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Test Report for FCC

FCC ID :YCK-DR750XP

Report Number		ESTRFC2104-001		
Applicant	Company name	Pittasoft Co.,Ltd.		
	Address	A4th floor, ABN Tower, 331, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, south Korea		
	Telephone	+82-31-8039-7789		
	Contack person	Hyunmin Hur		
Product	Product name	CAR DASHCAM		
	Factory address1	A4th floor, ABN Tower, 331, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, south Korea		
	Factory address2	#470-1 Dangjung-Dong, Gunpo-Si, Kyungki-Do, 435-833, KOREA / South Korea		
	Model No.	DR750X Plus	Manufacturer	Pittasoft Co.,Ltd. SMSC Co., Ltd.
	Serial No.	NONE	Country of origin	KOREA
Test date	02-Apr-21 ~ 09-Apr-21		Date of issue	15-Apr-21
Testing location	140-16, Eongmalli-ro, Majang-myeon, Icheon-si, Gyeonggi-do, Korea			
Standard	FCC PART 15 Subpart C (15.247), ANSI C 63.10(2013)			
Measurement facility registration number	659627			
Tested by	Senior Engineer H.G. Lee	(Signature)		
Reviewed by	Engineering Manager I.K. Hong	(Signature)		
Abbreviation	OK, Pass = Passed, Fail = Failed, N/A = not applicable			

* Note

- This test report is not permitted to copy partly without our permission
- This test result is dependent on only equipment to be used
- This test result based on a single evaluation of one sample of the above mentioned
- This test report is not related to KOLAS accreditation
- Additional models name:

DR750X-2CH Plus, DR750X-1CH Plus, DR750X-2CH IR Plus, DR750X-2CH Truck Plus, DR750G-1CH Pro
DR750G-2CH Pro, DR750G-1CH Pro Plus, DR750G-2CH Pro Plus, DR755X-3CH Plus, DR755X-3CH Truck Plus
DR755X-3CH IR Plus, DR755X-3CH DMS Plus, DR750X-3CH Plus, DR750X-3CH Truck Plus
DR750X-3CH IR Plus, DR750X-3CH DMS Plus, DR750X-2CH DMS Plus

- Basic and additional Model(s) are same products, only model name are different

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Contents 1

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Contents 2

1. Laboratory Information

1.1 General

This EUT (Equipment Under Test) has been shown to be capable of compliance with the applicable technical standards and is tested in accordance with the measurement procedures as indicated in this report.
ESTECH Lab attests to accuracy of test data. All measurement reported herein were performed by ESTECH Co., Ltd.
ESTECH Lab assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

1.2 Test Lab.

Corporation Name : ESTECH Co., Ltd.

Head Office : Suite 1015 World Meridian III , 123 Gasan Digital 2-ro, Geumcheon-gu,
Seoul 153-759, R.O. Korea
EMC/Telecom/Safety Test Lab : 347-69, Jungbu-daero 147beon-gil, Majang-myeon, Icheon-si,
Gyeonggi-do 467-811, R. O. Korea

1.3 Official Qualification(s)

MSIP : Granted Accreditation from Ministry of Information & Communication for EMC, Safety and Telecommunication
KOLAS : Accredited Lab By Korea Laboratory Accreditation Schema base on CENELEC requirements
FCC : Conformity Assessment Body(CAB) with registration number 659627 under APEC TEL MRA between the RRA and the FCC
VCCI : Granted Accreditation from Voluntary Control Council for Interference from ITE

2. Description of EUT

2.1 Summary of Equipment Under Test (Bluetooth)

Modulation Type	: GFSK(FHSS) , 8DPSK
Transfer Rate	: 3 Mbps
Number of Channel	: 79
Channel Spacing	: 1 MHz
PEAK Output Power	: GFSK : 4.1 mW 8DPSK : 5.28 mW
Rating	: DC 12V-24V The EUT is Tested by Cigar jack
Receipt Date	: 15-Feb-21
X-tal list(s) or Frequencies generated	The highest operating frequency is 2480 MHz(Bluetooth) Blutooth : 2.4 GHz

2.2 General descriptions of EUT

Category	Specification
Color/Size/Weight	Front: Black / Width 118.5 mm x Height 36 mm / 103 g Rear: Black / Width 67.4 mm x Height 25 mm / 25 g
Memory	microSD Card (32 GB / 64 GB / 128 GB / 256 GB)
Recording Modes	Normal recording, Event recording (when impact is detected in normal and parking mode), Manual recording and Parking recording (when motion is detected) *When using Hardwiring Power Cable, ACC+ will trigger parking mode. When using other methods, G-sensor will trigger parking mode.
Camera	Front: STARVIS™ CMOS Sensor (Approx. 2.1 M Pixel) Rear: STARVIS™ CMOS Sensor (Approx. 2.1 M Pixel)
Resolution/Frame Rate	<Front - Rear> Full HD @60fps - Full HD @30fps *Frame rate may vary during Wi-Fi streaming.
Image Quality	Highest (Extreme), Highest, High, Normal
Video Compression Mode	MP4
Wi-Fi	Built-in (802.11 b.g.n)
Bluetooth	Built-in (4.2 LE, BDR, EDR)
LTE	External
Microphone	Built-in
GPS	Built-in (Dual Band : GPS, GLONASS)

Category	Specification
LED Indicators	Front: Recording LED, GPS LED, LTE/Wi-Fi LED, Front Security LED, Proximity Sensing indicator LED Rear: Rear Security LED
Button	Wi-Fi button: *Press once to turn on/off Wi-Fi. Proximity sensor: Touching the proximity sensor turns on/o audio recording or triggers manual recording depending on the rmware settings.
Sensor	3-Axis Acceleration Sensor
Backup Battery	Built-in super capacitor
Input Power	DC 12V-24V (3 pole DC Plug (Ø3.5 x Ø1.1)) to Wires (Black: GND / Yellow: B+ / Red: ACC)
Power Consumption	DR750X-1CH Plus : Normal Mode (WiFi On / GPS On / 1CH) : Avg. 250mA / 12V Normal Mode (WiFi Off / GPS On / 1CH) : Avg. 200mA / 12V Parking Mode (WiFi On / GPS Off / 1CH) : Avg. 230mA / 12V Parking Mode (WiFi Off / GPS Off / 1CH) : Avg. 180mA / 12V
	DR750X Plus / DR750X-2CH Plus : Normal Mode (WiFi On / GPS On / 2CH) : Avg. 390mA / 12V Normal Mode (WiFi Off / GPS On / 2CH) : Avg. 340mA / 12V Parking Mode (WiFi On / GPS Off / 2CH) : Avg. 350mA / 12V Parking Mode (WiFi Off / GPS Off / 2CH) : Avg. 300mA / 12V *Actual power consumption may vary depending on use conditions and environment.
Operation Temperature	-20 °C ~ 80 °C (-4 °F ~ 176 °F)
Speaker (Voice Guidance)	Built-in

3. Test Standards

Test Standard : FCC PART 15 Subpart C (15.247)

This Standard sets out the regulations under which an intentional, unintentional, or incidental radiator may be operated without an individual license. It also contains the technical specifications, administrative requirements and other conditions relating to the marketing of Part 15 devices.

Test Method : ANSI C 63.10 (2013)

This standard sets forth uniform methods of measurement of radio-frequency (RF) signals and noise emitted from both unintentional and intentional emitters of RF energy in the frequency range 9 kHz to 40 GHz. Methods for the measurement of radiated and AC power-line conducted radio noise are covered and may be applied to any such equipment unless otherwise specified by individual equipment requirements. These methods cover measurement of certain decides that deliberately radiate energy, such as intentional emitters, but does not cover licensed transmitters. This standard is not intended for certification/approval of avionic equipment or for industrial, scientific, and medical (ISM) equipment These method apply to the measurement of individual units or systems comprised of multiple units

Summary of Test Results

Applied Satandard : 47 CFR Part 15 Subpart C				remark
FCC Standard	Test Type	Result	Remark	Limit
15.207	AC Power Conducted Emission	N/A		
15.205 & 15.209	Intentional Radiated Emission	Pass	Meet the requirement	
15.247(a)(1)	Carrier Frequency Separation & 20 Bandwidth ,99% Bandwidth	Pass	Meet the requirement	>25 kHz
15.247(b)	Maximum Peak ouput power	Pass	Meet the requirement	30dBm(1W)
15.247(a)(1)(ii)	Number of Hopping Frequency	Pass	Meet the requirement	>75
15.209	Transmitter Radiated Emission	Pass	Meet the requirement	
15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Pass	Meet the requirement	<400ms
15.247(d)	Band Edge Measurement	Pass	Meet the requirement	

4. Measurement Condition

4.1 EUT Operation

a. Channel

Ch.	Frequency	Ch.	Frequency
0	2402 MHz	40	2442 MHz
1	2403 MHz	41	2443 MHz
2	2404 MHz	42	2444 MHz
3	2405 MHz	43	2445 MHz
4	2406 MHz	…	…
…	…	78	2480 MHz
38	2440 MHz		

b. Measurement Channel : Low (2402 MHz), Middle (2440 MHz), High (2480 MHz)

c. Test Mode : 8DPSK, GFSK (worst case)

d. Test rate : 3 Mbps

4.2 EUT Operation.

* The EUT was in the following operation mode during all testing

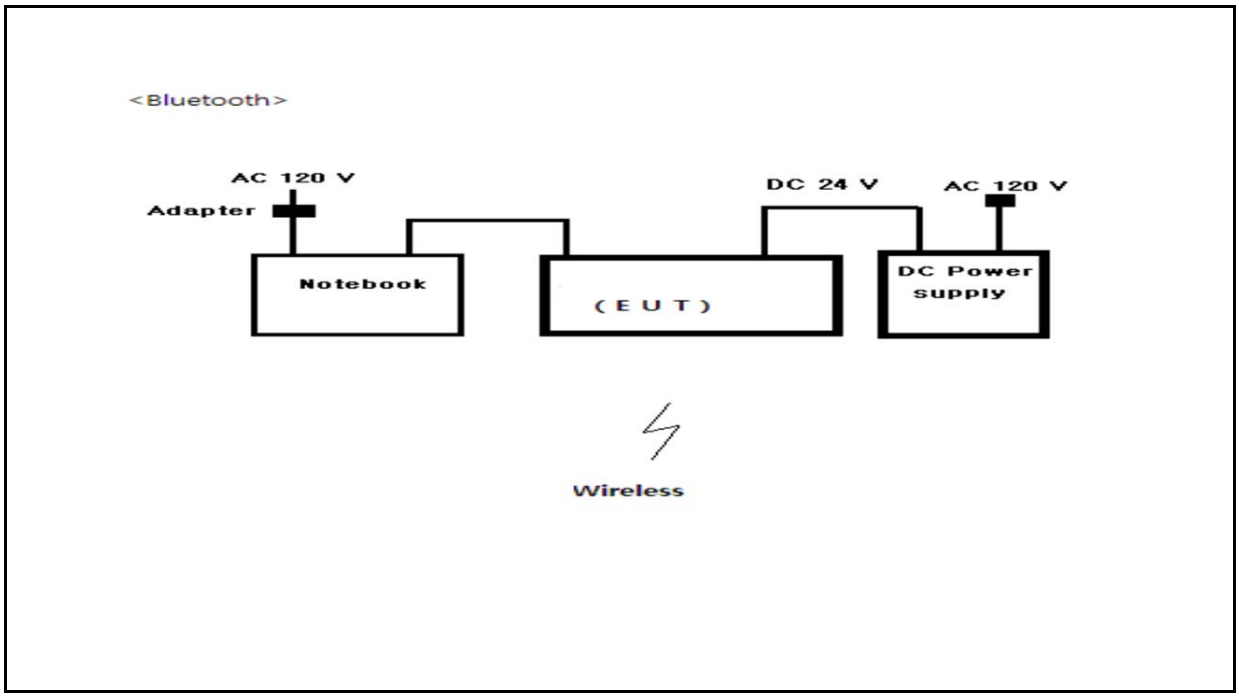
* The operational conditions of the EUT was determined by the manufacturer according to emission

* Execute a RF test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.

* Transmit mode was each test. Each channel (low, middle, high), also set the test after

* The EUT was measured up to tenth harmonic or 40 GHz of the highest operating frequencies.

4.3 Configuration and Peripherals



4.4 EUT and Support equipment

Equipment Name	Model Name	S/N	Manufacturer	Remark (FCC ID)
CAR DASHCAM	DR750X Plus	NONE	Pittasoft Co.,Ltd. SMSC Co., Ltd.	EUT
Notebook	NONE	NONE	Hewlett-Packed Company	
Adapter	HSTNN-DA40	NONE	DELTA ELECTRONICS (JIANGSU)LTD.	
DC Power supply	AK3010	NONE	VU POWER	

4.5 Cable Connecting

Start Equipment		End Equipment		Cable Standard		Remark
Name	I/O port	Name	I/O port	Length	Shielded	
CAR DASHCAM	Power	DC power supply	-	2.0	Unshielded	
CAR DASHCAM	Zig	Notebook	-	0.5	Unshielded	
Notebook	Power	Adapter	-	2.0	Unshielded	

5. Carrier Frequency Separation

5.1 Test procedure

According to §15.247(a)(1), Frequency hopping systems shall have hopping channel carrier frequencies separated by minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater.

5.2 Test instruments and measurement setup

The spectrum analyzer is set to as following.

. RBW= 30 KHz

. VBW= 300 KHz

. Span= 3 MHz

. Sweep= suitable duration based on the EUT specification.

20dB Bandwidth Test Instruments

Description	Model	Serial Number	Cal. Due Date
Spectrum Analyzer	E4440A	US42041291	2021-Dec-01
-Spectrum Analyzer <=> EUT	Loss: 1 dB	-	

5.3 Measurement results

EUT	CAR DASHCAM	MODEL	DR750X Plus
MODE	GFSK,8DPSK	ENVIRONMENTAL CONDITION	23 ℃, 40 % R.H .
INPUT POWER	DC 24.0 V		

(GFSK)

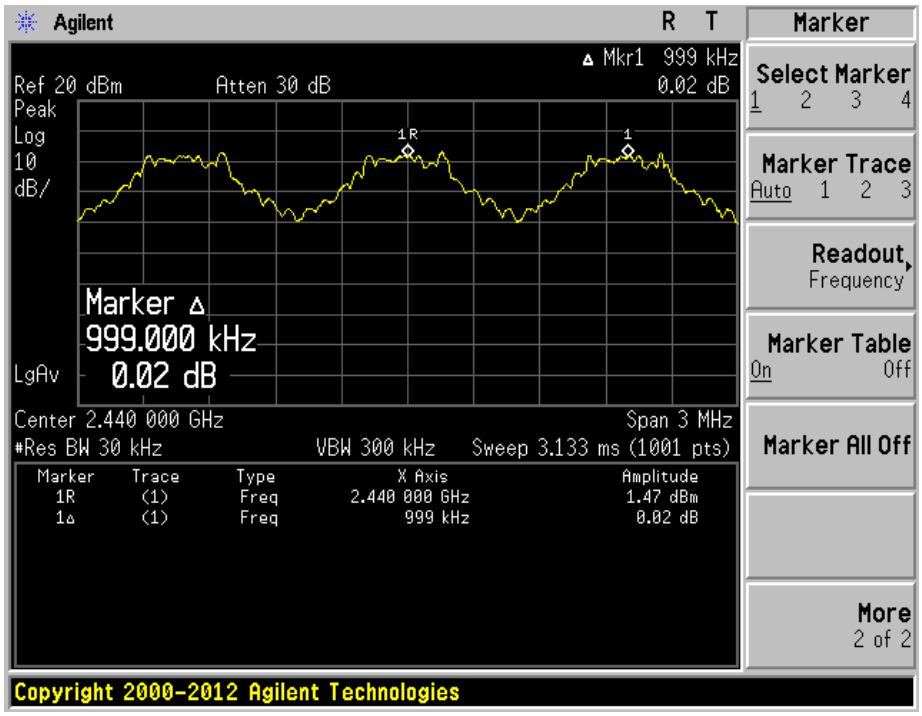
CHANNEL	Channel Frequency (MHz)	Bandwidth at 99% (kHz)	Bandwidth at 20dB below(kHz)	Channel Separation (kHz)	Limit (kHz)	PASS/FAIL
0	2402	847	943	1000	629	PASS
38	2440	856	946	1000	631	PASS
78	2480	866	954	1000	636	PASS

(8DPSK)

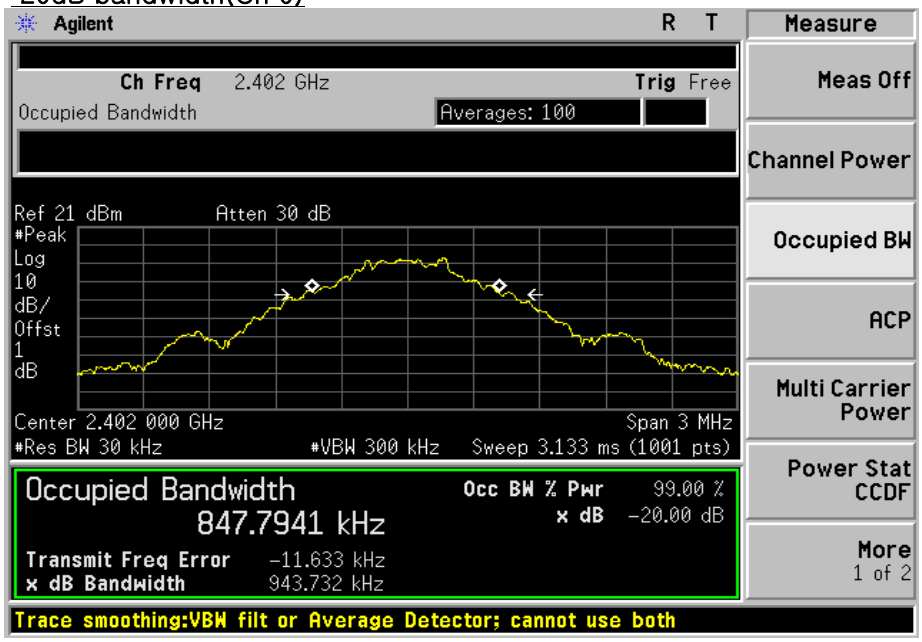
CHANNEL	Channel Frequency (MHz)	Bandwidth at 99% (MHz)	Bandwidth at 20dB below(kHz)	Channel Separation (kHz)	Limit (kHz)	PASS/FAIL
0	2402	1.080	1213	1000	809	PASS
38	2440	1.080	1209	1000	806	PASS
78	2480	1.080	1209	1000	806	PASS

