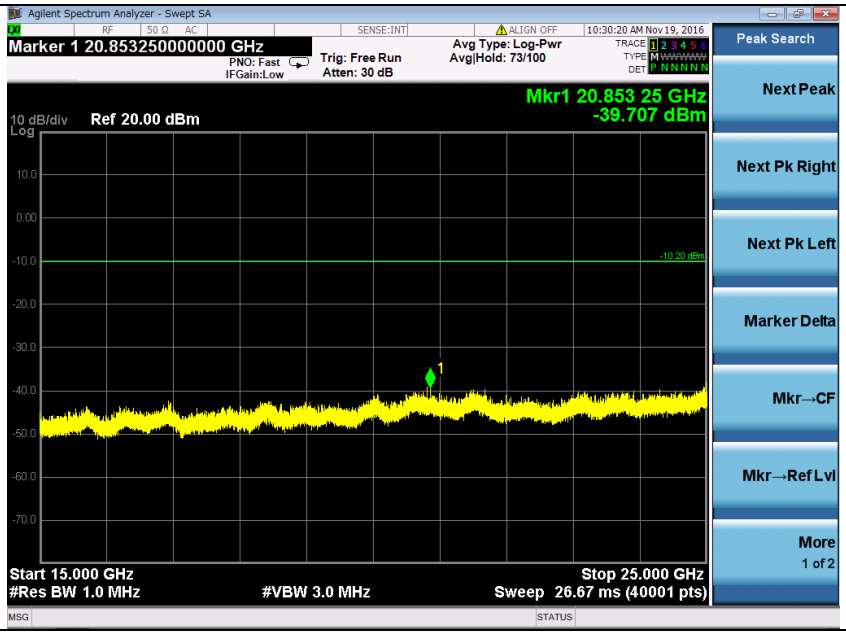
GFSK_HCH_Graphs	
Puw	

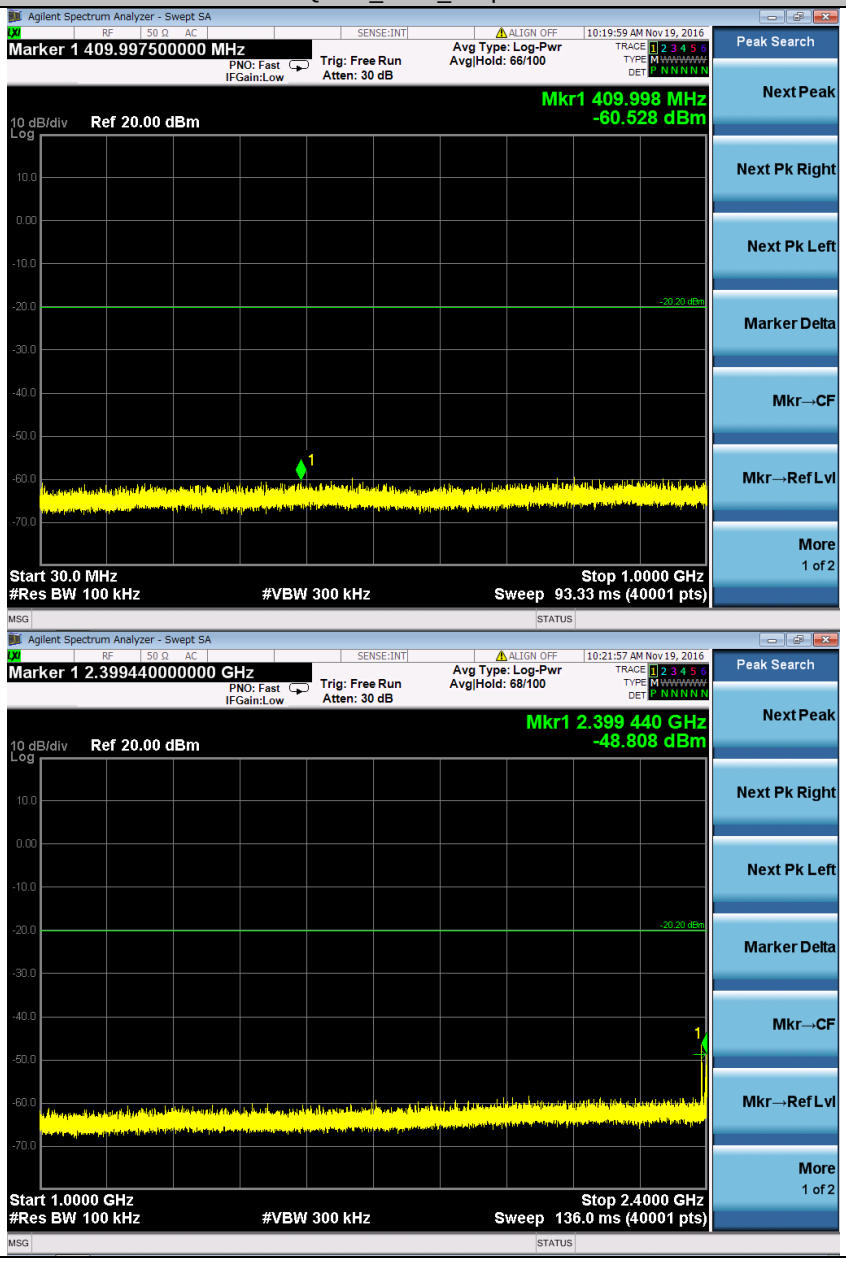

Agilent Spectrum Analyzer - Swept SA
Marker 1 3.028668137500 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: RMS
Avg|Hold: 56/100
09:22:02 PM Nov 18, 2016
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Mkr1 3.028 67 GHz
-41.224 dBm
10 dB/div
Log
Ref 20.00 dBm
-8.70 dBm
Start 2.484 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 7.500 GHz
Sweep 10.67 ms (40001 pts)
MSG
STATUS
Agilent Spectrum Analyzer - Swept SA
Marker 1 14.295000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: RMS
Avg|Hold: 88/100
09:22:34 PM Nov 18, 2016
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Mkr1 14.295 00 GHz
-45.404 dBm
10 dB/div
Log
Ref 20.00 dBm
-8.70 dBm
Start 7.500 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 15.000 GHz
Sweep 16.00 ms (40001 pts)
MSG
STATUS

