

Appendix B: Test Results of BDR & EDR

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Appendix B.1: Test Results of 99% Bandwidth

BDR mode (GFSK)

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Occupied Channel Bandwidth 99% (2402 MHz; 10.000 dBm; 1 MHz; Test Mode)

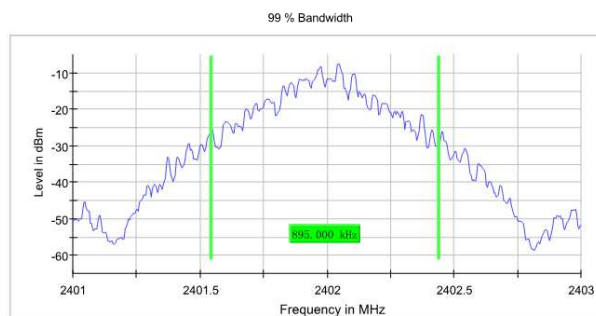
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	0.895000	---	---	2401.542500	2402.437500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2402.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 s	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	500	500
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.12 dB	0.30 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Occupied Channel Bandwidth 99% (2441 MHz; 10.000 dBm; 1 MHz; Test Mode)

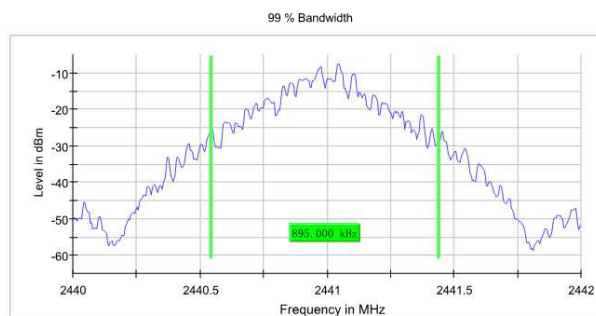
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2441.000000	0.895000	---	---	2440.542500	2441.437500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2441.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.44000 GHz	2.44000 GHz
Stop Frequency	2.44200 GHz	2.44200 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 s	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	500	500
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.10 dB	0.30 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Occupied Channel Bandwidth 99% (2480 MHz; 10.000 dBm; 1 MHz; Test Mode)

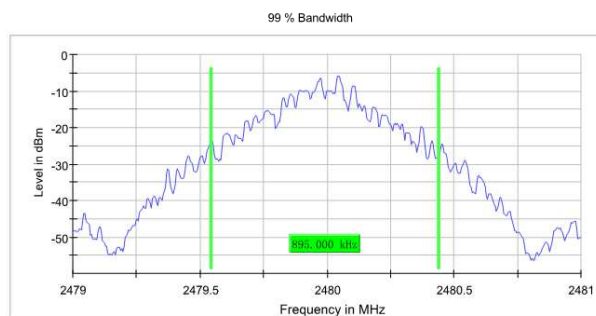
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	0.895000	---	---	2479.542500	2480.437500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2480.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 s	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	500	500
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.14 dB	0.30 dB

EDR mode (8DPSK)

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Occupied Channel Bandwidth 99% (2402 MHz; 10.000 dBm; 1 MHz; Test Mode)

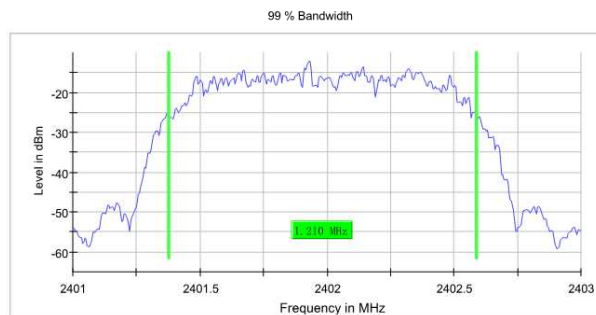
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	1.210000	---	---	2401.377500	2402.587500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2402.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	500	500
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.15 dB	0.30 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Occupied Channel Bandwidth 99% (2441 MHz; 10.000 dBm; 1 MHz; Test Mode)

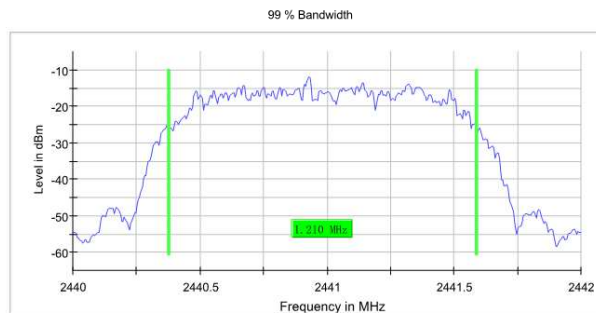
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2441.000000	1.210000	---	---	2440.377500	2441.587500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2441.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.44000 GHz	2.44000 GHz
Stop Frequency	2.44200 GHz	2.44200 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	500	500
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.09 dB	0.30 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Occupied Channel Bandwidth 99% (2480 MHz; 10.000 dBm; 1 MHz; Test Mode)

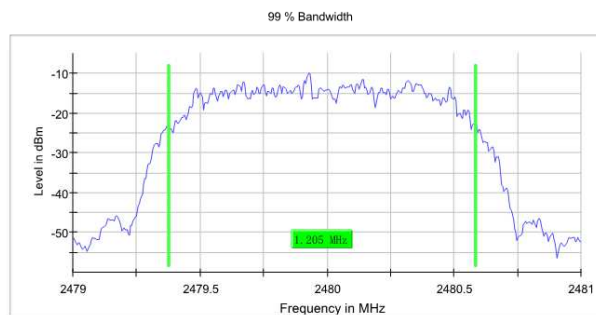
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	1.205000	---	---	2479.377500	2480.582500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2480.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	500	500
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.15 dB	0.30 dB

Appendix B.2: Test Results of 20dB Bandwidth

BDR mode (GFSK)

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Emission Bandwidth 20 dB (2402 MHz; 10.000 dBm; 1 MHz; Test Mode)

Test according to FCC title 47 part 15 §5.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

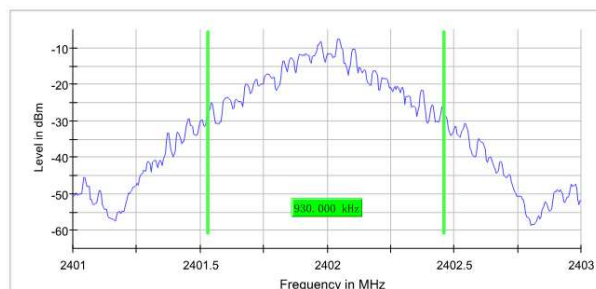
20 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	0.930000	---	---	2401.532500	2402.462500

(continuation of the "20 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2402.000000	-7.6	PASS

20 dB Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.08 dB	0.50 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Emission Bandwidth 20 dB (2441 MHz; 10.000 dBm; 1 MHz; Test Mode)

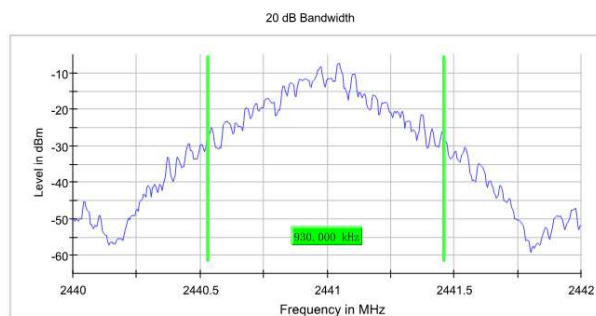
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

20 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2441.000000	0.930000	---	---	2440.532500	2441.462500

(continuation of the "20 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2441.000000	-7.5	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.44000 GHz	2.44000 GHz
Stop Frequency	2.44200 GHz	2.44200 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 s	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.11 dB	0.50 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Emission Bandwidth 20 dB (2480 MHz; 10.000 dBm; 1 MHz; Test Mode)

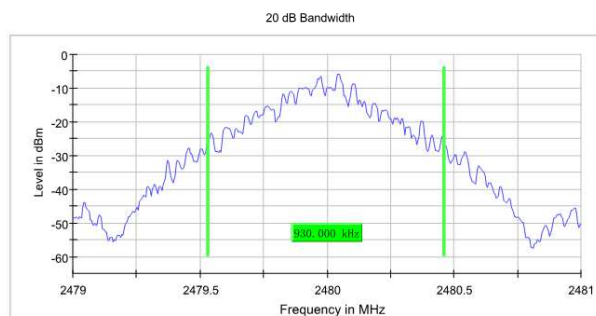
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

20 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	0.930000	---	---	2479.532500	2480.462500

(continuation of the "20 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2480.000000	-5.8	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 s	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.20 dB	0.50 dB

EDR mode (8DPSK)

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Emission Bandwidth 20 dB (2402 MHz; 10.000 dBm; 1 MHz; Test Mode)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

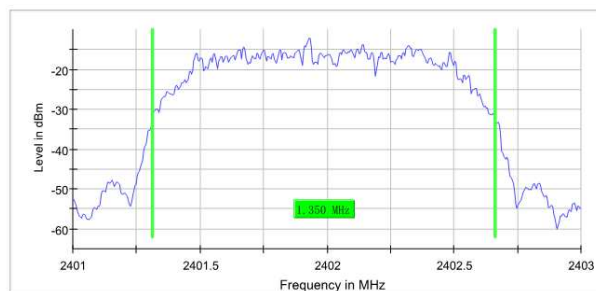
20 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	1.350000	---	---	2401.312500	2402.662500

(continuation of the "20 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2402.000000	-12.1	PASS

20 dB Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 µs	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.09 dB	0.50 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Emission Bandwidth 20 dB (2441 MHz; 10.000 dBm; 1 MHz; Test Mode)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

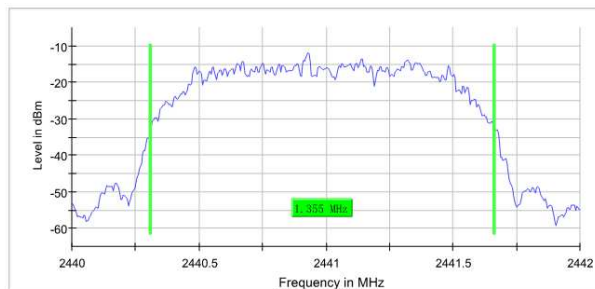
20 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2441.000000	1.355000	---	---	2440.307500	2441.662500

(continuation of the "20 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2441.000000	-11.9	PASS

20 dB Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.44000 GHz	2.44000 GHz
Stop Frequency	2.44200 GHz	2.44200 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.10 dB	0.50 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Emission Bandwidth 20 dB (2480 MHz; 10.000 dBm; 1 MHz; Test Mode)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

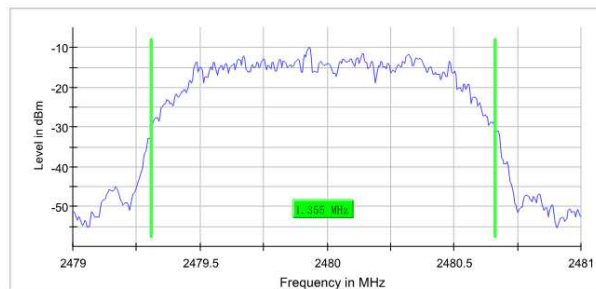
20 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	1.355000	---	---	2479.307500	2480.662500

(continuation of the "20 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2480.000000	-9.9	PASS

20 dB Bandwidth



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
SweepTime	189.648 µs	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	7 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.13 dB	0.50 dB

Appendix B.3: Test Results of Carrier Frequency Separation

BDR mode (GFSK)

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Carrier Frequency Separation (2402 MHz; 10.000 dBm; 1 MHz)

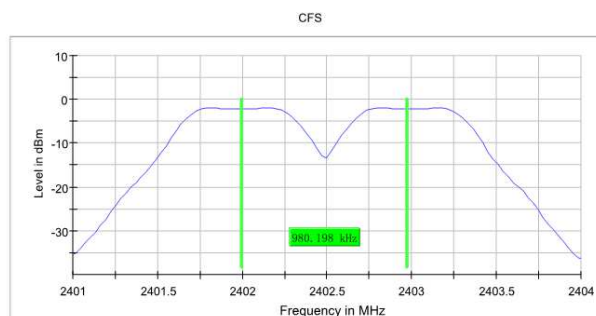
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Frequency Separation (MHz)	Limit Min (MHz)	Limit Max (MHz)	Center Frequency low Channel (MHz)	Center Frequency high Channel (MHz)
2402.000000	0.980198	0.620000	---	2401.995050	2402.975248

(continuation of the "Result" table from column 6 ...)

DUT Frequency (MHz)	Result
2402.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40400 GHz	2.40400 GHz
Span	3.000 MHz	3.000 MHz
RBW	300.000 kHz	<= 300.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	101	~ 10
SweepTime	1.000 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	13 / max. 150	max. 150
Stable	10 / 10	10
Max Stable Difference	0.00 dB	0.50 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Carrier Frequency Separation (2441 MHz; 10.000 dBm; 1 MHz)

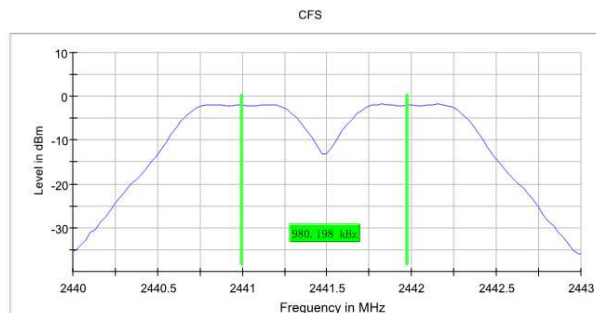
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Frequency Separation (MHz)	Limit Min (MHz)	Limit Max (MHz)	Center Frequency low Channel (MHz)	Center Frequency high Channel (MHz)
2441.000000	0.980198	0.620000	---	2440.995050	2441.975248

(continuation of the "Result" table from column 6 ...)

DUT Frequency (MHz)	Result
2441.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.44000 GHz	2.44000 GHz
Stop Frequency	2.44300 GHz	2.44300 GHz
Span	3.000 MHz	3.000 MHz
RBW	300.000 kHz	<= 300.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	101	~ 10
SweepTime	1.000 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	13 / max. 150	max. 150
Stable	10 / 10	10
Max Stable Difference	0.00 dB	0.50 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Carrier Frequency Separation (2480 MHz; 10.000 dBm; 1 MHz)

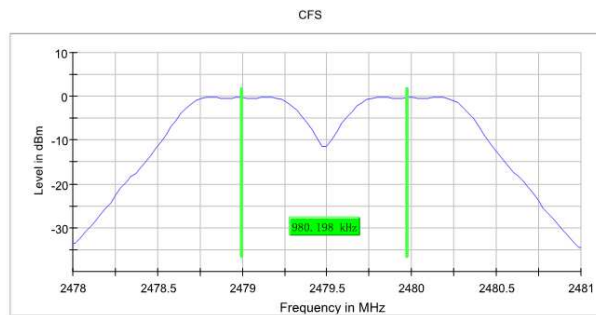
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Frequency Separation (MHz)	Limit Min (MHz)	Limit Max (MHz)	Center Frequency low Channel (MHz)	Center Frequency high Channel (MHz)
2480.000000	0.980198	0.620000	---	2478.995050	2479.975248

(continuation of the "Result" table from column 6 ...)