5.4 Trace data (GFSK)

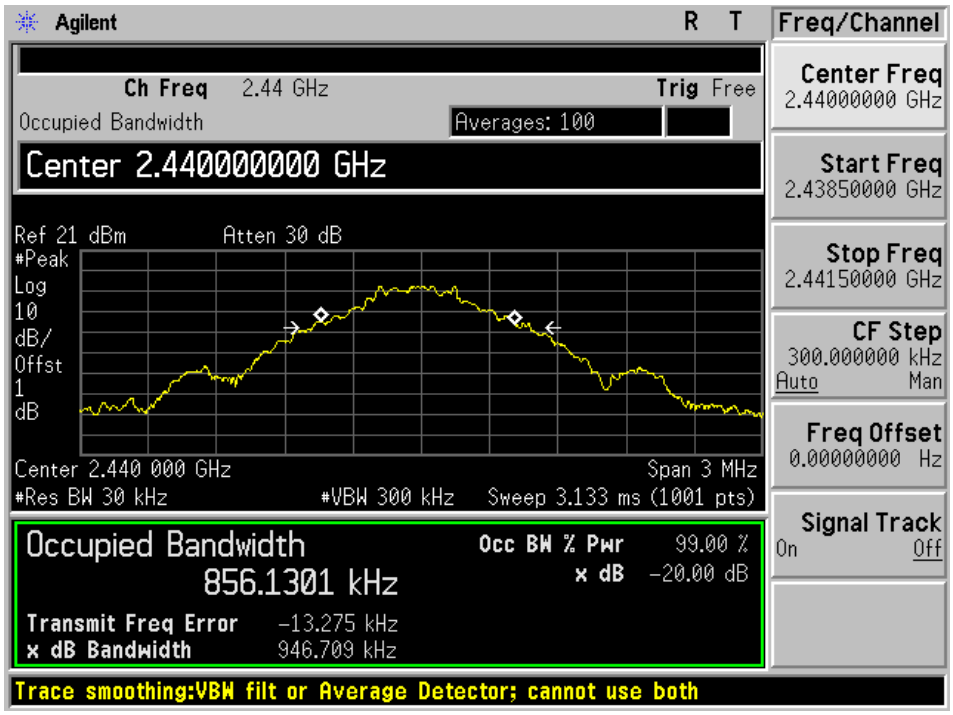
Channel Separation



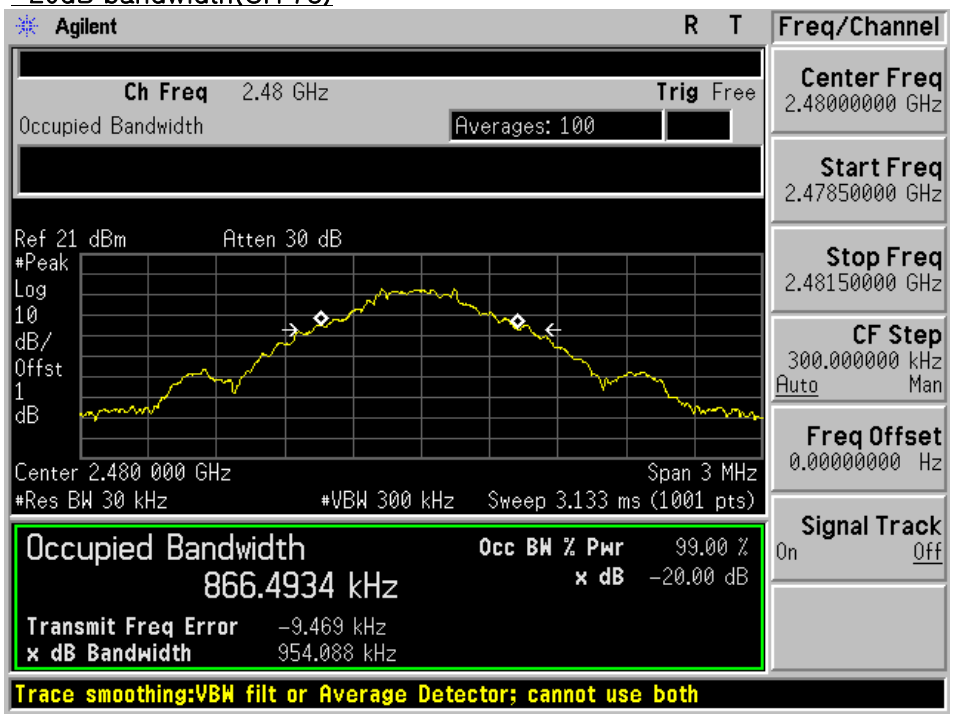
20dB bandwidth(Ch 0)



20dB bandwidth(CH 38)

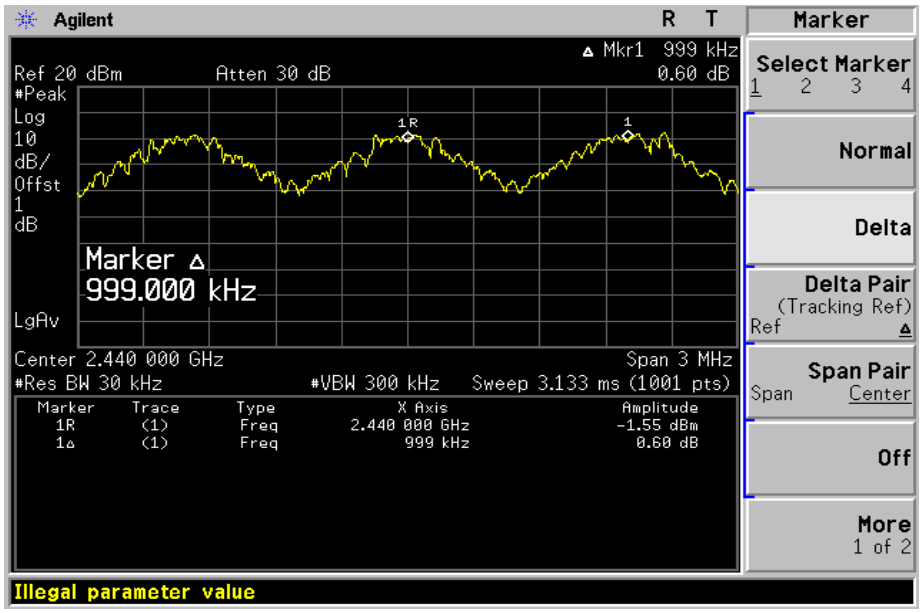


20dB bandwidth(CH 78)

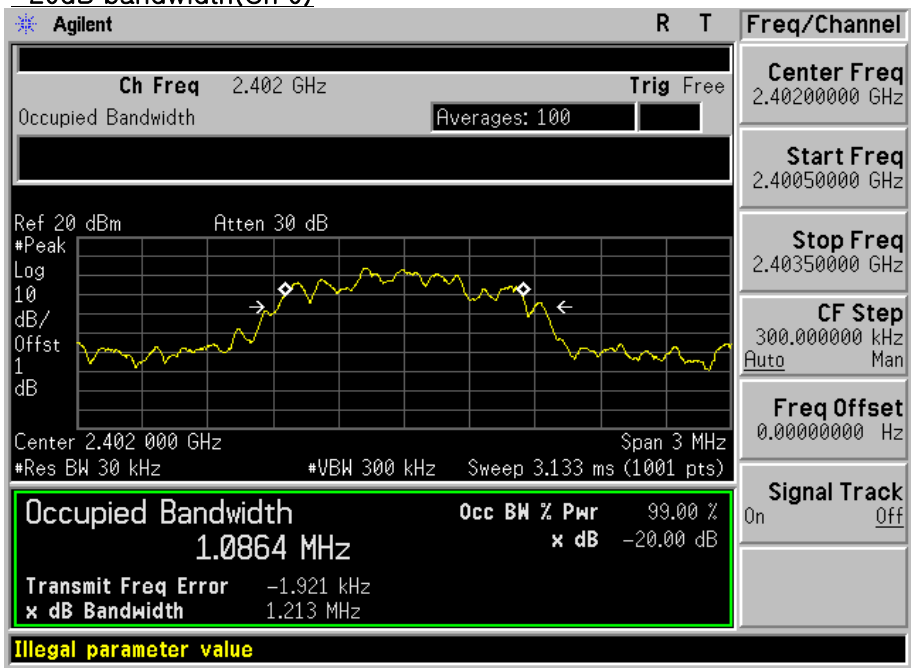


(8DPSK)

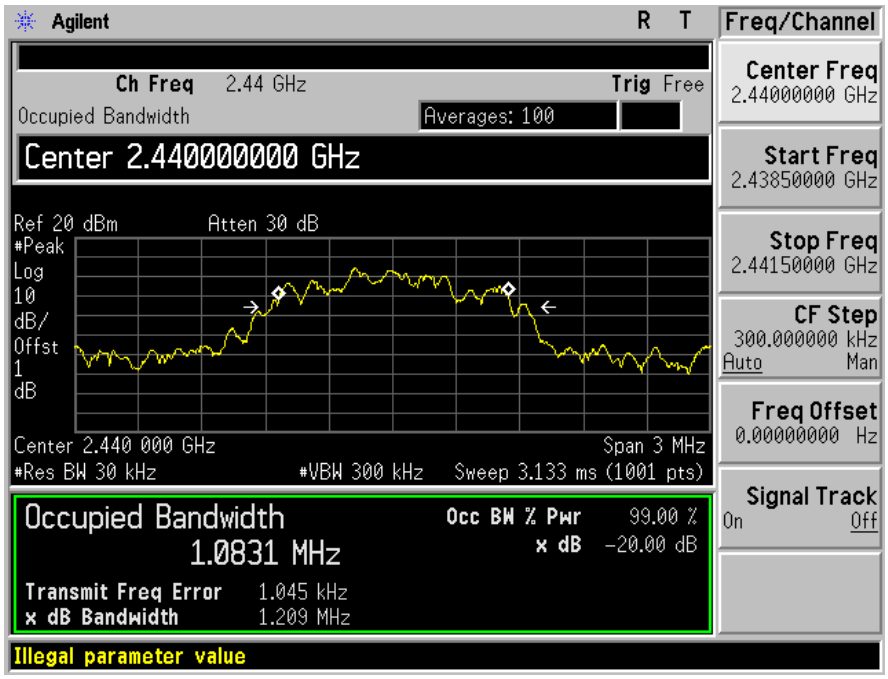
Channel Separation



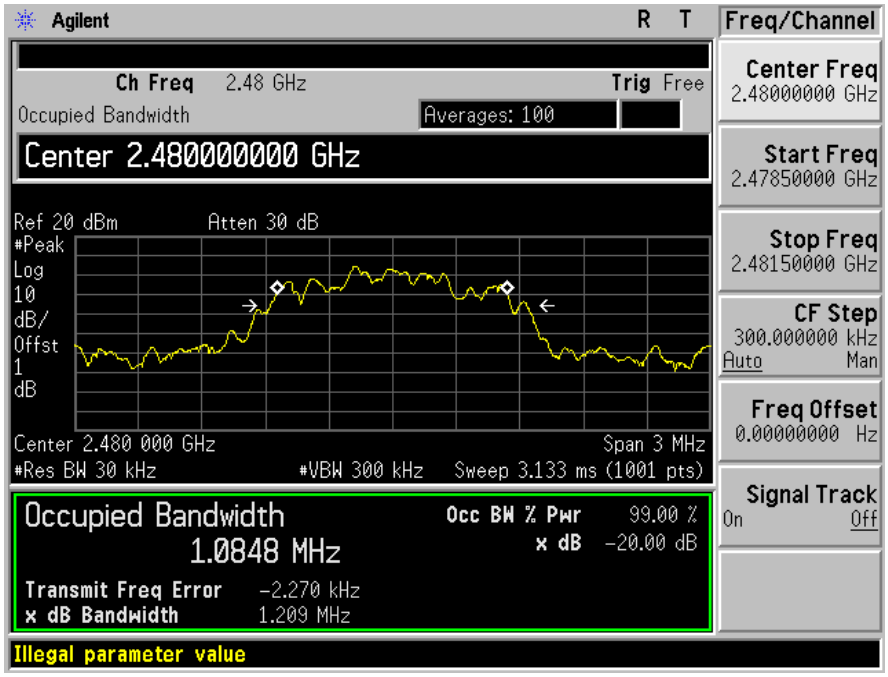
20dB bandwidth(Ch 0)



20dB bandwidth(CH 38)



20dB bandwidth(CH 78)



6. MAXIMUM PEAK OUTPUT POWER

6.1 Test procedure

The transmitter antenna terminal is connected to the input of a Power Sensor. Measurement is made while EUT is operating in transmission mode at the appropriate center frequency. The maximum peak output power measurement is 30 dBm.

Description	Model	Serial Number	Cal. Due Date
Power Meter	N1921A	MY45100570	2021-12-01
Power Sensor	N1921A	MY45240427	2021-12-01
Power Meter <=> EUT	Loss: 1 dB	-	

6.2 Measurement results

EUT	CAR DASHCAM	MODEL	DR750X Plus
MODE	GFSK,8DPSK	ENVIRONMENTAL CONDITION	23 ℃, 41 % R.H.
INPUT POWER	DC 24.0 V		

GFSK

CHANNEL	Channel Frequency (MHz)	Peak Power Output(dBm)		Limit[mW]	PASS/ FAIL
		(dBm)	(mW)		
0	2402	5.73	3.74	125	PASS
38	2440	5.74	3.75	125	PASS
78	2480	6.13	4.10	125	PASS

8DPSK

CHANNEL	Channel Frequency (MHz)	Peak Power Output(dBm)		Limit[mW]	PASS/ FAIL
		(dBm)	(mW)		
0	2402	6.61	4.58	125	PASS
38	2440	6.83	4.82	125	PASS
78	2480	7.23	5.28	125	PASS

GFSK

CHANNEL	Channel Frequency (MHz)	Average Power Output(dBm)			Limit[mW]	PASS/FAIL
		(dBm)	(mW)	factor		
0	2402	1.21	1.32	1.20	125	PASS
38	2440	1.31	1.35	1.20	125	PASS
78	2480	1.64	1.46	1.20	125	PASS

8DPSK

CHANNEL	Channel Frequency (MHz)	Average Power Output(dBm)			Limit[mW]	PASS/FAIL
		(dBm)	(mW)	factor		
0	2402	0.91	1.23	1.18	125	PASS
38	2440	1.05	1.27	1.18	125	PASS
78	2480	1.39	1.38	1.18	125	PASS

Note : 8DPSK mode is max power in three different modulations.

7. Number of Hopping Frequency

7.1 Test procedure

According to §15.247(a)(1)(ii), Frequency hopping systems operating in the 2 400 MHz – 2 483.5 MHz bands shall use at least 15 hopping frequencies.

7.2 Test instruments and measurement setup

The spectrum analyzer is set to as following.

. RBW= 100 KHz

. VBW= 100 KHz

. Span= the frequency band of operation

. Sweep= suitable duration based on the EUT specification.

The Number of Hopping Frequency Test Instruments

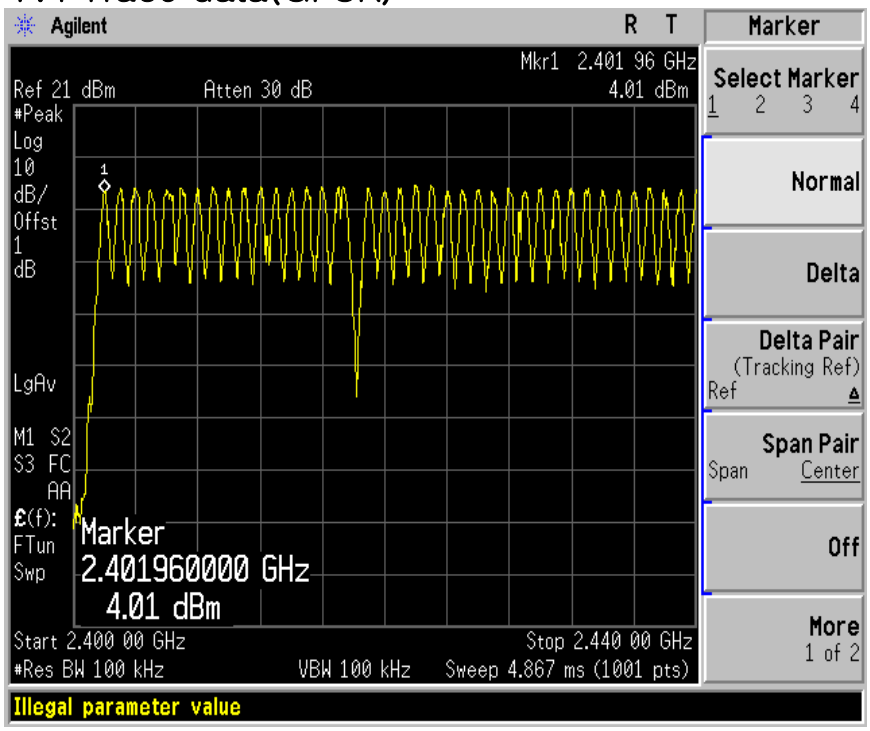
Description	Model	Serial Number	Cal. Due Date
Spectrum Analyzer	E4440A	US42041291	2021-12-01
-Spectrum Analyzer <=> EUT	Loss: 1 dB		

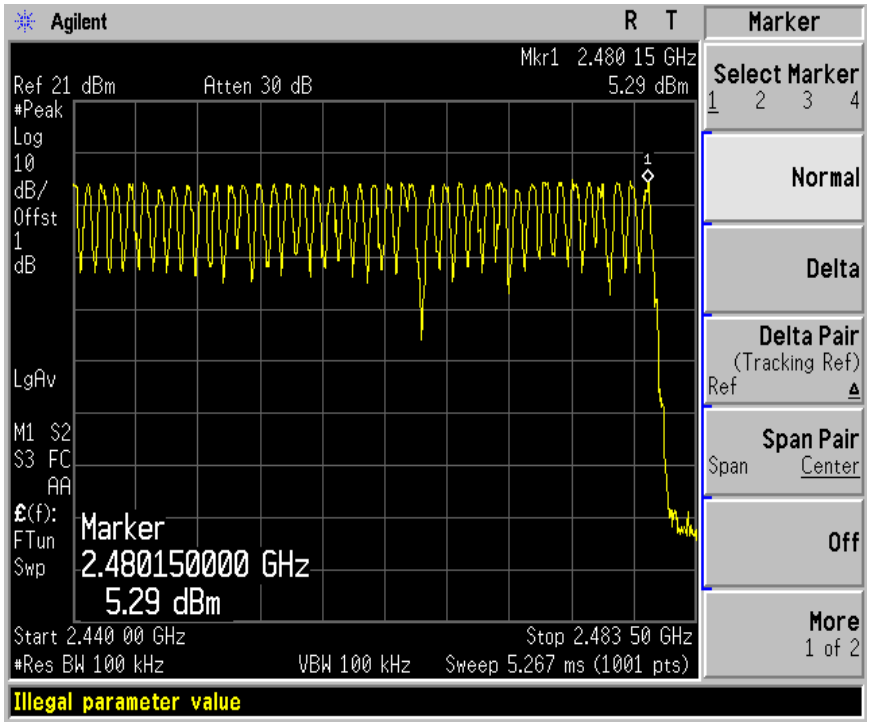
7.3 Measurement results

EUT	CAR DASHCAM	MODEL	DR750X Plus
MODE	GFSK,8DPSK	ENVIRONMENTAL CONDITION	23 ℃, 42 % R.H.
INPUT POWER	DC 24.0 V		

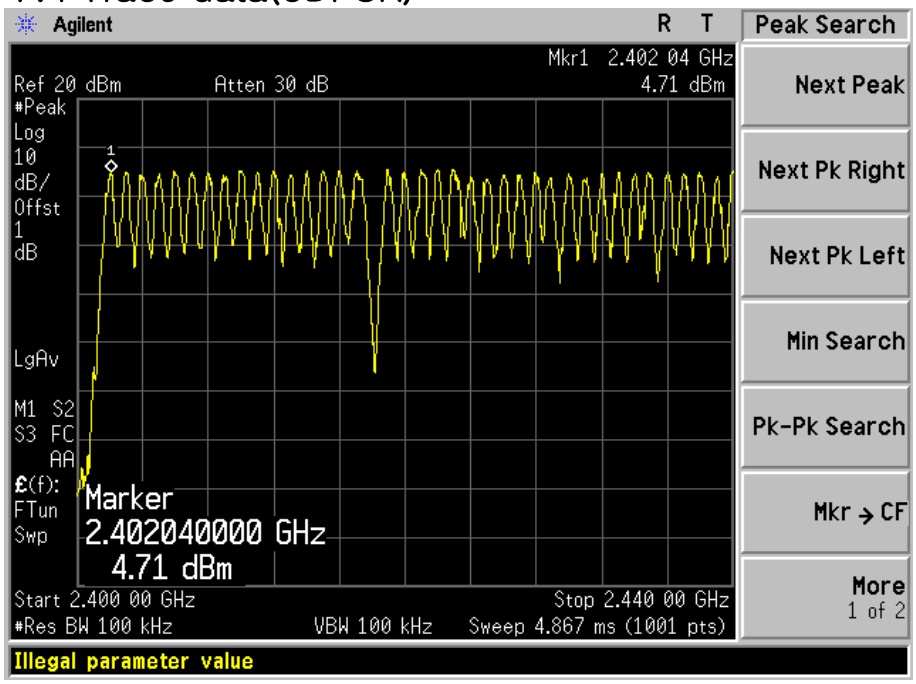
Number of CH	Limit (Number of CH)	PASS/FAIL
77	>15	PASS

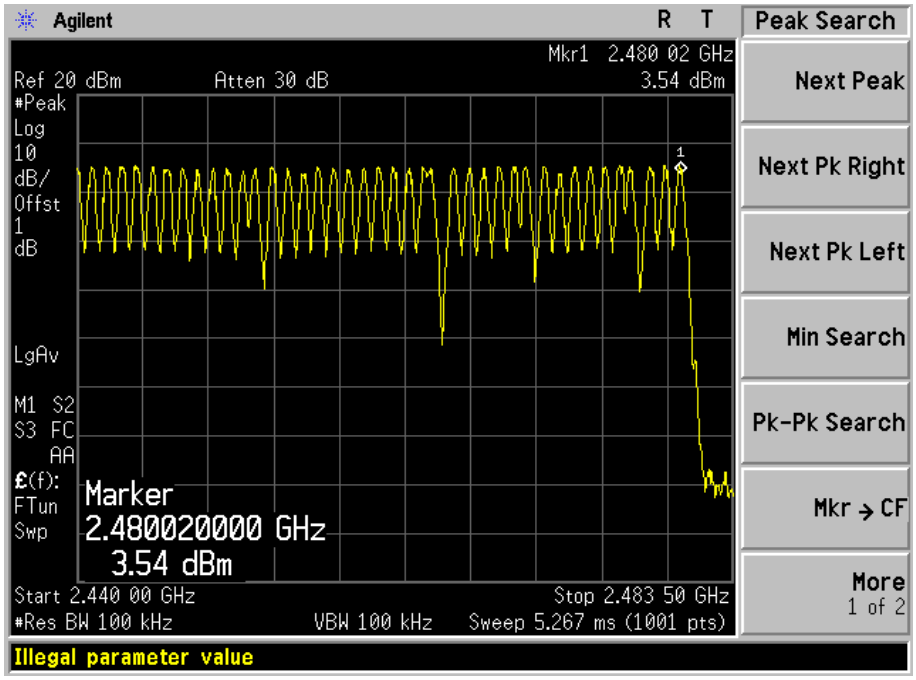
7.4 Trace data(GFSK)





7.4 Trace data(8DPSK)





8. Time of Occupancy (Dwell Time)

8.1 Test procedure

According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2 400 MHz – 2 483.5 MHz bands. The average time of occupancy on any channels shall not greater than 0.4 s within a period 0.4 s multiplied by the number of hopping channels employed.