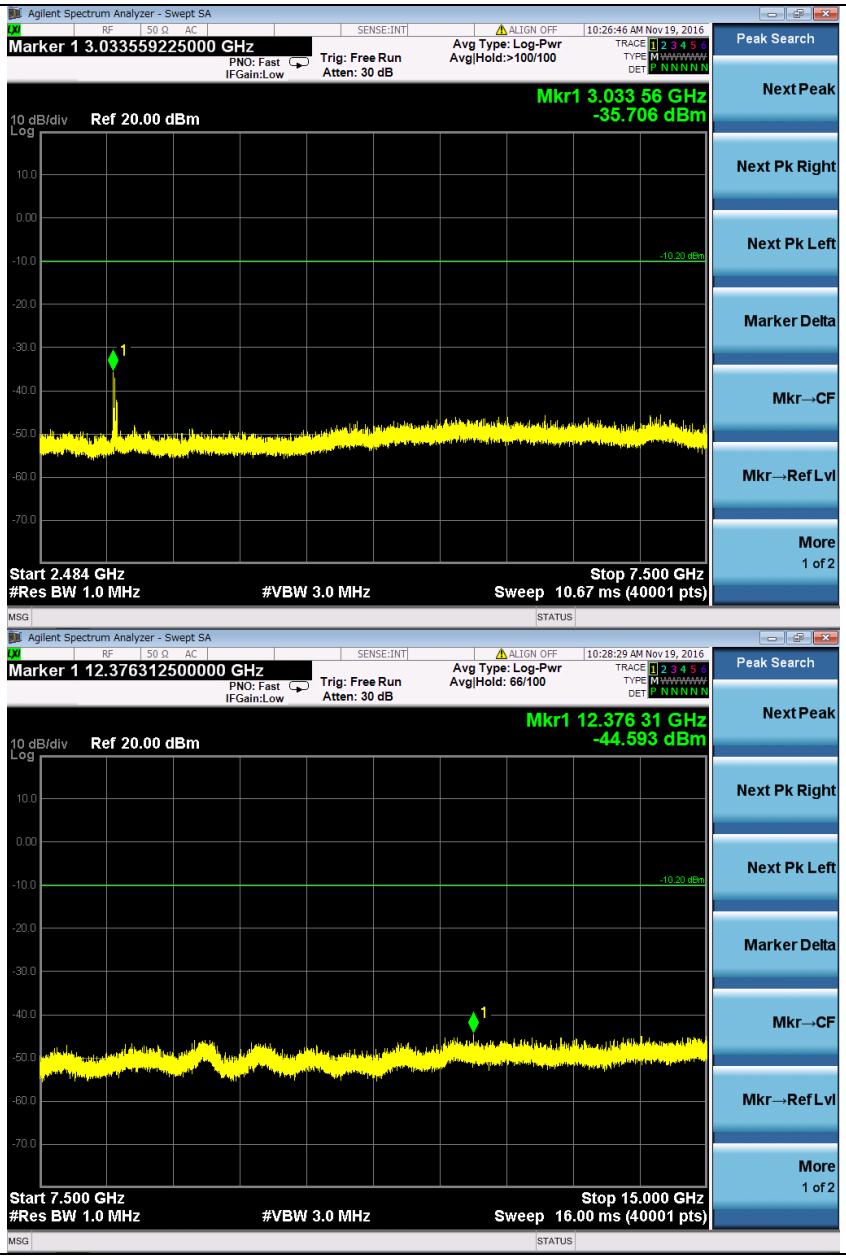

Agilent Spectrum Analyzer - Swept SA
Marker 1 24.851500000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: RMS
Avg|Hold: 45/100
09:23:34 PM Nov 18, 2016
Mkr1 24.851 50 GHz
-40.049 dBm
10 dB/div
Log
Ref 20.00 dBm
-8.70 dBm
Start 15.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz*
Stop 25.000 GHz
Sweep 26.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