DUT Frequency (MHz)	Result
2480.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47800 GHz	2.47800 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	3.000 MHz	3.000 MHz
RBW	300.000 kHz	<= 300.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	101	~ 10
SweepTime	1.000 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	13 / max. 150	max. 150
Stable	10 / 10	10
Max Stable Difference	0.00 dB	0.50 dB

EDR mode (8DPSK)

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Carrier Frequency Separation (2402 MHz; 10.000 dBm; 1 MHz)

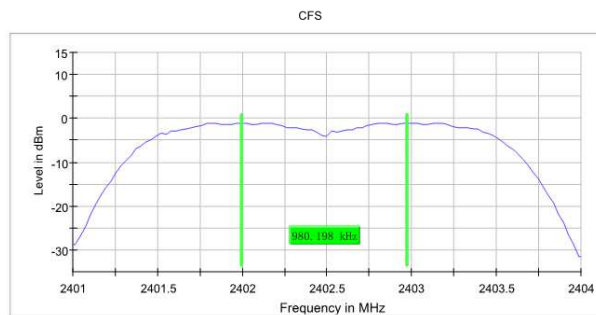
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Frequency Separation (MHz)	Limit Min (MHz)	Limit Max (MHz)	Center Frequency low Channel (MHz)	Center Frequency high Channel (MHz)
2402.000000	0.980198	0.900000	---	2401.995050	2402.975248

(continuation of the "Result" table from column 6 ...)

DUT Frequency (MHz)	Result
2402.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40400 GHz	2.40400 GHz
Span	3.000 MHz	3.000 MHz
RBW	300.000 kHz	<= 300.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	101	~ 10
SweepTime	1.000 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	18 / max. 150	max. 150
Stable	10 / 10	10
Max Stable Difference	0.00 dB	0.50 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Carrier Frequency Separation (2441 MHz; 10.000 dBm; 1 MHz)

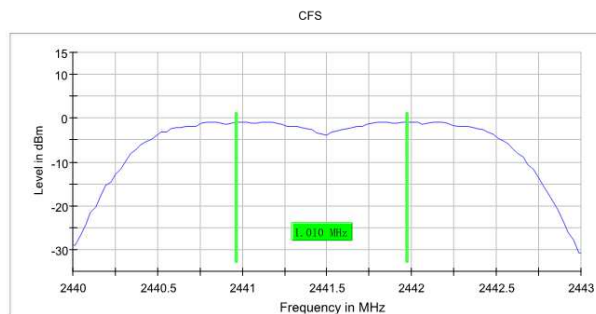
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Frequency Separation (MHz)	Limit Min (MHz)	Limit Max (MHz)	Center Frequency low Channel (MHz)	Center Frequency high Channel (MHz)
2441.000000	1.009901	0.903333	---	2440.965347	2441.975248

(continuation of the "Result" table from column 6 ...)

DUT Frequency (MHz)	Result
2441.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.44000 GHz	2.44000 GHz
Stop Frequency	2.44300 GHz	2.44300 GHz
Span	3.000 MHz	3.000 MHz
RBW	300.000 kHz	<= 300.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	101	~ 10
SweepTime	1.000 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	19 / max. 150	max. 150
Stable	10 / 10	10
Max Stable Difference	0.13 dB	0.50 dB

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Carrier Frequency Separation (2480 MHz; 10.000 dBm; 1 MHz)

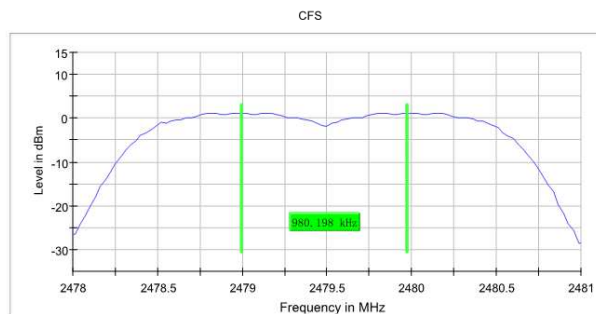
Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Frequency Separation (MHz)	Limit Min (MHz)	Limit Max (MHz)	Center Frequency low Channel (MHz)	Center Frequency high Channel (MHz)
2480.000000	0.980198	0.903333	---	2478.995050	2479.975248

(continuation of the "Result" table from column 6 ...)

DUT Frequency (MHz)	Result
2480.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47800 GHz	2.47800 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	3.000 MHz	3.000 MHz
RBW	300.000 kHz	<= 300.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	101	~ 10
SweepTime	1.000 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	19 / max. 150	max. 150
Stable	10 / 10	10
Max Stable Difference	0.10 dB	0.50 dB

Appendix B.4: Test Results of Number of Hopping Frequency

BDR mode (GFSK)

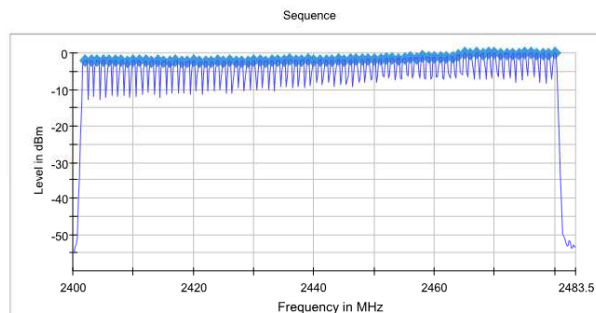
FCC Part 47 §15.247 2400-2483.5 MHz 2017

Hopping Frequencies (frequency independent; 10.000 dBm; 1 MHz)

Test according to FCC title 47 part 15 §15.247(a),(g), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Channels

Channels	Limit Min	Limit Max	Result
79	15	---	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.48350 GHz	2.48350 GHz
Span	83.500 MHz	83.500 MHz
RBW	200.000 kHz	<= 299.000 kHz
VBW	200.000 kHz	>= 200.000 kHz
SweepPoints	418	~ 418
SweepTime	1.060 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	56 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.46 dB	0.50 dB

EDR mode (8DPSK)

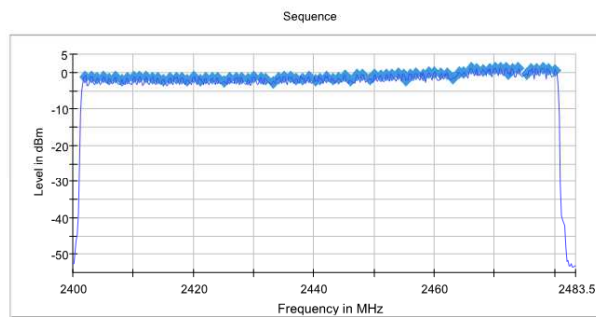
FCC Part 47 §15.247 2400-2483.5 MHz 2017

Hopping Frequencies (frequency independent; 10.000 dBm; 1 MHz)

Test according to FCC title 47 part 15 §15.247(a),(g), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Channels

Channels	Limit Min	Limit Max	Result
79	15	---	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.48350 GHz	2.48350 GHz
Span	83.500 MHz	83.500 MHz
RBW	200.000 kHz	<= 299.000 kHz
VBW	200.000 kHz	>= 200.000 kHz
SweepPoints	418	~ 418
Sweeptime	1.060 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	108 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.07 dB	0.50 dB

Appendix B.5: Test Results of Time of Occupancy

BDR mode (GFSK)

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Time of Channel Occupancy (2441 MHz; 10.000 dBm; 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Result	Number of Hops	Average time of occupancy (ms)	Threshold (dBm)
2441.000000	PASS	319	125.750	-10.0

Periode

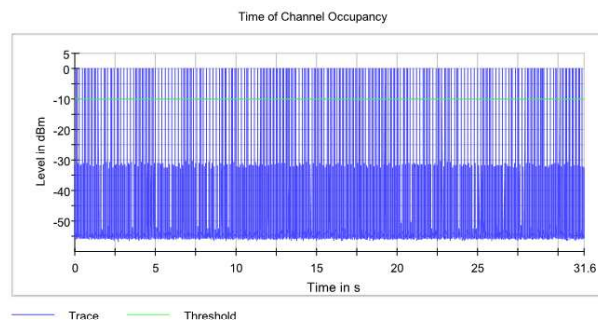
Min (ms)	Max (ms)	Mean (ms)
3.750	196.250	98.732

Transmit Time per Hop

Min (ms)	Max (ms)	Limit Max for Max (ms)	Limit Min for Max (ms)	Mean (ms)
0.39	0.40	400.000	0.000	0.393

DwellTime

Min (ms)	Max (ms)	Mean (ms)
0.39	0.40	0.393



Measurement

Setting	Instrument Value	Target Value
Center Frequency	2.44100 GHz	2.44100 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off
Trigger	External	External
Trigger Offset	0.000 s	0.000 s

FCC Part 47 §15.247 2400-2483.5 MHz 2017

OSP

Setting	Instrument Value	Target Value
Measurement Time	31.600 s	31.600 s
Tracepoints	31600000	31600000
Time resolution	1.000 衞	1.000 衞
Detector	RMS	RMS

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Time of Channel Occupancy(2) (2441 MHz; 10.000 dBm; 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Result	Number of Hops	Average time of occupancy (ms)	Threshold (dBm)
2441.000000	PASS	152	253.930	-10.0

Periode

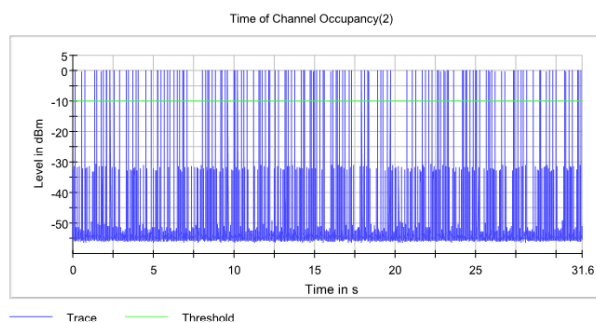
Min (ms)	Max (ms)	Mean (ms)
10.000	1004.980	206.884

Transmit Time per Hop

Min (ms)	Max (ms)	Limit Max for Max (ms)	Limit Min for Max (ms)	Mean (ms)
1.640	3.300	400.000	0.000	1.660

DwellTime

Min (ms)	Max (ms)	Mean (ms)
1.640	4.150	1.665



Measurement

Setting	Instrument Value	Target Value
Center Frequency	2.44100 GHz	2.44100 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamplifier	off	off
Trigger	External	External
Trigger Offset	0.000 s	0.000 s

FCC Part 47 §15.247 2400-2483.5 MHz 2017

OSP

Setting	Instrument Value	Target Value
Measurement Time	31.600 s	31.600 s
Tracepoints	31600000	31600000
Time resolution	1.000 衞	1.000 衞
Detector	RMS	RMS

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Time of Channel Occupancy(3) (2441 MHz; 10.000 dBm; 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Result	Number of Hops	Average time of occupancy (ms)	Threshold (dBm)
2441.000000	PASS	91	266.520	-10.0

Periode

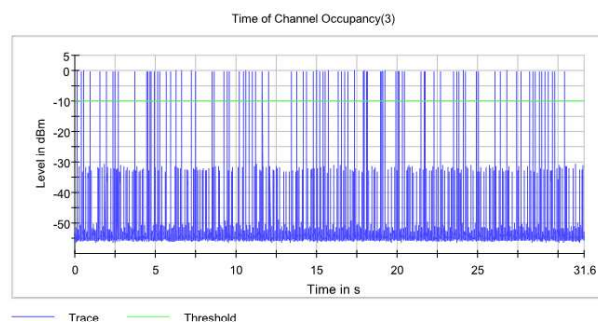
Min (ms)	Max (ms)	Mean (ms)
22.500	1398.720	329.661

Transmit Time per Hop

Min (ms)	Max (ms)	Limit Max for Max (ms)	Limit Min for Max (ms)	Mean (ms)
2.890	2.900	400.000	0.000	2.897

DwellTime

Min (ms)	Max (ms)	Mean (ms)
2.890	2.900	2.897



Measurement

Setting	Instrument Value	Target Value
Center Frequency	2.44100 GHz	2.44100 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamplifier	off	off
Trigger	External	External
Trigger Offset	0.000 s	0.000 s

FCC Part 47 §15.247 2400-2483.5 MHz 2017

OSP

Setting	Instrument Value	Target Value
Measurement Time	31.600 s	31.600 s
Tracepoints	31600000	31600000
Time resolution	1.000 衞	1.000 衞
Detector	RMS	RMS

EDR mode (8DPSK)

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Time of Channel Occupancy (2441 MHz; 10.000 dBm; 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Result	Number of Hops	Average time of occupancy (ms)	Threshold (dBm)
2441.000000	PASS	319	119.350	-10.0

Periode

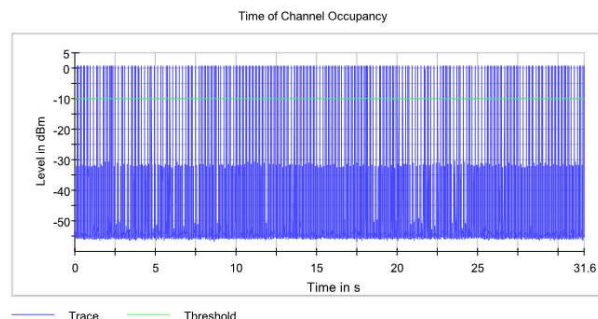
Min (ms)	Max (ms)	Mean (ms)
5.000	196.240	98.677

Transmit Time per Hop

Min (ms)	Max (ms)	Limit Max for Max (ms)	Limit Min for Max (ms)	Mean (ms)
0.32	0.41	400.000	0.000	0.373

DwellTime

Min (ms)	Max (ms)	Mean (ms)
0.35	0.41	0.400



Measurement

Setting	Instrument Value	Target Value
Center Frequency	2.44100 GHz	2.44100 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off
Trigger	External	External
Trigger Offset	0.000 s	0.000 s

FCC Part 47 §15.247 2400-2483.5 MHz 2017

OSP

Setting	Instrument Value	Target Value
Measurement Time	31.600 s	31.600 s
Tracepoints	31600000	31600000
Time resolution	1.000 µs	1.000 µs
Detector	RMS	RMS

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Time of Channel Occupancy(2) (2441 MHz; 10.000 dBm; 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Result	Number of Hops	Average time of occupancy (ms)	Threshold (dBm)
2441.000000	PASS	169	257.100	-10.0

Periode

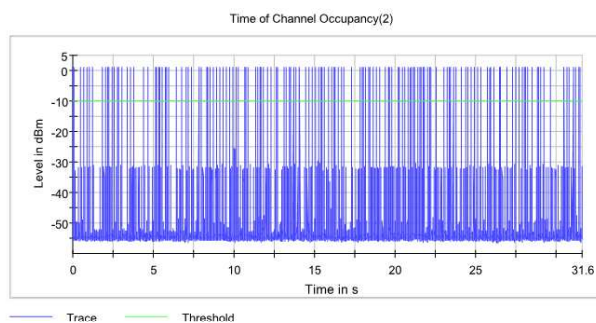
Min (ms)	Max (ms)	Mean (ms)
5.000	787.490	186.872