8.2 Test instruments and measurement setup

The spectrum analyzer is set to as following.

. RBW= 1 MHz

. VBW= 1 MHz

. Span= zero span, centered on a hoppong channel

. Sweep = as necessary to capture the entire dwell time per hoppong channel

. Detector function = Peak

. Trace = Max hold

The Time of Occupancy Test Instruments

Description	Model	Serial Number	Cal. Due Date
Spectrum Analyzer	E4440A	US42041291	2020-12-01
-Spectrum Analyzer <=> EUT	Loss: 1 dB		

8.3 Measurement results

EUT	CAR DASHCAM	MODEL	DR750X Plus
MODE	GFSK,8DPSK	ENVIRONMENTAL CONDITION	23 ℃, 43 % R.H.
INPUT POWER	DC 24.0 V		

A. DH1 Mode

One peiod for each particular channel : 0.285 ms X 320.1 = 91.23 ms

Channel	Pulse Time(ms)	Limit(ms)	PASS/FAIL
38	91.23	400	PASS

Calculation:The Bluetooth system hops at a rate of 1600 times per second. This means there are 1600 timeslots in one second, the DH1 data rate operates on a one-slot transmission and one-slot receiving basis. Thus there are 1600/(1+1)=800 transmissions per second. In one period for each particular channel there are 10.13x31.6=320.1 times of tramsmissions.

B. DH3 Mode

One peiod for each particular channel : 0.639 ms X 159.9 = 102.18 ms

Channel	Pulse Time(ms)	Limit(ms)	PASS/FAIL
38	102.18	400	PASS

Calculation: The Bluetooth system hops at a rate of 1600 times per second. This means there are 1600 timeslots in one second, the DH5 data rate operates on a five-slot transmission and one-slot receiving basis. Thus there are 1600/(3+1)=400 transmissions per second. In one period for each particular channel there are 5.06x31.6=159.9 times of tramsmissions.

C. DH5 Mode

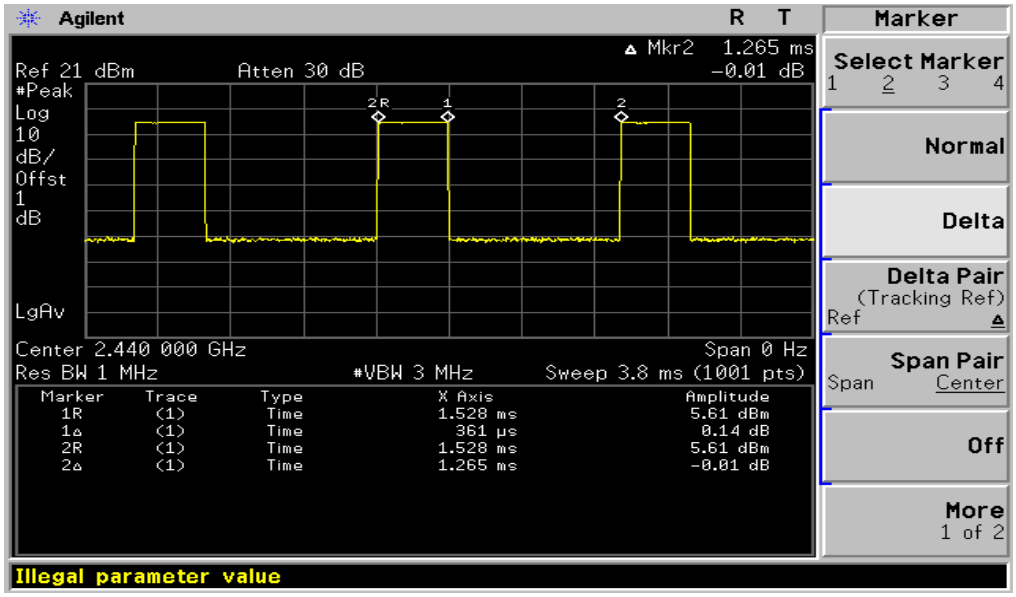
One peiod for each particular channel : 0.757 ms X 106.81 = 80.86 ms

Channel	Pulse Time(ms)	Limit(ms)	PASS/FAIL
38	80.86	400	PASS

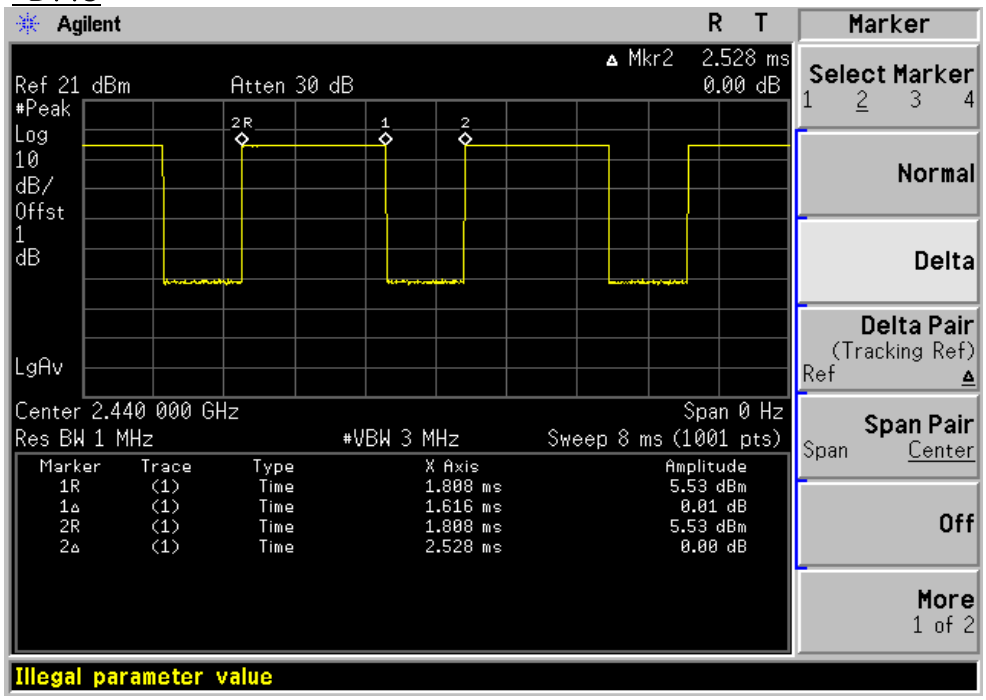
Calculation: The Bluetooth system hops at a rate of 1600 times per second. This means there are 1600 timeslots in one second, the DH5 data rate operates on a five-slot transmission and one-slot receiving basis. Thus there are 1600/(5+1)=266.7 transmissions per second. In one period for each particular channel there are 3.38x31.6=106.81 times of tramsmissions.

8.4 Trace data

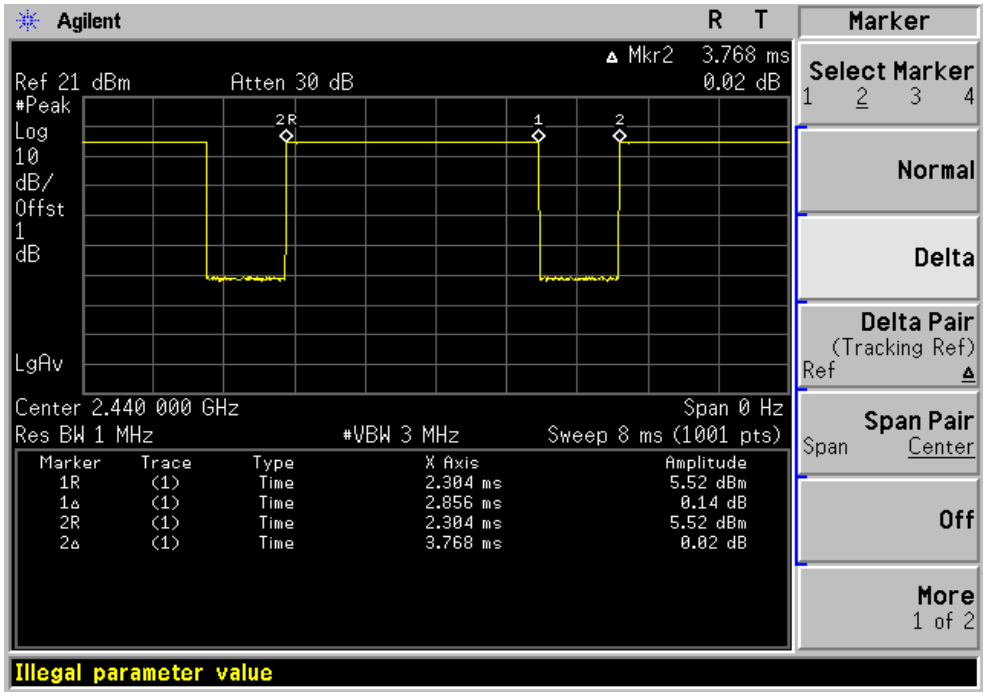
DH1



DH3


Agilent
R T
Marker
Mkr2 2.528 ms
Ref 21 dBm
Atten 30 dB
0.00 dB
#Peak
Log
10
dB/
Offst
1
dB
LgAv
2R
1
2
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
Center 2.440 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 3 MHz
Sweep 8 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 1.808 ms 5.53 dBm
1Δ (1) Time 1.616 ms 0.01 dB
2R (1) Time 1.808 ms 5.53 dBm
2Δ (1) Time 2.528 ms 0.00 dB
Illegal parameter value

DH5


Agilent
R T
Marker
Mkr2 3.768 ms
Ref 21 dBm
Atten 30 dB
0.02 dB
#Peak
Log
10
dB/
Offst
1
dB
LgAv
2R
1
2
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
Center 2.440 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 3 MHz
Sweep 8 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 2.304 ms 5.52 dBm
1Δ (1) Time 2.856 ms 0.14 dB
2R (1) Time 2.304 ms 5.52 dBm
2Δ (1) Time 3.768 ms 0.02 dB
Illegal parameter value

8DPSK

A. 1DH5 Mode

One peiod for each particular channel : 0.296 ms X 320.1 = 94.98 ms

Channel	Pulse Time(ms)	Limit (ms)	PASS/FAIL
39	94.98	400	PASS

B. 3DH5 Mode

One peiod for each particular channel : 0.645 ms X 159.9 = 103.23 ms

Channel	Pulse Time(ms)	Limit (ms)	PASS/FAIL
39	103.23	400	PASS

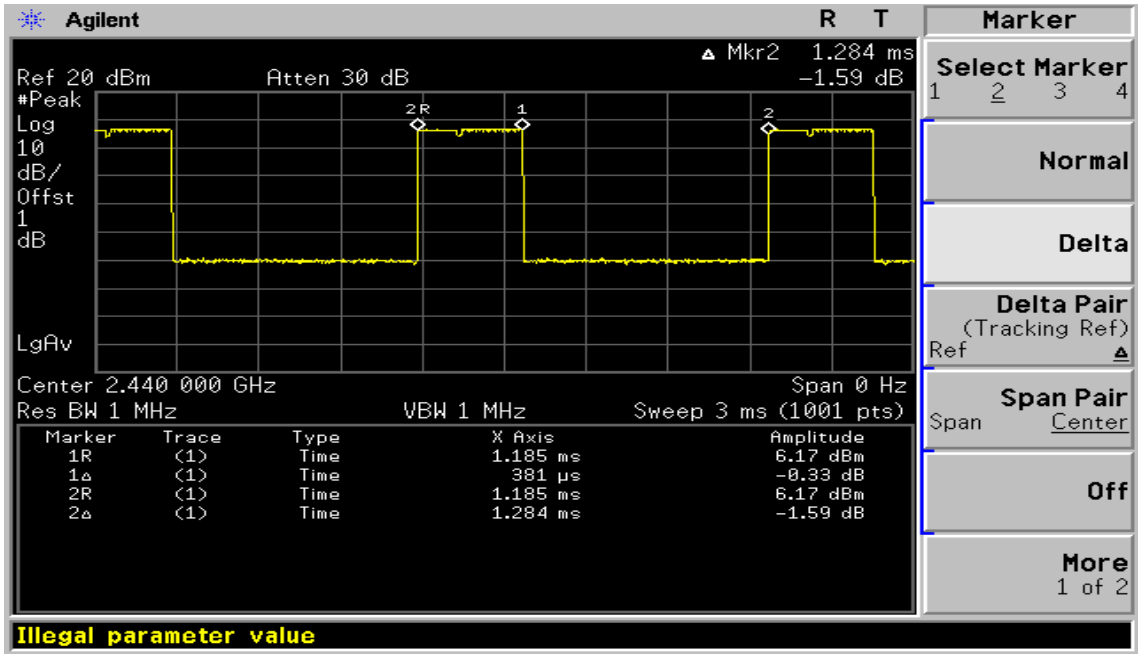
B. 3DH5 Mode

One peiod for each particular channel : 0.761 ms X 106.81 = 31.83 ms

Channel	Pulse Time(ms)	Limit (ms)	PASS/FAIL
39	81.35	400	PASS

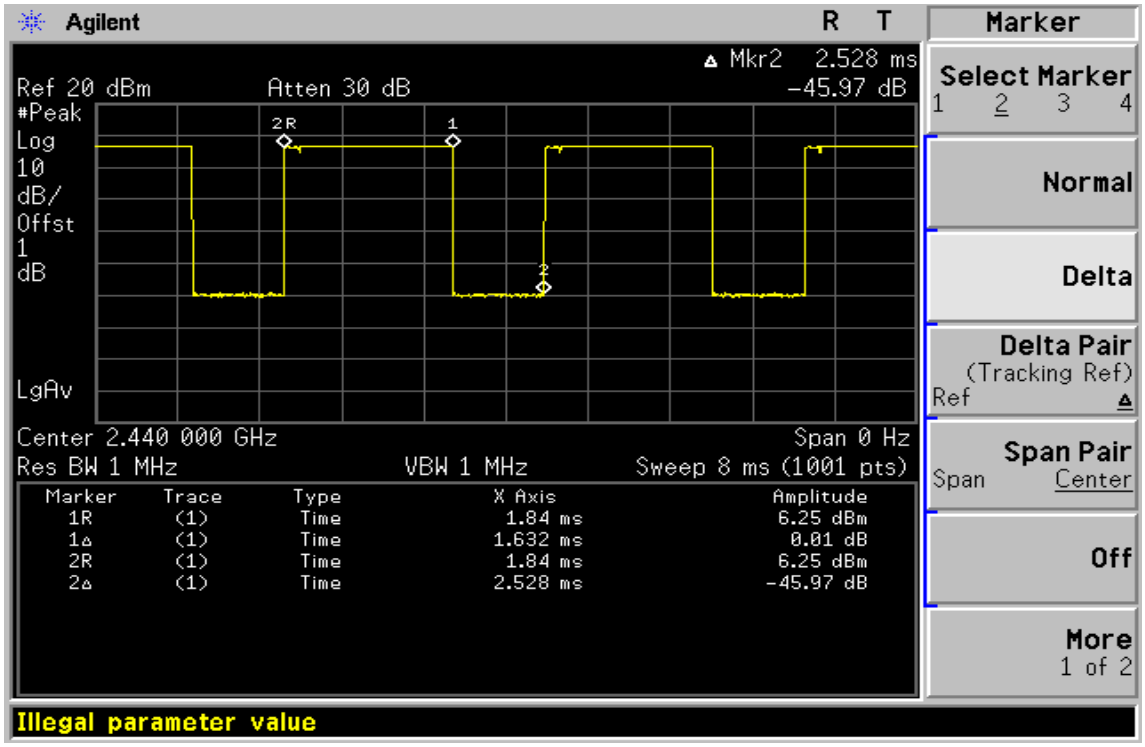
8.5 Trace data

1DH5

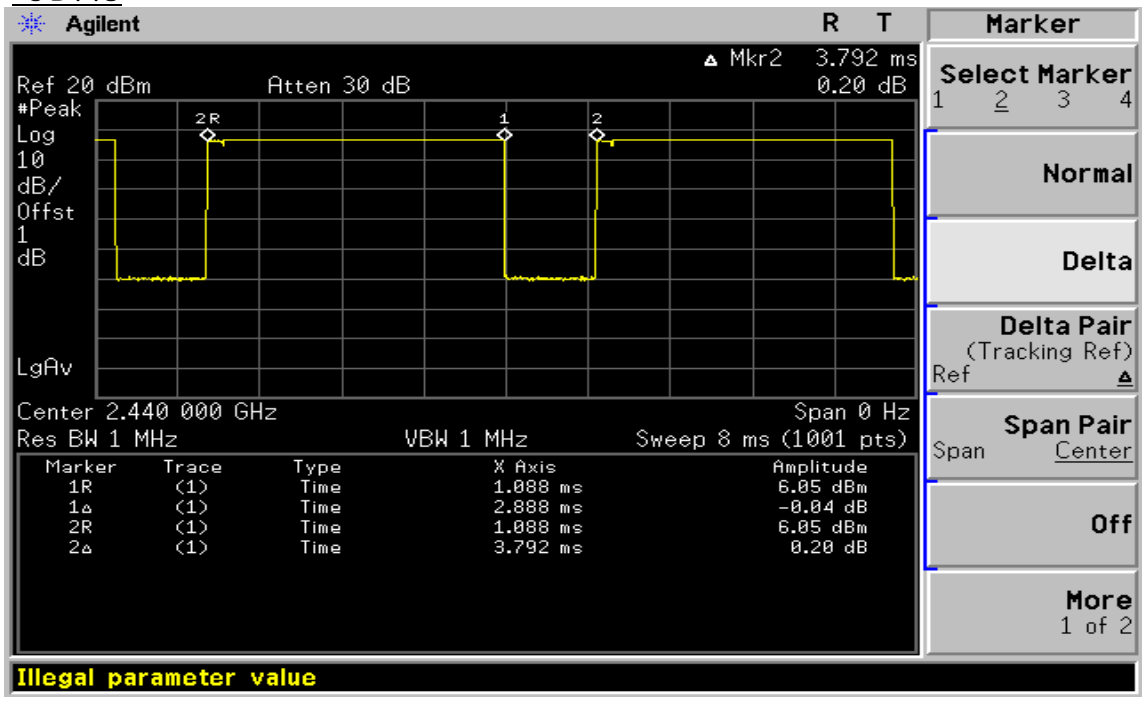


8DPSK

2DH5



3DH5



9. band-edge and out of band emissions.