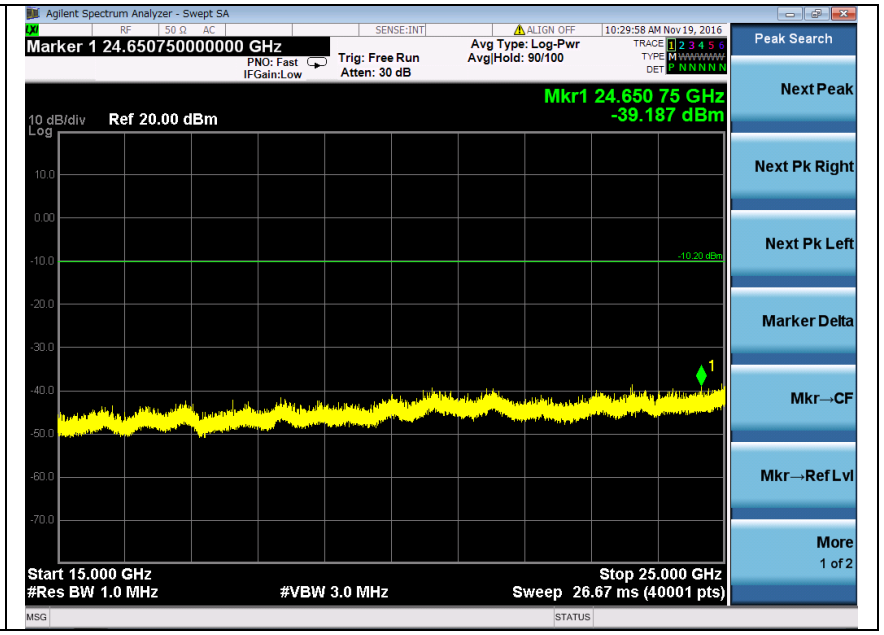
π /4DQPSK_LCH_Graphs	
Puw	

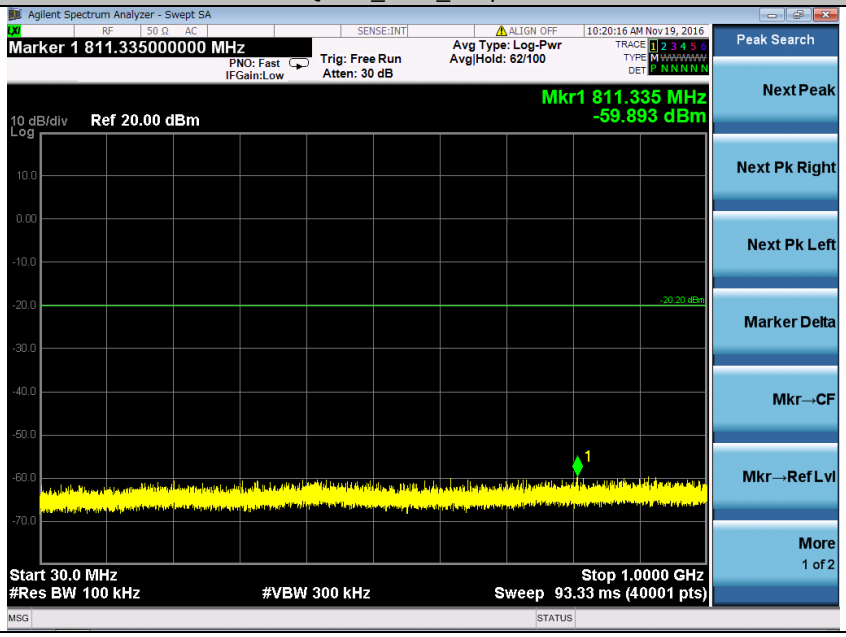

Agilent Spectrum Analyzer - Swept SA
Marker 1 7.119623887500 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 47/100
10:25:57 AM Nov 19, 2016
Mkr1 7.119 62 GHz
-46.738 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.20 dBm
Start 2.484 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 7.500 GHz
Sweep 10.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS
Agilent Spectrum Analyzer - Swept SA
Marker 1 9.929250000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 75/100
10:28:48 AM Nov 19, 2016
Mkr1 9.929 25 GHz
-44.416 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.20 dBm
Start 7.500 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 15.000 GHz
Sweep 16.00 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

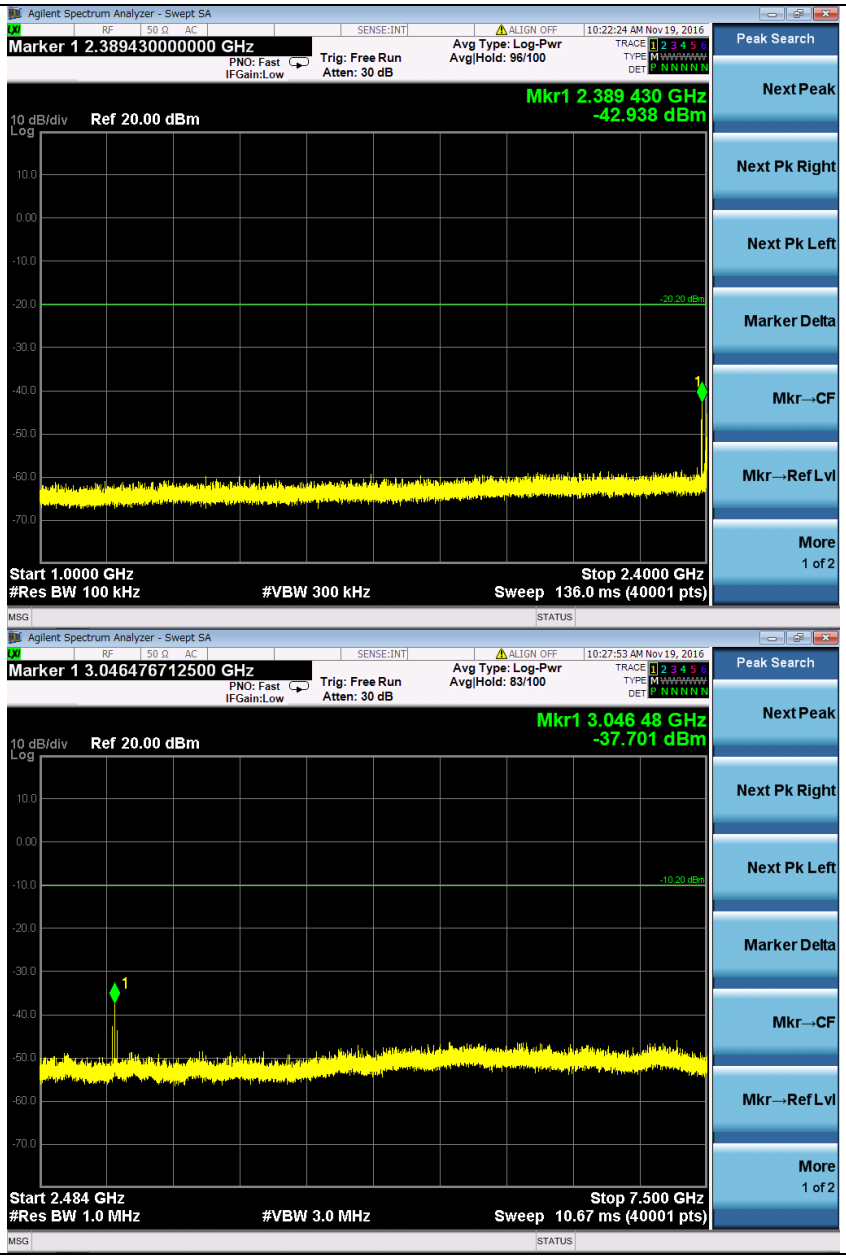

Agilent Spectrum Analyzer - Swept SA
RF
50 Ω AC
SENSE:INT
ALIGN OFF
10:30:20 AM Nov 19, 2016
Marker 1 20.853250000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 73/100
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
Mkr1 20.853 25 GHz
-39.707 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-10.20 dBm
1
Start 15.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 25.000 GHz
Sweep 26.67 ms (40001 pts)
MSG
STATUS
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

