

1. Effective (Isotropic) Radiated Power Output Data

1.1 Band5_ERP

1.1.1 Test Result

Band: 5									
ENV	Mode		Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict	
	Network	Subset				Result	Limit		
NTNV	RMC	12.2kbps RMC	826.4	21.13	1.12	20.10	<=38.45	Pass	
			836.6	21.17	1.12	20.14	<=38.45	Pass	
			846.6	21.00	1.12	19.97	<=38.45	Pass	
	HSDPA	Subtest 1	826.4	18.74	1.12	17.71	<=38.45	Pass	
		Subtest 2	826.4	18.75	1.12	17.72	<=38.45	Pass	
		Subtest 3	826.4	18.77	1.12	17.74	<=38.45	Pass	
		Subtest 4	826.4	18.78	1.12	17.75	<=38.45	Pass	
		Subtest 1	836.6	18.79	1.12	17.76	<=38.45	Pass	
		Subtest 2	836.6	18.81	1.12	17.78	<=38.45	Pass	
		Subtest 3	836.6	18.84	1.12	17.81	<=38.45	Pass	
		Subtest 4	836.6	18.82	1.12	17.79	<=38.45	Pass	
		Subtest 1	846.6	18.72	1.12	17.69	<=38.45	Pass	
		Subtest 2	846.6	18.70	1.12	17.67	<=38.45	Pass	
		Subtest 3	846.6	18.73	1.12	17.70	<=38.45	Pass	
		Subtest 4	846.6	18.72	1.12	17.69	<=38.45	Pass	
		HSUPA	Subtest 1	826.4	16.76	1.12	15.73	<=38.45	Pass
			Subtest 2	826.4	16.53	1.12	15.50	<=38.45	Pass
			Subtest 3	826.4	16.22	1.12	15.19	<=38.45	Pass
			Subtest 4	826.4	16.74	1.12	15.71	<=38.45	Pass
			Subtest 5	826.4	16.28	1.12	15.25	<=38.45	Pass
	Subtest 1		836.6	16.80	1.12	15.77	<=38.45	Pass	
	Subtest 2		836.6	16.27	1.12	15.24	<=38.45	Pass	
	Subtest 3		836.6	16.28	1.12	15.25	<=38.45	Pass	
	Subtest 4		836.6	16.60	1.12	15.57	<=38.45	Pass	
	Subtest 5		836.6	16.60	1.12	15.57	<=38.45	Pass	
	Subtest 1		846.6	16.64	1.12	15.61	<=38.45	Pass	
	Subtest 2		846.6	16.64	1.12	15.61	<=38.45	Pass	
	Subtest 3		846.6	16.43	1.12	15.40	<=38.45	Pass	
	Subtest 4	846.6	16.44	1.12	15.41	<=38.45	Pass		
	Subtest 5	846.6	16.62	1.12	15.59	<=38.45	Pass		

Note1: ERP=Conducted Power+Antenna Gain-2.15

2. Frequency Stability

2.1 Band5

2.1.1 Test Result

Band: 5							
Network	Frequency (MHz)	Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
					Result	Limit	
RMC	826.4	20	3.27	-11.051	-0.0134	-2.5 to 2.5	Pass
			3.85	-9.091	-0.0110	-2.5 to 2.5	Pass

			4.43	-8.633	-0.0104	-2.5 to 2.5	Pass	
		-30	3.85	-15.314	-0.0185	-2.5 to 2.5	Pass	
		-20	3.85	-11.773	-0.0142	-2.5 to 2.5	Pass	
		-10	3.85	-9.327	-0.0113	-2.5 to 2.5	Pass	
		0	3.85	-14.226	-0.0172	-2.5 to 2.5	Pass	
		10	3.85	-12.839	-0.0155	-2.5 to 2.5	Pass	
		30	3.85	-9.055	-0.0110	-2.5 to 2.5	Pass	
		40	3.85	-12.875	-0.0156	-2.5 to 2.5	Pass	
		50	3.85	-8.712	-0.0105	-2.5 to 2.5	Pass	
		836.6	20	3.27	-7.575	-0.0091	-2.5 to 2.5	Pass
				3.85	-9.649	-0.0115	-2.5 to 2.5	Pass
				4.43	-14.191	-0.0170	-2.5 to 2.5	Pass
			-30	3.85	-12.331	-0.0147	-2.5 to 2.5	Pass
			-20	3.85	-11.852	-0.0142	-2.5 to 2.5	Pass
	-10		3.85	-13.325	-0.0159	-2.5 to 2.5	Pass	
	0		3.85	-7.911	-0.0095	-2.5 to 2.5	Pass	
	10		3.85	-13.504	-0.0161	-2.5 to 2.5	Pass	
	30		3.85	-8.583	-0.0103	-2.5 to 2.5	Pass	
	40		3.85	-7.653	-0.0091	-2.5 to 2.5	Pass	
	50	3.85	-11.044	-0.0132	-2.5 to 2.5	Pass		
	846.6	20	3.27	-14.005	-0.0165	-2.5 to 2.5	Pass	
			3.85	-7.167	-0.0085	-2.5 to 2.5	Pass	
			4.43	-13.311	-0.0157	-2.5 to 2.5	Pass	
		-30	3.85	-10.421	-0.0123	-2.5 to 2.5	Pass	
		-20	3.85	-6.244	-0.0074	-2.5 to 2.5	Pass	
		-10	3.85	-10.507	-0.0124	-2.5 to 2.5	Pass	
		0	3.85	-6.323	-0.0075	-2.5 to 2.5	Pass	
		10	3.85	-8.447	-0.0100	-2.5 to 2.5	Pass	
		30	3.85	-12.453	-0.0147	-2.5 to 2.5	Pass	
		40	3.85	-8.798	-0.0104	-2.5 to 2.5	Pass	
	50	3.85	-13.347	-0.0158	-2.5 to 2.5	Pass		
	HSDPA	826.4	20	3.27	-8.297	-0.0100	-2.5 to 2.5	Pass
				3.85	-10.464	-0.0127	-2.5 to 2.5	Pass
4.43				-15.235	-0.0184	-2.5 to 2.5	Pass	
-30			3.85	-13.182	-0.0160	-2.5 to 2.5	Pass	
-20			3.85	-13.919	-0.0168	-2.5 to 2.5	Pass	
-10			3.85	-11.315	-0.0137	-2.5 to 2.5	Pass	
0			3.85	-10.564	-0.0128	-2.5 to 2.5	Pass	
10			3.85	-15.192	-0.0184	-2.5 to 2.5	Pass	
30			3.85	-12.031	-0.0146	-2.5 to 2.5	Pass	
40			3.85	-15.771	-0.0191	-2.5 to 2.5	Pass	
50			3.85	-11.230	-0.0136	-2.5 to 2.5	Pass	
836.6			20	3.27	-12.274	-0.0147	-2.5 to 2.5	Pass
				3.85	-10.343	-0.0124	-2.5 to 2.5	Pass
				4.43	-9.420	-0.0113	-2.5 to 2.5	Pass
		-30	3.85	-7.796	-0.0093	-2.5 to 2.5	Pass	
		-20	3.85	-9.642	-0.0115	-2.5 to 2.5	Pass	
		-10	3.85	-9.542	-0.0114	-2.5 to 2.5	Pass	
		0	3.85	-7.825	-0.0094	-2.5 to 2.5	Pass	
		10	3.85	-10.557	-0.0126	-2.5 to 2.5	Pass	
		30	3.85	-10.328	-0.0123	-2.5 to 2.5	Pass	
		40	3.85	-10.414	-0.0124	-2.5 to 2.5	Pass	
50		3.85	-12.975	-0.0155	-2.5 to 2.5	Pass		
846.6		20	3.27	-3.812	-0.0045	-2.5 to 2.5	Pass	
			3.85	-12.531	-0.0148	-2.5 to 2.5	Pass	
			4.43	-8.283	-0.0098	-2.5 to 2.5	Pass	
		-30	3.85	-9.999	-0.0118	-2.5 to 2.5	Pass	

		-20	3.85	-14.119	-0.0167	-2.5 to 2.5	Pass	
		-10	3.85	-11.544	-0.0136	-2.5 to 2.5	Pass	
		0	3.85	-15.485	-0.0183	-2.5 to 2.5	Pass	
		10	3.85	-12.317	-0.0145	-2.5 to 2.5	Pass	
		30	3.85	-7.989	-0.0094	-2.5 to 2.5	Pass	
		40	3.85	-13.654	-0.0161	-2.5 to 2.5	Pass	
		50	3.85	-16.630	-0.0196	-2.5 to 2.5	Pass	
HSUPA	826.4	20	3.23	-1.681	-0.0020	-2.5 to 2.5	Pass	
			3.8	-3.033	-0.0037	-2.5 to 2.5	Pass	
			4.37	-3.984	-0.0048	-2.5 to 2.5	Pass	
		-30	3.8	-3.240	-0.0039	-2.5 to 2.5	Pass	
		-20	3.8	-2.732	-0.0033	-2.5 to 2.5	Pass	
		-10	3.8	-3.490	-0.0042	-2.5 to 2.5	Pass	
		0	3.8	-1.559	-0.0019	-2.5 to 2.5	Pass	
		10	3.8	-2.103	-0.0025	-2.5 to 2.5	Pass	
		30	3.8	-0.594	-0.0007	-2.5 to 2.5	Pass	
		40	3.8	-2.210	-0.0027	-2.5 to 2.5	Pass	
		50	3.8	-2.739	-0.0033	-2.5 to 2.5	Pass	
		836.6	20	3.23	-3.469	-0.0041	-2.5 to 2.5	Pass
				3.8	-3.405	-0.0041	-2.5 to 2.5	Pass
				4.37	-3.576	-0.0043	-2.5 to 2.5	Pass
	-30		3.8	-1.888	-0.0023	-2.5 to 2.5	Pass	
	-20		3.8	-4.070	-0.0049	-2.5 to 2.5	Pass	
	-10		3.8	-1.831	-0.0022	-2.5 to 2.5	Pass	
	0		3.8	-1.695	-0.0020	-2.5 to 2.5	Pass	
	10		3.8	-4.184	-0.0050	-2.5 to 2.5	Pass	
	30		3.8	-4.714	-0.0056	-2.5 to 2.5	Pass	
	40		3.8	-3.040	-0.0036	-2.5 to 2.5	Pass	
	50		3.8	-3.548	-0.0042	-2.5 to 2.5	Pass	
	846.6		20	3.23	-2.697	-0.0032	-2.5 to 2.5	Pass
				3.8	-2.539	-0.0030	-2.5 to 2.5	Pass
				4.37	-1.352	-0.0016	-2.5 to 2.5	Pass
		-30	3.8	-3.018	-0.0036	-2.5 to 2.5	Pass	
		-20	3.8	-1.266	-0.0015	-2.5 to 2.5	Pass	
		-10	3.8	-1.259	-0.0015	-2.5 to 2.5	Pass	
		0	3.8	-1.502	-0.0018	-2.5 to 2.5	Pass	
		10	3.8	-1.566	-0.0018	-2.5 to 2.5	Pass	
		30	3.8	-2.160	-0.0026	-2.5 to 2.5	Pass	
		40	3.8	-4.156	-0.0049	-2.5 to 2.5	Pass	
		50	3.23	-1.681	-0.0020	-2.5 to 2.5	Pass	

3. Modulation Characteristics

3.1 Band5

3.1.1 Test Result

Band: 5						
ENV	Mode		Frequency (MHz)	Modulation Characteristics		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	836.6	Refer To Test Graph		Pass
	HSDPA	Subtest 1	836.6	Refer To Test Graph		Pass
	HSUPA	Subtest 1	836.6	Refer To Test Graph		Pass

3.1.2 Test Graph

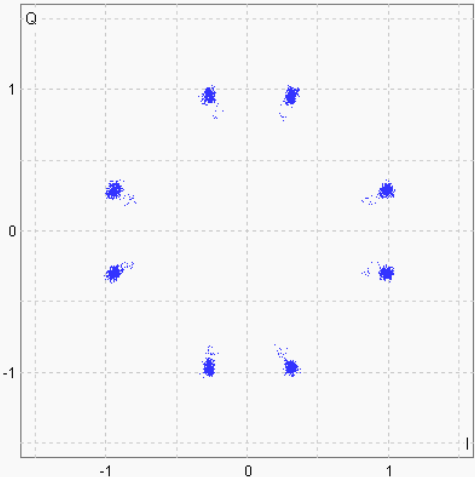
Band5_RMC_MCH_836.6MHz_12.2kbps RMC_NTNV

WCDMA UE TX Measurement 1 - V3.7.20 - Base V 3.7.22

● Multi Evaluation
 ● TPC Measurement
 ● PRACH
 ● DPCCH Open Loop Power
 ● Out-of-Sync Handling

UL Frequency: 836.600000 MHz Ref. Level: 32.40 dBm Connector: RF1COM Meas. Period: Full Slot

IQ



Statistic Count: 20 / 20

1st Measured Slot No: 0

Statistics @ Pre. ... **CurrentStdDev**

Power [dBm]	15.01	0.53
Power Steps [dB]	NCAP	NCAP
EVM RMS [%]	4.26	0.09
EVM Peak [%]	16.46	1.82
Magn. Error RMS [%]	3.25	0.07
Magn. Error Peak [%]	-14.03	1.48
Phase Error RMS [°]	1.58	0.03
Phase Error Peak [°]	-5.56	0.85
IQ Origin Offset [dB]	-32.76	0.30
IQ Imbalance [dB]	-59.04	2.81
CF Error [Hz]	-15.26	1.49
Phase Disc. [°]	NCAP	