9.1 Test procedure

The radio frequecy power at 20dB down from the highest inband power level is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency. The band edge&out of band emission shall be at least 20dB below of the highest inband power level.

9.2 Test instruments and measurement setup

The spectrum analyzer is set to as following.

. RBW= 100 KHz

. VBW= >100 KHz

. Span= suitable frequency span

. Sweep= suitable duration based on the EUT specification.

Band Edge&Out of Emission Test Instruments

Description	Model	Serial Number	Cal. Due Date
Spectrum Analyzer	E4440A	US42041291	2021-12-01
Spectrum Analyzer	FSV40	100939	2021-12-01
-Spectrum Analyzer <=> EUT	Loss: 1 dB		

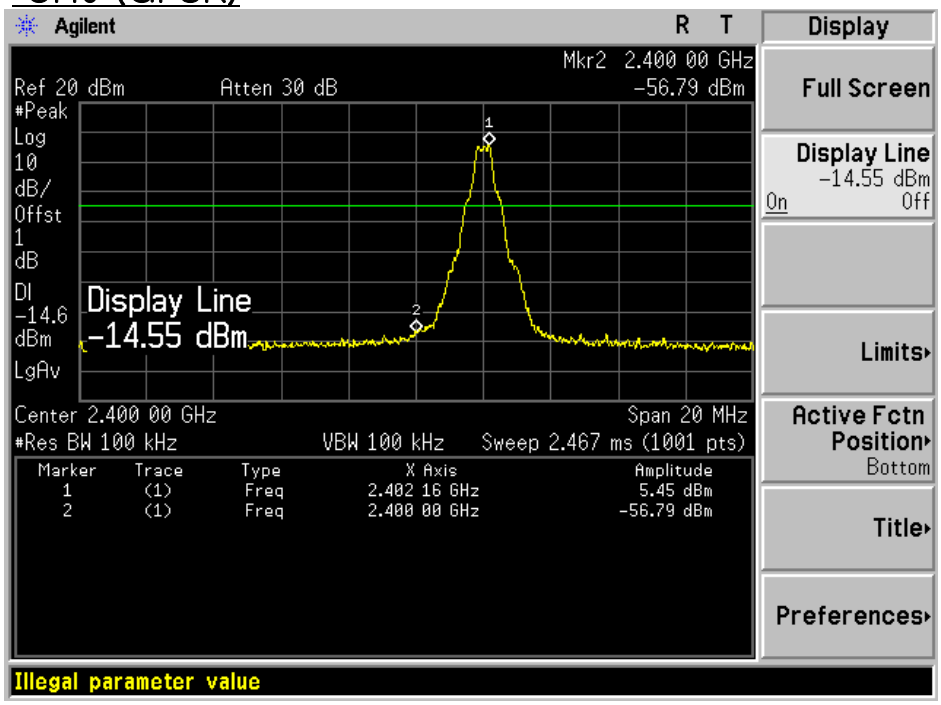
9.3 Measurement results of band-edge & out of emission

EUT	CAR DASHCAM	MODEL	DR750X Plus
MODE	GFSK,8DPSK	ENVIRONMENTAL CONDITION	23 ℃, 42 % R.H.
INPUT POWER	DC 24.0 V		

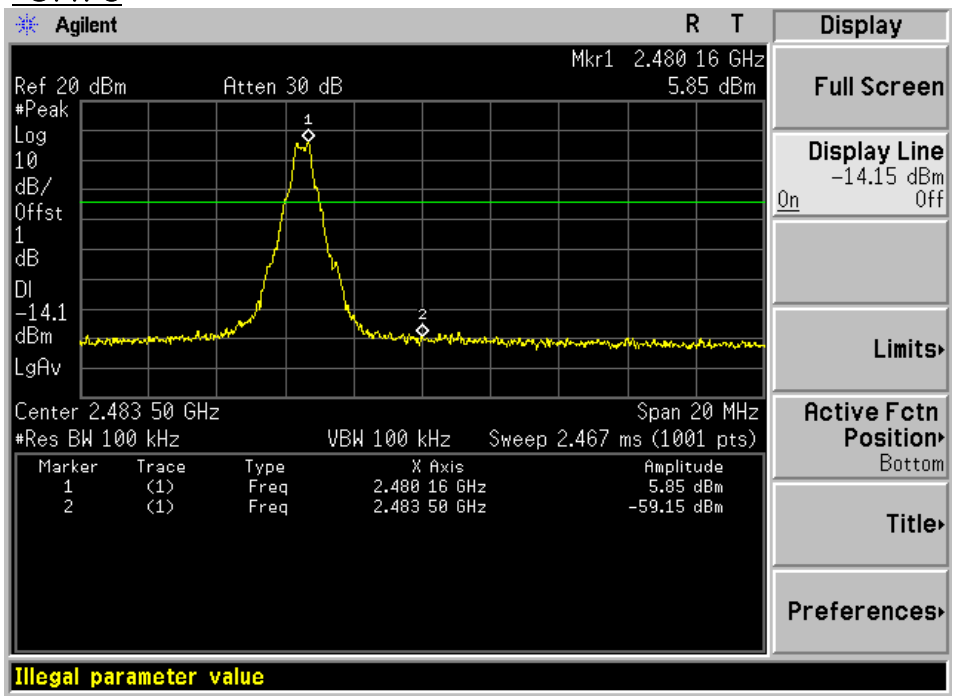
* Refer to attach spectrum analyzer data chart.

9.4 Trace data of band-edge & Out of Emission

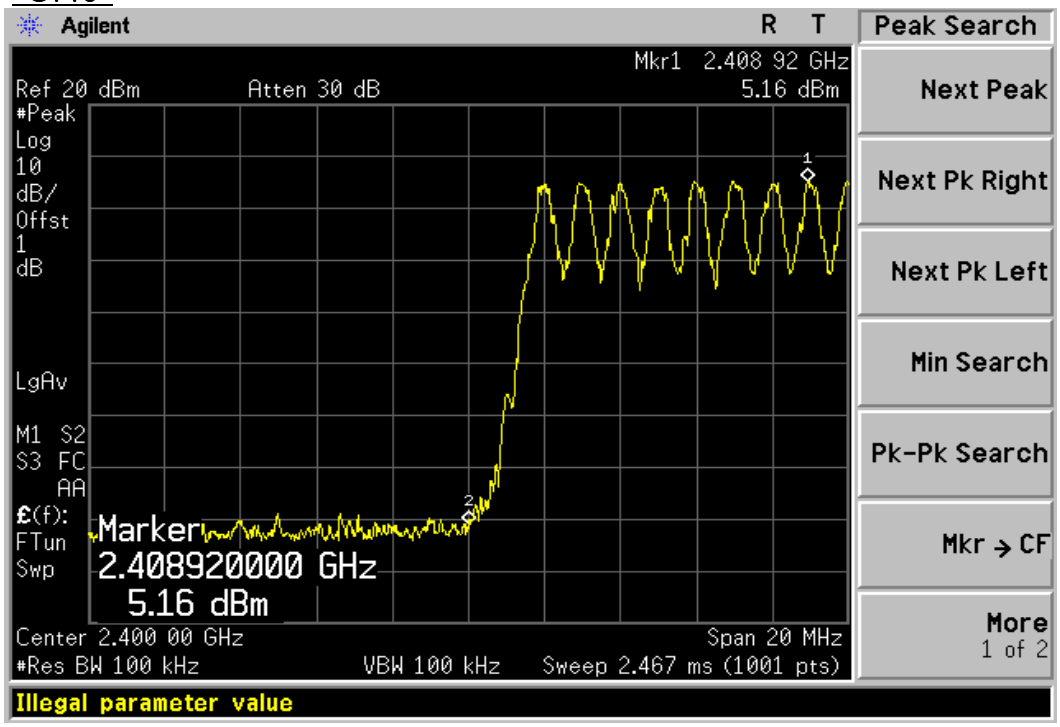
CH0 (GFSK)



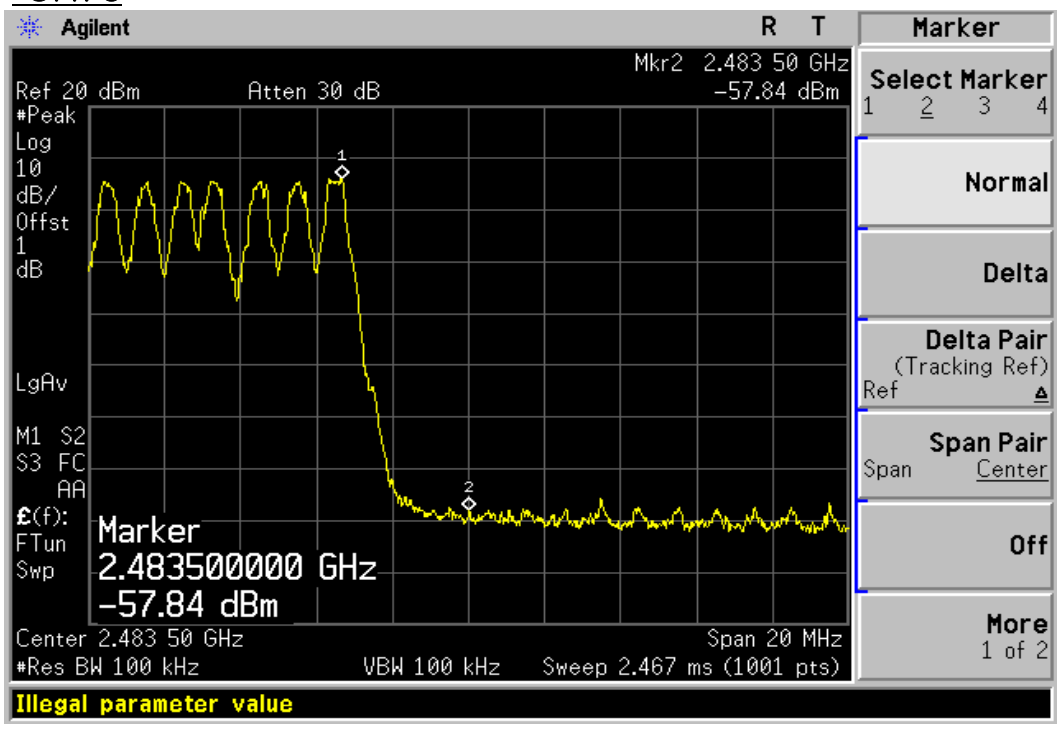
CH78



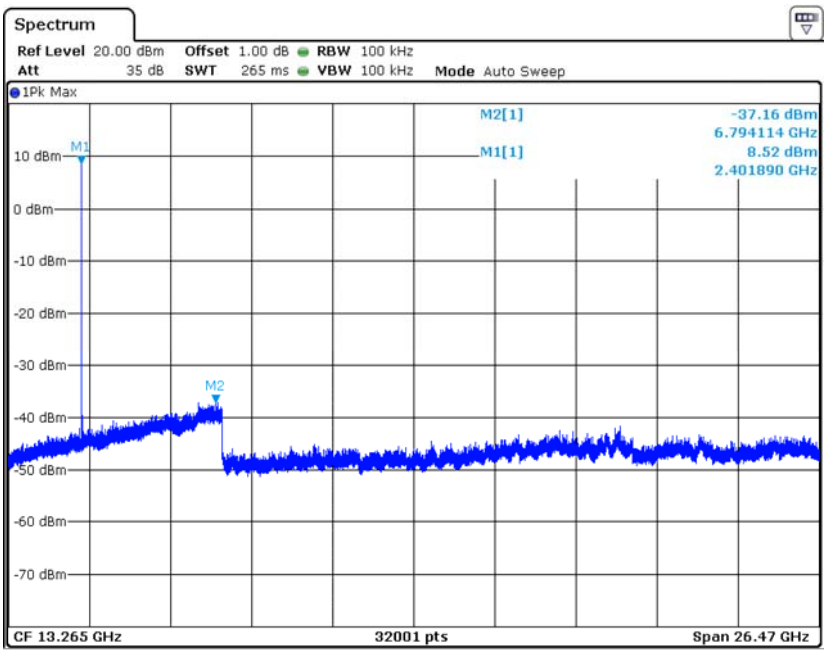
CH0


Agilent
R T
Peak Search
Mkr1 2.408 92 GHz
5.16 dBm
Ref 20 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
1
dB
LgAv
M1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
2.408920000 GHz
5.16 dBm
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Center 2.400 00 GHz
#Res BW 100 kHz
VBW 100 kHz
Span 20 MHz
Sweep 2.467 ms (1001 pts)
Illegal parameter value

CH78

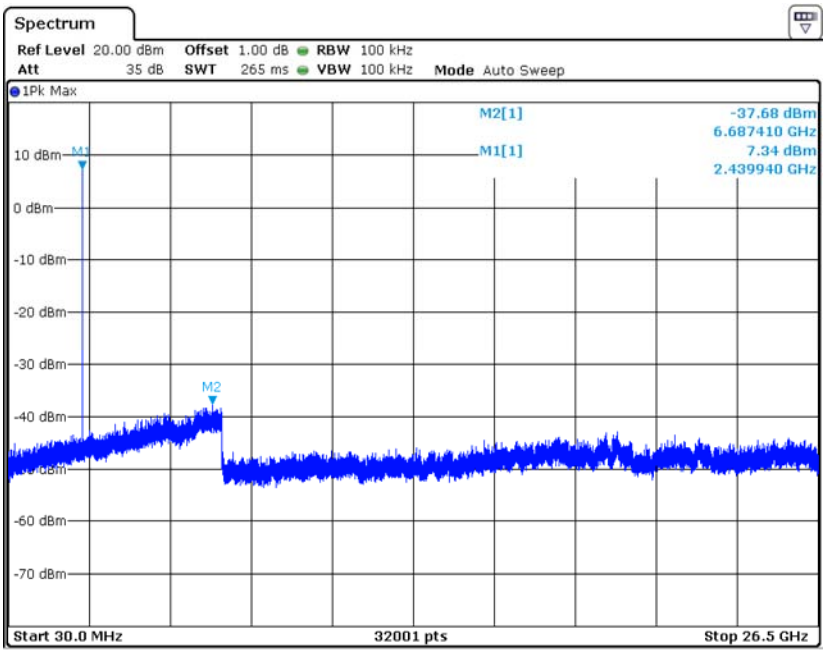

Agilent
R T
Marker
Mkr2 2.483 50 GHz
-57.84 dBm
Ref 20 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
1
dB
LgAv
M1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
2.483500000 GHz
-57.84 dBm
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
Center 2.483 50 GHz
#Res BW 100 kHz
VBW 100 kHz
Span 20 MHz
Sweep 2.467 ms (1001 pts)
Illegal parameter value

CH0



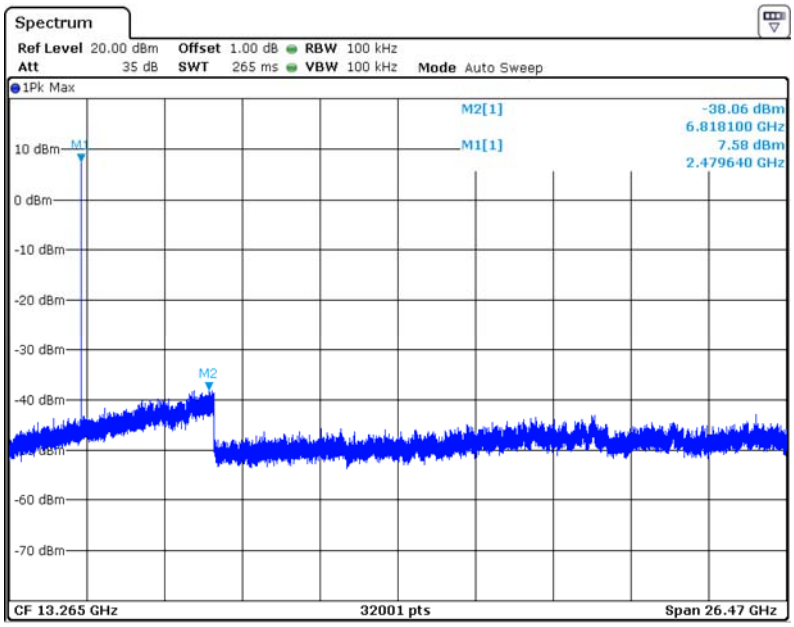
00051

CH38



00051

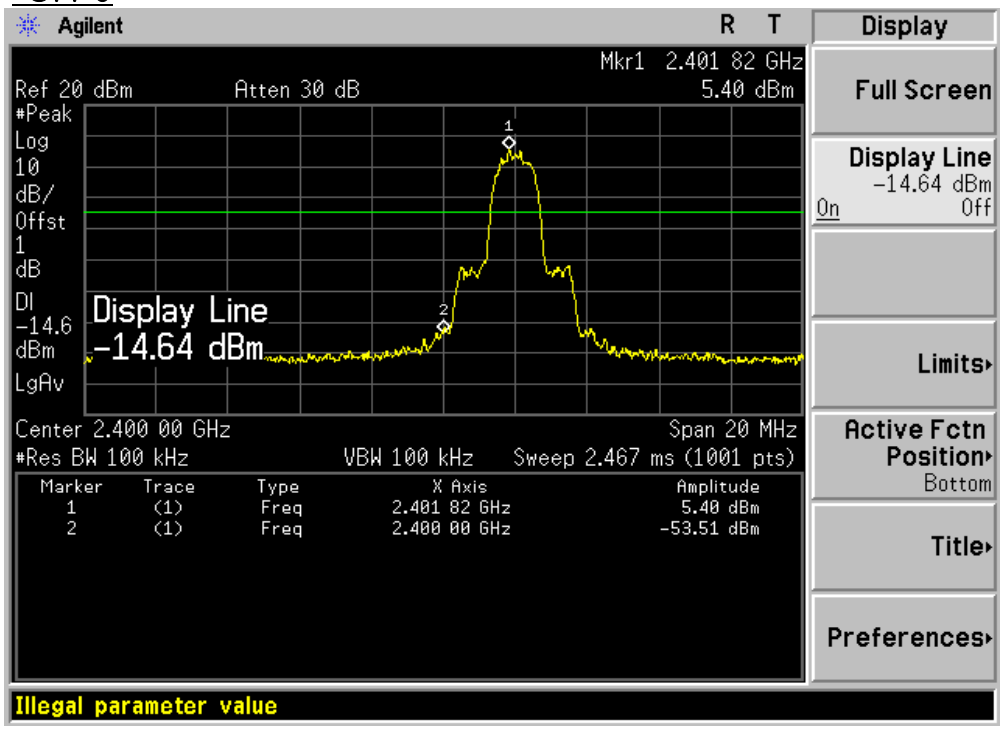
CH78


Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz
Att 35 dB SWT 265 ms VBW 100 kHz Mode Auto Sweep
1Pk Max
M2[1] -38.06 dBm
6.818100 GHz
M1[1] 7.58 dBm
2.479640 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-60 dBm
-70 dBm
M1
M2
CF 13.265 GHz
32001 pts
Span 26.47 GHz