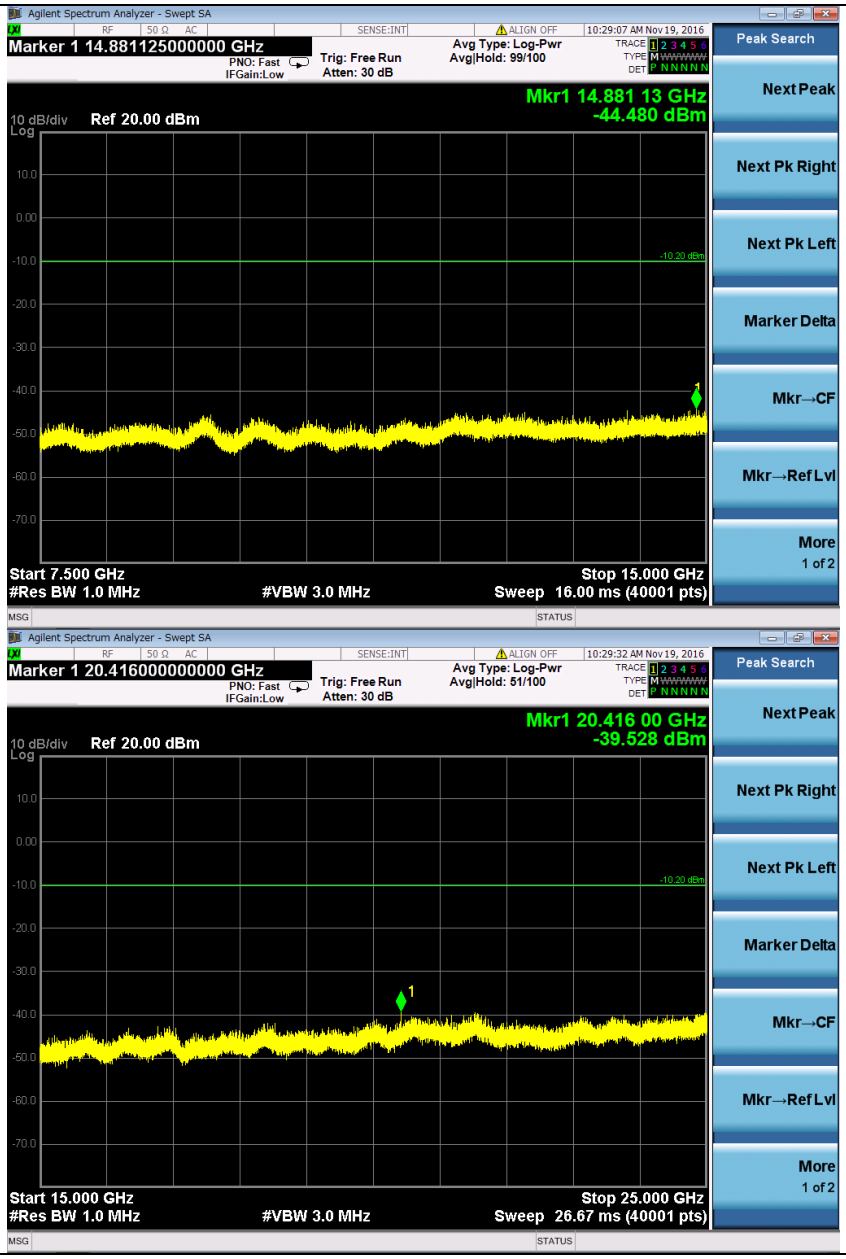
π/4DQPSK_MCH_Graphs	
Puw	

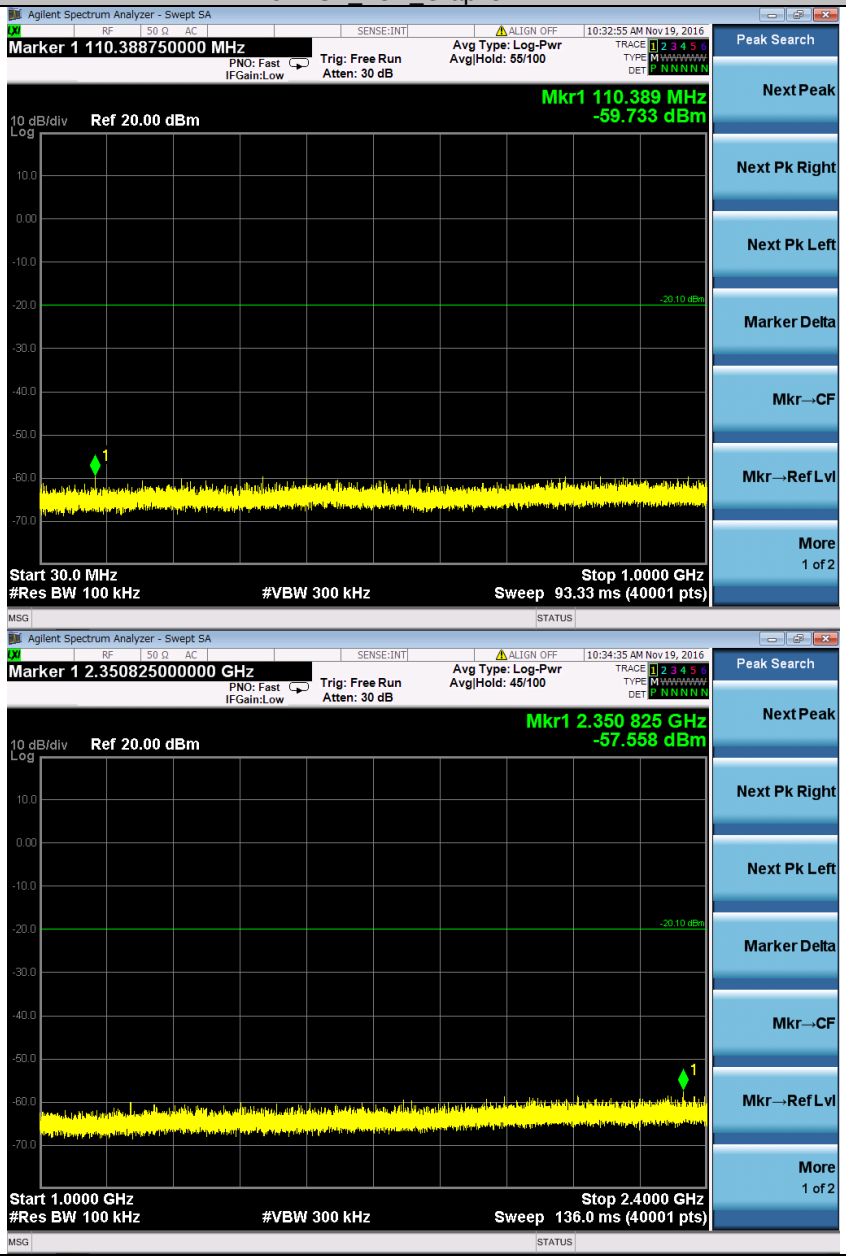

Agilent Spectrum Analyzer - Swept SA
Marker 1 3.033559225000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
10:26:46 AM Nov 19, 2016
Mkr1 3.033 56 GHz
-35.706 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.20 dBm
Start 2.484 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 7.500 GHz
Sweep 10.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS
Agilent Spectrum Analyzer - Swept SA
Marker 1 12.376312500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 66/100
10:28:29 AM Nov 19, 2016
Mkr1 12.376 31 GHz
-44.593 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.20 dBm
Start 7.500 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 15.000 GHz
Sweep 16.00 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