● HSDPA ● CPO Circuit Switched:
 ● Packet Switched:
 ● Power:
 ● HSPA+ ● CM Registered
 ● Connection Established
 ● Sync:

Go To Local
Show Remote Screen

WCDMA

Multi Evaluation

RDY

RF Settings

Trigger

Display

Signaling Parameter

WCDMA 1 Signaling

ON

Band5_HSDPA_MCH_836.6MHz_Subtest 1_NTNV

WCDMA UE TX Measurement 1 - V3.7.20 - Base V 3.7.22

● Multi Evaluation
 ● TPC Measurement
 ● PRACH
 ● DPCCH Open Loop Power
 ● Out-of-Sync Handling

UL Frequency: 836.600000 MHz Ref. Level: 16.80 dBm Connector: RF1COM Meas. Period: Full Slot

UE Power

dBm

Slot

Power Steps

dB

Slot

CDP vs Slot

dB

Slot

Frequency Error

Hz

Slot

Error Vector Magnitude

%

Slot

EVM vs Chip

%

Chip

CD Monitor

ACLR

dBm

Ch

Emission Mask

dB

kHz

TX Measurement Current

UE Power 0.73 dBm EVM RMS 8.50 % CF Error -10.25 Hz OBW 4.13 MHz

● HSDPA+ ● CPO Circuit Switched:
 ● Packet Switched:
 ● Power:
 ● HSPA+ ● CM Registered
 ● Connection Established
 ● Sync:

Go To Local
Show Remote Screen

WCDMA

Multi Evaluation

RDY

RF Settings

Trigger

Display

Signaling Parameter

WCDMA 1 Signaling

ON

Page 4 / 33

Band5 HSUPA MCH_836.6MHz Subtest 1_NTNV

WCDMA UE TX Measurement 1 - V3.7.20 - Base V 3.7.22

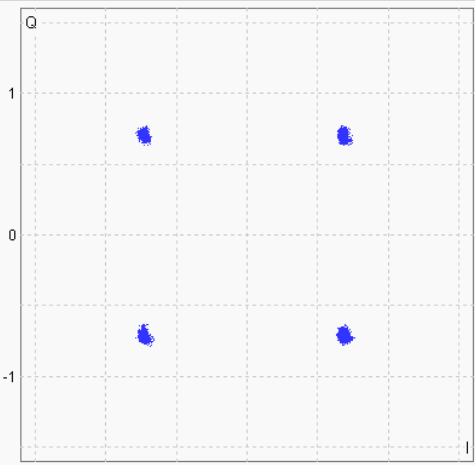
UL Frequency: 836.600000 MHz Ref. Level: 16.80 dBm Connector: RF1COM Meas. Period: Full Slot

WCDMA

Multi Evaluation **RDY**

Multi Evaluation TPC Measurement PRACH DPCCH Open Loop Power Out-of-Sync Handling

IQ



Statistic Count

20 / 20

1st Measured Slot No	0
Statistics @ Pre. ...	CurrentStdDev
Power [dBm]	-6.03 3.09
Power Steps [dB]	NCAP NCAP
EVM RMS [%]	4.25 2.72
EVM Peak [%]	8.21 29.59
Magn. Error RMS [%]	3.00 2.98
Magn. Error Peak [%]	-8.04 29.77
Phase Error RMS [°]	1.72 0.46
Phase Error Peak [°]	-4.31 2.43
IQ Origin Offset [dB]	-32.68 0.66
IQ Imbalance [dB]	-57.69 2.60
CF Error [Hz]	-15.01 3.71
Phase Disc. [°]	NCAP

HSDPA+ CPO Circuit Switched

HSUPA CM Registered

Packet Switched: Connection Established

Power: ON

Sync: ON

WCDMA 1 Signaling **ON**

Go To Local

Show Remote Screen

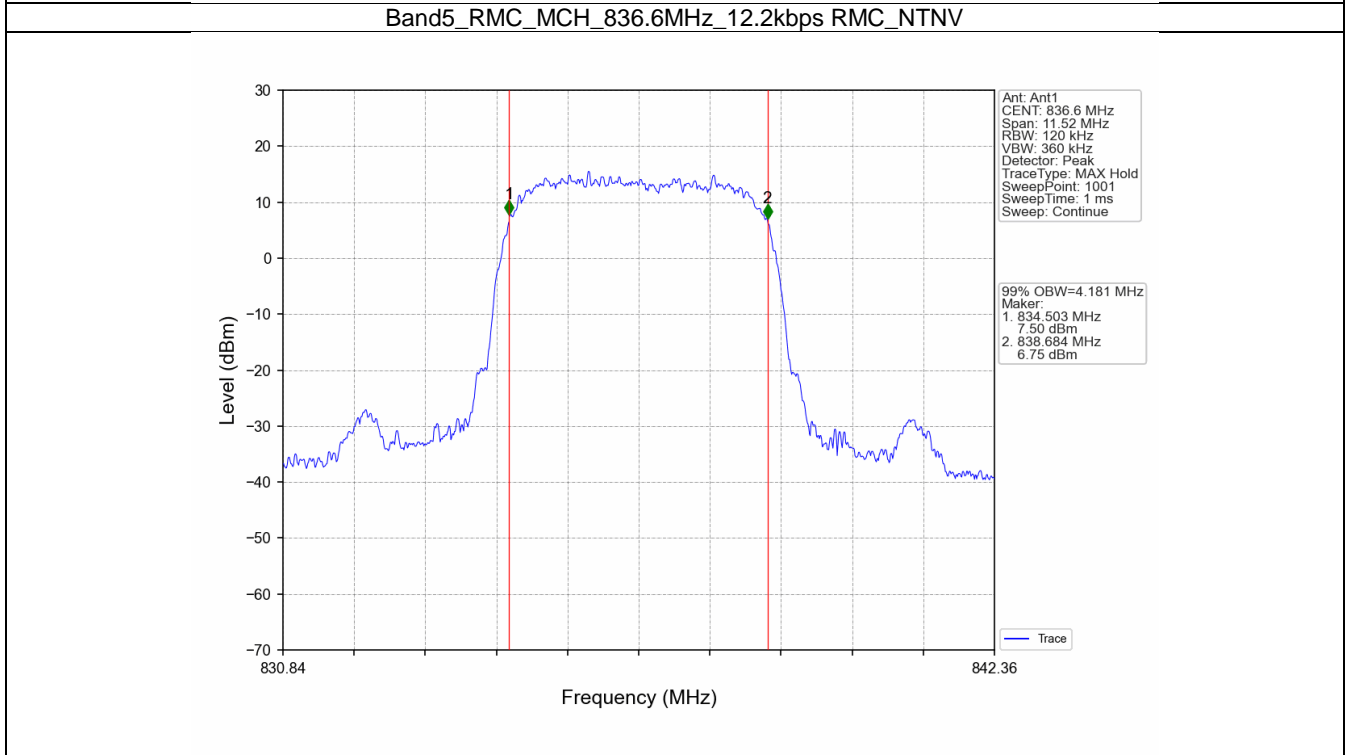
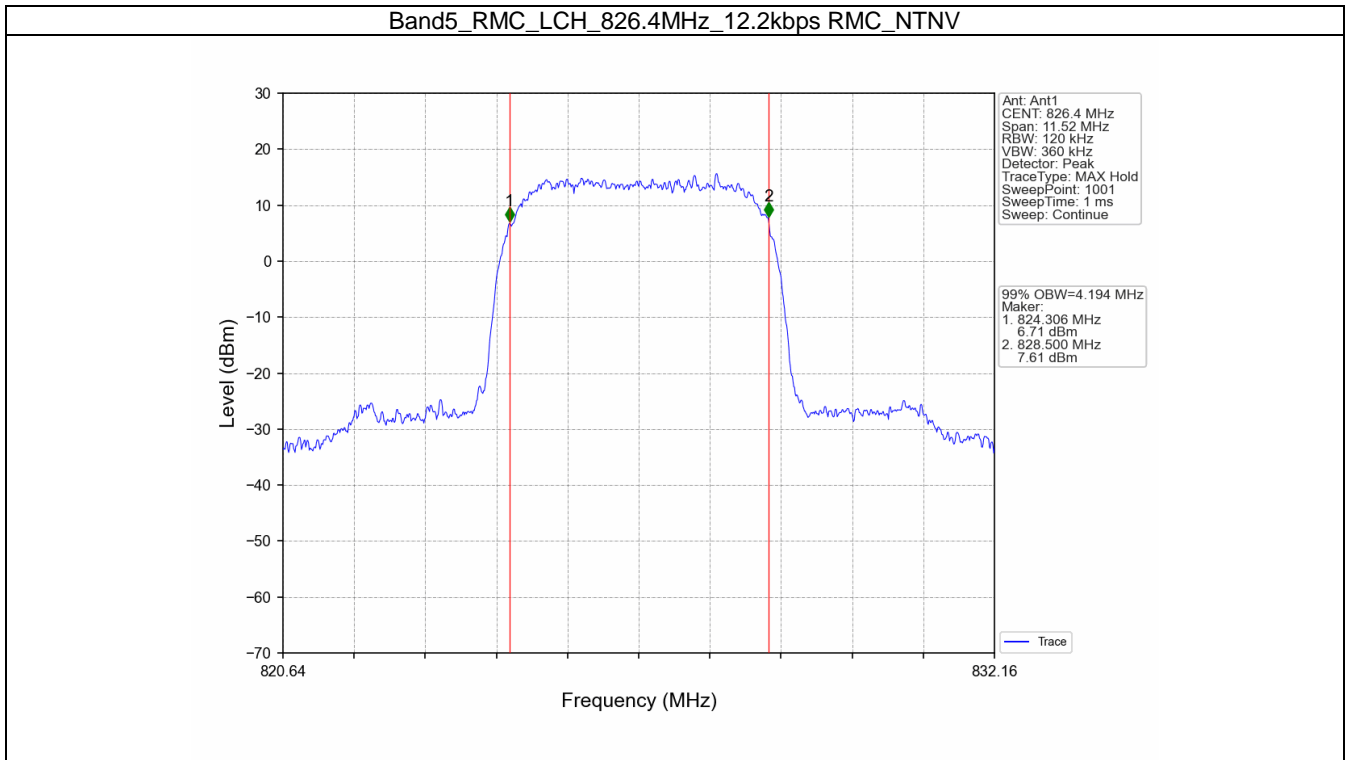
4. 99% & 26dB Bandwidth

4.1 Band5_OBW

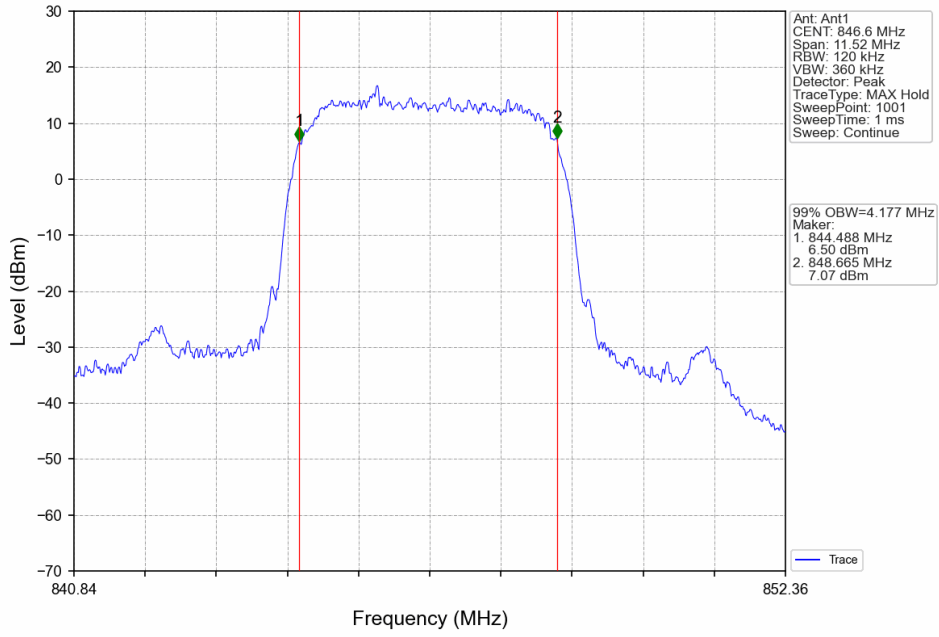
4.1.1 Test Result

Band: 5						
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	826.4	4.194	/	Pass
			836.6	4.181	/	Pass
			846.6	4.177	/	Pass
	HSDPA	Subtest 1	826.4	4.214	/	Pass
			836.6	4.235	/	Pass
			846.6	4.197	/	Pass
	HSUPA	Subtest 1	826.4	4.213	/	Pass
			836.6	4.235	/	Pass
			846.6	4.218	/	Pass