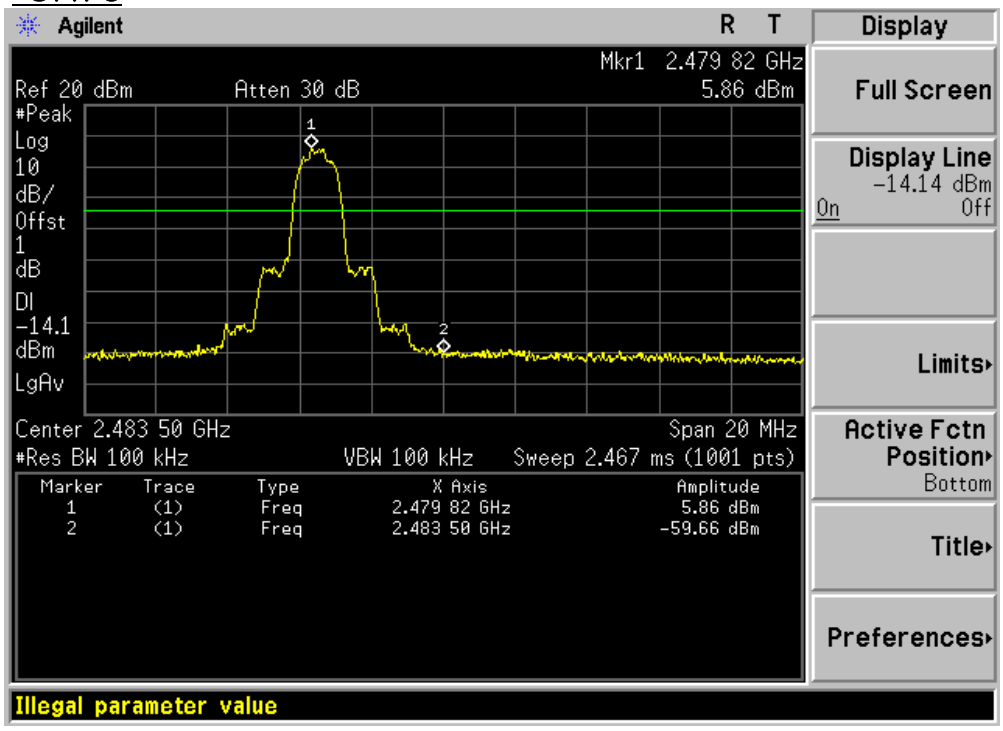
00051

8DPSK

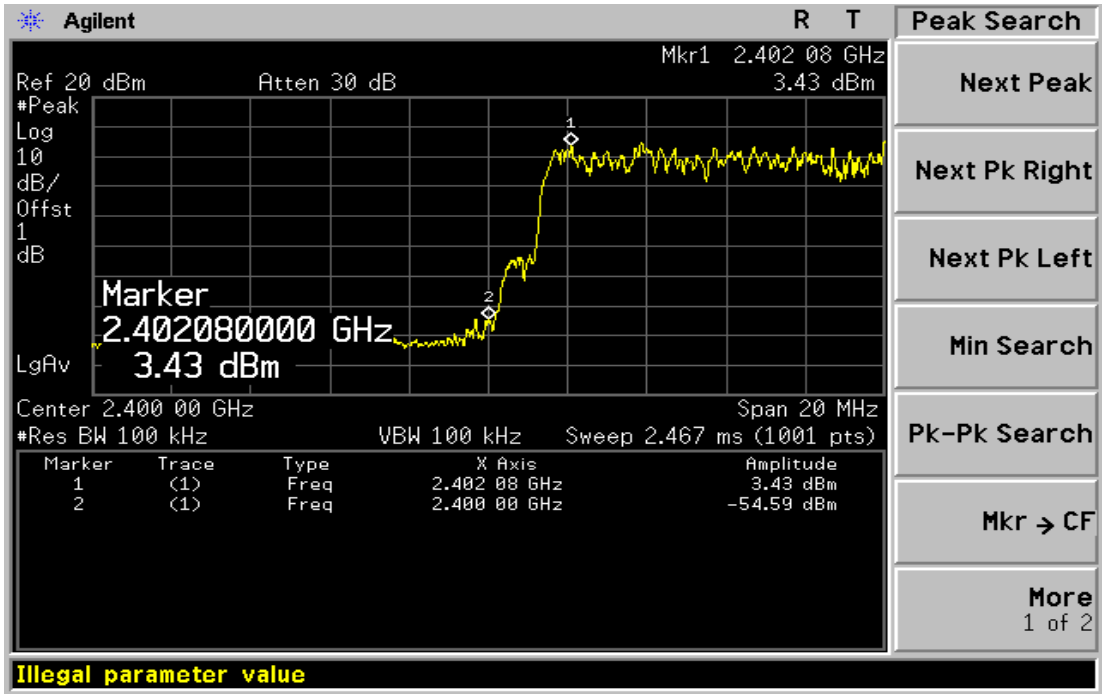
CH 0



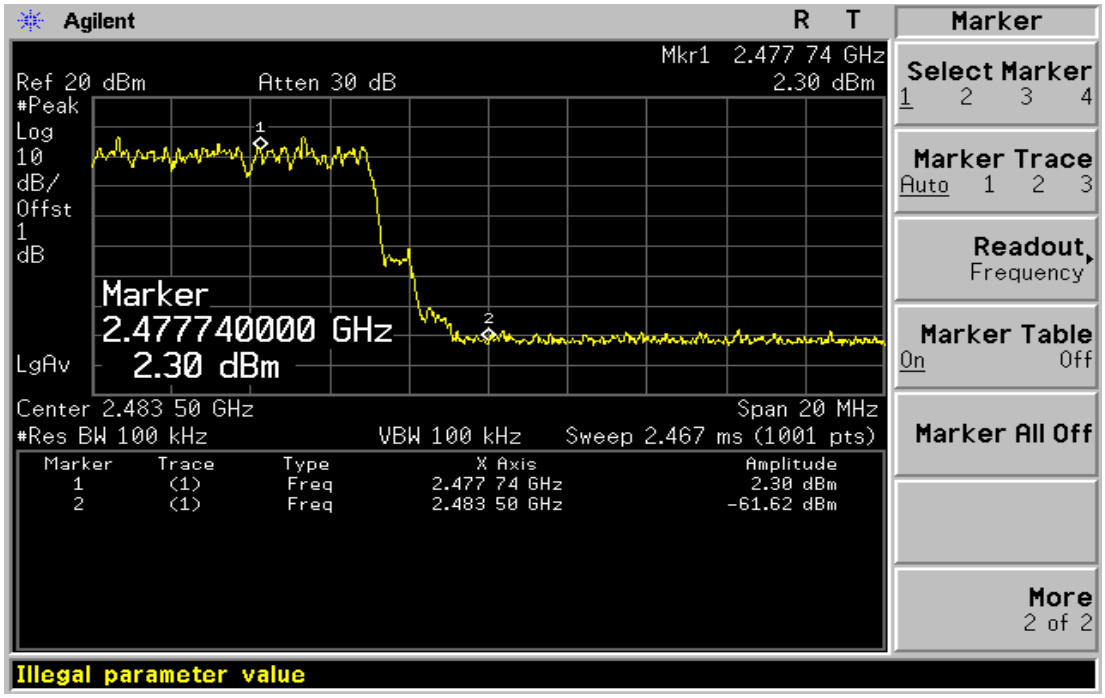
CH78



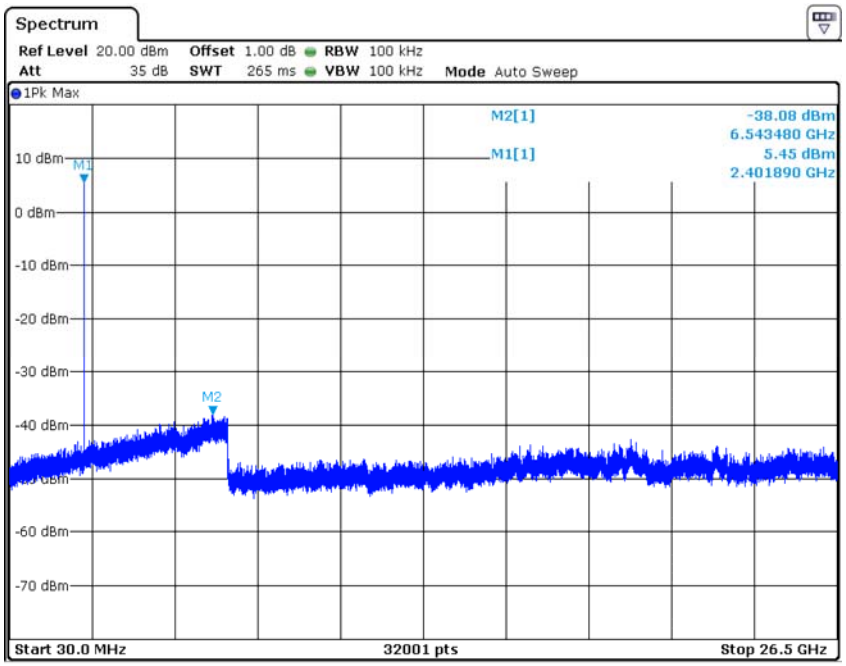
CH 0


Agilent
R T
Peak Search
Mkr1 2.402 08 GHz
Ref 20 dBm
Atten 30 dB
3.43 dBm
#Peak
Log
10
dB/
Offst
1
dB
Next Peak
Next Pk Right
Next Pk Left
Min Search
Marker
2.402080000 GHz
LgAv
3.43 dBm
Center 2.400 00 GHz
Span 20 MHz
#Res BW 100 kHz
VBW 100 kHz
Sweep 2.467 ms (1001 pts)
Pk-Pk Search
Mkr → CF
More
1 of 2
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.402 08 GHz 3.43 dBm
2 (1) Freq 2.400 00 GHz -54.59 dBm
Illegal parameter value

CH78

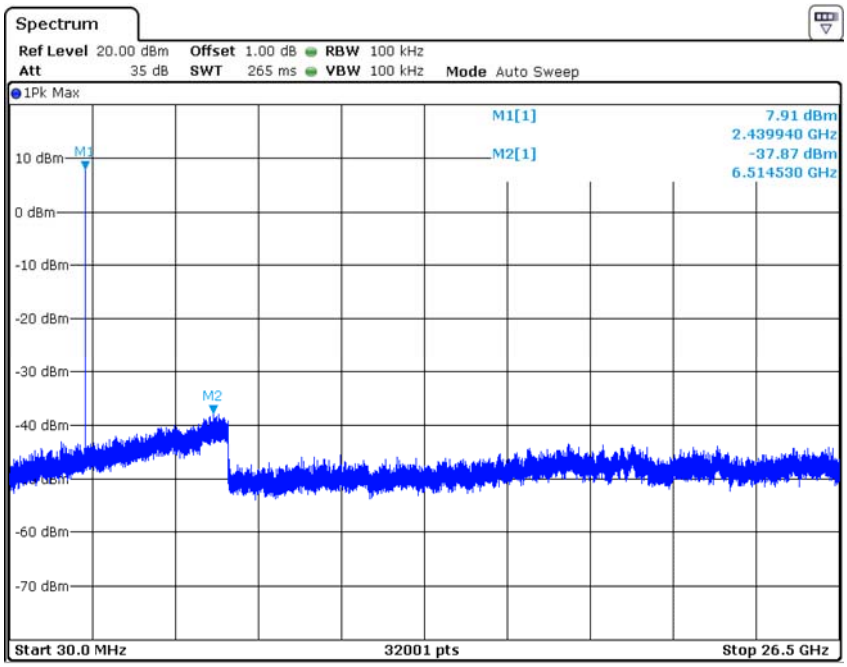

Agilent
R T
Marker
Mkr1 2.477 74 GHz
Ref 20 dBm
Atten 30 dB
2.30 dBm
#Peak
Log
10
dB/
Offst
1
dB
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Marker
2.477740000 GHz
LgAv
2.30 dBm
Marker Table
On Off
Marker All Off
Center 2.483 50 GHz
Span 20 MHz
#Res BW 100 kHz
VBW 100 kHz
Sweep 2.467 ms (1001 pts)
More
2 of 2
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.477 74 GHz 2.30 dBm
2 (1) Freq 2.483 50 GHz -61.62 dBm
Illegal parameter value

CH 0



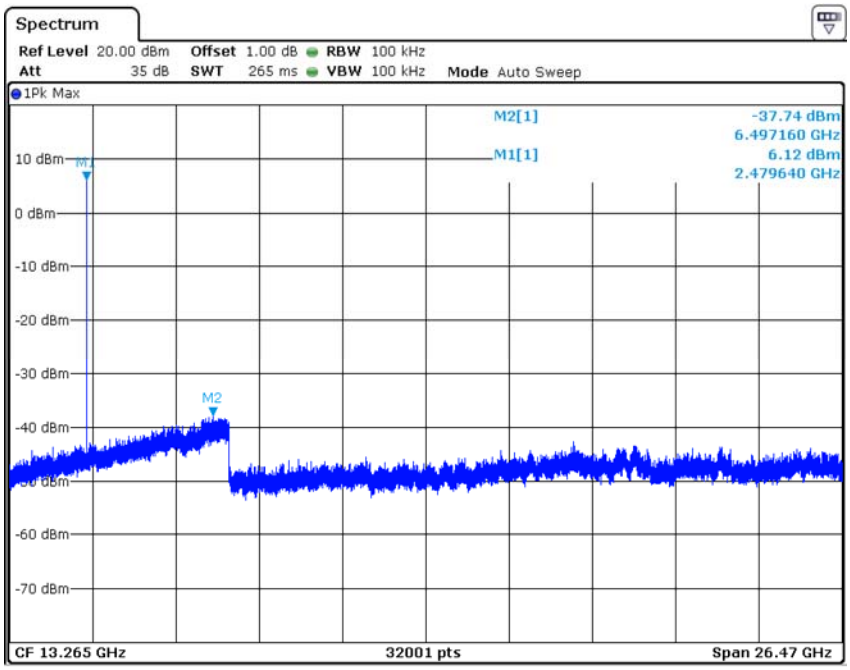
00051

CH38



00051

CH78


Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz
Att 35 dB SWT 265 ms VBW 100 kHz Mode Auto Sweep
1Pk Max
M2[1] -37.74 dBm
6.497160 GHz
M1[1] 6.12 dBm
2.479640 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
M2
CF 13.265 GHz
32001 pts
Span 26.47 GHz

00051

10. Measurement of radiated disturbance

Above 30 MHz Electric Field strength was measured in accordance with FCC PART 15.205, 15.209. The test setup was made according to ANSI C 63.10 (2013) Semi-anechoic chamber, which allows a 3 m distance measurement. The EUT was placed in the center of styrofoam turntable. The height of this table was 0.8 m. The measurement was conducted with both horizontal and vertical antenna polarization. The turntable has fully rotated. For further description of the configuration refer to the picture of the test setup.

10.1 Measurement equipments

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
TEST Receiver	ESCI7	ROHDE & SCHWARZ	100916	24-Aug-21
Logbicon Antenna	VULB 9168	SCHWARZBECK	193	14-Jan-22
Turn Table	DT3000-2t	Innco System GmbH	N/A	-
Antenna Mast	MA4000-EP	Innco System GmbH	N/A	-
PREAMPLIFIER	8449B	AGILENT	3008A00581	25-Aug-21
Horn Antenna	BBHA9120D	SCHWARZBECK	469	24-Dec-21
Test Receiver	ESPI7	ROHDE & SCHWARZ	100185	24-Aug-21
Signal Analyzer	FSV40	ROHDE & SCHWARZ	100393	1-Dec-21
Turn Table	DT1500-S	Innco System GmbH	N/A	-
Antenna Mast	MA4000-EP	Innco System GmbH	N/A	-
Horn Antenna	BBHA 9170	SCHWARZBECK	752	15-Oct-21
Antenna Master & Turn table controller	CO2000-P	Innco System GmbH	CO2000/642 /28051111/L	-

10.2 Environmental Condition

Below 1 GHz -Test Place : 10 m Semi-anechoic chamber

BT Basic Rate Mode
Temperature (°C) : 23.6 ℃
Humidity (% R.H.) : 44.5 % R.H.

BT EDR Mode
Temperature (°C) : 23.4 ℃
Humidity (% R.H.) : 43.0 % R.H.

Above 1 GHz-Test Place : 3 m Semi-anechoic chamber

BT Basic Rate Mode
Temperature (°C) : 23.1 ℃
Humidity (% R.H.) : 46.0 % R.H.

BT EDR Mode
Temperature (°C) : 23.4 ℃
Humidity (% R.H.) : 47.5 % R.H.

10.3 Test Data for Bluetooth (Basic Rate)

Test Date : 2-Apr-21 Measurement Distance : 3 m

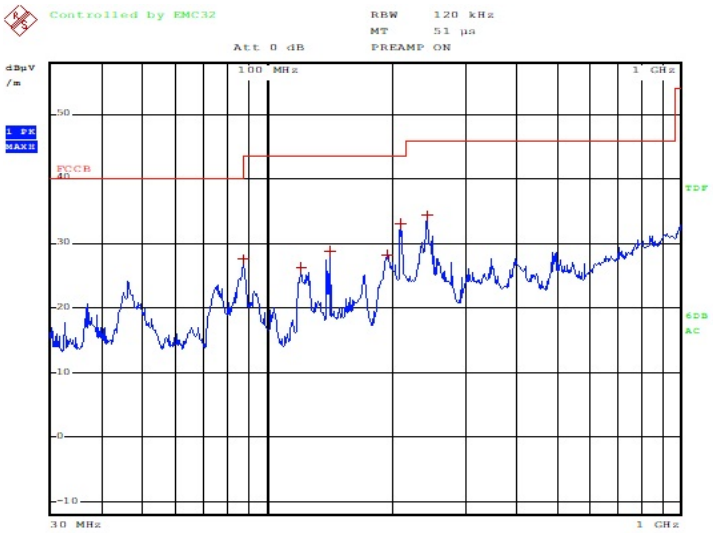
Frequency (MHz)	Reading (dBμV)	Position (V/H)	Height (m)	Correction Factor		Result Value		
				Ant Factor (dB)	Cable (dB)	Limit (dBμV/m)	Result (dBμV/m)	Margin (dB)
36.70	20.25	V	1.0	13.19	0.95	40.00	34.39	5.61
46.60	20.22	V	1.0	10.02	2.16	40.00	32.40	7.60
126.50	11.74	V	1.2	15.63	3.16	43.50	30.53	12.97
210.10	9.44	H	1.6	19.72	3.93	43.50	33.09	10.41
244.30	7.27	H	1.6	22.43	4.63	46.00	34.33	11.67
489.80	3.81	V	1.4	24.40	5.23	46.00	33.44	12.56

Remark	H : Horizontal, V : Vertical Bluetooth (Basic Rate , 38 CH , 2 440 MHz) *CL = Cable Loss (In case of below 1 000 MHz) *The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection at frequency below 1 GHz. *Result Value = Reading + Ant Factor + Cable loss *Margin = Limit - Result

10.3-1 Restricted Band Edges for BT(Basic Rate)

Band Edges(CH Middle)

Polarity:Horizontal



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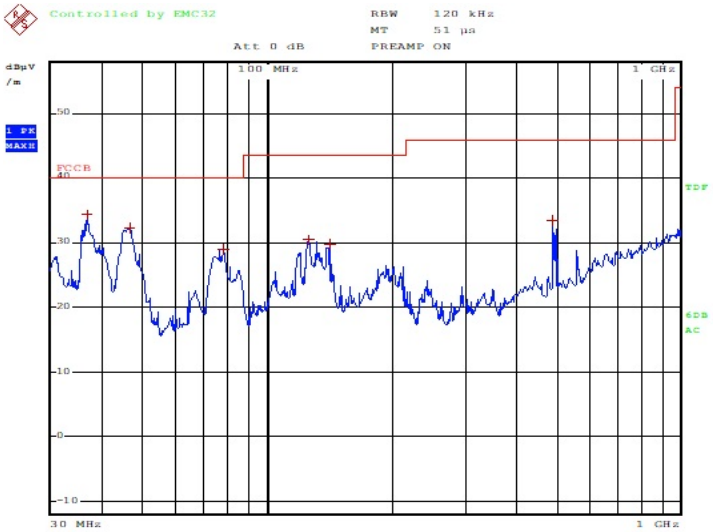
Polarity:Vertical