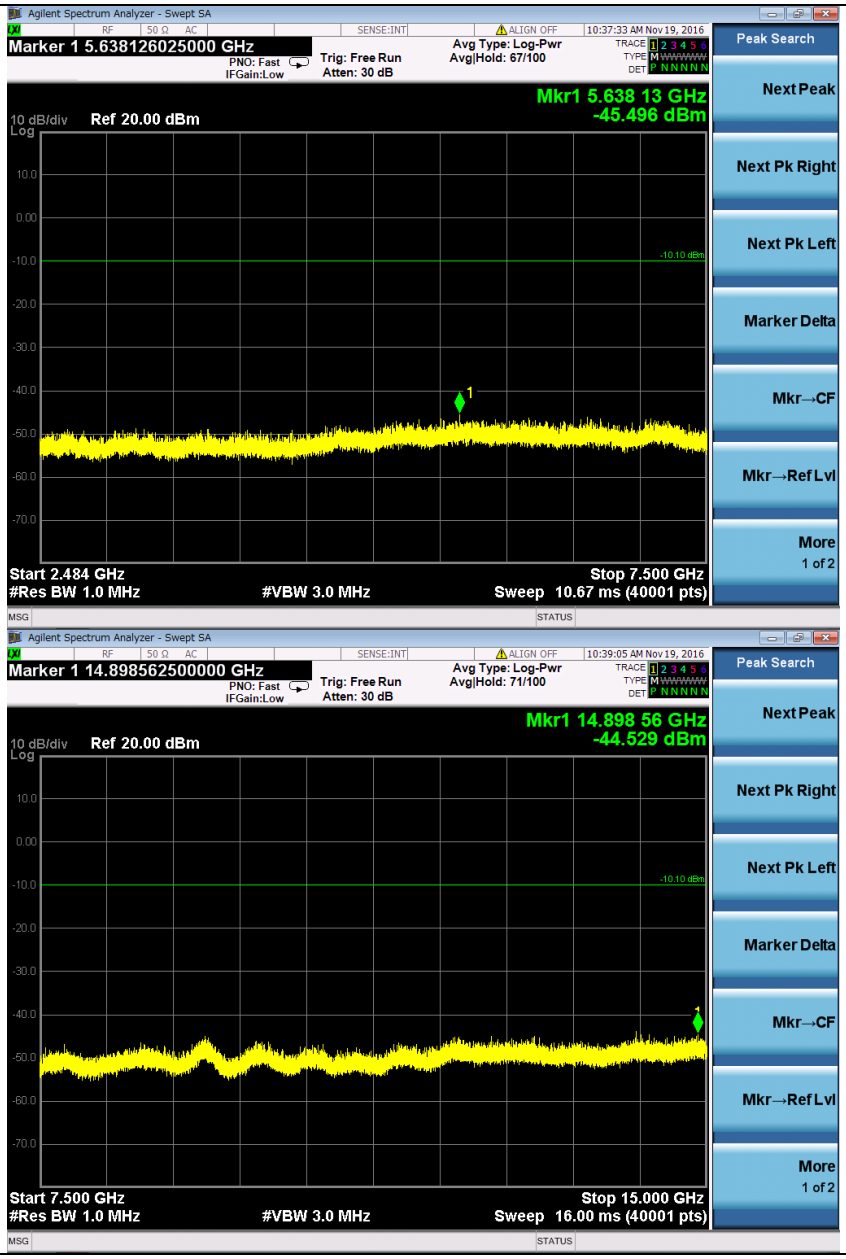


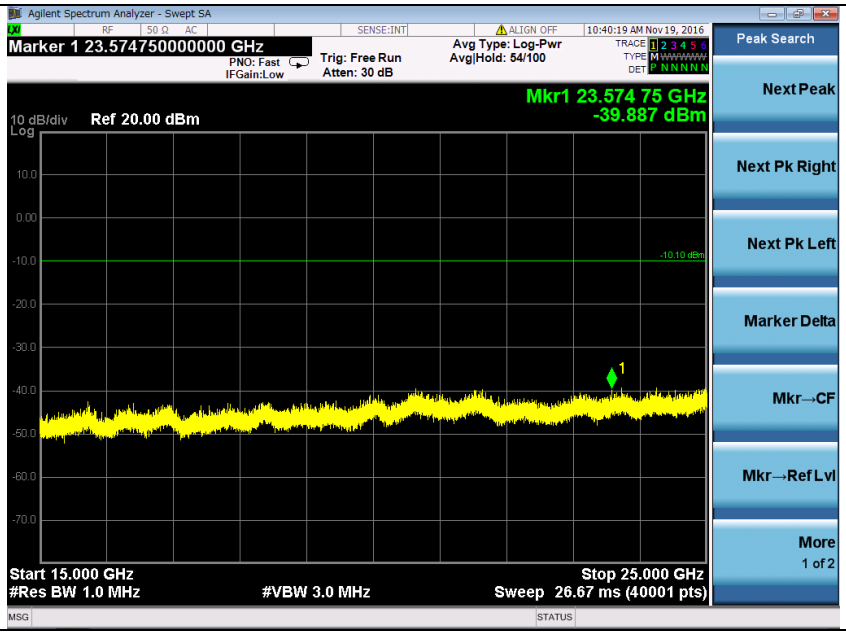
π /4DQPSK_HCH_Graphs	
Puw	

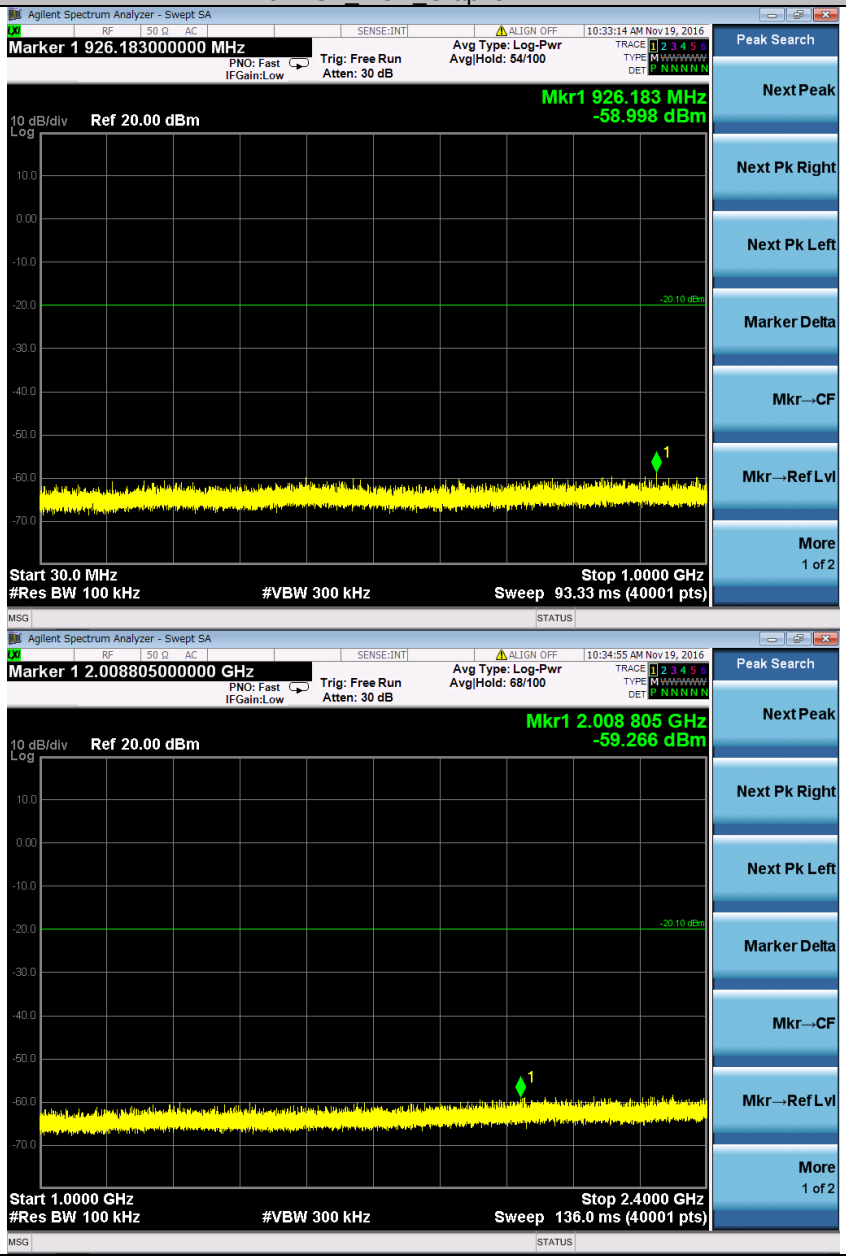

Agilent Spectrum Analyzer - Swept SA
Marker 1 2.389430000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 96/100
10:22:24 AM Nov 19, 2016
Mkr1 2.389 430 GHz
-42.938 dBm
10 dB/div
Log
Ref 20.00 dBm
-20.20 dBm
Start 1.0000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.4000 GHz
Sweep 136.0 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS
Agilent Spectrum Analyzer - Swept SA
Marker 1 3.046476712500 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 83/100
10:27:53 AM Nov 19, 2016
Mkr1 3.046 48 GHz
-37.701 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.20 dBm
Start 2.484 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 7.500 GHz