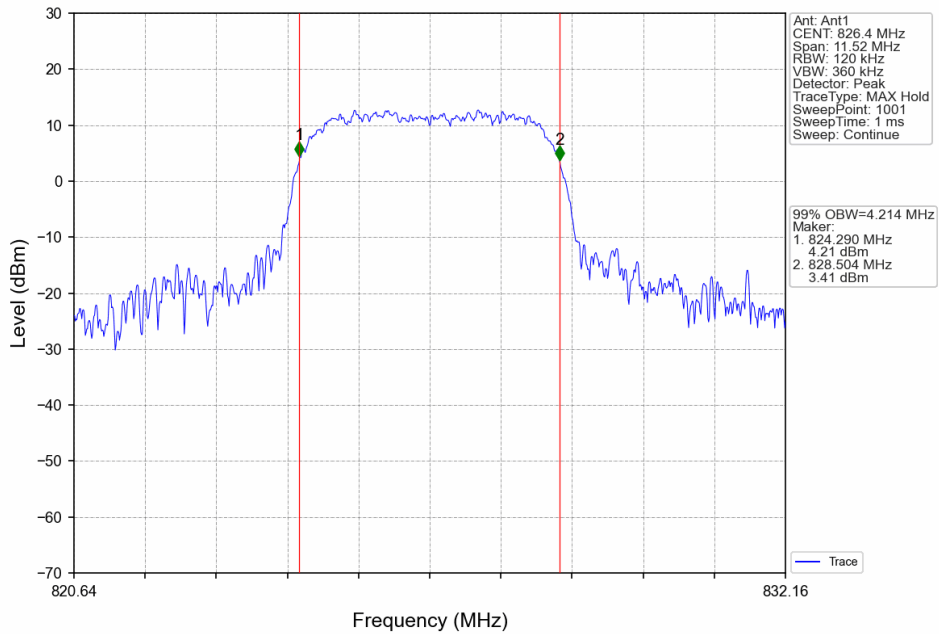
4.1.2 Test Graph



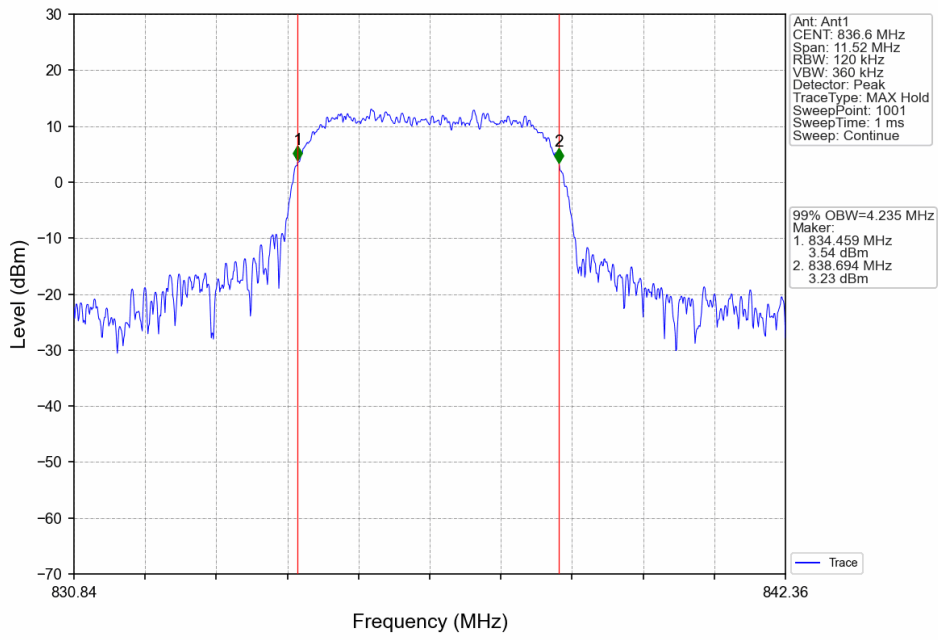
Band5_RMC_HCH_846.6MHz_12.2kbps RMC_NTNV