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10.3-2 Test Data for Bluetooth(Basic Rate)

Test Date : 5-Apr-21 Measurement Distance : 3 m

Frequency (MHz)	Reading (dBμV)	Position (V/H)	Height (m)	Correction Factor		Duty Cycle Correction (dB)	Result Value		
				Ant Factor (dB)	Cable (dB)		Limit (dBμV/m)	Result (dBμV/m)	Margin (dB)
PEAK(RBW:1 MHz VBW:3 MHz)									
2390.00	54.54	H	1.5	27.83	-40.17		74.00	42.20	31.80
2390.00	59.89	V	1.5	27.83	-40.17		74.00	47.55	26.45
4804.00	53.52	H	1.5	31.50	-37.27		74.00	47.75	26.25
4804.00	54.12	V	1.5	31.50	-37.27		74.00	48.35	25.65
Average (RBW:1 MHz VBW:3 MHz)									
2390.00	43.52	H	1.5	27.83	-40.17	1.20	54.00	32.38	21.62
2390.00	43.48	V	1.5	27.83	-40.17	1.20	54.00	32.34	21.66
4804.00	40.51	H	1.5	31.50	-37.27	1.20	54.00	35.94	18.06
4804.00	41.52	V	1.5	31.50	-37.27	1.20	54.00	36.95	17.05

Remark	H : Horizontal, V : Vertical TEST MODE : Bluetooth Basic Rate-CH0 (2 402 MHz) *This test was radiated up to 26.5 GHz but no noise was measured. *The TX signal wasn't detected from 3th harmonics. *Result Value = Reading + Ant Factor + Cable loss - Amplifier Gain + Duty Cycle Correction Factor *Margin = Limit - Result *The resolution bandwidth and video bandwidth of spectrum analyzer is 1 MHz and 1 kHz for average detection at frequency above 1 GHz. FYI : Duty Cycle Correction Factor (79 channel hopping) a. Time to cycle through all channels= Δ t= τ [ms] x 79 channels = 295.934 ms, where τ = pulse width b. 100 ms/ Δt [ms] = H → Round up to next highest integer, H ' =1 c. Worst Case Dwell Time = τ [ms] x H ' = 3.746 ms d. Duty Cycle Correction = 20log (Worst Case Dwell Time/ 100ms) dB = -28.528 dB

10.3-3 Test Data for Bluetooth(Basic Rate)

Test Date : 5-Apr-21 Measurement Distance : 3 m

Frequency (MHz)	Reading (dBμV)	Position (V/H)	Height (m)	Correction Factor		Duty Cycle Correction (dB)	Result Value		
				Ant Factor (dB)	Cable (dB)		Limit (dBμV/m)	Result (dBμV/m)	Margin (dB)
PEAK(RBW:1 MHz VBW:3 MHz)									
4880.00	54.12	H	1.5	31.58	-37.26		74.00	48.44	25.56
4880.00	54.22	V	1.5	31.58	-37.26		74.00	48.54	25.46
Average (RBW:1 MHz VBW:3 MHz)									
4880.00	44.05	H	1.5	31.58	-37.26	1.20	54.00	39.57	14.43
4880.00	44.31	V	1.5	31.58	-37.26	1.20	54.00	39.83	14.17

Remark	H : Horizontal, V : Vertical TEST MODE : Bluetooth Basic Rate-CH38 (2 440 MHz) *This test was radiated up to 26.5 GHz but no noise was measured. *The TX signal wasn't detected from 3th harmonics. *Result Value = Reading + Ant Factor + Cable loss - Amplifier Gain + Duty Cycle Correction Factor *Margin = Limit - Result *The resolution bandwidth and video bandwidth of spectrum analyzer is 1 MHz and 1 kHz for average detection at frequency above 1 GHz. FYI : Duty Cycle Correction Factor (79 channel hopping) a. Time to cycle through all channels= Δ t= τ [ms] x 79 channels = 295.934 ms, where τ = pulse width b. 100 ms/ Δt [ms] = H → Round up to next highest integer, H ' =1 c. Worst Case Dwell Time = τ [ms] x H ' = 3.746 ms d. Duty Cycle Correction = 20log (Worst Case Dwell Time/ 100ms) dB = -28.528 dB

10.3-4 Test Data for Bluetooth(Basic Rate)

Test Date : 5-Apr-21 Measurement Distance : 3 m

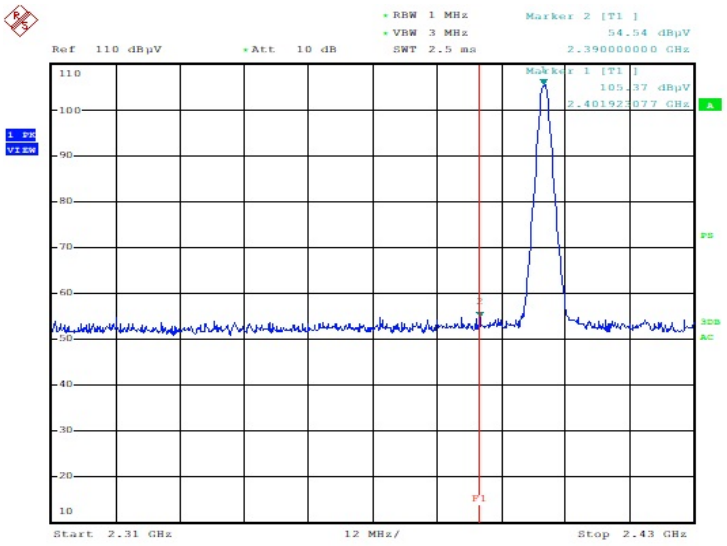
Frequency (MHz)	Reading (dBμV)	Position (V/H)	Height (m)	Correction Factor		Duty Cycle Correction (dB)	Result Value		
				Ant Factor (dB)	Cable (dB)		Limit (dBμV/m)	Result (dBμV/m)	Margin (dB)
PEAK(RBW:1 MHz VBW:3 MHz)									
2483.50	65.48	H	1.5	27.63	-40.08		74.00	53.03	20.97
2483.50	66.50	V	1.7	27.63	-40.08		74.00	54.05	19.95
4960.00	53.74	H	1.5	31.78	-37.19		74.00	48.33	25.67
4960.00	53.80	V	1.7	31.78	-37.19		74.00	48.39	25.61
Average (RBW:1 MHz VBW:3 MHz)									
2483.50	54.91	H	1.5	27.63	-40.08	1.20	54.00	43.66	10.34
2483.50	58.15	V	1.7	27.63	-40.08	1.20	54.00	46.90	7.10
4960.00	44.19	H	1.5	31.78	-37.19	1.20	54.00	39.98	14.02
4960.00	44.34	V	1.7	31.78	-37.19	1.20	54.00	40.13	13.87

Remark	H : Horizontal, V : Vertical TEST MODE : Bluetooth Basic Rate-CH78 (2 480 MHz) *This test was radiated up to 26.5 GHz but no noise was measured. *The TX signal wasn't detected from 3th harmonics. *Result Value = Reading + Ant Factor + Cable loss - Amplifier Gain + Duty Cycle Correction Factor *Margin = Limit - Result *The resolution bandwidth and video bandwidth of spectrum analyzer is 1 MHz and 1 kHz for average detection at frequency above 1 GHz. FYI : Duty Cycle Correction Factor (79 channel hopping) a. Time to cycle through all channels= Δ t= τ [ms] x 79 channels = 295.934 ms, where τ = pulse width b. 100 ms/ Δt [ms] = H → Round up to next highest integer, H ' =1 c. Worst Case Dwell Time = τ [ms] x H ' = 3.746 ms d. Duty Cycle Correction = 20log (Worst Case Dwell Time/ 100ms) dB = -28.528 dB

10.4 Restricted Band Edges for BT(Basic Rate)

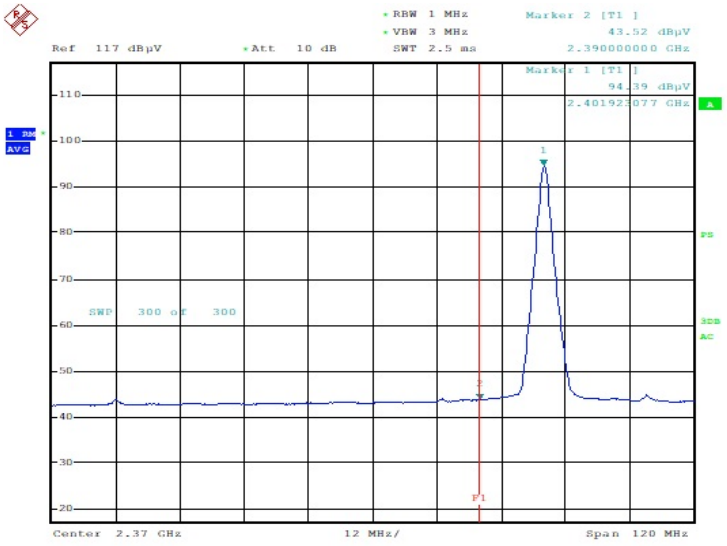
Band Edges(CH Low)

Detector mode:Peak Polarity:Horizontal



ESTR-21-00051

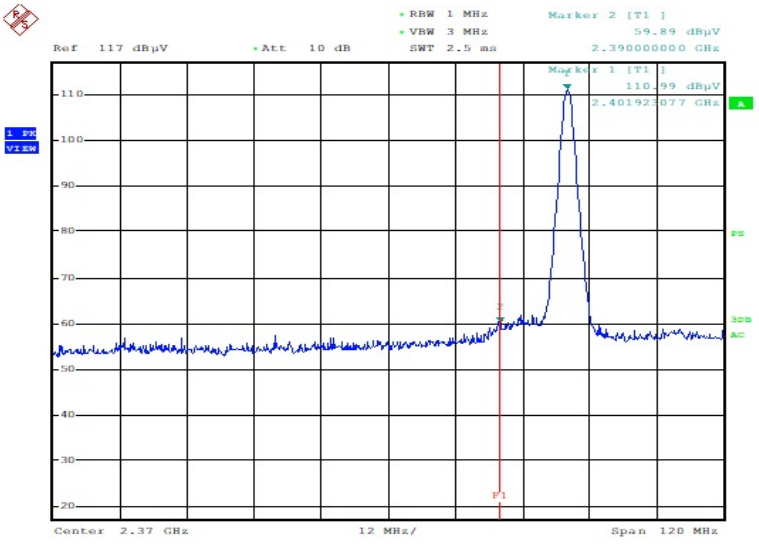
Detector mode:Average Polarity:Horizontal



ESTR-21-00051

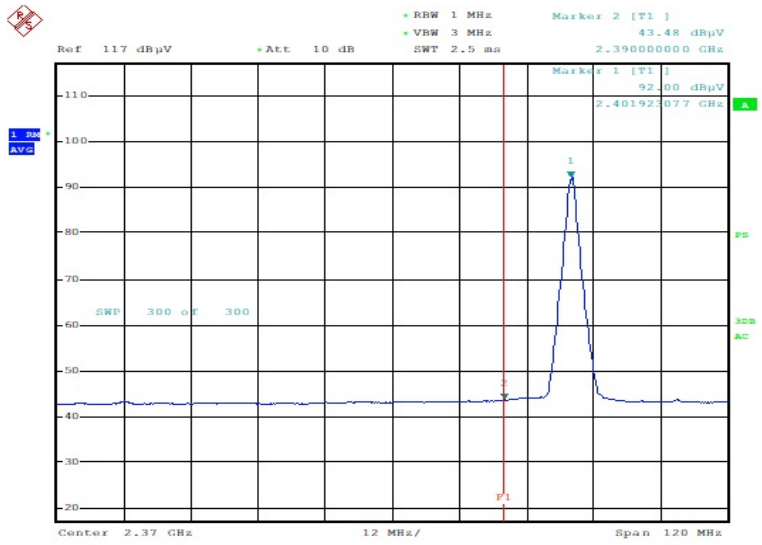
Band Edges(CH Low)

Detector mode:Peak Polarity:Vertical



ESTR-21-00051

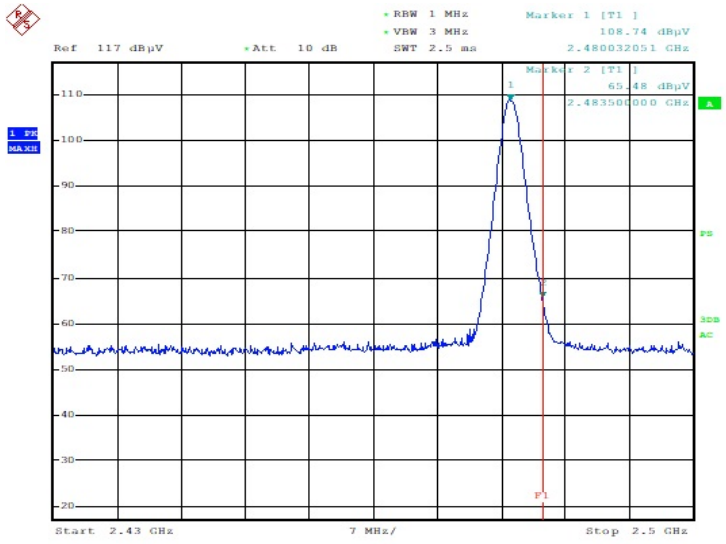
Detector mode:Average Polarity:Vertical



ESTR-21-00051

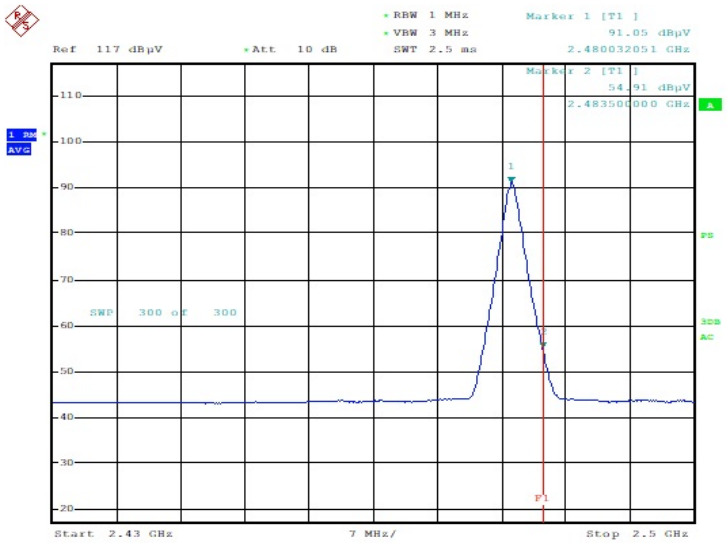
Band Edges(CH High)

Detector mode:Peak Polarity:Horizontal



ESTR-21-00051

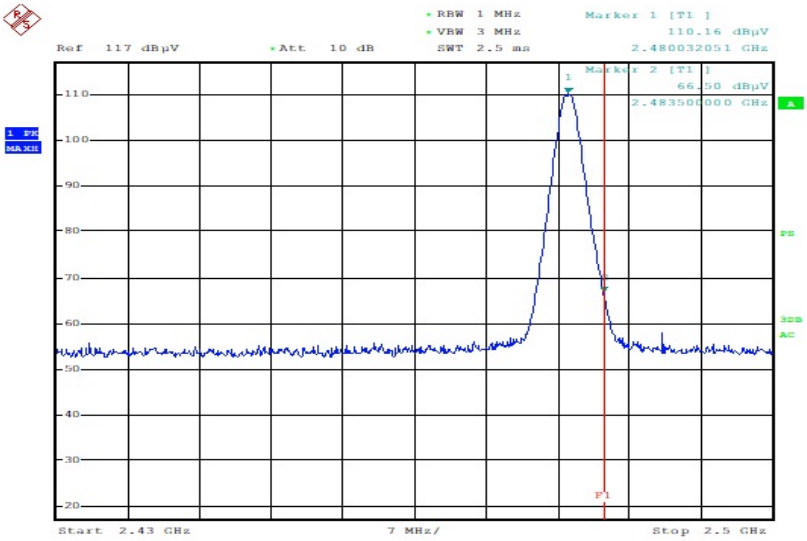
Detector mode:Average Polarity:Horizontal



ESTR-21-00051

Band Edges(CH High)

Detector mode:Peak Polarity:Vertical



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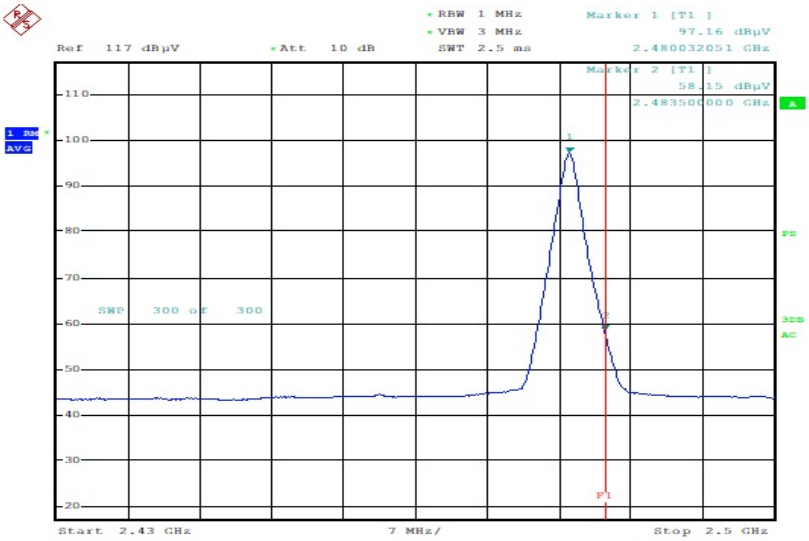
Detector mode:Average Polarity:Vertical



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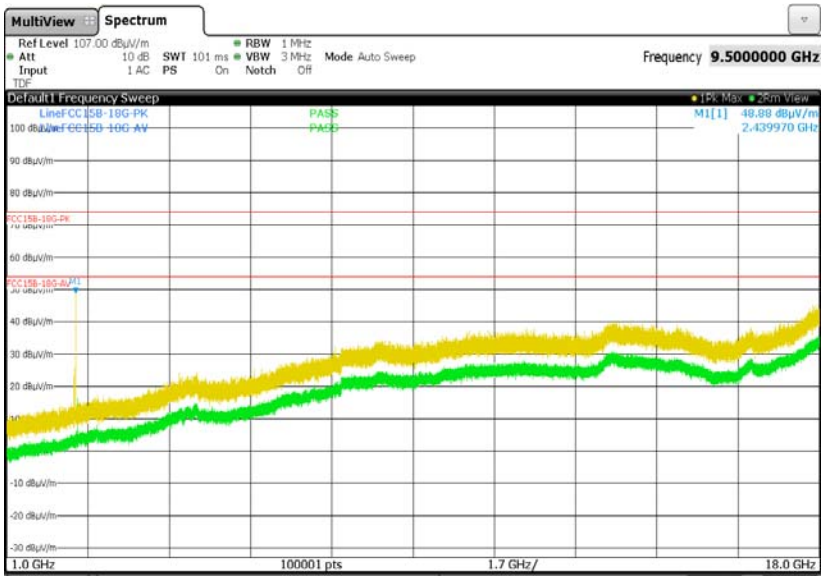
10.4-1 Restricted Band Edges for BT(Basic Rate)

Band Edges(CH Low)