Sweep 10.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

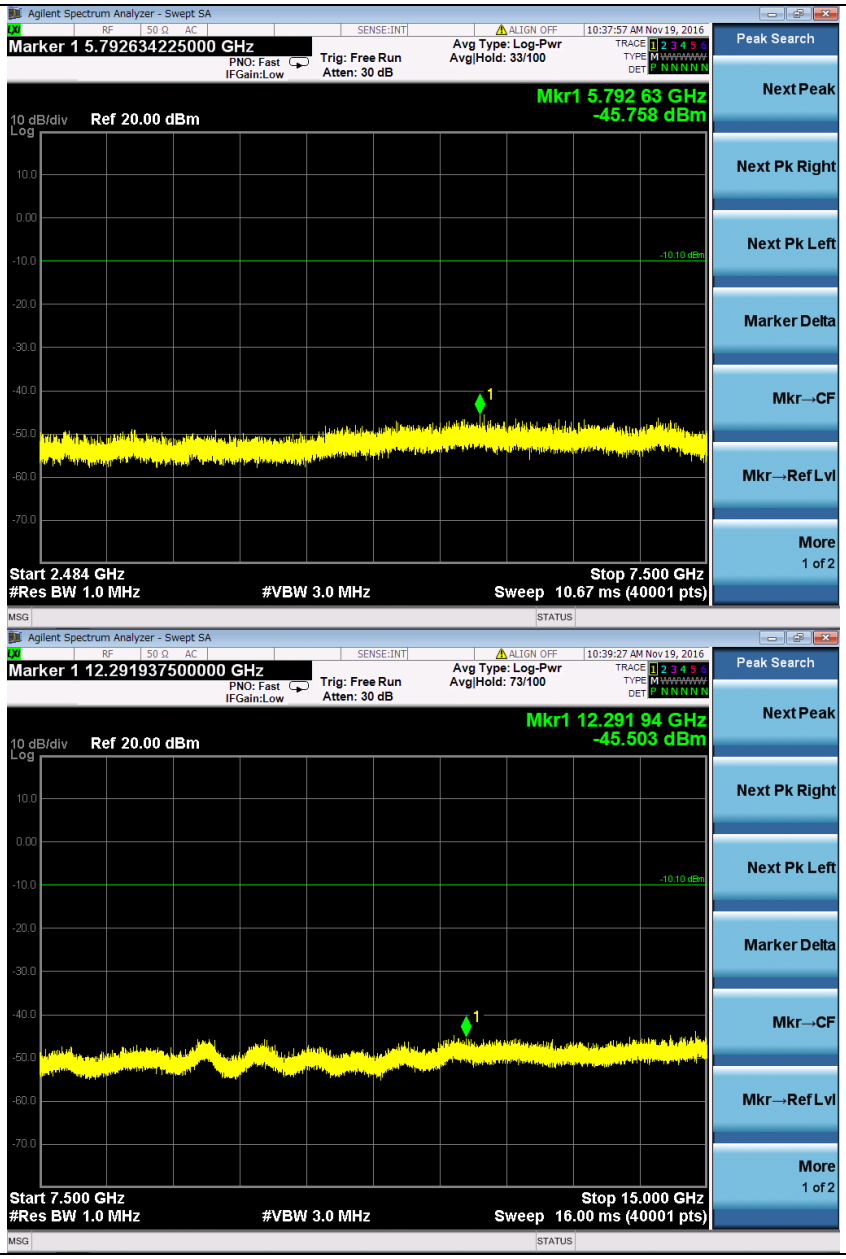

Agilent Spectrum Analyzer - Swept SA
Marker 1 14.881125000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 99/100
10:29:07 AM Nov 19, 2016
Mkr1 14.881 13 GHz
-44.480 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.20 dBm
Start 7.500 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 15.000 GHz
Sweep 16.00 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS
Agilent Spectrum Analyzer - Swept SA
Marker 1 20.416000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 51/100
10:29:32 AM Nov 19, 2016
Mkr1 20.416 00 GHz
-39.528 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.20 dBm
Start 15.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 25.000 GHz
Sweep 26.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