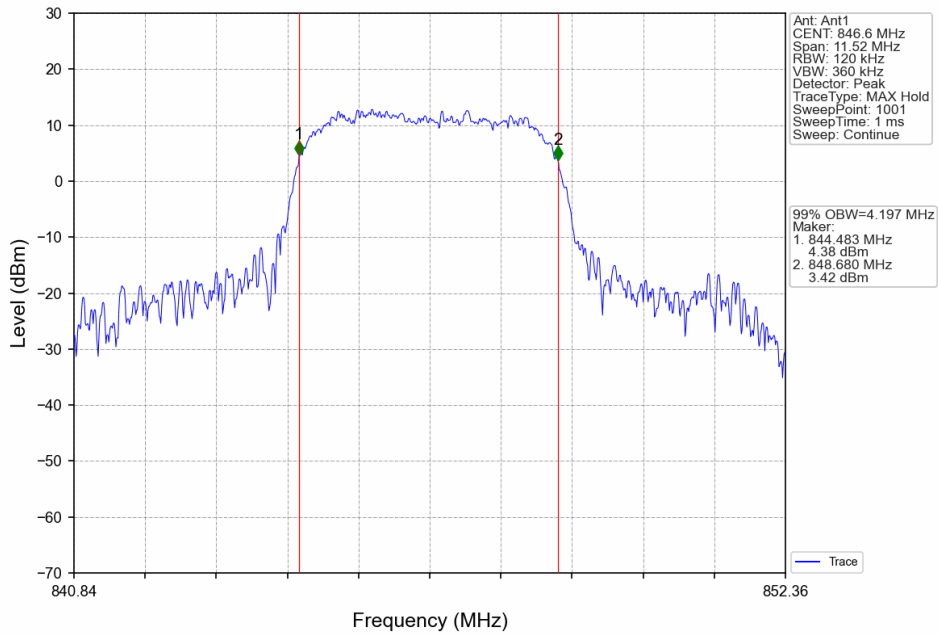
Band5_HSDPA_LCH_826.4MHz_Subtest 1_NTNV



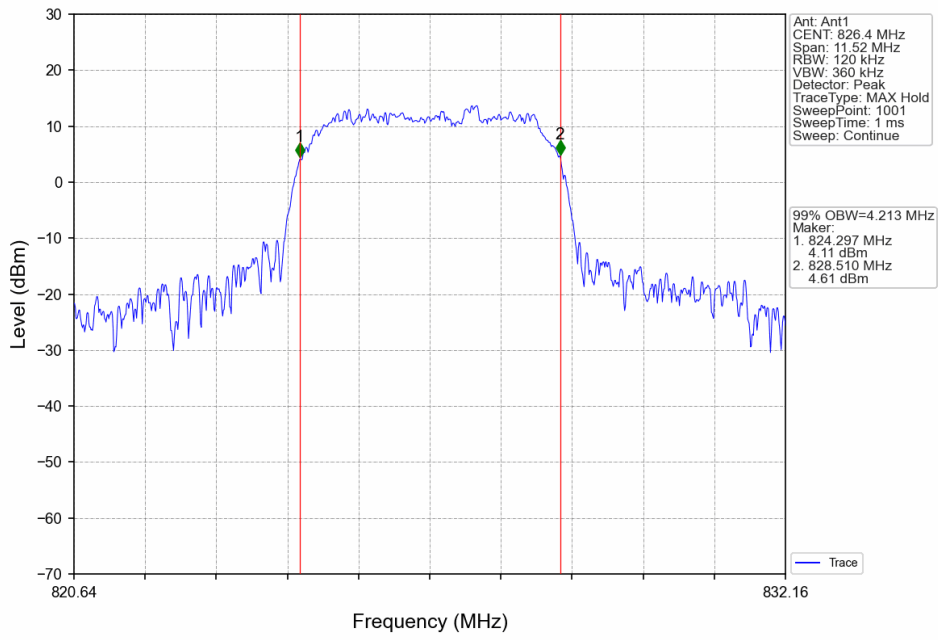
Band5_HSDPA_MCH_836.6MHz_Subtest 1_NTNV



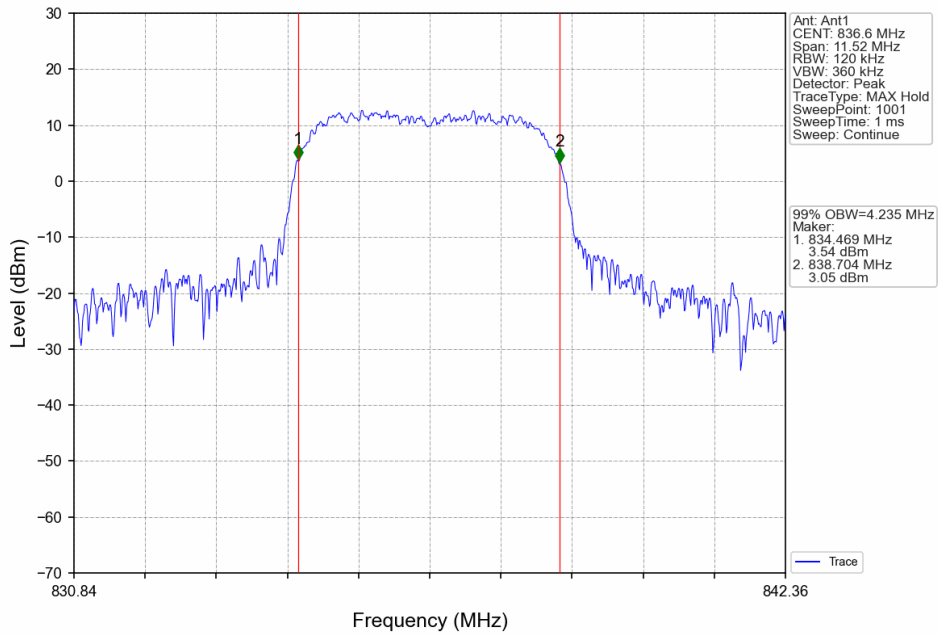
Band5_HSDPA_HCH_846.6MHz_Subtest 1_NTNV



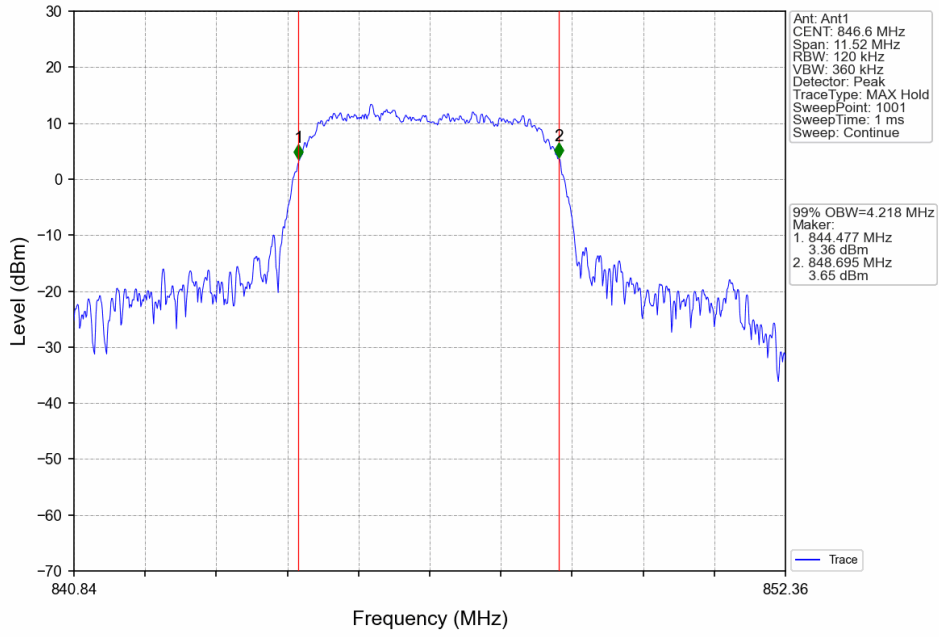
Band5_HSUPA_LCH_826.4MHz_Subtest 1_NTNV



Band5_HSUPA_MCH_836.6MHz_Subtest 1_NTNV



Band5_HSUPA_HCH_846.6MHz_Subtest 1_NTNV

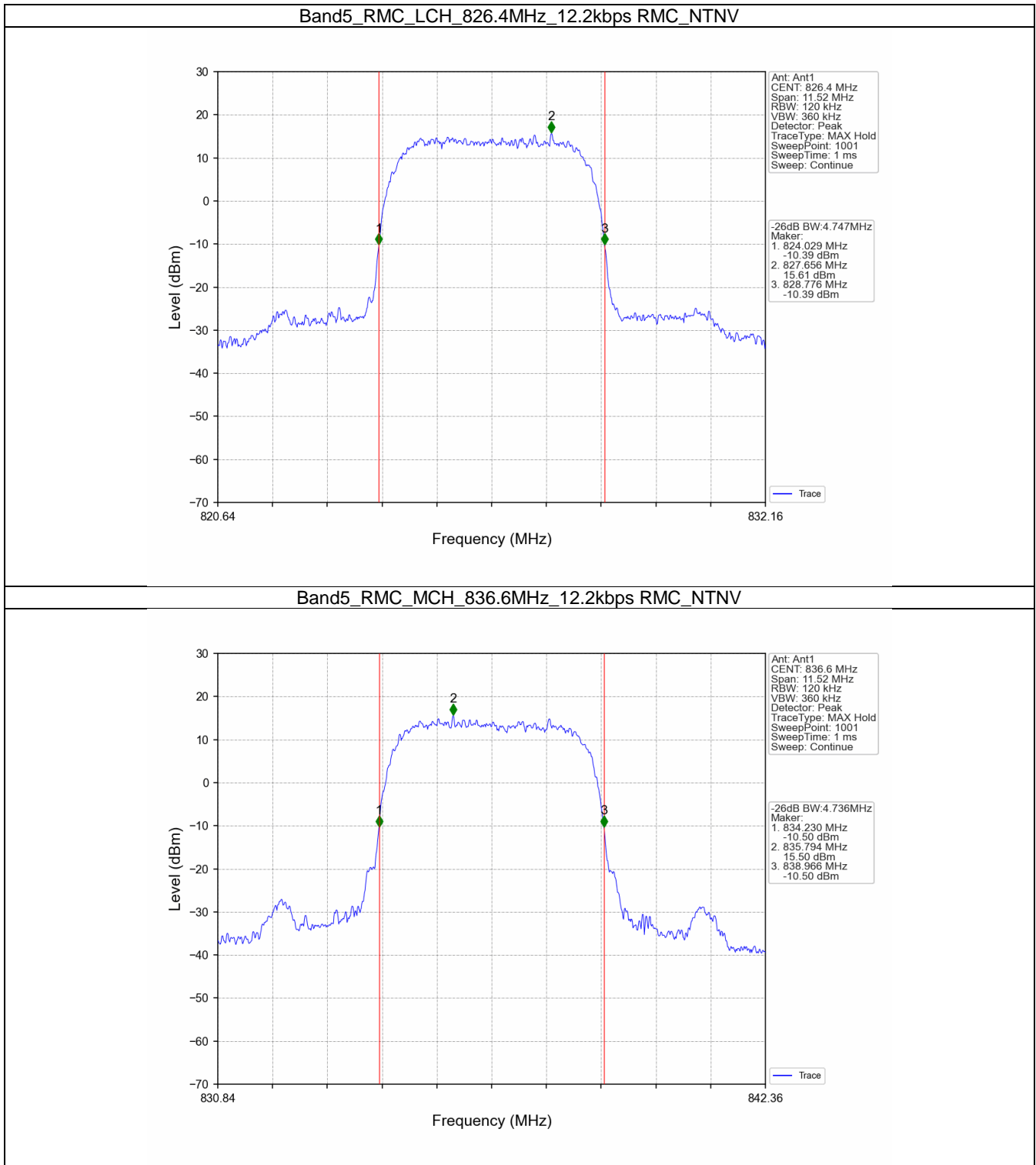


4.2 Band5_XDB

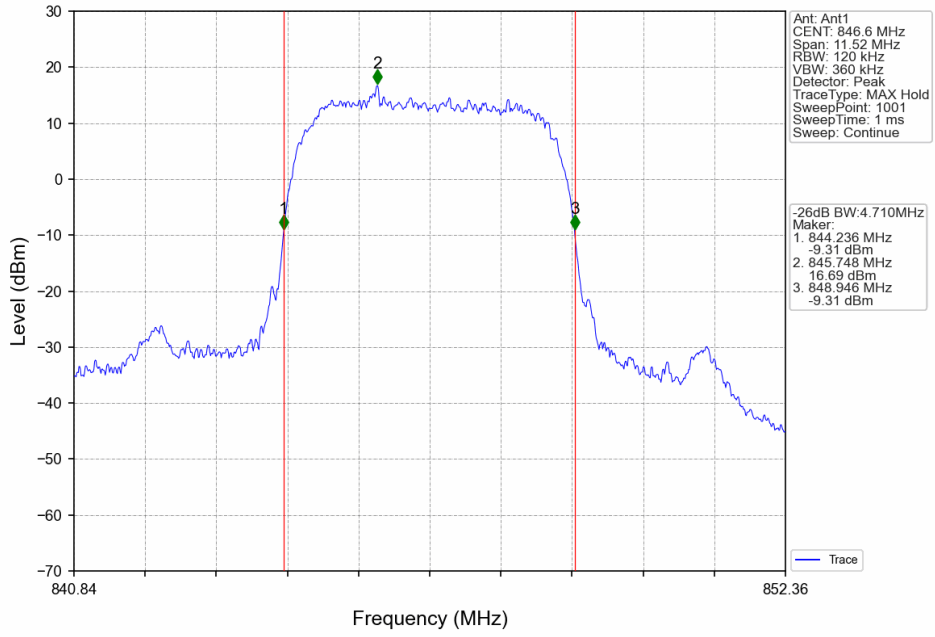
4.2.1 Test Result

Band: 5						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	826.4	4.747	/	Pass
			836.6	4.736	/	Pass
			846.6	4.710	/	Pass
	HSDPA	Subtest 1	826.4	5.867	/	Pass
			836.6	5.333	/	Pass
			846.6	5.481	/	Pass
	HSUPA	Subtest 1	826.4	5.153	/	Pass
			836.6	5.477	/	Pass
			846.6	5.115	/	Pass

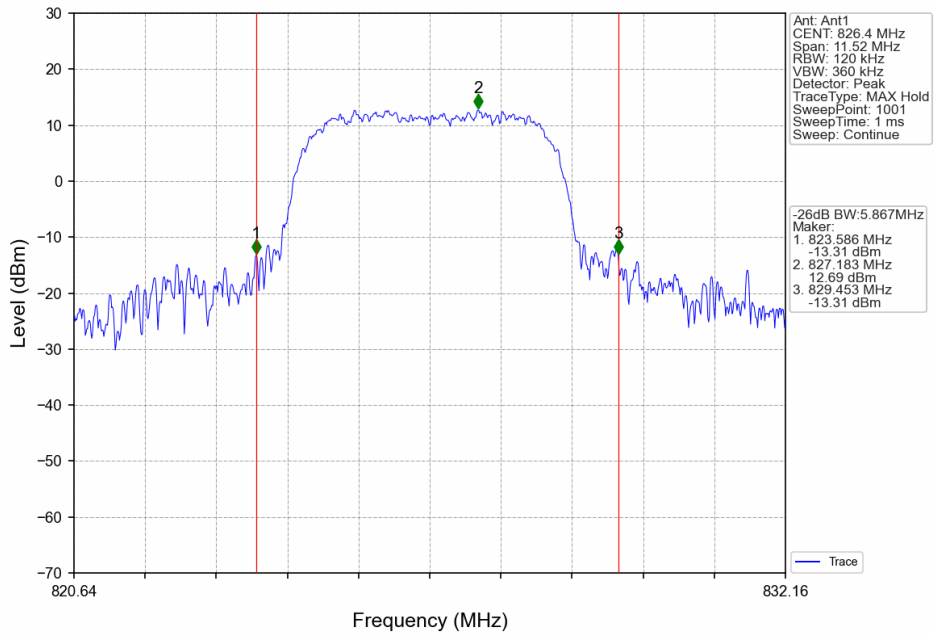
4.2.2 Test Graph



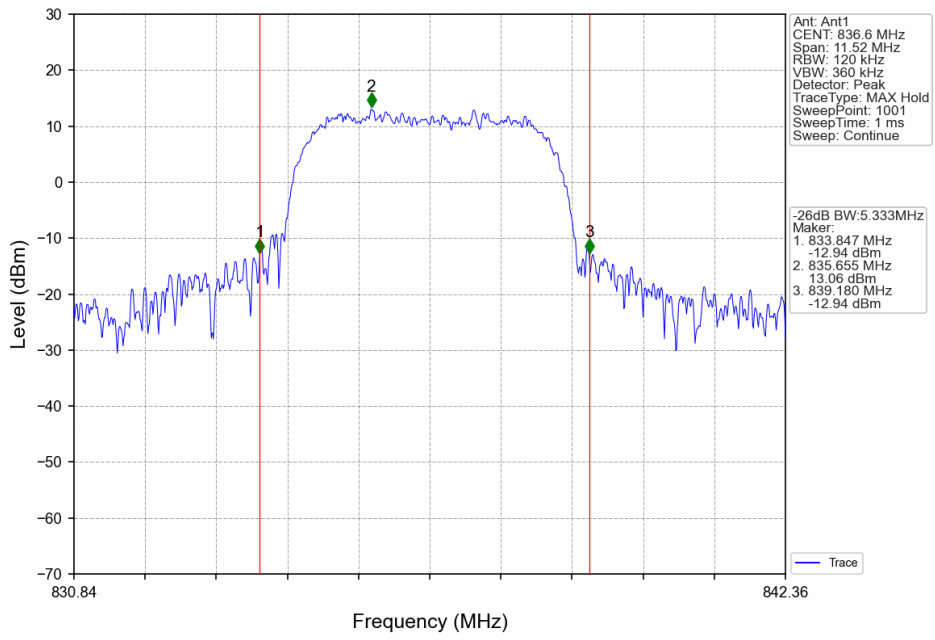
Band5_RMC_HCH_846.6MHz_12.2kbps RMC_NTNV