Transmit Time per Hop

Min (ms)	Max (ms)	Limit Max for Max	Limit Min for Max	Mean (ms)
1.430	1.570	400.000	0.000	1.512

DwellTime

Min (ms)	Max (ms)	Mean (ms)
1.630	1.660	1.650



Measurement

Setting	Instrument Value	Target Value
Center Frequency	2.44100 GHz	2.44100 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamplifier	off	off
Trigger	External	External
Trigger Offset	0.000 s	0.000 s

FCC Part 47 §15.247 2400-2483.5 MHz 2017

OSP

Setting	Instrument Value	Target Value
Measurement Time	31.600 s	31.600 s
Tracepoints	31600000	31600000
Time resolution	1.000 µs	1.000 µs
Detector	RMS	RMS

FCC Part 47 §15.247 2400-2483.5 MHz 2017

Time of Channel Occupancy(3) (2441 MHz; 10.000 dBm; 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Result	Number of Hops	Average time of occupancy (ms)	Threshold (dBm)
2441.000000	PASS	108	288.530	-10.0

Periode

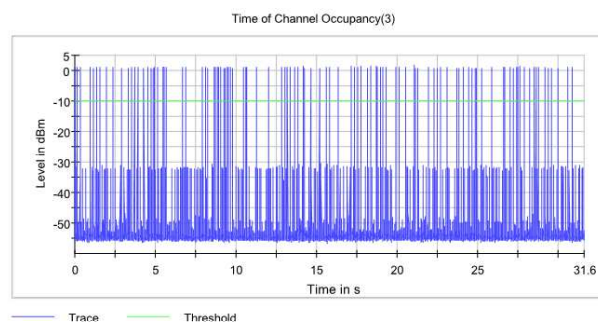
Min (ms)	Max (ms)	Mean (ms)
22.500	1008.730	285.696

Transmit Time per Hop

Min (ms)	Max (ms)	Limit Max for Max (ms)	Limit Min for Max (ms)	Mean (ms)
2.500	2.730	400.000	0.000	2.647

DwellTime

Min (ms)	Max (ms)	Mean (ms)
2.870	2.910	2.902



Measurement

Setting	Instrument Value	Target Value
Center Frequency	2.44100 GHz	2.44100 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamplifier	off	off
Trigger	External	External
Trigger Offset	0.000 s	0.000 s

FCC Part 47 §15.247 2400-2483.5 MHz 2017

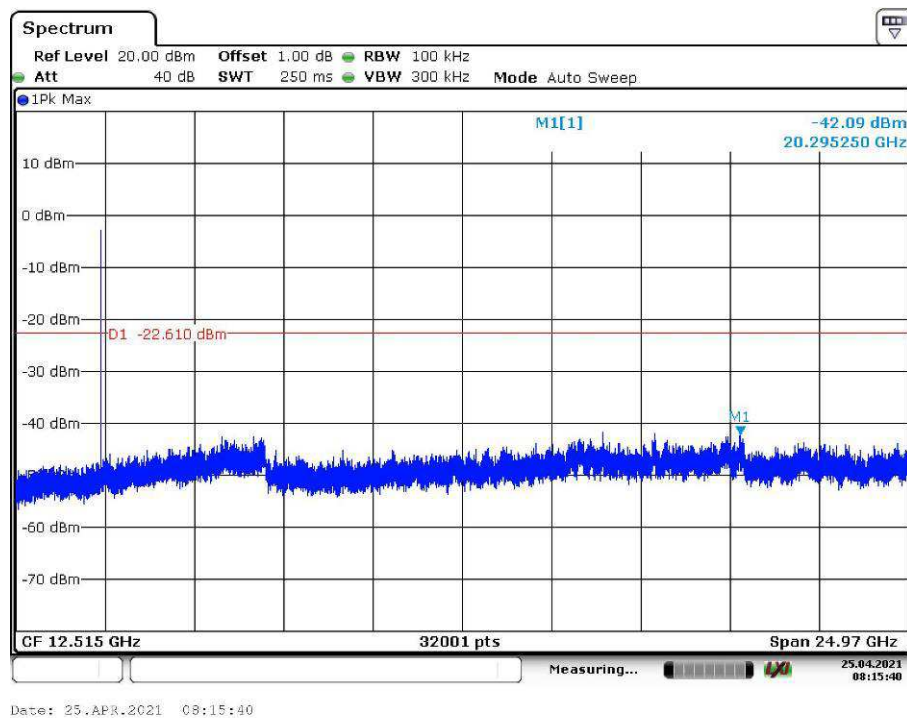
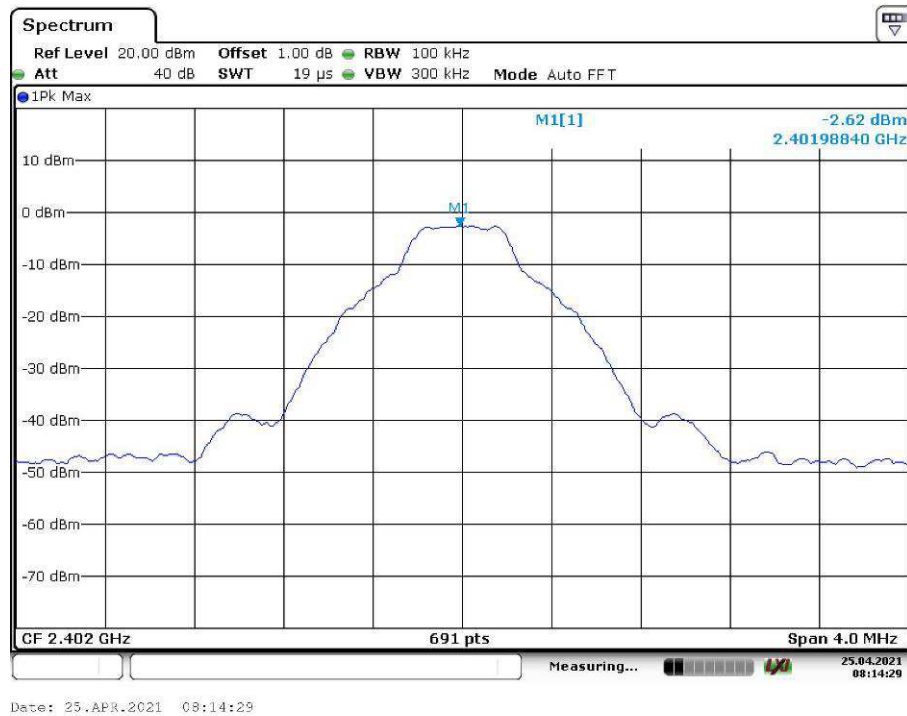
OSP

Setting	Instrument Value	Target Value
Measurement Time	31.600 s	31.600 s
Tracepoints	31600000	31600000
Time resolution	1.000 µs	1.000 µs
Detector	RMS	RMS

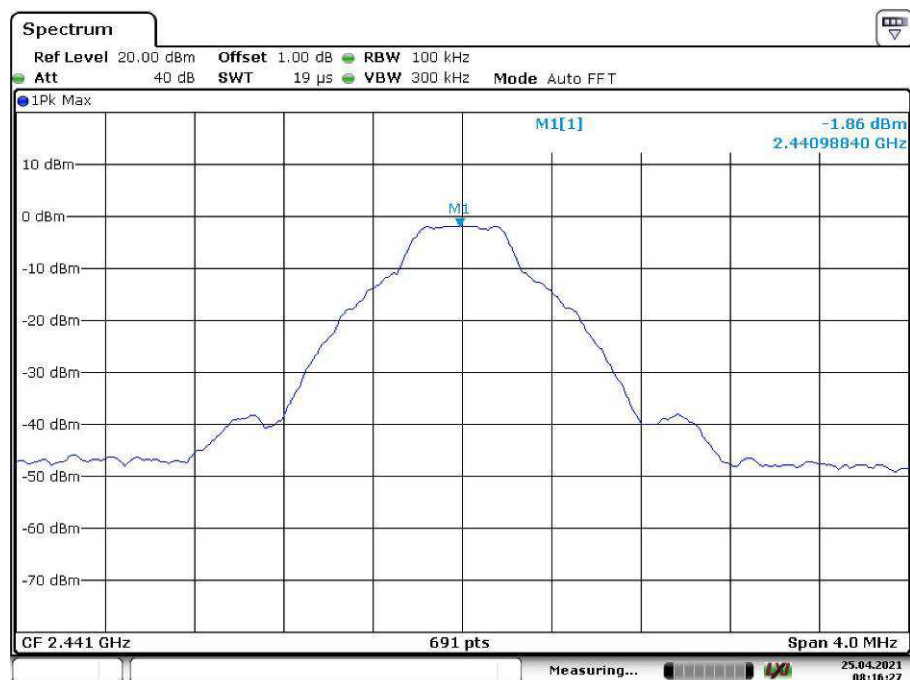
Appendix B.6: Test Results of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

BDR mode (GFSK)