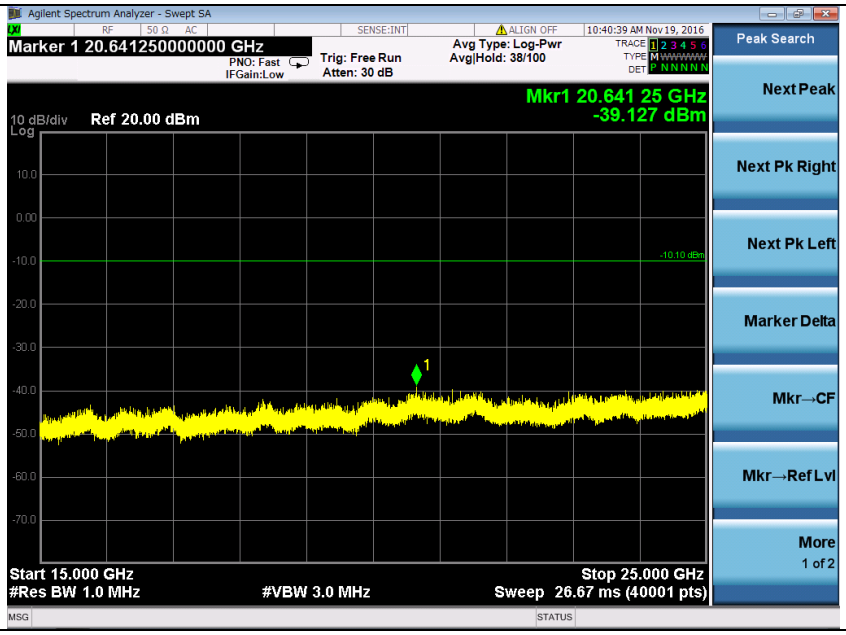
8DPSK_LCH_Graphs	
Puw	

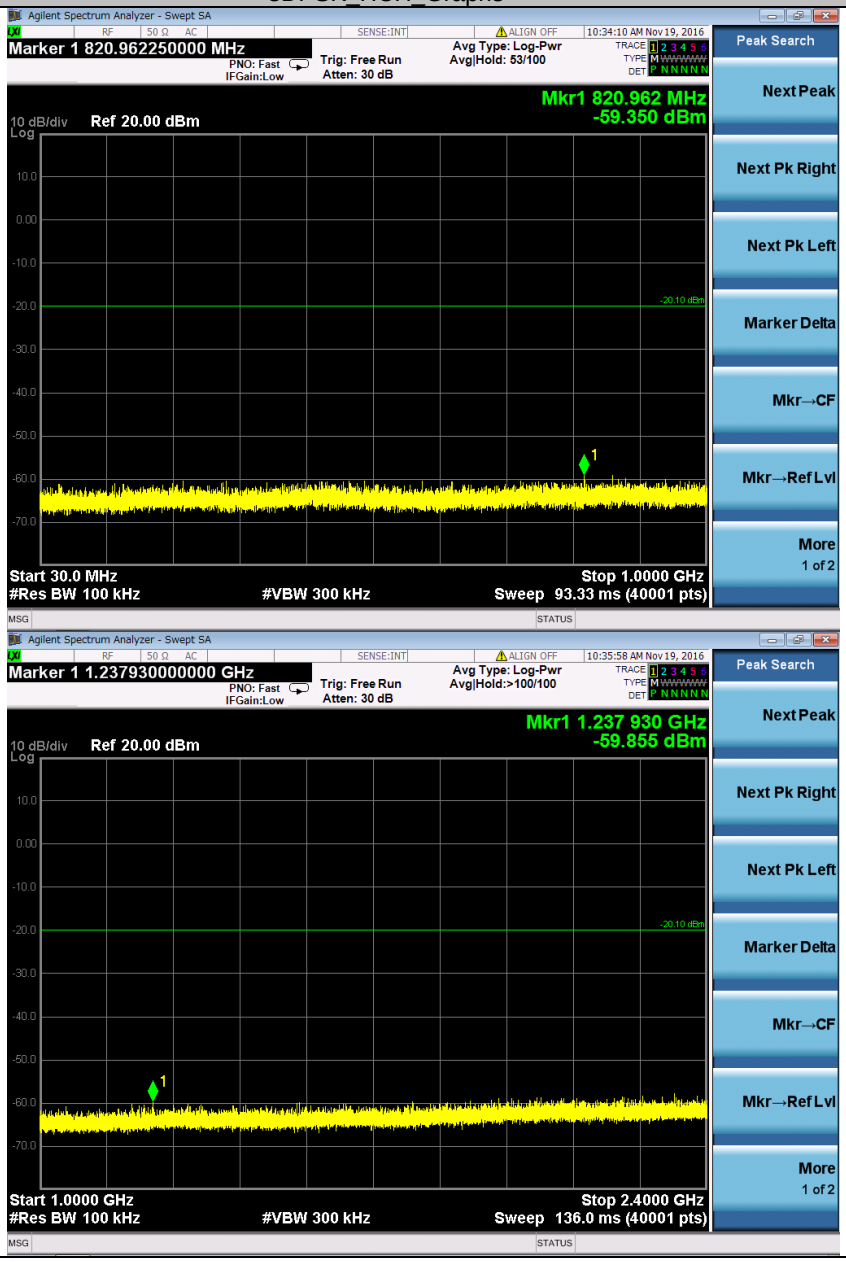

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.638126025000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 67/100
10:37:33 AM Nov 19, 2016
Mkr1 5.638 13 GHz
-45.496 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.10 dBm
Start 2.484 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 7.500 GHz
Sweep 10.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Agilent Spectrum Analyzer - Swept SA
Marker 1 14.898562500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 71/100
10:39:05 AM Nov 19, 2016
Mkr1 14.898 56 GHz
-44.529 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.10 dBm
Start 7.500 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 15.000 GHz
Sweep 16.00 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