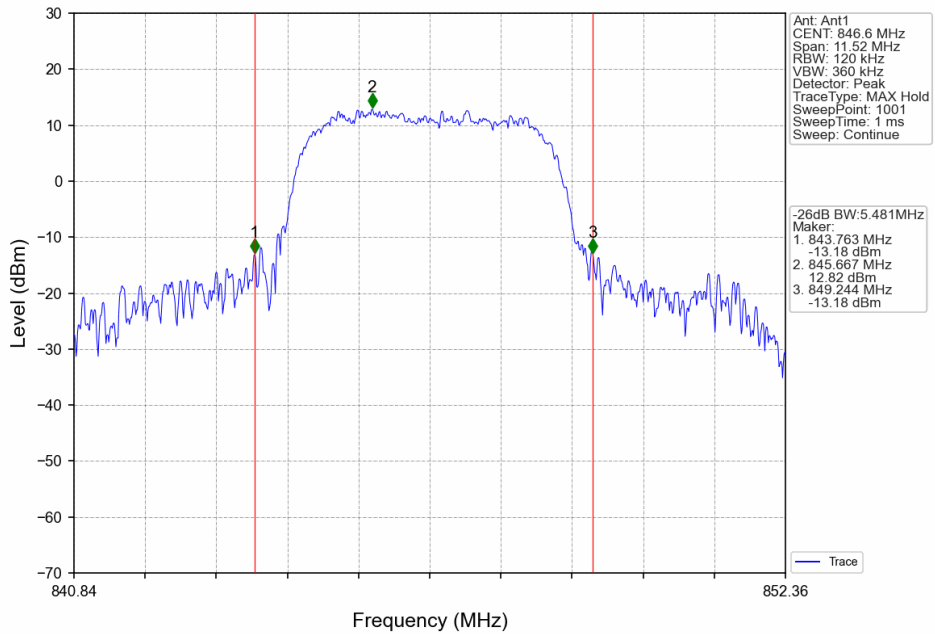
Band5_HSDPA_LCH_826.4MHz_Subtest 1_NTNV



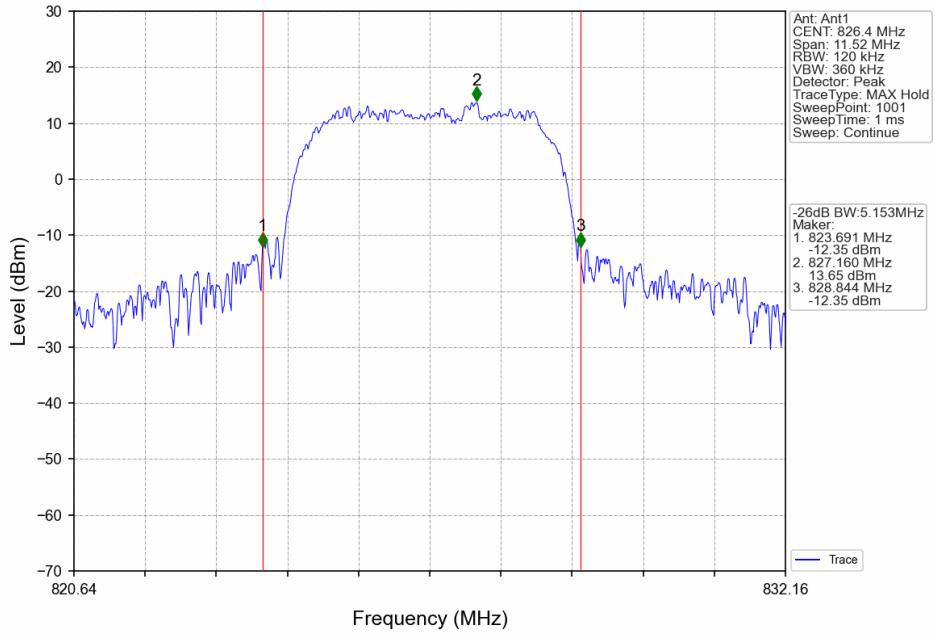
Band5_HSDPA_MCH_836.6MHz_Subtest 1_NTNV



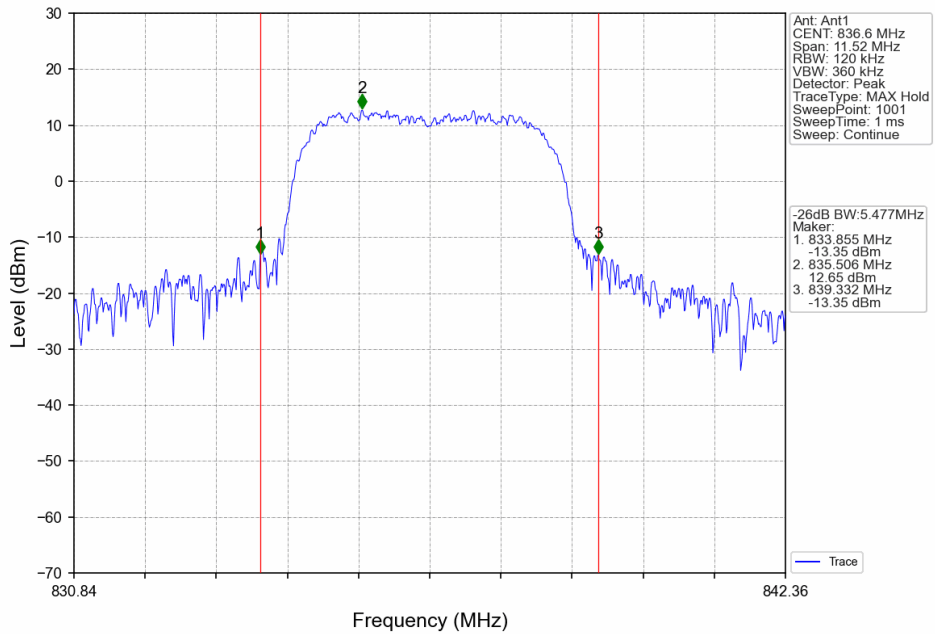
Band5_HSDPA_HCH_846.6MHz_Subtest 1_NTNV



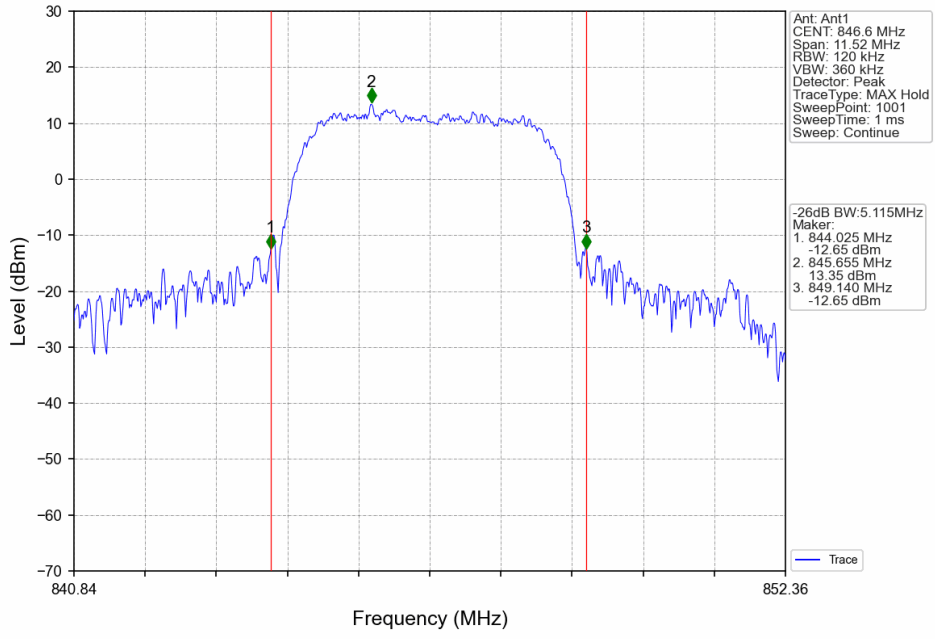
Band5_HSUPA_LCH_826.4MHz_Subtest 1_NTNV



Band5_HSUPA_MCH_836.6MHz_Subtest 1_NTNV



Band5_HSUPA_HCH_846.6MHz_Subtest 1_NTNV



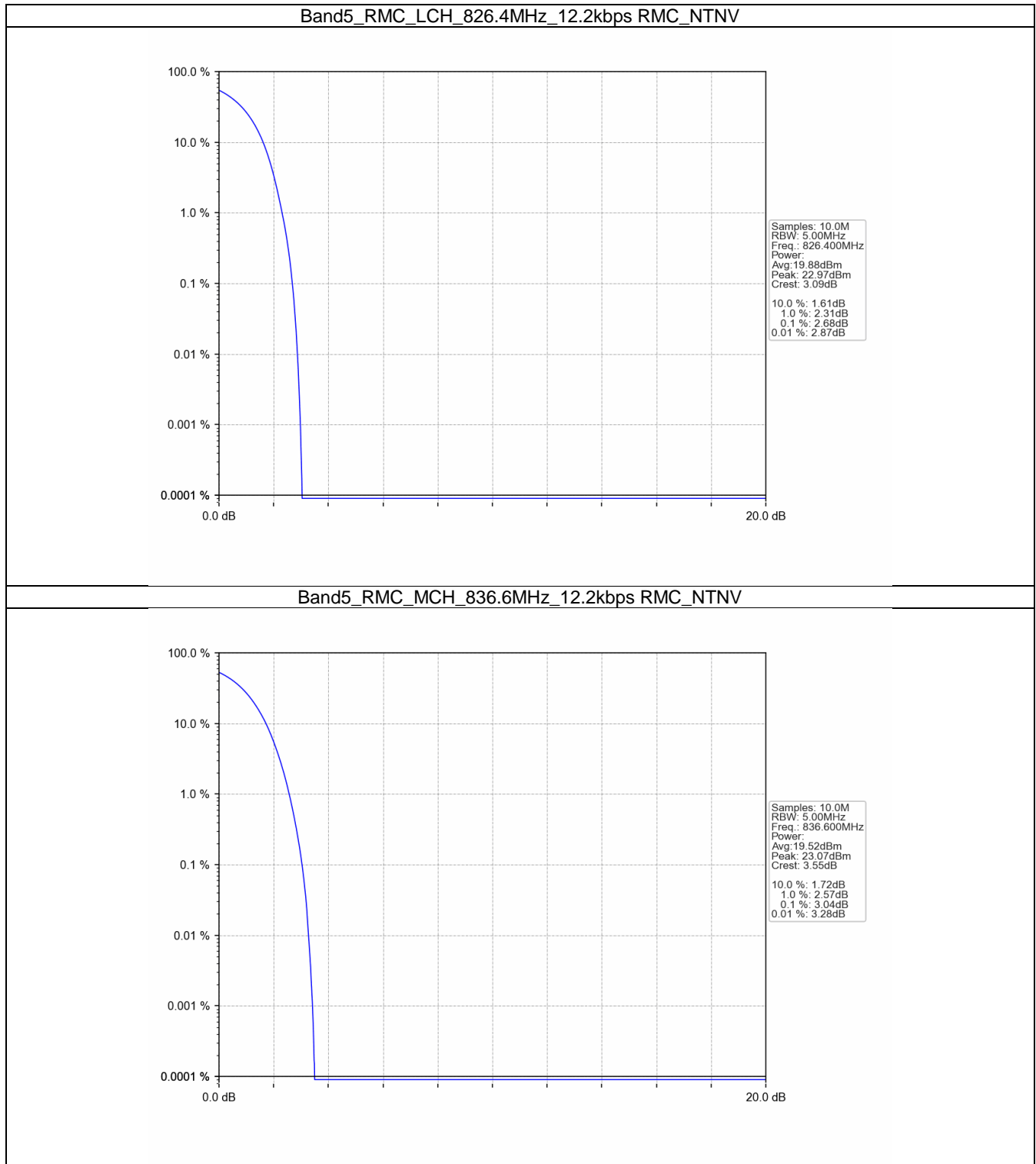
5. Peak-Average Ratio

5.1 Band5

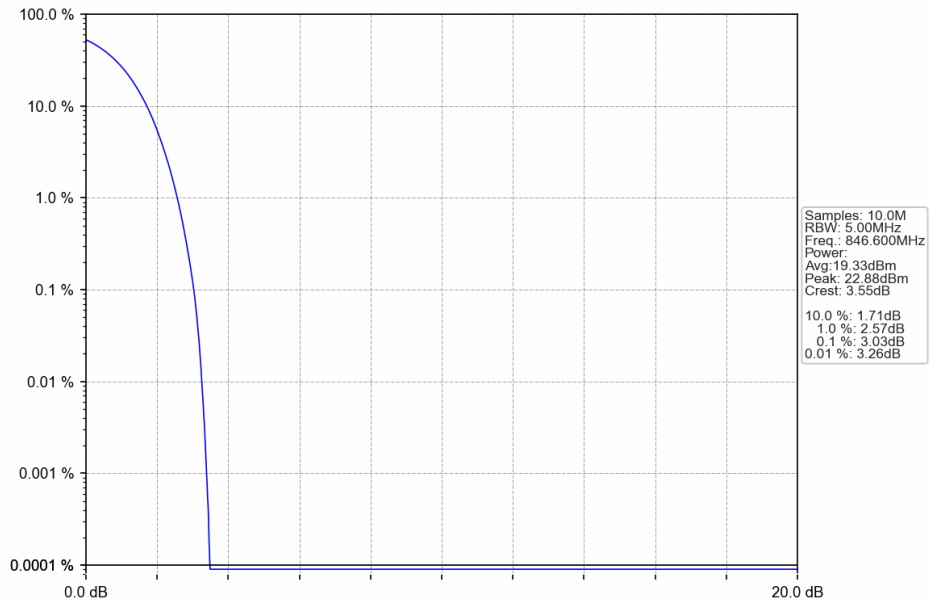
5.1.1 Test Result

Band: 5						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	826.4	2.68	<=13	Pass
			836.6	3.04	<=13	Pass
			846.6	3.03	<=13	Pass
	HSDPA	Subtest 1	826.4	5.75	<=13	Pass
			836.6	6.05	<=13	Pass
			846.6	5.99	<=13	Pass
	HSUPA	Subtest 1	826.4	5.79	<=13	Pass
			836.6	6.08	<=13	Pass
			846.6	6.06	<=13	Pass

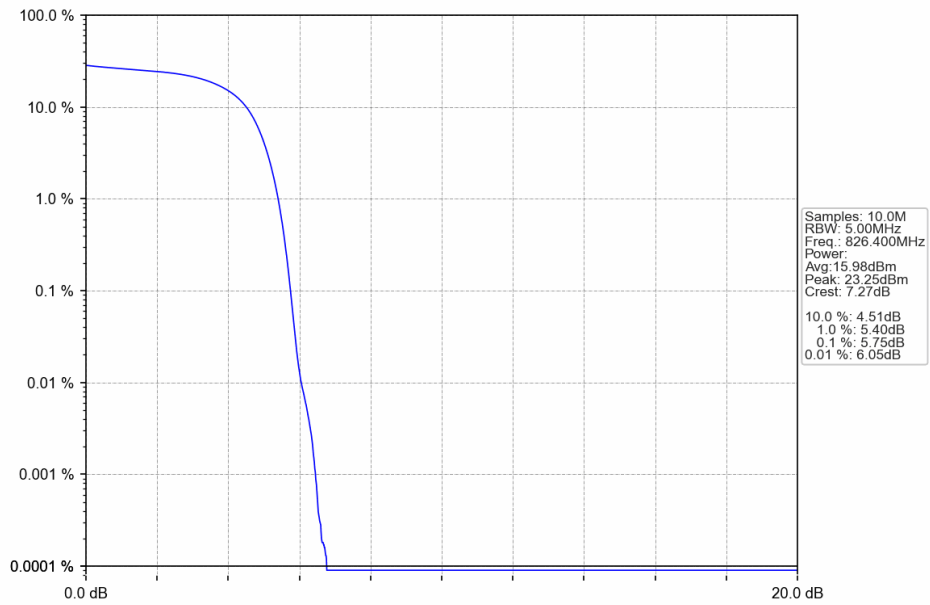
5.1.2 Test Graph



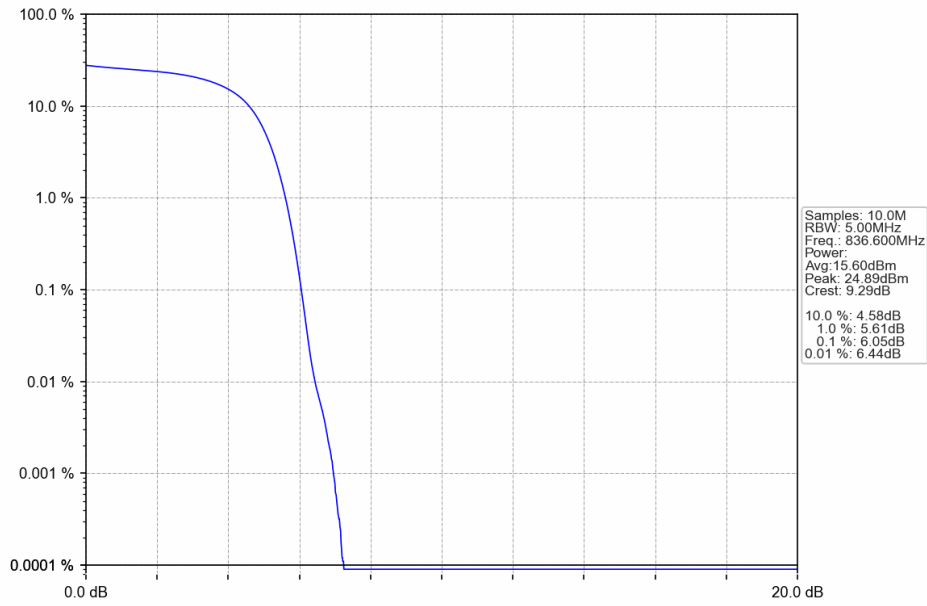
Band5_RMC_HCH_846.6MHz_12.2kbps RMC_NTNV