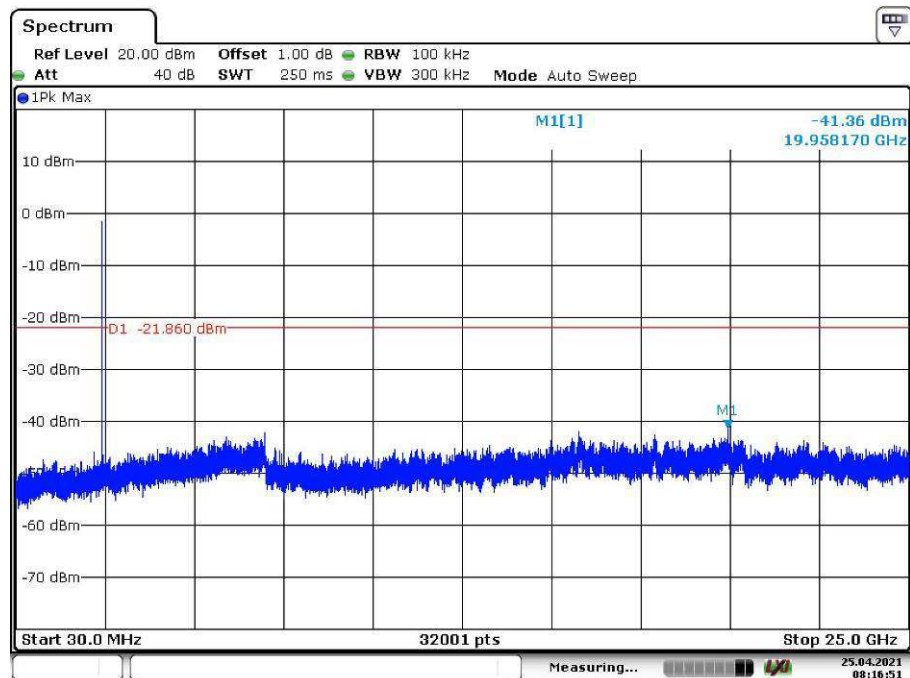
Low Channel



Middle Channel

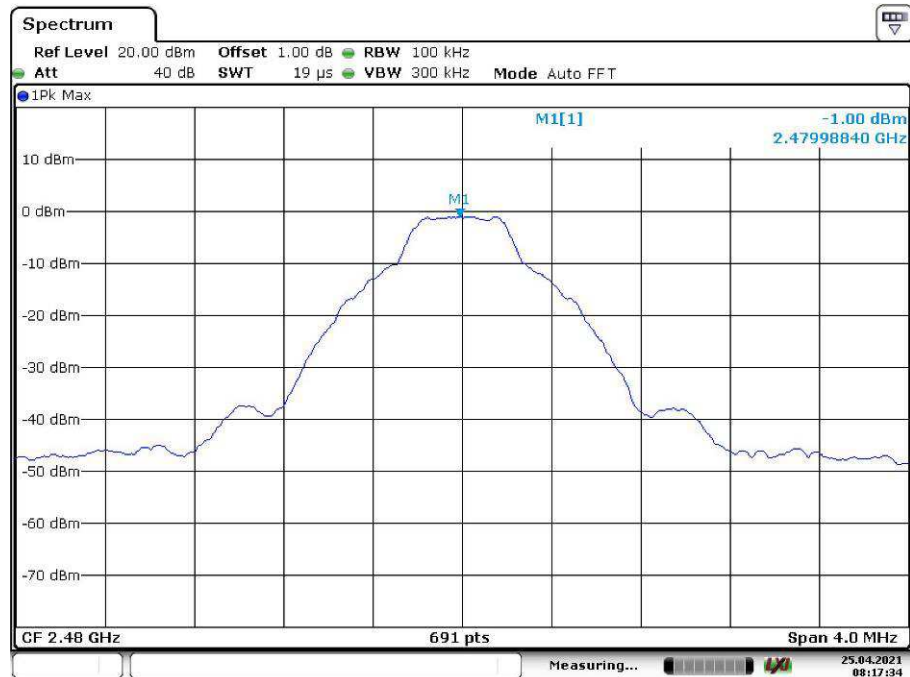


Date: 25.APR.2021 08:16:27

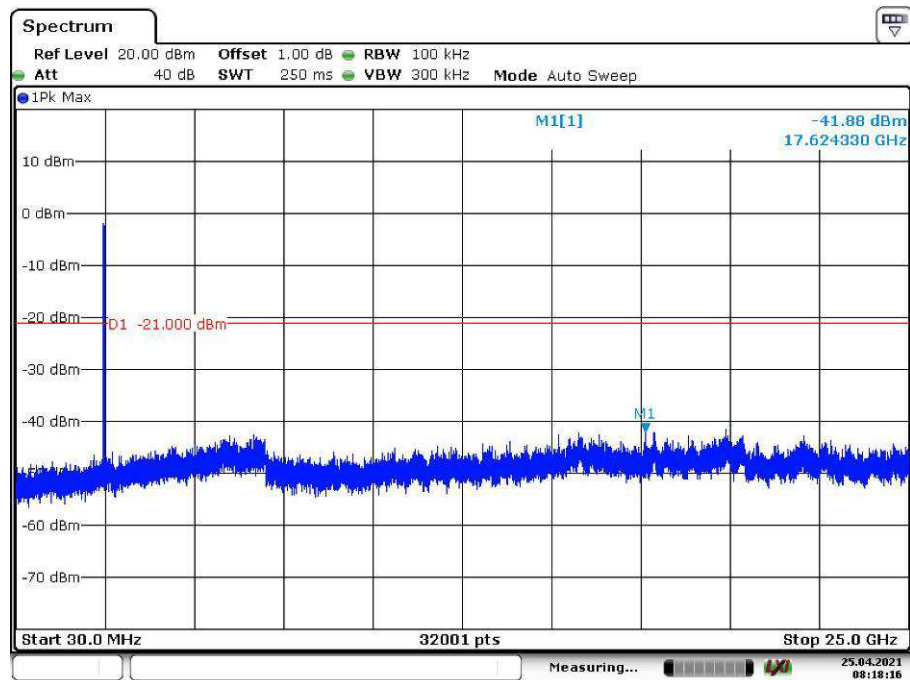


Date: 25.APR.2021 08:16:52

High Channel

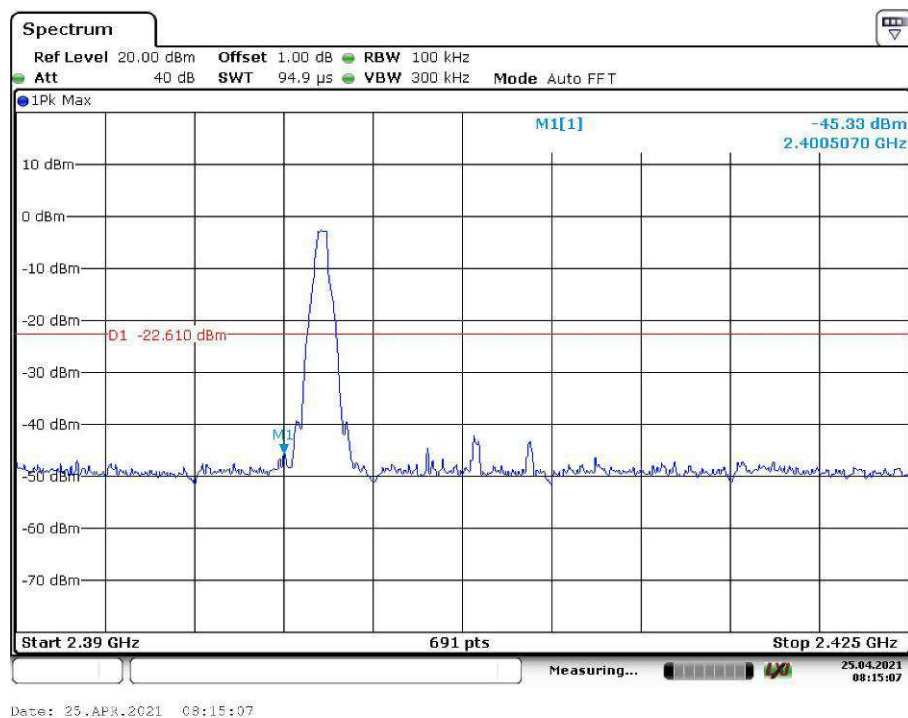


Date: 25.APR.2021 08:17:34

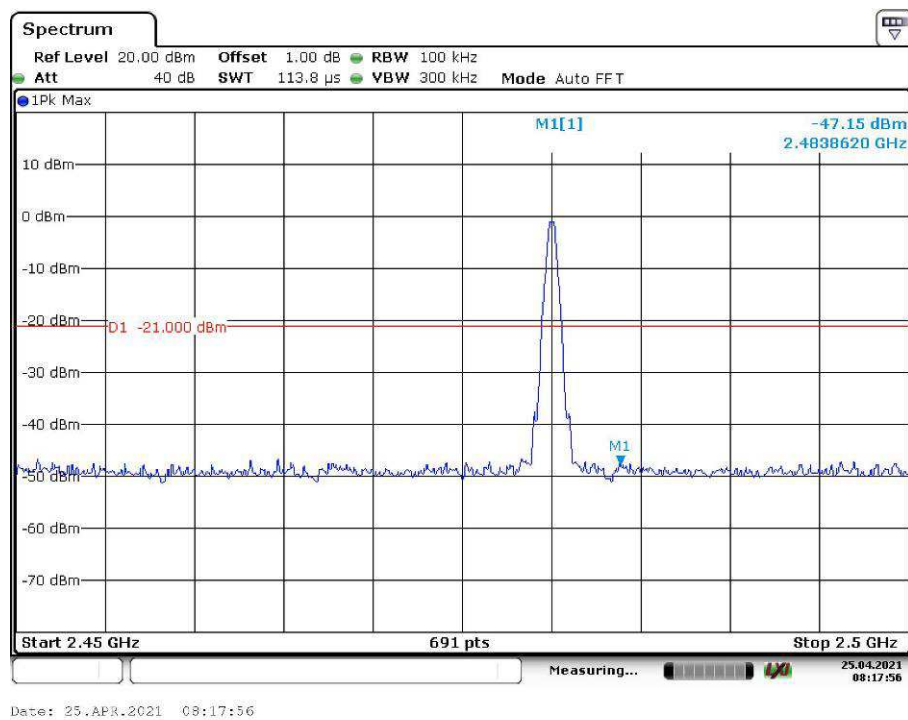


Date: 25.APR.2021 08:18:16

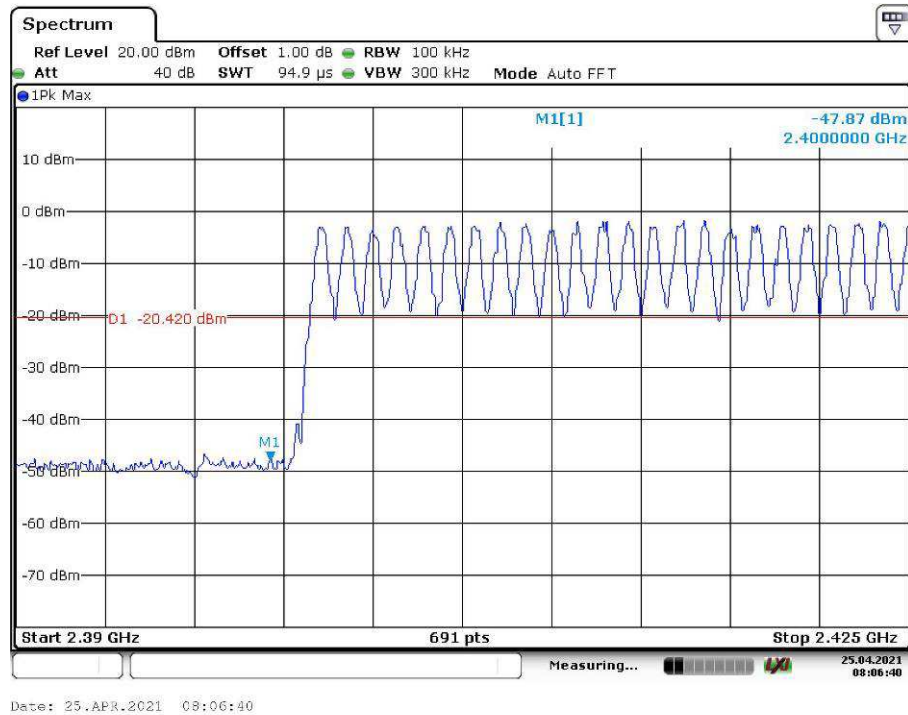
Band Edge, Low Channel



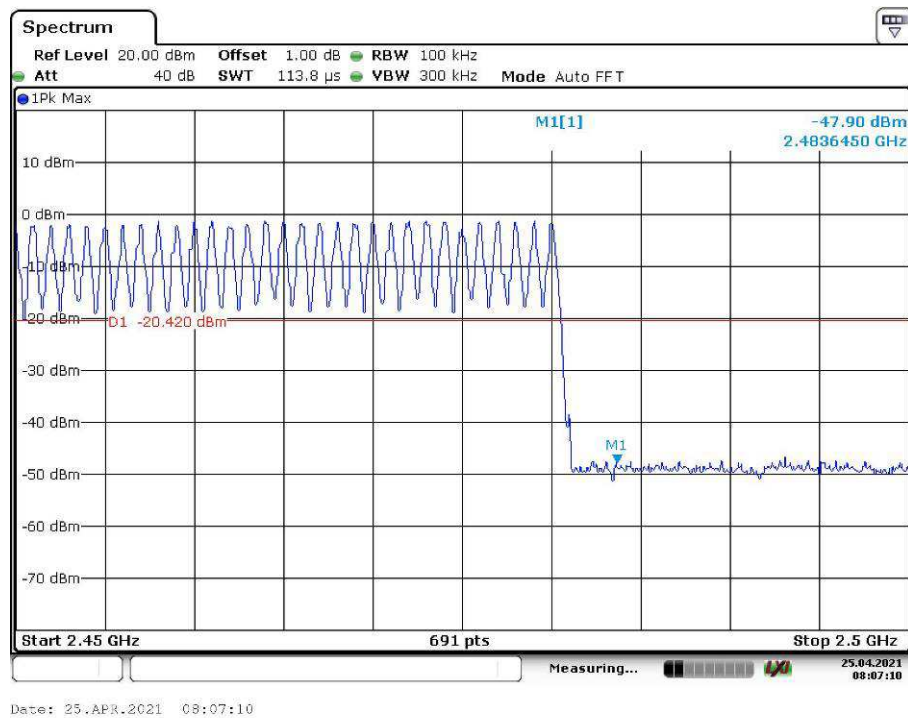
Band Edge, High Channel



Band Edge, Hopping Mode, Low Channel

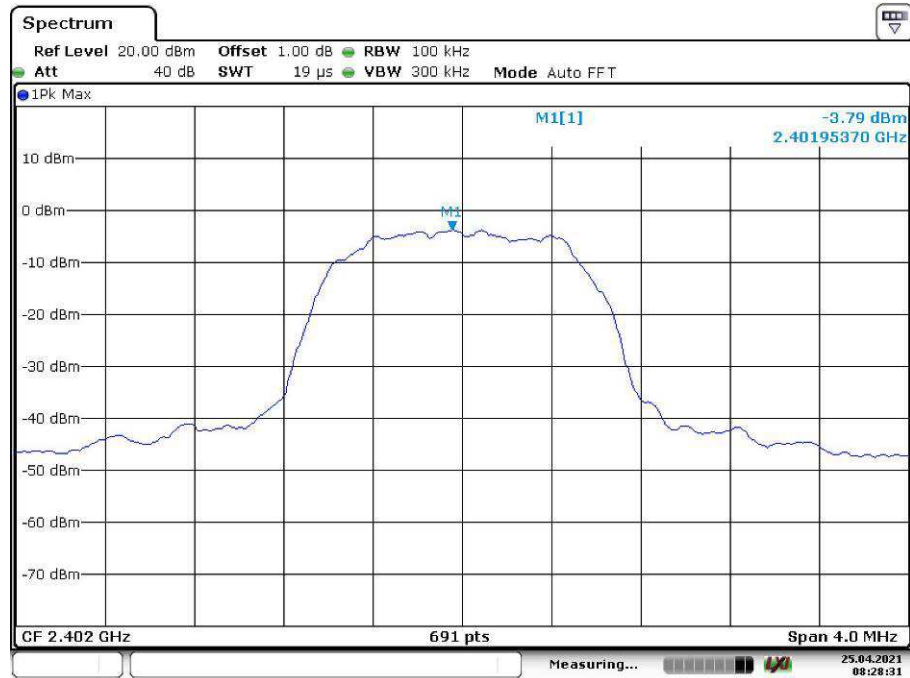


Band Edge, Hopping Mode, High Channel

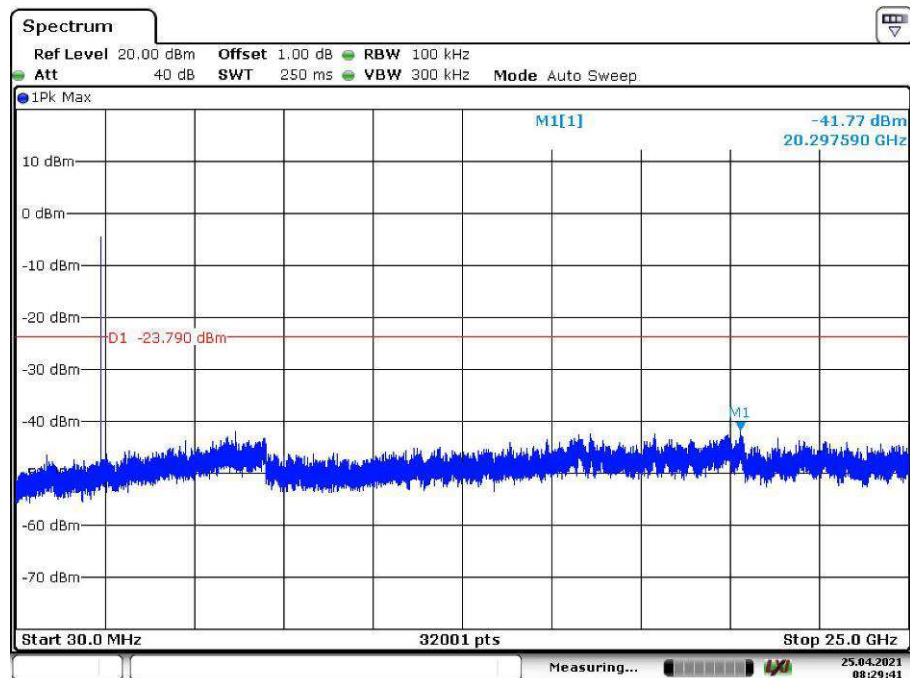


EDR mode (8DPSK)