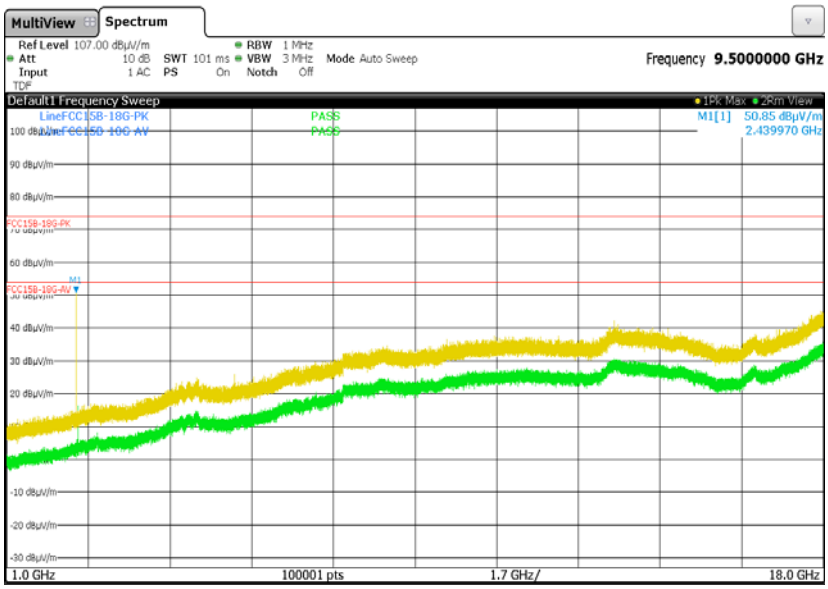
Polarity:Horizontal

Polarity:Vertical

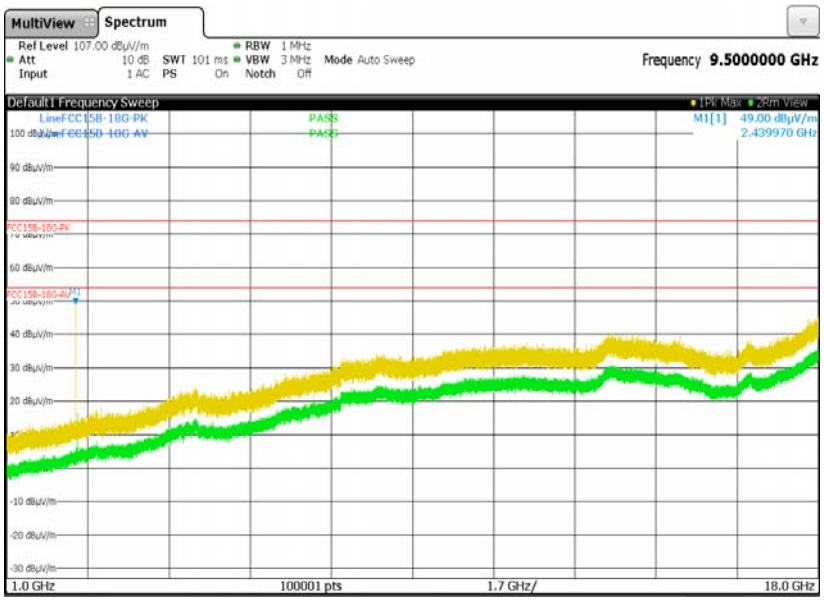


Band Edges(CH Middle)

Polarity:Horizontal

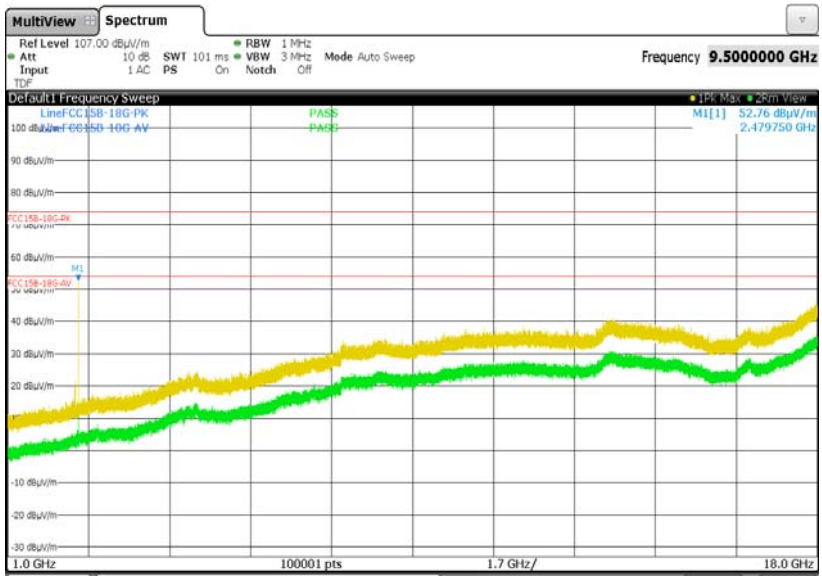


Polarity:Vertical

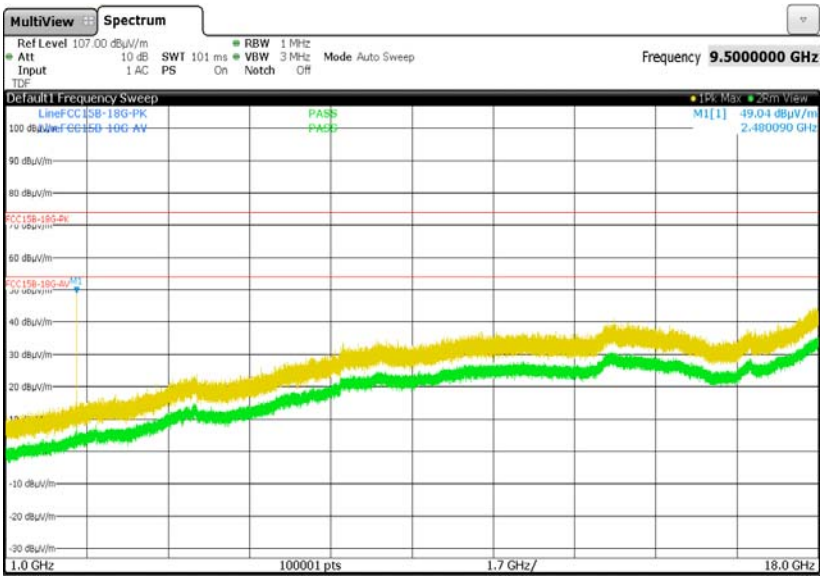


Band Edges(CH HIgh)

Polarity:Horizontal



Polarity:Vertical



10.5 Test Data for Bluetooth (EDR)

Test Date : 2-Apr-21 Measurement Distance : 3 m

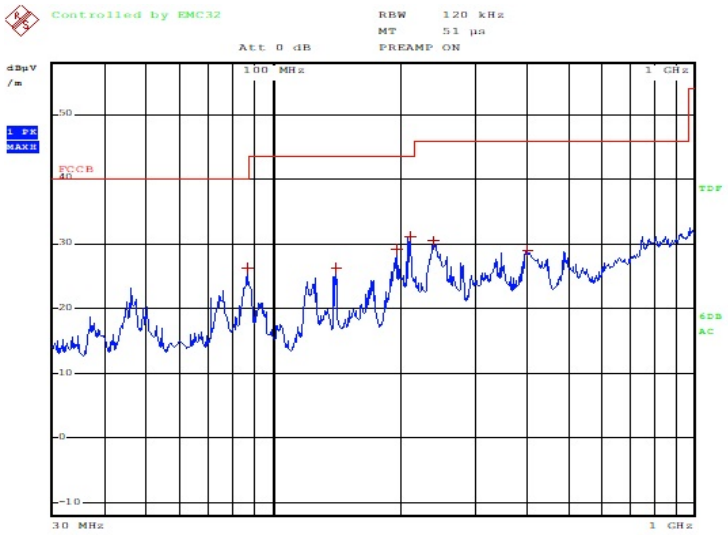
Frequency (MHz)	Reading (dBμV)	Position (V/H)	Height (m)	Correction Factor		Result Value		
				Ant Factor (dB)	Cable (dB)	Limit (dBμV/m)	Result (dBμV/m)	Margin (dB)
37.00	20.83	V	1.0	13.19	0.95	40.00	34.97	5.03
45.90	21.54	V	1.0	10.02	2.16	40.00	33.72	6.28
125.70	12.57	V	1.3	15.63	3.16	43.50	31.36	12.14
142.20	7.93	V	1.4	19.72	3.93	43.50	31.58	11.92
211.70	4.15	H	1.6	22.43	4.63	43.50	31.21	12.29
489.10	4.35	V	1.8	24.40	5.23	46.00	33.98	12.02

Remark	H : Horizontal, V : Vertical Bluetooth (EDR , 38 CH , 2 440 MHz) *CL = Cable Loss(In case of below 1 000 MHz) *The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection at frequency below 1 GHz. *Result Value = Reading + Ant Factor + Cable loss *Margin = Limit - Result

10.5-1 Restricted Band Edges for BT(Basic Rate)

Band Edges(CH Middle)

Polarity:Horizontal



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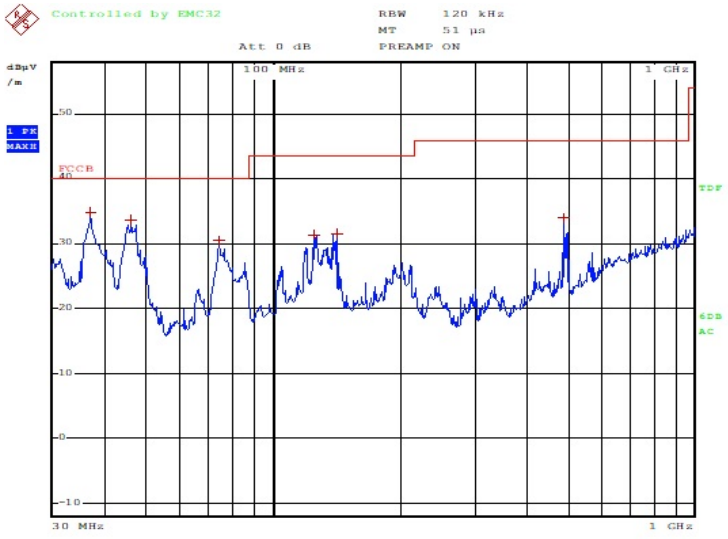
Polarity:Vertical



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10.5-2 Test Data for Bluetooth(EDR)

Test Date : 7-Apr-21 Measurement Distance : 3 m

Frequency (MHz)	Reading (dBμV)	Position (V/H)	Height (m)	Correction Factor		Duty Cycle Correction (dB)	Result Value		
				Ant Factor (dB)	Cable (dB)		Limit (dBμV/m)	Result (dBμV/m)	Margin (dB)
PEAK(RBW:1 MHz VBW:3 MHz)									
2390.00	54.21	H	1.6	27.83	-40.17		74.00	41.87	32.13
2390.00	57.18	V	1.5	27.83	-40.17		74.00	44.84	29.16
4804.00	53.67	H	1.6	31.50	-37.27		74.00	47.90	26.10
4804.00	53.80	V	1.5	31.50	-37.27		74.00	48.03	25.97
Average (RBW:1 MHz VBW:3 MHz)									
2390.00	43.71	H	1.6	27.83	-40.17	1.18	54.00	32.55	21.45
2390.00	44.32	V	1.5	27.83	-40.17	1.18	54.00	33.16	20.84
4804.00	44.52	H	1.6	31.50	-37.27	1.18	54.00	39.93	14.07
4804.00	44.60	V	1.5	31.50	-37.27	1.18	54.00	40.01	13.99

Remark

H : Horizontal, V : Vertical TEST MODE : Bluetooth EDR-CH0 (2 402 MHz)
*This test was radiated up to 26.5 GHz but no noise was measured.
*The TX signal wasn't detected from 3th harmonics.
*Result Value = Reading + Ant Factor + Cable loss - Amplifier Gain + Duty Cycle Correction Factor
*Margin = Limit - Result
*The resolution bandwidth and video bandwidth of spectrum analyzer is 1 MHz and 1 kHz for average detection at frequency above 1 GHz.

FYI : Duty Cycle Correction Factor (79 channel hopping)
a. Time to cycle through all channels= Δ t= τ [ms] x 79 channels = 296.25 ms, where τ = pulse width
b. 100 ms/ Δt [ms] = H → Round up to next highest integer, H ' =1
c. Worst Case Dwell Time = τ [ms] x H ' = 3.79ms
d. Duty Cycle Correction = 20log (Worst Case Dwell Time/ 100ms) dB = - 28.427 dB

10.5-3 Test Data for Bluetooth(EDR)

Test Date : 7-Apr-21 Measurement Distance : 3 m

Frequency (MHz)	Reading (dBμV)	Position (V/H)	Height (m)	Correction Factor		Duty Cycle Correction (dB)	Result Value		
				Ant Factor (dB)	Cable (dB)		Limit (dBμV/m)	Result (dBμV/m)	Margin (dB)
PEAK(RBW:1 MHz VBW:3 MHz)									
4880.00	53.52	H	1.5	31.58	-37.26		74.00	47.84	26.16
4880.00	53.60	V	1.7	31.58	-37.26		74.00	47.92	26.08
Average (RBW:1 MHz VBW:3 MHz)									
4880.00	44.36	H	1.5	31.58	-37.26	1.18	54.00	39.86	14.14
4880.00	44.71	V	1.7	31.58	-37.26	1.18	54.00	40.21	13.79

Remark

H : Horizontal, V : Vertical TEST MODE : Bluetooth EDR-CH38 (2 440 MHz)
*This test was radiated up to 26.5 GHz but no noise was measured.
*The TX signal wasn't detected from 3th harmonics.
*Result Value = Reading + Ant Factor + Cable loss - Amplifier Gain + Duty Cycle Correction Factor
*Margin = Limit - Result
*The resolution bandwidth and video bandwidth of spectrum analyzer is 1 MHz and 1 kHz for average detection at frequency above 1 GHz.

FYI : Duty Cycle Correction Factor (79 channel hopping)
a. Time to cycle through all channels= Δ t= τ [ms] x 79 channels = 296.25 ms, where τ = pulse width
b. 100 ms/ Δt [ms] = H → Round up to next highest integer, H ' =1
c. Worst Case Dwell Time = τ [ms] x H ' = 3.79ms
d. Duty Cycle Correction = 20log (Worst Case Dwell Time/ 100ms) dB = - 28.427 dB

10.5-4 Test Data for Bluetooth(EDR)

Test Date : 7-Apr-21 Measurement Distance : 3 m

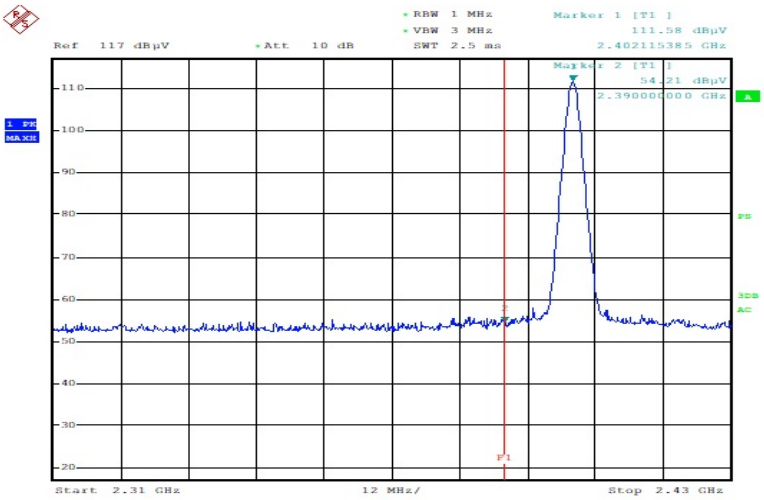
Frequency (MHz)	Reading (dBμV)	Position (V/H)	Height (m)	Correction Factor		Duty Cycle Correction (dB)	Result Value		
				Ant Factor (dB)	Cable (dB)		Limit (dBμV/m)	Result (dBμV/m)	Margin (dB)
PEAK(RBW:1 MHz VBW:3 MHz)									
2483.50	68.29	H	1.5	27.63	-40.08		74.00	55.84	18.16
2483.50	71.38	V	1.7	27.63	-40.08		74.00	58.93	15.07
4960.00	54.30	H	1.5	31.78	-37.19		74.00	48.89	25.11
4960.00	53.80	V	1.7	31.78	-37.19		74.00	48.39	25.61
Average (RBW:1 MHz VBW:3 MHz)									
2483.50	57.95	H	1.5	27.63	-40.08	1.18	54.00	46.68	7.32
2483.50	60.46	V	1.7	27.63	-40.08	1.18	54.00	49.19	4.81
4960.00	44.47	H	1.5	31.78	-37.19	1.18	54.00	40.24	13.76
4960.00	44.60	V	1.7	31.78	-37.19	1.18	54.00	40.37	13.63

Remark	H : Horizontal, V : Vertical TEST MODE : Bluetooth EDR-CH78 (2 480 MHz) *This test was radiated up to 26.5 GHz but no noise was measured. *The TX signal wasn't detected from 3th harmonics. *Result Value = Reading + Ant Factor + Cable loss - Amplifier Gain + Duty Cycle Correction Factor *Margin = Limit - Result *The resolution bandwidth and video bandwidth of spectrum analyzer is 1 MHz and 1 kHz for average detection at frequency above 1 GHz. FYI : Duty Cycle Correction Factor (79 channel hopping) a. Time to cycle through all channels= Δ t= τ [ms] x 79 channels = 296.25 ms, where τ = pulse width b. 100 ms/ Δt [ms] = H → Round up to next highest integer, H ' =1 c. Worst Case Dwell Time = τ [ms] x H ' = 3.79ms d. Duty Cycle Correction = 20log (Worst Case Dwell Time/ 100ms) dB = - 28.427 dB

10.6 Restricted Band Edges for BT(EDR)

Band Edges(CH Low)

Detector mode:Peak Polarity:Horizontal



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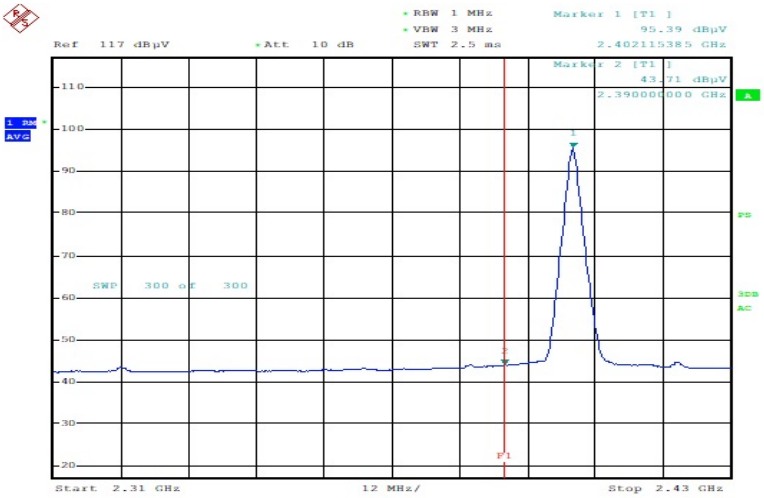
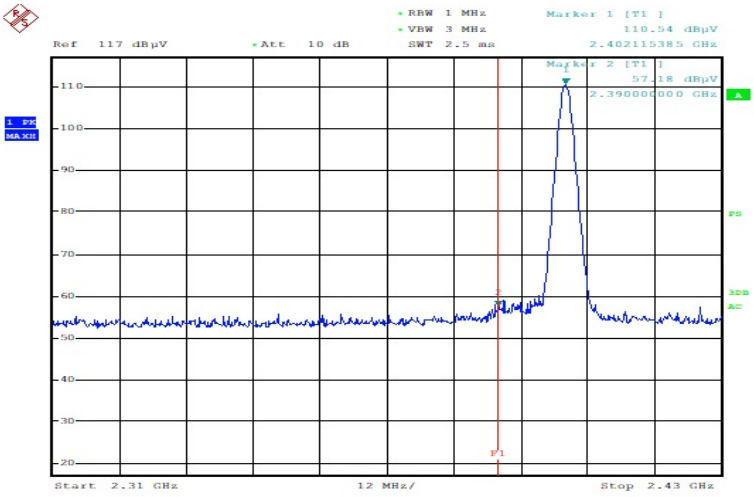
Detector mode:Average Polarity:Horizontal