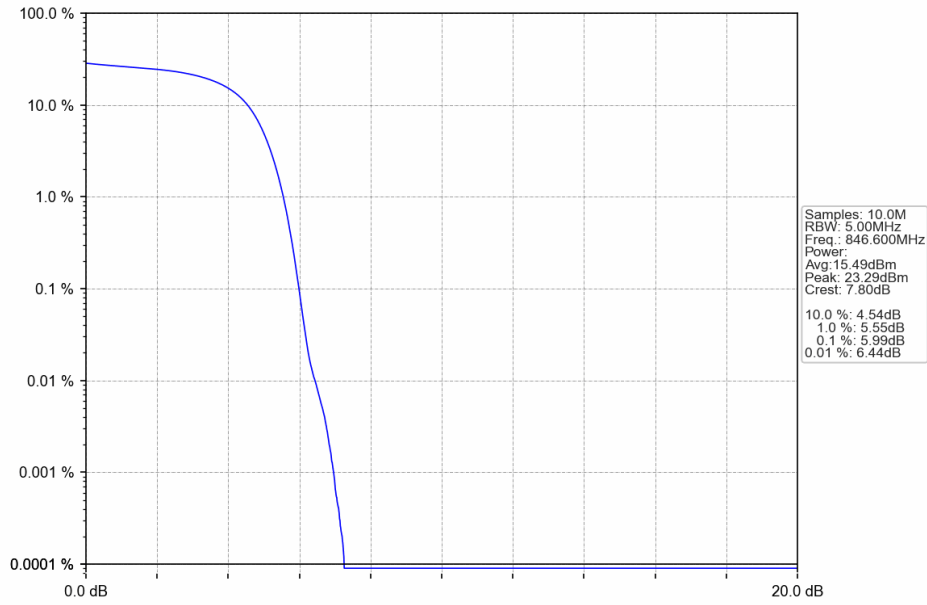
Band5_HSDPA_LCH_826.4MHz_Subtest 1_NTNV



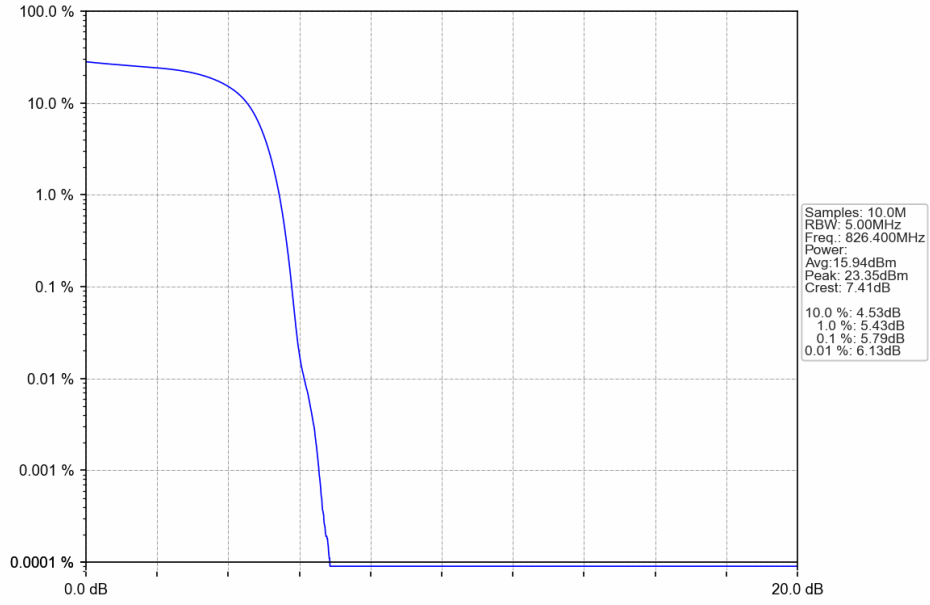
Band5_HSDPA_MCH_836.6MHz_Subtest 1_NTNV



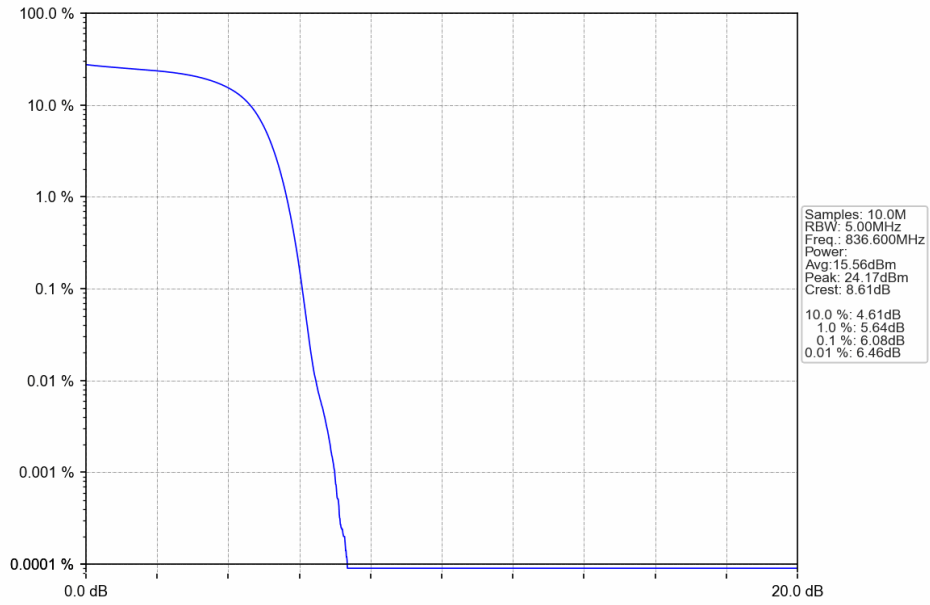
Band5_HSDPA_HCH_846.6MHz_Subtest 1_NTNV



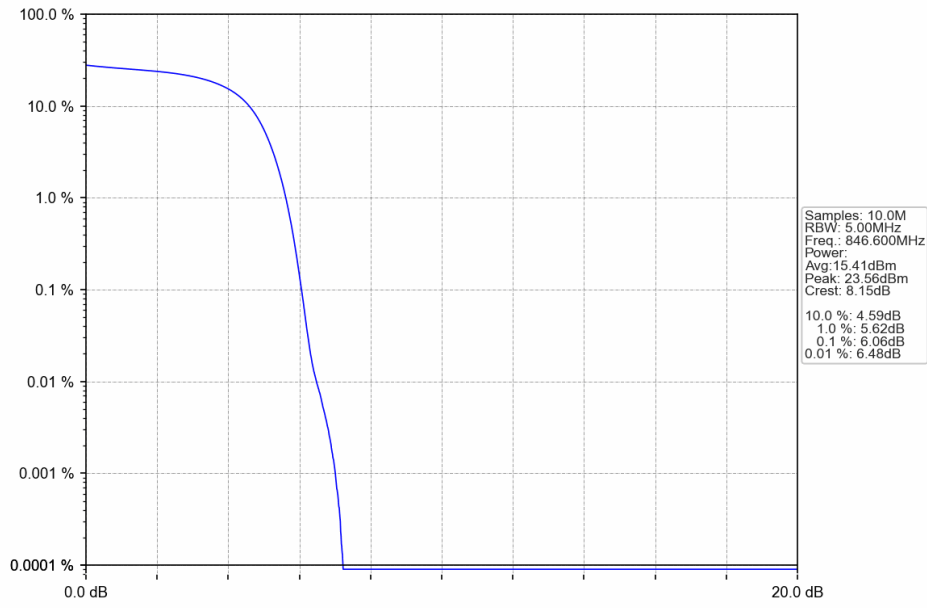
Band5_HSUPA_LCH_826.4MHz_Subtest 1_NTNV



Band5_HSUPA_MCH_836.6MHz_Subtest 1_NTNV



Band5_HSUPA_HCH_846.6MHz_Subtest 1_NTNV



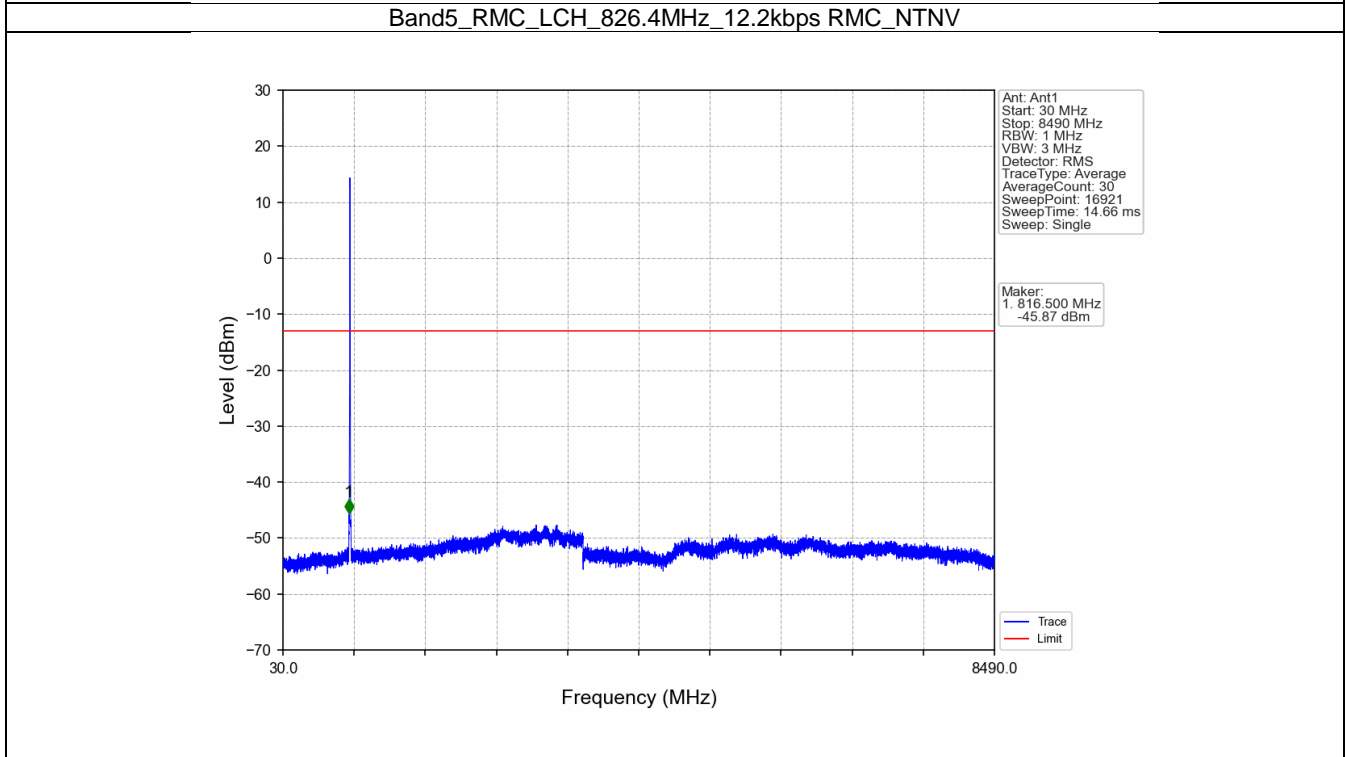
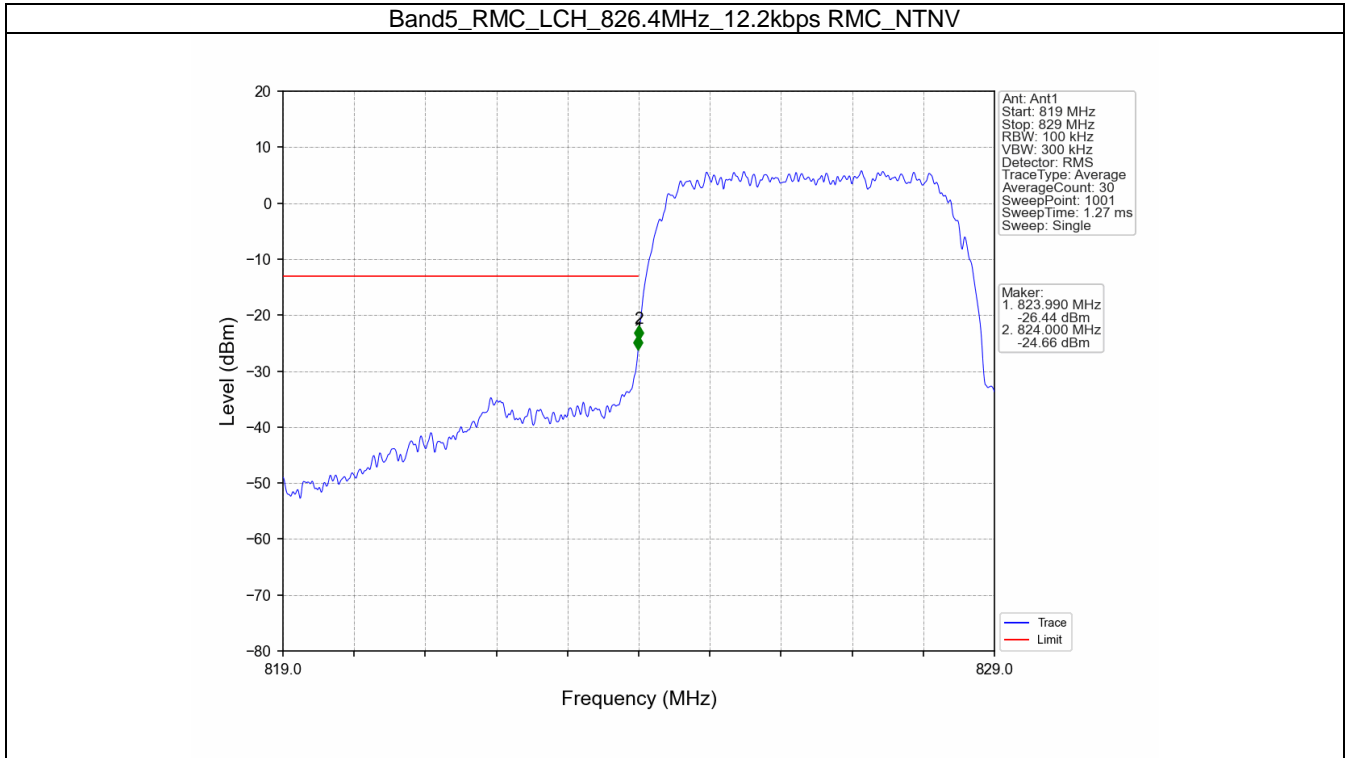
6. Spurious Emission