Low Channel

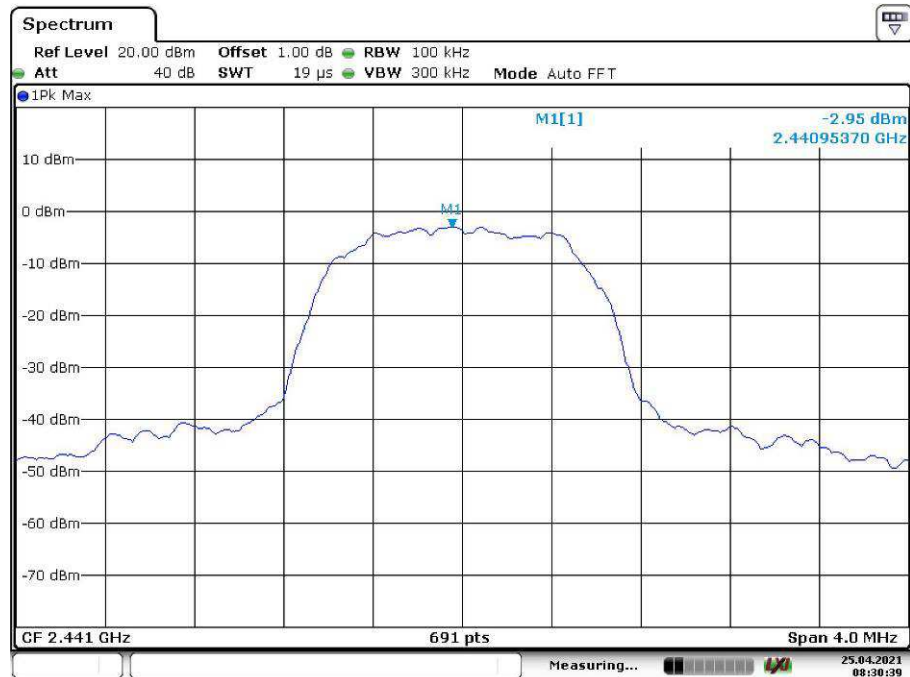


Date: 25.APR.2021 08:28:31

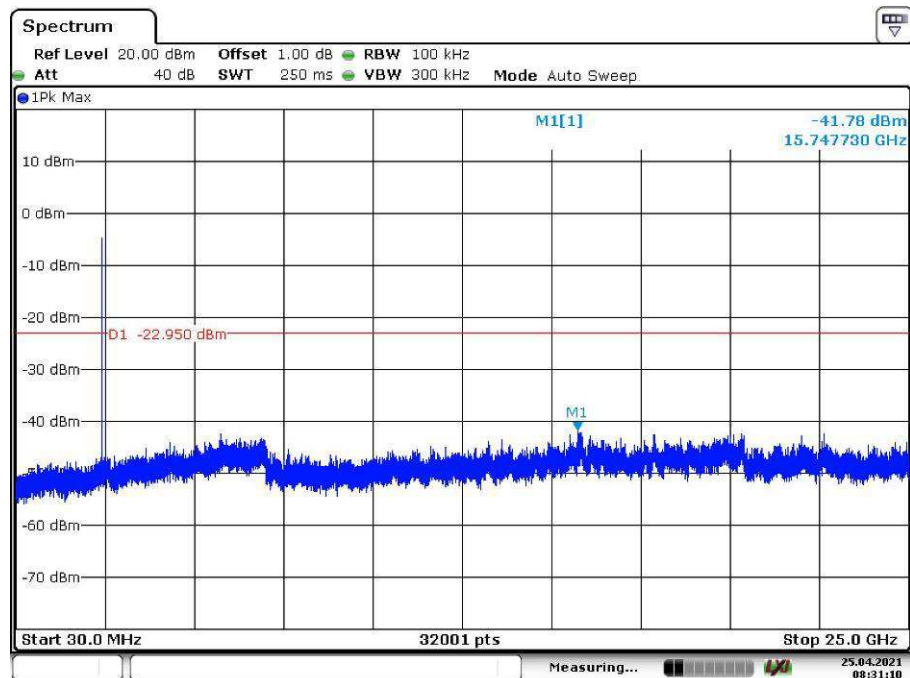


Date: 25.APR.2021 08:29:41

Middle Channel

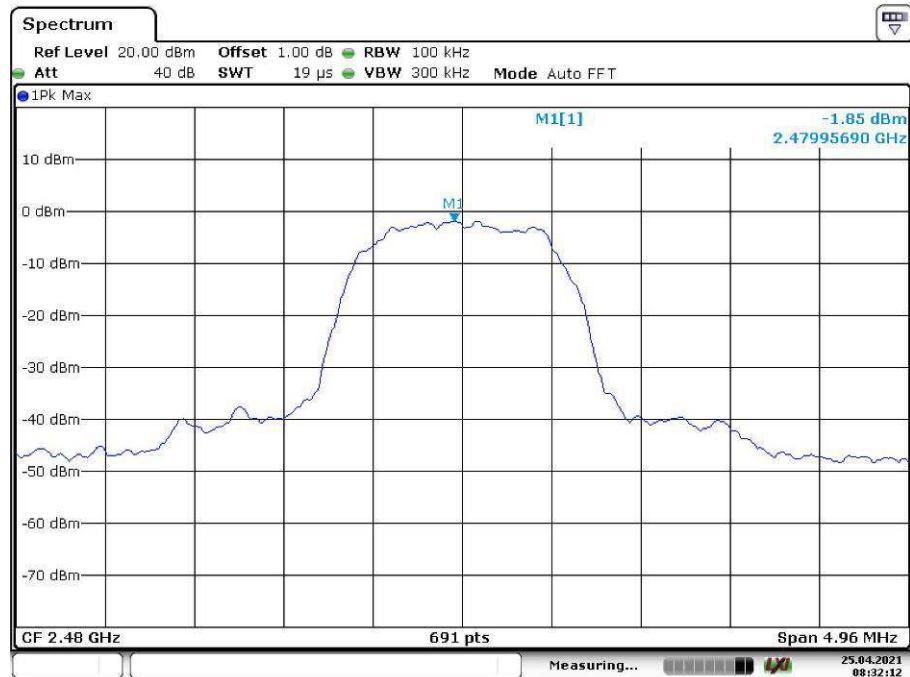


Date: 25.APR.2021 08:30:40

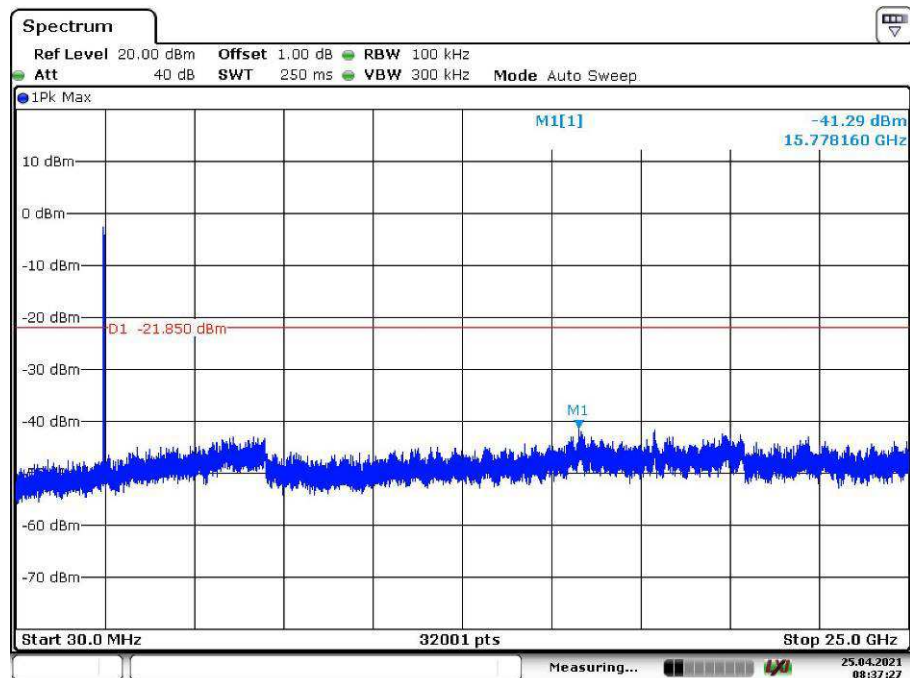


Date: 25.APR.2021 08:31:10

High Channel

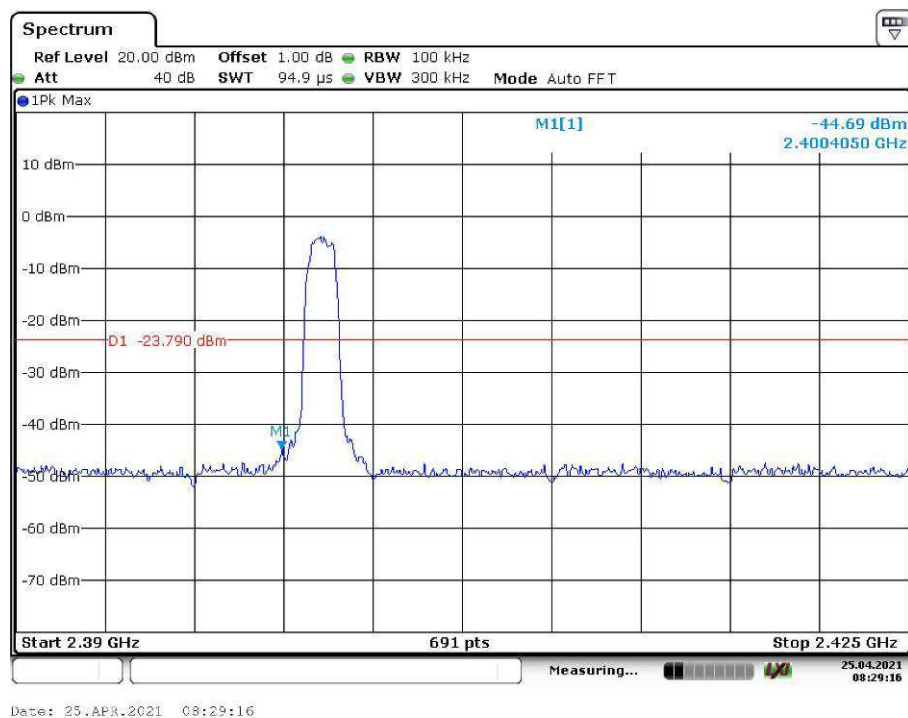


Date: 25.APR.2021 08:32:12

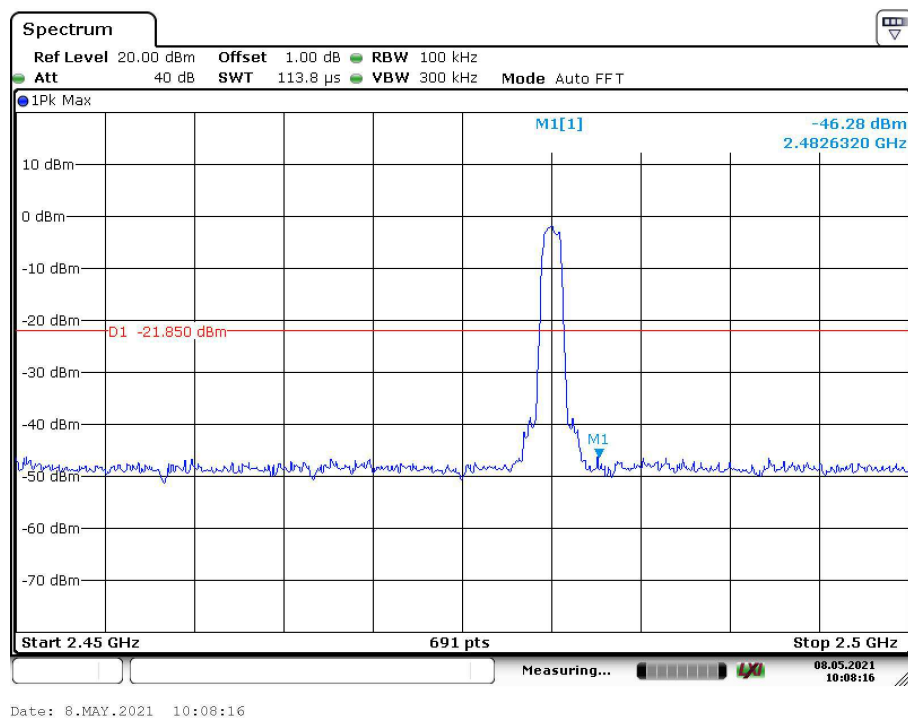


Date: 25.APR.2021 08:37:27

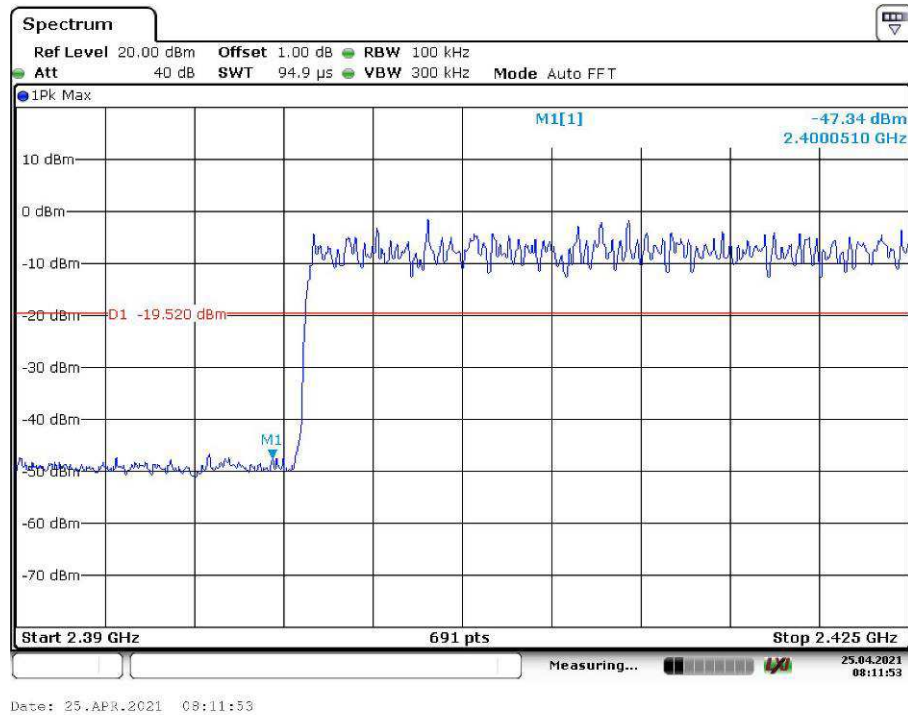
Band Edge, Low Channel



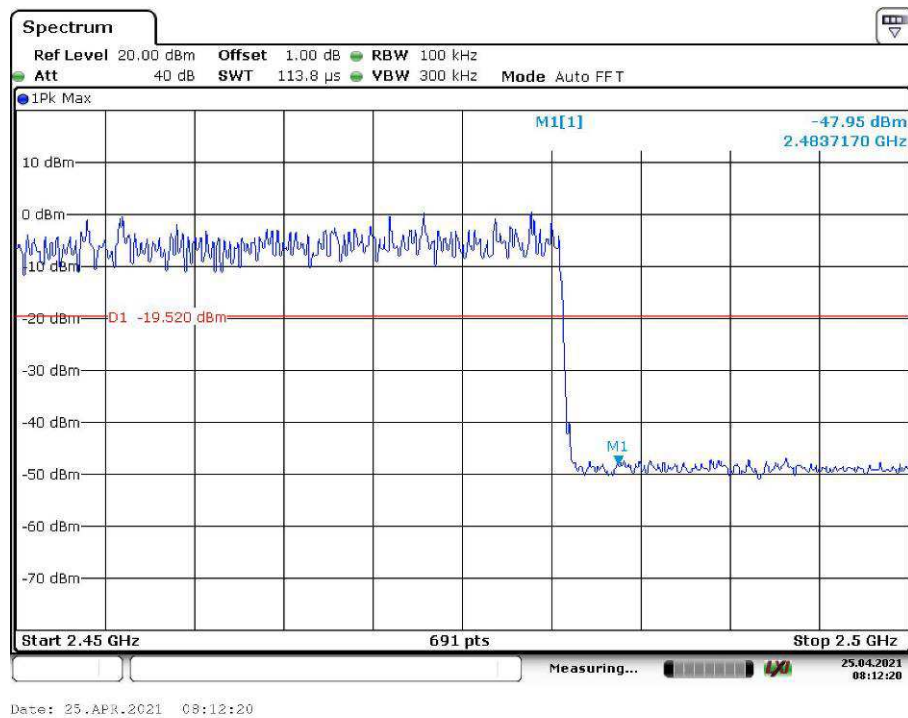
Band Edge, High Channel



Band Edge, Hopping Mode, Low Channel



Band Edge, Hopping Mode, High Channel



Appendix B.7: Test Results of Radiated Spurious Emissions

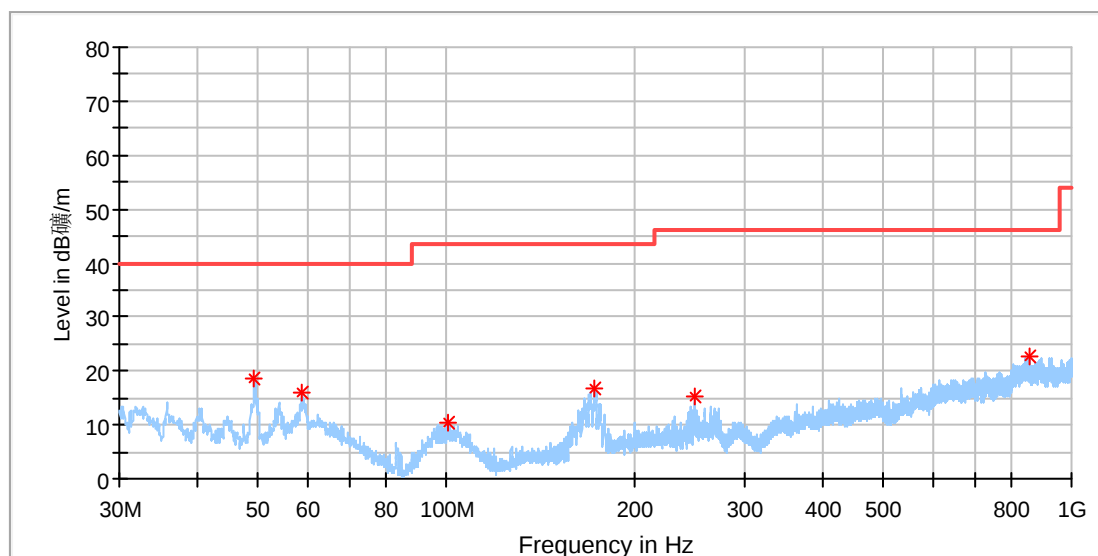
Note:

- This testing was carried out on different modulations, but only the worst case (GFSK) was presented in this report.
- Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

30MHz - 1GHz

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_Low channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

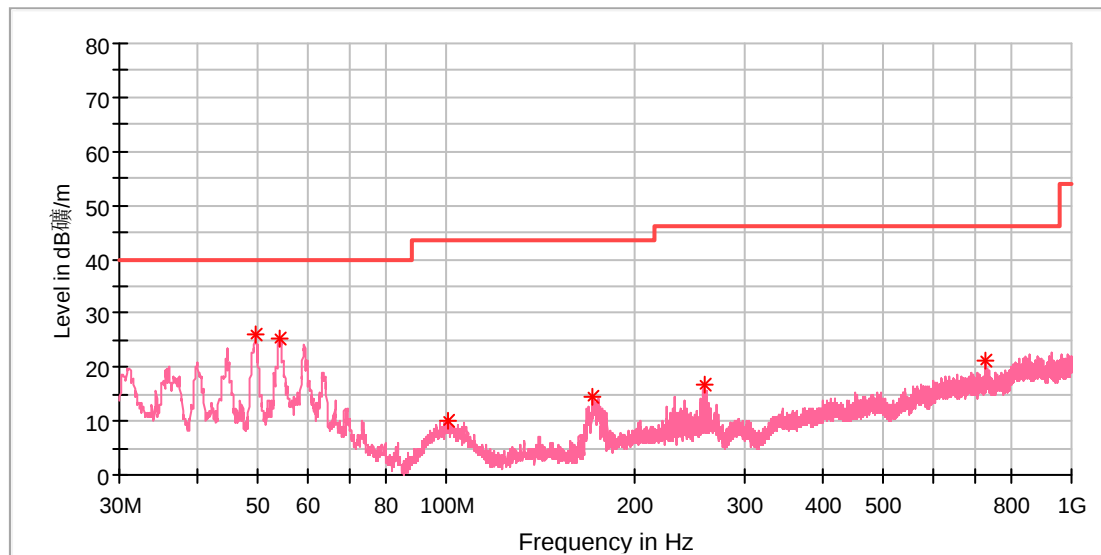


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.351500	18.59	40.00	21.41	100.0	H	229.0	-18.6
58.857500	16.17	40.00	23.83	100.0	H	0.0	-19.2
100.470500	10.45	43.50	33.05	100.0	H	0.0	-19.3
172.687000	16.65	43.50	26.85	100.0	H	0.0	-21.4
249.026000	15.33	46.00	30.67	100.0	H	96.0	-17.7
853.336000	22.61	46.00	23.39	100.0	H	0.0	-5.9

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_Low channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

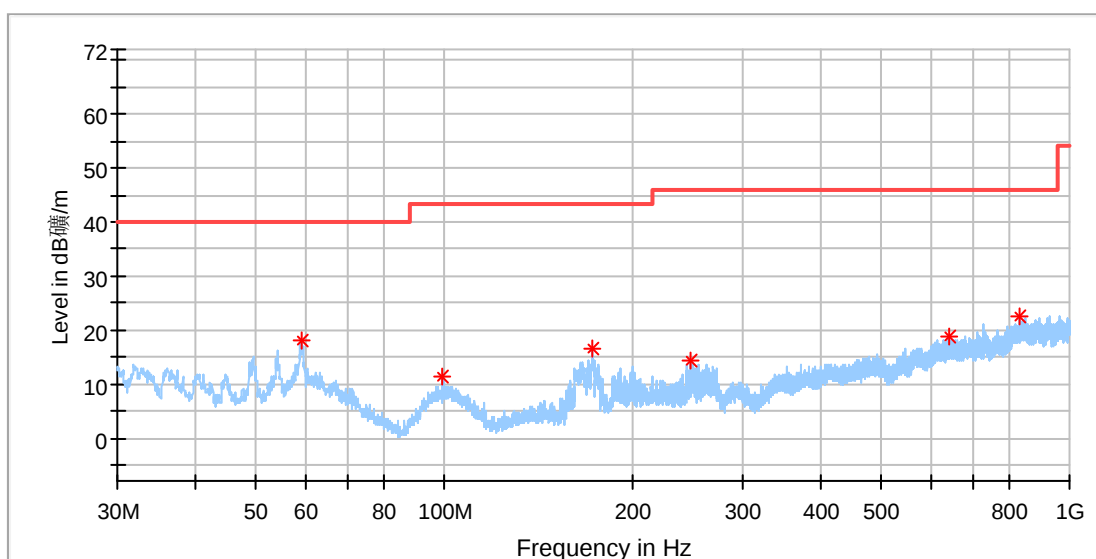


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.545500	25.96	40.00	14.04	100.0	V	0.0	-18.6
53.959000	25.23	40.00	14.77	100.0	V	124.0	-18.7
100.713000	9.90	43.50	33.60	100.0	V	96.0	-19.3
171.571500	14.33	43.50	29.17	100.0	V	96.0	-21.5
258.095500	16.60	46.00	29.40	100.0	V	268.0	-17.5
728.982000	21.30	46.00	24.70	100.0	V	346.0	-7.9

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_High channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

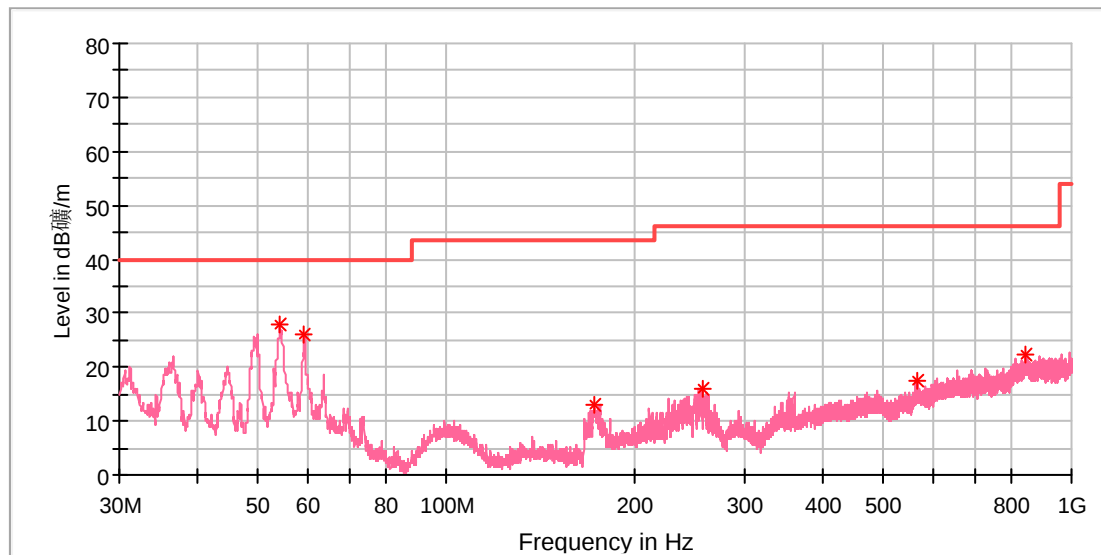


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
59.197000	18.22	40.00	21.78	100.0	H	344.0	-19.2
99.549000	11.30	43.50	32.20	100.0	H	0.0	-19.4
172.978000	16.41	43.50	27.09	100.0	H	159.0	-21.4
248.347000	14.25	46.00	31.75	100.0	H	175.0	-17.7
643.185500	18.79	46.00	27.21	100.0	H	223.0	-9.5
833.693500	22.45	46.00	23.55	100.0	H	57.0	-6.1

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_High channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

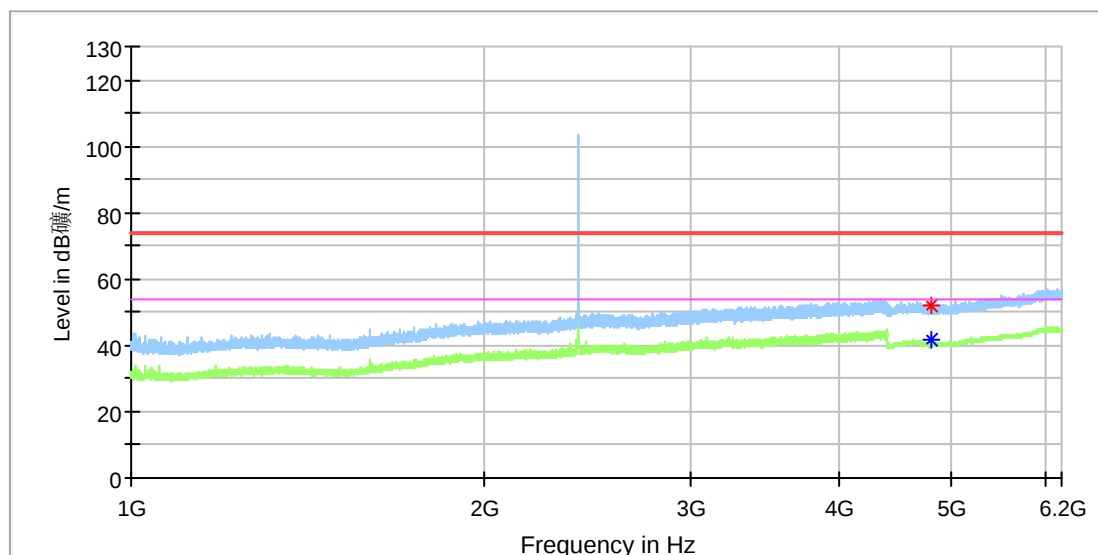
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
54.153000	28.00	40.00	12.00	100.0	V	143.0	-18.7
59.342500	26.11	40.00	13.89	100.0	V	323.0	-19.2
172.881000	13.05	43.50	30.45	100.0	V	143.0	-21.4
256.204000	16.06	46.00	29.94	100.0	V	133.0	-17.5
567.331500	17.35	46.00	28.65	100.0	V	274.0	-10.8
844.848500	22.38	46.00	23.62	100.0	V	103.0	-6.0

1GHz - 18GHz

Note: The highest waveform in the figure is Bluetooth Fundamental.

EUT Information

EUT Name:	thinkplus Walkie Talkie Earphone HW10
Model:	HW10TP
Test Mode:	BDR_DH5_Low channel
Test Voltage::	AC 120V, 60Hz
Remark:	Temp 23 Humi:55%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

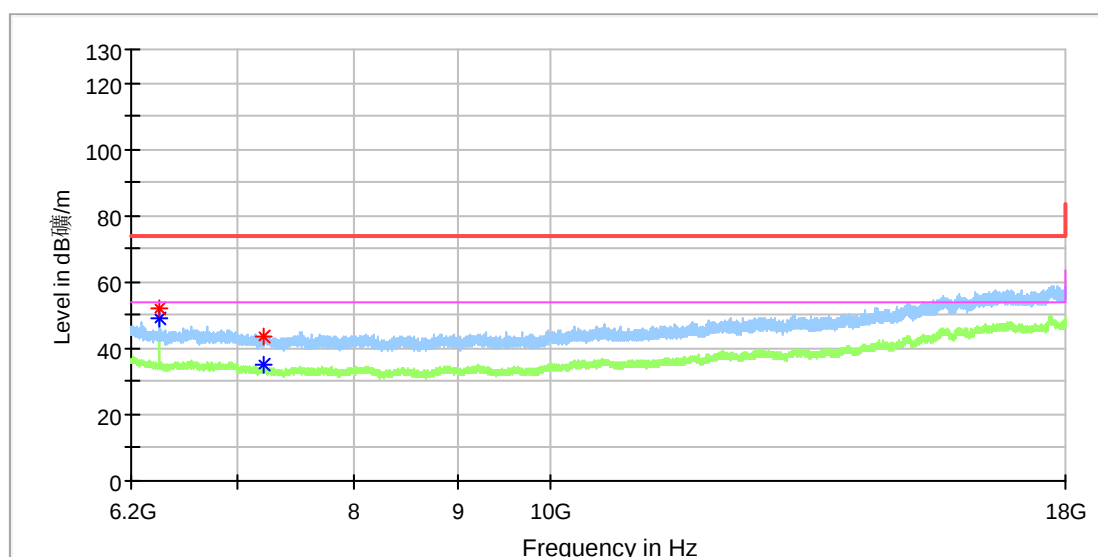


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4804.000000	---	41.77	54.00	12.23	100.0	H	94.0	11.8
4804.500000	51.78	---	74.00	22.22	100.0	H	222.0	11.8

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_Low channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

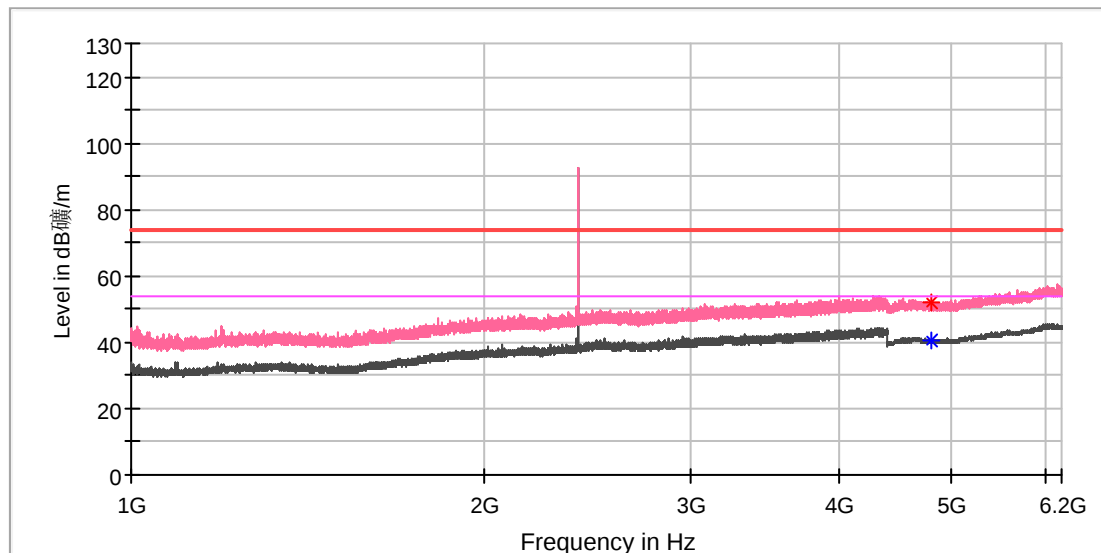


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6405.025000	52.05	---	74.00	21.95	100.0	H	73.0	8.9
6405.025000	---	48.91	54.00	5.09	100.0	H	73.0	8.9
7214.308333	---	34.89	54.00	19.11	100.0	H	0.0	8.7
7217.750000	43.52	---	74.00	30.48	100.0	H	0.0	8.7