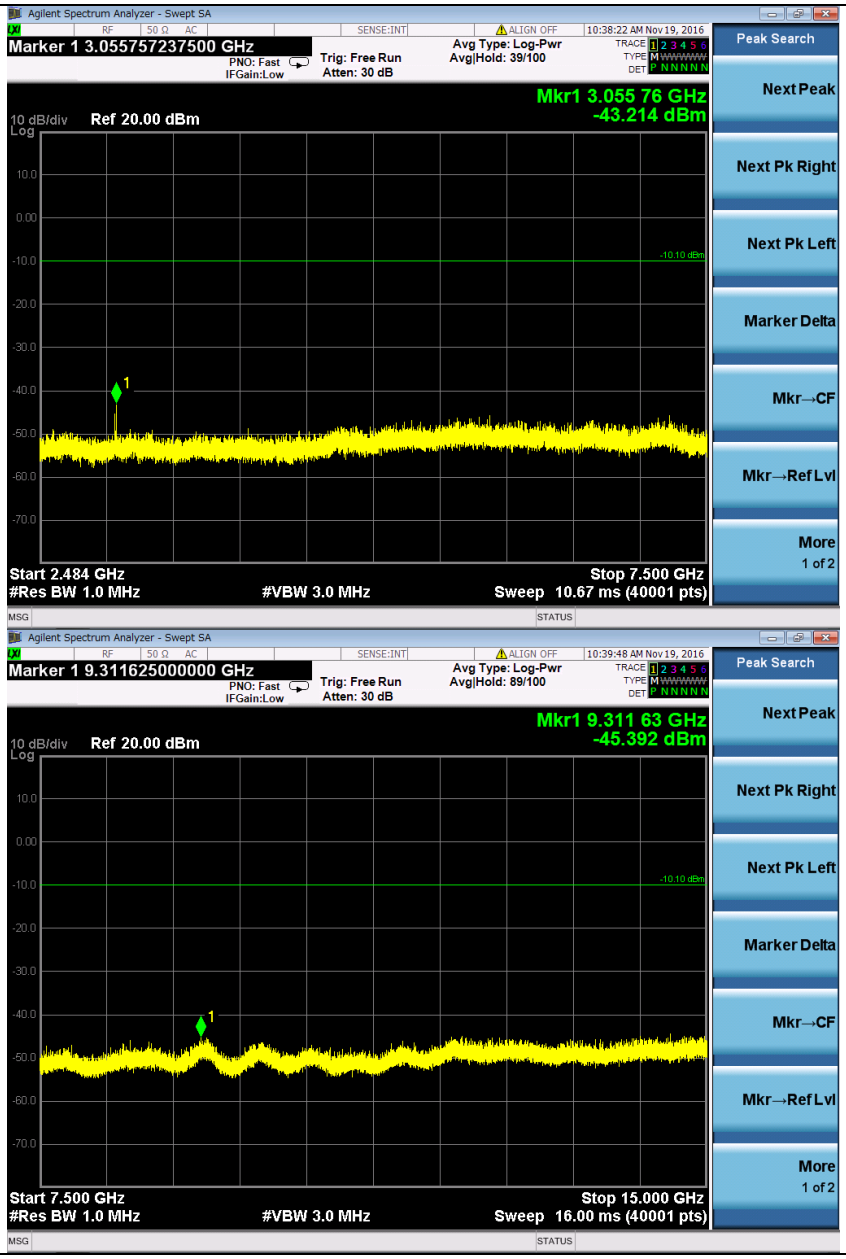

Agilent Spectrum Analyzer - Swept SA
RF
50 Ω AC
SENSE:INT
ALIGN OFF
10:40:19 AM Nov 19, 2016
Marker 1 23.574750000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 54/100
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
Mkr1 23.574 75 GHz
-39.887 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-10.10 dBm
1
Start 15.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 25.000 GHz
Sweep 26.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

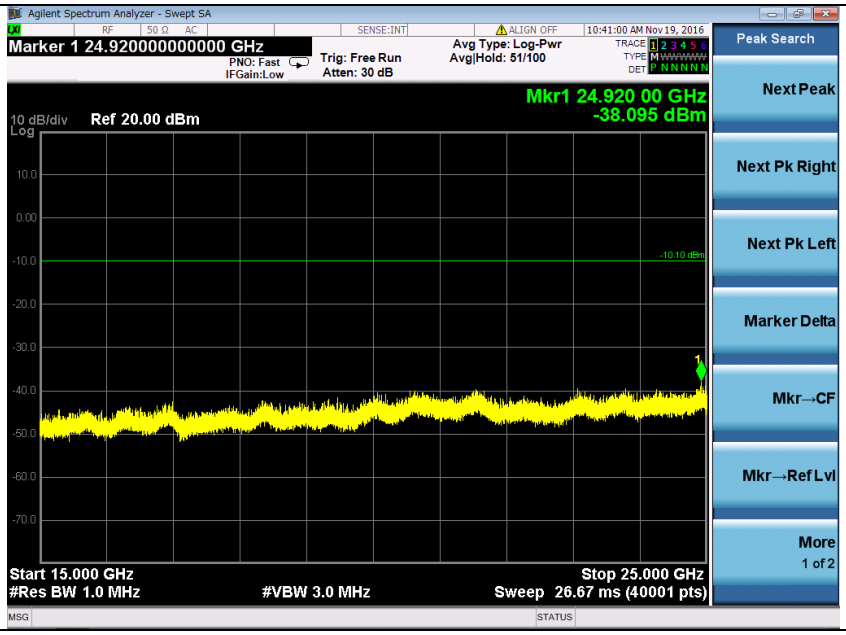
8DPSK_MCH_Graphs	
Puw	


Agilent Spectrum Analyzer - Swept SA
Marker 1 5.792634225000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 33/100
10:37:57 AM Nov 19, 2016
Mkr1 5.792 63 GHz
-45.758 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.10 dBm
Start 2.484 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 7.500 GHz
Sweep 10.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
Agilent Spectrum Analyzer - Swept SA
Marker 1 12.291937500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 73/100
10:39:27 AM Nov 19, 2016
Mkr1 12.291 94 GHz
-45.503 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.10 dBm
Start 7.500 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 15.000 GHz
Sweep 16.00 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
RF
50 Ω AC
SENSE:INT
ALIGN OFF
10:40:39 AM Nov 19, 2016
Marker 1 20.641250000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 38/100
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
Mkr1 20.641 25 GHz
-39.127 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-10.10 dBm
1
Start 15.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 25.000 GHz
Sweep 26.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

8DPSK_HCH_Graphs	
Puw	


Agilent Spectrum Analyzer - Swept SA
Marker 1 3.055757237500 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 39/100
10:38:22 AM Nov 19, 2016
Mkr1 3.055 76 GHz
-43.214 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.10 dBm
Start 2.484 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 7.500 GHz
Sweep 10.67 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS
Agilent Spectrum Analyzer - Swept SA
Marker 1 9.311625000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 89/100
10:39:48 AM Nov 19, 2016
Mkr1 9.311 63 GHz
-45.392 dBm
10 dB/div
Log
Ref 20.00 dBm
-10.10 dBm
Start 7.500 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 15.000 GHz
Sweep 16.00 ms (40001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
RF
50 Ω AC
SENSE:INT
ALIGN OFF
10:41:00 AM Nov 19, 2016
Marker 1 24.920000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 51/100
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
Mkr1 24.920 00 GHz
-38.095 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-10.10 dBm
Start 15.000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 25.000 GHz
Sweep 26.67 ms (40001 pts)
MSG
STATUS
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2