6.1 Band5

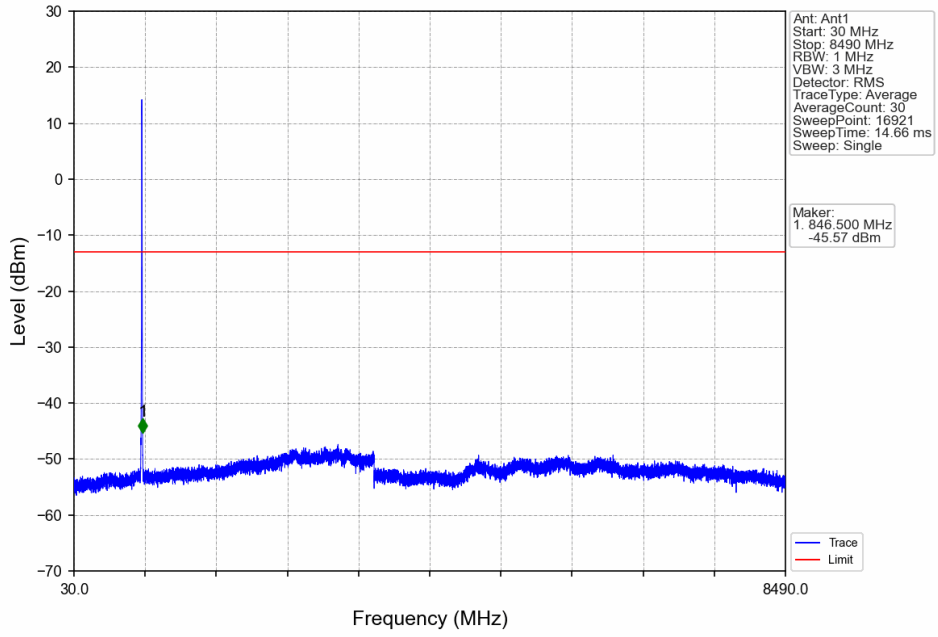
6.1.1 Test Result

Band: 5						
ENV	Mode		Frequency (MHz)	Spurious Emission		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	826.4	Refer To Test Graph		Pass
			836.6	Refer To Test Graph		Pass
			846.6	Refer To Test Graph		Pass
	HSDPA	Subtest 1	826.4	Refer To Test Graph		Pass
			836.6	Refer To Test Graph		Pass
			846.6	Refer To Test Graph		Pass
	HSUPA	Subtest 1	826.4	Refer To Test Graph		Pass
			836.6	Refer To Test Graph		Pass
			846.6	Refer To Test Graph		Pass

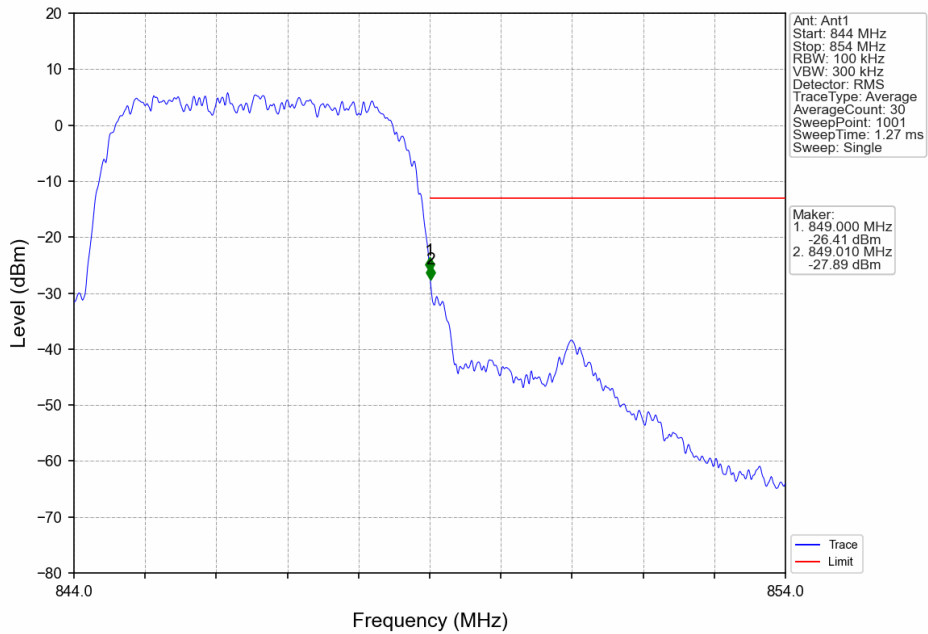
6.1.2 Test Graph



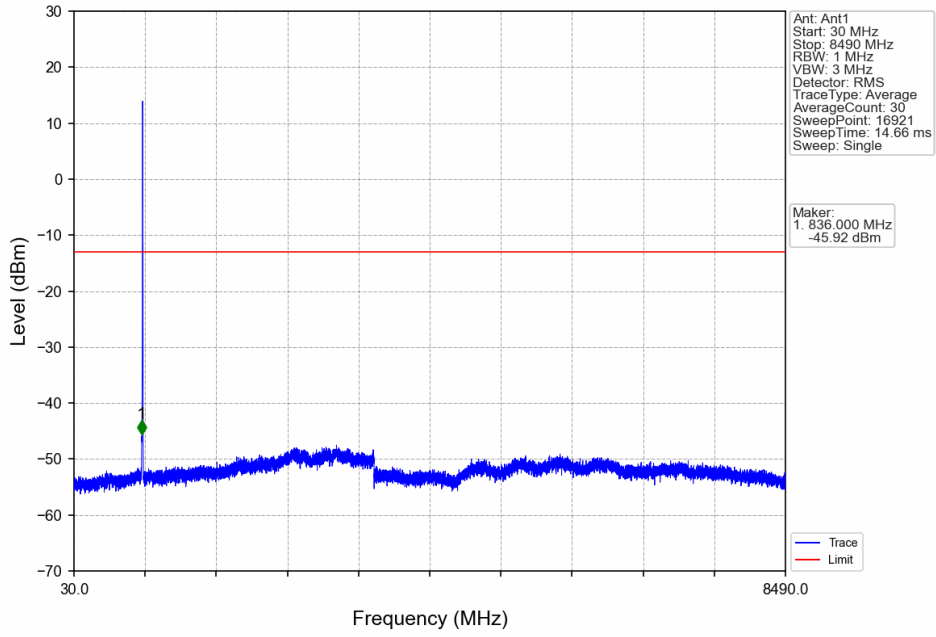
Band5_RMC_MCH_836.6MHz_12.2kbps RMC_NTNV



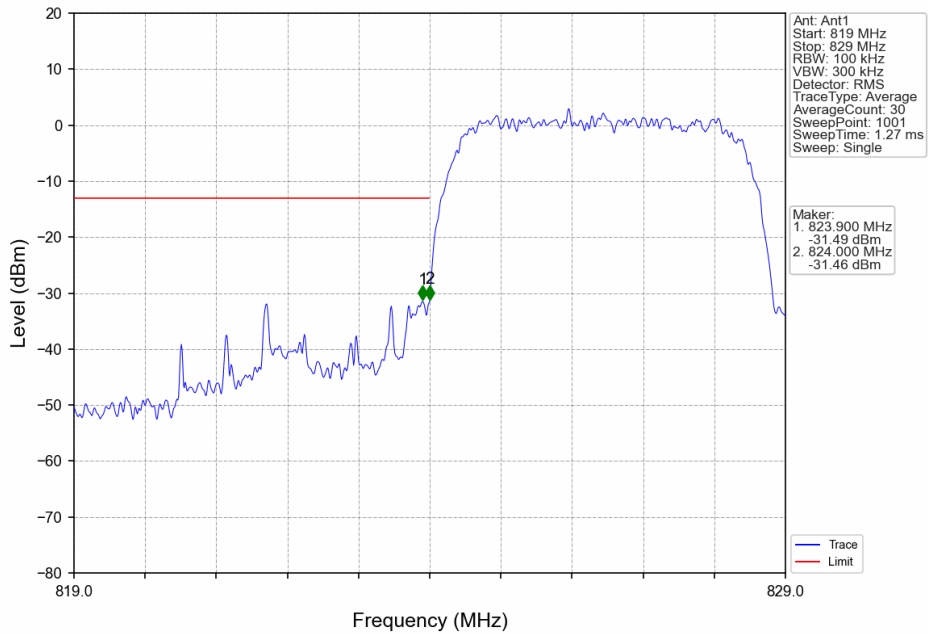
Band5_RMC_HCH_846.6MHz_12.2kbps RMC_NTNV



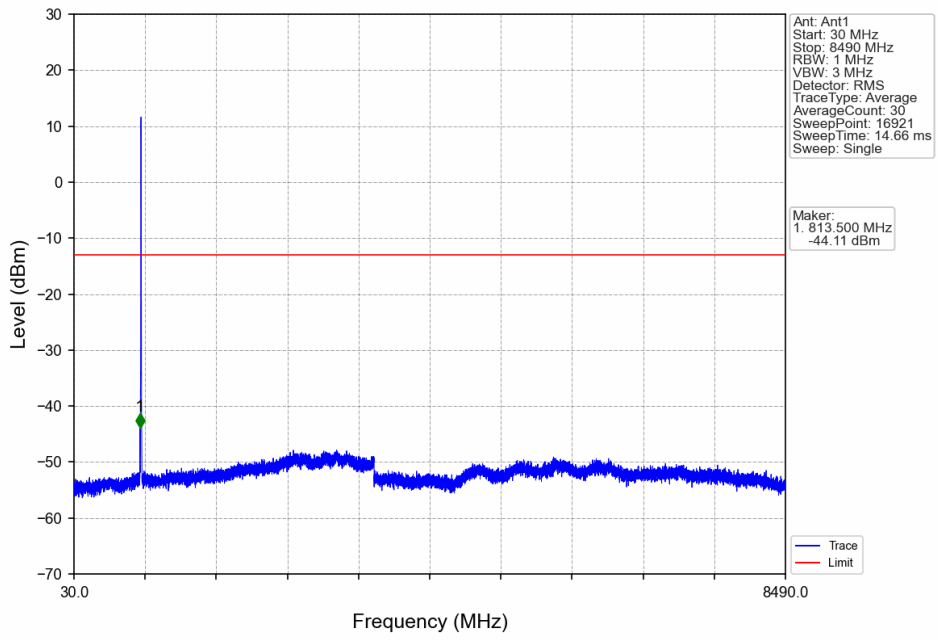
Band5_RMC_HCH_846.6MHz_12.2kbps RMC_NTNV