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_Low channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

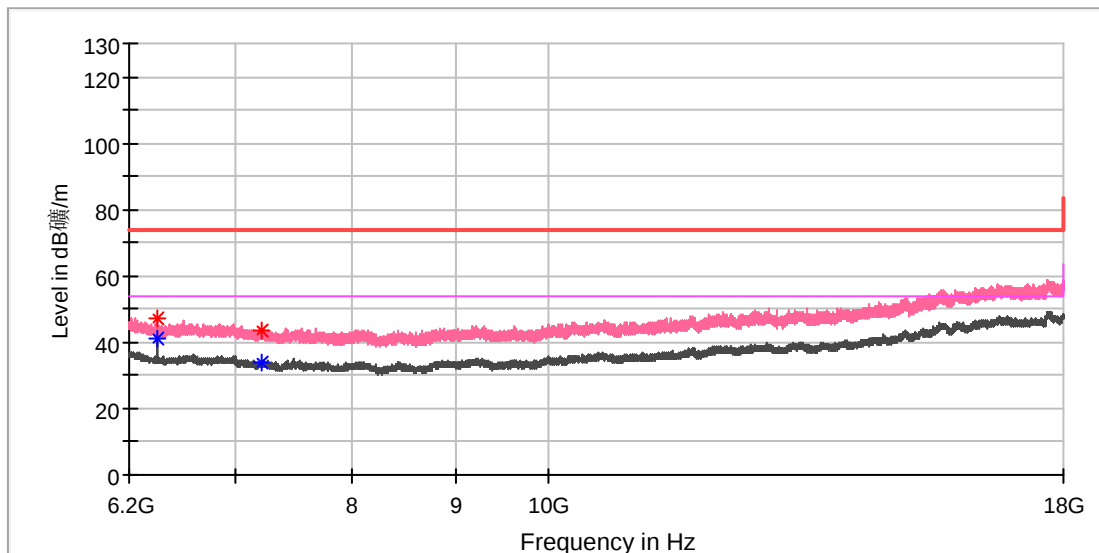


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4802.500000	52.13	---	74.00	21.87	100.0	V	268.0	11.8
4803.000000	---	40.71	54.00	13.29	100.0	V	325.0	11.8

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_Low channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

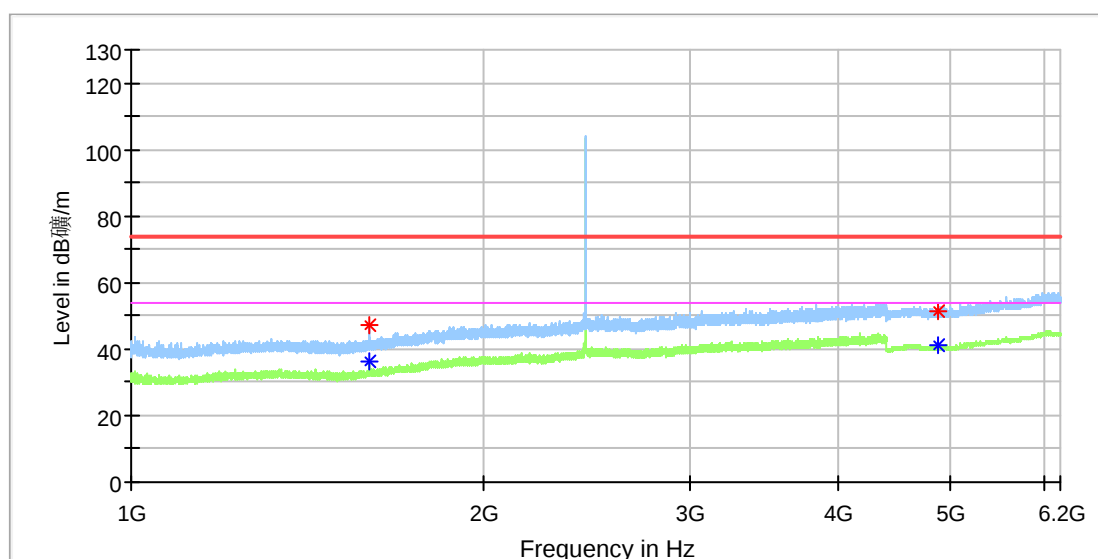


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6405.025000	---	40.89	54.00	13.11	100.0	V	279.0	8.9
6405.516667	47.26	---	74.00	26.74	100.0	V	38.0	8.9
7211.358333	---	33.95	54.00	20.05	100.0	V	224.0	8.7
7217.258333	43.75	---	74.00	30.26	100.0	V	358.0	8.7

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_Mid channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

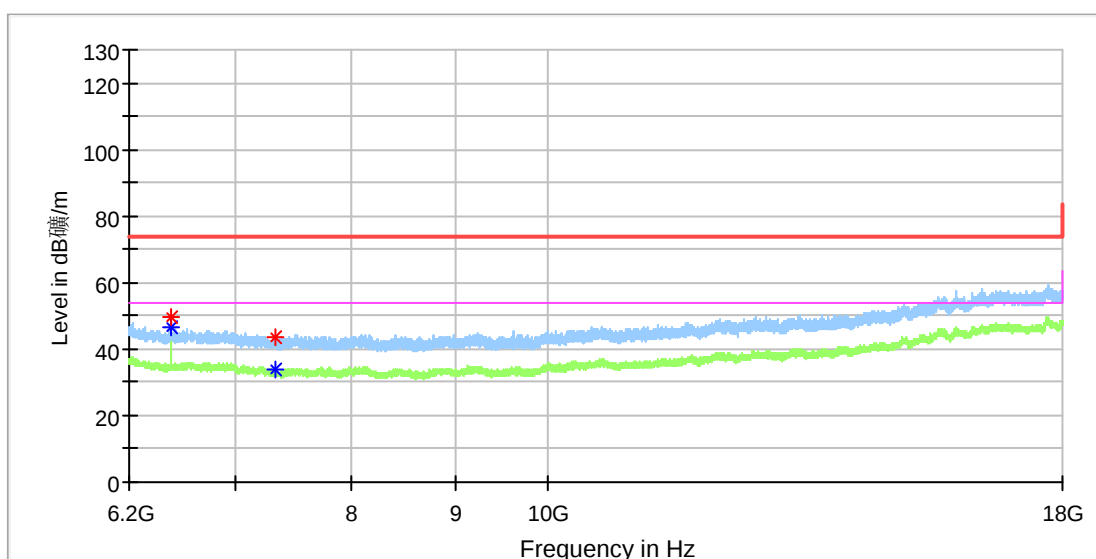


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1593.810000	---	36.42	54.00	17.58	100.0	H	99.0	2.0
1593.810000	47.06	---	74.00	26.94	100.0	H	99.0	2.0
4882.000000	51.31	---	74.00	22.69	100.0	H	102.0	11.8
4882.000000	---	41.04	54.00	12.96	100.0	H	102.0	11.8

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_Mid channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

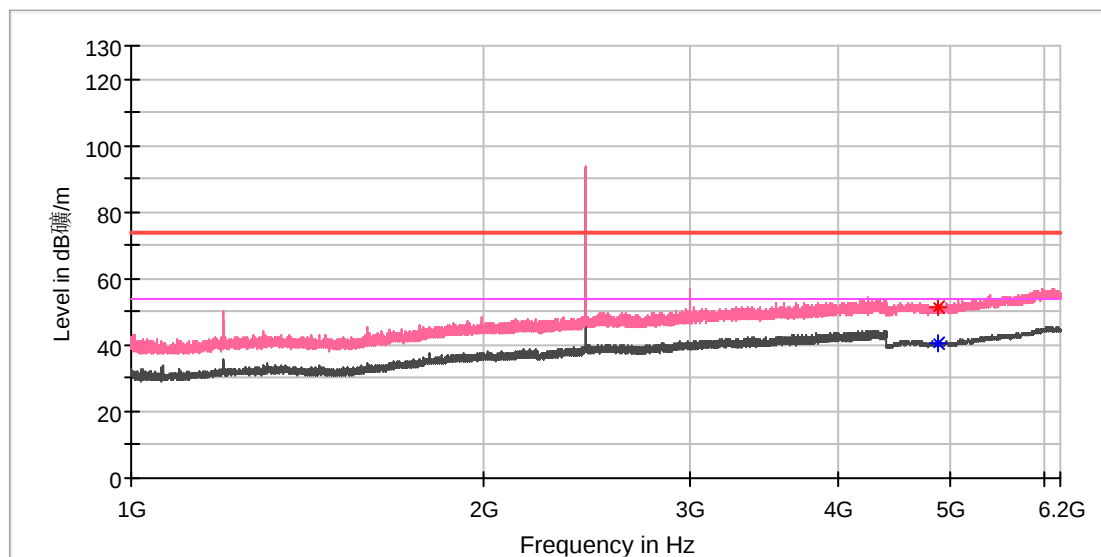


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6509.258333	49.81	---	74.00	24.19	100.0	H	76.0	8.8
6509.258333	---	46.34	54.00	7.66	100.0	H	76.0	8.8
7319.033333	---	33.86	54.00	20.14	100.0	H	326.0	8.2
7320.016667	43.62	---	74.00	30.38	100.0	H	271.0	8.2

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_Mid channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

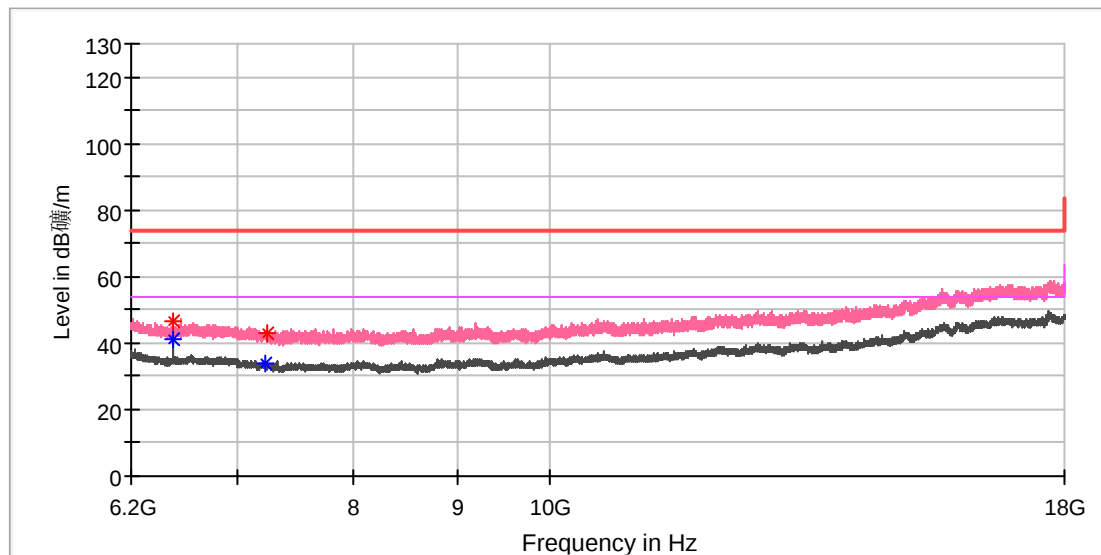


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4882.500000	51.56	---	74.00	22.44	100.0	V	238.0	11.8
4882.500000	---	40.33	54.00	13.67	100.0	V	238.0	11.8

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_Mid channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

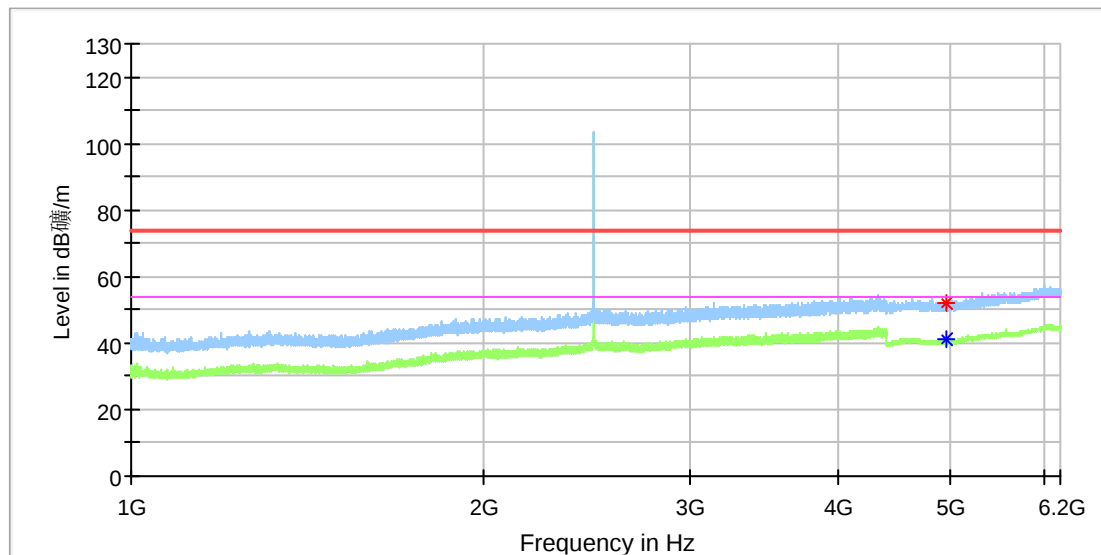


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6509.258333	---	41.02	54.00	12.98	100.0	V	18.0	8.8
6509.258333	46.72	---	74.00	27.28	100.0	V	18.0	8.8
7234.466667	---	33.97	54.00	20.03	100.0	V	31.0	8.6
7235.941667	42.79	---	74.00	31.21	100.0	V	101.0	8.6

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_High channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