ESTR-21-00051

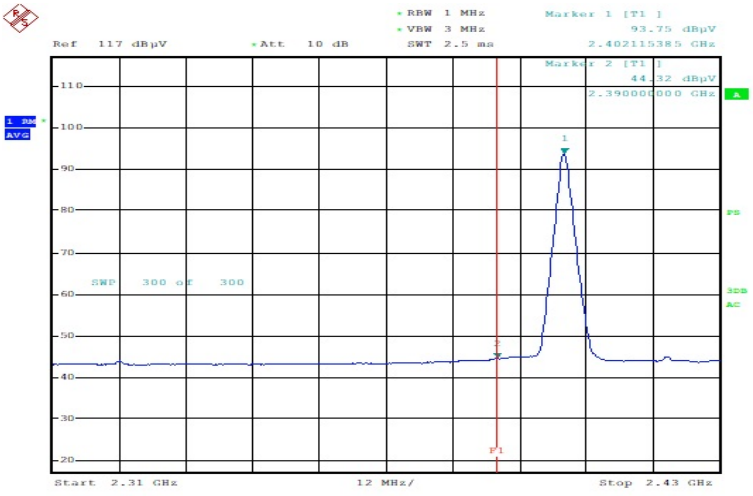
Band Edges(CH Low)

Detector mode:Peak Polarity:Vertical



ESTR-21-00051

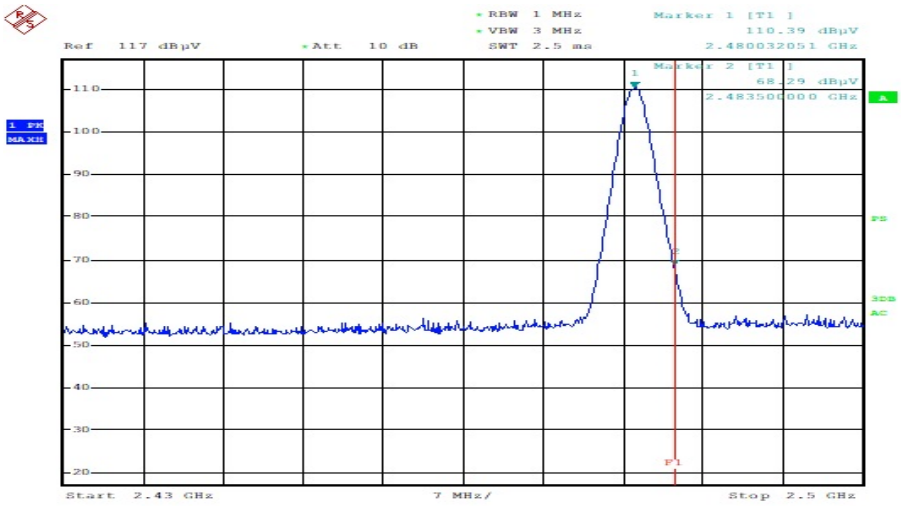
Detector mode:Average Polarity:Vertical



ESTR-21-00051

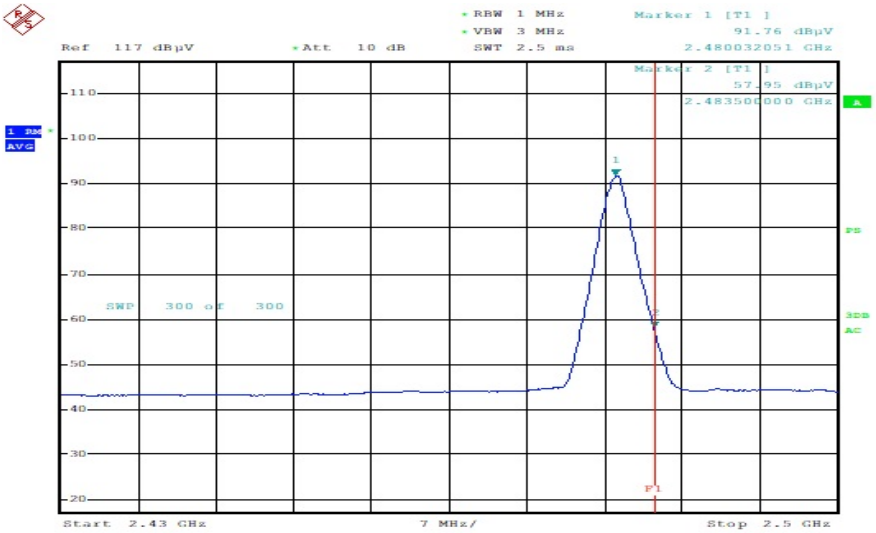
Band Edges(CH High)

Detector mode:Peak Polarity:Horizontal



ESTR-21-00051

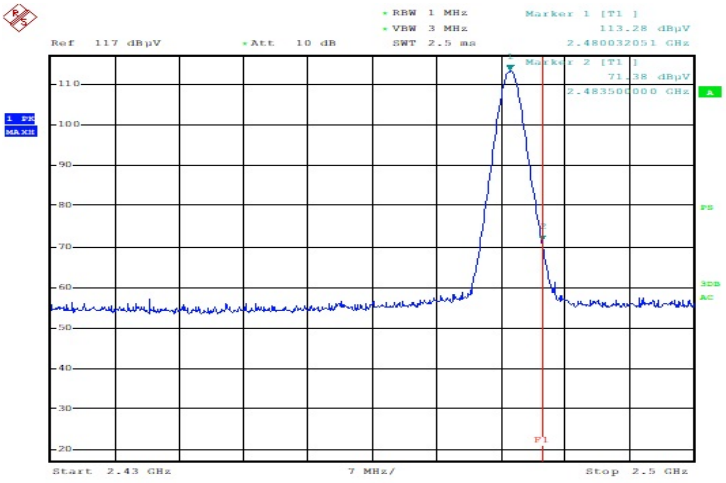
Detector mode:Average Polarity:Horizontal



ESTR-21-00051

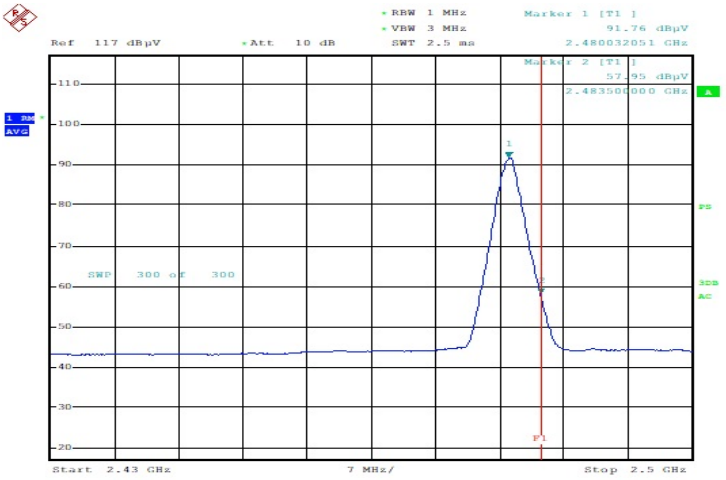
Band Edges(CH High)

Detector mode:Peak Polarity:Vertical



ESTR-21-00051

Detector mode:Average Polarity:Vertical

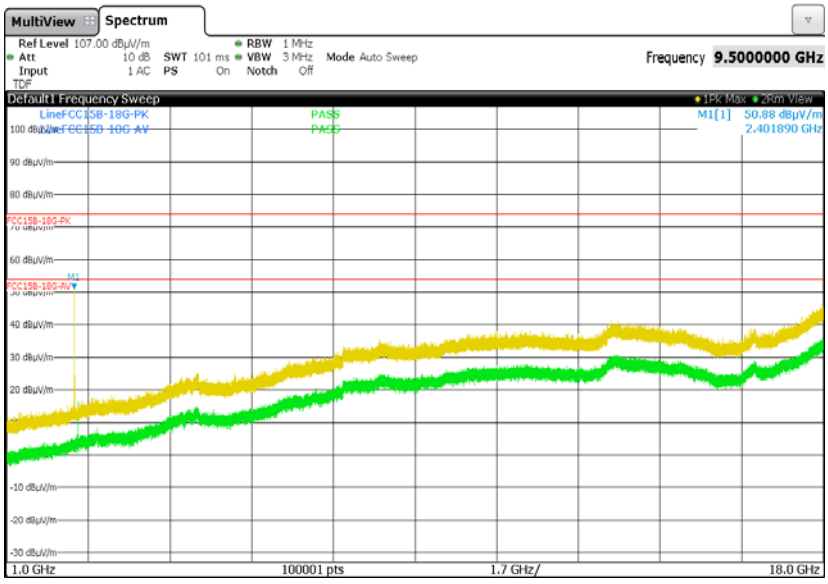


ESTR-21-00051

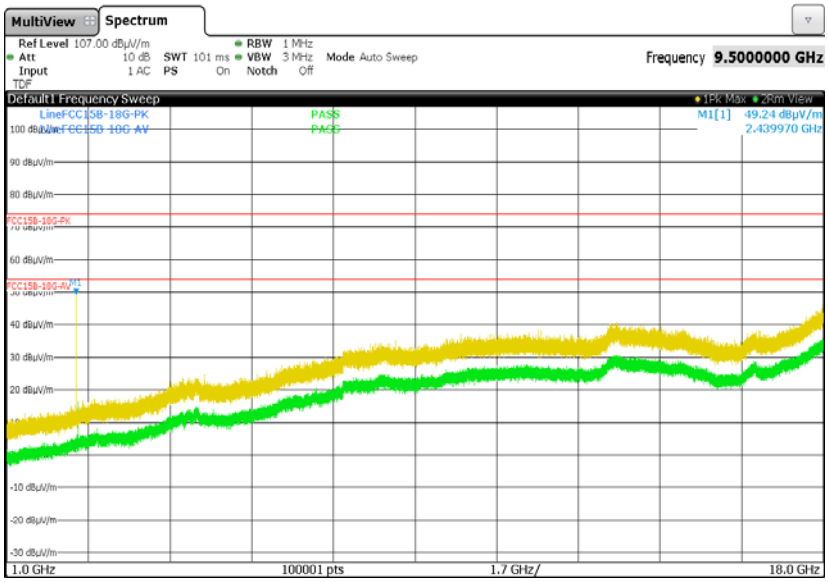
10.6-1 Restricted Band Edges for BT(EDR Rate)

Band Edges(CH Low)

Polarity:Horizontal

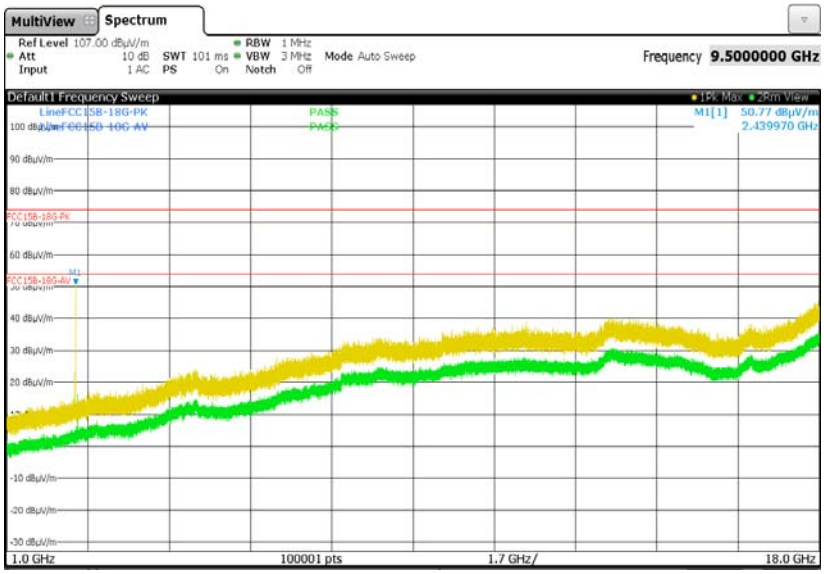


Polarity:Vertical

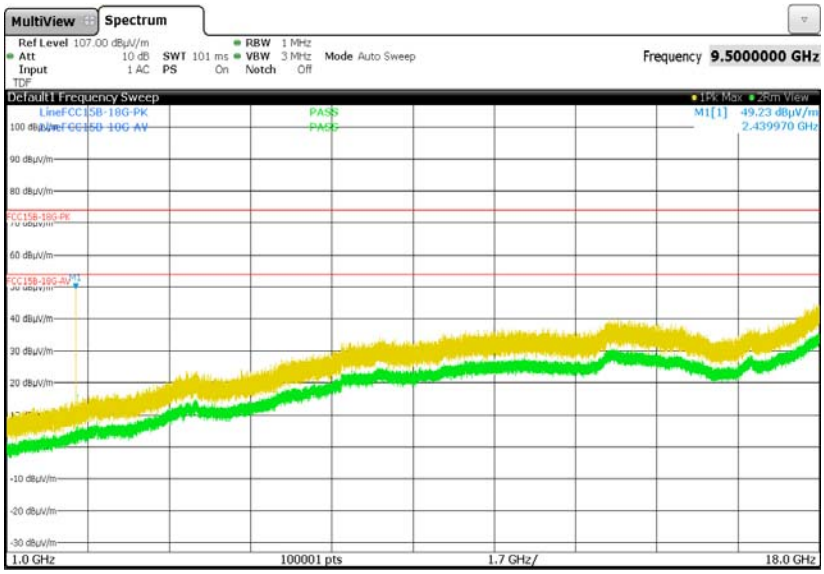


Band Edges(CH Middle)

Polarity:Horizontal

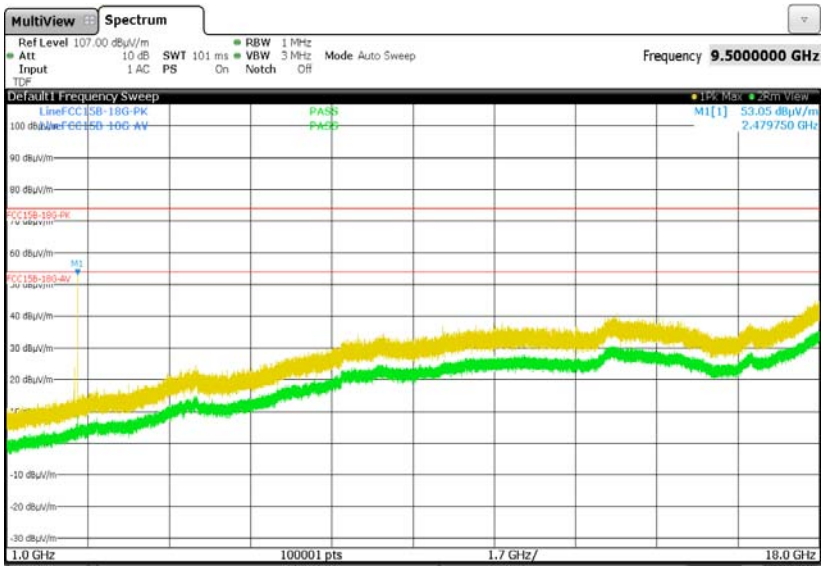


Polarity:Vertical

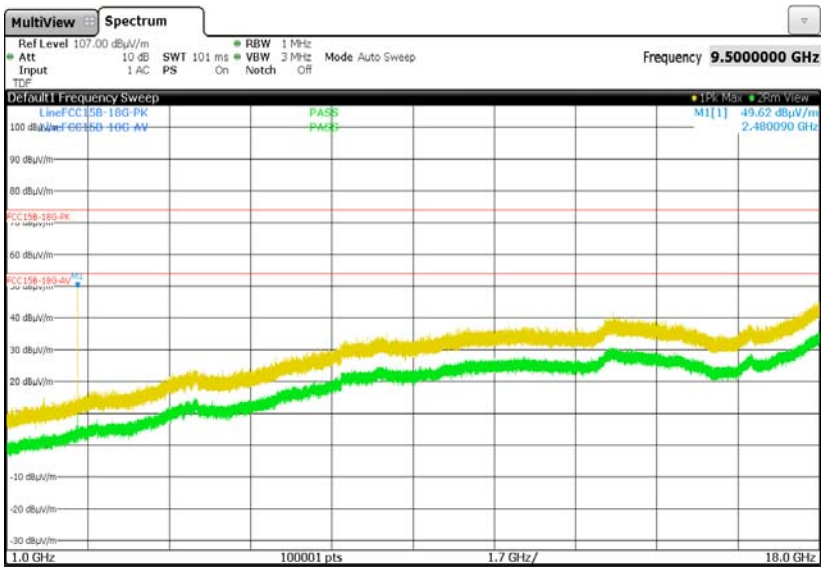


Band Edges(CH HIgh)

Polarity:Horizontal



Polarity:Vertical



11. Measurement of conducted disturbance

The continuous disturbance voltage of AC Mains in the frequency from 0.15 MHz to 30 MHz was measured in accordance to FCC PART 15.207. The test setup was made according to ANSI C 63.4 (2009) in a shielded room. The EUT was placed on a non-conductive table at least 0.8 m above the ground plan. A grounded vertical reference plane was positioned in a distance of 0.4 m from the EUT. The distance from the EUT to other metal surfaces was at least 0.8 m. The EUT was only earthen by its power cord through the line impedance stabilizing network. The power cord has been bundled to a length of 1.0 m. The test receiver with Quasi Peak detector complies with CISPR 16.

11.1 Measurement equipments

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
TEST RECEIVER	ESPI	Rohde & Schwarz	100005	15-Aug-21
LISN	ESH3-Z5	Rohde & Schwarz	836679/025	15-Aug-21
Pulse Limiter	ESH3Z2	Rohde & Schwarz	NONE	15-Aug-21

11.2 Environmental Condition

Test Place : Shielded Room

BT Basic Mode

Temperature (°C) : ℃

Humidity (% R.H.) : % R.H.

BT EDR Mode

Temperature (°C) : ℃

Humidity (% R.H.) : % R.H.

11.3 Test Data for Bluetooth (Basic Rate)

Test Date : N/A

Frequency (MHz)	Correction Factor		Line (H/N)	Quasi-peak Value			Average Value		
	Lisn (dB)	Cable (dB)		Limit (dBμV)	Reading (dBμV)	Result (dBμV)	Limit (dBμV)	Reading (dBμV)	Result (dB)
Remark	H : Hot Line, N : Neutral Line TEST MODE : *Correction Factor = Lisn + Cable *Result = Correction Factor + Reading								

11.3-1 Test Data for Bluetooth (EDR)

Test Date : N/A

Frequency (MHz)	Correction Factor		Line (H/N)	Quasi-peak Value			Average Value		
	Lisn (dB)	Cable (dB)		Limit (dBμV)	Reading (dBμV)	Result (dBμV)	Limit (dBμV)	Reading (dBμV)	Result (dB)
Remark	H : Hot Line, N : Neutral Line TEST MODE : *Correction Factor = Lisn + Cable *Result = Correction Factor + Reading								

Appendix 1. Special diagram for Bluetooth (Basic Rate)

*CONDUCTED EMISSION-N/A

*HOT

*NEUTRAL

Special diagram for Bluetooth EDR

*CONDUCTED EMISSION-N/A

*HOT

*NEUTRAL

Appendix 2. Antenna information

1. Antenna information

antenna type : Dielectric Chip Antenna.
antenna location : Integnal
antenna gain : 1.88 dBi
No temporary RF connector provided