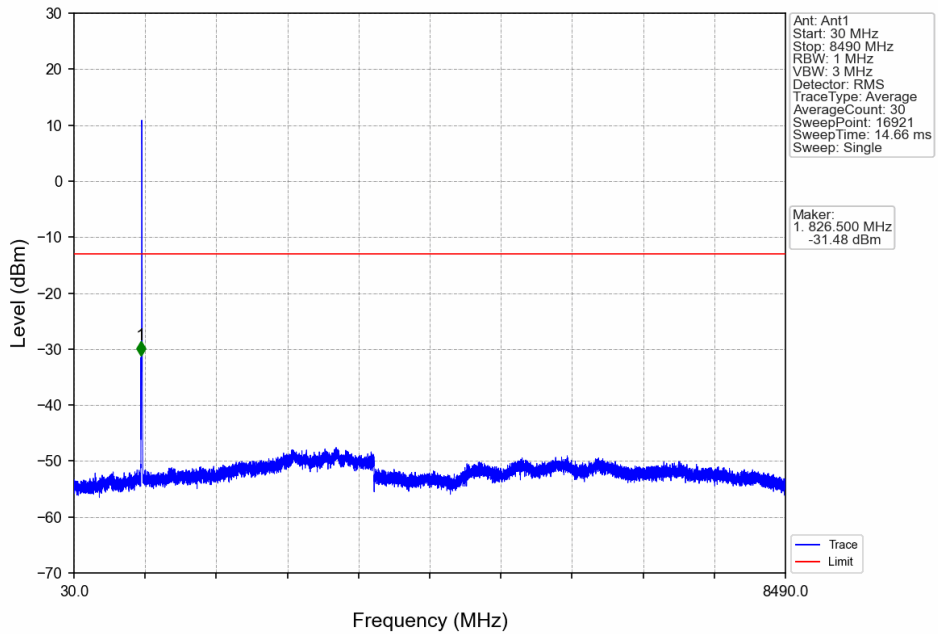
Band5_HSDPA_LCH_826.4MHz_Subtest 1_NTNV



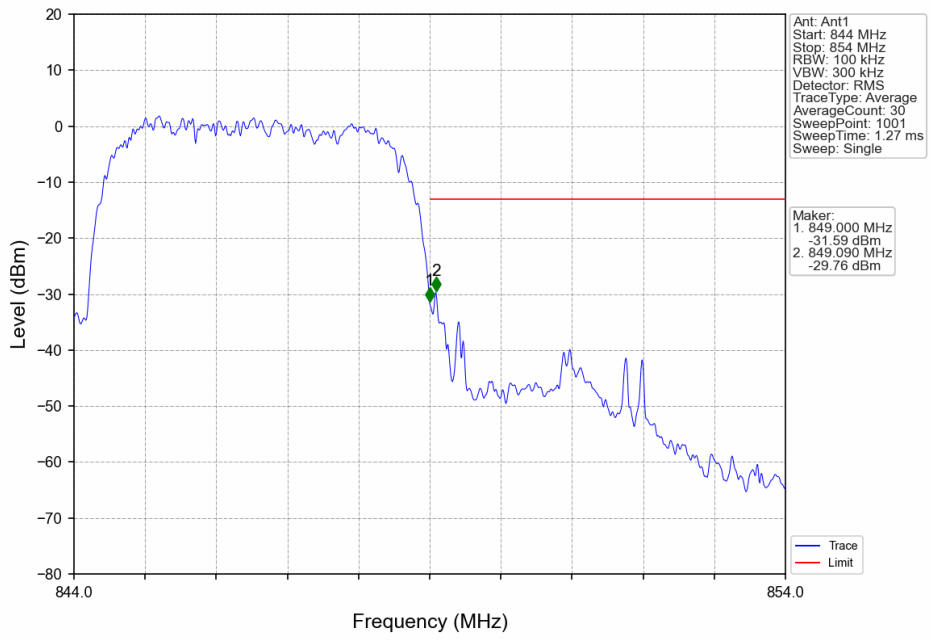
Band5_HSDPA_LCH_826.4MHz_Subtest 1_NTNV



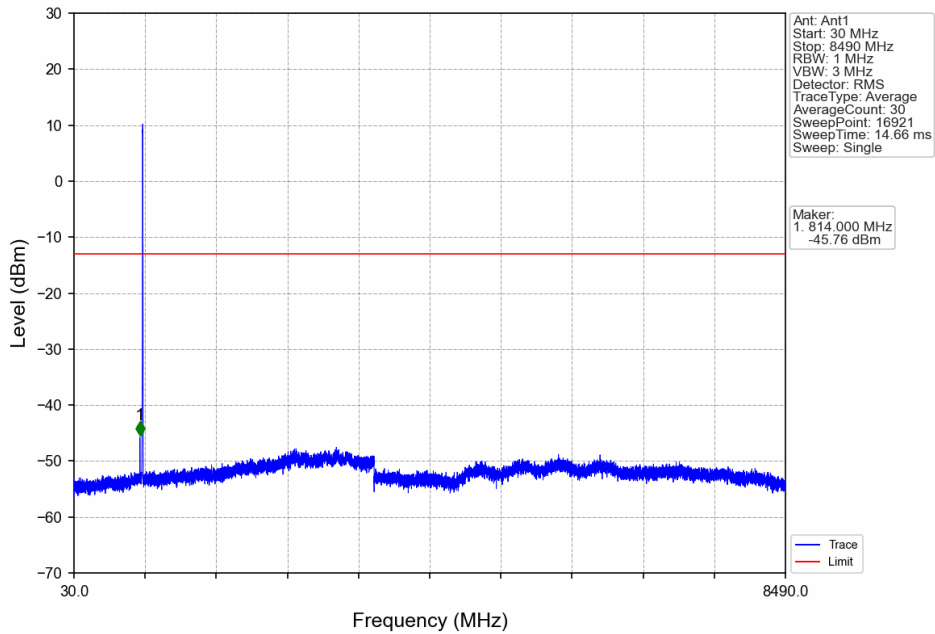
Band5_HSDPA_MCH_836.6MHz_Subtest 1_NTNV



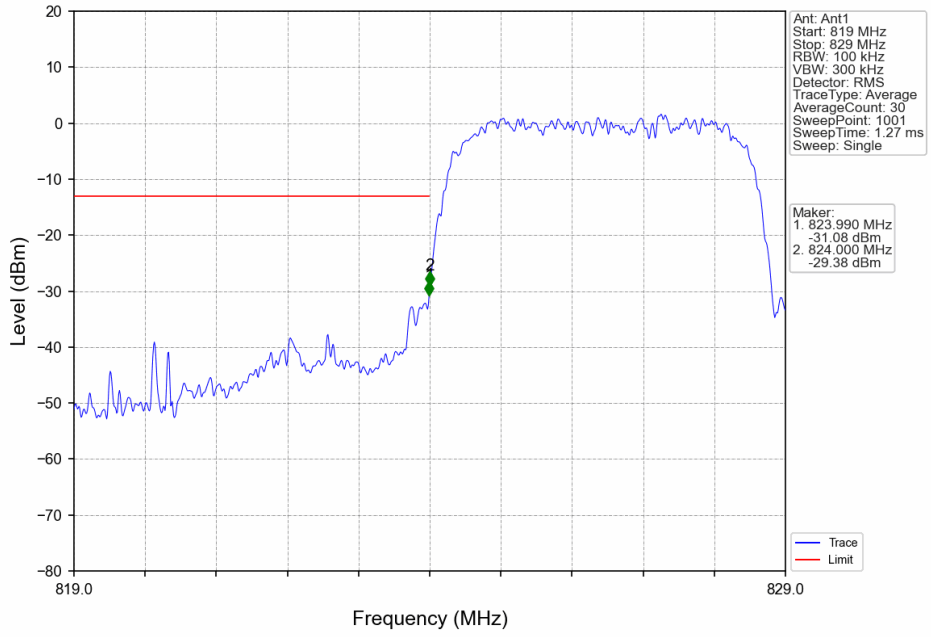
Band5_HSDPA_HCH_846.6MHz_Subtest 1_NTNV



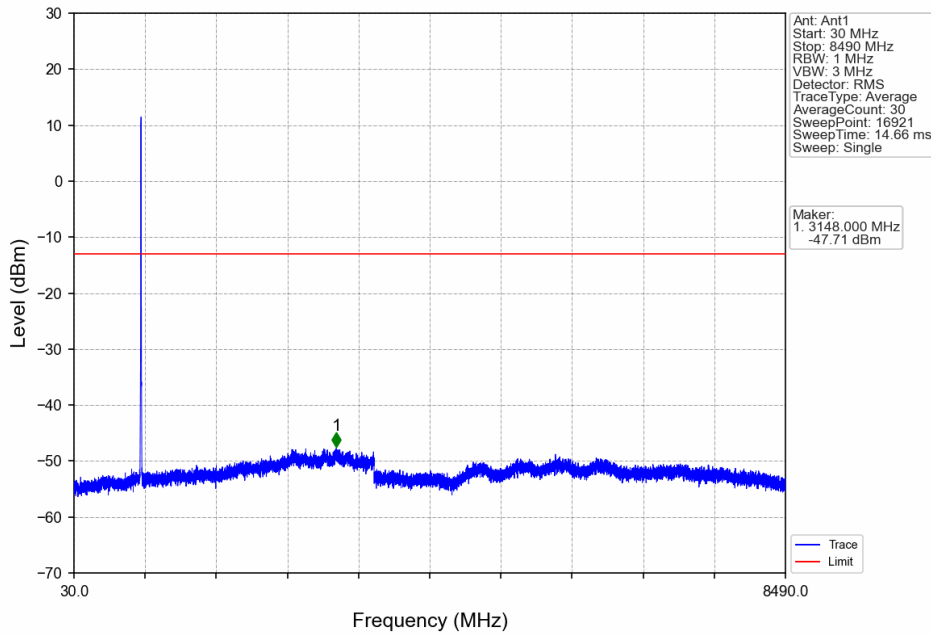
Band5_HSDPA_HCH_846.6MHz_Subtest 1_NTNV



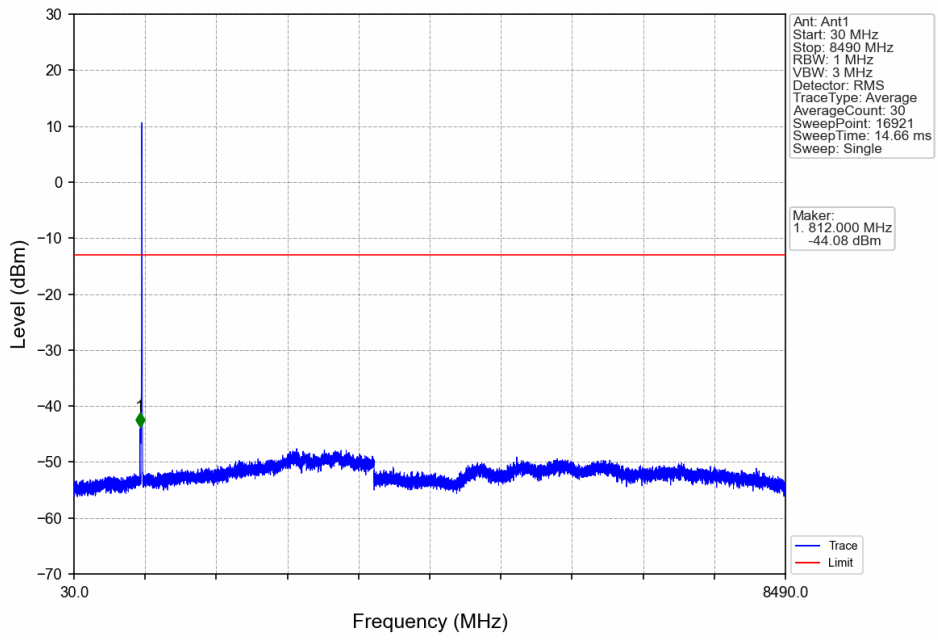
Band5_HSUPA_LCH_826.4MHz_Subtest 1_NTNV



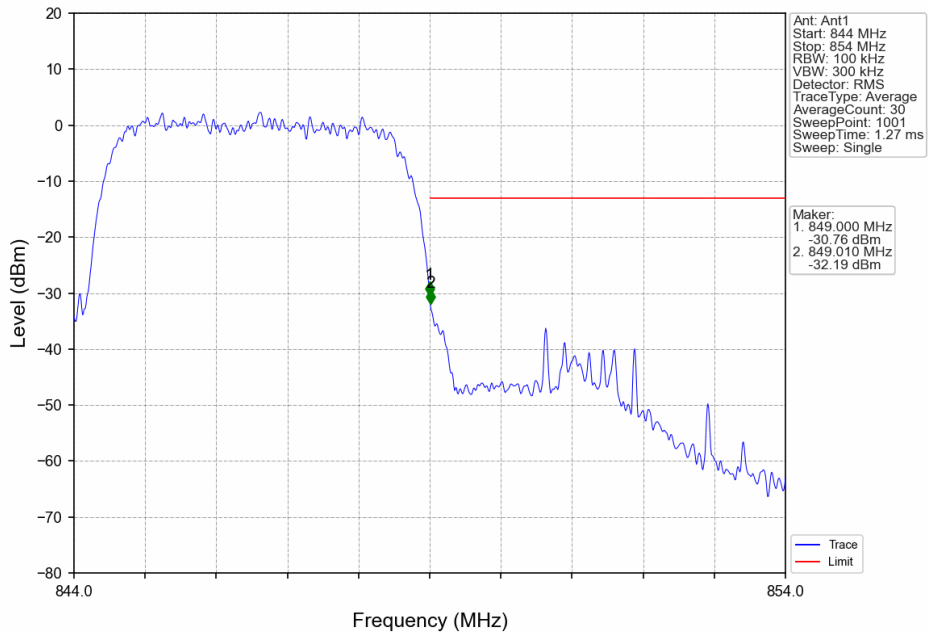
Band5_HSUPA_LCH_826.4MHz_Subtest 1_NTNV



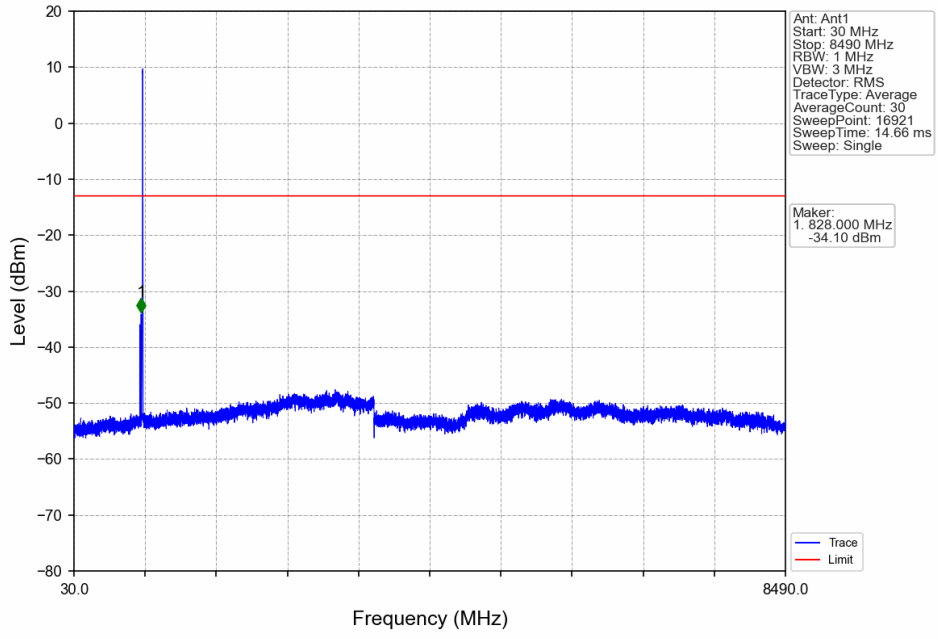
Band5_HSUPA_MCH_836.6MHz_Subtest 1_NTNV



Band5_HSUPA_HCH_846.6MHz_Subtest 1_NTNV



Band5_HSUPA_HCH_846.6MHz_Subtest 1_NTNV



7. Form731

7.1 Form731_Power

7.1.1 Test Result

Band	BW	Lower Freq	High Freq	MAX Power (W)	Value	Hz/ppm	Emission Designator	Rule Parts	MAX Power (dBm)
5	3.84	826.4	846.6	0.1309	0.0196	ppm	4M24F9W	22H	21.17

7.2 Form731_ERP

7.2.1 Test Result

Band	BW	Lower Freq	High Freq	MAX Power (W)	Value	Hz/ppm	Emission Designator	Rule Parts	MAX Power (dBm)
5	3.84	826.4	846.6	0.1033	0.0196	ppm	4M24F9W	22H	20.14