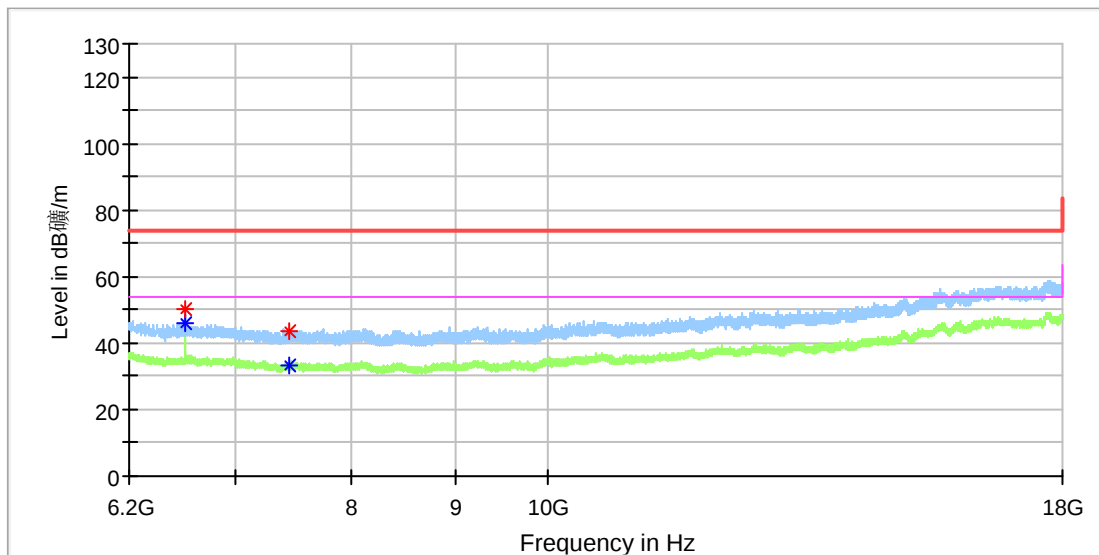


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4957.500000	---	40.88	54.00	13.12	100.0	H	113.0	11.8
4958.500000	51.93	---	74.00	22.07	100.0	H	243.0	11.8

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_High channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

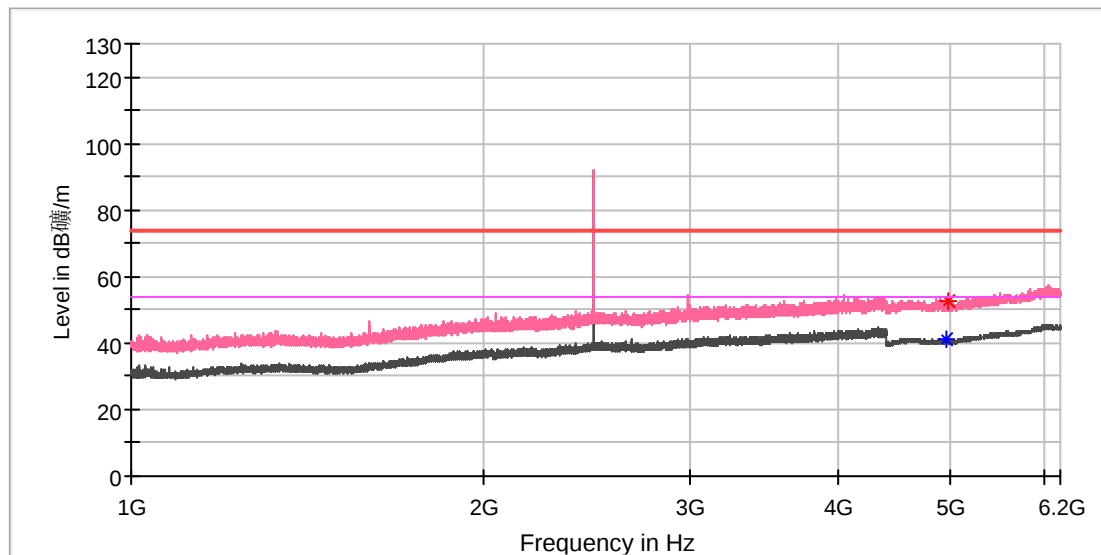


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6613.000000	---	45.79	54.00	8.21	100.0	H	110.0	8.8
6613.000000	49.88	---	74.00	24.12	100.0	H	110.0	8.8
7443.425000	---	33.37	54.00	20.63	100.0	H	315.0	8.5
7444.408333	43.62	---	74.00	30.38	100.0	H	220.0	8.5

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_High channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

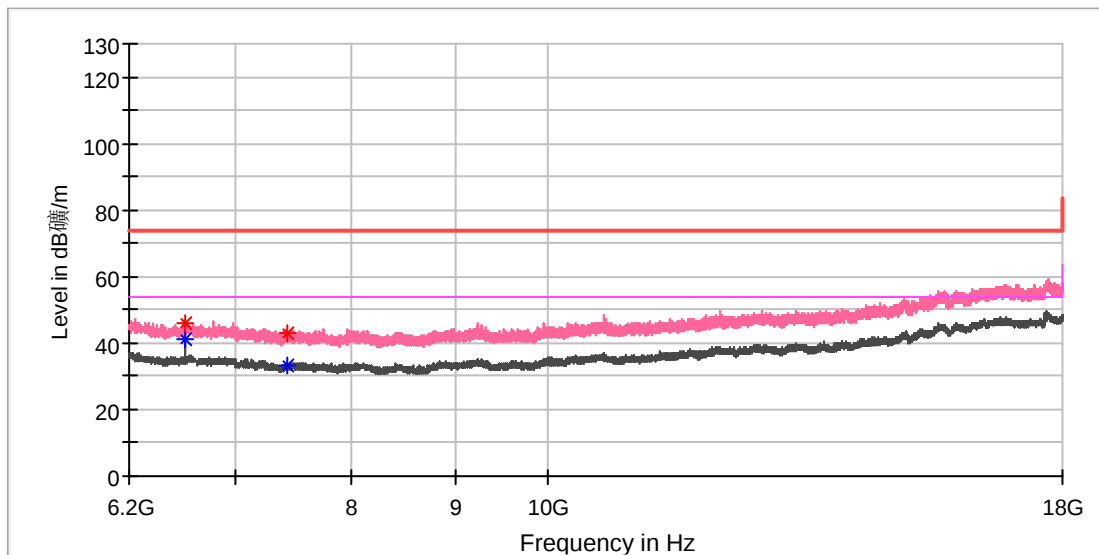


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4963.000000	---	40.93	54.00	13.07	100.0	V	188.0	11.8
4969.500000	52.35	---	74.00	21.65	100.0	V	103.0	11.8

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_High channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



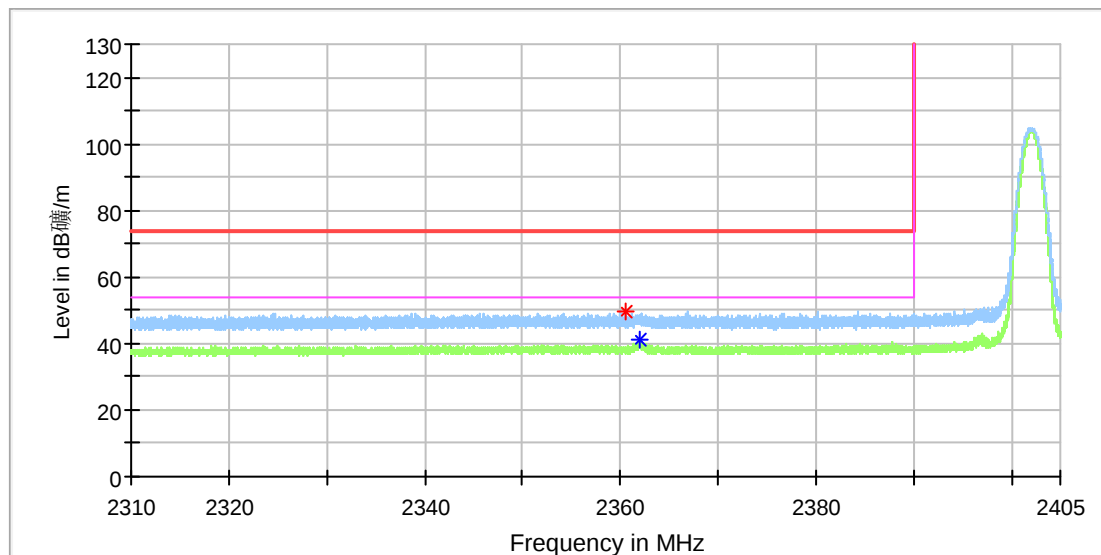
Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6613.000000	45.95	---	74.00	28.05	100.0	V	265.0	8.8
6613.000000	---	41.04	54.00	12.96	100.0	V	265.0	8.8
7434.575000	---	33.40	54.00	20.60	100.0	V	113.0	8.4
7435.558333	43.07	---	74.00	30.93	100.0	V	222.0	8.4

Appendix B.8: Test Results of Radiated Emissions in Restricted Bands

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_Low channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

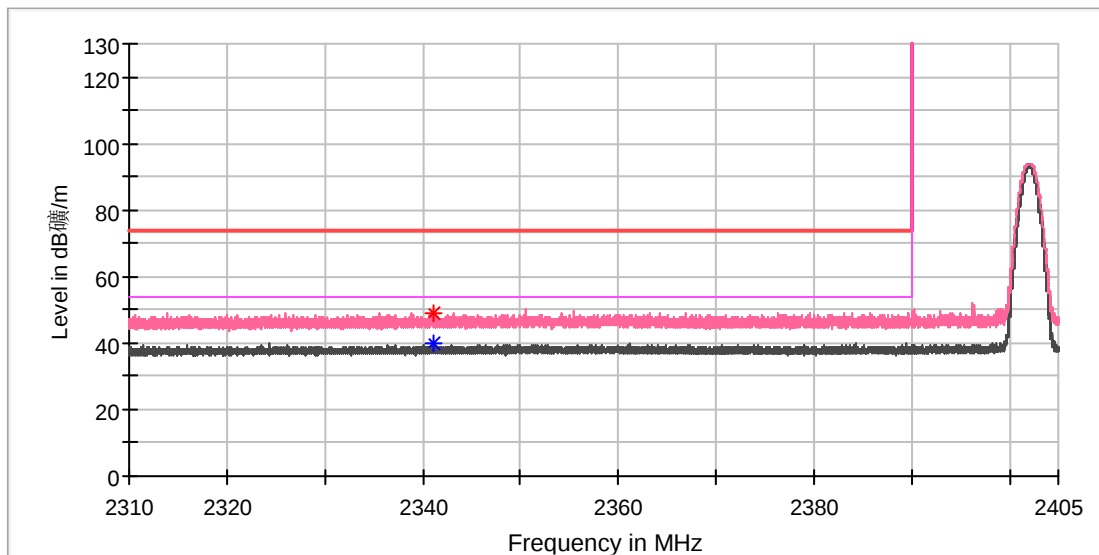


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2360.649250	49.31	---	74.00	24.69	100.0	H	117.0	6.9
2361.960250	---	41.02	54.00	12.98	100.0	H	242.0	6.9

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_Low channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

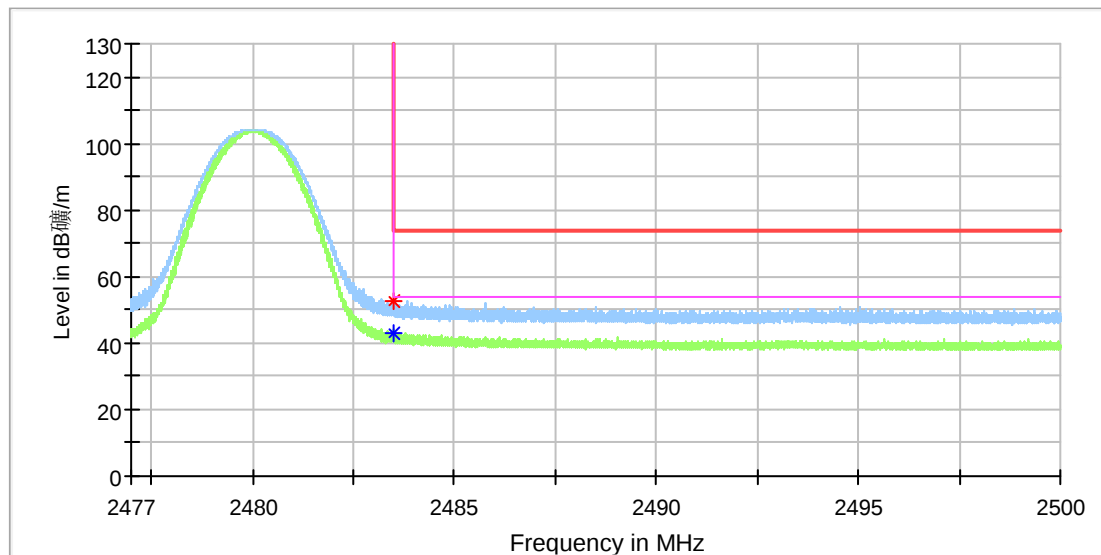


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2341.050750	---	40.11	54.00	13.89	100.0	V	176.0	6.8
2341.050750	49.25	---	74.00	24.75	100.0	V	176.0	6.8

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_High channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

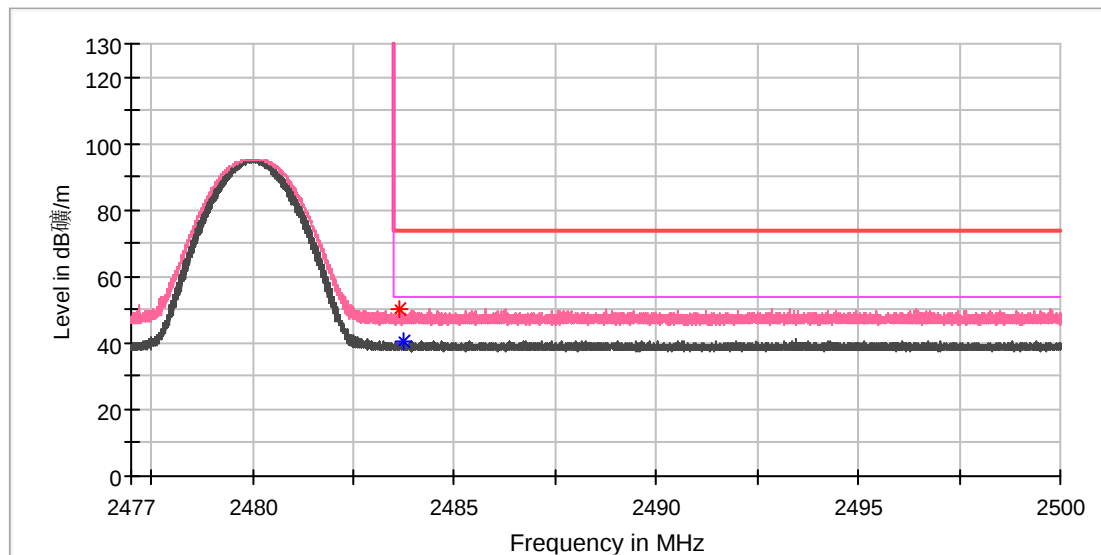


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.503250	52.80	---	74.00	21.20	100.0	H	74.0	7.4
2483.505550	---	42.94	54.00	11.06	100.0	H	74.0	7.4

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
Model: HW10TP
Test Mode: BDR_DH5_High channel
Test Voltage:: AC 120V, 60Hz
Remark: Temp 23 Humi:55%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.638950	49.97	---	74.00	24.03	100.0	V	205.0	7.4
2483.729800	---	40.55	54.00	13.45	100.0	V	182.0	7.4